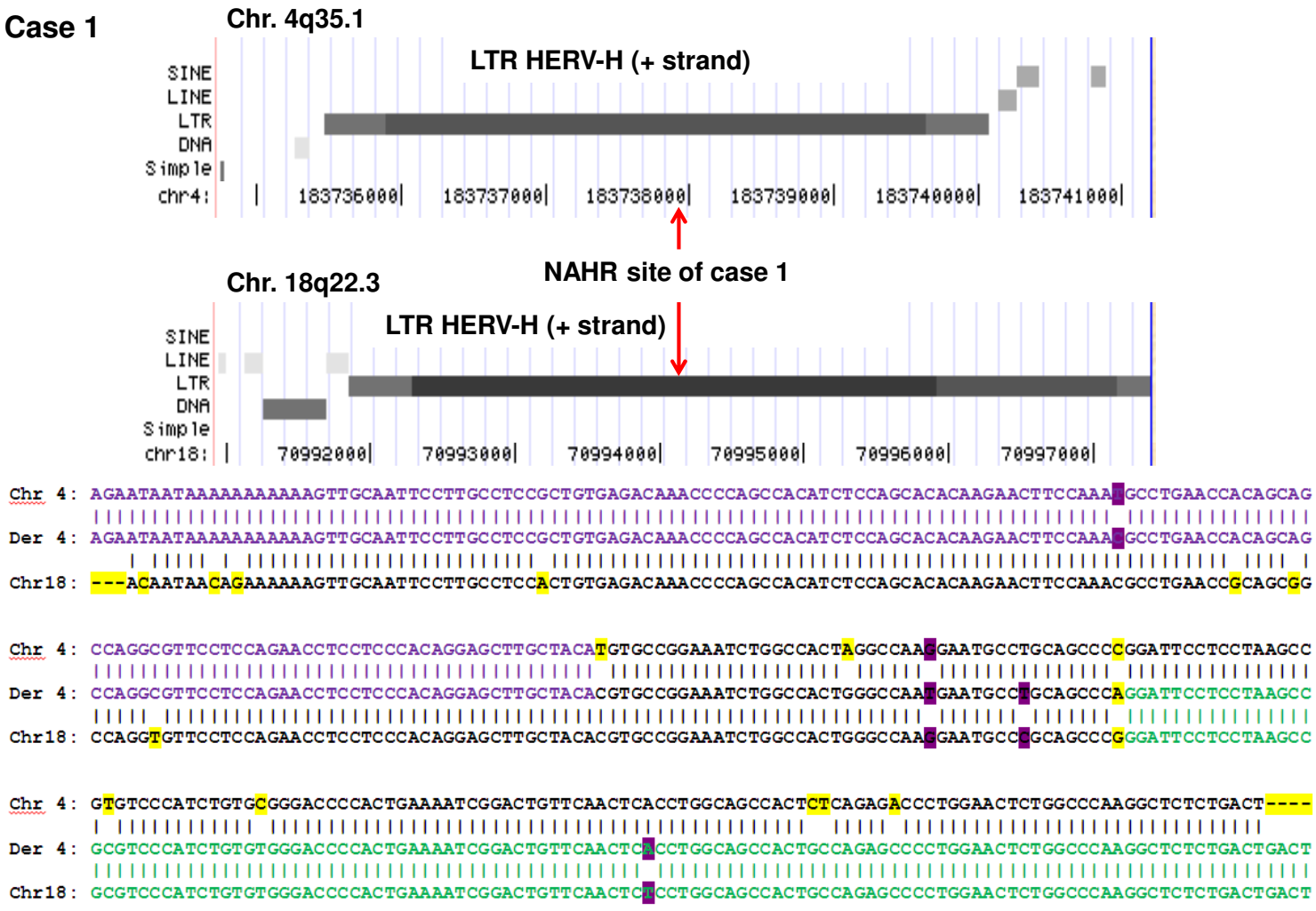
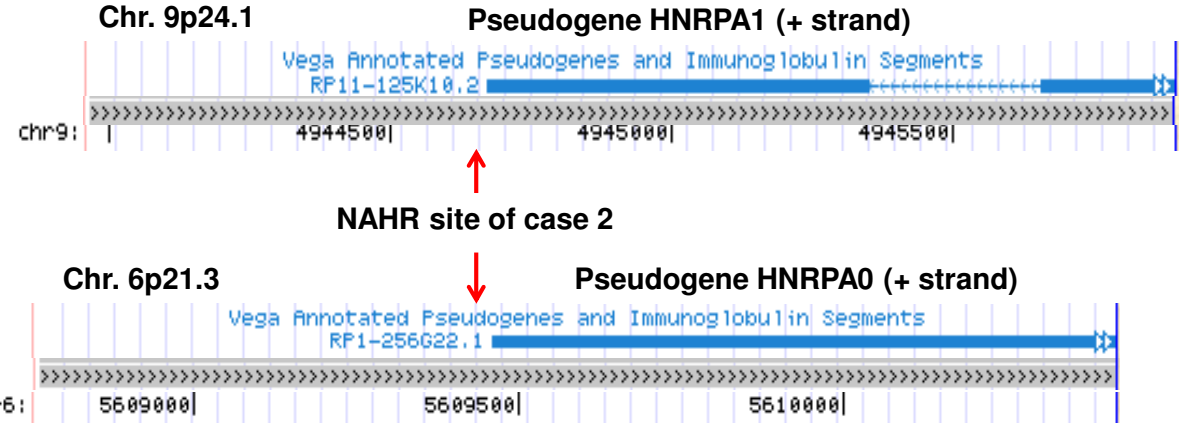
Supplementary figure 1. The breakpoint junction sequence of 9 translocations. The breakpoint junctions of cases 1-2, 4-5, 8-9 are located within homologous interspersed repeat elements (black or grey bars) with 91-98% DNA sequence identity. The red arrows indicate the location of the breakpoint junction determined by sequence analysis. Below, the DNA sequence of the PCR amplified translocation junction fragment (middle sequence in each block) is aligned with the genomic reference sequence of the involved chromosomes. The breakpoint site, with 100% DNA sequence identity between both chromosomes, is indicated in by a grey box. Purple and green nucleotides indicate alignment with the genomic reference sequences, yellow highlighted nucleotides indicate trans-morphic mismatches and purple highlighted nucleotides indicate SNPs.

For cases 10-12, the DNA sequence alignment of the PCR amplified translocation junction fragments shows unique breakpoints without large regions of homology. Purple and green nucleotides indicate alignment with the genomic reference sequences of the involved chromosomes. The grey boxes indicate sequence features identified at the junction, namely the addition of a nucleotide (case 11) and the presence of 3 bp of microhomology (case 12).



Case 2




```
Chr 9: TTAGTCACAAATACAGTCCTCGAGTTTTTTGCCCACACACATGAGTATTTGTCTAAAACATGTCTGCTTTGTAGCAGCTGGGCCCTGCCACCACTGTGCTTGGC
Der 6: TTAGTCACAAATACAGTCCTCGAGTTTTTTGCCCACACACATGAGTATTTGTCTAAAACATGTCTGCTTTGTAGCAGCTGGGCCCTGCCACCACTGTGCTTGGC
Chr 6: TTAGTCACAAATACAGTCCTC-AGTTTTTTGCCCATACACATGAGTATTTGTCTAAAATATGTCTTCTTTGTAGCAGCTAGGCCCTGCCACCACTGTGCTTGGC
```

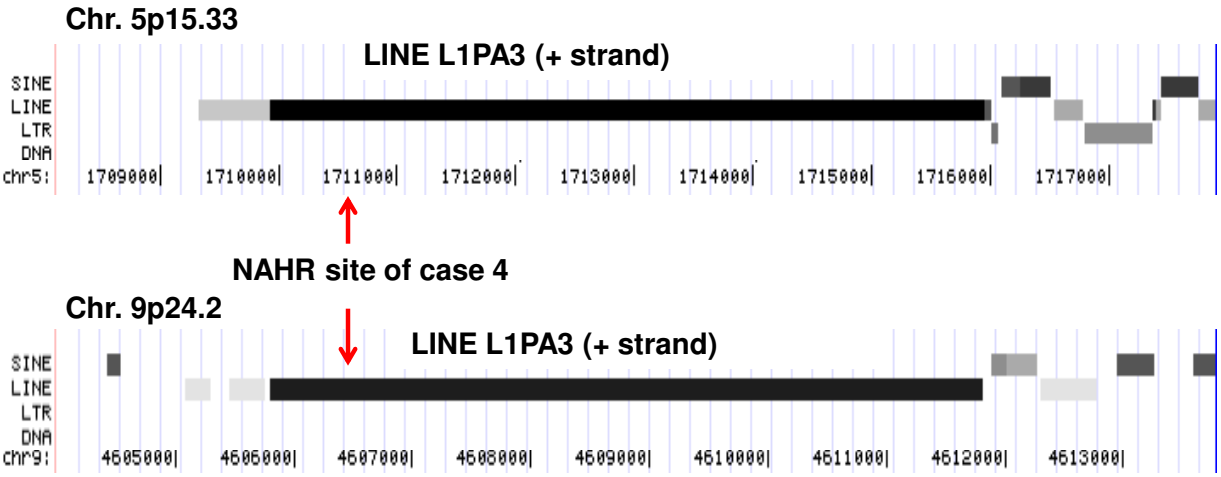
heterogeneous nuclear ribonucleoprotein A1 (HNRPA1)

```
Chr 9: TGAGTTCACAAATCTGTTGTAACCTGTAGCTTCCCTGTCACTTCTCTGGCTCTCCTCTCCTGCTAAGCTTTGTTTCCTAATTAAAATCTTCTGCCACTGCCAT
Der 6: TGAGTTCACAAATCTGTTGTAACCTGTAGCTTCCCTGTCACTTCTCTGGCTCTCCTCTCCCGCTAAGCTTTGTTTCCTAATTAAAATCTTCTGCCACTGCCTT
Chr 6: TGAGTTCACAAATCCGTTGTAACCTGTAGCTTCCCTGACACTTCTCTGGCTCTCCTCTCCFGCTAAGCTTTGTTTCCTAATTAAAATCTTCTGCCACTGCCTT
```

heterogeneous nuclear ribonucleoprotein A0 (HNRPA0)

```
Chr 9: AGCTACTGCTGCTACTGGAACCACCATAGCCACCTTGGTTTTGTGGTTTGGCAAAGTATTGGCCTCCACCACCACAGGGGACAGAGCTTCTGCCTCCAAAGTT
Der 6: AGCTACTGCTGCTACTGGAACCGCCCTAGCCACCTTGGTTTCATGGTTTGGCAAAGTATTGGCCTCTACCACCATAGGGACCAGAGCTTCTGCCTCCAAAGTT
Chr 6: AGCTACTGCTGCTACTGGAACTGCCCTAGCCACCTTGGTTTCATGGTTTGGCAAAGTATTGGCCTCTACCACCATAGGGACCAGAGCTTCTGCCTCCAAAGTT
```

Case 4

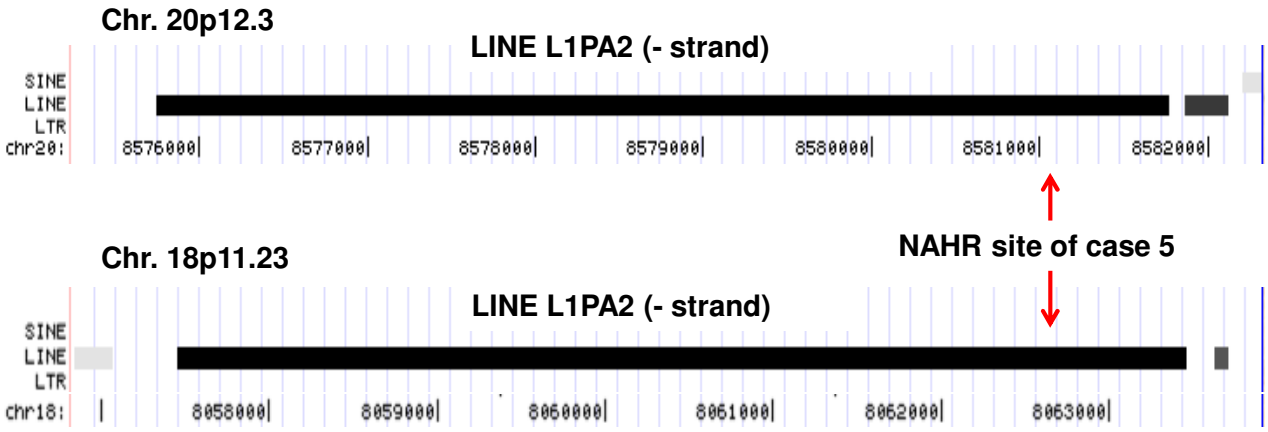



```
Chr 5: AAGACAGCAGTAACCTCTGCAGACTTAAATGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCTGGAGATCTGAGAACGGGCAGACT
Der 9: AAGACAGCAGTAACCTCTGCAGACTTAAATGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCTGGAGATCTGAGAACGGGCAGACT
Chr 9: AAGACAGCAGTAACCTCTGCAGACTTAAATGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGTACGCAGCTGGAGATCTGAGAAGGGGCAGACT
```

```
Chr 5: GCCTCCTCAAGTGGGTCCCTGACCCCTGACCCTGGAGCAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGGGTATTCCAACA
Der 9: GCCTCCTCAAGTGGGTCCCTGACCCCTGACCCCCGAGCAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGGGTATTCCAACA
Chr 9: GCGTCCTCAAGTGGGTGCCTGACCCCTGACCCCCGAGCAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCTGGGTACTCCAACA
```

```
Chr 5: GACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAAACATAAAGGACATCCACACCGAAAACCCATCTGTACACCACCATCATCAAAGACCAAAAG
Der 9: GACCTGCAGCTGAGGGTCCTGT----TAGAAGGAAAACTAACAAACAGAAAGGACATCCACACCAAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAG
Chr 9: GACCTGCAGCTGAGGGTCCTGT----TAGAAGGAAAACTAACAAACAGAAAGGACATCCACACCAAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAG
```

Case 5

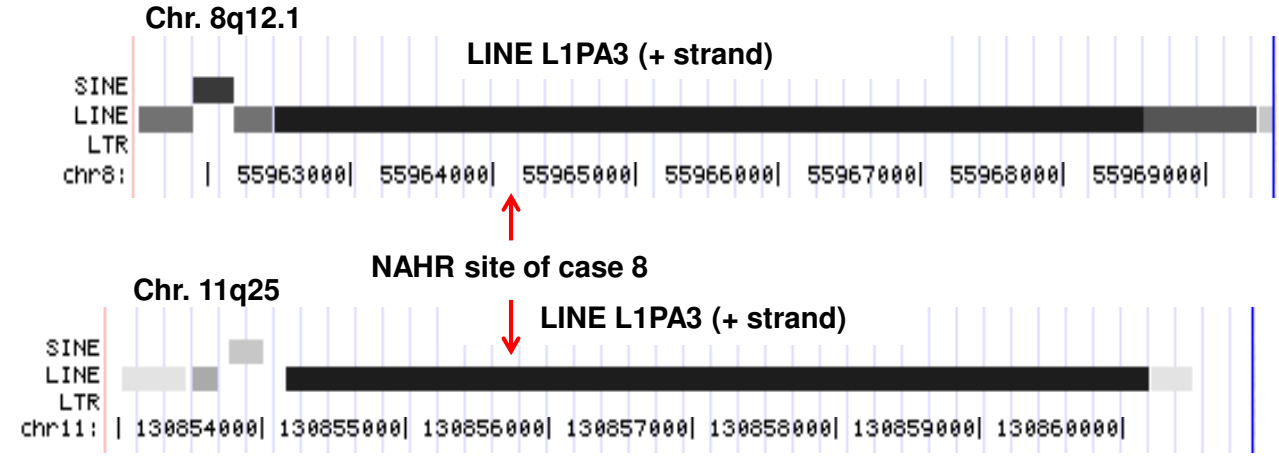



```
Chr20: TACAGGTCAGTTGGAATACCCTGCCGTGTGAGGTGTCAGTGTGCCCCTGCTGGGGGGTGCCTCCCAGTTAGGCTGCTCGGGGGTCAGGGGTCAGGGACCCACTT
Der18: TACAGGTCAGTTGGAATACCCTGCCGTGTGAGGTGTCAGTGTGCCCCTGCTGGGGGGTGCCTCCCAGTTAGGCTGCTCGGGGGTCAGGGGTCAGGGACCCACTT
Chr18: TGCAGGTCTGTTGGAGTACCCTGCCGTGTGAGGTGTCAGTGTGCCCCTGCTGGGGGGTGCCTCCCAGTTAGGCTGCTCGGGGGTCAGGGGTCAGGGACCCACTT

Chr20: GAGGAGGCAGTCTGCCCGTTCTCAGATCTCCAGCTGCGTGCTGGGAGAACCACTGCTCTCTTCAAAGCTCTCAGACAGGGACATTTAAGTCTGCAGAGGTTACT
Der18: GAGGAGGCAGTCTGCCCGTTCTCAGATCTCCAGCTGCGTGCTGGGAGAACCACTGCTCTCTTCAAAGCTGTCAGACAGGGACATTTAAGTCTGCAGAGGTTACT
Chr18: GAGGAGGCAGTCTGCCCGTTCTCAGATCTCCAGCTGCGTGCTGGGAGAACCACTGCTCTCTTCAAAGCTGTCAGACAGGGACATTTAAGTCTGCAGAGGTTACT

Chr20: GCTGTCTTTTTGTTTGTCTGTGCCCTGCCCCCAGAGGTGGAGCCTACAGAGGCAGGCAGGCCTCCTTGAGCTGTGGTGGGCTCCACCCAGTTCGCGCTTCCCGG
Der18: GCTGTCTTTTTGTTTGTCTGTGCCCTGCCCCCAGAGGTGGAGCCTACAGAGGCAGGCAGGCCTCCTAGAGCTGTGGTGGGCTCCACCCAGTTCGAGCTTCCCGG
Chr18: GCTGTCTTTTTGTTTGTCTGTGCCCTGCCCCCAGAGGTGGAGCCTACAGAGGCAGGCAGGCCTCCTAGAGCTGTGGTGGGCTCCACCCAGTTCGAGCTTCCCGG
```

Case 8

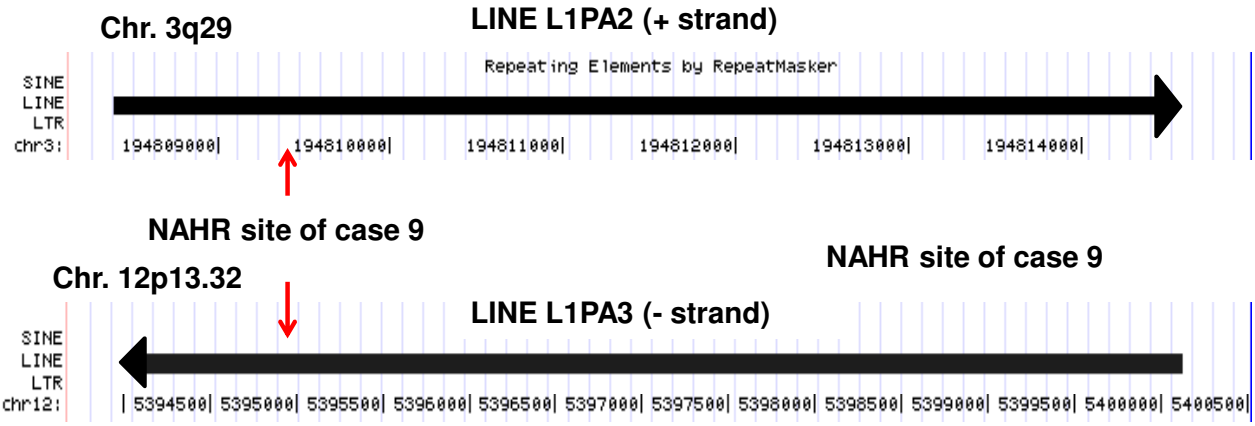



```
Chr11: TATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACATTCAGATTCAGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGAC
Der11: TATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACATTCAGATTCAGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGAC
Chr8:  TATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACATTCAGATTCAGGAAATACAGAGAATGCCACAAAGATACTCCTCAAGAAGAGCAACTCCAAGAC

Chr11: ACATTAATTGTCAGGTTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAAGGTCGGGTTACCCTCAAAGGGAAGCCCATCAGACTAAC
Der11: ACATTAATTGTCAGGTTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAAGGCCGGGTTACCCACAAAGGGAAGCCCATCAGACTAAC
Chr8:  ACAT-AATTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAAGGCCGGGTTACCCACAAAGGGAAGCCCATCAGACTAAC

Chr11: AGTGGATATCTCAGCAGAAACTCTACAAGCCAGAAGAGAGTGGGGGCCAATACTCAACATTCTTAAAGAAAAGAATTTTCAACCCAGAATTTCATGTCCAGCCA
Der11: AGCAGATCTCTCGGCAGAAACTCTATAAGCCAGAAGAGAGTAGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTTCAACCCAGAATTTCATATCCAGCCA
Chr8:  AGCAGATCTCTCGGCAGAAACTCTATAAGCCAGAAGAGAGTAGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTTCAACCCAGAATTTCATATCCAGCCA
```

Case 9




```
Chr3:  CATTGCTGATACCCTTTCTTCCAGTTGATTGCATCGGCTCCTGAGGCTTCTGCATTCTTCACGTAGTTCTCGAGCCTTGGTTTTCAGCTCCATCAGCTCCTTTA
Der12: CATTGCTGATACCCTTTCTTCCAGTTGATTGCATCGGCTCCTGAGGCTTCTGCATTCTTCACGTAGTTCTCGAGCCTTGGTTTTCAGCTCCATCAGCTCCTTTA
Chr12: CATCGCTGATACCCTTTCTTCCAGTTGACTGCATCAGCTCCTGAGGCTTCTGCATTCTTCACGTAGTTCTCGAGCCTTGGTTTTCAGCTCCATCAGCTCCTTTA

Chr3:  AGCACTTCTCTGTATTGGTTATTCTAGTTATATATTCTTCTAAATTTTTTTCAAAGTTTTCAACTTCTTTGCCTTTGGTTTGAATGTCCTCCCGTAGCTCAGAG
Der12: AGCACTTCTCTGTATTGGTTATTCTAGTTATATATTCTTCTAAATTTTTTTCAAAGTTTTCAACTTCTTTGCCTTTGGTTTGAATGTCCTCCCGTAGCTCAGAG
Chr12: AGCACTTCTCTGTATTGGTTATTCTAGTTATACATTCTTCTAAATTTTTTTCAAAGTTTTCAACTTCTTTGCCTTTGGTTTGAATGTCCTCCCGTAGCTCAGAG

Chr3:  TAATTTGATCGTCTGAAGCCTTCTTCTCTCAGCTCGTCAAAGTCATTCTCCATCCAGCTTTGTTCTGTTGCTGGTGAGGAACTGCGTTCCTTTGGAGGAGGAGA
Der12: TAATTTGATCGTCTGAAGCCTTCTTCTCTCTGCTCGTCAAAGTCATTCTCCATCCAGCTTTGTTCCGTTGCTGGTGAGGAACTGCGTTCCTTTGGAGGAGGAGA
Chr12: TAATTTGATCGTCTGAAGCCTTCTTCTCTCTGCTCGTCAAAGTCATTCTCCATCCAGCTTTGTTCCGTTGCTGGTGAGGAACTGCGTTCCTTTGGAGGAGGAGA
```

Case 10

```
Chr 6: TATAAATGGAATCATGTCATATGTGGCTTTTTGGGTCTGGCTTCTTTCACTTAGCATAATTGTTTTCAAGATTCATTCACATTATAGAATACATCAGTACTTCATTTTT
Der 6: TATAAATGGAATCATGTCATATGTGGCTTTTTGGGTCTGGCTTCTTTCCCCTCACGGCACAGTCCCTCATGGCTTCCCTTGGCCAGGGGAGGGAGTTCCGTGACCCCTT
Chr 7: GTTGTGAAGACCGTGGGAAAAGCCTAGTATTGGGCTGGATAGCATTGTCCCTCACGGCACAGTCCCTCATGGCTTCCCTTGGCCAGGGGAGGGAGTTCCGTGACCCCTT
```

Case 11

```
Chr 22: CTCGAACTCCTGACCTCAGGTGATCCACAAACCTCGGCCCCCCAAAG TGCGGGATTACAGGTGTGAGCCACTGTGCCTGGCCCATATTTGCATTTTAGAACAAGGAC
Der 22: CTCGAACTCCTGACCTCAGGTGATCCACAAACCTCGGCCCCCCAAAGATTCCCTCCTCAGACAGGATTCTCCCCCCACACACCCTGCTTCCCTCCTCAGACAGGATTC
Chr 19: CACCCTGCTTCCTTCCTCAGACAGGATTCTCCCCCCACACACCCTGC TTCCCTCCTCAGACAGGATTCTCCCCCCACACACCCTGCTTCCCTCCTCAGACAGGATTC
```

Case 12

```
Chr 9: TCACTGAAATCCCCTCCCCATGTGGCTATCACGCACTCAAATCCTGCGTATCCTTCCAGGTCCACCTGGTCTTTTTACTAAGCCTTCCCTTAAACATTCTTTGACCACC
Der 8: TCACTGAAATCCCCTCCCCATGTGGCTATCACGCACTCAAATCCTGCGTAGAAACCAGAACTTCTCTTTCTCAAGGTGGGGGTTTTGCCGTTAAAAGTCATGGCCAAAA
Chr 8: TCCCCGTCCTGTCGTCTCTCTCTCCTCCTTCTACCCACAAAAGAGAGGTAGAAACCAGAACTTCTCTTTCTCAAGGTGGGGGTTTTGCCGTTAAAAGTCATGGCCAAAA
```

Supplementary figure 2. BLAST comparison of the LINEs with active LINE L1.3. The DNA sequence of both LINEs involved in each breakpoint was blasted against the sequence of active LINE L1.3 (GenBank ID L19088.1). The top line (Query) displays the sequence of the breakpoint associated LINE, while the bottom line (Sbjct) contains the L1.3 sequence.

Case 4 chr 5

```
>lcl|30685
Length=6059

 Score = 1.017e+04 bits (5504),  Expect = 0.0
 Identities = 5863/6036 (97%), Gaps = 26/6036 (0%)
 Strand=Plus/Plus

Query  1     GAGGAGCCAAGATGGCCCAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGCGATG  60
             |||||||||||||||| |||||||||||||||||||||||||||||||||||||||| |
Sbjct  5     GAGGAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGCGACG  64

Query  61    CAGAAGACGGGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGGGAGT  120
             |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  65    CAGAAGAC-GGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGGGAGT  123

Query  121   GCCAGACAGTGGGCGCAGGTCAGTGTGTGTGCGCACCGTGCGCGAGCCGAAGCAGGGCGA  180
             |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Sbjct  124   GCCAGACAGTGGGCGCAGGCCAGTGTGTGTGCGCACCGTGCGCGAGCCGAAGCAGGGCGA  183

Query  181   GGCATTGCCTCA-CTCGGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTCCCAGTCAAAGAA  239
             |||||||||||| || ||||||||||||||||||||||||||||||  ||||||||||
Sbjct  184   GGCATTGCCTCACCT-GGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTCTGAGTCAAAGAA  242

Query  240   ATGGGTTACAGACGGCACCTGGAAAATCGGGTCACTCCCACCCGAATACTGCGCTTTTCC  299
             | |||| || | | ||||||||||||||||||||||||||||||||| ||||||||||
Sbjct  243   AGGGGTGACGGTC-GCACCTGGAAAATCGGGTCACTCCCACCCGAATATTGCGCTTTTCA  301

Query  300   GACGGGCTTAAAAAACGGCGCACCACGAGACTATCTCCCGCACCTCGCTCGGAGGGTCCT  359
             ||| ||||||| ||||||||||||||||||||| |||| ||||| ||||||||||||||
Sbjct  302   GACCGGCTTAAGAAACGGCGCACCACGAGACTATATCCCACACCTGGCTCGGAGGGTCCT  361

Query  360   ACGCCCACGGAGTCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGGCGGC  419
             |||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  362   ACGCCCACGGAATCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGGCGGC  421

Query  420   AGCGAGGCTGGGGGAGGGGCGCCCGCCATTGCCCGGGCTTGATTAGGTAAACTAAGCAGC  479
             | |||||||||||||||||||||||||||||||| |||||| |||||||||| |||||||
Sbjct  422   AACGAGGCTGGGGGAGGGGCGCCCGCCATTGCCCAGGCTTGCTTAGGTAAACAAAGCAGC  481

Query  480   CAGGAAGCTCCAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCCGTAG  539
             | |||||||| ||||||||||||||||||||||||||||||||||||||||||| ||||
Sbjct  482   CGGGAAGCTCGAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCTGTAG  541

Query  540   GCTCCACCTCTTGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAGACT  599
             |||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  542   GCTCCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAGACT  601

Query  600   TAAATGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCTGGAG  659
             ||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  602   TAAGTGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCTGGAG  661

Query  660   ATCTGAGAAC-GG--G-CAGACTGCCTCCTCAAGTGGGTCCCTGACCCCTGACCCTGGAG  715
```

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            |||||||||| ||  | |||||||||||||||||||||||||||||| ||||||||  |||
Sbjct  662  ATCTGAGAACGGGCAGACAGACTGCCTCCTCAAGTGGGTCCCTGACTCCTGACCCCCGAG  721

Query  716  CAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGGGTAT  775
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  722  CAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGGGTAT  781

Query  776  TCCAACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAAACATAAAGG  835
            |||||||||||||||||||||||||||||||||||||||||||||||||| || |||||
Sbjct  782  TCCAACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAACCAGAAAGG  841

Query  836  ACATCCACACCGAAAACCCATCTGTACACCACCATCATCAAAGACCAAAAGTAGATAAAA  895
            ||||| |||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct  842  ACATCTACACCGAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGATAAAA  901

Query  896  CGACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAAAGCAGAGCGCCT  955
            | |||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||
Sbjct  902  CCACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAACGCAGAGCGCCT  961

Query  956  CTCCTCCTCCAAAGGAATGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAGAATG  1015
            |||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  962  CTCCTCCTCCAAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAGAATG  1021

Query  1016 ACTTTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGGGAGG  1075
            | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1022 ATTTTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGGGAGG  1081

Query  1076 ACATTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGTATAA  1135
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1082 ACATTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGTATAA  1141

Query  1136 CTAGAGTAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAGGCTC  1195
            ||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1142 CTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAGGCTC  1201

Query  1196 GAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTGGAAGAAAGGG  1255
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1202 GAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTGGAAGAAAGGG  1261

Query  1256 TATCAGCAATGGAAGATGAAATGAGTGAAATGAAGTGAGAAGGGAAGTTTAGAGAAAAAA  1315
            |||||||||||||||||||||| |||||||||| ||||||||||||||||||||||||||
Sbjct  1262 TATCAGCAATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAAAAAA  1321

Query  1316 GAATAAAAAGAAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCAAATC  1375
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1322 GAATAAAAAGAAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCAAATC  1381

Query  1376 TACGTCTGATTGGTGTACCTGAAAGTGATGGGGAGAATGGAACCAAGTTGGAAAACACTC  1435
            |||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||
Sbjct  1382 TACGTCTGATTGGTGTACCTGAAAGTGATGTGGAGAATGGAACCAAGTTGGAAAACACTC  1441

Query  1436 TGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAGATTC  1495
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1442 TGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAGATTC  1501

Query  1496 AGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACACATAA  1555
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1502 AGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACACATAA  1561

Query  1556 CTGTCGGATTCACCAAAGCTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGA-AA-G  1613
             ||||  |||||||||||| |||||||||||||||||||||||||||||||||| || |
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```
Sbjct  1562  TTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAAG  1621

Query  1614  GTCGGGTTACCCACAGAGGGAAGCCCATCAGACTAACAGCGGATCTCTCGGCAGAAACTC  1673
              |||||||||||| || ||| |||||||||||||||||| |||||||||||||||||| |
Sbjct  1622  GTCGGGTTACCCTCAAAGGAAAGCCCATCAGACTAACAGTGGATCTCTCGGCAGAAACCC  1681

Query  1674  TACAAGCCAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTTCAAC  1733
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Sbjct  1682  TACAAGCCAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTTCAAC  1741

Query  1734  CCAGAATTTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATACTTCA  1793
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |
Sbjct  1742  CCAGAATTTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATACTTTA  1801

Query  1794  CAGACAAGCAAAGGCTGAGAGATTCTGTCACCACCAGGCCTGCCCTAAAAGAGCTCCTGA  1853
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Sbjct  1802  TAGACAAGCAAATGTTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTCCTGA  1861

Query  1854  AGGAAGCGCTAAACATGGAAAGGAACAACTGGTACCAGCCACTGCAAAATCATGCCAAAA  1913
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Sbjct  1862  AGGAAGCGCTAAACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCATGCCAAAA  1921

Query  1914  TGTAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAACAAGCAAAATAACCAGCTA  1973
              |||||||||||||||||||||||||||||||||||||||||  |||||||| ||||||||
Sbjct  1922  TGTAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAATGAGCAAAATCACCAGCTA  1981

Query  1974  ACATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATGTAAATGGAC  2033
              |||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||||
Sbjct  1982  ACATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATATAAATGGAC  2041

Query  2034  TAAATGCTCCAATTAAAAGACACAGACTGGCAAATTGGATAAAGAGTCAAGACCCATCGG  2093
              ||||| || |||||||||||||||||||||| |||||||||||||||||||||||||| |
Sbjct  2042  TAAATTCTGCAATTAAAAGACACAGACTGGCAAGTTGGATAAAGAGTCAAGACCCATCAG  2101

Query  2094  TGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATAAAAG  2153
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2102  TGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATAAAAG  2161

Query  2154  GATG-A--A-GATCTACCAAGCAAATGGAAAACAAAAAAAGGCAGGGGTTGCAATCCTAG  2209
              |||| |  | |||||||||||| |||||||||||||||||||||||||||||||||||
Sbjct  2162  GATGGAGGAAGATCTACCAAGCCAATGGAAAACAAAAAAAGGCAGGGGTTGCAATCCTAG  2221

Query  2210  TCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAA-G--G-CCATTACA  2265
              |||||||||||||||||||||||||||||||||||||||||||||| |  | ||||||||
Sbjct  2222  TCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCATTACA  2281

Query  2266  TAATGGTAAAGGGATCAATTCAACAAGAAGAGCTAACTATCCTAAATATATATGCACCCA  2325
              |||||||||||||||||||||||||| |||||||||||||||||| ||||||||||
Sbjct  2282  TAATGGTAAAGGGATCAATTCAACAAGAGGAGCTAACTATCCTAAATATTTATGCACCCA  2341

Query  2326  ATACAGGAGCACCAAGATTCATAAAGCAAGTCCTGAGTAACCTACAAAGAGACTTAGACT  2385
              |||||||||||| |||||||||||||||||||| ||| ||||||||||||||||||||
Sbjct  2342  ATACAGGAGCACCCAGATTCATAAAGCAAGTCCTCAGTGACCTACAAAGAGACTTAGACT  2401

Query  2386  CCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAACAA  2445
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |
Sbjct  2402  CCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAACGA  2461

Query  2446  GACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCAGACCTAA  2505
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2462  GACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCAGACCTAA  2521
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Query  2506  TAGACATCTACAGAACTCTCCACCCCAAATCAACAGCATATACATTTTTTTCAGCACCAC  2565
             ||||||||||||||||||||||||||||||||||| |||||| ||||||||||||||||
Sbjct  2522  TAGACATCTACAGAACTCTCCACCCCAAATCAACAGAATATACCTTTTTTTCAGCACCAC  2581

Query  2566  ACCACACCTATTCCAAAATTGACCACATACTTGGAAGTAAAGCTCTCCTCAGCAAATGTA  2625
             |||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||
Sbjct  2582  ACCACACCTATTCCAAAATTGACCACATAGTTGGAAGTAAAGCTCTCCTCAGCAAATGTA  2641

Query  2626  AAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAACTCA  2685
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2642  AAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAACTCA  2701

Query  2686  GGATTAAGAATCTCACTCAAAACTGCTCAACTACATGGAAACTGAACAACCTGCTCCTGA  2745
             |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||
Sbjct  2702  GGATTAAGAATCTCACTCAAAGCCGCTCAACTACATGGAAACTGAACAACCTGCTCCTGA  2761

Query  2746  ATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACCAATG  2805
             |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |
Sbjct  2762  ATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACCAACG  2821

Query  2806  AGAACAAAGACACAACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTGTAGAGGGA  2865
             |||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2822  AGAACAAAGACACCACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTGTAGAGGGA  2881

Query  2866  AATTTATAGCACTAAATGTCC-ACAAGAGAAAGCAGGAAAGATCCAAAATTGACACCCTA  2924
             |||||||||||||||||| || ||||||||||||||||||||||||||||||||||||||
Sbjct  2882  AATTTATAGCACTAAATG-CCTACAAGAGAAAGCAGGAAAGATCCAAAATTGACACCCTA  2940

Query  2925  ACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCGAAAGCTAGCAGAAGG  2984
             |||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Sbjct  2941  ACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAGCAGAAGG  3000

Query  2985  CAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACATAAAAAACCCTTCAA  3044
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Sbjct  3001  CAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTTCAA  3060

Query  3045  AAAATTAATGAATCCAGGAGCTGGTTTTTTGAGAGGATCAACAAAATTGATAGACCGCTA  3104
             |||||| |||||||||||||||||||||||| ||||||||||||||||||||||||||||
Sbjct  3061  AAAATCAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCGCTA  3120

Query  3105  GCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACGCAATAAAAAATGATAAG  3164
             |||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Sbjct  3121  GCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACACAATAAAAAATGATAAA  3180

Query  3165  GGGGATATCACCACCGATCCCACAAAAATACAAACTACCATCAGAGAATACTACAAACAC  3224
             |||||||||||||||||||||| ||||||||||||||||||||||||||||||||||||
Sbjct  3181  GGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAACAC  3240

Query  3225  CTCTACGCAAATAAACTAGAAAATCTAGAAGAAATGGATAAATTCCTCGACACATACACT  3284
             |||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Sbjct  3241  CTCTACGCAAATAAACTAGAAAATCTAGAAGAAATGGATACATTCCTCGACACATACACT  3300

Query  3285  CTCCCAAGACTAAAACAGGAAGAAATTGAATCTCTGAATAGACCAATAACAGGATCTGAA  3344
             |||||||||||||| ||||||||| |||||||||||||||||||||||||||| ||||||
Sbjct  3301  CTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGCTCTGAA  3360

Query  3345  ATTGTGGCAATAATCAATAGCTTACCAACCAAAAAGAGTCCAGGACAAGATGGATTCACA  3404
             |||||||||||||||||||| |||||||||||||||||||||||| ||||||||||||||
Sbjct  3361  ATTGTGGCAATAATCAATAGTTTACCAACCAAAAAGAGTCCAGGACCAGATGGATTCACA  3420
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Query  3405  GCCGAATTCTACCAGAGGTACAAGGAGGAACTGGTACCATTCCTTCTGAAACTATTCCAA  3464
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Sbjct  3421  GCCGAATTCTACCAGAGGTACATGGAGGAACTGGTACCATTCCTTCTGAAACTATTCCAA  3480

Query  3465  TCGATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTGATA  3524
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Sbjct  3481  TCAATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTGATA  3540

Query  3525  CCAAAGCCAGGCAGAGACACAACAAAAAAAGAGAATTTTAGACCAATATCCTTGATGAAC  3584
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Query  3585  ATTGATGCAAAAATCCTCAATAAAATACTGGCAAAATGAATCCAGCAGCACATCAAAAAG  3644
             |||||||||||||||||||||||||||||||||  ||||||||||||||||||||||||
Sbjct  3601  ATTGATGCAAAAATCCTCAATAAAATACTGGCAAACCGAATCCAGCAGCACATCAAAAAG  3660

Query  3645  CTTATCCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATATGC  3704
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Sbjct  3661  CTTATCCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATACGC  3720

Query  3705  AAATCAATAAATGTAATCCAGCATATAAACAGAGCCAAAGACAAAAACCACATGATTATC  3764
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3721  AAATCAATAAATGTAATCCAGCATATAAACAGAGCCAAAGACAAAAACCACATGATTATC  3780

Query  3765  TCAATAGATGCAGAAAAAGCCTTTGACAAAATTCAATAACCCTTCATGCTAAAAACTCTC  3824
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Sbjct  3781  TCAATAGATGCAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACTCTC  3840

Query  3825  AATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAACCC  3884
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Sbjct  3841  AATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAACCC  3900

Query  3885  ACAGCTAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACTGGCACA  3944
             |||||| |||||||||||||||||||||||||||||||||||||||||||| ||||||||
Sbjct  3901  ACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACCGGCACA  3960

Query  3945  AGACAGGGATGCCCTCTCTCACCACTCCTATTCAACATAGTGTTGGAAGTTCTGGCCAGG  4004
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Sbjct  3961  AGACAGGGATGCCCTCTCTCACCGCTCCTATTCAACATAGTGTTGGAAGTTCTGGCCAGG  4020

Query  4005  GCAATTAGGCAGGAGACGGAAATAAAGAGTATTCAATTAGGAAAAGAGGAAGTCAAATTG  4064
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Sbjct  4021  GCAATCAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAATTG  4080

Query  4065  TCCCTGTTTGCAGACGACATGATTGTATATCTAGAAAACCCCA-CTGTCTCAGCCCAAAA  4123
             |||||||||||||||||||||||||||||||||||||||||| | ||||||||||||||
Sbjct  4081  TCCCTGTTTGCAGACGACATGATTGTATATCTAGAAAACCCCATC-GTCTCAGCCCAAAA  4139

Query  4124  TCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAAAA  4183
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Sbjct  4140  TCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAAAA  4199

Query  4184  ATCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGAGTGAACT  4243
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Sbjct  4200  ATCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGGGTGAACT  4259

Query  4244  CCCATTCACAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGATGT  4303
             |||||||  ||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4260  CCCATTCGTAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGATGT  4319

Query  4304  GAAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGATACAAA  4363
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Sbjct  4320  GAAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGACACAAA  4379

Query  4364  CAAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATCTTGAAAATGGCCAT  4423
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Sbjct  4380  CAAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGGCCAT  4439

Query  4424  ACTGCCCAAGGTAATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGCCTTTCTT  4483
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Sbjct  4440  ACTGCCCAAGGTAATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGACTTTCTT  4499

Query  4484  CACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAAGAGCCCGCATCGC  4543
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Sbjct  4500  CACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAAGAGCCCGCATTGC  4559

Query  4544  CAAGTCAATCCTAAGCCAAA-GAACAAAGCTGGAGGCATCACACTACCTGACTTCAAACT  4602
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Sbjct  4560  CAAGTCAATCCTAAGCCAAAAGAACAAAGCTGGAGGCATCACACTACCTGACTTCAAACT  4619

Query  4603  ATACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATATAGA  4662
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Sbjct  4620  ATACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATATAGA  4679

Query  4663  TCAATGGAACAGAACAGAGCCCTCAGAAATAACGCTGCATATCTACAACTATCTGATCTT  4722
              |||||||||||||||||||||||||||||||| || ||||||||||||||||||||||||
Sbjct  4680  TCAATGGAACAGAACAGAGCCCTCAGAAATAATGCCGCATATCTACAACTATCTGATCTT  4739

Query  4723  TGACAAACCTGAGAAAAACAAGCAATGGGGGAAAGGATTCCCTATTTAATAAATGGTGCT  4782
              |||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||
Sbjct  4740  TGACAAACCTGAGAAAAACAAGCAATGGGG-AAAGGATTCCCTATTTAATAAATGGTGCT  4798

Query  4783  GGGAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTATA  4842
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Sbjct  4799  GGGAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTATA  4858

Query  4843  CAAAAATCAATTCAAGATGGATTAAAGACTTAAACGTTAGACCTAAAACCATAAAAACCC  4902
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Sbjct  4859  CAAAAATCAATTCAAGATGGATTAAAGATTTAAACGTTAAACCTAAAACCATAAAAACCC  4918

Query  4903  TAGAAGAAAACCTAGGCATTACCATTCAGGACACACGCATGGGCAAGGACTTCATGTCTA  4962
              |||||||||||||||||||||||||||||||| | || |||||||||||||||||| |
Sbjct  4919  TAGAAGAAAACCTAGGCATTACCATTCAGGACATAGGCGTGGGCAAGGACTTCATGTCCA  4978

Query  4963  AAACACCAAAAGCAATGGCAACAAAAGCCGAAATTGACAAATGGGATCTAATTAAACTAA  5022
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Sbjct  4979  AAACACCAAAAGCAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAATTAAACTAA  5038

Query  5023  AGAGCTTCTGCACAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAAAATGGG  5082
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Sbjct  5039  AGAGCTTCTGCACAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAACATGGG  5098

Query  5083  AGAAAATTTTCGCAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACAATGAAC  5142
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5099  AGAAAATTTTCGCAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACAATGAAC  5158

Query  5143  TCAAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACATGA  5202
              | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5159  TTAAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACATGA  5218

Query  5203  ACAGACACTTCTCAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAAAAATGCTCAT  5262
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||||||
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Sbjct  5219  ACAGACACTTCTCAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAGAAATGCTCAT  5278

Query  5263  TGTCACTGGCCATCAGAGAAATGAAAATCAAAACCACAATGAGATACCATCTCACACCAG  5322
              ||||||||||||||||||||| |||||||||||| |||||||| ||||||||||||
Sbjct  5279  CATCACTGGCCATCAGAGAAATGCAAATCAAAACCACTATGAGATATCATCTCACACCAG  5338

Query  5323  TTAGAATGGCAATCATTAAAAAGTCAGGAAACAACAGGTGCTGGAGAGGATGTGGAGAAA  5382
              |||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Sbjct  5339  TTAGAATGGCAATCATTAAAAAGTCAGGAAACAACAGGTGCTGGAGAGGATGCGGAGAAA  5398

Query  5383  TAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGTCAG  5442
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5399  TAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGTCAG  5458

Query  5443  TGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATTAC  5502
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Sbjct  5459  TGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATTAC  5518

Query  5503  TGGGTATATACCCAAAGGACTATAAATCATGCTGCTATAAAGACACATGCACACGTATGT  5562
              ||||||||||||||| || ||||||||||||||||||||||||||||||||||||||||
Sbjct  5519  TGGGTATATACCCAAATGAGTATAAATCATGCTGCTATAAAGACACATGCACACGTATGT  5578

Query  5563  TTATTGCGGCATTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAATGA  5622
              |||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5579  TTATTGCGGCACTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAATGA  5638

Query  5623  TAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAAAAA  5682
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5639  TAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAAAAA  5698

Query  5683  ATGACGAGTTCATGTCCTTTGTAGGGACATGGATGAAATTGGAAATCATCATTCTCAGTA  5742
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Sbjct  5699  ATGATGAGTTCATATCCTTTGTAGGGACATGGATGAAATTGGAAACCATCATTCTCAGTA  5758

Query  5743  AACTATCGCAAGAACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGAATTGAA  5802
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5759  AACTATCGCAAGAACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGAATTGAA  5818

Query  5803  CAATGAGAACACATGGACACAGGAAGGGGAACATCACACTCTGGGGACTGTTGTGGGGTG  5862
              |||||||| |||||||||||||||||||| |||||||||||||||||| |||||||
Sbjct  5819  CAATGAGATCACATGGACACAGGAAGGGGAATATCACACTCTGGGGACTGTGGTGGGGTC  5878

Query  5863  GGGGGAGGCGGGAGGGATAGCATTGGGAGATACACCTAATGCTAGATGACG-AGTTAGTG  5921
              |||||||| |||||||||||||||||||| ||||||||||||||||  | ||||||
Sbjct  5879  GGGGGAGGGGGGAGGGATAGCATTGGGAGATATACCTAATGCTAGATGACACA-TTAGTG  5937

Query  5922  GGTGCAGTGCACCAGCATGGCACATGTATACATATGTAACTAACCTGCACAATGTGCACA  5981
              ||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5938  GGTGCAGCGCACCAGCATGGCACATGTATACATATGTAACTAACCTGCACAATGTGCACA  5997

Query  5982  TGTACCCTAAAACTTAAAGTATAATTAAAAAAAAAA  6017
              ||||||||||||||| |||||||| ||||||||||
Sbjct  5998  TGTACCCTAAAACTTAGAGTATAATAAAAAAAAAAA  6033
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Case 4 chr 9

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>lcl|36889
Length=6059

 Score = 9998 bits (5414),  Expect = 0.0
 Identities = 5837/6040 (97%), Gaps = 34/6040 (1%)
 Strand=Plus/Plus

Query  1     GGGGA-GAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTCCAGCTCCCAGCGTGAGCG  59
             |||||  |||||||||||||||||||||||||||||||||  ||||||||||||||||||
Sbjct  2     GGGGAGGAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGCG  61

Query  60    ACGCAGAGGACGGGTGATTTCTGCATTTCCATCTGAGGTAGCGGGTTCATCTCACTAGGG  119
             |||||||  |||  ||||||||||||||||||||||||||  ||||||||||||||||||
Sbjct  62    ACGCAGAAGAC-GGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGGG  120

Query  120   AGTGCCAGACAGTGGGCGCAGGCCAGTGTGTGCGCGCACCGTGCGCGAGCCGAAGCAGGG  179
             |||||||||||||||||||||||||||||||||  ||||||||||||||||||||||||||
Sbjct  121   AGTGCCAGACAGTGGGCGCAGGCCAGTGTGTGTGCGCACCGTGCGCGAGCCGAAGCAGGG  180

Query  180   CGAGGCATTGCCTCA-CTCGGGAAGCGCAAGGGGTCAGGCAGTTCCCTTTCCGAGTCAAA  238
             |||||||||||||||  ||  ||||||||||||||||||||  ||||||||||  ||||||||
Sbjct  181   CGAGGCATTGCCTCACCT-GGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTCTGAGTCAAA  239

Query  239   GAAAGGGGTGACAGATGGCACCTGGAAAATCGGGTCACTCCCACCCAAATACTGCGCTTT  298
             ||||||||||||  |  |  ||||||||||||||||||||||||||||  ||||  ||||||||
Sbjct  240   GAAAGGGGTGAC-GGTCGCACCTGGAAAATCGGGTCACTCCCACCCGAATATTGCGCTTT  298

Query  299   TCCTACGGGCTTAAAAAATGGCG---CAC----C---A--CC-CACCTGGCTCGGAGGGT  345
             ||  ||  |||||||  |||  ||||   |||    |   |  ||  ||||||||||||||||||
Sbjct  299   TCAGACCGGCTTAAGAAACGGCGCACCACGAGACTATATCCCACACCTGGCTCGGAGGGT  358

Query  346   CCTACGCCCACGGAGTCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGGC  405
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Sbjct  359   CCTACGCCCACGGAATCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGGC  418

Query  406   GGCAGCGAGGCTGGGGGAGGGGCGCCCGCCATTGCCCAGGCTTGCTGAGGTAAACAAAGC  465
             ||||  ||||||||||||||||||||||||||||||||||||||||||||  ||||||||||||||
Sbjct  419   GGCAACGAGGCTGGGGGAGGGGCGCCCGCCATTGCCCAGGCTTGCTTAGGTAAACAAAGC  478

Query  466   AGCC-GGAAGCTCCAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCTG  524
             ||||  ||||||||  ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  479   AGCCGGGAAGCTCGAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCTG  538

Query  525   TAGGCGCCACGTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAG  584
             |||||  ||||  ||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  539   TAGGCTCCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAG  598

Query  585   ACTTAAATGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGTACGCAGCTG  644
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Sbjct  599   ACTTAAGTGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCTG  658

Query  645   GAGATCTGAGAA-GGG--G-CAGACTGCGTCCTCAAGTGGGTGCCTGACCCCTGACCCCC  700
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Sbjct  659   GAGATCTGAGAACGGGCAGACAGACTGCCTCCTCAAGTGGGTCCCTGACTCCTGACCCCC  718

Query  701   GAGCAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCCGGG  760
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Sbjct  719   GAGCAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGGG  778
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Query  761   TACTCCAACAGACCTGCAGCTGAGGGT-C---CTGTTAGAAGGAAAACTAACAAACAGAA  816
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Sbjct  779   TATTCCAACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAACCAGAA  838

Query  817   AGGACATCCACACCAAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGATA  876
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Sbjct  839   AGGACATCTACACCGAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGATA  898

Query  877   AAACCACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAAAGCAGAGCG  936
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Sbjct  899   AAACCACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAACGCAGAGCG  958

Query  937   CCTCTCCTCCTCCAAAGGAATGCAGTTCCTCACCAGCAATGGAACAAAGCTGGACGGAGA  996
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Query  997   ACGACTTCGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGGG  1056
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Sbjct  1019  ATGATTTTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGGG  1078

Query  1057  AGGACATTCAAACCAAAGGCAAAGAAGCTGAAAACTTTGAAAAAAATTTAGAAGAATGTA  1116
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Sbjct  1079  AGGACATTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGTA  1138

Query  1117  TAACTAGAATAATCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAGG  1176
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Sbjct  1139  TAACTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAGG  1198

Query  1177  CTCAAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCAATCAACTGGAAGAAA  1236
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Sbjct  1199  CTCGAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTGGAAGAAA  1258

Query  1237  GGGTATCAGCGATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAAA  1296
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Sbjct  1259  GGGTATCAGCAATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAAA  1318

Query  1297  AAAGAATAAAAATAAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCAA  1356
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Query  1357  ATCTACGTCTGATTGGTATACCTGAAAGTGACGGGGAGAATGGAACCAAGTTGGAAAACA  1416
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Sbjct  1379  ATCTACGTCTGATTGGTGTACCTGAAAGTGATGTGGAGAATGGAACCAAGTTGGAAAACA  1438

Query  1417  CTCTGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACATTCAGA  1476
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Query  1477  TTCAGGAAATACAGAGAATGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAACACACA  1536
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Query  1537  TAATTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGA  1596
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Sbjct  1559  TAATTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGA  1618

Query  1597  AAGGTCGGGTTACCCTCAAAGGGAAGCCCATCAGACTAACAGCGGATCTCTTGGCAGAAA  1656
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Query  1657  CCCTACAAGCCAGAAGAGAGTGGGGGCCAATATTCCACATTCTTAAAGAAAAGAATTTTC  1716
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Sbjct  1679  CCCTACAAGCCAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTTC  1738

Query  1717  AACCCAGAATGTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATACT  1776
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Query  1837  TGAAGGAAGCGCTAAACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCATGCCA  1896
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Query  1897  AAATGTAAAGACCGTCGAGACTAGGAAGAAACTGCATCAACTAACGAGCAAAATAACCAG  1956
              |||||||||||||| |||||||||||||||||||||||||||||| ||||||||| |||||
Sbjct  1919  AAATGTAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAATGAGCAAAATCACCAG  1978

Query  1957  CTAACATCATCATGACAGGATCAAATTCACACATAACAATATTAATTTTAAATGTAAATG  2016
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Sbjct  1979  CTAACATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATATAAATG  2038

Query  2017  GACTAAATGCTCCAATTAAAAGACACAGACTGGCAAATTGGATAAAGAGTCAAGACCCAT  2076
              |||||||| || ||||||||||||||||||||||| ||||||||||||||||||||||||
Sbjct  2039  GACTAAATTCTGCAATTAAAAGACACAGACTGGCAAGTTGGATAAAGAGTCAAGACCCAT  2098

Query  2077  CAGTGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATAA  2136
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Sbjct  2099  CAGTGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATAA  2158

Query  2137  AAGGATGGAGGAAGATCTATCAAGCAAATGGAAAACAAAAAAAGGCAGGGGTTGCAATCC  2196
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Sbjct  2159  AAGGATGGAGGAAGATCTACCAAGCCAATGGAAAACAAAAAAAGGCAGGGGTTGCAATCC  2218

Query  2197  TAGTCTCGGATAAAACAGACTTTAAACCAATAAAGATCAAAAGAGACAAAGAAGGCCATT  2256
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Sbjct  2219  TAGTCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCATT  2278

Query  2257  ACATAATGGTAAAGGGATCAATTCAACAAGAAGAGCTAACTATCCTAAATATATATGCAC  2316
              |||||||||||||||||||||||||||||| |||||||||||||||||||| |||||||
Sbjct  2279  ACATAATGGTAAAGGGATCAATTCAACAAGAGGAGCTAACTATCCTAAATATTTATGCAC  2338

Query  2317  CCAATACAGGAGCACCCAGATTCATAAAGCAAGTCCTGAGTGACCTACAAAGAGACTTAG  2376
              |||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
Sbjct  2339  CCAATACAGGAGCACCCAGATTCATAAAGCAAGTCCTCAGTGACCTACAAAGAGACTTAG  2398

Query  2377  ACTCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAA  2436
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Sbjct  2399  ACTCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAA  2458

Query  2437  CAAGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCGGACC  2496
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Query  2497  TAATAGACATCTACAGAACTCTCCACCCCAAATCAACAGAATATACATTTTTTTCAGCAC  2556
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Sbjct  2519  TAATAGACATCTACAGAACTCTCCACCCCAAATCAACAGAATATACCTTTTTTTCAGCAC  2578

Query  2557  CACACCACACCTATTCCAAAATTGACCACATACTTGGAAGTAAAGCTCTCCTCAGCAAAT  2616
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Sbjct  2579  CACACCACACCTATTCCAAAATTGACCACATAGTTGGAAGTAAAGCTCTCCTCAGCAAAT  2638

Query  2617  GTAAAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAAC  2676
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Query  2677  TCAGGATTAAGAATCTCACTCAAAACCACTCAACTACATGGAAACTGAACAACCTGCTCC  2736
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Query  2737  TGAATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACCA  2796
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Sbjct  2759  TGAATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACCA  2818

Query  2797  ACGAGAACAAAGACACAACATACCAGAATCTCTGGGATACATTCAAAGCAGTGTGTAGAG  2856
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Query  2857  GGAAATTTATAGCACTAAATGCCCACAAGAGAAAGCAGGAAAGATCCAAAATTGACACTC  2916
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Sbjct  2879  GGAAATTTATAGCACTAAATGCCTACAAGAGAAAGCAGGAAAGATCCAAAATTGACACCC  2938

Query  2917  TAACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATCCAAAAGCTAGCAGAA  2976
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Query  2977  GGCAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTTC  3036
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Query  3037  AAAAAATTAATGAATCCAGGATCTGGTTTTTTGAAAGGATCAACAAAATAGATAGACCAC  3096
              ||||||| |||||||||||||| |||||||||||||||||||||||||||| |||||||| |
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Query  3097  TAGCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACGCAATATAAAATGATA  3156
              |||||||||||||||||||||||||||||||||||||||||||| ||||| |||||||||
Sbjct  3119  TAGCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACACAATAAAAAATGATA  3178

Query  3157  AAGGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAAC  3216
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Sbjct  3179  AAGGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAAC  3238

Query  3217  ACCTCTACGCAAATAAACTACAAAATCTAGAAGAAATGGATAAATTCCTCGACACATACG  3276
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Query  3277  CTCTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGATCTG  3336
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Query  3337  AAATTGTGGCAATAATCAATAGCTTACCAACCAAAAAGAGTCCACGACCAGATGGATTCA  3396
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Query  3397  CAGCCGAATTCTACCAGAGGTACAAGGAGGAACTGGTACCATTCCTTCTGAAACTATTCC  3456
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Sbjct  3419  CAGCCGAATTCTACCAGAGGTACATGGAGGAACTGGTACCATTCCTTCTGAAACTATTCC  3478

Query  3457  AATCAATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTGA  3516
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Sbjct  3479  AATCAATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTGA  3538
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Query  3517  TACCAAAGCCTGGCAGAGACACAACCAAAAAAGAGAATTTTAGACCAATATCCTTGATGA  3576
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Query  3636  AGCTTAACCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTAGTTCAATATAC  3695
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Query  3696  GCAAATCAATAAATGTAATCCAGCATATAAACAGAACCAAAGACAAAAACCACATGATTA  3755
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Query  3756  TCTCAATAGATGCAGAAAAGGCCTTTGACAAAATTCAACAACACTTCATGCTAAAAACTC  3815
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Sbjct  3779  TCTCAATAGATGCAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACTC  3838

Query  3816  TCAATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTGTGACAAAC  3875
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Query  3876  CCAAAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACTGGCA  3935
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Query  3936  CAAGACAGGGATGCCCTCTCTCACCACTCCTATTCAACATAGTGTTGGAAGTTCTGGCCA  3995
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Query  3996  GGGCAATTAGGCAGGAGAAGGAAATAAAGGGTATTCAATTGGGAAAAGAAGAAGTCAAAT  4055
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Sbjct  4019  GGGCAATCAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAAT  4078

Query  4056  TGTCCCTGTTTGCAGACGACATGATTGTGTGTGC-AGAAAACCCCATTGTCTCAGCCCAA  4114
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Query  4115  AATCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAA  4174
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Sbjct  4138  AATCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAA  4197

Query  4175  AAATCACAAGTATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGAGTGAA  4234
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Sbjct  4198  AAATCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGGGTGAA  4257

Query  4235  CTCCCATTCACAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGAT  4294
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Query  4295  GTGAAGGACCTCTTCAAGGAGAAGTATAAACCACTGCTCAATGAAATAAAAGAGGATACA  4354
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Sbjct  4318  GTGAAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGACACA  4377

Query  4355  AACAAATGGAAGAACATTCCATGCTCATGGGTAGGAAGACTCAATATCGTGAAAATGGCC  4414
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Sbjct  4378  AACAAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGGCC  4437
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Query  4415  ATACTGCCCAAGGTAATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGACTTTC  4474
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Query  4475  TTCACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAACAGCCCGCATC  4534
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Query  4595  CTATACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATATA  4654
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Query  4655  GATCAATGGAACAGAACAGAGCCCTCAGAAATAATGCCGCATATCTACAACTATCTGATC  4714
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Sbjct  4678  GATCAATGGAACAGAACAGAGCCCTCAGAAATAATGCCGCATATCTACAACTATCTGATC  4737

Query  4715  TTTGACAAACCTGAGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAATGGTGC  4774
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Query  4775  TGGGAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTAT  4834
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Query  4835  ACAAAAATCAATTCCAGATGGATTAAAGAATTAAATGTTAGACCTAAAACCATAAAAACC  4894
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Query  4895  CTAGAAGAAAACCTAGGCAATACCATTCAGGACATAGGCATGGGCAAGGACTTCATGTCT  4954
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Sbjct  4918  CTAGAAGAAAACCTAGGCATTACCATTCAGGACATAGGCGTGGGCAAGGACTTCATGTCC  4977

Query  4955  AAAACACCAAAAGCAATGGCAACAAAAGCCAAAATTGACAAATGGGATCTAATTCAACTA  5014
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Sbjct  4978  AAAACACCAAAAGCAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAATTAAACTA  5037

Query  5015  AACAGCTTCTGCACAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAAAATGG  5074
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Sbjct  5038  AAGAGCTTCTGCACAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAACATGG  5097

Query  5075  GAGAAAATTTTTGCAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACAATGAA  5134
             |||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5098  GAGAAAATTTTCGCAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACAATGAA  5157

Query  5135  CTCAAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCAAAGGACATG  5194
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Sbjct  5158  CTTAAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACATG  5217

Query  5195  AACAGACACTTCTCAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAAAAATGCTCA  5254
             |||||||||||||||||||||||||||||||||||||||||||||||||| |||||||||
Sbjct  5218  AACAGACACTTCTCAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAGAAATGCTCA  5277

Query  5255  TCATCACTGGCCATCAGAGAAATGCAAATCAAAACCAC-ATTGAGATACCATCTCACACC  5313
             |||||||||||||||||||||||||||||||||||| || ||||||| ||||||||||||
Sbjct  5278  TCATCACTGGCCATCAGAGAAATGCAAATCAAAACCACTAT-GAGATATCATCTCACACC  5336

Query  5314  AGTTAGAATGGCAATCATTAAAAAGTCAGGAAACAACAGGTGCTAGAGAGGATGTGGAGA  5373
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Sbjct  5337 AGTTAGAATGGCAATCATTAAAAAGTCAGGAAACAACAGGTGCTGGAGAGGATGCGGAGA 5396

Query  5374 AATAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGTC 5433
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5397 AATAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGTC 5456

Query  5434 AGTGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATT 5493
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5457 AGTGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATT 5516

Query  5494 ACTGGGTATATACCCAAAGGACTATAAATCATGCTGCTATAAAGACACATGCACACCTAT 5553
            |||||||||||||||||  || |||||||||||||||||||||||||||||||||| |||
Sbjct  5517 ACTGGGTATATACCCAAATGAGTATAAATCATGCTGCTATAAAGACACATGCACACGTAT 5576

Query  5554 GTTTATTGCGGCACTACTCACAATAGCAAAGACTCGGAACCAACCCAAATGTCCAAGAAT 5613
            ||||||||||||||| |||||||||||||||| |||||||||||||||||||||| |||
Sbjct  5577 GTTTATTGCGGCACTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAAT 5636

Query  5614 GATAGACTGGATTAAGAAAATGTGGCACATATATACCACGGAATACTATGCAGCCATAAA 5673
            |||||||||||||||||||||||||||||||| |||| ||||||||||||||||||||||
Sbjct  5637 GATAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAAA 5696

Query  5674 AAATGATGAGTTCATGTCCTTTGTAGGGACACGGATGAAATTGGAAATCACCATTCTCAG 5733
            ||||||||||||||| ||||||||||||||| ||||||||||||||| || |||||||||
Sbjct  5697 AAATGATGAGTTCATATCCTTTGTAGGGACATGGATGAAATTGGAAACCATCATTCTCAG 5756

Query  5734 TAAACTATCGCAAGAACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGAATTG 5793
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Sbjct  5757 TAAACTATCGCAAGAACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGAATTG 5816

Query  5794 AACAATGAGATCACATGGACACAGGAAGGGGAACATCACACTCTGGGGACTGTTGTGGGG 5853
            |||||||||||||||||||||||||||||||| |||||||||||||||||| ||||||
Sbjct  5817 AACAATGAGATCACATGGACACAGGAAGGGGAATATCACACTCTGGGGACTGTGGTGGGG 5876

Query  5854 TGGGGGGAGGGGGGAGGGATAGCAGTGGGAGATACACCTAATGCTAGATGACG-AGTTAG 5912
            | |||||||||||||||||||| ||||||||| |||||||||||||||||  | ||||
Sbjct  5877 TCGGGGGAGGGGGGAGGGATAGCATTGGGAGATATACCTAATGCTAGATGACACA-TTAG 5935

Query  5913 TGGGTGCAGCGCACCAGCGTGGCACATGTATACATATGTAACTAACCTGCACAATGTGCA 5972
            |||||||||||||||||| |||||||||||||||||||||||||||||||||||||||||
Sbjct  5936 TGGGTGCAGCGCACCAGCATGGCACATGTATACATATGTAACTAACCTGCACAATGTGCA 5995

Query  5973 CATGTACCCTAAAACTTAAAGTATAATAATAAAAGAAAAA  6012
            |||||||||||||||||| |||||||||| |||| |||||
Sbjct  5996 CATGTACCCTAAAACTTAGAGTATAATAAAAAAAAAAAAA  6035
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Case 5 chr 18

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>lcl|30195
Length=6059

 Score = 1.052e+04 bits (5696),  Expect = 0.0
 Identities = 5917/6023 (98%), Gaps = 18/6023 (0%)
 Strand=Plus/Plus

Query  1     AAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGCGACGCAGAAGAC  60
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  13    AAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGCGACGCAGAAGAC  72

Query  61    GGGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGGGAGTGCCAGACA  120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  73    -GGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGGGAGTGCCAGACA  131

Query  121   GTGGGCGCAGGCCAGTG-G-GT-------GTGCGCAAGCCGAAGCAGGGCGAGGCATTGC  171
             |||||||||||||||| | ||       |||||| ||||||||||||||||||||||||
Sbjct  132   GTGGGCGCAGGCCAGTGTGTGTGCGCACCGTGCGCGAGCCGAAGCAGGGCGAGGCATTGC  191

Query  172   CTCACCTGGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTCCGAGTCAAAGAAAGGGGTGAC  231
             |||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
Sbjct  192   CTCACCTGGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTCTGAGTCAAAGAAAGGGGTGAC  251

Query  232   GGGCGCACCTGGAAAATCGGGTCACTCCCACCCGAATACTGCGCTTTTCAGACCGGCTTA  291
             || ||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
Sbjct  252   GGTCGCACCTGGAAAATCGGGTCACTCCCACCCGAATATTGCGCTTTTCAGACCGGCTTA  311

Query  292   AAAAACGGCGCACCACGAGACTATATCCCACACCTGGCTCGGAGGGTCCTACGCCCACGG  351
             | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  312   AGAAACGGCGCACCACGAGACTATATCCCACACCTGGCTCGGAGGGTCCTACGCCCACGG  371

Query  352   AGTCTCGCTGATTGCCAGCACAGCAGTCTGAGATCAAACTGCAAGGCGGCAGCGAGGCTG  411
             | |||||||||||| ||||||||||||||||||||||||||||||| ||||||||
Sbjct  372   AATCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGGCGGCAACGAGGCTG  431

Query  412   GGGGAGGGGCGCCCGCCATTGCCCAGGCTTGATTAGGTAAACAAAGCAGCCGGGAAGCTC  471
             |||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||
Sbjct  432   GGGGAGGGGCGCCCGCCATTGCCCAGGCTTGCTTAGGTAAACAAAGCAGCCGGGAAGCTC  491

Query  472   GAACTGGGTGGAGCCCACCACAGCTCTAGGAGGCCTGCCTGCCTCTGTAGGCTCCACCTC  531
             |||||||||||||||||||||||| ||||||||||||||||||||||||||||||||||
Sbjct  492   GAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCTGTAGGCTCCACCTC  551

Query  532   TGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAGACTTAAATGTCCC  591
             |||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Sbjct  552   TGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAGACTTAAGTGTCCC  611

Query  592   TGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCTGGAGATCTGAGAAC  651
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  612   TGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCTGGAGATCTGAGAAC  671

Query  652   -GG--G-CAGACTGCCTCCTCAAGTGGGTCCCTGACCCCTGACCCCCGAGCAGCCTAACT  707
              ||  | |||||||||||||||||||||||| ||||||||||||||||||||||||||
Sbjct  672   GGGCAGACAGACTGCCTCCTCAAGTGGGTCCCTGACTCCTGACCCCCGAGCAGCCTAACT  731

Query  708   GGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGGGTACTCCAACAGAC  767
             |||||||||||||||||||||||||||||||||||||||||||||||| ||||||||||
Sbjct  732   GGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGGGTATTCCAACAGAC  791
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Query  768   CTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAAACAGAAAGGACATCCACAC  827
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Sbjct  792   CTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAACCAGAAAGGACATCTACAC  851

Query  828   CGAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGATAAAACCACAAAGAT  887
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  852   CGAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGATAAAACCACAAAGAT  911

Query  888   GGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAACGCAGAGCGCCTCTCCTCCTCC  947
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Sbjct  912   GGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAACGCAGAGCGCCTCTCCTCCTCC  971

Query  948   AAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAGAATGACTTTGACGA  1007
             |||||||||||||||||||||||||||||||||||||||||||||||||| ||||||||
Sbjct  972   AAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAGAATGATTTTGACGA  1031

Query  1008  GCTGAGAGAAGAAGGTTTCAGACGATCAAATTACTCTGAGCTACGGGAGGACATTCAAAC  1067
             ||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1032  GCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGGGAGGACATTCAAAC  1091

Query  1068  CAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGTATAACTAGAATAAC  1127
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1092  CAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGTATAACTAGAATAAC  1151

Query  1128  CAATACAGAGAAGTCCTTAAAGGAGCTGATGGAGCTGAAAACCAAGGCTCGAGAACTACG  1187
             |||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1152  CAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAGGCTCGAGAACTACG  1211

Query  1188  TGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCTACTGGAAGAAAGGGTATCAGCAAT  1247
             |||||||||||||||||||||||||||||||||| |||||||||||||||||||||||||
Sbjct  1212  TGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTGGAAGAAAGGGTATCAGCAAT  1271

Query  1248  GGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAAAAAAGAATAAAAAG  1307
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1272  GGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAAAAAAGAATAAAAAG  1331

Query  1308  AAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCAAATCTACGTCTGAT  1367
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Sbjct  1332  AAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCAAATCTACGTCTGAT  1391

Query  1368  TGGTGTACCTGAAAGTGATGCGGAGAATGGAACCAAGTTGGAAAACACTCTGCAGGATAT  1427
             |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Sbjct  1392  TGGTGTACCTGAAAGTGATGTGGAGAATGGAACCAAGTTGGAAAACACTCTGCAGGATAT  1451

Query  1428  TATCCAGGAGAACTTCCCCAGTCTAGCAAGGCAGGCCAACGTTCAGATTCAGGAAATACA  1487
             |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Sbjct  1452  TATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAGATTCAGGAAATACA  1511

Query  1488  GAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACACATAATTGTCAGATT  1547
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Sbjct  1512  GAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACACATAATTGTCAGATT  1571

Query  1548  CACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAAGGTCGGGTTAC  1607
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1572  CACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAAGGTCGGGTTAC  1631

Query  1608  CCTCAAAGGGAAGCCCATCAGACTAACAGCGGATCTCTCGGCAGAAACCCTACAAGCCAG  1667
             ||||||||| |||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct  1632  CCTCAAAGGAAAGCCCATCAGACTAACAGTGGATCTCTCGGCAGAAACCCTACAAGCCAG  1691

Query  1668  AAGAGAGTGGGAGCCAATATTCAACATTCTTAAAGAAAAGAATTTTCAACCCAGAATTTC  1727
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Sbjct  1692 AAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTTCAACCCAGAATTTC  1751

Query  1728 ATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATACTTTACAGACAAGCA  1787
            |||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||||
Sbjct  1752 ATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATACTTTATAGACAAGCA  1811

Query  1788 AATGCTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTCCTGAAGGAAGCACT  1847
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Sbjct  1812 AATGTTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTCCTGAAGGAAGCGCT  1871

Query  1848 AAACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCATGCCAAAATGTAAAGACC  1907
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1872 AAACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCATGCCAAAATGTAAAGACC  1931

Query  1908 ATCGAGACTAGGAAGAAACTGCATCAACTAACGAGCAAAATAACCAGCTAACATCATAAT  1967
            |||||||||||||||||||||||||||||| ||||||||| ||||||||||||||||||
Sbjct  1932 ATCGAGACTAGGAAGAAACTGCATCAACTAATGAGCAAAATCACCAGCTAACATCATAAT  1991

Query  1968 GACAGGATGAAATTCACACATAACAATATTAACTTTAAATGTAAATGGACTAAATTCTCC  2027
            |||||||| |||||||||||||||||||||||||||| |||||||||||||||||| |
Sbjct  1992 GACAGGATCAAATTCACACATAACAATATTAACTTTAAATATAAATGGACTAAATTCTGC  2051

Query  2028 AATTAAAAGACACACACTGGCAAGTTGGATCTAAGAGTCAAGACCCATCAGTGTGCTGTA  2087
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Sbjct  2052 AATTAAAAGACACAGACTGGCAAGTTGGAT-AAAGAGTCAAGACCCATCAGTGTGCTGTA  2110

Query  2088 TTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATAAAAGGATGGAGGA  2147
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2111 TTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATAAAAGGATGGAGGA  2170

Query  2148 AGATCTACCAAGCAAATGGAAAACAAAAAAAGGCAGGGGTTGCAATCCTAGTCTCTGATA  2207
            |||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2171 AGATCTACCAAGCCAATGGAAAACAAAAAAAGGCAGGGGTTGCAATCCTAGTCTCTGATA  2230

Query  2208 AAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCATTACATAATGGTAA  2267
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Sbjct  2231 AAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCATTACATAATGGTAA  2290

Query  2268 AGGGATCAATTCAACAAGAGGAGCTAACTATCCTAAATATATATGCACCCAATACAGGAG  2327
            |||||||||||||||||||||||||||||||||||||||| ||||||||||||||||||
Sbjct  2291 AGGGATCAATTCAACAAGAGGAGCTAACTATCCTAAATATTTATGCACCCAATACAGGAG  2350

Query  2328 CACCCAGATTCATAAAGCAAGTCCTGAGTGACCTACAAAGAGACTTAGACTCCCACACAT  2387
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Sbjct  2351 CACCCAGATTCATAAAGCAAGTCCTCAGTGACCTACAAAGAGACTTAGACTCCCACACAT  2410

Query  2388 TAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAACGAGACAGAAAG  2447
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2411 TAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAACGAGACAGAAAG  2470

Query  2448 TCAACAAGGATACCCAGGAATTGAACTCATCTCTGCACCAAGTGGACCTAATAGACATCT  2507
            |||||||||||||||||||||||||||| |||||||||||  ||||||||||||||||
Sbjct  2471 TCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCAGACCTAATAGACATCT  2530

Query  2508 ACAGAACTCTCCACCCCAAATCAACAGAATATACGTTTTTTTCAGCACCACACCACACCT  2567
            |||||||||||||||||||||||||||||||| |||||||||||||||||||||||||||
Sbjct  2531 ACAGAACTCTCCACCCCAAATCAACAGAATATACCTTTTTTTCAGCACCACACCACACCT  2590

Query  2568 ATTCCAAAATTGACCACATAGTTGGAAGTAAAGCTCTCCTCAGCAAATGTAAAAGAACAC  2627
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Sbjct  2591  ATTCCAAAATTGACCACATAGTTGGAAGTAAAGCTCTCCTCAGCAAATGTAAAAGAACAG  2650

Query  2628  AAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAACTCAGGATTAAGA  2687
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2651  AAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAACTCAGGATTAAGA  2710

Query  2688  ATCTCACTCAAAGCCACTCAACTACATGGAAACTGAACAACCTGCTCCTGAATGACTACT  2747
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Sbjct  2711  ATCTCACTCAAAGCCGCTCAACTACATGGAAACTGAACAACCTGCTCCTGAATGACTACT  2770

Query  2748  GGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACCAACGAGAACAAAG  2807
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Query  2808  ACACAACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTGTAGAGGGAAATTTATAG  2867
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Sbjct  2831  ACACCACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTGTAGAGGGAAATTTATAG  2890

Query  2868  CACTAAATGCCCACAAGAGAAAGCAGGAAAGATCCAAAATTGACACCCTAACATCACAGT  2927
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Sbjct  2891  CACTAAATGCCTACAAGAGAAAGCAGGAAAGATCCAAAATTGACACCCTAACATCACAAT  2950

Query  2928  TAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAGCAGAAGGCAAGAAATAA  2987
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2951  TAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAGCAGAAGGCAAGAAATAA  3010

Query  2988  CTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTTCAAAAAATCAATG  3047
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Sbjct  3011  CTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTTCAAAAAATCAATG  3070

Query  3048  AATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCGCTAGCAAGACTAA  3107
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3071  AATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCGCTAGCAAGACTAA  3130

Query  3108  TAAAGAAAAAAAAGAGAGGAGAATCAAATAGACACAATAAAAAATGATAAAGGGGATATCA  3167
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Sbjct  3131  TAAAGAAAAAAAGAGAGAAGAATCAAATAGACACAATAAAAAATGATAAAGGGGATATCA  3190

Query  3168  CCACCAATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAACACCTCTATGCAA  3227
              |||||  ||||||||||||||||||||||||||||||||||||||||||||||| ||||
Sbjct  3191  CCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAACACCTCTACGCAA  3250

Query  3228  ATAAACTAGAAAATCTAGAAGAAATGGATACATTCCTTGACACATACACTCTCCCAAGAC  3287
              |||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
Sbjct  3251  ATAAACTAGAAAATCTAGAAGAAATGGATACATTCCTCGACACATACACTCTCCCAAGAC  3310

Query  3288  TAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGAGCTGAAATTGTGGCAA  3347
              ||||||||||||||||||||||||||||||||||||||||||||  ||||||||||||||
Sbjct  3311  TAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGCTCTGAAATTGTGGCAA  3370

Query  3348  TAATCAATAGTTTACCAACCAAAAAGAGTCCAGGACCAGATGGATTCACAGCCGAATTCT  3407
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3371  TAATCAATAGTTTACCAACCAAAAAGAGTCCAGGACCAGATGGATTCACAGCCGAATTCT  3430

Query  3408  ACCAGAGGTACAAGGAGGAACTGGTACCATTCCTTCTGAAACTATTCCAATCAATAGAAA  3467
              ||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3431  ACCAGAGGTACATGGAGGAACTGGTACCATTCCTTCTGAAACTATTCCAATCAATAGAAA  3490

Query  3468  AAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTGATACCAAAGCCGG  3527
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Sbjct  3491  AAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTGATACCAAAGCCGG  3550
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Query  3528  GCAGAGACACAACCAAAAAAGAGAATTTTAGACCAATATCCTTGATGAACATTGATGCAA  3587
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Sbjct  3551  GCAGAGACACAACCAAAAAAGAGAATTTTAGACCAATATCCTTGATGAACATTGATGCAA  3610

Query  3588  AAATCCTCAATAAAATACTGGCAAACCAAATCCAGCAGCACATCAAAAAGCTTATCCACC  3647
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Sbjct  3611  AAATCCTCAATAAAATACTGGCAAACCGAATCCAGCAGCACATCAAAAAGCTTATCCACC  3670

Query  3648  ATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATACGCAAATCAATAA  3707
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Sbjct  3671  ATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATACGCAAATCAATAA  3730

Query  3708  ATGTAATCCAGCATATAAACAGAGCCAAAGACAAAAACCACATGATTATCTCAATAGATG  3767
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Sbjct  3731  ATGTAATCCAGCATATAAACAGAGCCAAAGACAAAAACCACATGATTATCTCAATAGATG  3790

Query  3768  CAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACTCTCAATAAATTAG  3827
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Sbjct  3791  CAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACTCTCAATAAATTAG  3850

Query  3828  GTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAACCCACAGCCAATA  3887
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Sbjct  3851  GTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAACCCACAGCCAATA  3910

Query  3888  TCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACTGGCACAAGACAGGGAT  3947
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Sbjct  3911  TCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACCGGCACAAGACAGGGAT  3970

Query  3948  GCCCTCTCTCACCGCTCCTATTCAACATAGTGTTGGAAGTTCTGGTCAGGGCAATCAGGC  4007
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Sbjct  3971  GCCCTCTCTCACCGCTCCTATTCAACATAGTGTTGGAAGTTCTGGCCAGGGCAATCAGGC  4030

Query  4008  AGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAATTGTCCCTGTTTG  4067
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Sbjct  4031  AGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAATTGTCCCTGTTTG  4090

Query  4068  CAGACGACATGATTGTTTATCTAGAAAACCCCATCGTCTCAGCCCAAAATCTCCTTAAGC  4127
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Query  4128  TGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAAAAATCACAAGCAT  4187
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Sbjct  4151  TGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAAAAATCACAAGCAT  4210

Query  4188  TCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGAGTGAACTCCCATTCACAA  4247
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Sbjct  4211  TCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGGGTGAACTCCCATTCGTAA  4270

Query  4248  TTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGATGTGAAGGACCTCT  4307
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Sbjct  4271  TTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGATGTGAAGGACCTCT  4330

Query  4308  TCAAGGAGAACTGCAAACCGCTACTCAAGGAAATAAAAGAGGATACAAACAAATGGAAGA  4367
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Sbjct  4331  TCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGACACAAACAAATGGAAGA  4390

Query  4368  ACATTCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGGCCATACTGCCCAAGG  4427
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Sbjct  4391  ACATTCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGGCCATACTGCCCAAGG  4450
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Query  4428  TAATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGACTTTCGTCACAGAATTGG  4487
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Sbjct  4451  TAATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGACTTTCTTCACAGAATTGG  4510

Query  4488  AAAAAACTACTTTAAA-TTCATATGGAACCAAAAAAGAGCCCGCATCGCCAAGTCAATCC  4546
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Query  4547  TAAGCCAAAAGAACAAAGCTGGAGGCATCACACTACCTGACTTCAAACTATACTACAAGG  4606
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Query  4607  CTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATATAGATCAATGGAACA  4666
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Sbjct  4631  CTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATATAGATCAATGGAACA  4690

Query  4667  GAACAGAGCCCTCAGAAATAACGCTGCATACCTACAACTATCTGATCTTTGACAAACCTG  4726
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Sbjct  4691  GAACAGAGCCCTCAGAAATAATGCCGCATATCTACAACTATCTGATCTTTGACAAACCTG  4750

Query  4727  AGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAATGGTGCTGGGAAAACTGGC  4786
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Sbjct  4751  AGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAATGGTGCTGGGAAAACTGGC  4810

Query  4787  TAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTATAGAAAAATCAATT  4846
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Sbjct  4811  TAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTATACAAAAATCAATT  4870

Query  4847  CAAGATGGATTAAAGATTTAAACGTTAGACCTAAAACCATAAAAACCCTAGAAGAAAACC  4906
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Sbjct  4871  CAAGATGGATTAAAGATTTAAACGTTAAACCTAAAACCATAAAAACCCTAGAAGAAAACC  4930

Query  4907  TAGGCATTACCATTCAGGACATAGGCGTGGGCAAGGACTTCATGTCCAAAACACCAAAAG  4966
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Sbjct  4931  TAGGCATTACCATTCAGGACATAGGCGTGGGCAAGGACTTCATGTCCAAAACACCAAAAG  4990

Query  4967  CAATGGCAACAAAAGCCAAAATTGACAAATGGGACCTAATTAAACTAAAGAGCTTCTGCA  5026
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Sbjct  4991  CAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAATTAAACTAAAGAGCTTCTGCA  5050

Query  5027  CAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAACATGGGAGAAAATTTTCG  5086
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Sbjct  5051  CAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAACATGGGAGAAAATTTTCG  5110

Query  5087  CAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACAATGAACTCAAACAAATTT  5146
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Sbjct  5111  CAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACAATGAACTTAAACAAATTT  5170

Query  5147  ACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACATGAACAGACACTTCT  5206
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Sbjct  5171  ACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACATGAACAGACACTTCT  5230

Query  5207  CAAAAGAAGACATTTATGCAGCCAAAAAATACATGAAAAAATGCTCATCATCACTGGCCA  5266
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Sbjct  5231  CAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAGAAATGCTCATCATCACTGGCCA  5290

Query  5267  TCAGAGAAATGCAAATCAAAACCACTATGAGATACCATCTCACACCAGTTAGAATGGCAA  5326
             |||||||||||||||||||||||||||||||||| ||||||||||||||||||||||||
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Query  5327  TCATTAAAAAGTCAGGACACAACAGGTGCTGGAGAGGATGTGGAGAAATAGGAACACTTT  5386
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Query  5387 TACACTGTTGGTGGGACTGTCAACTAGTTCAACCATTGTGGAAGTCAGTGTGGCGATTCC 5446
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Sbjct  5411 TACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGTCAGTGTGGCGATTCC 5470

Query  5447 TCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATTACTGGGTATATACC 5506
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Sbjct  5471 TCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATTACTGGGTATATACC 5530

Query  5507 CAAAGGACTATAAATCATGCTGCTATAAAGACACATGCACACGTATGTTTATTGCGGCAT 5566
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Sbjct  5531 CAAATGAGTATAAATCATGCTGCTATAAAGACACATGCACACGTATGTTTATTGCGGCAC 5590

Query  5567 TATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAATGATAGACTGGATTA 5626
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Sbjct  5591 TATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAATGATAGACTGGATTA 5650

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Query  5687 TGTCCTTTGTAGGGACATGGATGAAATTGGAAACCATCATTCTCAGTAAACTATCGCAAG 5746
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Query  5807 ATGGTCACAGGAAGGGGAATATCACACTCTGGGGACTGTGGTGGGGTGGGGGGAGGGGGG 5866
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Sbjct  5831 ATGGACACAGGAAGGGGAATATCACACTCTGGGGACTGTGGTGGGGTCGGGGGAGGGGGG 5890

Query  5867 AGGGATAGCATTGGGAGATATACCTAATGCTAGATGACG-ATTTAGTGGGTGCAGCGCAC 5925
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Sbjct  5891 AGGGATAGCATTGGGAGATATACCTAATGCTAGATGACACATT-AGTGGGTGCAGCGCAC 5949

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Sbjct  5950 CAGCATGGCACATGTATACATATGTAACTAACCTGCACAATGTGCACATGTACCCTAAAA 6009

Query  5986 CTTAAAGTATAATAAAAAAAAAA 6008
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Sbjct  6010 CTTAGAGTATAATAAAAAAAAAA 6032
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Case 5 chr 20

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>lcl|62797
Length=6059

 Score = 1.033e+04 bits (5591),  Expect = 0.0
 Identities = 5892/6038 (98%), Gaps = 17/6038 (0%)
 Strand=Plus/Plus

Query  1     GGGGGAGGAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGC  60
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Sbjct  1     GGGGGAGGAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGC  60

Query  61    GACGCAGAAGACGGGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGG  120
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Sbjct  61    GACGCAGAAGAC-GGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGG  119

Query  121   GAGTGCCAGACAGTGGGCGCAGGTCAGTGGGTGCGCGCACCGTGCGCGAGCTGAAGCAGG  180
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Sbjct  120   GAGTGCCAGACAGTGGGCGCAGGCCAGTGTGTGTGCGCACCGTGCGCGAGCCGAAGCAGG  179

Query  181   GCGAGGCATTGCCTCACTTGGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTCTGAGTCAAA  240
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Sbjct  180   GCGAGGCATTGCCTCACCTGGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTCTGAGTCAAA  239

Query  241   GAAAGGGGTGACAGACGGCACCTGGAAAATCGGGTCACTCCCACCCGAATACTGCGCTTT  300
             |||||||||||| | | ||||||||||||||||||||||||||||||| ||||||||
Sbjct  240   GAAAGGGGTGACGGTC-GCACCTGGAAAATCGGGTCACTCCCACCCGAATATTGCGCTTT  298

Query  301   TCCA-ACGGGCTTAAAAAACGGCGCACCAGGAGATTACATCCCTTACCTGGCTCGGAGGG  359
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Sbjct  299   T-CAGACCGGCTTAAGAAACGGCGCACCACGAGACTATATCCCACACCTGGCTCGGAGGG  357

Query  360   TCCTACGCCCACGGAGTCTCGCTGGTTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGG  419
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Sbjct  358   TCCTACGCCCACGGAATCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGG  417

Query  420   CGGCAGCGAGGCTGGGGGAGGGGCGCCCGCCATTGCCCAGGCTTGCTTAGGTAAACAAAG  479
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Sbjct  418   CGGCAACGAGGCTGGGGGAGGGGCGCCCGCCATTGCCCAGGCTTGCTTAGGTAAACAAAG  477

Query  480   CAGCCGGGAAGCGCGAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCT  539
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Sbjct  478   CAGCCGGGAAGCTCGAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCT  537

Query  540   GTAGGCTCCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCA  599
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Sbjct  538   GTAGGCTCCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCA  597

Query  600   GACTTAAATGTCCCTGTCTGAGAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCT  659
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Sbjct  598   GACTTAAGTGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCT  657

Query  660   GGAGATCTGAGAAC-GG--G-CAGACTGCCTCCTCAAGTGGGTCCCTGACCCCTGACCCC  715
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Sbjct  658   GGAGATCTGAGAACGGGCAGACAGACTGCCTCCTCAAGTGGGTCCCTGACTCCTGACCCC  717

Query  716   CGAGCAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGG  775
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Query  776   GTATTCCAACTGACCTGTAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAAACAGA  835
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Sbjct  778   GTATTCCAACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAACCAGA  837

Query  836   AAGGACATCCACACCAAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGAT  895
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Sbjct  838   AAGGACATCTACACCGAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGAT  897

Query  896   AAAACCACAAAGATGGGGAAAAAACAGAACAGAAAAACGGGAAACTCTAAAACGCAGAGC  955
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Sbjct  898   AAAACCACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAACGCAGAGC  957

Query  956   GCCTCTCCTCCTCCAAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAG  1015
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Sbjct  958   GCCTCTCCTCCTCCAAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAG  1017

Query  1016  AATGACTTTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGG  1075
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Sbjct  1018  AATGATTTTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGG  1077

Query  1076  GAGGACATTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGT  1135
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1078  GAGGACATTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGT  1137

Query  1136  ATAACTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAG  1195
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Sbjct  1138  ATAACTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAG  1197

Query  1196  GCTCGAGAACTACATGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTGGAAGAA  1255
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Sbjct  1198  GCTCGAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTGGAAGAA  1257

Query  1256  AGGGTATCAGTGATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAA  1315
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Sbjct  1258  AGGGTATCAGCAATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAA  1317

Query  1316  AAAAGAATAAAAAGAAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCA  1375
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Sbjct  1318  AAAAGAATAAAAAGAAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCA  1377

Query  1376  AATCTCCGTCTGATTGGTGTACCTGAAAGTGATGGGGAGAATGGAACCAAGTTGGAAAAC  1435
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Sbjct  1378  AATCTACGTCTGATTGGTGTACCTGAAAGTGATGTGGAGAATGGAACCAAGTTGGAAAAC  1437

Query  1436  ACTCTGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAG  1495
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Sbjct  1438  ACTCTGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAG  1497

Query  1496  ATTCAGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACAC  1555
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Sbjct  1498  ATTCAGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACAC  1557

Query  1556  ACAATTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAG  1615
             | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1558  ATAATTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAG  1617

Query  1616  AAAGGTCGGGTTACCCTCAAAGGGAAGCCTATCAGACTATCAGCGGATCTCTCAGCAGAA  1675
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Sbjct  1618  AAAGGTCGGGTTACCCTCAAAGGAAAGCCCATCAGACTAACAGTGGATCTCTCGGCAGAA  1677

Query  1676  ACCCTACAAGCCAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTT  1735
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Sbjct  1678  ACCCTACAAGCCAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTT  1737

Query  1736  CAACCCAGAATTTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATAC  1795
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Sbjct  1738  CAACCCAGAATTTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATAC  1797

Query  1796  TTTACAGACAAGCAAATGCTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTC  1855
              ||||  ||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1798  TTTATAGACAAGCAAATGTTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTC  1857

Query  1856  CTGAAGGAAGCGCTAAACATGGAAAGGAACAACCGGTACCAGCTGCTGCAAAATCATGCC  1915
              |||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||||
Sbjct  1858  CTGAAGGAAGCGCTAAACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCATGCC  1917

Query  1916  AAAATGTAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAACGAGCAAAATAACGA  1975
              |||||||||||||||||||||||||||||||||||||||||||||| ||||||||| || |
Sbjct  1918  AAAATGTAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAATGAGCAAAATCACCA  1977

Query  1976  GCTAACATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATGTAAAT  2035
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||
Sbjct  1978  GCTAACATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATATAAAT  2037

Query  2036  GGACTAAATGCTCCAATTAAAAGACACAGACTGGCAAATTGGATAAAGAGTCAAGACCCA  2095
              ||||||||| || ||||||||||||||||||||||| ||||||||||||||||||||||
Sbjct  2038  GGACTAAATTCTGCAATTAAAAGACACAGACTGGCAAGTTGGATAAAGAGTCAAGACCCA  2097

Query  2096  TCAGTGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATA  2155
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2098  TCAGTGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATA  2157

Query  2156  AAAGGATGGAGGAAGATCTACCAAGCCA-TGGAAAACAAAAAAAGGCAGGGGTTGCAATC  2214
              |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct  2158  AAAGGATGGAGGAAGATCTACCAAGCCAATGGAAAACAAAAAAAGGCAGGGGTTGCAATC  2217

Query  2215  CTAGCCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCAT  2274
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Sbjct  2218  CTAGTCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCAT  2277

Query  2275  TACATAATGGTAAAGGGATCAATTAAACAAGAAGAGCTAACTATCCTAAATATATATGCA  2334
              |||||||||||||||||||||||| ||||||| |||||||||||||||||||| ||||||
Sbjct  2278  TACATAATGGTAAAGGGATCAATTCAACAAGAGGAGCTAACTATCCTAAATATTTATGCA  2337

Query  2335  CCCAATACAGGAGCACCCAGATTCATAAAGCAAGTCCTGAGTGACCTACAAAGAGACTTA  2394
              |||||||||||||||||||||||||||||||||||||| ||||||||||||||||||||
Sbjct  2338  CCCAATACAGGAGCACCCAGATTCATAAAGCAAGTCCTCAGTGACCTACAAAGAGACTTA  2397

Query  2395  GACTCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCA  2454
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2398  GACTCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCA  2457

Query  2455  ACGAGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCGGAC  2514
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||
Sbjct  2458  ACGAGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCAGAC  2517

Query  2515  CTAATAGACATCTACAGAAGTCTCCACGCCAAATCAACAGAATATACATTTTTTTCAGCA  2574
              |||||||||||||||||| ||||||| |||||||||||||||||||| ||||||||||||
Sbjct  2518  CTAATAGACATCTACAGAACTCTCCACCCCAAATCAACAGAATATACCTTTTTTTCAGCA  2577

Query  2575  CCACACCACACCTATTCCAAAATTGACCACATACTTGGAAGTAAAGCTCTCCTCAGCAAA  2634
              |||||||||||||||||||||||||||||||| ||||||||||||||||||||||||||
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Sbjct  2578  CCACACCACACCTATTCCAAAATTGACCACATAGTTGGAAGTAAAGCTCTCCTCAGCAAA  2637

Query  2635  TGTAAAAGAACAGAGATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAA  2694
              ||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||
Sbjct  2638  TGTAAAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAA  2697

Query  2695  CTCAGAATTAAGAATCTCACTCAAAACCGCTCAACTACATGGAAACTGAACAACCTGCTC  2754
              ||||| |||||||||||||||||| ||||||||||||||||||||||||||||||||||
Sbjct  2698  CTCAGGATTAAGAATCTCACTCAAAGCCGCTCAACTACATGGAAACTGAACAACCTGCTC  2757

Query  2755  CTGAATGACTACTGGATACATGACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACC  2814
              ||||||||||||||| ||||| ||||||||||||||||||||||||||||||||||||
Sbjct  2758  CTGAATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACC  2817

Query  2815  AACGAGAACAAAGACACAACATACCAGAATCTCTGGGATGCATTCAAAGCAGTGTGTAGA  2874
              |||||||||||||||| |||||||||||||||||| ||||||||||||||||||||||
Sbjct  2818  AACGAGAACAAAGACACCACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTGTAGA  2877

Query  2875  GGGAAATTTATAGCACTAAATGCCCACAAGAGAAAGCAGGAAAGATCCAAAATTGACACC  2934
              ||||||||||||||||||||||| ||||||||||||||||||||||||||||||||||||
Sbjct  2878  GGGAAATTTATAGCACTAAATGCCTACAAGAGAAAGCAGGAAAGATCCAAAATTGACACC  2937

Query  2935  CTAACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAGCAGA  2994
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2938  CTAACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAGCAGA  2997

Query  2995  AGGCAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTT  3054
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2998  AGGCAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTT  3057

Query  3055  CAAAAAATTAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCG  3114
              |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3058  CAAAAAATCAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCG  3117

Query  3115  CTAGCAAGACTAATAAAGAAAAA--GAGA-A-GAATCAAATAGACACAATAAAAAATGAT  3170
              ||||||||||||||||||||||  |||| | ||||||||||||||||||||||||||||
Sbjct  3118  CTAGCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACACAATAAAAAATGAT  3177

Query  3171  AAAGGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAA  3230
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3178  AAAGGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAA  3237

Query  3231  CACCTCTATGCAAATAAACTAGAAAATCTAGAAGAAATGGATAAATTCCTCGACACATAC  3290
              |||||||| |||||||||||||||||||||||||||| ||||||||||||||||||||
Sbjct  3238  CACCTCTACGCAAATAAACTAGAAAATCTAGAAGAAATGGATACATTCCTCGACACATAC  3297

Query  3291  ACTCTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGAGCT  3350
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||  ||
Sbjct  3298  ACTCTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGCTCT  3357

Query  3351  GAAATTGTGGCAATAATCAATAGTTTACCAACCAAAAAGAGTCCAGGACCAGATGGATTC  3410
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3358  GAAATTGTGGCAATAATCAATAGTTTACCAACCAAAAAGAGTCCAGGACCAGATGGATTC  3417

Query  3411  ACAGCCGAATTCTACCAGAGGTACAAGGAGGAACTGGTACCATTCCTTCTGAAACTATTC  3470
              ||||||||||||||||||||||| ||||||||||||||||||||||||||||||||||
Sbjct  3418  ACAGCCGAATTCTACCAGAGGTACATGGAGGAACTGGTACCATTCCTTCTGAAACTATTC  3477

Query  3471  CAATCAATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCTAGCATCATTCTA  3530
              |||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||
Sbjct  3478  CAATCAATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTG  3537
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Query  3531  ATACCAAAGCCGGGCAGAGACACAACCAAAAAAGAGAATTTTAGACCAATATCCTTGATG  3590
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3538  ATACCAAAGCCGGGCAGAGACACAACCAAAAAAGAGAATTTTAGACCAATATCCTTGATG  3597

Query  3591  AACATTGATGCAAAAATCCTCAATAAAATACTGGCAAAATGAATCCAGCAGCACATCAAA  3650
             |||||||||||||||||||||||||||||||||||  ||||||||||||||||||||
Sbjct  3598  AACATTGATGCAAAAATCCTCAATAAAATACTGGCAAACCGAATCCAGCAGCACATCAAA  3657

Query  3651  AAGCTTATCCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATA  3710
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3658  AAGCTTATCCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATA  3717

Query  3711  CGCAAATCAATAAATGTAATCCAGCATATAAACAGAGCCAAAGACAAAAACCACATGATT  3770
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3718  CGCAAATCAATAAATGTAATCCAGCATATAAACAGAGCCAAAGACAAAAACCACATGATT  3777

Query  3771  ATCTCAATAGATGCAGAAAAGGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACT  3830
             |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||
Sbjct  3778  ATCTCAATAGATGCAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACT  3837

Query  3831  CTCAATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAA  3890
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3838  CTCAATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAA  3897

Query  3891  CCCACAGCCAATATCATACTAAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACTGGC  3950
             |||||||||||||||||||| |||||||||||||||||||||||||||||||||| |||
Sbjct  3898  CCCACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACCGGC  3957

Query  3951  ACAAGACAGGGATGCCCTCTCTCACCACTCCTATTCAACATAGTGTTGGAAGTTCTGGCC  4010
             |||||||||||||||||||||||| ||||||||||||||||||||||||||||||||||
Sbjct  3958  ACAAGACAGGGATGCCCTCTCTCACCGCTCCTATTCAACATAGTGTTGGAAGTTCTGGCC  4017

Query  4011  AGGGCAATTAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAA  4070
             |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4018  AGGGCAATCAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAA  4077

Query  4071  TTGTCCCTGTTCGCAGACGACATGACTGTATATCTAGAAAACCCCATTGTCTCAGCCCAA  4130
             |||||||||||| ||||||||||||| |||||||||||||||||||| ||||||||||||
Sbjct  4078  TTGTCCCTGTTTGCAGACGACATGATTGTATATCTAGAAAACCCCATCGTCTCAGCCCAA  4137

Query  4131  AATCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAACGTGCAA  4190
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Sbjct  4138  AATCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAA  4197

Query  4191  AAATCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGAGTGAA  4250
             |||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||
Sbjct  4198  AAATCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGGGTGAA  4257

Query  4251  CTCCCATTCACAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGAT  4310
             |||||||||  ||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4258  CTCCCATTCGTAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGAT  4317

Query  4311  GTGAAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGATACA  4370
             |||||||||||||||||||||||||||||||||||||||||||||||||||||| |||
Sbjct  4318  GTGAAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGACACA  4377

Query  4371  AACAAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATCATGAAAATGGCC  4430
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Sbjct  4378  AACAAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGGCC  4437
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Query  4431  ATACTGCCCAAGGTAATTTACAGATTCAATGCCATCCCCATAAAGCTACCAATGACTTTC  4490
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Sbjct  4438  ATACTGCCCAAGGTAATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGACTTTC  4497

Query  4491  TTCACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAAAGAGCCCGCAT  4550
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Sbjct  4498  TTCACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAA-GAGCCCGCAT  4556

Query  4551  CGCCAAGGCAATCCTAAGCCAAAAGAACGAAGCTGGAGGCATCACACTACCTGACTTCAA  4610
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Sbjct  4557  TGCCAAGTCAATCCTAAGCCAAAAGAACAAAGCTGGAGGCATCACACTACCTGACTTCAA  4616

Query  4611  ACTATACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATAT  4670
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Sbjct  4617  ACTATACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATAT  4676

Query  4671  AGATCAATGGAACAGAACAGAGCCCTCAGAAATAACGCCGCATATCTACAACTATCTGAT  4730
             |||||||||||||||||||||||||||||||||| |||||||||||||||||||||||||
Sbjct  4677  AGATCAATGGAACAGAACAGAGCCCTCAGAAATAATGCCGCATATCTACAACTATCTGAT  4736

Query  4731  CTTTGACAAACCTGAGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAATGGTG  4790
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4737  CTTTGACAAACCTGAGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAATGGTG  4796

Query  4791  CTGGGAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTTCTTACACCTTA  4850
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Sbjct  4797  CTGGGAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTA  4856

Query  4851  TACAAAAATCAATTCAAGATGGATTAAAGACTTAAACGTTAGACCTAAAACCATAAAA-C  4909
             |||||||||||||||||||||||||||||| |||||||||| |||||||||||||||| |
Sbjct  4857  TACAAAAATCAATTCAAGATGGATTAAAGATTTAAACGTTAAACCTAAAACCATAAAAAC  4916

Query  4910  CCTAGAAGAAAACCTAGGCATTACCATTCGGGATATAGGCATGGGCAAGGACTTCATGTC  4969
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Sbjct  4917  CCTAGAAGAAAACCTAGGCATTACCATTCAGGACATAGGCGTGGGCAAGGACTTCATGTC  4976

Query  4970  CAAAACACCAAAAGCAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAATTAAACT  5029
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Sbjct  4977  CAAAACACCAAAAGCAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAATTAAACT  5036

Query  5030  AAAGAGCTTCTGCACAGCAAAAGAAACTACCATCAGTGTGAACAGGCAACCTACAAAATG  5089
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Sbjct  5037  AAAGAGCTTCTGCACAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAACATG  5096

Query  5090  GGAGAAAATTTTCGCAACCTACTCATCTGACACAGGGCTAATATCCAGAATCTACAATGA  5149
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Sbjct  5097  GGAGAAAATTTTCGCAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACAATGA  5156

Query  5150  ACTCAAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACAT  5209
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Sbjct  5157  ACTTAAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACAT  5216

Query  5210  GAACAGACACTTCTCAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAAAAATGCTC  5269
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Sbjct  5217  GAACAGACACTTCTCAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAGAAATGCTC  5276

Query  5270  ATCATCACTGGCCATCAGAGAAATGCAAATCAAAACCACAATGAGATACCATCTCACACC  5329
             |||||||||||||||||||||||||||||||||||| |||||||| ||||||||||||
Sbjct  5277  ATCATCACTGGCCATCAGAGAAATGCAAATCAAAACCACTATGAGATATCATCTCACACC  5336

Query  5330  AGTTAGAATGGCAATCATTAAAAAGTCAGGGAACAACAGGTGCTGGAGAGGATGTGGAGA  5389
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Sbjct  5337 AGTTAGAATGGCAATCATTAAAAAGTCAGGAAACAACAGGTGCTGGAGAGGATGCGGAGA 5396

Query  5390 AATAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCGTTGTGGAAGTC 5449
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Sbjct  5397 AATAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGTC 5456

Query  5450 AGTGTGGCGACTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATT 5509
            |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5457 AGTGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATT 5516

Query  5510 ACTGGGTATATACCCAAAGGACTATAAATCATGCTGCTATAAAGACACATGCACACGTAT 5569
            |||||||||||||||||| || ||||||||||||||||||||||||||||||||||||||||
Sbjct  5517 ACTGGGTATATACCCAAATGAGTATAAATCATGCTGCTATAAAGACACATGCACACGTAT 5576

Query  5570 GTTTATTGTGGCATTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAAT 5629
            |||||||| |||| ||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5577 GTTTATTGCGGCACTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAAT 5636

Query  5630 GATAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAAA 5689
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Sbjct  5637 GATAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAAA 5696

Query  5690 AAATGATGAGTTCATGTCCTTTGTAGGGACATGGATGAAATTGGAAATCATCATTCTCAG 5749
            ||||||||||||||| |||||||||||||||||||||||||| ||||||||||||
Sbjct  5697 AAATGATGAGTTCATATCCTTTGTAGGGACATGGATGAAATTGGAAACCATCATTCTCAG 5756

Query  5750 TAAACTATCGCAAGAACAAAAAACCAAACACCGCATATTCTCGCTCATAGGTGGGAATTG 5809
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Sbjct  5757 TAAACTATCGCAAGAACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGAATTG 5816

Query  5810 AACAATGAGATCACATGGACACAGGAAGCGGAATATCACACTCTGGGGACTGTTGTGGGG 5869
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Sbjct  5817 AACAATGAGATCACATGGACACAGGAAGGGGAATATCACACTCTGGGGACTGTGGTGGGG 5876

Query  5870 TGGGGGGAGGGGGGAGGGATAGCACTGGGAGATATACCTAATGCTAGATGACA-AGTTAG 5928
            | |||||||||||||||||||| |||||||||||||||||||||||||||| | ||||
Sbjct  5877 TCGGGGGAGGGGGGAGGGATAGCATTGGGAGATATACCTAATGCTAGATGACACA-TTAG 5935

Query  5929 TGGGTGCAGCGTACCAGCATGGCACATGTATACATATGTAACTAACCTGCACAATGTGCA 5988
            |||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5936 TGGGTGCAGCGCACCAGCATGGCACATGTATACATATGTAACTAACCTGCACAATGTGCA 5995

Query  5989 CATGTACCCTAAAACTTAAAGTATAATAAAAAAATAAA  6026
            |||||||||||||||||| ||||||||||||||| |||
Sbjct  5996 CATGTACCCTAAAACTTAGAGTATAATAAAAAAAAAAA  6033
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Case 8 chr 8

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Score = 8395 bits (4546),  Expect = 0.0
 Identities = 5022/5256 (96%), Gaps = 15/5256 (0%)
 Strand=Plus/Plus

Query  853   TCCAACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAAACAGAAAGC  912
             |||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Sbjct  782   TCCAACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAACCAGAAAGG  841

Query  913   ACATCCACACCAAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGATAAAA  972
             |||||  |||||  ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  842   ACATCTACACCGAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGATAAAA  901

Query  973   CCACAAAGATGGGGAAAAAACAGAGCAGAAAAAATGGAAACTCTAAAAAGCACAGTGCCT  1032
             |||||||||||||||||||||||| ||||||||  |||||||||||||| ||| || ||||
Sbjct  902   CCACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAACGCAGAGCGCCT  961

Query  1033  CTCCTCCTCCAAAGGAATGCAGCTCCTCACCAGCAATGGAACAAAGCTGGACGGAGAATG  1092
             |||||||||||||||| |||| |||||||||||| |||||||||||||| ||||||||
Sbjct  962   CTCCTCCTCCAAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAGAATG  1021

Query  1093  ACTTTGACTAGTTGAGAGAAGAAGGCTTCAGACGATCAAACTACTCTGAGCTACAGGAGG  1152
             | |||||| || |||||||||||||||||||||||||| |||||||||||||| |||||
Sbjct  1022  ATTTTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGGGAGG  1081

Query  1153  AAATTTAAACCAAAGGCAAAGAAGTTAAAAACTTTGAAAAAAATTTAGACGAAGGTATAA  1212
             | ||| |||||||||||||||||| |||||||||||||||||||||| ||| ||||||
Sbjct  1082  ACATTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGTATAA  1141

Query  1213  CTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCGGATGAAGCTGAAAGCCAAGGCTC  1272
             |||||||||||||||||||||||||||||||||||| |||| |||||||| |||||||||
Sbjct  1142  CTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAGGCTC  1201

Query  1273  GAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCAATGCGATCAACTGGAAGAAAGGG  1332
             |||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||||
Sbjct  1202  GAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTGGAAGAAAGGG  1261

Query  1333  TATCAGTGACGGAAGATGAAATGAATGAAATGAAACGAGAAGGGACGTTTAGAGAAAAAA  1392
             ||||||  | |||||||||||||||||||||| |||||||||| ||||||||||||||
Sbjct  1262  TATCAGCAATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAAAAAA  1321

Query  1393  TAAATAAAAAGAAATGAACAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCAAAT  1452
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Sbjct  1322  -GAATAAAAAGAAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCAAAT  1380

Query  1453  CTACATCTGATTGGTGTACCTGAAAGCGATGGGGAGAATGGAACCAAGTTGGAAAACACT  1512
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Sbjct  1381  CTACGTCTGATTGGTGTACCTGAAAGTGATGTGGAGAATGGAACCAAGTTGGAAAACACT  1440

Query  1513  CTGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACATTCAGATT  1572
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Sbjct  1441  CTGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAGATT  1500

Query  1573  CAGGAAATACAGAGAATGCCACAAAGATACTCCTCAAGAAGAGCAACTCCAAGACACATA  1632
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Sbjct  1501  CAGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACACATA  1560

Query  1633  ATTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAA  1692
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1561  ATTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAA  1620
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Query  1693  GGCCGGGTTACCCACAAAGGGAAGCCCATCAGACTAACAGCAGATCTCTCGGCAGAAACT  1752
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Sbjct  1621  GGTCGGGTTACCCTCAAAGGAAAGCCCATCAGACTAACAGTGGATCTCTCGGCAGAAACC  1680

Query  1753  CTATAAGCCAGAAGAGAGTAGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTTCAA  1812
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Sbjct  1681  CTACAAGCCAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTTCAA  1740

Query  1813  CCCAGAATTTCATATCCAGCCAAACTAAGCTTCACAAGTGAAGGAGAAATAGAATACTTT  1872
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Sbjct  1741  CCCAGAATTTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATACTTT  1800

Query  1873  ACAGAGAAGCATATGCTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTCCTG  1932
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Sbjct  1801  ATAGACAAGCAAATGTTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTCCTG  1860

Query  1933  AAGGAAGCATTAAACATGGAAAGGAACAACTGGTACCAGCCACTGCAAAATCATGCCAAA  1992
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Sbjct  1861  AAGGAAGCGCTAAACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCATGCCAAA  1920

Query  1993  ATGTACAGACCATCAAGACTAGGAAGAAACTGCATCAACTAACGAGCAAAATCACCAGCT  2052
              ||||| |||||||| |||||||||||||||||||||||| ||||||||||||||||||
Sbjct  1921  ATGTAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAATGAGCAAAATCACCAGCT  1980

Query  2053  AACATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATGTAAATGGA  2112
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Sbjct  1981  AACATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATATAAATGGA  2040

Query  2113  CTAAATGCTCCAATTAAAAGACACAGACTGGCAAATTGGATAAAGAGTCAAGACCCATCA  2172
              |||||| || |||||||||||||||||||||| ||||||||||||||||||||||||||
Sbjct  2041  CTAAATTCTGCAATTAAAAGACACAGACTGGCAAGTTGGATAAAGAGTCAAGACCCATCA  2100

Query  2173  GTGTGCTGTATTCAGGAAACCCATCTCATGTGCAGAAACATACATAGGCTCAAAATGAAA  2232
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Sbjct  2101  GTGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATAAAA  2160

Query  2233  GGATGGAGGAAGATCTACCAAGCAAATGGAAGACAAAAAAAGGCAGGGGTTGCAATCCTG  2292
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Sbjct  2161  GGATGGAGGAAGATCTACCAAGCCAATGGAAAACAAAAAAAGGCAGGGGTTGCAATCCTA  2220

Query  2293  GTCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCATTAC  2352
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Sbjct  2221  GTCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCATTAC  2280

Query  2353  ATAATGGTAAAGGGATCAATTCAACAAGAAGAGCTAACTATCCTAAATATATATGCACCC  2412
              |||||||||||||||||||||||||||| |||||||||||||||||||| |||||||||
Sbjct  2281  ATAATGGTAAAGGGATCAATTCAACAAGAGGAGCTAACTATCCTAAATATTTATGCACCC  2340

Query  2413  AATACAGGAGCACCCAGATTCATAAAGCAAGTTCTGAGTGATCTACAAAGAGACTTAGAC  2472
              |||||||||||||||||||||||||||||||| || ||||| ||||||||||||||||||
Sbjct  2341  AATACAGGAGCACCCAGATTCATAAAGCAAGTCCTCAGTGACCTACAAAGAGACTTAGAC  2400

Query  2473  TCCCACACAATAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAATG  2532
              ||||||||| |||||||||||||||||||||||||||||||||||||||||||||||| |
Sbjct  2401  TCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAACG  2460

Query  2533  AGACAGAAAGTTAACAAGGATACCCAGGAATTGAACTCAGCTCTGCAGCAAGCAGACCTA  2592
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Sbjct  2461  AGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCAGACCTA  2520
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Query  2593  ATAGACATCTGCAGAACTCTCCACTCCAAATCAACAGAATGTACATTCTTTTCAGCACCA  2652
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Sbjct  2521  ATAGACATCTACAGAACTCTCCACCCCAAATCAACAGAATATACCTTTTTTTCAGCACCA  2580

Query  2653  CACCACACCTATTCCAAAAGTGACCACATAGTTGGAAGTAAAGCACTCCTCAGAAAATGT  2712
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Query  2713  AAAAGAACAGAAATTATAACAAACTGTCTCTCAGACCACAGTGTAATCAAACTAGAACTC  2772
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Sbjct  2641  AAAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAACTC  2700

Query  2773  AGGATTAAGAAACTCACTCAAAACTGCTCAACTACATGGAAACTGAACAACCTGCTCCTG  2832
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Sbjct  2701  AGGATTAAGAATCTCACTCAAAGCCGCTCAACTACATGGAAACTGAACAACCTGCTCCTG  2760

Query  2833  AATGACTACTGGGTACACAACAAAATGAAAGCAGAAATAAAGATGTTCTTTGAAACCAAC  2892
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Sbjct  2761  AATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACCAAC  2820

Query  2893  GAGAACAAAGACACAATACACCAGAATCTCTGGGACATATTCAAAGCAGTGTGTAGAGGG  2952
              |||||||||||||| | | ||||||||||||||||  ||||||||||||||||||||||
Sbjct  2821  GAGAACAAAGACACCACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTGTAGAGGG  2880

Query  2953  AAATTTATAGCACTAAATGCCCACAAGAGAAAGCAGGAAAGATCCCAAATTGACATCCTA  3012
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Sbjct  2881  AAATTTATAGCACTAAATGCCTACAAGAGAAAGCAGGAAAGATCCAAAATTGACACCCTA  2940

Query  3013  ACATCACAATTAAAAGAACTAGAAGAGCAAGAGCAAACACACTCAAAAGCTAGCACAAGG  3072
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Sbjct  2941  ACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAGCAGAAGG  3000

Query  3073  CAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTTCAA  3132
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Sbjct  3001  CAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTTCAA  3060

Query  3133  AAAATTAATGAATCCAGGAGGTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCACTA  3192
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Sbjct  3061  AAAATCAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCGCTA  3120

Query  3193  GCAAGACT-A-AAAGAAAAAAAGACAGAAGAATCAAATAGACGCAATAAAAAATGATAAA  3250
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Sbjct  3121  GCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACACAATAAAAAATGATAAA  3180

Query  3251  GGGGATATCACCACCAATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAACAC  3310
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Sbjct  3181  GGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAACAC  3240

Query  3311  CTCTACACAAATAAACTAGAAAATCTAGAAGAAATGGATAAATTCCTCGACACATACACC  3370
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Sbjct  3241  CTCTACGCAAATAAACTAGAAAATCTAGAAGAAATGGATACATTCCTCGACACATACACT  3300

Query  3371  CTCCCAAGGCTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGCTCTGAA  3430
              |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3301  CTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGCTCTGAA  3360

Query  3431  ATTGTGGCAATAATCAATAGCTTACCAACCAAAAAGAGTCCAGGACCAGATGGATTCACA  3490
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Sbjct  3361  ATTGTGGCAATAATCAATAGTTTACCAACCAAAAAGAGTCCAGGACCAGATGGATTCACA  3420

Query  3491  GCCGAATTCTACCAGAGGTACAAGGAGGAGCTGGTACCATTCCTTCTGAAACTATTCCAA  3550
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Sbjct  3421 GCCGAATTCTACCAGAGGTACATGGAGGAACTGGTACCATTCCTTCTGAAACTATTCCAA 3480

Query  3551 TCAACAGAAAAAGAGGGAATTCTCCCTAACTCATTTTATGAGGCCAGCATCATCCTGATA 3610
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Query  3671 ATTGATGCAAAAATCCTCAATAAAATACTGGCAAACTGAATCCAGCAGCACATCAAAAAG 3730
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Sbjct  3601 ATTGATGCAAAAATCCTCAATAAAATACTGGCAAACCGAATCCAGCAGCACATCAAAAAG 3660

Query  3731 CTTATCCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATATGC 3790
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Sbjct  3661 CTTATCCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATACGC 3720

Query  3791 AAATCAATAAATGTAATCCAGCATATAAACAGAACCAATGACAAAAACCACATGATTATC 3850
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Sbjct  3721 AAATCAATAAATGTAATCCAGCATATAAACAGAGCCAAAGACAAAAACCACATGATTATC 3780

Query  3851 TCAATAGATGCAGAAAAGGCCTTTGACAAAATTCAACAATGCTTCATGCTAAAAACTCTC 3910
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Sbjct  3781 TCAATAGATGCAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACTCTC 3840

Query  3911 AGTAAATTAGGTATTGACGGGACGTATCTCAAAATAATAAGAGCTATCTATGACAAACCC 3970
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Sbjct  3841 AATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAACCC 3900

Query  3971 AAAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACGGGCACA 4030
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Sbjct  3901 ACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACCGGCACA 3960

Query  4031 AGACAGGGATGCCCTCTCTCACCACTCCTATTCAACATAGTGTTGGAAGTTCTGGCCAGG 4090
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Sbjct  3961 AGACAGGGATGCCCTCTCTCACCGCTCCTATTCAACATAGTGTTGGAAGTTCTGGCCAGG 4020

Query  4091 GCAATTAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAATTG 4150
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Sbjct  4021 GCAATCAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAATTG 4080

Query  4151 TCCCTGTTTGCAGATGACATGATTGTATATCTAGAAAACCCCATTGTCTCAGCCCAAAAT 4210
            |||||||||||||| |||||||||||||||||||||||| ||||||||||||||||
Sbjct  4081 TCCCTGTTTGCAGACGACATGATTGTATATCTAGAAAACCCCATCGTCTCAGCCCAAAAT 4140

Query  4211 CTCCTGAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGACACAAAATCAATGTACAAAAA 4270
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Sbjct  4141 CTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAAAAA 4200

Query  4271 TCACAAGCATTCTTATATACCAATAACAG----ACAGAGAGCCAAATCATGAGTGAACTC 4326
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Sbjct  4201 TCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGGGTGAACTC 4260

Query  4327 CCATTCACAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGATGTG 4386
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Sbjct  4261 CCATTCGTAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGATGTG 4320

Query  4387 AAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGATACAAAC 4446
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Sbjct  4321  AAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGACACAAAC  4380

Query  4447  AAATGGAAGAACATTCCATGTTCATGGGTAGGAAGAATCAATACCGTTAAAATGGCCGTA  4506
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Sbjct  4381  AAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGGCCATA  4440

Query  4507  CTGCCCAAGGTAATTTATAGATTCAATGCCATCCCCATCAAGCTACCAATGACTTTCCTC  4566
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Query  4567  ACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAAGAGCCTGCATCGCC  4626
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Sbjct  4501  ACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAAGAGCCCGCATTGCC  4560

Query  4627  AAGTCAATCCTAAGCCAAAAGAACAAAGCTGGAGGCATCATGCTACCTGACTTCAAACTA  4686
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Sbjct  4561  AAGTCAATCCTAAGCCAAAAGAACAAAGCTGGAGGCATCACACTACCTGACTTCAAACTA  4620

Query  4687  TACCACAAGGCTACAGTAACCAAAACAGCATGGTACTGGCACCAAAACAGAGATATAGAT  4746
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Sbjct  4621  TACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATATAGAT  4680

Query  4747  CAATGGAACAGAACAGAGCCCTCAGAAATAACGCCACATATCTACAACTATCTGATCTTT  4806
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Sbjct  4681  CAATGGAACAGAACAGAGCCCTCAGAAATAATGCCGCATATCTACAACTATCTGATCTTT  4740

Query  4807  GACAAACCTGACAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAATGGTGCTGG  4866
              |||||||||||| |||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4741  GACAAACCTGAGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAATGGTGCTGG  4800

Query  4867  GAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGGTCCCTTCCTTACACCTTATACA  4926
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Sbjct  4801  GAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTATACA  4860

Query  4927  AAAATTAATTCAAGATGGATTAAAGACTTAAATGTTAGACCTAAAACCATAAAAACCCTA  4986
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Sbjct  4861  AAAATCAATTCAAGATGGATTAAAGATTTAAACGTTAAACCTAAAACCATAAAAACCCTA  4920

Query  4987  GAGGAAAACCTAGGCAATACCATTCAGGACATAGGCATGGGCAAGGACTTCATGTCTAAA  5046
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Sbjct  4921  GAAGAAAACCTAGGCATTACCATTCAGGACATAGGCGTGGGCAAGGACTTCATGTCCAAA  4980

Query  5047  ACACCAAAAGCAATGGCAACAAAAGCCAAAATTGACAAATGGGATCTAATTAAACTAAAG  5106
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Sbjct  4981  ACACCAAAAGCAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAATTAAACTAAAG  5040

Query  5107  AGCTTCTGCACAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAAAATGGGAG  5166
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Query  5167  AAAATTTTCGCAAACTACTCATCTGACAAAGGGATAATATCCAGAATCTACAATGAA-TT  5225
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Sbjct  5101  AAAATTTTCGCAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACAATGAACTT  5160

Query  5226  CAAACAAATTTACAAGAAAAACACAAACAACCCCATCAAAAAGTGGGCGAAGGACATGAA  5285
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Sbjct  5161  -AAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACATGAA  5219

Query  5286  CAGACACTT-TGCAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAAAAATGCTCAC  5344
              |||||||| | |||||||||||||||||||||||||||||||||| |||||||||
Sbjct  5220  CAGACACTTCT-CAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAGAAATGCTCAT  5278
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Query  5345  CATCACTGGCTATCAGAGAAATGCAAATCAAAACCACAATGAGATACCATCTCACACCAG  5404
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Sbjct  5279  CATCACTGGCCATCAGAGAAATGCAAATCAAAACCACTATGAGATATCATCTCACACCAG  5338

Query  5405  TTAGAATGGTGATCATTAAAAAGTCAGGAAACAACAGGTTCTGGAGAGGATGTGGAGAAA  5464
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Sbjct  5339  TTAGAATGGCAATCATTAAAAAGTCAGGAAACAACAGGTGCTGGAGAGGATGCGGAGAAA  5398

Query  5465  TAGGAACACTTTTACTCTGTTAGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGTCAG  5524
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Sbjct  5399  TAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGTCAG  5458

Query  5525  TGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATTAC  5584
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Sbjct  5459  TGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCATTAC  5518

Query  5585  TGGGTATATACACAAAGGATTATAAATCATGCTGCTATAAAGACACATGCACACATACGT  5644
             |||||||||||  |||| || ||||||||||||||||||||||||||||||||| || ||
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Query  5645  TTATTG-GGACACTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAATG  5703
             ||||||  || ||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5579  TTATTGCGG-CACTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAATG  5637

Query  5704  ATAGACTGGATTAAGAAAATGTGGCACATATACACCAGGGAATACTATTCAGCCATAAAA  5763
             |||||||||||||||||||||||||||||||||||| |||||||||| ||||||||||
Sbjct  5638  ATAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAAAA  5697

Query  5764  AATGGTGAGTTCATGTCCTTTGTAGGGACATGGATGAAATTGGAAATCATCATTCTCAGT  5823
             ||||  ||||||||| ||||||||||||||||||||||||||||| ||||||||||||||
Sbjct  5698  AATGATGAGTTCATATCCTTTGTAGGGACATGGATGAAATTGGAAACCATCATTCTCAGT  5757

Query  5824  AAACTATCGCAAGGACAAAAAACCAAACACCGCATGTTCTCACTCATAGCTGGGAATTGA  5883
             |||||||||||| |||||||||||||||||||| |||||||||||| ||||||||||
Sbjct  5758  AAACTATCGCAAGAACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGAATTGA  5817

Query  5884  ACAATGAGAACACTTGGACACAGGAAGTGGAACATCACAATCTGGGGACTCTTGTGGGGT  5943
             ||||||||| ||| |||||||||||||| |||| |||||| |||||||||| | |||||||
Sbjct  5818  ACAATGAGATCACATGGACACAGGAAGGGGAATATCACACTCTGGGGACTGTGGTGGGGT  5877

Query  5944  GGGGGGAGGGGGGAGGGATAGCATTAGGAGATATACCTAATGCTAAATGACG-AGTTAAT  6002
              |||||||||||||||||||||||| |||||||||||||||||| |||||  | ||| |
Sbjct  5878  CGGGGGAGGGGGGAGGGATAGCATTGGGAGATATACCTAATGCTAGATGACACA-TTAGT  5936

Query  6003  GGGTGCAGCACACCAGCATGGCACATGTATACATATGTAACTAACCTGCACATTGTGCAC  6062
             ||||||||| |||||||||||||||||||||||||||||||||||||||||| |||||||
Sbjct  5937  GGGTGCAGCGCACCAGCATGGCACATGTATACATATGTAACTAACCTGCACAATGTGCAC  5996

Query  6063  ATGTACCCTAAAACTTAAAGTATAATAATAAAAAAA  6098
             |||||||||||||||| |||||||||| |||||||
Sbjct  5997  ATGTACCCTAAAACTTAGAGTATAATAAAAAAAAAA  6032


 Score =  678 bits (367),  Expect = 0.0
 Identities = 445/483 (92%), Gaps = 4/483 (1%)
 Strand=Plus/Plus

Query  250  GACGGGCTTAAAAAATGGCGCACCAGGAGATTATATCCCGCACATGACTTGGAGGGTCCT  309
            ||| ||||||| ||| ||||||||| |||| |||||||| ||| || || ||||||||||
Sbjct  302  GACCGGCTTAAGAAACGGCGCACCACGAGACTATATCCCACACCTGGCTCGGAGGGTCCT  361
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Query  310  ATGCTCATGGAGTCTCACTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGGCAGC  369
            | || || ||| |||| |||||||||||||||||||||||||||||||||||||||| ||
Sbjct  362  ACGCCCACGGAATCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGGCGGC  421

Query  370  AGCAAGGCTGGGGGAGGGGTGCCCGCCATTGCCCAGGCTTGCTTAGGTAAACAAAGCAGC  429
            | | ||||||||||||||| |||||||||||||||||||||||||||||||||||||||
Sbjct  422  AACGAGGCTGGGGGAGGGGCGCCCGCCATTGCCCAGGCTTGCTTAGGTAAACAAAGCAGC  481

Query  430  TGGGAAGCTCAAACTGGGTGGATCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCTGTAG  489
             |||||||| |||||||||| |||||||||||||||||||||||||||||||||||||||
Sbjct  482  CGGGAAGCTCGAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCTGTAG  541

Query  490  GCTCCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAGACT  549
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  542  GCTCCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAGACT  601

Query  550  TAAATGTCCCTCTCTGACAGCTTTGAAGAGACCAGTGGTTCTCCTAGCACGCAGCTGGAG  609
            ||| ||||||| |||||||||||||||||| |||||||||||| |||||||||||||||
Sbjct  602  TAAGTGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCTGGAG  661

Query  610  ATCTGAGAACGGGCAGAC----TGCCTCCTCAAGTGGGTCCCTGACCCCTGACCCCCAAG  665
            ||||||||||||||||    |||||||||||||||||||||| |||||||||| ||
Sbjct  662  ATCTGAGAACGGGCAGACAGACTGCCTCCTCAAGTGGGTCCCTGACTCCTGACCCCCGAG  721

Query  666  CAGCCTAACTGGGAGCCACACCCCAGTAGGGGCAGACTGACACCTCACAGGGCCGGGTAC  725
            |||||||||||||| ||| |||||| ||||||| |||||||||||||| ||| |||||
Sbjct  722  CAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGGGTAT  781

Query  726  TCC  728
            |||
Sbjct  782  TCC  784


 Score =  335 bits (181),  Expect = 4e-94
 Identities = 228/249 (92%), Gaps = 10/249 (4%)
 Strand=Plus/Plus

Query  1    AGCCAAGATGGCCGAATAGGAACAGCTCTGGTCTACAGCTCCCAGTGTGAGCAACGCAGA  60
            |||||||||||||||||||||||||| ||||||||||||||| |||||| |||||||
Sbjct  9    AGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGCGACGCAGA  68

Query  61   AGATGGGTGATTTCTGCATTTCCATCTGAGGTACTGGGTTCATCTCACTAGGGAGTGCCA  120
            |||  |||||||||||||||||||||||||||| |||||||||||||||||||||||||
Sbjct  69   AGA-CGGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGGGAGTGCCA  127

Query  121  GACAGTGGGCGCAGGACAGTG-G-GTGCGGCACACTGTGCGTGAGCTGAAGCAGGGCGAG  178
            |||||||||||||| ||||| | ||||| ||| | ||||| |||| ||||||||||||
Sbjct  128  GACAGTGGGCGCAGGCCAGTGTGTGTGCG-CAC-C-GTGCGCGAGCCGAAGCAGGGCGAG  184

Query  179  GCATTGCCTCAC-TCGGGAAGTGCAAGGAGTCAGGGAGTTCCCTTTCCT-ACTCAAAGAA  236
            |||||||||||| | |||||| |||||| |||||||||||||||||| | | ||||||||
Sbjct  185  GCATTGCCTCACCT-GGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTC-TGAGTCAAAGAA  242

Query  237  AGGGGTGAC  245
            |||||||||
Sbjct  243  AGGGGTGAC  251
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Case 8 chr 11

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>lcl|29345
Length=6059

 Score = 9865 bits (5342),  Expect = 0.0
 Identities = 5814/6044 (96%), Gaps = 24/6044 (0%)
 Strand=Plus/Plus

Query  1     GGGGGAGGAGCCAAGATGGCCAAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGT  60
             ||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Sbjct  1     GGGGGAGGAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGC  60

Query  61    GACGCAGAAGACGGGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGG  120
             |||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  61    GACGCAGAAGAC-GGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGG  119

Query  121   GAGTGCCAGACAGTGGGCACAGGTCAATGGGTGCGCGCACCATGCGCGAGCTGAAGCAGG  180
             |||||||||||||||||| |||| || || ||| ||||||| ||||||||| ||||||||
Sbjct  120   GAGTGCCAGACAGTGGGCGCAGGCCAGTGTGTGTGCGCACCGTGCGCGAGCCGAAGCAGG  179

Query  181   GCGAGGCATTGCCTCA-CTCAGGAAGCACAA-AGGTCAGGGAGTTCCCTTTCCT-AGTCA  237
             ||||||||||||||| ||  |||||| |||  |||||||||||||||||| || |||||
Sbjct  180   GCGAGGCATTGCCTCACCT-GGGAAGCGCAAGGGGTCAGGGAGTTCCCTTT-CTGAGTCA  237

Query  238   AAGAAAGGGGTGAGAGATGGCACCTGGAAAATCGGGTTACTCCCACCCAAATACTGTGCT  297
             |||||||||||||  | | |||||||||||||||||| |||||||||| |||| || |||
Sbjct  238   AAGAAAGGGGTGA-CGGTCGCACCTGGAAAATCGGGTCACTCCCACCCGAATATTGCGCT  296

Query  298   TTTCCGATGGGCTTAAAAAACGGCGCACCAGGAGATTATATCCTGA-ACATGGCTCAGAG  356
             |||| ||  ||||||| |||||||||||||| |||| |||||||  | || |||||| |||
Sbjct  297   TTTCAGACCGGCTTAAGAAACGGCGCACCACGAGACTATATCC-CACACCTGGCTCGGAG  355

Query  357   GGTCCTACGCCCACGGAGTCTCACTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAA  416
             |||||||||||||||| |||| ||||||||||||||||||||||||||||||||||||||
Sbjct  356   GGTCCTACGCCCACGGAATCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAA  415

Query  417   GGTGGCAGCGAGGCTGGGGGAGGGGCGCCTGCCATTGCCCAGGCTTGATTAGGTAAACAA  476
             || |||| |||||||||||||||||| |||||||||||||||| ||||||||||||
Sbjct  416   GGCGGCAACGAGGCTGGGGGAGGGGCGCCCGCCATTGCCCAGGCTTGCTTAGGTAAACAA  475

Query  477   AGCAGCCGGGAAGCTCGAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCT  536
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  476   AGCAGCCGGGAAGCTCGAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCT  535

Query  537   CTGTAGGCTCCACCTCTGGGGGCAGGGCACAGACAAACAGAAAGACAGCAGTAACCTCTG  596
             |||||||||||||||||||||||||||||||||||| ||||||||||||||||||||
Sbjct  536   CTGTAGGCTCCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTG  595

Query  597   CAGACTTAAATGTCCCTGTATGACAGCTTTGAAGAGAGCAGTGGTCCTCCCAGCATGCAG  656
             ||||||||| ||||||||| |||||||||||||||||||||||| ||||||||| ||||
Sbjct  596   CAGACTTAAGTGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAG  655

Query  657   CTGGAGATCTGAGAA-TGG--G-CAGACTGCCTCCTCAAGTGGGTCCCTGAAC-CCTGAC  711
             |||||||||||||||  ||  | |||||||||||||||||||||||||| || ||||||
Sbjct  656   CTGGAGATCTGAGAACGGGCAGACAGACTGCCTCCTCAAGTGGGTCCCTG-ACTCCTGAC  714

Query  712   CCCCGAGCAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCAGACTGACACCTCACACGGC  771
             |||||||||||||||||||||||||||||||||||||||| ||||||||||||||||||
Sbjct  715   CCCCGAGCAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGC  774
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Query  772   TGGGTACTCCAACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAAAC  831
              |||||| |||||||||||||||||||||||||||||||||||||||||||||||||| |
Sbjct  775   AGGGTATTCCAACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAACC  834

Query  832   AGAAAGGACATCCATGCCAAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTA  891
              |||||||||||| |  || |||||||||||||||||||||||||||||||||||||||
Sbjct  835   AGAAAGGACATCTACACCGAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTA  894

Query  892   GATAAAACCACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAAAGCAG  951
              |||||||||||||||||||||||||||||||||||||||||||||||||||| ||||
Sbjct  895   GATAAAACCACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAACGCAG  954

Query  952   AGCGCCTCTCCTCCTCCAAAGGAACACAGGTCCTCACCAGCAACGGAACAAAGCTGGACA  1011
              |||||||||||||||||||||||| ||| ||||||||||||||||||||||||||||
Sbjct  955   AGCGCCTCTCCTCCTCCAAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATG  1014

Query  1012  GAGAATGACTTTGACGAGCTGAGAGAAGAAGGCTTCAGACAATCAAATTACTCCGAGCTA  1071
              |||||||| |||||||||||||||||||||||||||||| |||||||||||| ||||||
Sbjct  1015  GAGAATGATTTTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTA  1074

Query  1072  CGGGAGGACATTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAA  1131
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1075  CGGGAGGACATTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAA  1134

Query  1132  TGTATAACTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACC  1191
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1135  TGTATAACTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACC  1194

Query  1192  AAGGCTTGAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTGGAG  1251
              |||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1195  AAGGCTCGAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTGGAA  1254

Query  1252  GAAAGGGTATCAGCAATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGA  1311
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1255  GAAAGGGTATCAGCAATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGA  1314

Query  1312  G--AAAAGAATAAAAAGAAACCAAAAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGA  1369
              |  |||||||||||||||  |  ||||||||||||||||||||||||||||||||||||
Sbjct  1315  GAAAAAAGAATAAAAAGAAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGA  1374

Query  1370  CCAAGTCTACGTCTGATTGGTGTACCTGAAAGTGACGGGGAGAATGGAACCAAGTTGGAA  1429
              |||| |||||||||||||||||||||||||||| | ||||||||||||||||||||||
Sbjct  1375  CCAAATCTACGTCTGATTGGTGTACCTGAAAGTGATGTGGAGAATGGAACCAAGTTGGAA  1434

Query  1430  AACACTCTGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACATT  1489
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||
Sbjct  1435  AACACTCTGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTT  1494

Query  1490  CAGATTCAGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGA  1549
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1495  CAGATTCAGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGA  1554

Query  1550  CACATTAATTGTCAGGTTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAG  1609
              |||| |||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1555  CACA-TAATTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAG  1613

Query  1610  AGAGAAAGGTCGGGTTACCCTCAAAGGGAAGCCCATCAGACTAACAGTGGATATCTCAGC  1669
              |||||||||||||||||||||||| ||||||||||||||||||||||| |||| ||
Sbjct  1614  AGAGAAAGGTCGGGTTACCCTCAAAGGAAAGCCCATCAGACTAACAGTGGATCTCTCGGC  1673

Query  1670  AGAAACTCTACAAGCCAGAAGAGAGTGGGGGCCAATACTCAACATTCTTAAAGAAAAGAA  1729
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            |||||| |||||||||||||||||||||||||||||| ||||||||||||||||||||||||
Sbjct  1674 AGAAACCCTACAAGCCAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGAA 1733

Query  1730 TTTTCAACCCAGAATTTCATGTCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAA 1789
            |||||||||||||||||||| |||||||||||||||||||||||||||||||||||||||
Sbjct  1734 TTTTCAACCCAGAATTTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAA 1793

Query  1790 ATACTTTACAGACAAGCAAATGCTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGA 1849
            |||||||| |||||||||||||| |||||||||||||||||||||||||||||||||||||
Sbjct  1794 ATACTTTATAGACAAGCAAATGTTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGA 1853

Query  1850 GCTCCTGAAGGAAGCGCT-AACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCA 1908
            |||||||||||||||||| |||||||||||||||||||||||||||||||||||||||||
Sbjct  1854 GCTCCTGAAGGAAGCGCTAAACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCA 1913

Query  1909 TGTCAAAATGTAAGGACCATTGAGACTAGGAATAAACTGCATCAACTAACGAGCAAAATA 1968
            || |||||||||| |||||| |||||||||| ||||||||||||||| |||||||||
Sbjct  1914 TGCCAAAATGTAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAATGAGCAAAATC 1973

Query  1969 ACCAGCTAACATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATGT 2028
            |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |
Sbjct  1974 ACCAGCTAACATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATAT 2033

Query  2029 AAATGGACTAAGTGCTCCAATTAAAAGACACAGACTGGCAAATTGGATAAAGAGTCAAGA 2088
            |||||||||||  | || ||||||||||||||||||||||| ||||||||||||||||||
Sbjct  2034 AAATGGACTAAATTCTGCAATTAAAAGACACAGACTGGCAAGTTGGATAAAGAGTCAAGA 2093

Query  2089 CCCATCAGTGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAA 2148
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2094 CCCATCAGTGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAA 2153

Query  2149 AATAAAAGGATGGAGGAAGATCTACCAAGCAAATGGAAAACAAAAAAAGGCAGGAATTGC 2208
            |||||||||||||||||||||||||||||| ||||||||||||||||||||||  ||||
Sbjct  2154 AATAAAAGGATGGAGGAAGATCTACCAAGCCAATGGAAAACAAAAAAAGGCAGGGGTTGC 2213

Query  2209 AATCCTAGTCTCTGATAAAACAGACTTTAAACCAACAAAGATTAAAAGAGACAAAGAAAG 2268
            |||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||| |
Sbjct  2214 AATCCTAGTCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGG 2273

Query  2269 CCATTACATAACGGTAAAGGGATCAATTCAACAAGAAGAGCTAACTATCCTAAATATATA 2328
            |||||||||||| |||||||||||||||||||||||| |||||||||||||||||||| ||
Sbjct  2274 CCATTACATAATGGTAAAGGGATCAATTCAACAAGAGGAGCTAACTATCCTAAATATTTA 2333

Query  2329 TGCACCCAACACAGGAGCACCTAGATTCATACAGCAAGTCCTGAGTGACCTACAAAGAGA 2388
            ||||||||| |||||||||| ||||||||| |||||||||| ||||||||||||||||||
Sbjct  2334 TGCACCCAATACAGGAGCACCCAGATTCATAAAGCAAGTCCTCAGTGACCTACAAAGAGA 2393

Query  2389 CTTAGACTCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAG 2448
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2394 CTTAGACTCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAG 2453

Query  2449 ATCAACGAGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGC 2508
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2454 ATCAACGAGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGC 2513

Query  2509 GGACCTAATAGACATCTACAGAACTCTCCACCCCAAATCAATAGAATATACATTTTTTTC 2568
             |||||||||||||||||||||||||||||||||||||| ||||||||| ||||||||
Sbjct  2514 AGACCTAATAGACATCTACAGAACTCTCCACCCCAAATCAACAGAATATACCTTTTTTTC 2573

Query  2569 AGCACCACAACACACCTATTCCAAAATTGACCACATACTTGGAAGTAAAGCTCTCCTCAG 2628
            ||||||||| |||||||||||||||||||||||| ||||||||||||||||||||||||
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Sbjct  2574  AGCACCACACCACACCTATTCCAAAATTGACCACATAGTTGGAAGTAAAGCTCTCCTCAG  2633

Query  2629  CAATTGTAAAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACT  2688
              ||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2634  CAAATGTAAAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACT  2693

Query  2689  AGAACTCAGGATTAAGAATCTCACTCAAAACTGCTCAACTACATGGAAACTGAACAACCC  2748
              |||||||||||||||||||||||||| | ||||||||||||||||||||||||||||
Sbjct  2694  AGAACTCAGGATTAAGAATCTCACTCAAAGCCGCTCAACTACATGGAAACTGAACAACCT  2753

Query  2749  GCTCCTGAATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGA  2808
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2754  GCTCCTGAATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGA  2813

Query  2809  AACCAATGAGAACAAAGACACAACACACCAAAATCTCTGGGATGCATTCAAAGCAGTGTG  2868
              |||||| |||||||||||||| ||| |||| |||||||||||| ||||||||||||||||
Sbjct  2814  AACCAACGAGAACAAAGACACCACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTG  2873

Query  2869  TAGAGGGAAATTTATAGCACTAAATGCCCACAAGAGAAAGCAGGAAAGATCCAAAATTGA  2928
              |||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct  2874  TAGAGGGAAATTTATAGCACTAAATGCCTACAAGAGAAAGCAGGAAAGATCCAAAATTGA  2933

Query  2929  CACCCTAACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAG  2988
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2934  CACCCTAACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAG  2993

Query  2989  CAGAAGGCAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAAC  3048
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2994  CAGAAGGCAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAAC  3053

Query  3049  CCTTCAAAAAATTAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATGGATAG  3108
              |||||||||||| ||||||||||||||||||||||||||||||||||||||| |||||
Sbjct  3054  CCTTCAAAAAATCAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAG  3113

Query  3109  ACCGCTAGCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACGCAAGAAAAAA  3168
              |||||||||||||||||||||||||||||||||||||||||||||||| ||| ||||||
Sbjct  3114  ACCGCTAGCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACACAATAAAAAA  3173

Query  3169  TGATAAAGGGGATATCACCACCAATCCCACAGAAATACAAACTACCATCAGAGAATACTA  3228
              |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||
Sbjct  3174  TGATAAAGGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTA  3233

Query  3229  CAAACACCTCTACGCAAATAAACTAGAAAATCTAGAAGAAATGGATAAATTCCTTGACAC  3288
              |||||||||||||||||||||||||||||||||||||||||||||||| |||||| |||||
Sbjct  3234  CAAACACCTCTACGCAAATAAACTAGAAAATCTAGAAGAAATGGATACATTCCTCGACAC  3293

Query  3289  ATACGCTCTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGG  3348
              |||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3294  ATACACTCTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGG  3353

Query  3349  ATCTGAAATTGTGGCAATAATCAATAGCTTACCAACCAAAAAGAGTCCAGGACCAGATGG  3408
               |||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct  3354  CTCTGAAATTGTGGCAATAATCAATAGTTTACCAACCAAAAAGAGTCCAGGACCAGATGG  3413

Query  3409  ATTCACAGCCGAATTCTACCAGAGATACAAGGAGGAACTGGTACCATTCCTTCTGAAACT  3468
              |||||||||||||||||||||||| |||| ||||||||||||||||||||||||||||||
Sbjct  3414  ATTCACAGCCGAATTCTACCAGAGGTACATGGAGGAACTGGTACCATTCCTTCTGAAACT  3473

Query  3469  ATTCCAATCAACAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCAT  3528
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3474  ATTCCAATCAATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCAT  3533
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Query  3529  CCTGATACCAAAGCCGGGCAGAGACACGACCAAAAAAGAGAATTTTAGACCAATATCCTT  3588
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Sbjct  3534  TCTGATACCAAAGCCGGGCAGAGACACAACCAAAAAAGAGAATTTTAGACCAATATCCTT  3593

Query  3589  GATGAACATTGATGCAAAAATCGTCAATAAAATACTGGCAAACCGAATCCAGCAGCACAT  3648
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Sbjct  3594  GATGAACATTGATGCAAAAATCCTCAATAAAATACTGGCAAACCGAATCCAGCAGCACAT  3653

Query  3649  CAAAAAGCTTATCCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAA  3708
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3654  CAAAAAGCTTATCCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAA  3713

Query  3709  TAGACGCAAATCAATAGACATAATCCAGCATATAAACAGAACCAAAGACAAAAACCACAT  3768
              || |||||||||||| |  |||||||||||||||||| ||||||||||||||||||||
Sbjct  3714  TATACGCAAATCAATAAATGTAATCCAGCATATAAACAGAGCCAAAGACAAAAACCACAT  3773

Query  3769  GATTATCTCAAGAGATGCAGAAAAGGCCTTTGACAAAATTCAACAACCCTTCATGCTAAA  3828
              |||||||||||| |||||||||||| ||||||||||||||||||||||||||||||||||
Sbjct  3774  GATTATCTCAATAGATGCAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAA  3833

Query  3829  AACTCTCAATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTGTGA  3888
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||
Sbjct  3834  AACTCTCAATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGA  3893

Query  3889  CAAACCCACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAAC  3948
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3894  CAAACCCACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAAC  3953

Query  3949  CGGCACAAGACAGGGATGCCCTCTCTGACCACTCGTATTCAACATAGTGTTGGAAGTTCT  4008
              |||||||||||||||||||||||||| ||| ||| ||||||||||||||||||||||||
Sbjct  3954  CGGCACAAGACAGGGATGCCCTCTCTCACCGCTCCTATTCAACATAGTGTTGGAAGTTCT  4013

Query  4009  GGCCAGGGCAATTAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGT  4068
              |||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4014  GGCCAGGGCAATCAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGT  4073

Query  4069  CAAATTGTCCCTATTTGCAGACGACATGATTATATATCTAG-AAACCCCATTGTCTCAGC  4127
              |||||||||||| |||||||||||||||||| ||||||||| ||||||||| ||||||||
Sbjct  4074  CAAATTGTCCCTGTTTGCAGACGACATGATTGTATATCTAGAAAACCCCATCGTCTCAGC  4133

Query  4128  CCAAAATCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGT  4187
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4134  CCAAAATCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGT  4193

Query  4188  ACAAAAATCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGAG  4247
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |
Sbjct  4194  ACAAAAATCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGGG  4253

Query  4248  TGAACTCCCATTCACAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAG  4307
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Sbjct  4254  TGAACTCCCATTCGTAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAG  4313

Query  4308  GGATGTGAGGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAAGAAATAAAAGAGGA  4367
              |||||||| |||||||||||||||||||||||||||||||| ||||||||||||||||
Sbjct  4314  GGATGTGAAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGA  4373

Query  4368  TACAAACAAATGGAAGAATATTCCCTGCTCATGGGTAGGAAGAATCAATATTGTGAAAAT  4427
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Sbjct  4374  CACAAACAAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAAT  4433
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Query  4428  GGCCATACTGCCCAAGGTTATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGAC  4487
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Sbjct  4434  GGCCATACTGCCCAAGGTAATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGAC  4493

Query  4488  TTTCTTCACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAAGAGCCCA  4547
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Sbjct  4494  TTTCTTCACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAAGAGCCCG  4553

Query  4548  CATCGCCAAGTCAATCCTAAGCCAAAAGAACAAAGCTGGAGGCATCACACTACCTGACTT  4607
             ||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4554  CATTGCCAAGTCAATCCTAAGCCAAAAGAACAAAGCTGGAGGCATCACACTACCTGACTT  4613

Query  4608  CAAACTATACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGA  4667
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4614  CAAACTATACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGA  4673

Query  4668  TATAGATCAATGGAACAGAACAGAGCCCTCAGAAATAACT-CTGCATATCTACAACTATC  4726
             |||||||||||||||||||||||||||||||||||||| | | ||||||||||||||||
Sbjct  4674  TATAGATCAATGGAACAGAACAGAGCCCTCAGAAATAA-TGCCGCATATCTACAACTATC  4732

Query  4727  TGATCTTTGACAAACCTGAGAAAAACAAACAATCGGGAAAGGATTCCCTATTTAATAAAT  4786
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Sbjct  4733  TGATCTTTGACAAACCTGAGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAAT  4792

Query  4787  GGTGCTGGGAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACAC  4846
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Sbjct  4793  GGTGCTGGGAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACAC  4852

Query  4847  CTTATACAAAAATCAATTCAAGATGGATTAAAGACTTAAATGTTAGACCTAAAACCATAA  4906
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Sbjct  4853  CTTATACAAAAATCAATTCAAGATGGATTAAAGATTTAAACGTTAAACCTAAAACCATAA  4912

Query  4907  AAACCCTAGAAGAAAACCTAGGCATTACCATTCAGGACATAGGCATGGGCAAGGACTTCA  4966
             |||||||||||||||||||||||||||||||||||||||||| ||||||||||||||||
Sbjct  4913  AAACCCTAGAAGAAAACCTAGGCATTACCATTCAGGACATAGGCGTGGGCAAGGACTTCA  4972

Query  4967  TGTCTAAAACACCAAAAGCAATGGCAACAAAAGCCAAAATTGACAAATGGGATCTAATTA  5026
             |||| |||||||||||||||||||||||||| ||||||||||||||||||||||||||||
Sbjct  4973  TGTCCAAAACACCAAAAGCAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAATTA  5032

Query  5027  AACTGAAGAGCTTCTGCACAGCAAAATAAACTACCATCAGAGTGAACAGGCAACCTACAA  5086
             |||| |||||||||||||||||| ||||||||||||||||||||||||||||||||||||
Sbjct  5033  AACTAAAGAGCTTCTGCACAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAA  5092

Query  5087  AATGGGAGAAAATTTTTGCAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACA  5146
              ||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5093  CATGGGAGAAAATTTTCGCAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACA  5152

Query  5147  ATGAACTCAAACAAATTTACAAGATAAAAACAAACAACTCCATCAAAAAGTGGGCGAAGG  5206
             ||||||| |||||||||||||||| |||||||||||| |||||||||||||||||||||
Sbjct  5153  ATGAACTTAAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGG  5212

Query  5207  ACATGAACGGACACTTCTCAAAAGAAGACATTTATGTAGCCAAAAAACACATGAAAAAAT  5266
             |||||||| |||||||||||||||||||||||| |||||||||||||||| ||||
Sbjct  5213  ACATGAACAGACACTTCTCAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAGAAAT  5272

Query  5267  GCTCACCATCACTAGCCATCAGAGAAATGCAAATCAAAACCACAATGAGATACCATCTCA  5326
             ||||| ||||||| |||||||||||||||||||||||||||| |||||||| |||||||
Sbjct  5273  GCTCATCATCACTGGCCATCAGAGAAATGCAAATCAAAACCACTATGAGATATCATCTCA  5332

Query  5327  CACCAGTTACAATGGCAATCATTCAAAAGTCAGGAAACAACAGGTGCTGGAGAGGATGTG  5386
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Sbjct  5333 CACCAGTTAGAATGGCAATCATTAAAAAGTCAGGAAACAACAGGTGCTGGAGAGGATGCG 5392

Query  5387 GAGAAATAGGAACAGTTTTACACTGTTGGTGGGACCGTAAACTAGTTCAACCATTGTGGA 5446
            ||||||||||||| |||||||||||||||||| |||||||||||||||||||||||||
Sbjct  5393 GAGAAATAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGA 5452

Query  5447 AGTCAGTGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCC 5506
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Sbjct  5453 AGTCAGTGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCC 5512

Query  5507 CATTACTGGGTATATACCCAAAGGACTATAAATCATGCTACTATAAAGACACATGCACAC 5566
            |||||||||||||||||||| || |||||||||||| ||||||||||||||||||||
Sbjct  5513 CATTACTGGGTATATACCCAAATGAGTATAAATCATGCTGCTATAAAGACACATGCACAC 5572

Query  5567 GTATGTTTATTGAGGCACTATTCACAATGGCAAAGACTTGAAACCAACCCAAATGTCCAA 5626
            |||||||||||| ||||||||||||||| |||||||||| ||||||||||||||||||||
Sbjct  5573 GTATGTTTATTGCGGCACTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAA 5632

Query  5627 CAATGATAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCA 5686
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5633 CAATGATAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCA 5692

Query  5687 TAGAAAATGATGAGTTCATGTCCTTTGTAGGGACATGGATGAAATTGGAAATCATCATTC 5746
            || |||||||||||||||| ||||||||||||||||||||||||||||| ||||||||
Sbjct  5693 TAAAAAATGATGAGTTCATATCCTTTGTAGGGACATGGATGAAATTGGAAACCATCATTC 5752

Query  5747 TCAGTAAACTATCGCAAGGACAAAAAACCAAACACTGCATATTCTCACTCATAGGTGGGA 5806
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Sbjct  5753 TCAGTAAACTATCGCAAGAACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGA 5812

Query  5807 ATTGAACAATGAGATCACATGGACACAGGAAGGGGAACATCACACTCTGGGGACTGTTGT 5866
            |||||||||||||||||||||||||||||||||||| |||||||||||||||||| ||
Sbjct  5813 ATTGAACAATGAGATCACATGGACACAGGAAGGGGAATATCACACTCTGGGGACTGTGGT 5872

Query  5867 GGGGTGGGGGGAGGGGGGAGGGATAGCATTGGGAGATTTACCTAATGCTAGATGATG-AG 5925
            ||||| |||||||||||||||||||||||||||| |||||||||||||||||   |
Sbjct  5873 GGGGTCGGGGGAGGGGGGAGGGATAGCATTGGGAGATATACCTAATGCTAGATGACACA- 5931

Query  5926 TTAGTGGGTGCAGCGCACCAGCATGGCACATGTATACATATGTAACTAACCTGCACATTG 5985
            |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||
Sbjct  5932 TTAGTGGGTGCAGCGCACCAGCATGGCACATGTATACATATGTAACTAACCTGCACAATG 5991

Query  5986 TGCACATGTACCCTAAAACTTAAAGTATAATAATAATAAATAAA  6029
            |||||||||||||||||||| |||||||||| || ||| |||
Sbjct  5992 TGCACATGTACCCTAAAACTTAGAGTATAATAAAAAAAAAAAAA  6035
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Case 9 chr 3

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>lcl|48195
Length=6059

 Score = 1.013e+04 bits (5486),  Expect = 0.0
 Identities = 5879/6067 (97%), Gaps = 33/6067 (1%)
 Strand=Plus/Plus

Query  1     GGAGGAGCCAAGATGGCCGAATAGGAACAGCTCTGGTGTACAGCTCCCAGCGTGAGCGAC  60
             ||||||||||||||||||||||||||||||| ||| ||||||||||||||||||||||
Sbjct  4     GGAGGAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGCGAC  63

Query  61    GCAGAAGACGGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGGGAGT  120
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  64    GCAGAAGACGGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGGGAGT  123

Query  121   GCCAGACAGTGGGCGCAGGTCAGTGGGTGCGCGCACCGTGCGCGAGCCGAAGCAGGGCGA  180
             |||||||||||||||||| ||||| ||| ||||||||||||||||||||||||||||||
Sbjct  124   GCCAGACAGTGGGCGCAGGCCAGTGTGTGTGCGCACCGTGCGCGAGCCGAAGCAGGGCGA  183

Query  181   GGCAAAGCCTCACTTGGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTCAAAGGGAGTCAAA  240
             ||||  ||||||| ||||||||||||||||||||||||||||||     ||||||||
Sbjct  184   GGCATTGCCTCACCTGGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTC----TGAGTCAAA  239

Query  241   GAAAGGGGTGACAGACGCACCTGGAAAATCGGGTCACTCCCACCTGAATACTGCGCTTTT  300
             |||||||||||| | |||||||||||||||||||||||||||||| ||||| |||||||||
Sbjct  240   GAAAGGGGTGACGGTCGCACCTGGAAAATCGGGTCACTCCCACCCGAATATTGCGCTTTT  299

Query  301   CCA-ACGGGCTTAAAAAACGGCGCACCACGAGATTACATCCCGCACCTGGCTCGGAGGGT  359
              || || ||||||| |||||||||||||||||| || ||||| ||||||||||||||||
Sbjct  300   -CAGACCGGCTTAAGAAACGGCGCACCACGAGACTATATCCCACACCTGGCTCGGAGGGT  358

Query  360   CCTAC-CCCACGGAGTCTCGCTGATTGCCAGCACAGCGGTCTGAGATCAAACTGCAAGGT  418
             ||||| |||||||| |||||||||||| |||||||| ||||||||||||||||||||||
Sbjct  359   CCTACGCCCACGGAATCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGGC  418

Query  419   GGCAGCGAGGCTGGGGGAGGGGCGCCCGCCATTGCCCAGGCTTGATTAGGTAAACAAAGC  478
             |||| |||||||||||||||||||||||||||||||||||||| ||||||||||||||||
Sbjct  419   GGCAACGAGGCTGGGGGAGGGGCGCCCGCCATTGCCCAGGCTTGCTTAGGTAAACAAAGC  478

Query  479   AGCCGGGAAGCTCGAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCTG  538
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  479   AGCCGGGAAGCTCGAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCTG  538

Query  539   TAGGCTCCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAG  598
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  539   TAGGCTCCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAG  598

Query  599   ACTTAAAG-GTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCT  657
             |||| ||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  599   ACTT-AAGTGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCT  657

Query  658   GGAGATCTGAGAAC-GG--G-CAGACTGCCTCCTCAAGTGGGTCCCTGACCCCTGACCCC  713
             |||||||||||||| ||  | |||||||||||||||||||||||||||| |||||||||
Sbjct  658   GGAGATCTGAGAACGGGCAGACAGACTGCCTCCTCAAGTGGGTCCCTGACTCCTGACCCC  717

Query  714   CGAGCAGCCTAACTGGGAGGCACCCCCCAGC--GGG------G-CACCTCACAGGGCCGG  764
             |||||||||||||||||||||||||||||||  |||      | ||||||||| ||| ||
Sbjct  718   CGAGCAGCCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGG  777
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Query  765   GTACTCCAACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAAACAGA  824
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Sbjct  778   GTATTCCAACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAACCAGA  837

Query  825   AAGGACATCCACACCAAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGAT  884
             ||||||||| ||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  838   AAGGACATCTACACCGAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGAT  897

Query  885   AAAACCACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAAAGCAGAGC  944
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Sbjct  898   AAAACCACAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAACGCAGAGC  957

Query  945   ACCTCTCCTCCTCCAAAGGAACGCAGTTCCTCACCAGCAACAGAACAAAGCTGGATGGAG  1004
              |||||||||||||||||||||||||||||||||||||| ||||||||||||||||||
Sbjct  958   GCCTCTCCTCCTCCAAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAG  1017

Query  1005  AATGACTTTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGG  1064
             |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1018  AATGATTTTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGG  1077

Query  1065  GAGGACATTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATAT  1124
             |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |
Sbjct  1078  GAGGACATTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGT  1137

Query  1125  ATAACTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAG  1184
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1138  ATAACTAGAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAG  1197

Query  1185  GCTCGAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCAATCAACTGGAAGAA  1244
             |||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Sbjct  1198  GCTCGAGAACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCGATCAACTGGAAGAA  1257

Query  1245  AGGGTATCAGCAATGGAAGATGAAATGAATGAAATGAAGCAAGAAGGGAAGTTTAGAGAA  1304
             |||||||||||||||||||||||||||||||||||||| ||||||||||||||||||||
Sbjct  1258  AGGGTATCAGCAATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAA  1317

Query  1305  AAAACAATAAAAAGAAATGAGCAAAGCCTCCAGGAAATATGGGACTATGTGAAAAGACCA  1364
             |||| |||||||||||||||||||||||||| ||||||||||||||||||||||||||||
Sbjct  1318  AAAAGAATAAAAAGAAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCA  1377

Query  1365  AATCTACGTCTGATTGGTGTACCTGAAAGTGATGGGGAGAATGGAACCAAGTTGGAAAAC  1424
             |||||||||||||||||||||||||||||||||| |||||||||||||||||||||||||
Sbjct  1378  AATCTACGTCTGATTGGTGTACCTGAAAGTGATGTGGAGAATGGAACCAAGTTGGAAAAC  1437

Query  1425  ACTCTGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAG  1484
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1438  ACTCTGCAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAG  1497

Query  1485  ATTCAGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACAC  1544
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1498  ATTCAGGAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACAC  1557

Query  1545  ATAATTGTCAGATTTACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAG  1604
             |||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1558  ATAATTGTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAG  1617

Query  1605  AAAGGTCGGGTTACCCACAAAGGGAAGCCCATCAGACTAACAGTGGATCTCTCGGCAGAA  1664
             |||||||||||||||| |||||| ||||||||||||||||||||||||||||||||||||
Sbjct  1618  AAAGGTCGGGTTACCCTCAAAGGAAAGCCCATCAGACTAACAGTGGATCTCTCGGCAGAA  1677

Query  1665  ACCCTACAAGCCAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGGATTTT  1724
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                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||
Sbjct  1678  ACCCTACAAGCCAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGAAAAGAATTTT  1737

Query  1725  CAACGCAGAATTTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATAC  1784
              |||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1738  CAACCCAGAATTTCATATCCAGCCAAACTAAGCTTCATAAGTGAAGGAGAAATAAAATAC  1797

Query  1785  TTTACAGACAAACAAATGCTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTC  1844
              |||| |||||| |||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1798  TTTATAGACAAGCAAATGTTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTC  1857

Query  1845  CTGAAGGAAGCGCTAAACATGGAAGGGAACAACCGGTACCAGCCGCTGCAAAATCATGCC  1904
              |||||||||||||||||||||||| |||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1858  CTGAAGGAAGCGCTAAACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCATGCC  1917

Query  1905  AAAATGTAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAACGAGCACAATAACCA  1964
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||| ||| ||||
Sbjct  1918  AAAATGTAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAATGAGCAAAATCACCA  1977

Query  1965  GCTAGCATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATGTAAAT  2024
              |||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1978  GCTAACATCATAATGACAGGATCAAATTCACACATAACAATATTAACTTTAAATATAAAT  2037

Query  2025  GGACTAAATGCTCCAATTAAAAGACACAGACTGGCAAATTGGATAAAGAGTCAAGACCCA  2084
              ||||||||| || |||||||||||||||||||||||| |||||||||||||||||||||||
Sbjct  2038  GGACTAAATTCTGCAATTAAAAGACACAGACTGGCAAGTTGGATAAAGAGTCAAGACCCA  2097

Query  2085  TCAGTGTGCTGTATTCAGGAAACCCATCTCACATGCAGAGACACACATAGGCTCAAAATA  2144
              |||||||||||||||||||||||||||||||| ||||||||||||||||||||||||||
Sbjct  2098  TCAGTGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATA  2157

Query  2145  AAAGGATGGAGGAAGATCTACCAAGCCAATGGAAAACAAAAAAAGGCAGGGGTTGCAATC  2204
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2158  AAAGGATGGAGGAAGATCTACCAAGCCAATGGAAAACAAAAAAAGGCAGGGGTTGCAATC  2217

Query  2205  CTAGTCTCTGATGAAACAGACTTTAAAGCAACAAAGATAAAAAGAGACAAAGAAGGCCAT  2264
              |||||||||||| |||||||||||||| |||||||||| ||||||||||||||||||||
Sbjct  2218  CTAGTCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCAT  2277

Query  2265  TACATAATGGTAAAGGGATCAATTCAACAAGAAGAGCTAACTATCCTAAATATATATGCA  2324
              |||||||||||||||||||||||||||||||| |||||||||||||||||||| ||||||
Sbjct  2278  TACATAATGGTAAAGGGATCAATTCAACAAGAGGAGCTAACTATCCTAAATATTTATGCA  2337

Query  2325  CCCAATACAGGAGCACCAAGATTCATAAAGCAAGTCCTGAGTGACCTACAAAGAGACTTA  2384
              |||||||||||||||| |||||||||||||||||| |||||||||||||||||||||||
Sbjct  2338  CCCAATACAGGAGCACCCAGATTCATAAAGCAAGTCCTCAGTGACCTACAAAGAGACTTA  2397

Query  2385  GACTCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCA  2444
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2398  GACTCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCA  2457

Query  2445  AGGAGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCGGAC  2504
              | |||||||||||||||||||||||||||||||||||||||||||||||||||||| |||
Sbjct  2458  ACGAGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCAGAC  2517

Query  2505  CTAATAGACATCTACAGAACTCTCCACCCCAAATCAACAGAATATACATTTTTTTCAGCA  2564
              |||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||
Sbjct  2518  CTAATAGACATCTACAGAACTCTCCACCCCAAATCAACAGAATATACCTTTTTTTCAGCA  2577

Query  2565  CCACACCACACCTACTCCAAAATTGACCACATACTTGGAAGTAAAGCTCTCCTCAGCAAA  2624
              |||||||||||||| |||||||||||||||| ||||||||||||||||||||||||||
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Sbjct  2578  CCACACCACACCTATTCCAAAATTGACCACATAGTTGGAAGTAAAGCTCTCCTCAGCAAA  2637

Query  2625  TGTAAAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAA  2684
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2638  TGTAAAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCAATCAAACTAGAA  2697

Query  2685  CTCAGGATTAAGAATCTCACTCAAAACCACTCAACTACACGGAAACTGAACAACCTGCTC  2744
              |||||||||||||||||||||||| || |||||||||| ||||||||||||||||||||
Sbjct  2698  CTCAGGATTAAGAATCTCACTCAAAGCCGCTCAACTACATGGAAACTGAACAACCTGCTC  2757

Query  2745  CTGAATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACC  2804
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2758  CTGAATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACC  2817

Query  2805  AACAAGAACAAAGACACAACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTGTAGA  2864
              ||| |||||||||||| ||||||||||||||||||||||||||||||||||||||||||
Sbjct  2818  AACGAGAACAAAGACACCACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTGTAGA  2877

Query  2865  GGGACATTTATAGCACTAAATGCC-ACAAGAGAAAGCAGGAAAGATCCAAAATTGACACC  2923
              |||| |||||||||||||||||| |||||||||||||||||||||||||||||||||||
Sbjct  2878  GGGAAATTTATAGCACTAAATGCCTACAAGAGAAAGCAGGAAAGATCCAAAATTGACACC  2937

Query  2924  CTAACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAGCAGA  2983
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2938  CTAACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAGCAGA  2997

Query  2984  AGGCAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTT  3043
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  2998  AGGCAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTT  3057

Query  3044  CAAAAAATTAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCA  3103
              |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3058  CAAAAAATCAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCG  3117

Query  3104  CTAGCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACGCAATAAAAAATGAT  3163
              |||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Sbjct  3118  CTAGCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACACAATAAAAAATGAT  3177

Query  3164  AAAGGGGATATCACCACCGATCTCACAGAAATACAAACTACCATCAGAGAATACTACAAA  3223
              |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||
Sbjct  3178  AAAGGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAA  3237

Query  3224  CACCTCTACACAAATAAACTAGAAAACCTAGAAGAAATGGATAAATTCCTCGACGTATAC  3283
              ||||||||| |||||||||||||||| |||||||||||||||| |||||||||  ||||
Sbjct  3238  CACCTCTACGCAAATAAACTAGAAAATCTAGAAGAAATGGATACATTCCTCGACACATAC  3297

Query  3284  ACTCTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGAGCT  3343
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||  ||
Sbjct  3298  ACTCTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGCTCT  3357

Query  3344  GAAATTGTGGCAATAATCAATAGCTTACCAATCAAAAAGAGTCCAGCACCAGATGGATTC  3403
              |||||||||||||||||||||| ||||||| ||||||||||||| |||||||||||||
Sbjct  3358  GAAATTGTGGCAATAATCAATAGTTTACCAACCAAAAAGAGTCCAGGACCAGATGGATTC  3417

Query  3404  ACAGCCGAATTCTACCAGAGGTACAAGGAGGAACTGGTACCATTCCTTCTGAAACTATTT  3463
              |||||||||||||||||||||||| ||||||||||||||||||||||||||||||||||
Sbjct  3418  ACAGCCGAATTCTACCAGAGGTACATGGAGGAACTGGTACCATTCCTTCTGAAACTATTC  3477

Query  3464  CAATCAATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTG  3523
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3478  CAATCAATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTG  3537
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Query  3524  ATACCAAAGCCAGGCAGAGACACAACAAAAAAAGAGAATTTTAGACCAATATCCTTGATG  3583
              |||||||||||| |||||||||||||| |||||||||||||||||||||||||||||||
Sbjct  3538  ATACCAAAGCCGGGCAGAGACACAACCAAAAAAGAGAATTTTAGACCAATATCCTTGATG  3597

Query  3584  AACATTGATGCAAAAATCCTCAATAAAATACTGGCAAAACGAATCCAGCAGCACATCAAA  3643
              |||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
Sbjct  3598  AACATTGATGCAAAAATCCTCAATAAAATACTGGCAAACCGAATCCAGCAGCACATCAAA  3657

Query  3644  AAGCTTATTCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATA  3703
              |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3658  AAGCTTATCCACCATGATCAAGTGGGCTTCATCCCTGGGATGCAAGGCTGGTTCAATATA  3717

Query  3704  CGCAAATCAATAAATGTAATCCAGCAGGTAAACAGAGCCAAAGACAAAAACCACATGATT  3763
              |||||||||||||||||||||||||  ||||||||||||||||||||||||||||||||
Sbjct  3718  CGCAAATCAATAAATGTAATCCAGCATATAAACAGAGCCAAAGACAAAAACCACATGATT  3777

Query  3764  ATCTCAATAGATGCAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACT  3823
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  3778  ATCTCAATAGATGCAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACT  3837

Query  3824  CTCAATAAATTAGGTATTGATGGGATGTATTTCAAAATAATAAGAGCTATCTATGACAAA  3883
              |||||||||||||||||||||||| ||||||||||||||||||||||||||||||||||
Sbjct  3838  CTCAATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAA  3897

Query  3884  CCCACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACTGGC  3943
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||
Sbjct  3898  CCCACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACCGGC  3957

Query  3944  ACAAGACAGGGATGCCCTCTCTCACCACTCCTATTCAACATAGTGTTGGAAGTTCTGGCC  4003
              |||||||||||||||||||||||| ||||||||||||||||||||||||||||||||||
Sbjct  3958  ACAAGACAGGGATGCCCTCTCTCACCGCTCCTATTCAACATAGTGTTGGAAGTTCTGGCC  4017

Query  4004  AGGGCAATTAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAA  4063
              |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4018  AGGGCAATCAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAA  4077

Query  4064  TTGTCCCTGTTTGCAGACGACATGATTGTATATCTAGAAAACCCCATTGTCTCAGCCCAA  4123
              |||||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||
Sbjct  4078  TTGTCCCTGTTTGCAGACGACATGATTGTATATCTAGAAAACCCCATCGTCTCAGCCCAA  4137

Query  4124  AATCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAA  4183
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4138  AATCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAA  4197

Query  4184  AAATCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGAGTGAA  4243
              |||||||||||||||||||||||||||||||||||||||||||||||||||| |||||
Sbjct  4198  AAATCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGGGTGAA  4257

Query  4244  CTCCCATTCACAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGAT  4303
              |||||||||  ||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4258  CTCCCATTCGTAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGAT  4317

Query  4304  GTGAAGGACCTCTTCAAGGAGAACTACAAACCTCTGCTCAAGGAAATAAAAGAGGATACA  4363
              |||||||||||||||||||||||||||||||| |||||||||||||||||||||| |||
Sbjct  4318  GTGAAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGACACA  4377

Query  4364  AACAAATGGAAGAACATGCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGGCC  4423
              |||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||
Sbjct  4378  AACAAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGGCC  4437
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Query  4424  ATACTGCCCAAGGTAATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGACTTTC  4483
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4438  ATACTGCCCAAGGTAATTTACAGATTCAATGCCATCCCCATCAAGCTACCAATGACTTTC  4497

Query  4484  TTCACAGAATTGGAAAAAACTACTTTAAAGTTCATCTGGAACCAAAAAAGAGCCCGCATC  4543
             |||||||||||||||||||||||||||||||| ||||||||||||||||||||||||
Sbjct  4498  TTCACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAAGAGCCCGCATT  4557

Query  4544  GCCAAGTCAATCCTAAGCCAAAAGAACAAAGCTGGAGGCATCACACTACCTGACTTCAAA  4603
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4558  GCCAAGTCAATCCTAAGCCAAAAGAACAAAGCTGGAGGCATCACACTACCTGACTTCAAA  4617

Query  4604  CTATATTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATATA  4663
             |||||  ||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  4618  CTATACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATATA  4677

Query  4664  GGCCAACGGAACAGAACAGAGCCCTCAGAAATAACGCCGCATGTCTACAACTATCTGATC  4723
             |  ||| |||||||||||||||||||||||||| ||||||| ||||||||||||||||||
Sbjct  4678  GATCAATGGAACAGAACAGAGCCCTCAGAAATAATGCCGCATATCTACAACTATCTGATC  4737

Query  4724  TTTGACAAACCTGACAAAAACAAGTAATGGGGAACGGATTCCCTATTTAATAAATGGTGC  4783
             |||||||||||||| ||||||||| ||||||||| ||||||||||||||||||||||||
Sbjct  4738  TTTGACAAACCTGAGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAATGGTGC  4797

Query  4784  TGGGAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTAT  4843
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Sbjct  4798  TGGGAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTAT  4857

Query  4844  ACAAAAATCAATTCAAGATGGATTAAAGACTTAAACGTTAGACCTAAAACCATAAAAACC  4903
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Sbjct  4858  ACAAAAATCAATTCAAGATGGATTAAAGATTTAAACGTTAAACCTAAAACCATAAAAACC  4917

Query  4904  CTAGAAGAAAACCTAGGCATTACCATTCAGGACATAGGCATGGGCAAGGACTTCATGTCT  4963
             |||||||||||||||||||||||||||||||||||| ||||||||||||||||||||
Sbjct  4918  CTAGAAGAAAACCTAGGCATTACCATTCAGGACATAGGCGTGGGCAAGGACTTCATGTCC  4977

Query  4964  AAAACACCAAAAGCAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAATTAAACTA  5023
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Sbjct  4978  AAAACACCAAAAGCAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAATTAAACTA  5037

Query  5024  AAGAGCTTCTGCACAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACAGA-ATG  5082
             |||||||||||||||||||||||||||||||||||||||||||||||||||| | |||
Sbjct  5038  AAGAGCTTCTGCACAGCAAAAGAAACTACCATCAGAGTGAACAGGCAACCTACA-ACATG  5096

Query  5083  GGAGAAAATTTTCGCAACCAACTCATCCGACAGAGGGCTAATATCCAGAATCTACAATGA  5142
             |||||||||||||||||| ||||||| |||| ||||||||||||||||||||||||||||
Sbjct  5097  GGAGAAAATTTTCGCAACCTACTCATCTGACAAAGGGCTAATATCCAGAATCTACAATGA  5156

Query  5143  ACTCAAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACAT  5202
             ||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5157  ACTTAAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCGAAGGACAT  5216

Query  5203  GAACAGATACTTCTCAAAAGAAGACATTTATGCAGCCAAAAAACCACATGAAAAAATGCTC  5262
             ||||||| |||||||||||||||||||||||||||||| |||||||| ||||||||
Sbjct  5217  GAACAGACACTTCTCAAAAGAAGACATTTATGCAGCCAAAAAACACATGAAGAAATGCTC  5276

Query  5263  ATCATCACTGGCCATCAGAGAAATGCAAATCAAAACCAC-AGTGAGATACCATCTCACAC  5321
             |||||||||||||||||||||||||||||||||||||| | |||||||| ||||||||||
Sbjct  5277  ATCATCACTGGCCATCAGAGAAATGCAAATCAAAACCACTA-TGAGATATCATCTCACAC  5335

Query  5322  CAGTTAGAATGGCAATCATTAAAAAGTCAGGAAACAACAGGTGCTGGAGAGGATGTGGAG  5381
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            |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||
Sbjct  5336 CAGTTAGAATGGCAATCATTAAAAAGTCAGGAAACAACAGGTGCTGGAGAGGATGCGGAG 5395

Query  5382 AAATAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGT 5441
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Sbjct  5396 AAATAGGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGT 5455

Query  5442 CAGTGTGGCGATTCCTCAGGGATCTAGAACTGGAAATACCATTTGACCCAGCCATCCCAT 5501
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Sbjct  5456 CAGTGTGGCGATTCCTCAGGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCAT 5515

Query  5502 TACTGGGTATATACCCAAAGGACTATAAATCATGCTGCTATAAAGACACATGCACACGTA 5561
            |||||||||||||||||| || ||||||||||||||||||||||||||||||||||||||
Sbjct  5516 TACTGGGTATATACCCAAATGAGTATAAATCATGCTGCTATAAAGACACATGCACACGTA 5575

Query  5562 TGTTTATTGTGGCATTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAA 5621
            ||||||||| |||| ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5576 TGTTTATTGCGGCACTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAA 5635

Query  5622 TGATAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAA 5681
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Sbjct  5636 TGATAGACTGGATTAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAA 5695

Query  5682 AAAATGATGAGTT-ACTGTCCTTTGTAGGGACATGGATGAAATTGGAAATCATCATTCTC 5740
            |||||||||||||| | | |||||||||||||||||||||||||||||| ||||||||||
Sbjct  5696 AAAATGATGAGTTCA-TATCCTTTGTAGGGACATGGATGAAATTGGAAACCATCATTCTC 5754

Query  5741 AGTAAACTATCGCAAGTACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGAAT 5800
            ||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5755 AGTAAACTATCGCAAGAACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGAAT 5814

Query  5801 TGAACAGTGAGATCACATGGACACAGGAAGGGGAATATCACACTCTGGGGACTGTTGTGG 5860
            |||||| |||||||||||||||||||||||||||||||||||||||||||||||||| ||||
Sbjct  5815 TGAACAATGAGATCACATGGACACAGGAAGGGGAATATCACACTCTGGGGACTGTGGTGG 5874

Query  5861 GGT-GGTGGGAGGGGGGAGGGATAGCATTGGGGGATATACCTAATGCTAGATGACG-AGT 5918
            ||| || |||||||||||||||||||||| |||||||||||||||||||||  | |
Sbjct  5875 GGTCGG-GGGAGGGGGGAGGGATAGCATTGGGAGATATACCTAATGCTAGATGACACA-T 5932

Query  5919 TAGTGGGTGCAGCGCACCAGCATGGCACATGTATACATATGTAACTAACCTGCACAATGT 5978
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  5933 TAGTGGGTGCAGCGCACCAGCATGGCACATGTATACATATGTAACTAACCTGCACAATGT 5992

Query  5979 GCACATGTACCCTAGAACTTAAAGTATAATAAAAAAATAAAAATAAATAAATAAATAAAT 6038
            |||||||||||||| |||||| ||||||||||||||| ||||| ||| ||| ||| |||
Sbjct  5993 GCACATGTACCCTAAAACTTAGAGTATAATAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 6052

Query  6039 AAATAAA  6045
            ||| |||
Sbjct  6053 AAAAAAA  6059
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Case 9 chr 12

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>lcl|3979
Length=6059

 Score = 1.008e+04 bits (5460),  Expect = 0.0
 Identities = 5849/6036 (97%), Gaps = 29/6036 (0%)
 Strand=Plus/Plus

Query  6     AGGAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCATGAGCGACAC  65
             |||||||||||||||||||||||||||||||||||||||||||||||||| ||||||||  |
Sbjct  6     AGGAGCCAAGATGGCCGAATAGGAACAGCTCCGGTCTACAGCTCCCAGCGTGAGCGACGC  65

Query  66    AGAAGACGGGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGGGAGTG  125
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Sbjct  66    AGAAGAC-GGTGATTTCTGCATTTCCATCTGAGGTACCGGGTTCATCTCACTAGGGAGTG  124

Query  126   CCAGACAGTGGGCGCAGGTCA------GTG-G----GTGCGCGAGCCGAAGCAGGGCGAG  174
             ||||||||||||||||||  ||      ||| |    ||||||||||||||||||||||||
Sbjct  125   CCAGACAGTGGGCGCAGGCCAGTGTGTGTGCGCACCGTGCGCGAGCCGAAGCAGGGCGAG  184

Query  175   GCATTGCCTCACTTGGGAAGCGCAAGCGGTCAGGGAGTTCCCTTTCCGAGTCAAAGAAAG  234
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Sbjct  185   GCATTGCCTCACCTGGGAAGCGCAAGGGGTCAGGGAGTTCCCTTTCTGAGTCAAAGAAAG  244

Query  235   GGGTGACGGACGCACCTGGAAAGTCGGGTCACTCCCACCCGAATACTGCGCTTTTCTGAC  294
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Sbjct  245   GGGTGACGGTCGCACCTGGAAAATCGGGTCACTCCCACCCGAATATTGCGCTTTTCAGAC  304

Query  295   GGGCTTAAAAAATGGCGCACCAGGAGATTACATCCCGCACCTGGCTCGGAGGGTCCTATG  354
              ||||||| ||| ||||||||| |||| || ||||| ||||||||||||||||||||| |
Sbjct  305   CGGCTTAAGAAACGGCGCACCACGAGACTATATCCCACACCTGGCTCGGAGGGTCCTACG  364

Query  355   CCCACGGAGTCTCGCTGATTGCTAGCACAGCAGTCTGAGATCCAACTGCAAGGCGGCAGC  414
             |||||||| |||||||||||||||||||||||||||||| ||||||||||||||| |
Sbjct  365   CCCACGGAATCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAACTGCAAGGCGGCAAC  424

Query  415   GAGGCTGGGGGAGGGGCGCCCGCCATTGCCCGGGCTTGATTAGGTAAACAAAGCAGCCCG  474
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Sbjct  425   GAGGCTGGGGGAGGGGCGCCCGCCATTGCCCAGGCTTGCTTAGGTAAACAAAGCAGCCGG  484

Query  475   GAAGCTCCAACTGGGCGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCTGTAGGCT  534
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Sbjct  485   GAAGCTCGAACTGGGTGGAGCCCACCACAGCTCAAGGAGGCCTGCCTGCCTCTGTAGGCT  544

Query  535   CCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAGACTTAA  594
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Sbjct  545   CCACCTCTGGGGGCAGGGCACAGACAAACAAAAAGACAGCAGTAACCTCTGCAGACTTAA  604

Query  595   ATGTCCCTGTCTGACAGCTTTGAAGAGAGCACTGGTTCTCCCAGCACGCAGCTGGAGATC  654
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Sbjct  605   GTGTCCCTGTCTGACAGCTTTGAAGAGAGCAGTGGTTCTCCCAGCACGCAGCTGGAGATC  664

Query  655   TGAGAAC-GG--G-CAGACTGCCTCCTCAAGTGGGTCCCTGACCCCTGACCCCCGAGCAG  710
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Sbjct  665   TGAGAACGGGCAGACAGACTGCCTCCTCAAGTGGGTCCCTGACTCCTGACCCCCGAGCAG  724

Query  711   CCTAACTGGGAGGCACCCCCCAGCAGGGGCACACTGACACCTCACACGGCAGGGTATTCC  770
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Query  771   AACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAAACAGAAAGGACA  830
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Sbjct  785   AACAGACCTGCAGCTGAGGGTCCTGTCTGTTAGAAGGAAAACTAACAACCAGAAAGGACA  844

Query  831   TCCACACCAAAAACCCATCTGTACATAACCATCATCAAAGACCAAAAGTAGATAAAACCA  890
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Sbjct  845   TCTACACCGAAAACCCATCTGTACATCACCATCATCAAAGACCAAAAGTAGATAAAACCA  904

Query  891   CAAAGATGGGGAAAAAACAGAACAGAAAAACTGGAAACTCTAAAAAGCAGAGCGCCTCTC  950
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Query  951   CTCCTCCAAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAGAATGACT  1010
             |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |
Sbjct  965   CTCCTCCAAAGGAACGCAGTTCCTCACCAGCAACGGAACAAAGCTGGATGGAGAATGATT  1024

Query  1011  TTGACGAGCAGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGGGAGGACA  1070
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Sbjct  1025  TTGACGAGCTGAGAGAAGAAGGCTTCAGACGATCAAATTACTCTGAGCTACGGGAGGACA  1084

Query  1071  TTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGTATAACTA  1130
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Sbjct  1085  TTCAAACCAAAGGCAAAGAAGTTGAAAACTTTGAAAAAAATTTAGAAGAATGTATAACTA  1144

Query  1131  GAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAGGCTCGAG  1190
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1145  GAATAACCAATACAGAGAAGTGCTTAAAGGAGCTGATGGAGCTGAAAACCAAGGCTCGAG  1204

Query  1191  AACTACGTGAAGAATGCAGAAGCCTCAGGAGCTGATGC-AGTCAACTGGAAGAAAGGGTA  1249
             |||||||||||||||||||||||||||||||| ||||| | ||||||||||||||||||
Sbjct  1205  AACTACGTGAAGAATGCAGAAGCCTCAGGAGCCGATGCGA-TCAACTGGAAGAAAGGGTA  1263

Query  1250  TCAGCGATGGAAGATGAAATGAATGAAATTAAGCGAGAAGGGAAGTTTAGAGAAAAAAGA  1309
             ||||| ||||||||||||||||||||||| ||||||||||||||||||||||||||||||
Sbjct  1264  TCAGCAATGGAAGATGAAATGAATGAAATGAAGCGAGAAGGGAAGTTTAGAGAAAAAAGA  1323

Query  1310  ATAAAAAGAAATGAGCAAAGCCTCCAAGAAATGTGGGACTATGTGAAAAGACCAAATCTA  1369
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Sbjct  1324  ATAAAAAGAAATGAGCAAAGCCTCCAAGAAATATGGGACTATGTGAAAAGACCAAATCTA  1383

Query  1370  CGTCTGATTGGTGTACCTGAAAGTGATGGGGAGAATGGAACCAAGTTGGAAAACACTCTG  1429
             |||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct  1384  CGTCTGATTGGTGTACCTGAAAGTGATGTGGAGAATGGAACCAAGTTGGAAAACACTCTG  1443

Query  1430  CAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAGATTCAG  1489
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1444  CAGGATATTATCCAGGAGAACTTCCCCAATCTAGCAAGGCAGGCCAACGTTCAGATTCAG  1503

Query  1490  GAAATACAGAGAACGCCACAAAGATACTCCTCGAGGAGAGCAACTCCAAGACACATAATT  1549
             |||||||||||||||||||||||||||||||| ||||||||||||||||||||||||||
Sbjct  1504  GAAATACAGAGAACGCCACAAAGATACTCCTCGAGAAGAGCAACTCCAAGACACATAATT  1563

Query  1550  GTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAAGGT  1609
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Sbjct  1564  GTCAGATTCACCAAAGTTGAAATGAAGGAAAAAATGTTAAGGGCAGCCAGAGAGAAAGGT  1623

Query  1610  CGGTTTACCCACAAAGGGAAGCCCATCAGACTAACAGCGGATCTCTCGGCAGAAACCCTA  1669
             ||| ||||||| ||||||| |||||||||||||||||| ||||||||||||||||||||||
Sbjct  1624  CGGGTTACCCTCAAAGGAAAGCCCATCAGACTAACAGTGGATCTCTCGGCAGAAACCCTA  1683

Query  1670  CAAGCTAGAAGAGAGTGGGGGCCAATATTCAACATTCTTAAAGACAAGAATTTTCAACCC  1729
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Query  1730 AGAATTTCATATCCAGCCAAACTAAGCTTCATAAGCGAAGGAGAAATAAAATACTTTACA 1789
            |||||||||||||||||||||||||||||||||||  |||||||||||||||||||||| |
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Query  1790 GACAAGCAAATGCTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTCCTGAAG 1849
            ||||||||||||  ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  1804 GACAAGCAAATGTTGAGAGATTTTGTCACCACCAGGCCTGCCCTAAAAGAGCTCCTGAAG 1863

Query  1850 GAAGCGCTAAACATGGAAAGGAACAACCGGTACCAGCCGCTGCAAAATCA-GCCAAAATG 1908
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Query  1909 TAAAGACCATCAAGACTAGGAAGAAACTGCATCAACTAACGAGCAAAATAACCAGCTAAC 1968
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Sbjct  1924 TAAAGACCATCGAGACTAGGAAGAAACTGCATCAACTAATGAGCAAAATCACCAGCTAAC 1983

Query  1969 ATCATAATGACAGGATCAAATTCACACATAATAACAATATTAACTTTAAATGTAAATGGA 2028
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Sbjct  1984 ATCATAATGACAGGATCAAATTCACACATAA---CAATATTAACTTTAAATATAAATGGA 2040

Query  2029 CTAAATGCTCCAATTAAAAGACACAGACTGGCAAATTGGATAAAGAGTCAAGACCCATCA 2088
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Sbjct  2041 CTAAATTCTGCAATTAAAAGACACAGACTGGCAAGTTGGATAAAGAGTCAAGACCCATCA 2100

Query  2089 GTGTGCTGTATTCAGGAAACCCATCTCACGTGCAGAGACACACATAGGCTCAAAATAAAA 2148
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Query  2149 GGATGGAGGAAGATCTACCAAGCAAATGGAAAACAAAAAAAGGCAGGGGTTGCAATCCCA 2208
            |||||||||||||||||||||||  |||||||||||||||||||||||||||||||||| |
Sbjct  2161 GGATGGAGGAAGATCTACCAAGCCAATGGAAAACAAAAAAAGGCAGGGGTTGCAATCCTA 2220

Query  2209 GTCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCATTAC 2268
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Sbjct  2221 GTCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAGAGACAAAGAAGGCCATTAC 2280

Query  2269 ATAATGGTAAAGGGATCAATTCAACAAGAAGAGCTAACTATCCTAAATATATATGCACCC 2328
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Sbjct  2281 ATAATGGTAAAGGGATCAATTCAACAAGAGGAGCTAACTATCCTAAATATTTATGCACCC 2340

Query  2329 AATACAGGAGCACCAAGATTCATAAAGCAAGTCCTGAGTGACCTACAAAGAGACTTAGAC 2388
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Sbjct  2341 AATACAGGAGCACCCAGATTCATAAAGCAAGTCCTCAGTGACCTACAAAGAGACTTAGAC 2400

Query  2389 TCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAACG 2448
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Sbjct  2401 TCCCACACATTAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAACG 2460

Query  2449 AGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGTGGACCTA 2508
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Sbjct  2461 AGACAGAAAGTCAACAAGGATACCCAGGAATTGAACTCAGCTCTGCACCAAGCAGACCTA 2520

Query  2509 ATAGACATCTACAGAACTTTCTACCCCAAATCAACAGAATATACATTTTTTTCAGCACCA 2568
            |||||||||||||||||  ||  |||||||||||||||||||||  |||||||||||||||
Sbjct  2521 ATAGACATCTACAGAACTCTCCACCCCAAATCAACAGAATATACCTTTTTTTCAGCACCA 2580

Query  2569 CACC-----TATTCCAAAATTGACCACATACTTGGAAGTAAAGCTCTCCTCAACAAATGT 2623
            ||||     |||||||||||||||||||||  |||||||||||||||||||||  |||||||
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Sbjct  2581  CACCACACCTATTCCAAAATTGACCACATAGTTGGAAGTAAAGCTCTCCTCAGCAAATGT  2640

Query  2624  AAAAGAACAGAAATTATAACAAACTATCTCTCAGACCACAGTGCTATCAAACTAGAACTC  2683
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Query  2684  AGGATTAAGAATCTCACTCAAAACCGCTCAACTACATGGAAACTGAACAACCTGCTCCTG  2743
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Query  2744  AATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACCAAT  2803
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Sbjct  2761  AATGACTACTGGGTACATAACGAAATGAAGGCAGAAATAAAGATGTTCTTTGAAACCAAC  2820

Query  2804  GAGAACAAAGACACAACATACCAGAATCTCTGGGATGCATTCAAAGCAGTGTGTAGAGGG  2863
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Sbjct  2821  GAGAACAAAGACACCACATACCAGAATCTCTGGGACGCATTCAAAGCAGTGTGTAGAGGG  2880

Query  2864  AAATTTATAGCACTAAATGCCCACAAGAGAAAGCAGGAAAGATCCAAAATTGACACCCTA  2923
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Sbjct  2881  AAATTTATAGCACTAAATGCCTACAAGAGAAAGCAGGAAAGATCCAAAATTGACACCCTA  2940

Query  2924  ACATCACCATTAAAAGAACTAGAAAAGCAAGAGCAAACACACTCAAAAGCTAGCAGAAGG  2983
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Sbjct  2941  ACATCACAATTAAAAGAACTAGAAAAGCAAGAGCAAACACATTCAAAAGCTAGCAGAAGG  3000

Query  2984  CAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGAGACACAAAAAACCCTTCAA  3043
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Query  3044  AAAATTAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGAACGCTA  3103
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Sbjct  3061  AAAATCAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAGACCGCTA  3120

Query  3104  GCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACACAATAAAAAATGATGAA  3163
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Sbjct  3121  GCAAGACTAATAAAGAAAAAAAGAGAGAAGAATCAAATAGACACAATAAAAAATGATAAA  3180

Query  3164  GGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAACAC  3223
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Sbjct  3181  GGGGATATCACCACCGATCCCACAGAAATACAAACTACCATCAGAGAATACTACAAACAC  3240

Query  3224  CTCTATGCAAATAAACTAGAAAATCTAGAAGAAATGGATAAATTCCTTGACACATACACT  3283
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Sbjct  3241  CTCTACGCAAATAAACTAGAAAATCTAGAAGAAATGGATACATTCCTCGACACATACACT  3300

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Query  3344  ATTGTGGCAATAATCAATAGCTTACCCACCAAAAAGAGTCCAGGACCAGATGGATTCACA  3403
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Query  3404  GCCGAATTCTACCAGAGGTACAAGGAGGAACTGGTACCATTCCTTCTGAAACTATTCCAA  3463
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Sbjct  3421  GCCGAATTCTACCAGAGGTACATGGAGGAACTGGTACCATTCCTTCTGAAACTATTCCAA  3480

Query  3464  TCAATAGAAAAGGAGGGAATCCTCCCTAACTCTTTTTATGAGGCCAGCATCATTCTGATA  3523
              |||||||||| |||||||||||||||||||| |||||||||||||||||||||||||||
Sbjct  3481  TCAATAGAAAAAGAGGGAATCCTCCCTAACTCATTTTATGAGGCCAGCATCATTCTGATA  3540
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Query  3524  CCAAAGCCAGGCAGAGACACAACAAAAAAAGAGAATTTTAGACCAATATCCTTGATGAAC  3583
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Query  3584  ATTGATGCAAAAATCCTCAATAAAATACTGGCAAAACGAATCCAGCAGCACTTAAAAAAG  3643
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Query  3704  AAATCAATAAATGTCATCCAGCATATAAACAGAGCTAAAGACAAAAACCACATGATTATC  3763
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Query  3764  TCAATAGATGCAGAAAAAGCCTTTGACAAAATTCAACAACCCTTCATGCTAAAAACTCTC  3823
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Query  3824  AATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAACCC  3883
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Sbjct  3841  AATAAATTAGGTATTGATGGGACGTATTTCAAAATAATAAGAGCTATCTATGACAAACCC  3900

Query  3884  ACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACTGTCACA  3943
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Sbjct  3901  ACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAACCGGCACA  3960

Query  3944  AGACAGGGATGCCCTCTCTCACCACTCCTATTCAACATGGTGTTGGAAGTTCTGGCCAGG  4003
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Query  4004  GCAATTAGGCAGGAGAAGGAAATAAAAGGTATTCAATTAGGAAAAGAGGAAGTCAAATTG  4063
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Sbjct  4021  GCAATCAGGCAGGAGAAGGAAATAAAGGGTATTCAATTAGGAAAAGAGGAAGTCAAATTG  4080

Query  4064  TCCCTGTTTGCAGACGACATGATTGTATATCTAGAAAACGCCATCATCTCAGCCCAAAAT  4123
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Query  4124  CTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAAAAA  4183
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Sbjct  4141  CTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTACAAAAA  4200

Query  4184  TCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGAGTGAACTC  4243
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Sbjct  4201  TCACAAGCATTCTTATACACCAACAACAGACAAACAGAGAGCCAAATCATGGGTGAACTC  4260

Query  4244  CCATTCACAATTGCTACAAAGAGAATAAAATACCTAGGAATCCAACTTACCAGGGATGTG  4303
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Sbjct  4261  CCATTCGTAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAACTTACAAGGGATGTG  4320

Query  4304  AAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGATACAAAC  4363
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Query  4364  AAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATTGTGAAAATGGCCATA  4423
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Sbjct  4381  AAATGGAAGAACATTCCATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGGCCATA  4440
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Query  4424  CTGCCCAAGGTAATTTACAGATTCAGTGCCATCCCCATCAAGCTACCAATGCCTTTCTTC  4483
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Query  4484  ACAGAATTGGAAAAAACTACTGTAAAGTTCATATGGAACCAAAAAAGAGCCCGCATCGCC  4543
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Sbjct  4501  ACAGAATTGGAAAAAACTACTTTAAAGTTCATATGGAACCAAAAAAGAGCCCGCATTGCC  4560

Query  4544  AAGTCAATCCTAAGCCAAAAGAACAAAGCTGGAGGCATCACACTACCTGACTTCAAACTA  4603
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Query  4604  TACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATATAGAT  4663
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Sbjct  4621  TACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGGTACCAAAACAGAGATATAGAT  4680

Query  4664  CAATGGAACAGAACAGAGCCCTCAGAAATAACGCAGCATATCTACAACTATCTGATCTTT  4723
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Sbjct  4681  CAATGGAACAGAACAGAGCCCTCAGAAATAATGCCGCATATCTACAACTATCTGATCTTT  4740

Query  4724  GACAAACCTGAGAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAAACGGTGCTGG  4783
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Query  4784  GAAAACTGGCTAGCCATATGTAGAAAGCTGAAACTGGATCCCTTCCTTACACCTTATACA  4843
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Query  4844  AAAATCAATTCAAGATGGATTAAAGACTTAAATGTTAGACCTAAAACCATAAAAACCCTA  4903
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Sbjct  4861  AAAATCAATTCAAGATGGATTAAAGATTTAAACGTTAAACCTAAAACCATAAAAACCCTA  4920

Query  4904  GAAGAAAACCTAGGCATTACCATTCAGGACATAGGCATGGGCAAGGACTTCATGTCTAAA  4963
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Query  4964  ACACCAAAAGCAATGGCAACAAAAGACAAAATTGACAAATGGGATCTAATTAAACTAAAG  5023
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Query  5144  AAACAAATTTACAAGAAAAAAACAAACAACCCCATCAAAAAGTGGGCAAAGGACATGAAC  5203
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Query  5264  TCACTGGCCATCAGAGTAATGCAAATCAAAACCACAATGAGATACCATCTCACACCAGTT  5323
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Query  5384 GGAACACTTTTACACTGTTGGTGGGACTGTAAACTAGTTCAACCATTGTGGAAGTCAGTG 5443
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Query  5444 TGGCGATTCCTCAGGGATCTAGAACTGGAAATACCATTTGACCCAGCCATCCCATTACTG 5503
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Query  5564 ATTGCGGCATTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAATGATA 5623
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Sbjct  5581 ATTGCGGCACTATTCACAATAGCAAAGACTTGGAACCAACCCAAATGTCCAACAATGATA 5640

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Query  5684 GATGAGTTCATGTCATTTGTAGGGACATGGATGAAAGTGGAAATCATCATTCTCAGTAAA 5743
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Query  5744 CTATCGCAAGAACAAAAAACCAAACACCGCATATTCTCACTCATAGGTGGGAATTGAACA 5803
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Query  5804 ATGAGATCACATGGACACAGGAAGGGGAATATCACACTCTGCGGACTGTGGTGGGGTTGG 5863
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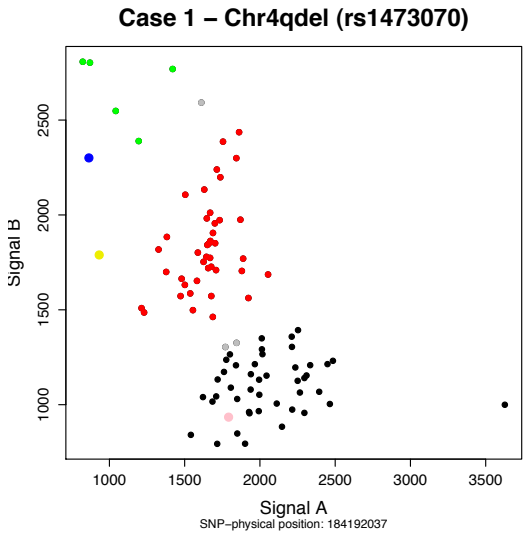
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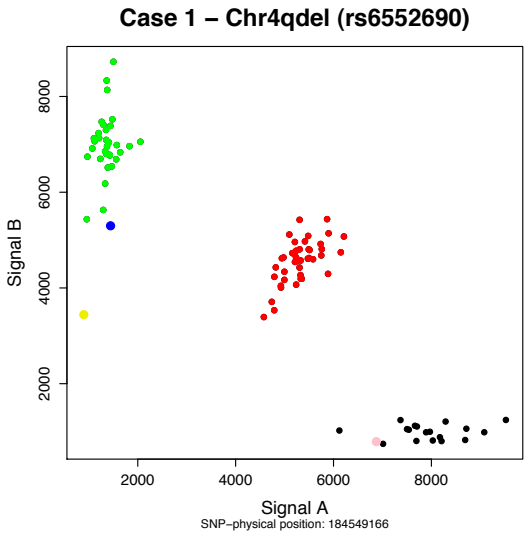
Query  5923 TGCAGCGCACCAGCATGGCACATGTATACATATGTAACTAACCTGCACATTGTGCATGTG 5982
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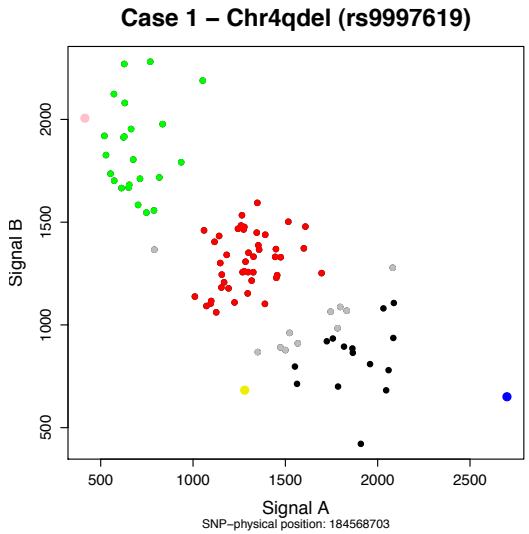
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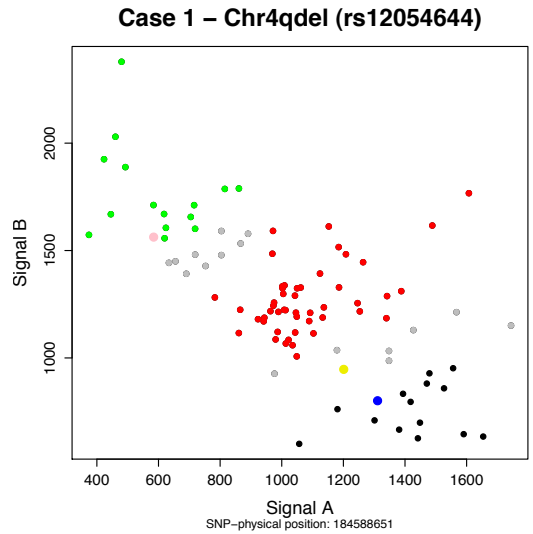
Supplementary figure 3. SNP cluster plots showing all informative SNPs to determine parental origin. The SNP plots of opposite parental homozygous SNPs allow the identification of the parental origin of both the deleted and duplicated chromosomal segment. The plots are arranged per case, first the SNPs located in the deletion and subsequently the SNPs located in the duplicated region. Green, red and black dots represent controls with a BB, AB and AA genotype respectively. The pink and blue dots represent the genotypes of the mother and father respectively. The yellow dots indicate the genotype call of the index patient.

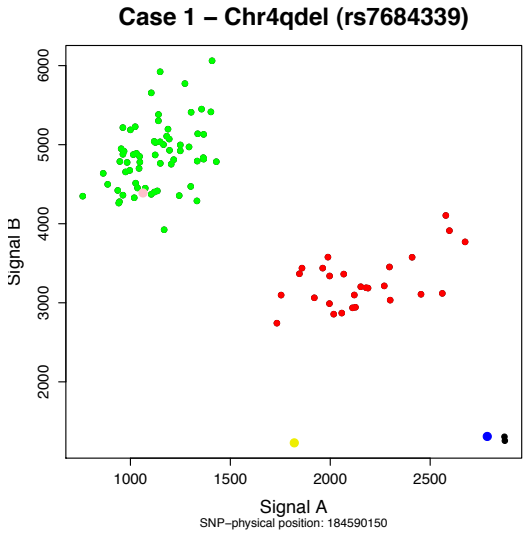


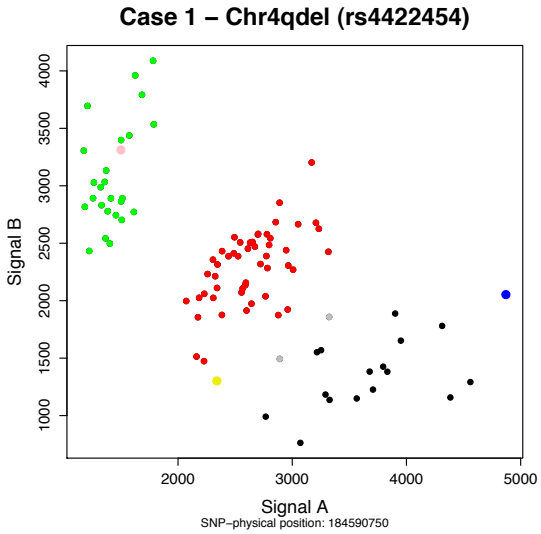

Case 1 – Chr4qdel (rs1473070)
Signal B
Signal A
SNP−physical position: 184192037

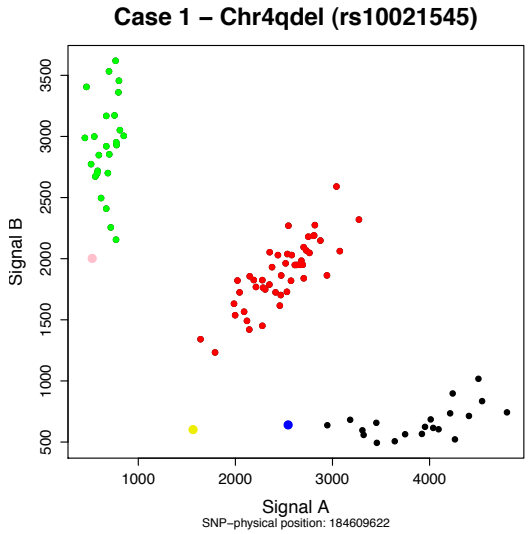

Case 1 – Chr4qdel (rs6552690)
Signal B
Signal A
SNP−physical position: 184549166

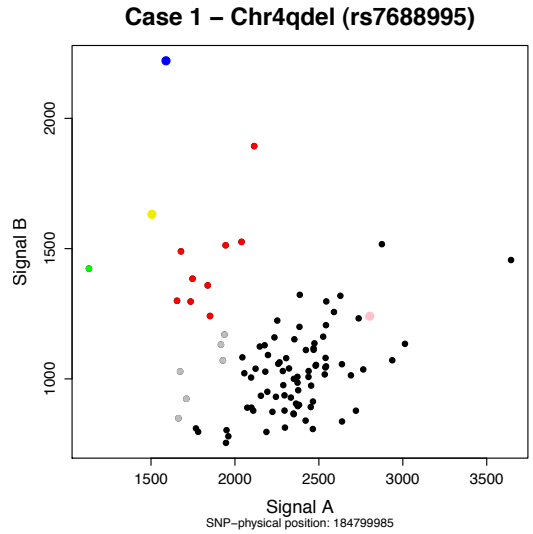

Case 1 – Chr4qdel (rs9997619)
Signal B
Signal A
SNP−physical position: 184568703

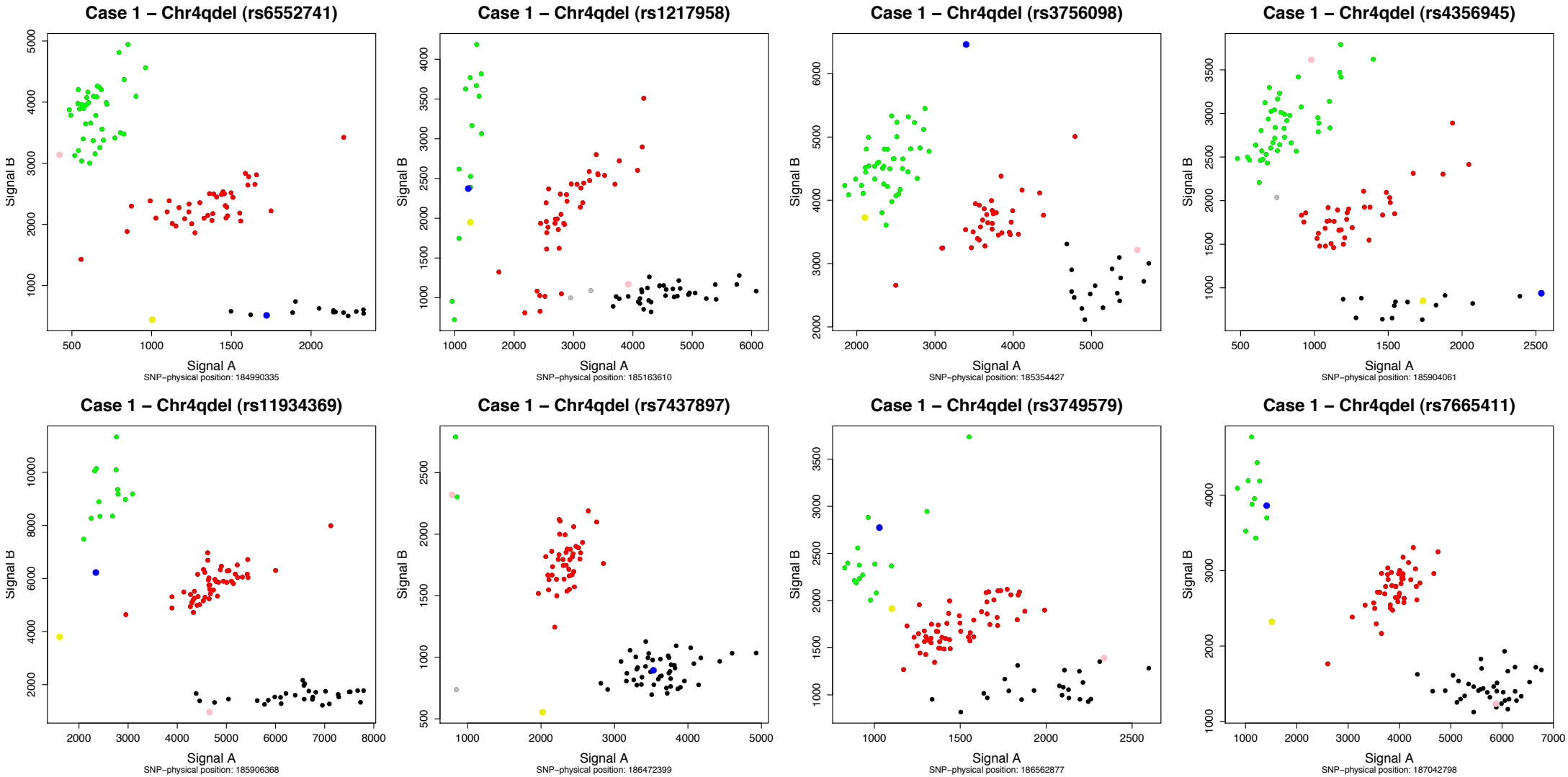

Case 1 – Chr4qdel (rs12054644)
Signal B
Signal A
SNP−physical position: 184588651

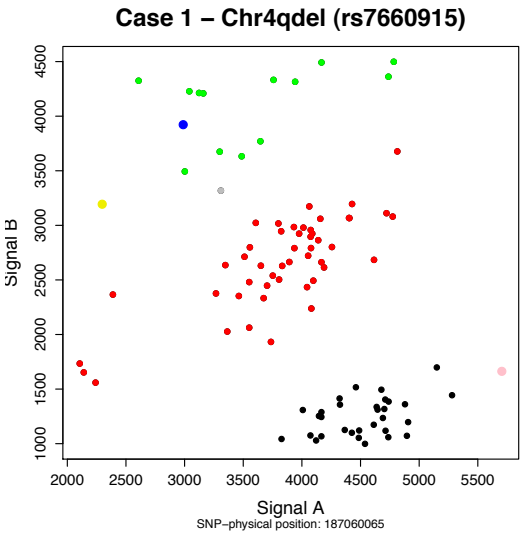

Case 1 – Chr4qdel (rs7684339)
Signal B
Signal A
SNP−physical position: 184590150

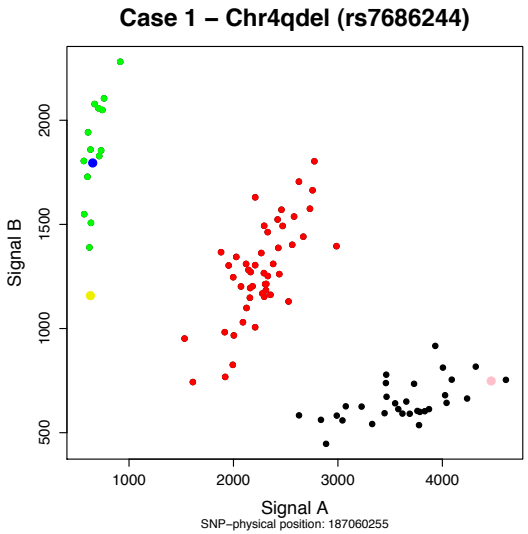

Case 1 – Chr4qdel (rs4422454)
Signal B
Signal A
SNP−physical position: 184590750

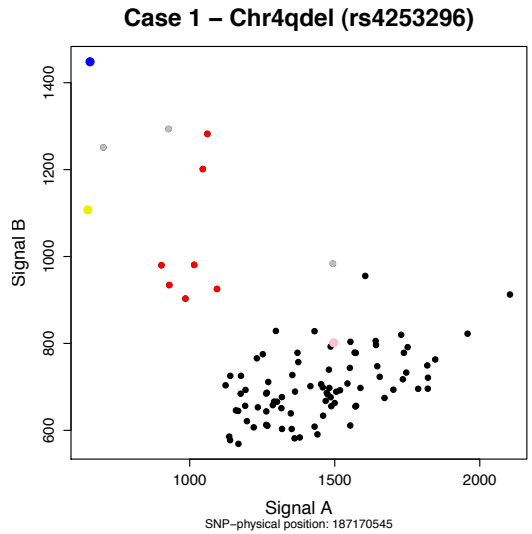

Case 1 – Chr4qdel (rs10021545)
Signal B
Signal A
SNP−physical position: 184609622

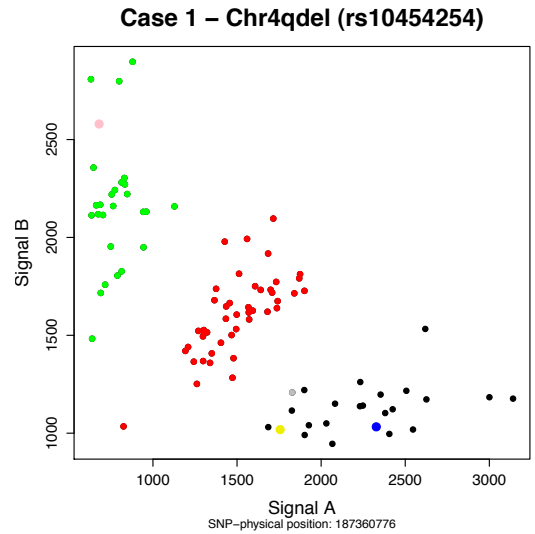

Case 1 – Chr4qdel (rs7688995)
Signal B
Signal A
SNP−physical position: 184799985

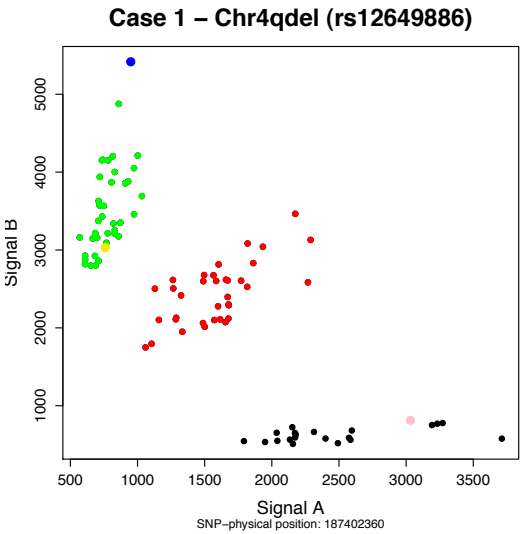

Case 1 – Chr4qdel (rs6552741)
Signal B
Signal A
SNP–physical position: 184990335
Case 1 – Chr4qdel (rs1217958)
Signal B
Signal A
SNP–physical position: 185163610
Case 1 – Chr4qdel (rs3756098)
Signal B
Signal A
SNP–physical position: 185354427
Case 1 – Chr4qdel (rs4356945)
Signal B
Signal A
SNP–physical position: 185904061
Case 1 – Chr4qdel (rs11934369)
Signal B
Signal A
SNP–physical position: 185906368
Case 1 – Chr4qdel (rs7437897)
Signal B
Signal A
SNP–physical position: 186472399
Case 1 – Chr4qdel (rs3749579)
Signal B
Signal A
SNP–physical position: 186562877
Case 1 – Chr4qdel (rs7665411)
Signal B
Signal A
SNP–physical position: 187042798

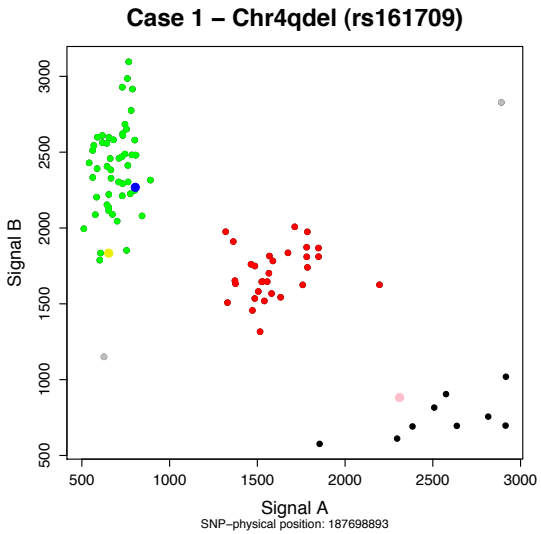

Case 1 – Chr4qdel (rs7660915)
Signal B
Signal A
SNP−physical position: 187060065

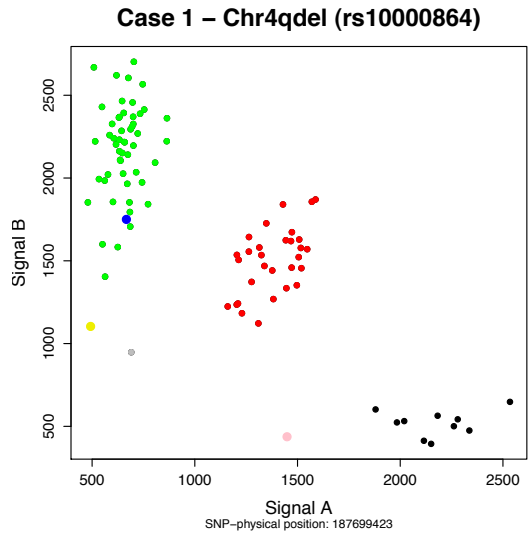

Case 1 – Chr4qdel (rs7686244)
Signal B
Signal A
SNP−physical position: 187060255

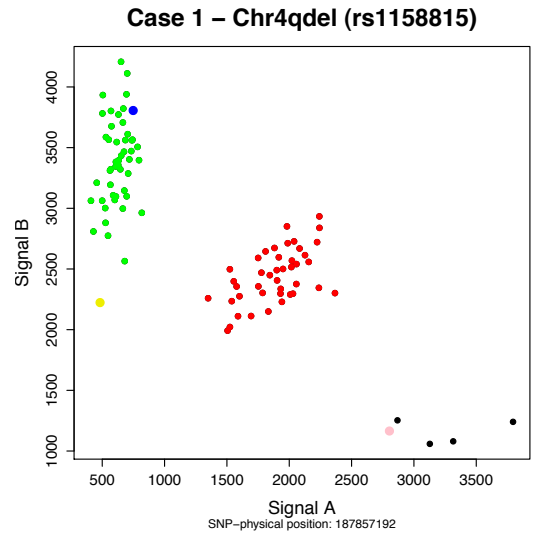

Case 1 – Chr4qdel (rs4253296)
Signal B
Signal A
SNP−physical position: 187170545

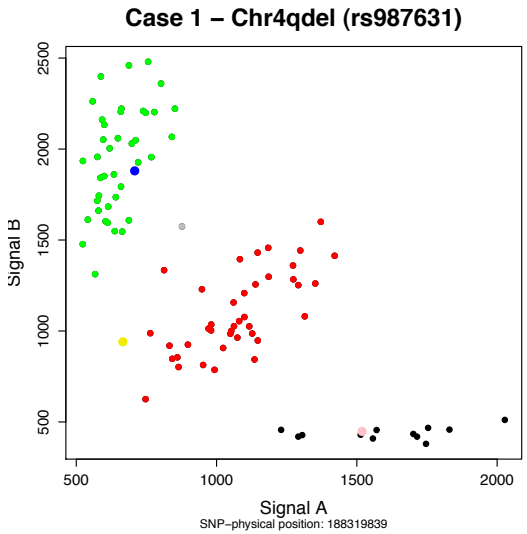

Case 1 – Chr4qdel (rs10454254)
Signal B
Signal A
SNP−physical position: 187360776

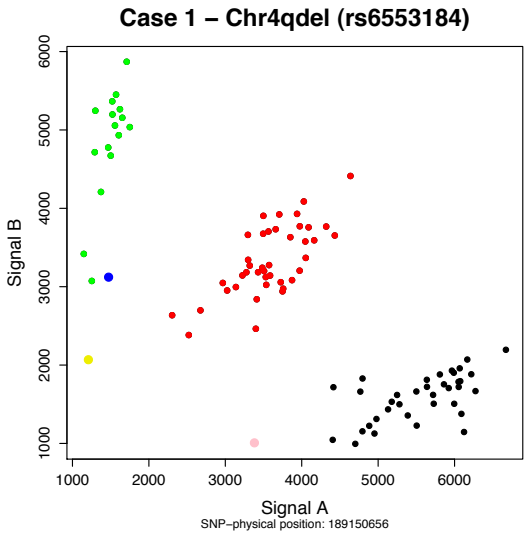

Case 1 – Chr4qdel (rs12649886)
Signal B
Signal A
SNP−physical position: 187402360

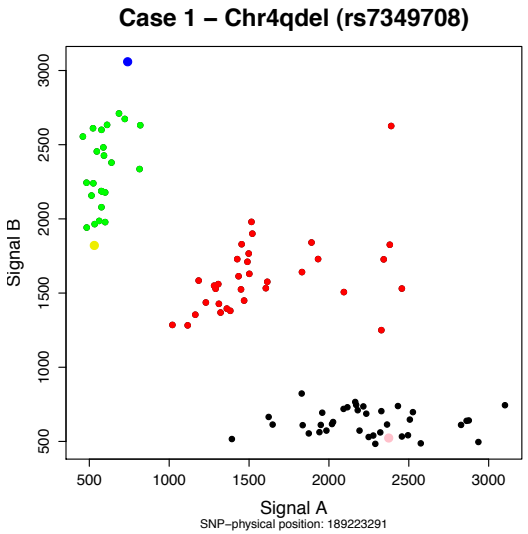

Case 1 – Chr4qdel (rs161709)
Signal B
Signal A
SNP−physical position: 187698893

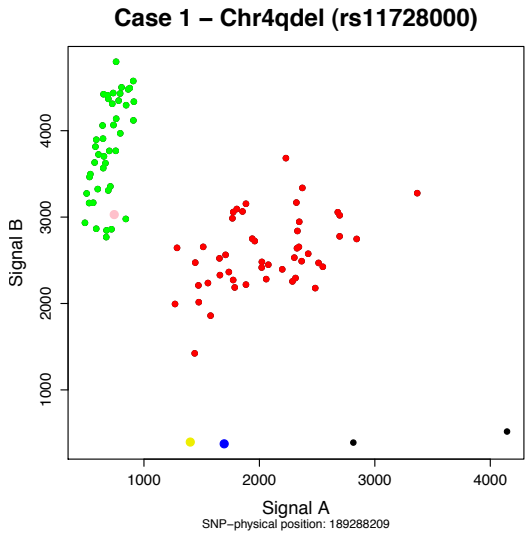

Case 1 – Chr4qdel (rs10000864)
Signal B
Signal A
SNP−physical position: 187699423

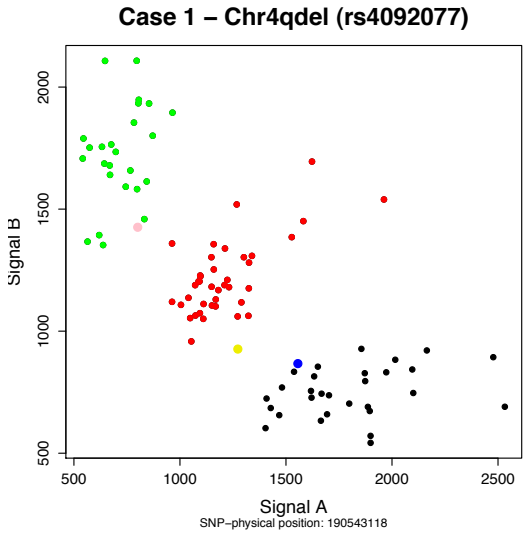

Case 1 – Chr4qdel (rs1158815)
Signal B
Signal A
SNP−physical position: 187857192

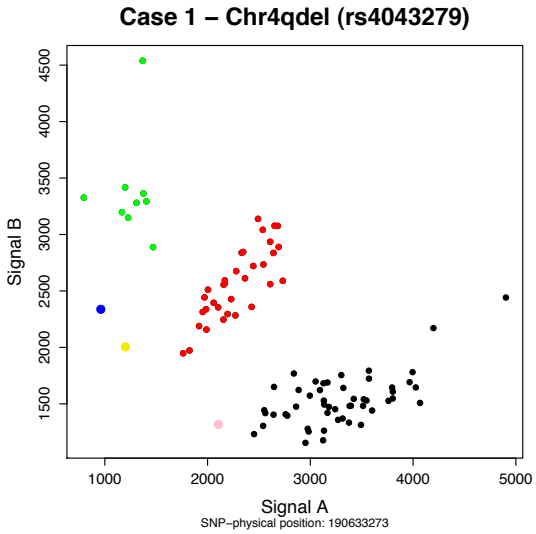

Case 1 – Chr4qdel (rs987631)
Signal B
Signal A
SNP–physical position: 188319839

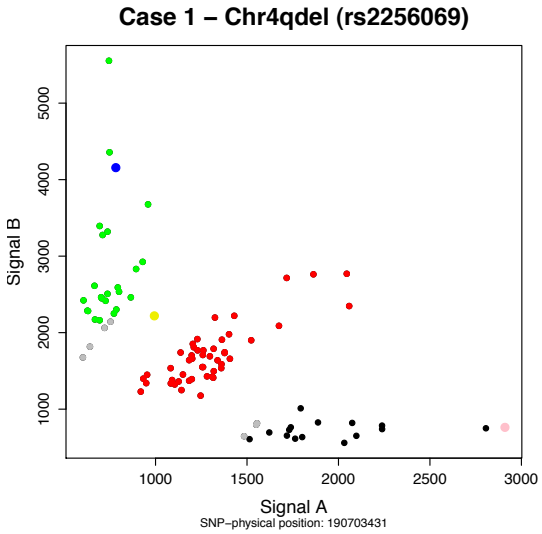

Case 1 – Chr4qdel (rs6553184)
Signal B
Signal A
SNP–physical position: 189150656


Case 1 – Chr4qdel (rs7349708)
Signal B
Signal A
SNP–physical position: 189223291

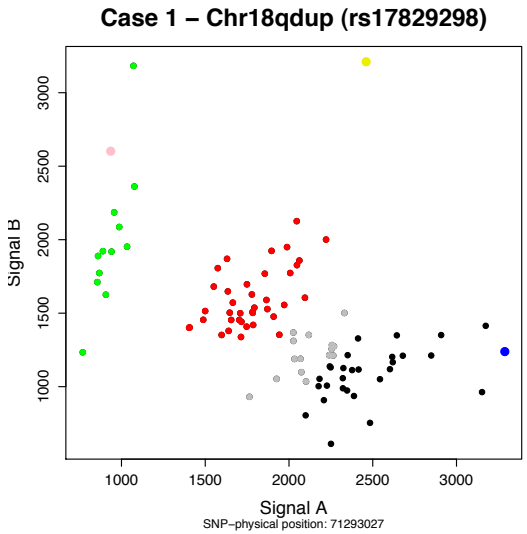

Case 1 – Chr4qdel (rs11728000)
Signal B
Signal A
SNP–physical position: 189288209

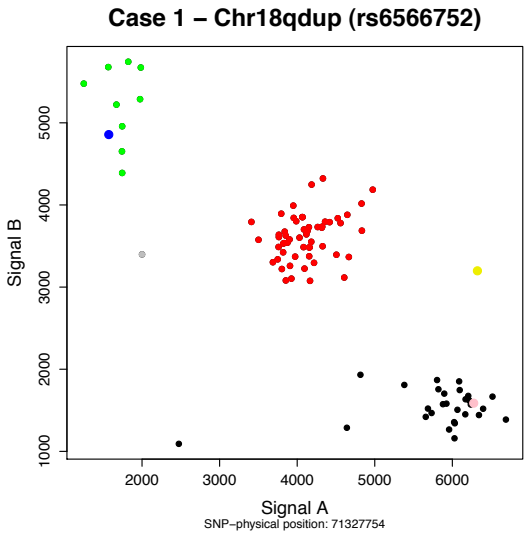

Case 1 – Chr4qdel (rs4092077)
Signal B
Signal A
SNP–physical position: 190543118

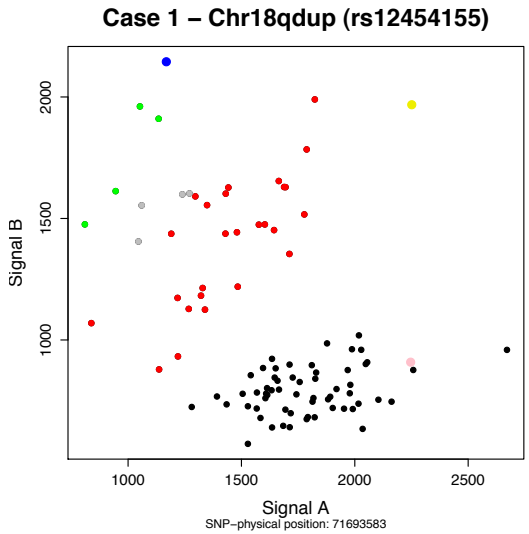

Case 1 – Chr4qdel (rs4043279)
Signal B
Signal A
SNP–physical position: 190633273

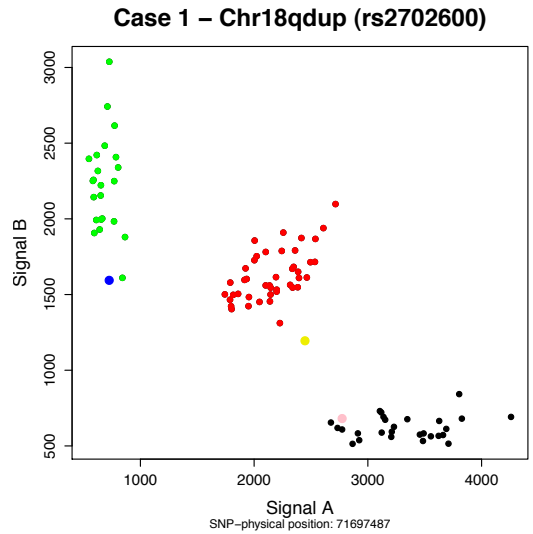

Case 1 – Chr4qdel (rs2256069)
Signal B
Signal A
SNP–physical position: 190703431

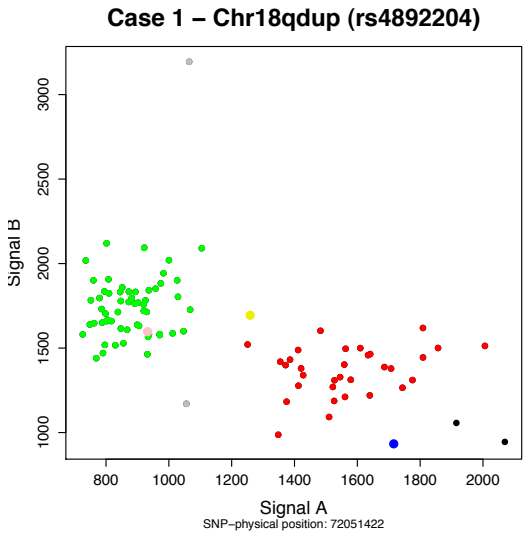
Case: 1
Chromosome: 18q
Abberation: dup.

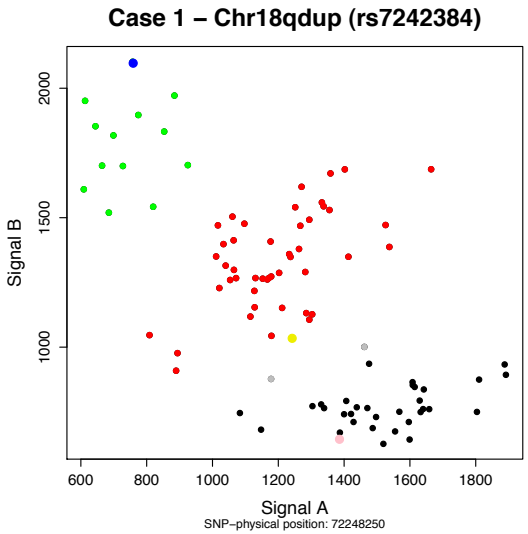

Case 1 – Chr18qdup (rs17829298)
Signal B
Signal A
SNP–physical position: 71293027

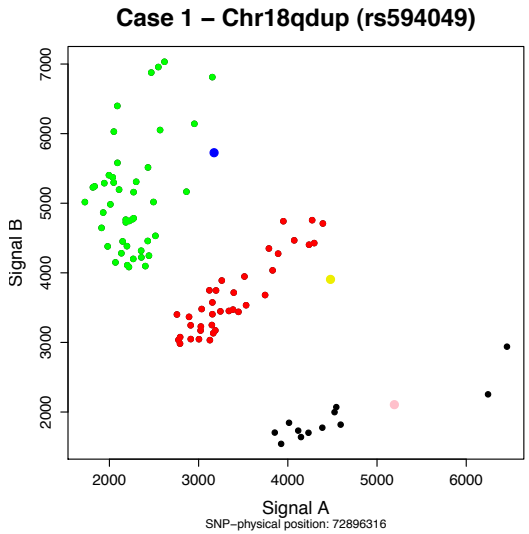

Case 1 – Chr18qdup (rs6566752)
Signal B
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SNP–physical position: 71327754

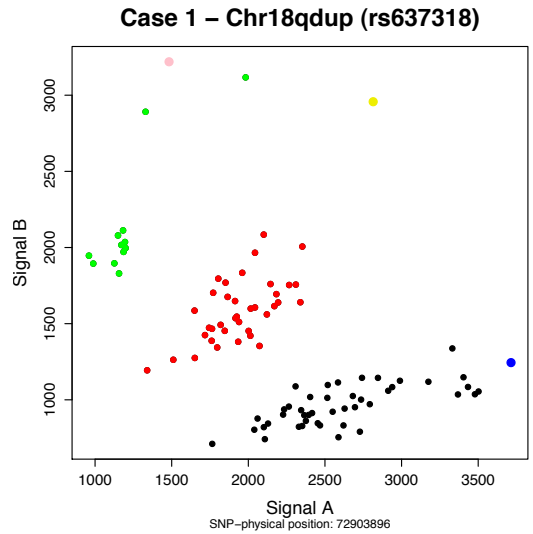

Case 1 – Chr18qdup (rs12454155)
Signal B
Signal A
SNP–physical position: 71693583

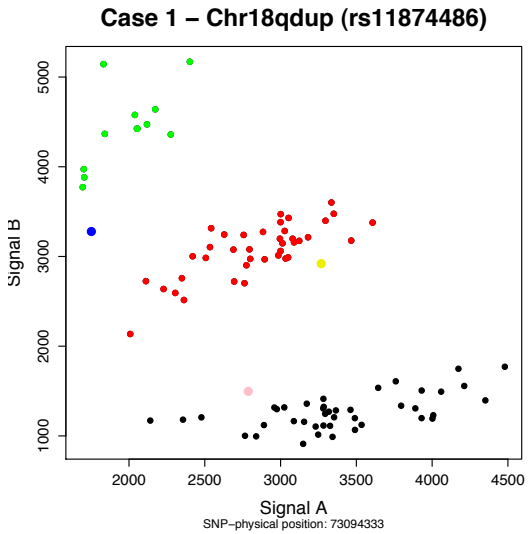

Case 1 – Chr18qdup (rs2702600)
Signal B
Signal A
SNP–physical position: 71697487

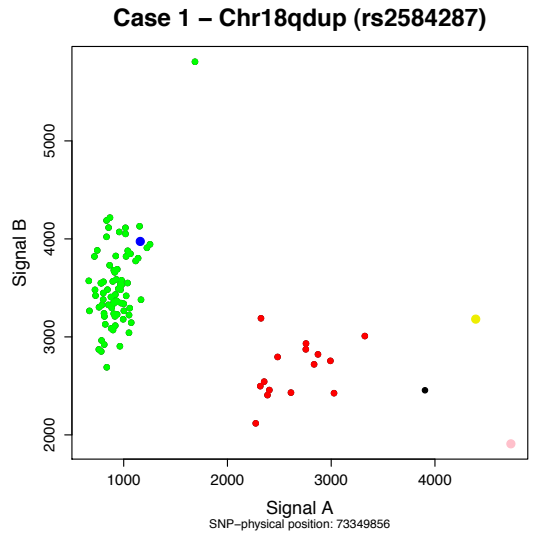

Case 1 – Chr18qdup (rs4892204)
Signal B
Signal A
SNP–physical position: 72051422

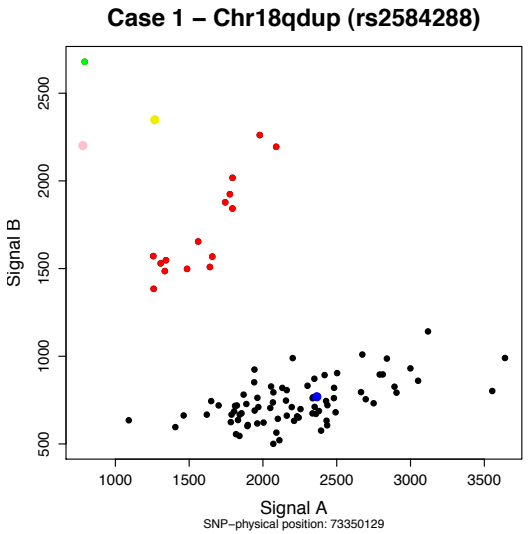

Case 1 – Chr18qdup (rs7242384)
Signal B
Signal A
SNP–physical position: 72248250

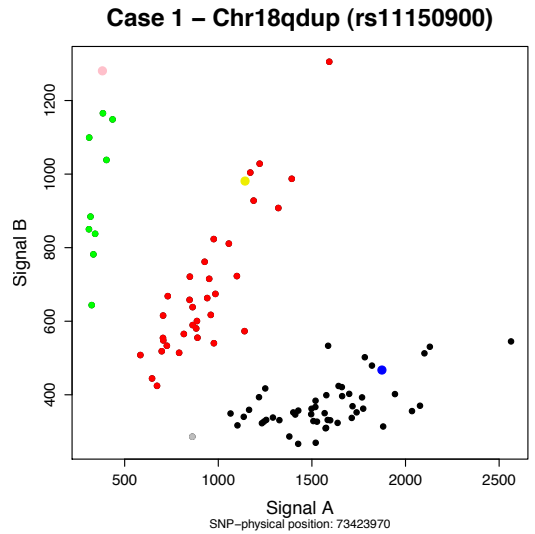

Case 1 – Chr18qdup (rs594049)
Signal B
Signal A
SNP–physical position: 72896316

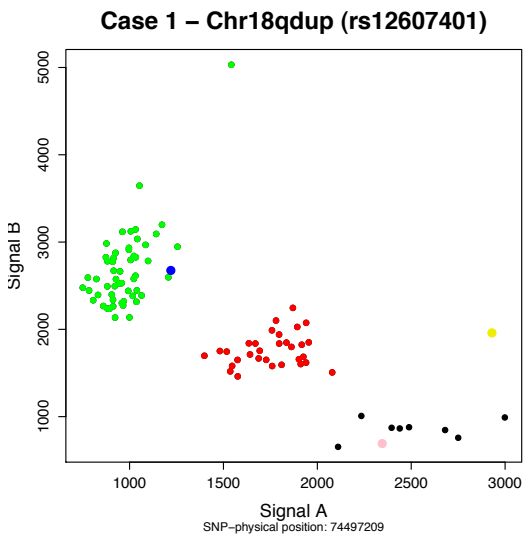

Case 1 – Chr18qdup (rs637318)
Signal B
Signal A
SNP–physical position: 72903896

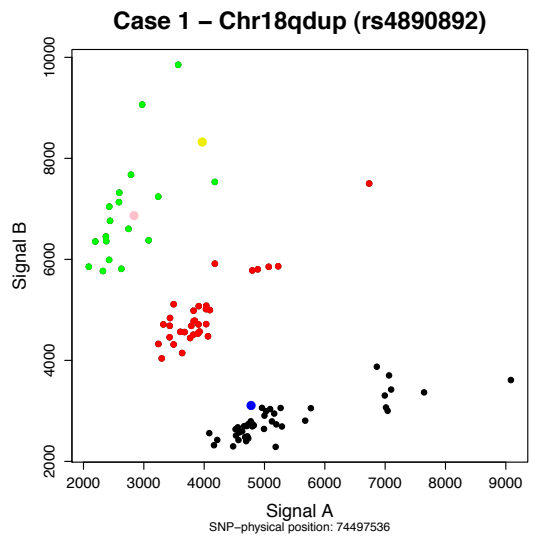

Case 1 – Chr18qdup (rs11874486)
Signal B
Signal A
SNP–physical position: 73094333

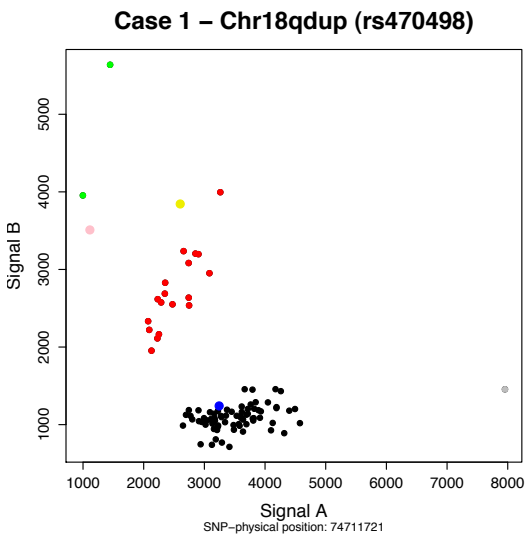

Case 1 – Chr18qdup (rs2584287)
Signal B
Signal A
SNP–physical position: 73349856

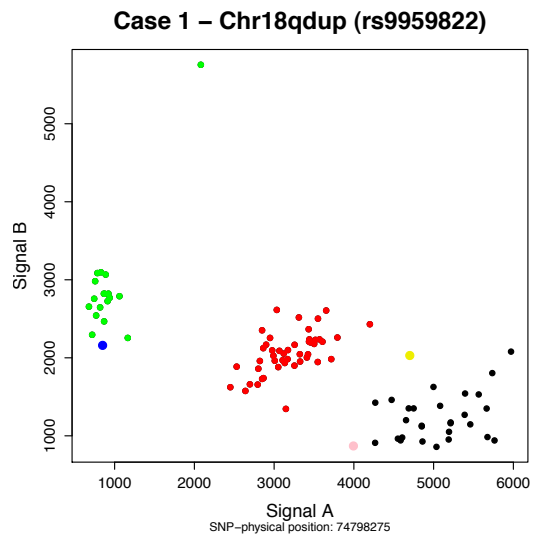

Case 1 – Chr18qdup (rs2584288)
Signal B
Signal A
SNP–physical position: 73350129

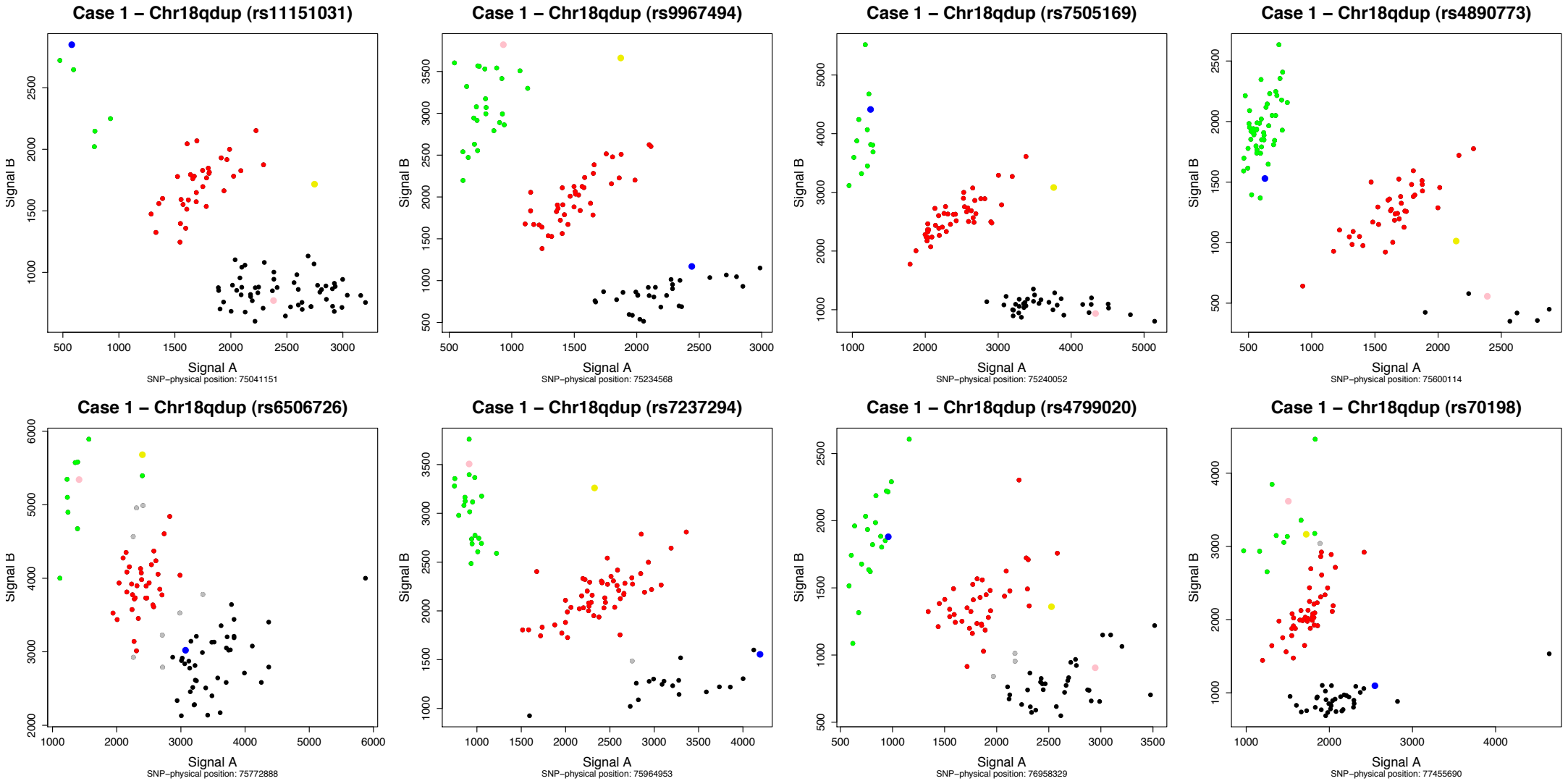

Case 1 – Chr18qdup (rs11150900)
Signal B
Signal A
SNP–physical position: 73423970

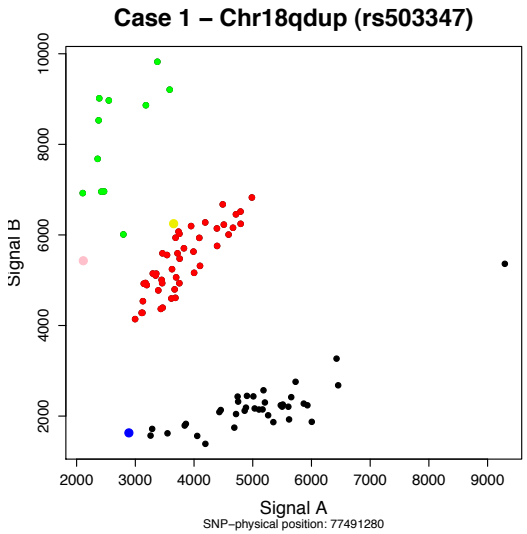

Case 1 – Chr18qdup (rs12607401)
Signal B
Signal A
SNP–physical position: 74497209

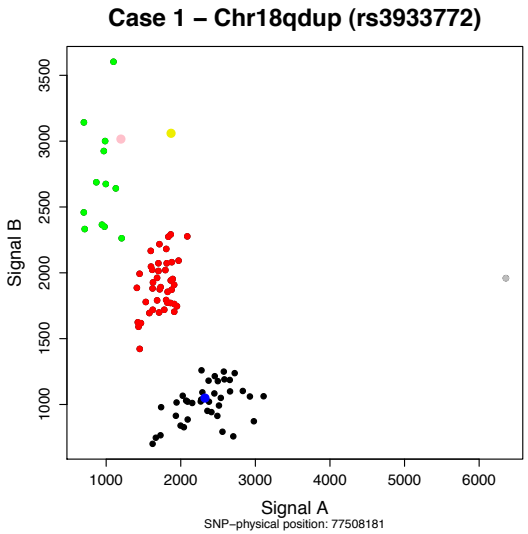

Case 1 – Chr18qdup (rs4890892)
Signal B
Signal A
SNP–physical position: 74497536


Case 1 – Chr18qdup (rs470498)
Signal B
Signal A
SNP–physical position: 74711721

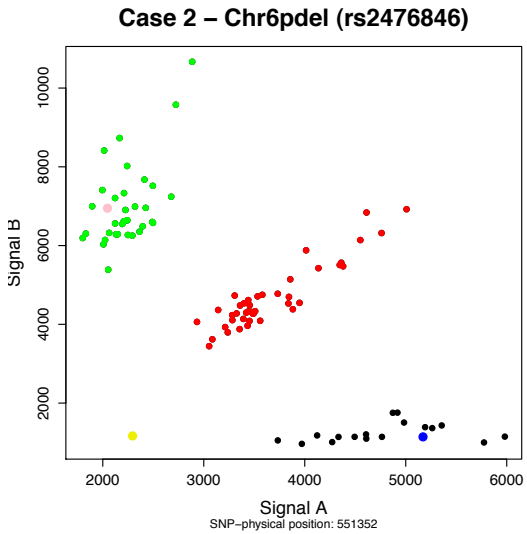

Case 1 – Chr18qdup (rs9959822)
Signal B
Signal A
SNP–physical position: 74798275

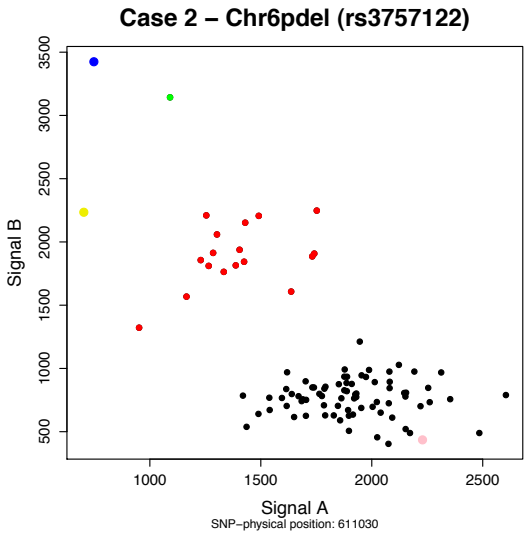

Case 1 – Chr18qdup (rs11151031)
Signal B
Signal A
SNP–physical position: 75041151
Case 1 – Chr18qdup (rs9967494)
Signal B
Signal A
SNP–physical position: 75234568
Case 1 – Chr18qdup (rs7505169)
Signal B
Signal A
SNP–physical position: 75240052
Case 1 – Chr18qdup (rs4890773)
Signal B
Signal A
SNP–physical position: 75600114
Case 1 – Chr18qdup (rs6506726)
Signal B
Signal A
SNP–physical position: 75772888
Case 1 – Chr18qdup (rs7237294)
Signal B
Signal A
SNP–physical position: 75964953
Case 1 – Chr18qdup (rs4799020)
Signal B
Signal A
SNP–physical position: 76958329
Case 1 – Chr18qdup (rs70198)
Signal B
Signal A
SNP–physical position: 77455690

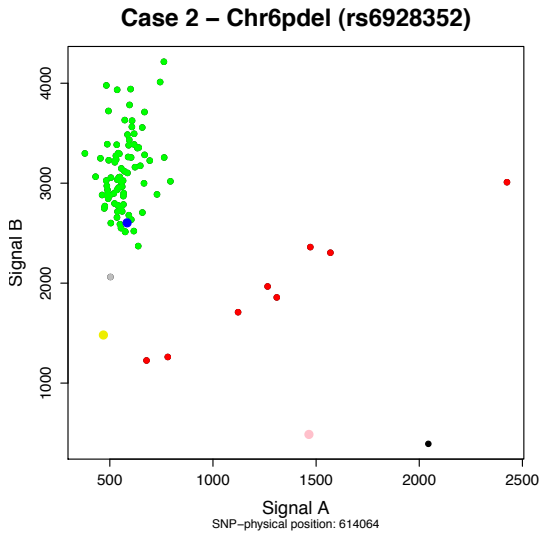

Case 1 – Chr18qdup (rs503347)
Signal B
Signal A
SNP–physical position: 77491280

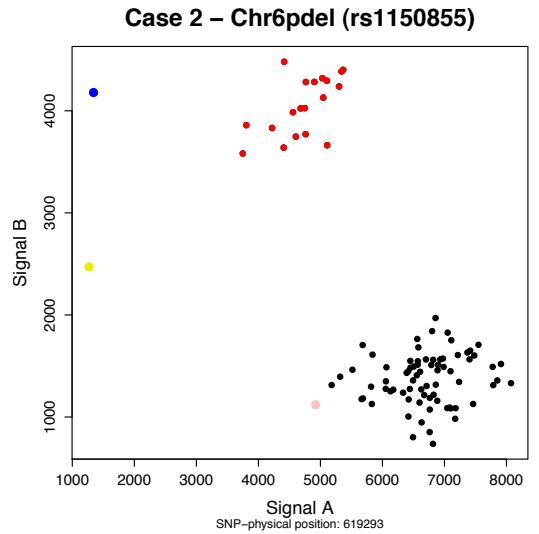

Case 1 – Chr18qdup (rs3933772)
Signal B
Signal A
SNP–physical position: 77508181

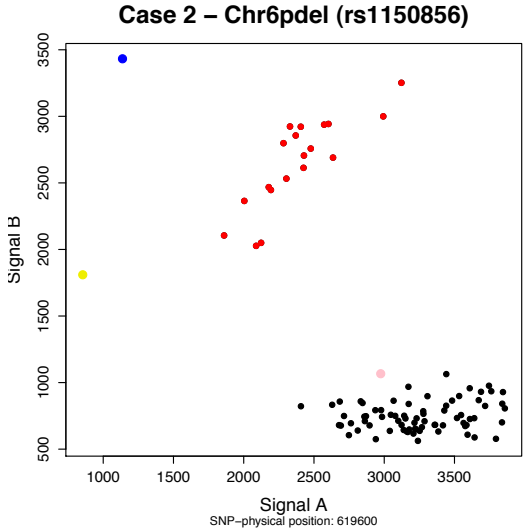
Case: 2
Chromosome: 6p
Abberation: del.

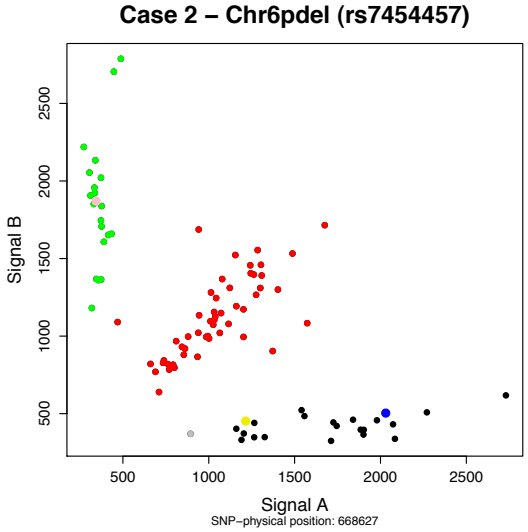

Case 2 – Chr6pdel (rs2476846)
Signal B
Signal A
SNP–physical position: 551352

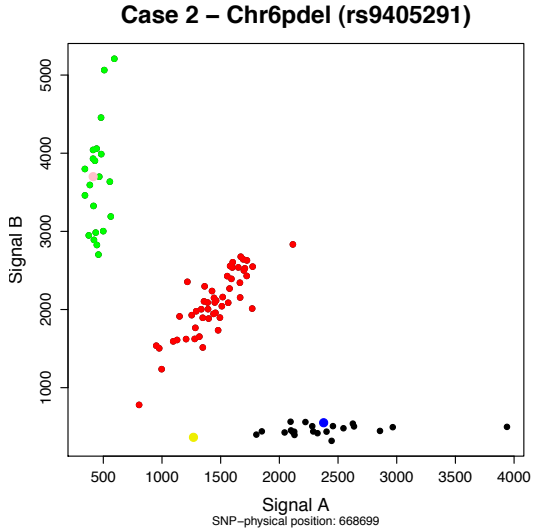

Case 2 – Chr6pdel (rs3757122)
Signal B
Signal A
SNP–physical position: 611030

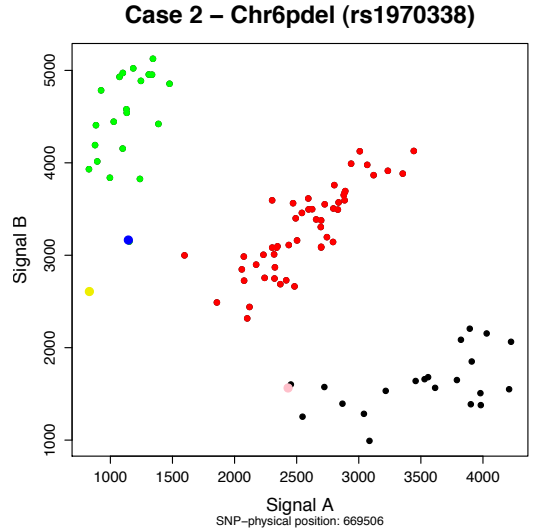

Case 2 – Chr6pdel (rs6928352)
Signal B
Signal A
SNP–physical position: 614064

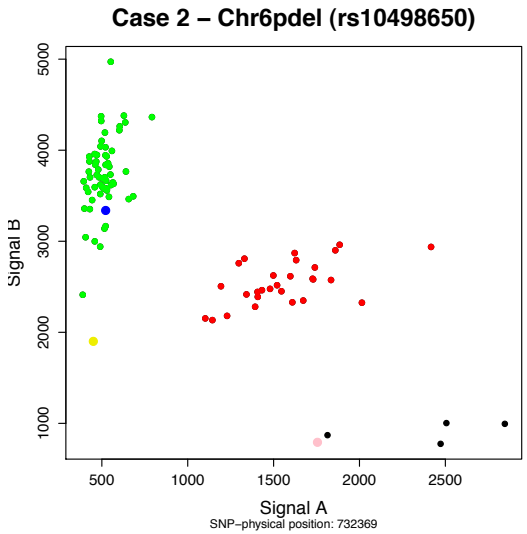

Case 2 – Chr6pdel (rs1150855)
Signal B
Signal A
SNP–physical position: 619293

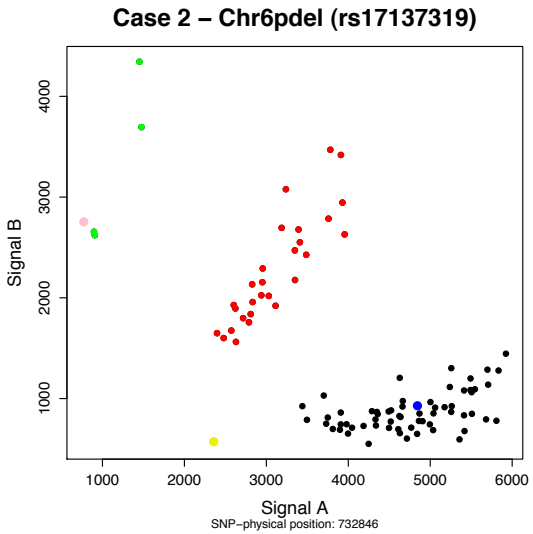

Case 2 – Chr6pdel (rs1150856)
Signal B
Signal A
SNP–physical position: 619600

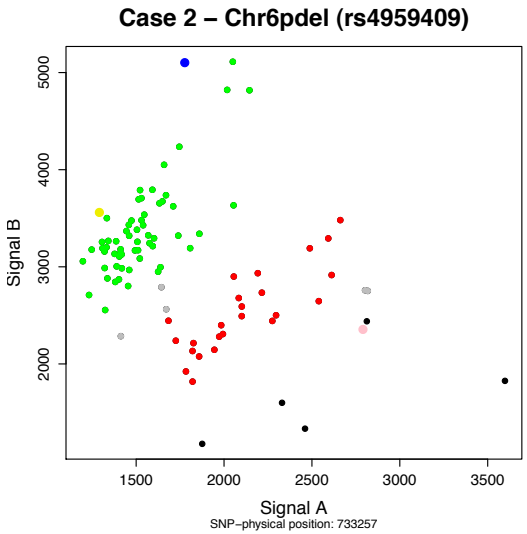

Case 2 – Chr6pdel (rs7454457)
Signal B
Signal A
SNP–physical position: 668627

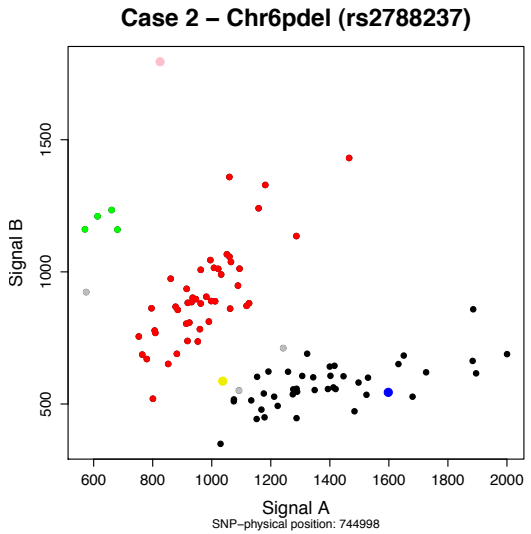

Case 2 – Chr6pdel (rs9405291)
Signal B
Signal A
SNP–physical position: 668699

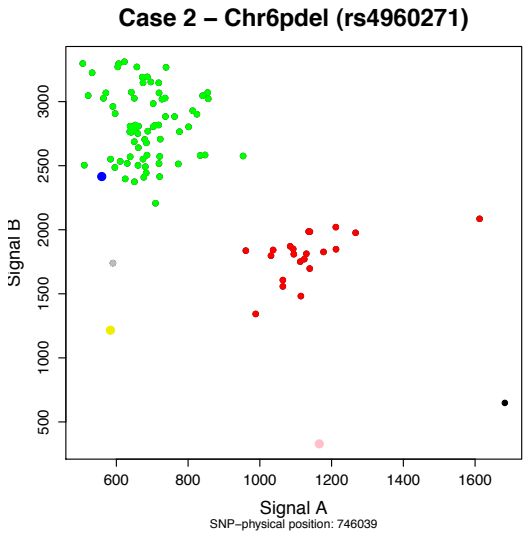

Case 2 – Chr6pdel (rs1970338)
Signal B
Signal A
SNP–physical position: 669506

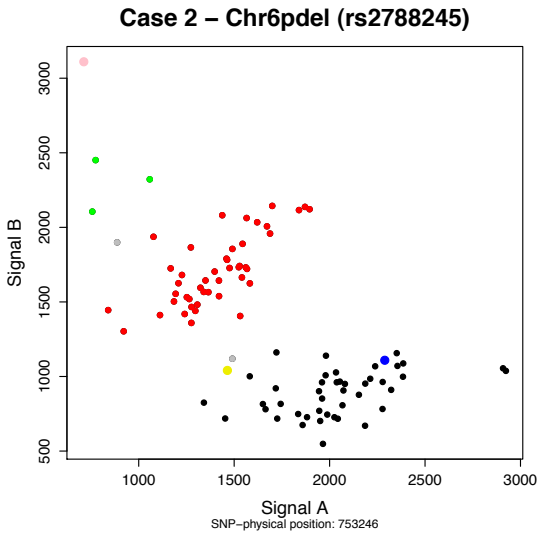

Case 2 – Chr6pdel (rs10498650)
Signal B
Signal A
SNP−physical position: 732369

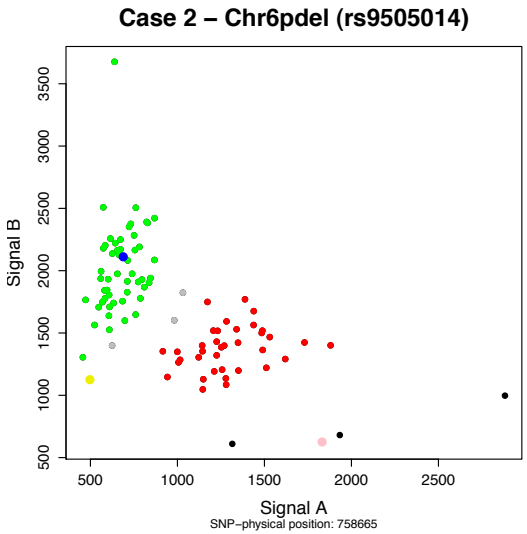

Case 2 – Chr6pdel (rs17137319)
Signal B
Signal A
SNP−physical position: 732846

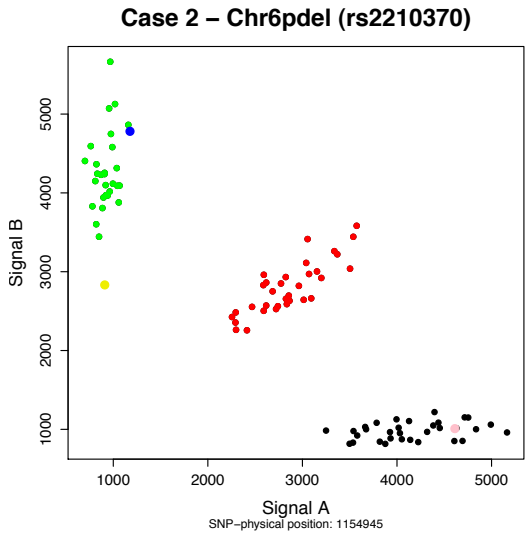

Case 2 – Chr6pdel (rs4959409)
Signal B
Signal A
SNP−physical position: 733257

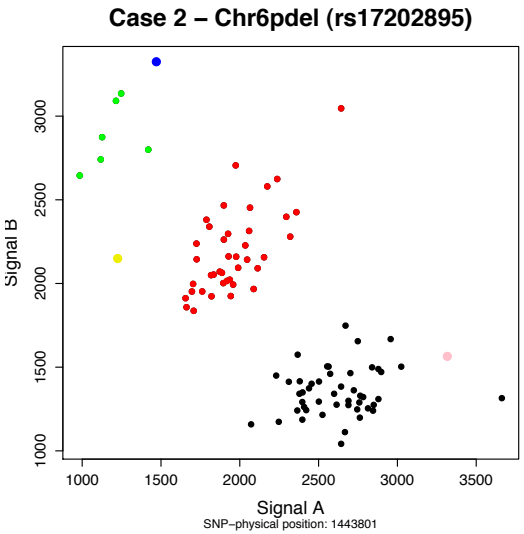

Case 2 – Chr6pdel (rs2788237)
Signal B
Signal A
SNP−physical position: 744998

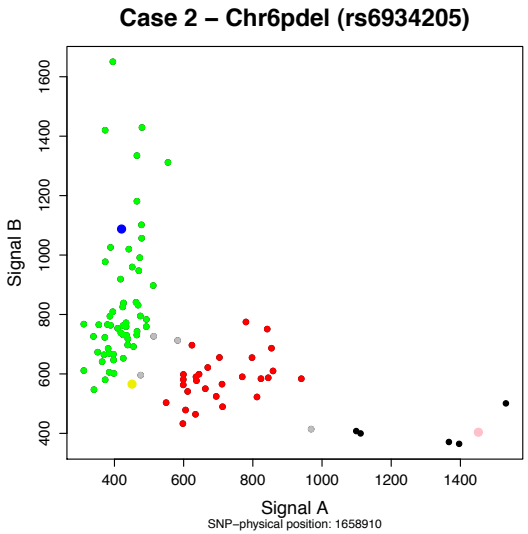

Case 2 – Chr6pdel (rs4960271)
Signal B
Signal A
SNP−physical position: 746039

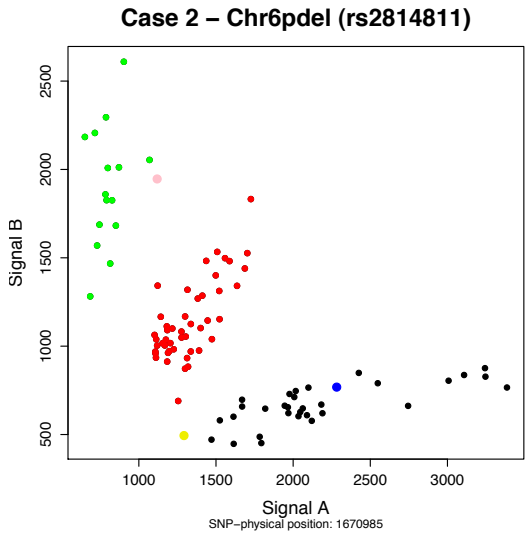

Case 2 – Chr6pdel (rs2788245)
Signal B
Signal A
SNP−physical position: 753246

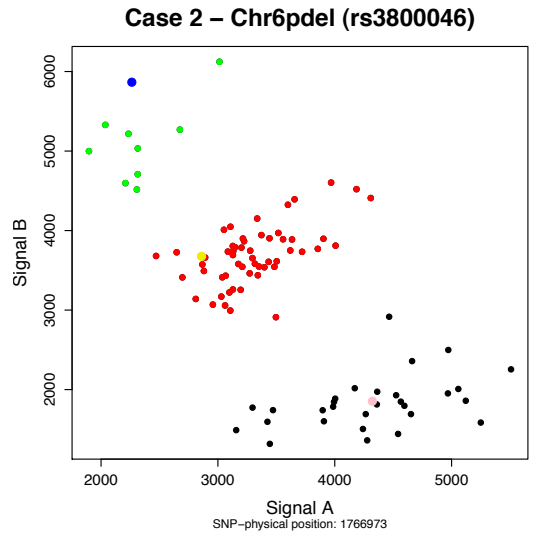

Case 2 – Chr6pdel (rs9505014)
Signal B
Signal A
SNP−physical position: 758665

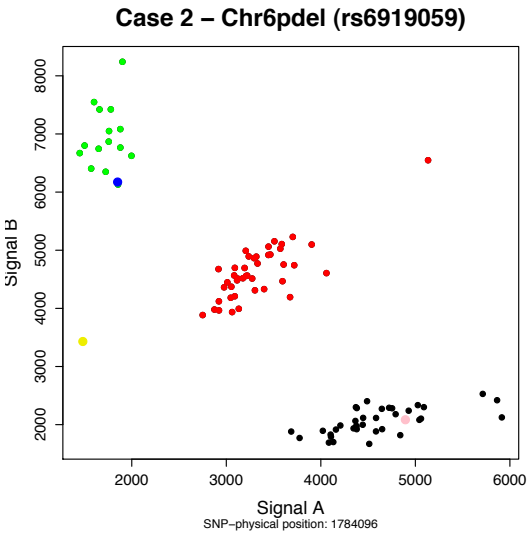

Case 2 – Chr6pdel (rs2210370)
Signal B
Signal A
SNP−physical position: 1154945

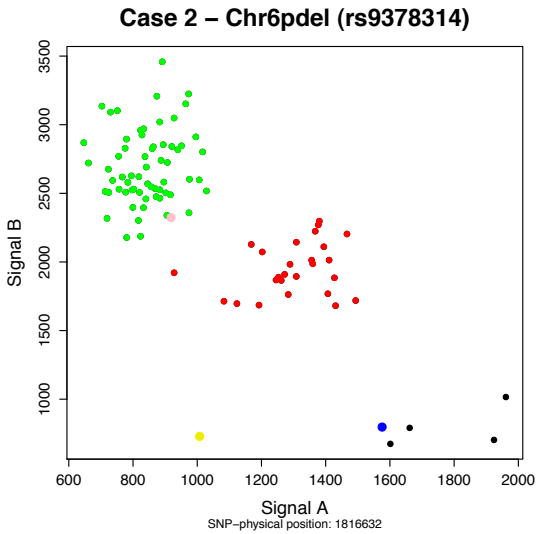

Case 2 – Chr6pdel (rs17202895)
Signal B
Signal A
SNP–physical position: 1443801

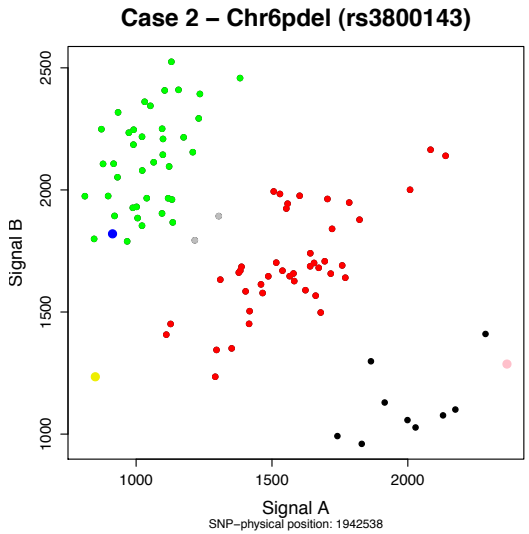

Case 2 – Chr6pdel (rs6934205)
Signal B
Signal A
SNP–physical position: 1658910

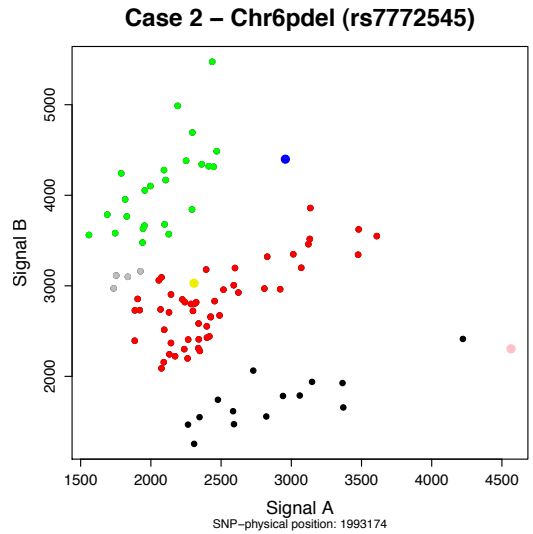

Case 2 – Chr6pdel (rs2814811)
Signal B
Signal A
SNP–physical position: 1670985

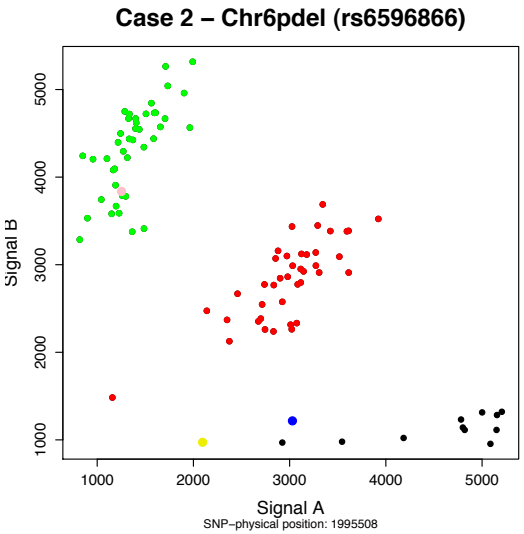

Case 2 – Chr6pdel (rs3800046)
Signal B
Signal A
SNP–physical position: 1766973

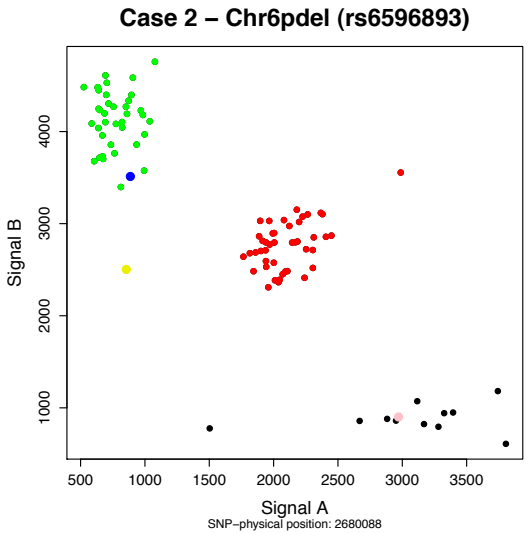

Case 2 – Chr6pdel (rs6919059)
Signal B
Signal A
SNP–physical position: 1784096

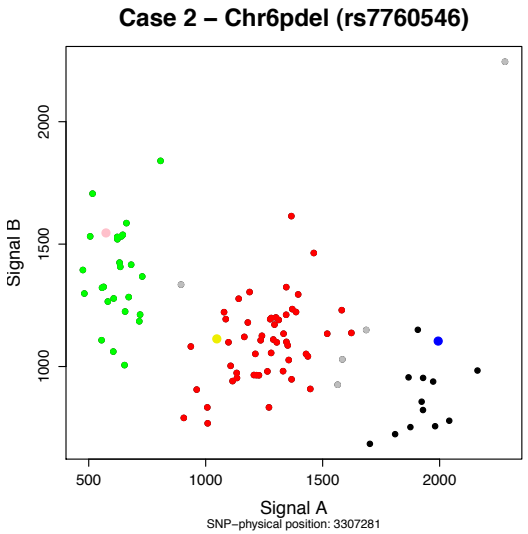

Case 2 – Chr6pdel (rs9378314)
Signal B
Signal A
SNP–physical position: 1816632

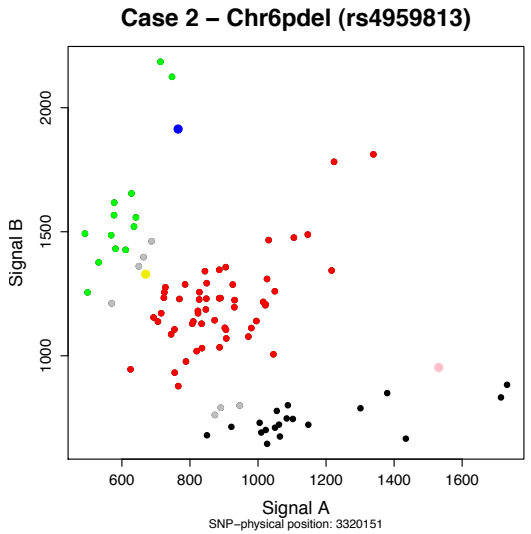

Case 2 – Chr6pdel (rs3800143)
Signal B
Signal A
SNP–physical position: 1942538

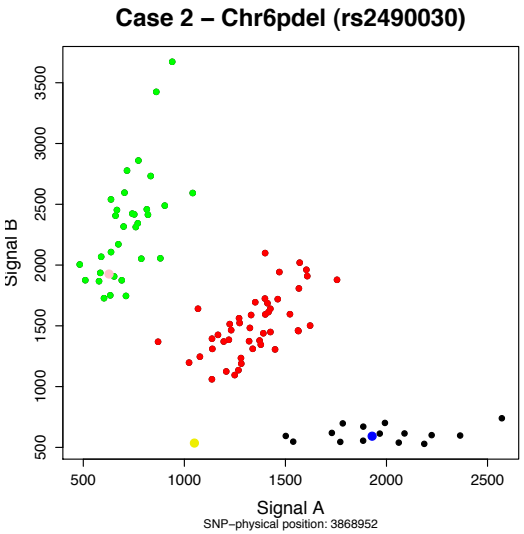

Case 2 – Chr6pdel (rs7772545)
Signal B
Signal A
SNP–physical position: 1993174

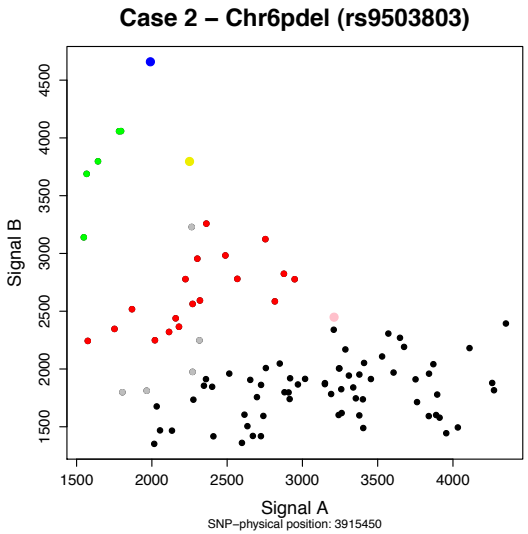

Case 2 – Chr6pdel (rs6596866)
Signal B
Signal A
SNP–physical position: 1995508

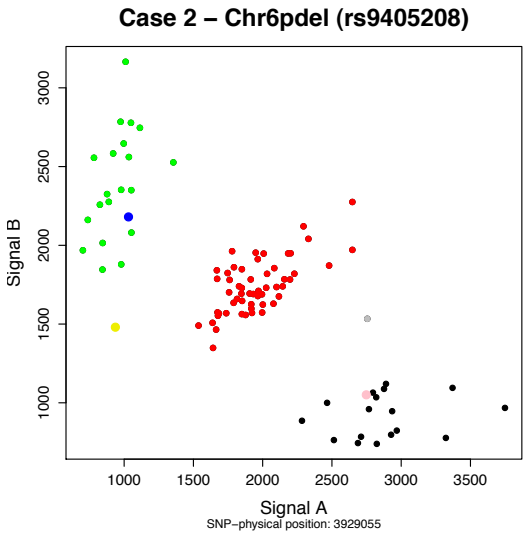

Case 2 – Chr6pdel (rs6596893)
Signal B
Signal A
SNP–physical position: 2680088

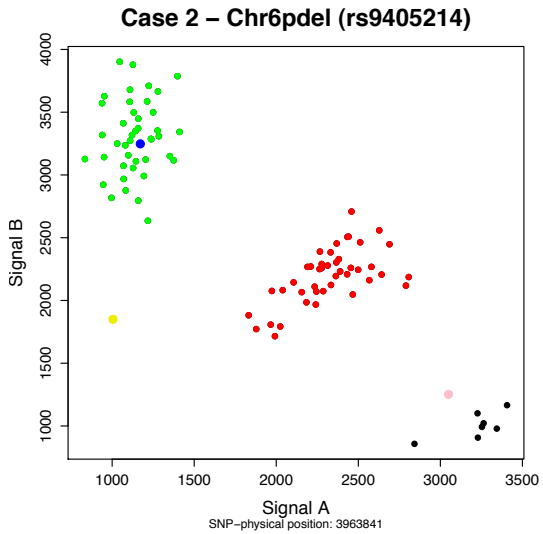

Case 2 – Chr6pdel (rs7760546)
Signal B
Signal A
SNP–physical position: 3307281

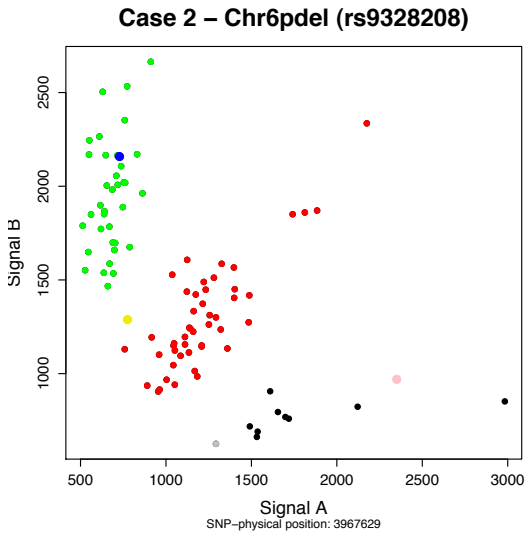

Case 2 – Chr6pdel (rs4959813)
Signal B
Signal A
SNP–physical position: 3320151

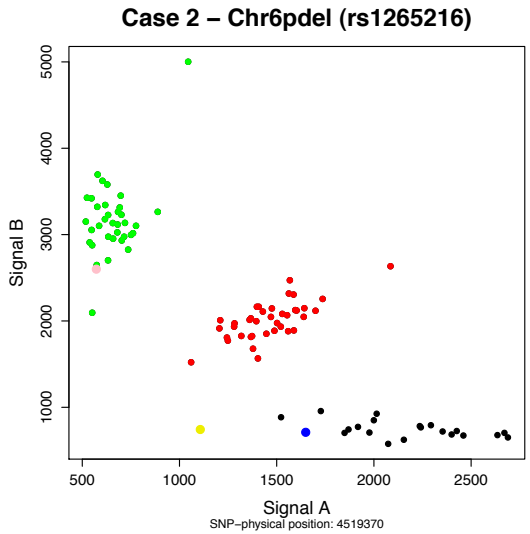

Case 2 – Chr6pdel (rs2490030)
Signal B
Signal A
SNP–physical position: 3868952

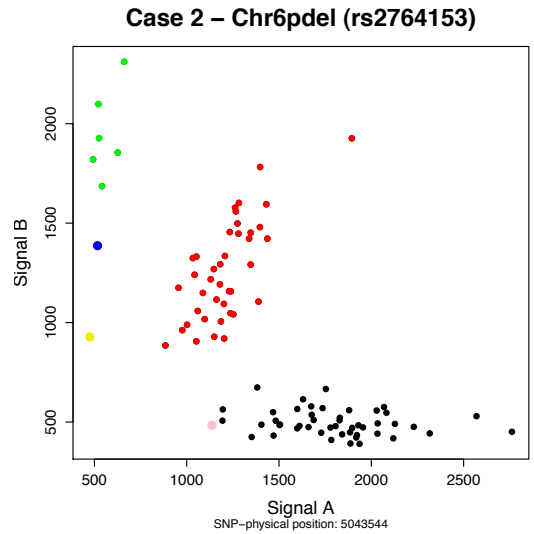

Case 2 – Chr6pdel (rs9503803)
Signal B
Signal A
SNP–physical position: 3915450

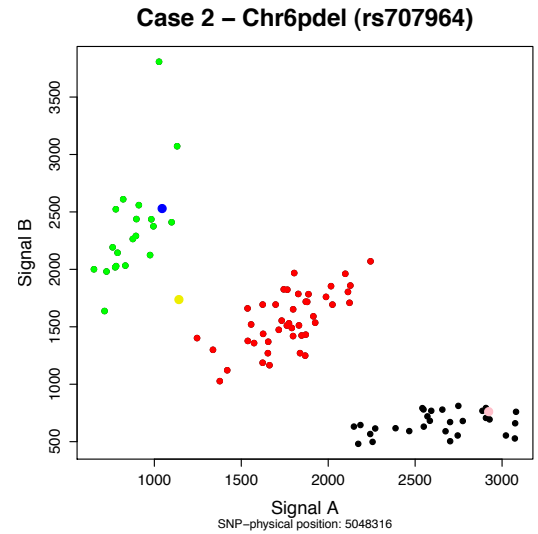

Case 2 – Chr6pdel (rs9405208)
Signal B
Signal A
SNP–physical position: 3929055

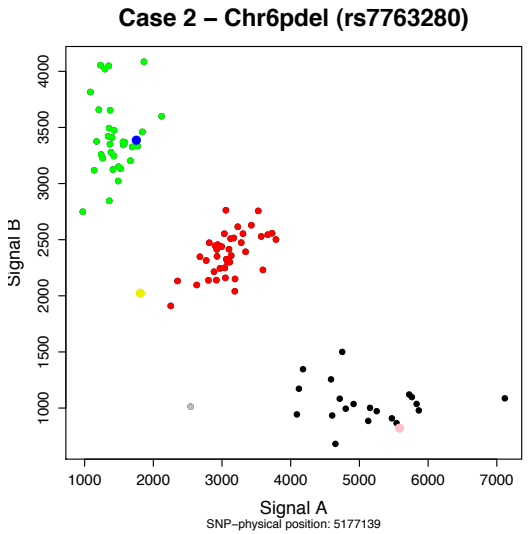

Case 2 – Chr6pdel (rs9405214)
Signal B
Signal A
SNP–physical position: 3963841

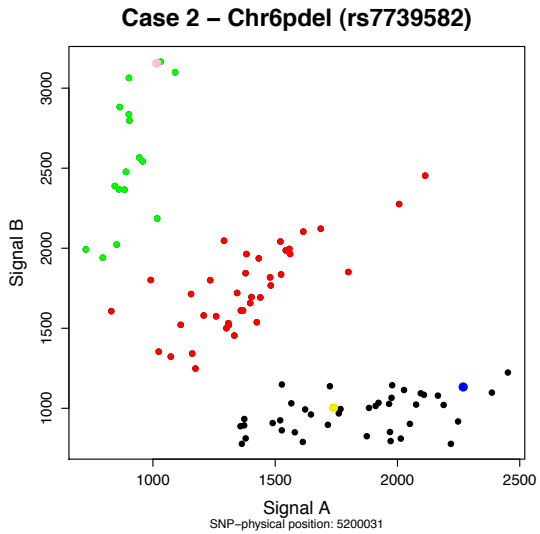

Case 2 – Chr6pdel (rs9328208)
Signal B
Signal A
SNP–physical position: 3967629

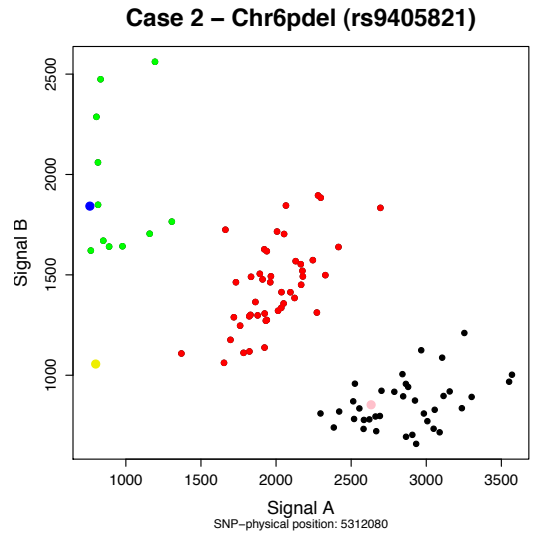

Case 2 – Chr6pdel (rs1265216)
Signal B
Signal A
SNP–physical position: 4519370

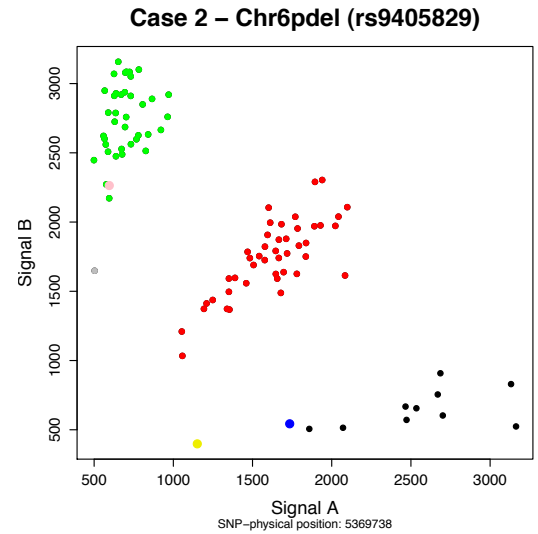

Case 2 – Chr6pdel (rs2764153)
Signal B
Signal A
SNP–physical position: 5043544


Case 2 – Chr6pdel (rs707964)
Signal B
Signal A
SNP–physical position: 5048316

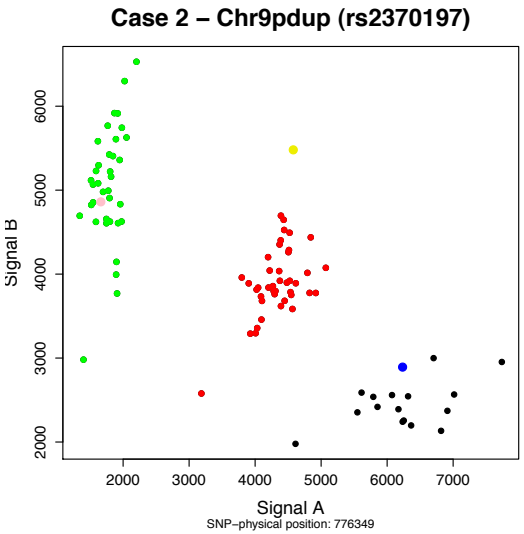

Case 2 – Chr6pdel (rs7763280)
Signal B
Signal A
SNP–physical position: 5177139

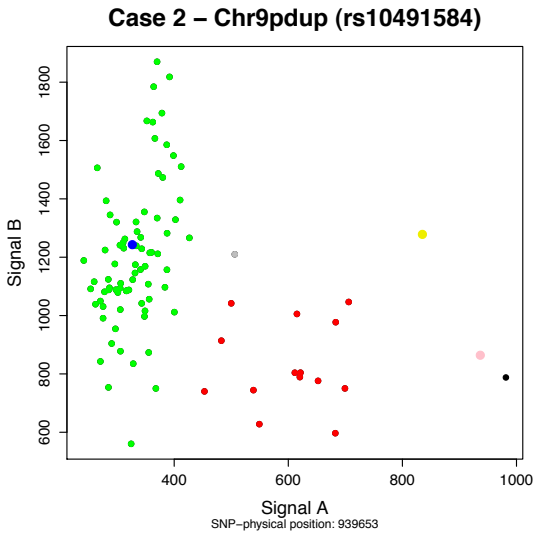

Case 2 – Chr6pdel (rs7739582)
Signal B
Signal A
SNP–physical position: 5200031

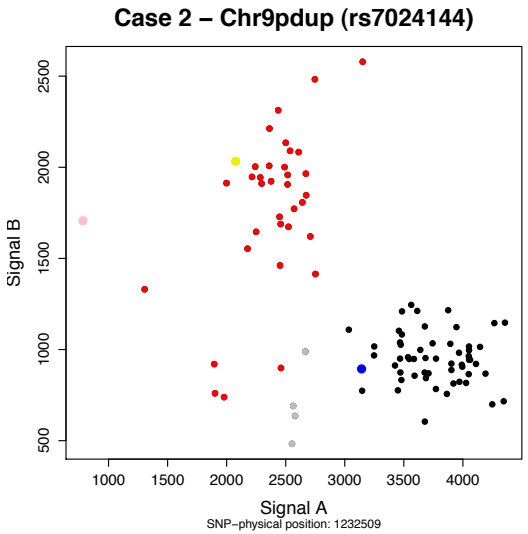

Case 2 – Chr6pdel (rs9405821)
Signal B
Signal A
SNP–physical position: 5312080

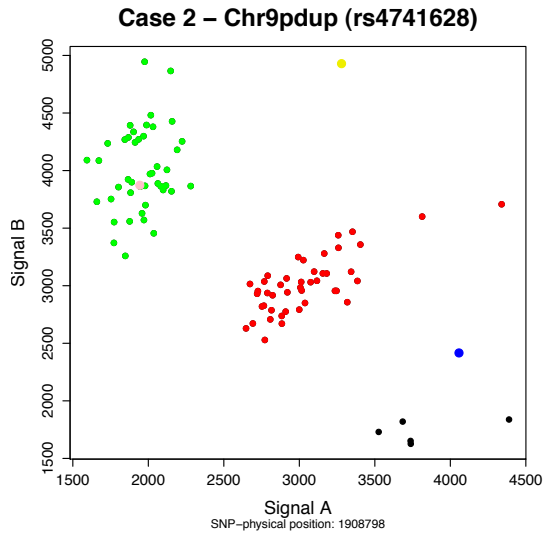

Case 2 – Chr6pdel (rs9405829)
Signal B
Signal A
SNP–physical position: 5369738

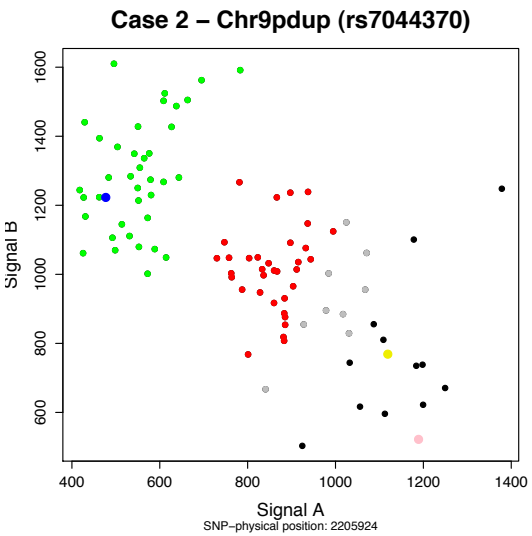
Case: 2
Chromosome: 9p
Abberation: dup.

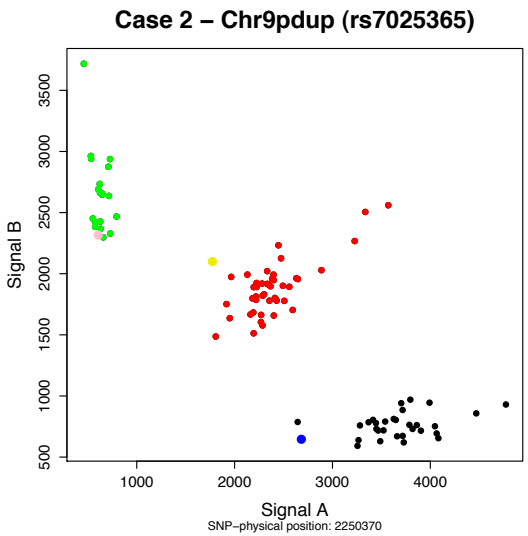

Case 2 – Chr9pdup (rs2370197)
Signal B
Signal A
SNP–physical position: 776349

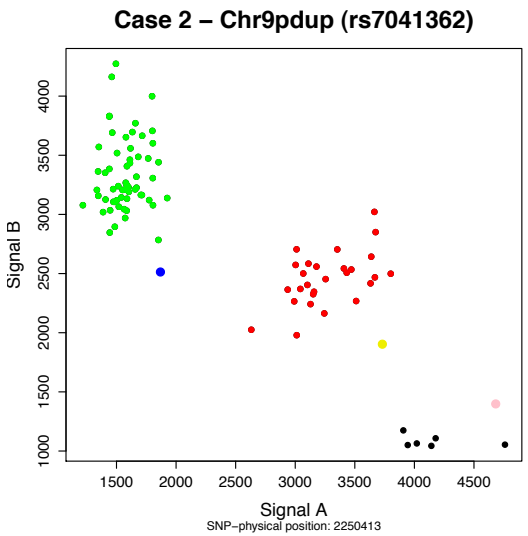

Case 2 – Chr9pdup (rs10491584)
Signal B
Signal A
SNP–physical position: 939653

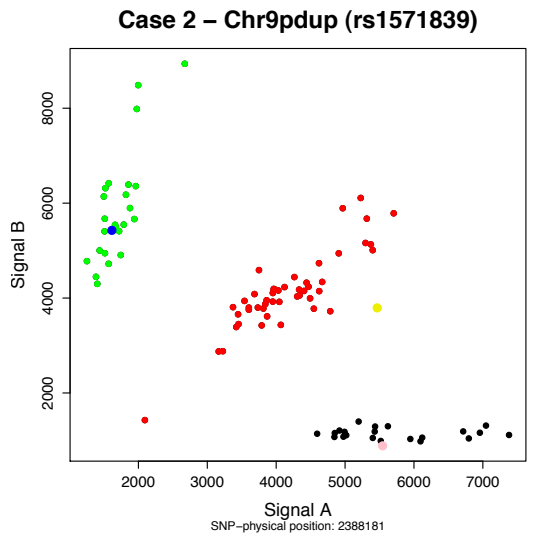

Case 2 – Chr9pdup (rs7024144)
Signal B
Signal A
SNP–physical position: 1232509

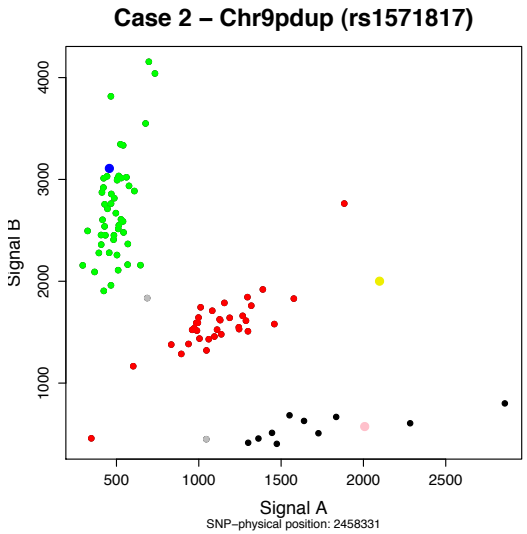

Case 2 – Chr9pdup (rs4741628)
Signal B
Signal A
SNP–physical position: 1908798

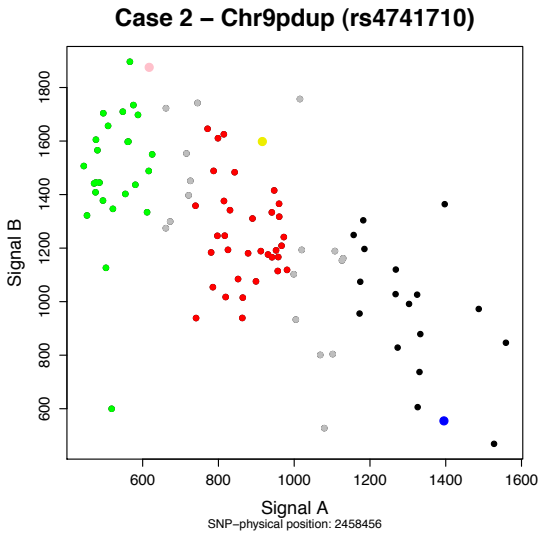

Case 2 – Chr9pdup (rs7044370)
Signal B
Signal A
SNP–physical position: 2205924

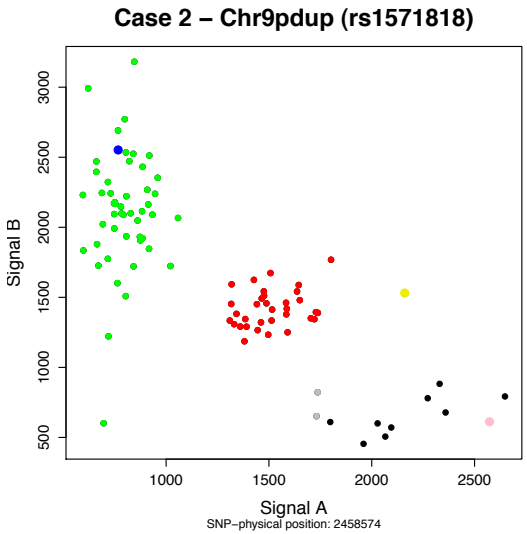

Case 2 – Chr9pdup (rs7025365)
Signal B
Signal A
SNP–physical position: 2250370

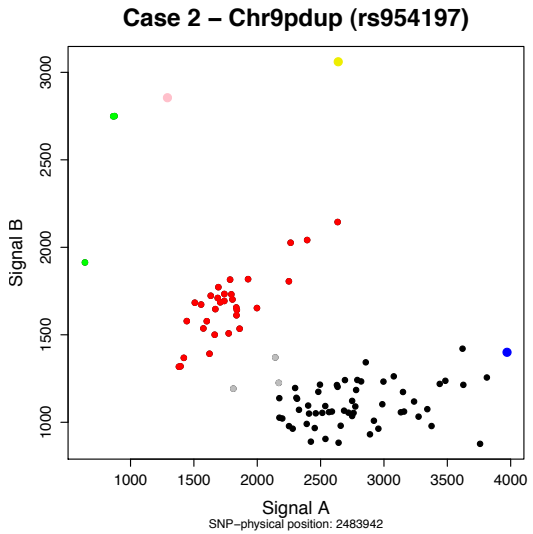

Case 2 – Chr9pdup (rs7041362)
Signal B
Signal A
SNP–physical position: 2250413

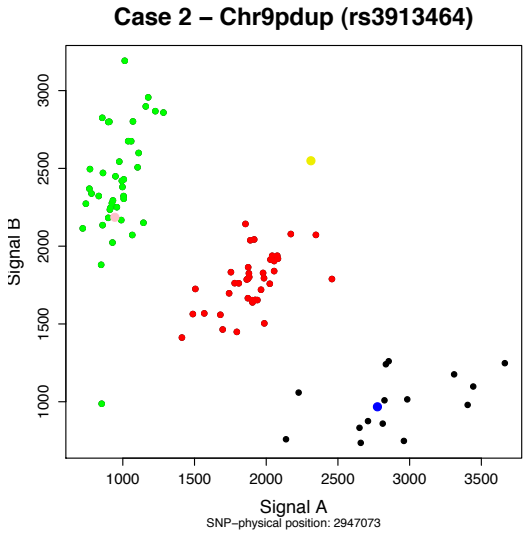

Case 2 – Chr9pdup (rs1571839)
Signal B
Signal A
SNP–physical position: 2388181

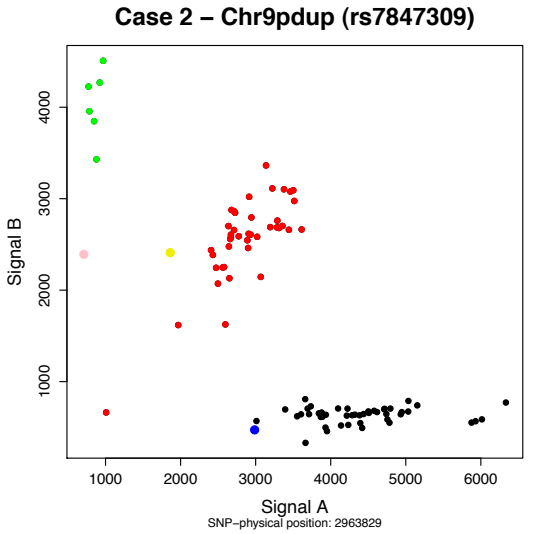

Case 2 – Chr9pdup (rs1571817)
Signal B
Signal A
SNP–physical position: 2458331

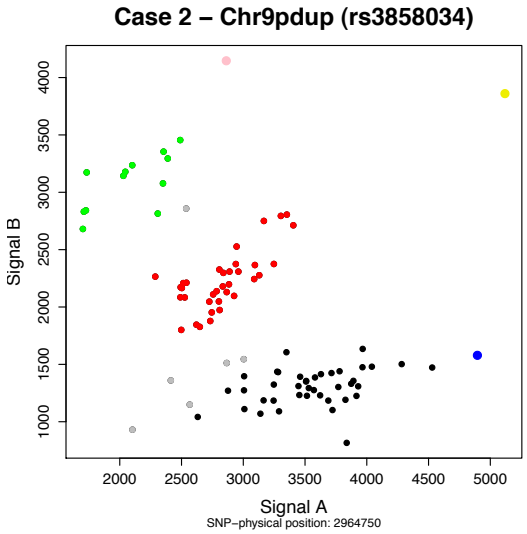

Case 2 – Chr9pdup (rs4741710)
Signal B
Signal A
SNP–physical position: 2458456

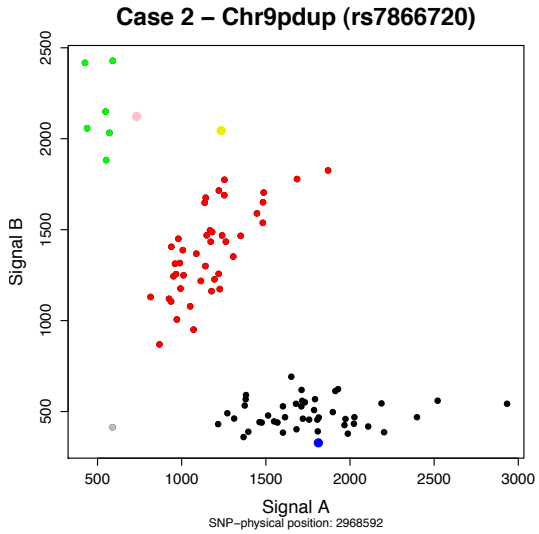

Case 2 – Chr9pdup (rs1571818)
Signal B
Signal A
SNP–physical position: 2458574

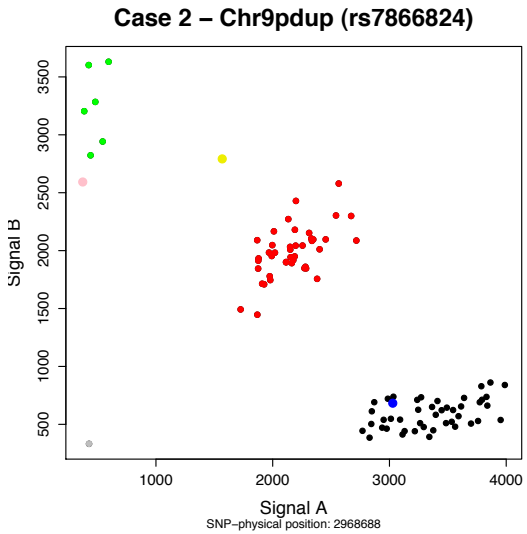

Case 2 – Chr9pdup (rs954197)
Signal B
Signal A
SNP–physical position: 2483942

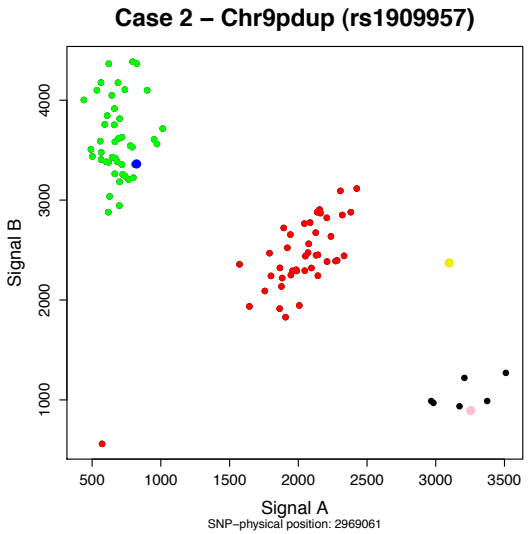

Case 2 – Chr9pdup (rs3913464)
Signal B
Signal A
SNP–physical position: 2947073

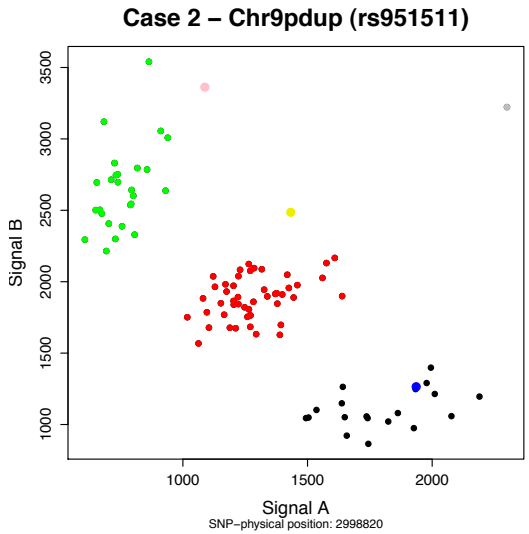

Case 2 – Chr9pdup (rs7847309)
Signal B
Signal A
SNP–physical position: 2963829

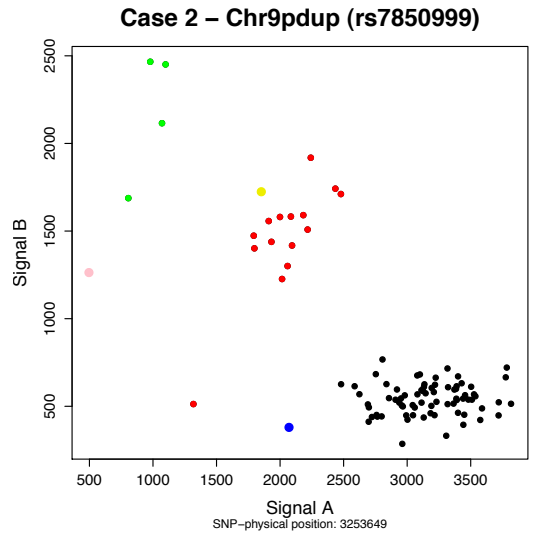

Case 2 – Chr9pdup (rs3858034)
Signal B
Signal A
SNP–physical position: 2964750

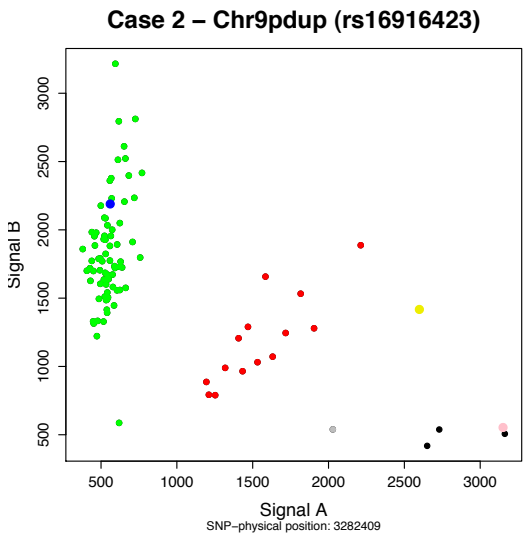

Case 2 – Chr9pdup (rs7866720)
Signal B
Signal A
SNP–physical position: 2968592

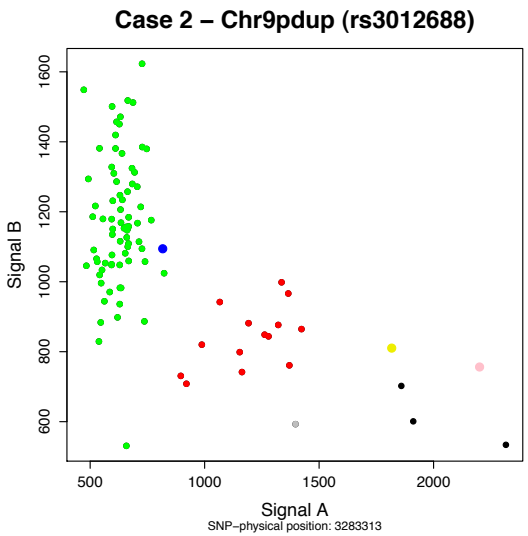

Case 2 – Chr9pdup (rs7866824)
Signal B
Signal A
SNP–physical position: 2968688

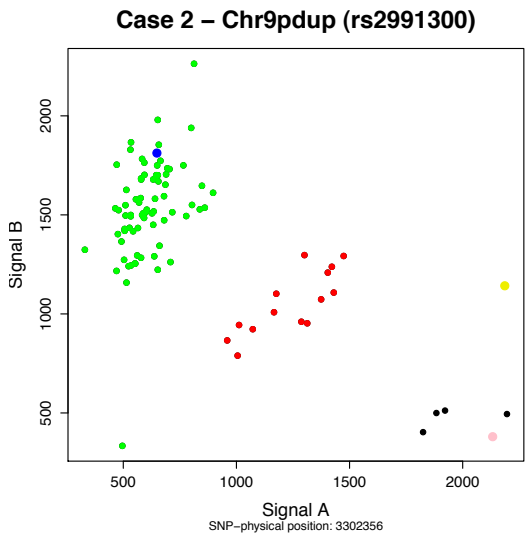

Case 2 – Chr9pdup (rs1909957)
Signal B
Signal A
SNP–physical position: 2969061

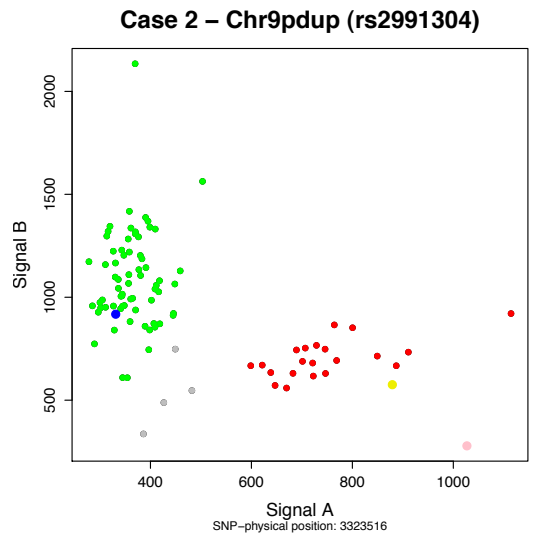

Case 2 – Chr9pdup (rs951511)
Signal B
Signal A
SNP–physical position: 2998820

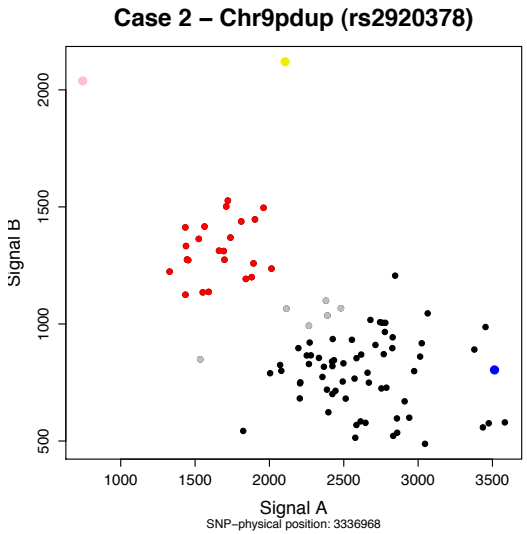

Case 2 – Chr9pdup (rs7850999)
Signal B
Signal A
SNP–physical position: 3253649

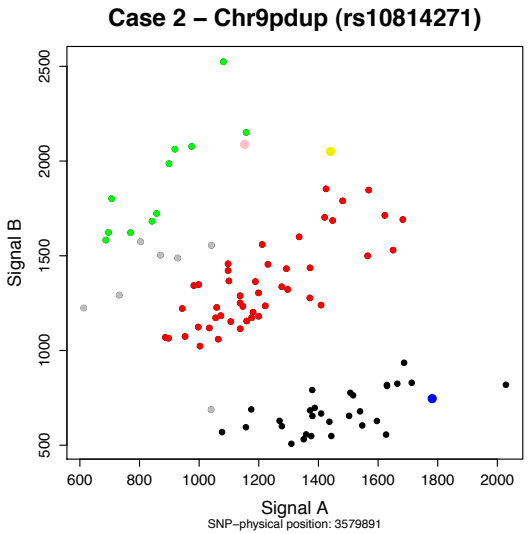

Case 2 – Chr9pdup (rs16916423)
Signal B
Signal A
SNP–physical position: 3282409

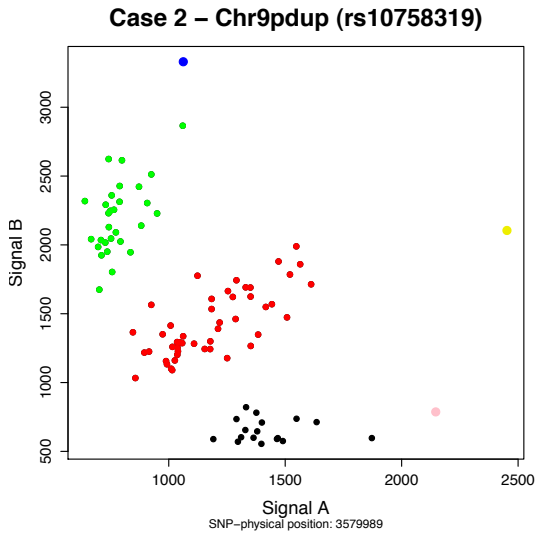

Case 2 – Chr9pdup (rs3012688)
Signal B
Signal A
SNP–physical position: 3283313

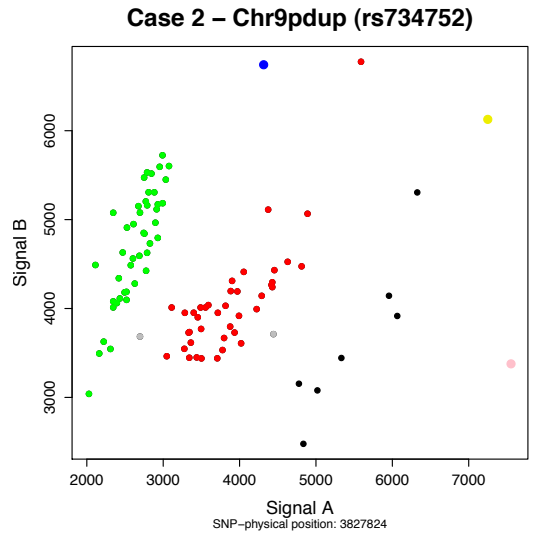

Case 2 – Chr9pdup (rs2991300)
Signal B
Signal A
SNP–physical position: 3302356

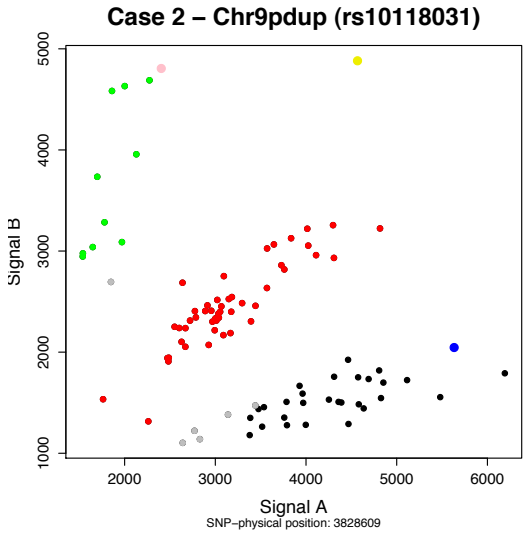

Case 2 – Chr9pdup (rs2991304)
Signal B
Signal A
SNP–physical position: 3323516

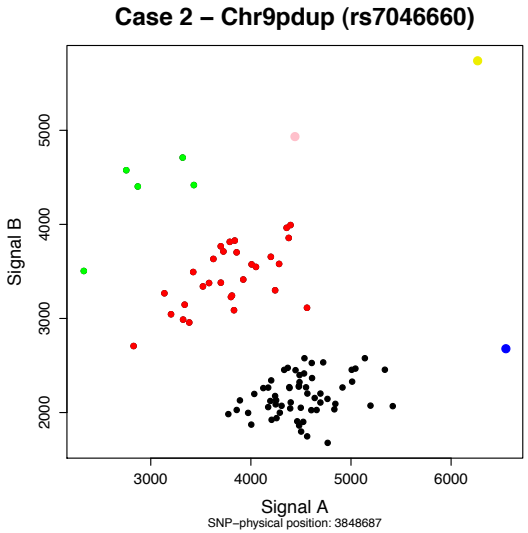

Case 2 – Chr9pdup (rs2920378)
Signal B
Signal A
SNP–physical position: 3336968

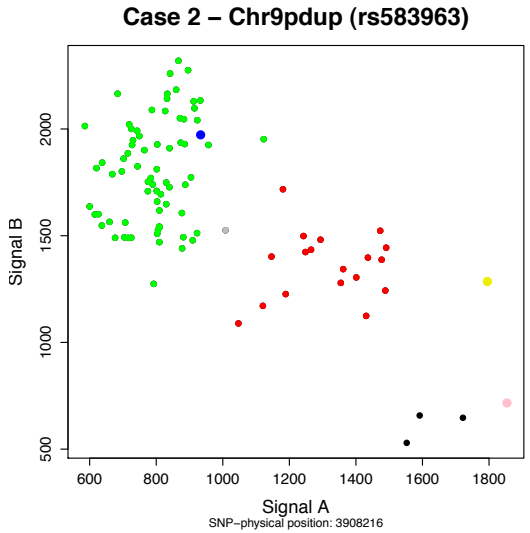

Case 2 – Chr9pdup (rs10814271)
Signal B
Signal A
SNP–physical position: 3579891

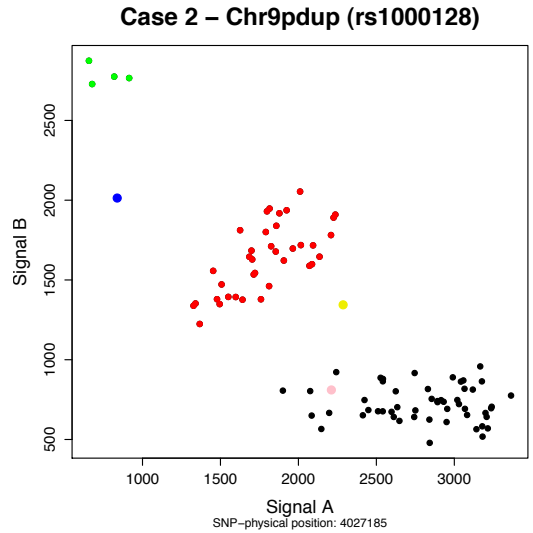

Case 2 – Chr9pdup (rs10758319)
Signal B
Signal A
SNP–physical position: 3579989

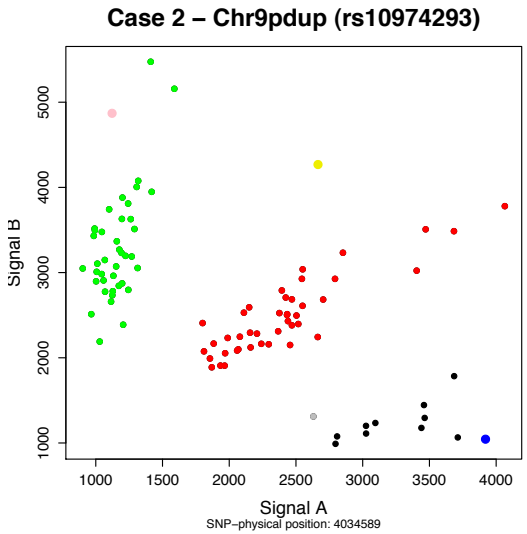

Case 2 – Chr9pdup (rs734752)
Signal B
Signal A
SNP–physical position: 3827824

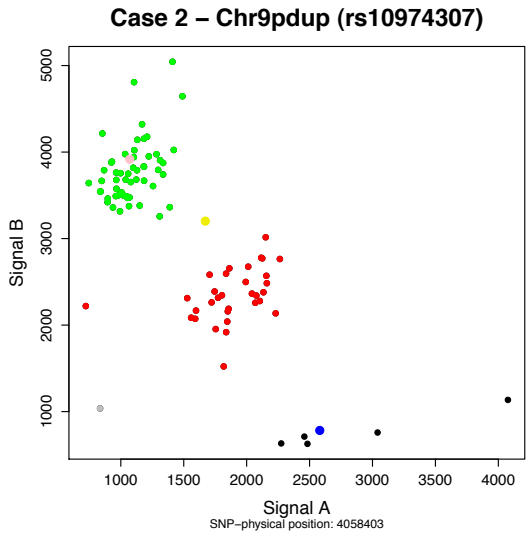

Case 2 – Chr9pdup (rs10118031)
Signal B
Signal A
SNP–physical position: 3828609

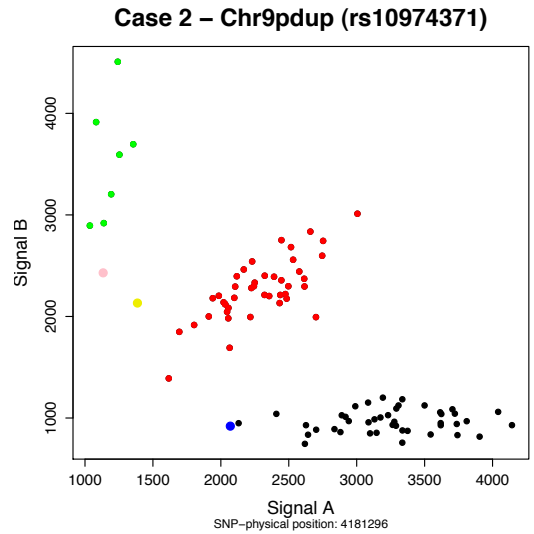

Case 2 – Chr9pdup (rs7046660)
Signal B
Signal A
SNP–physical position: 3848687

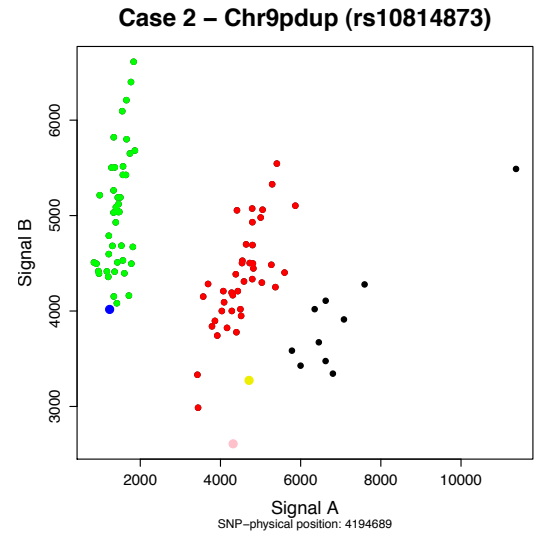

Case 2 – Chr9pdup (rs583963)
Signal B
Signal A
SNP–physical position: 3908216

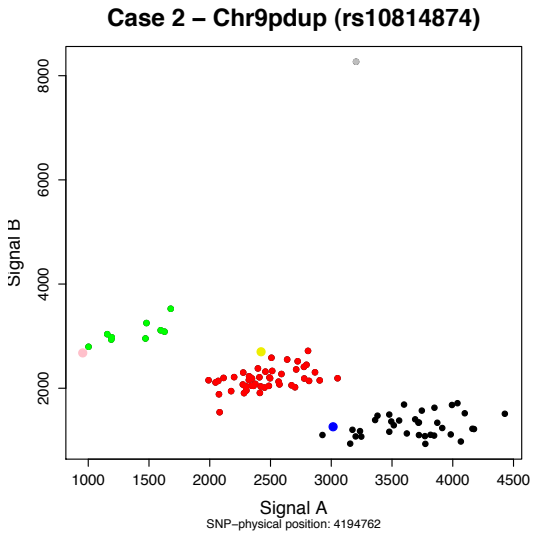

Case 2 – Chr9pdup (rs1000128)
Signal B
Signal A
SNP–physical position: 4027185

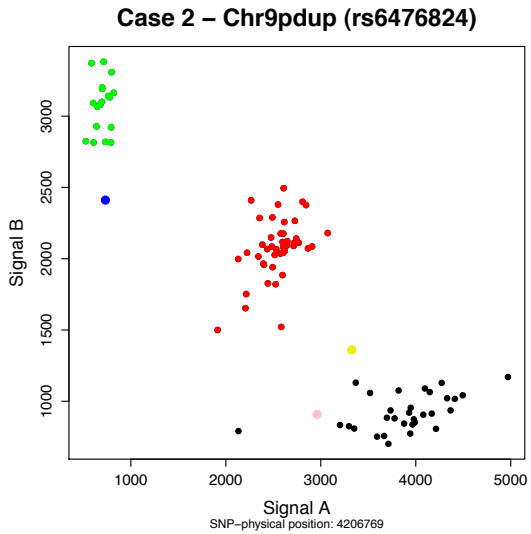

Case 2 – Chr9pdup (rs10974293)
Signal B
Signal A
SNP–physical position: 4034589

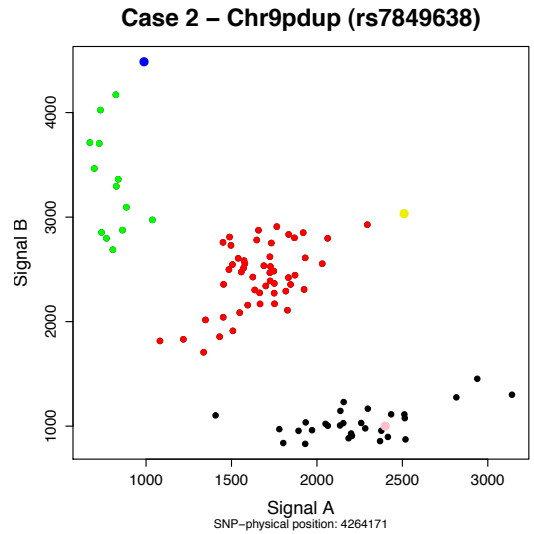

Case 2 – Chr9pdup (rs10974307)
Signal B
Signal A
SNP–physical position: 4058403

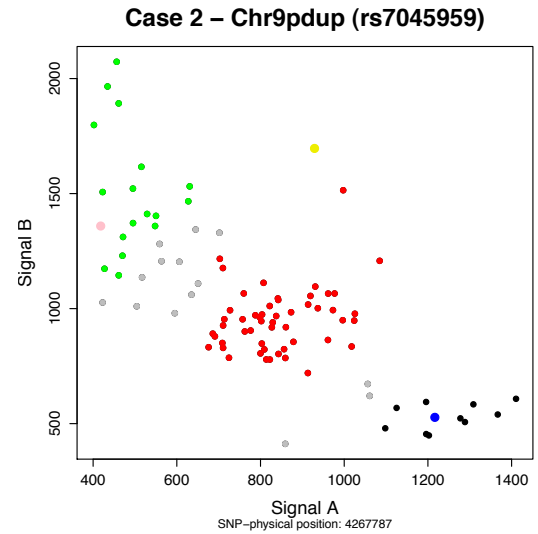

Case 2 – Chr9pdup (rs10974371)
Signal B
Signal A
SNP–physical position: 4181296

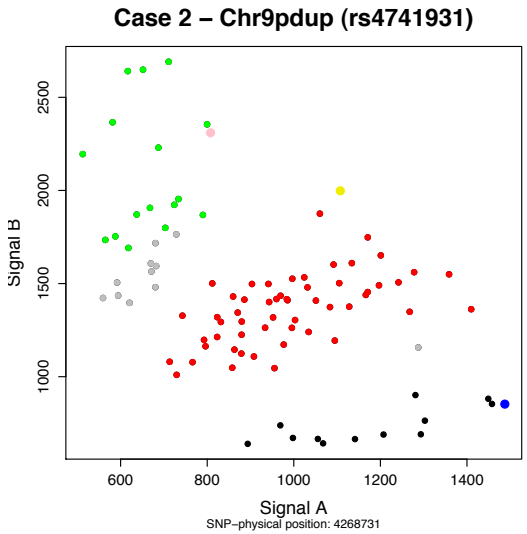

Case 2 – Chr9pdup (rs10814873)
Signal B
Signal A
SNP–physical position: 4194689

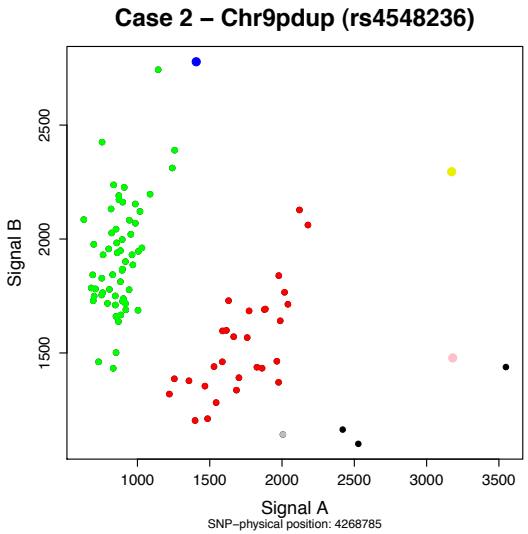

Case 2 – Chr9pdup (rs10814874)
Signal B
Signal A
SNP–physical position: 4194762

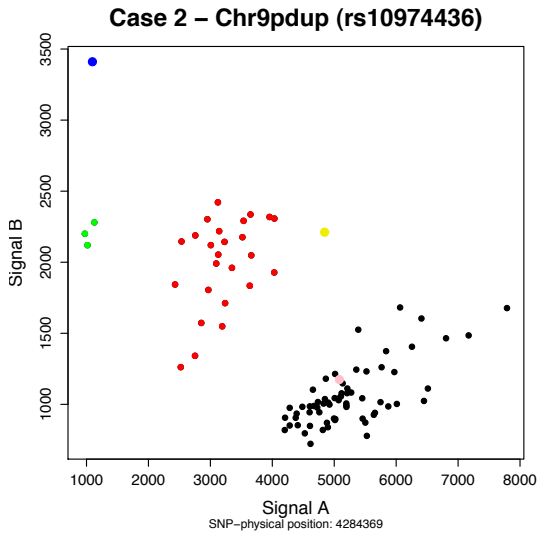

Case 2 – Chr9pdup (rs6476824)
Signal B
Signal A
SNP–physical position: 4206769

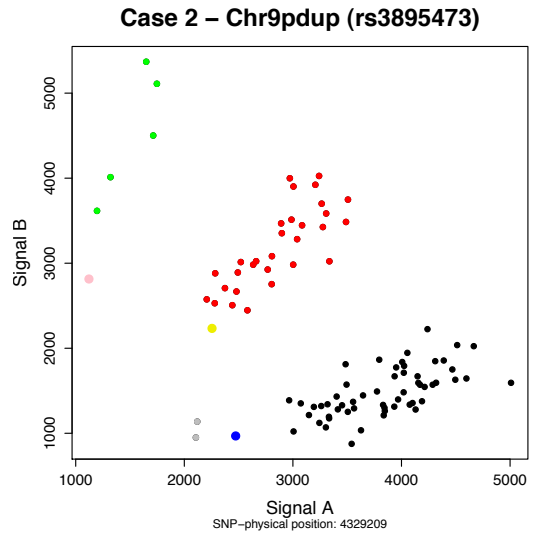

Case 2 – Chr9pdup (rs7849638)
Signal B
Signal A
SNP–physical position: 4264171

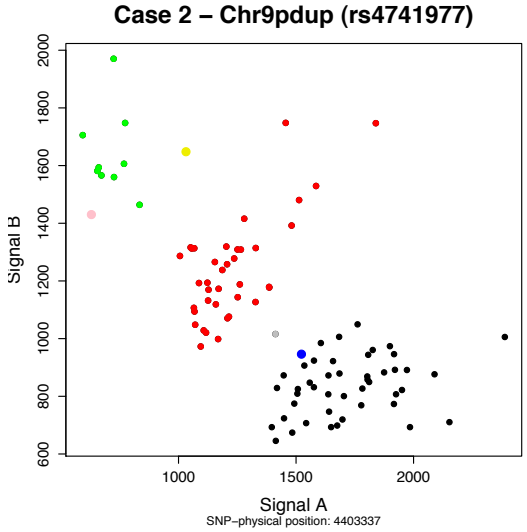

Case 2 – Chr9pdup (rs7045959)
Signal B
Signal A
SNP–physical position: 4267787

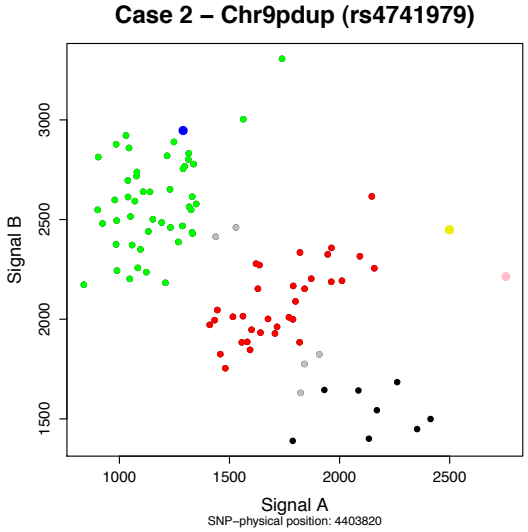

Case 2 – Chr9pdup (rs4741931)
Signal B
Signal A
SNP–physical position: 4268731

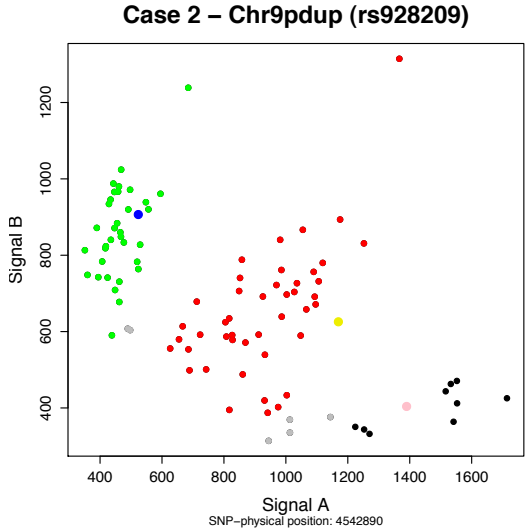

Case 2 – Chr9pdup (rs4548236)
Signal B
Signal A
SNP–physical position: 4268785


Case 2 – Chr9pdup (rs10974436)
Signal B
Signal A
SNP–physical position: 4284369

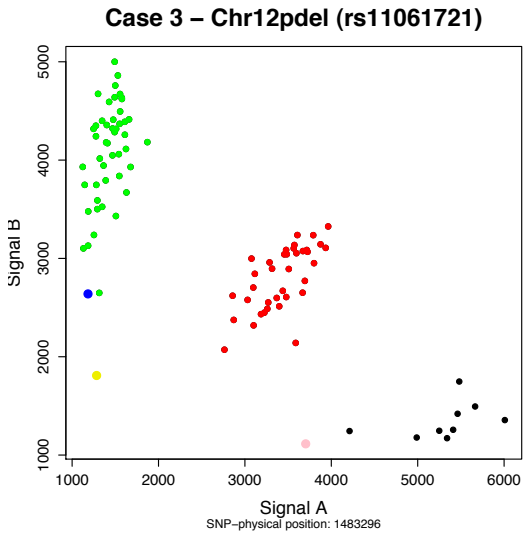

Case 2 – Chr9pdup (rs3895473)
Signal B
Signal A
SNP–physical position: 4329209

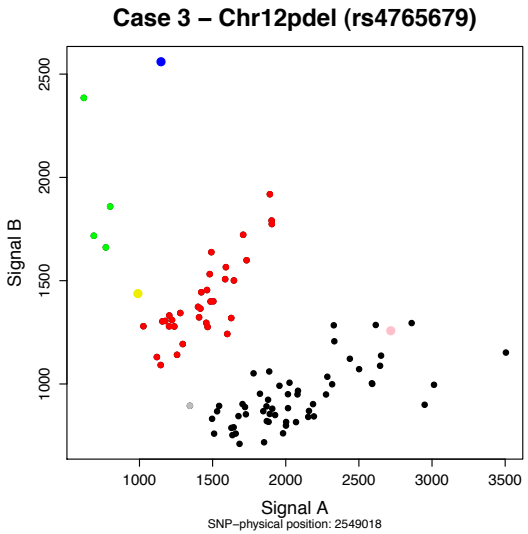

Case 2 – Chr9pdup (rs4741977)
Signal B
Signal A
SNP–physical position: 4403337

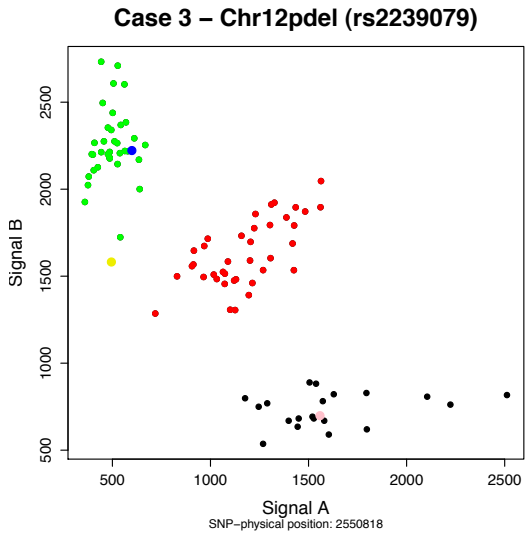

Case 2 – Chr9pdup (rs4741979)
Signal B
Signal A
SNP–physical position: 4403820

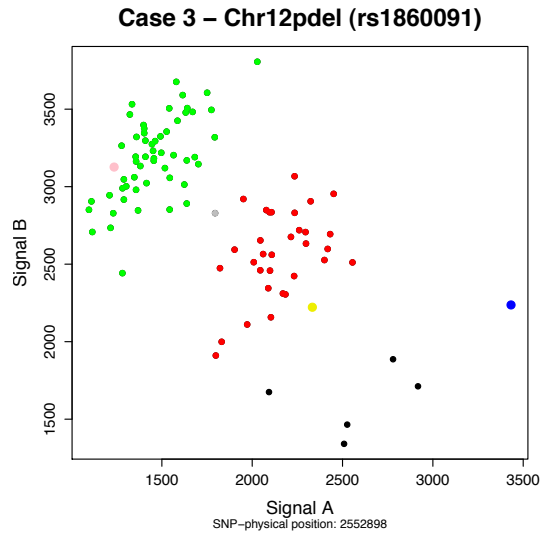

Case 2 – Chr9pdup (rs928209)
Signal B
Signal A
SNP–physical position: 4542890

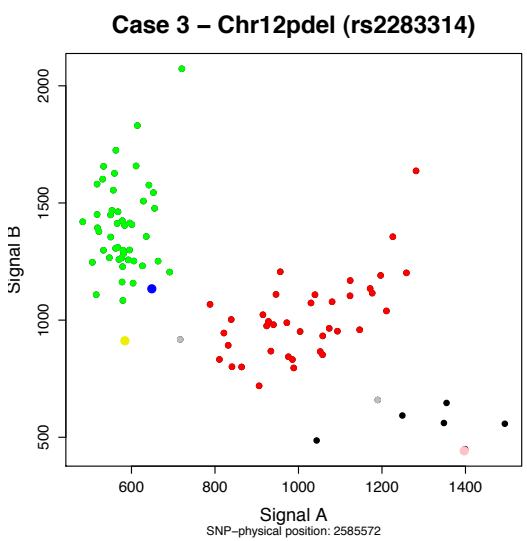
Case: 3
Chromosome: 12p
Abberation: del.

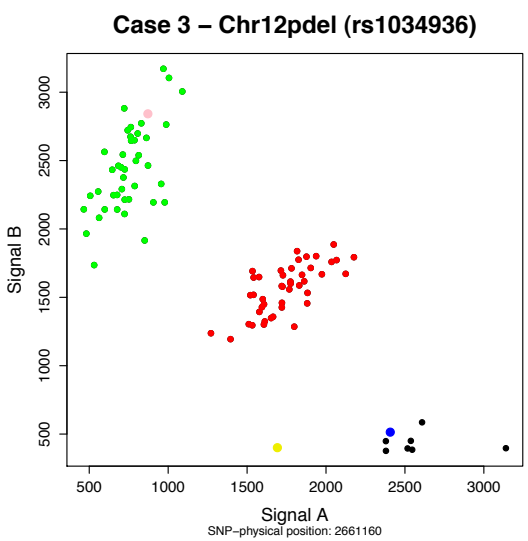

Case 3 – Chr12pdel (rs11061721)
Signal B
Signal A
SNP–physical position: 1483296

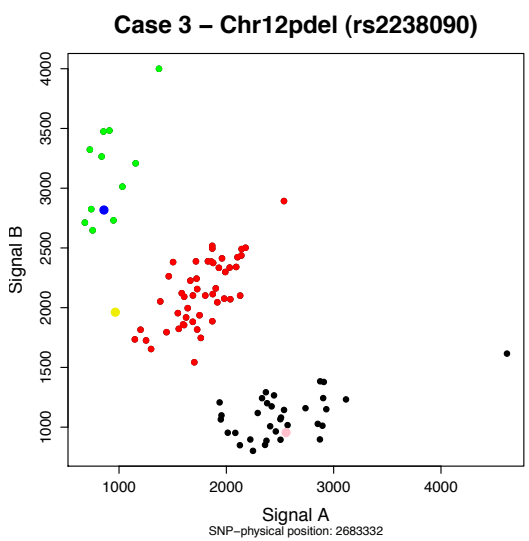

Case 3 – Chr12pdel (rs4765679)
Signal B
Signal A
SNP–physical position: 2549018

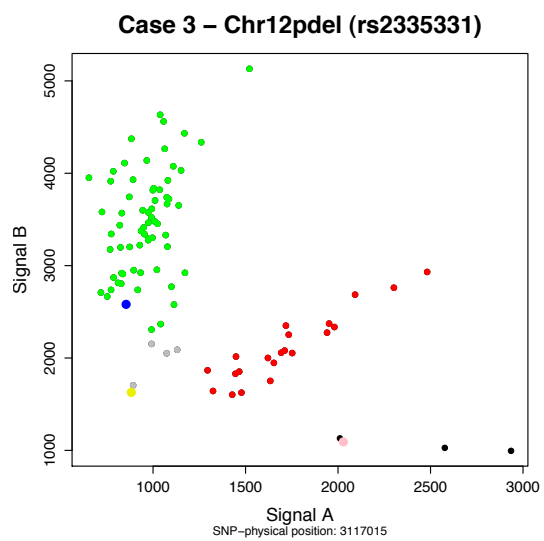

Case 3 – Chr12pdel (rs2239079)
Signal B
Signal A
SNP–physical position: 2550818

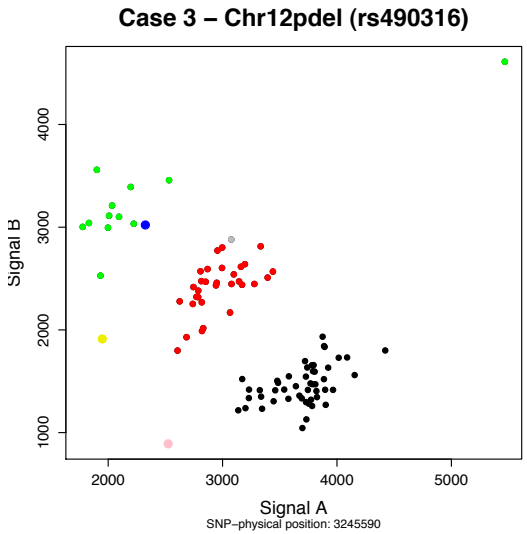

Case 3 – Chr12pdel (rs1860091)
Signal B
Signal A
SNP–physical position: 2552898

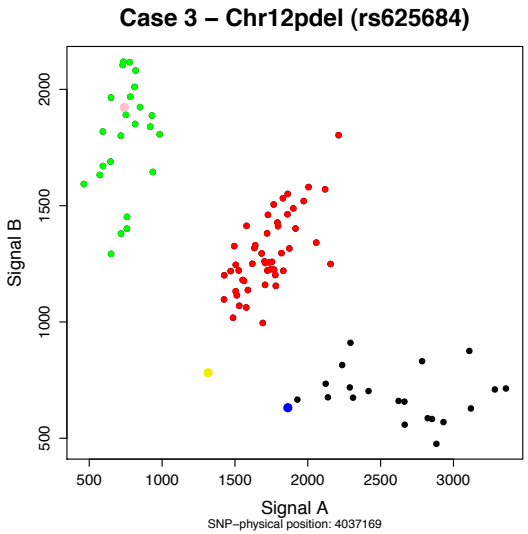

Case 3 – Chr12pdel (rs2283314)
Signal B
Signal A
SNP–physical position: 2585572


Case 3 – Chr12pdel (rs1034936)
Signal B
Signal A
SNP–physical position: 2661160

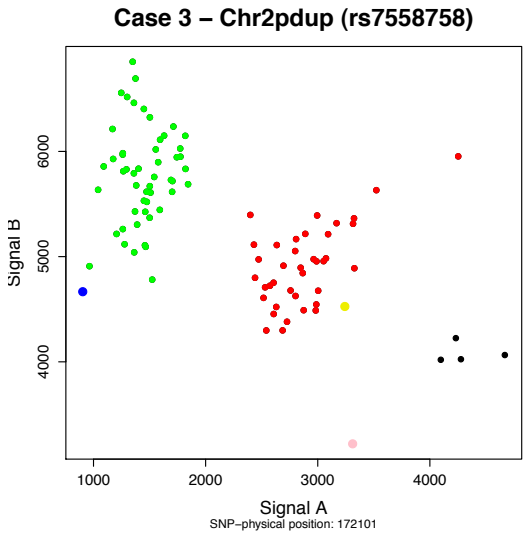

Case 3 – Chr12pdel (rs2238090)
Signal B
Signal A
SNP–physical position: 2683332

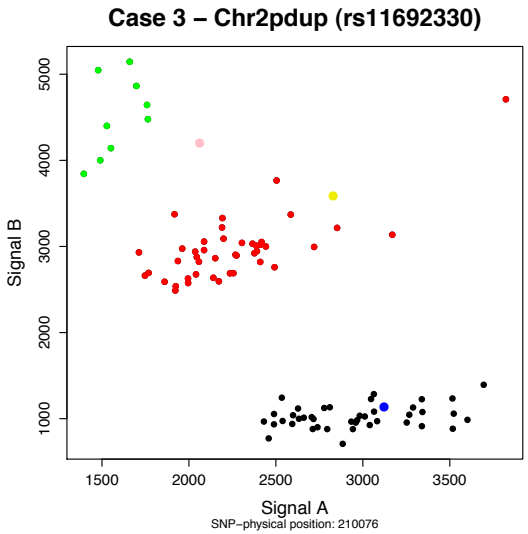

Case 3 – Chr12pdel (rs2335331)
Signal B
Signal A
SNP–physical position: 3117015

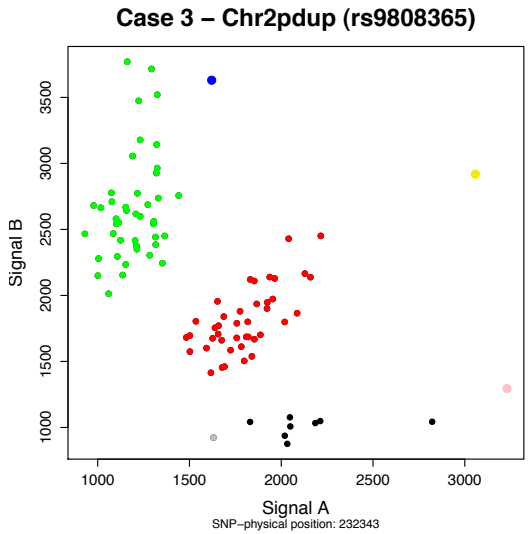

Case 3 – Chr12pdel (rs490316)
Signal B
1000
2000
3000
4000
2000
3000
4000
5000
Signal A
SNP–physical position: 3245590

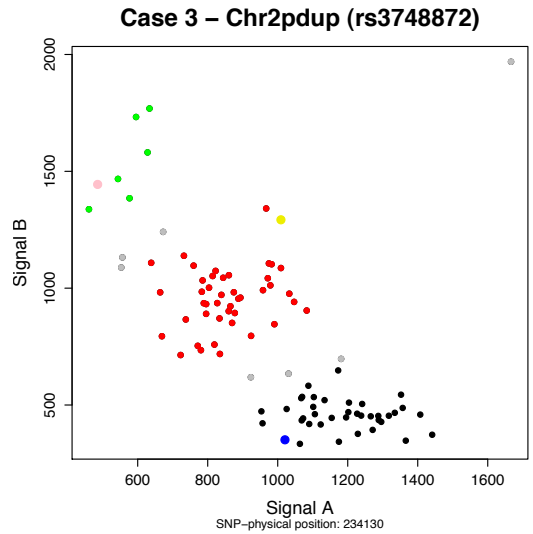

Case 3 – Chr12pdel (rs625684)
Signal B
500
1000
1500
2000
500
1000
1500
2000
2500
3000
Signal A
SNP–physical position: 4037169

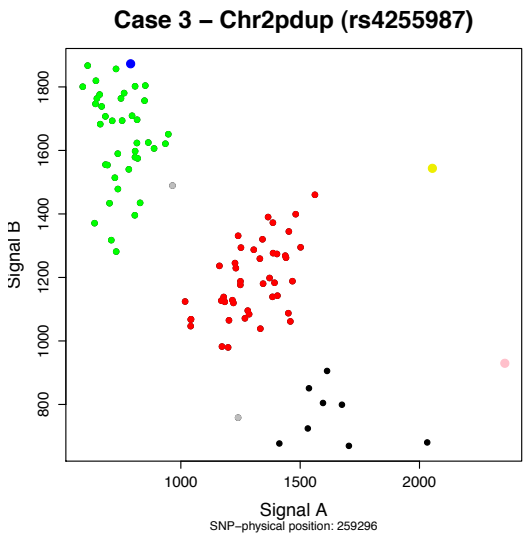
Case: 3
Chromosome: 2p
Abberation: dup.

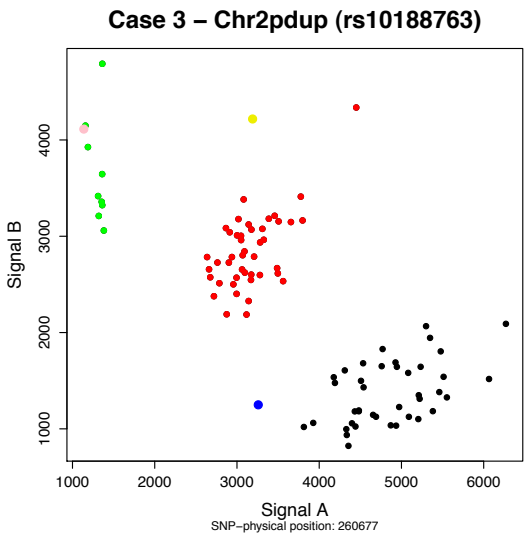

Case 3 – Chr2pdup (rs7558758)
Signal B
Signal A
SNP–physical position: 172101

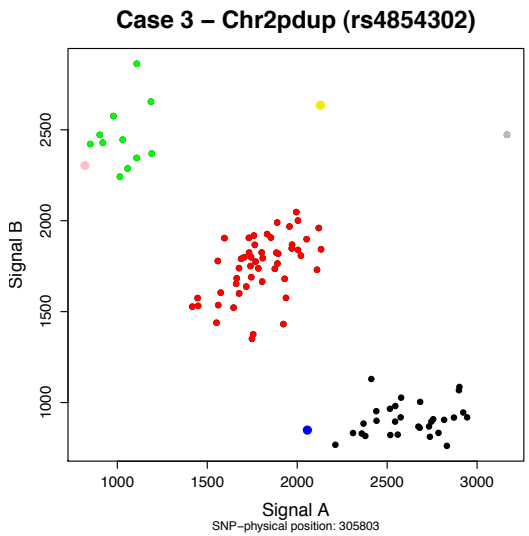

Case 3 – Chr2pdup (rs11692330)
Signal B
Signal A
SNP–physical position: 210076

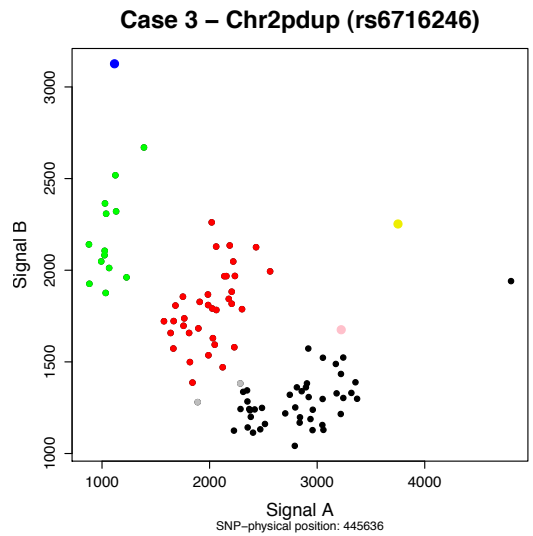

Case 3 – Chr2pdup (rs9808365)
Signal B
Signal A
SNP–physical position: 232343

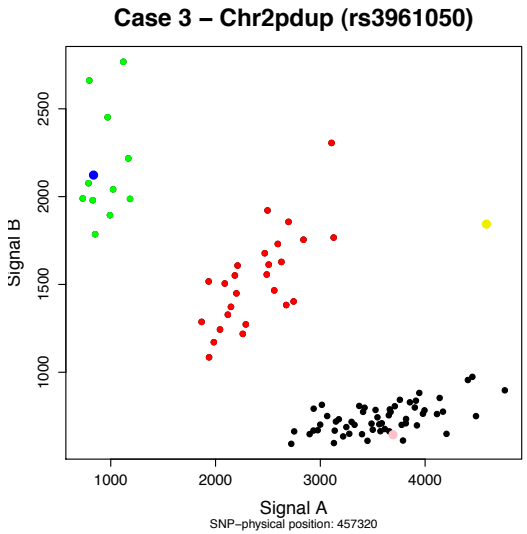

Case 3 – Chr2pdup (rs3748872)
Signal B
Signal A
SNP–physical position: 234130

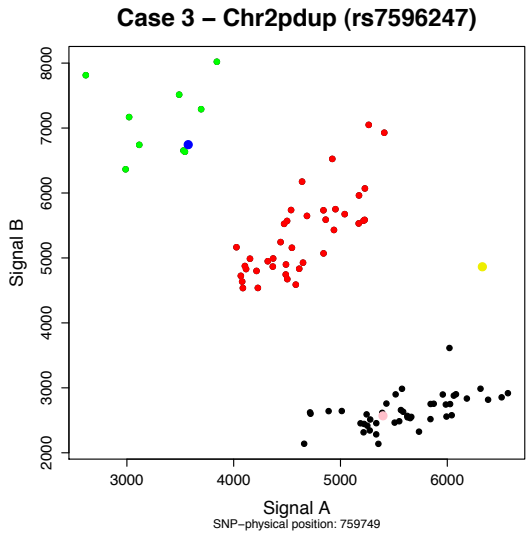

Case 3 – Chr2pdup (rs4255987)
Signal B
Signal A
SNP–physical position: 259296

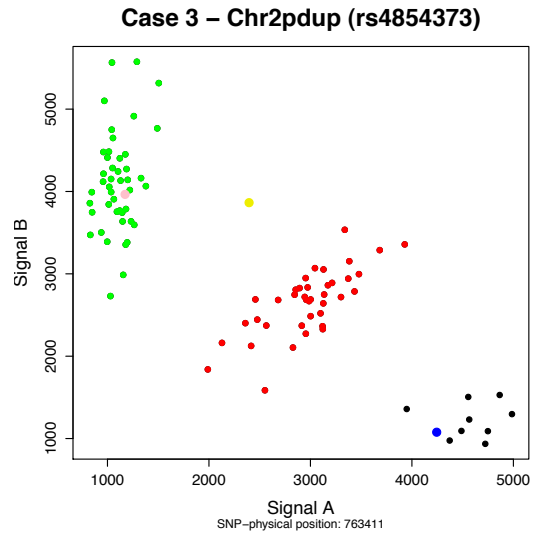

Case 3 – Chr2pdup (rs10188763)
Signal B
Signal A
SNP–physical position: 260677

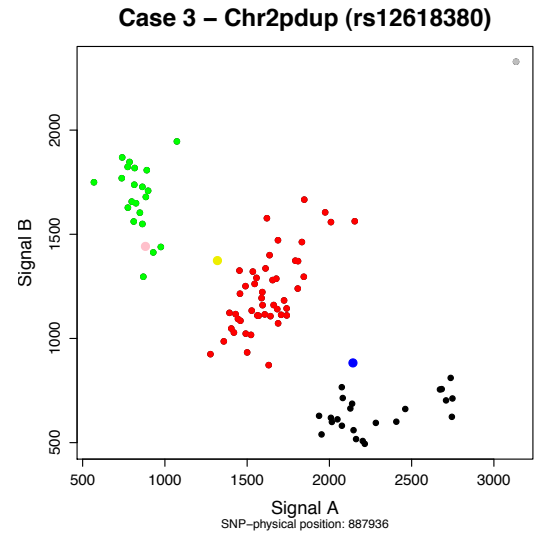

Case 3 – Chr2pdup (rs4854302)
Signal B
Signal A
SNP–physical position: 305803

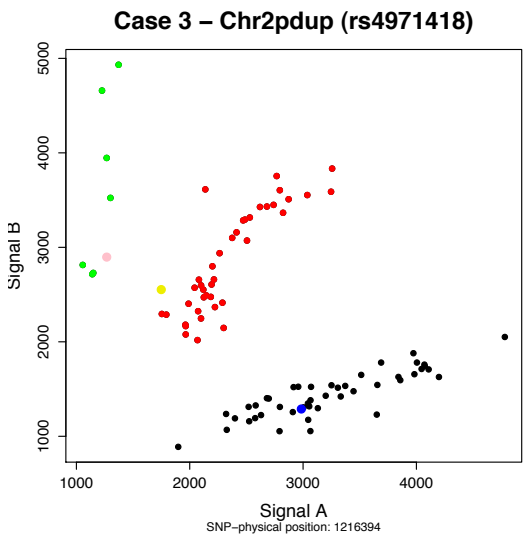

Case 3 – Chr2pdup (rs6716246)
Signal B
Signal A
SNP–physical position: 445636

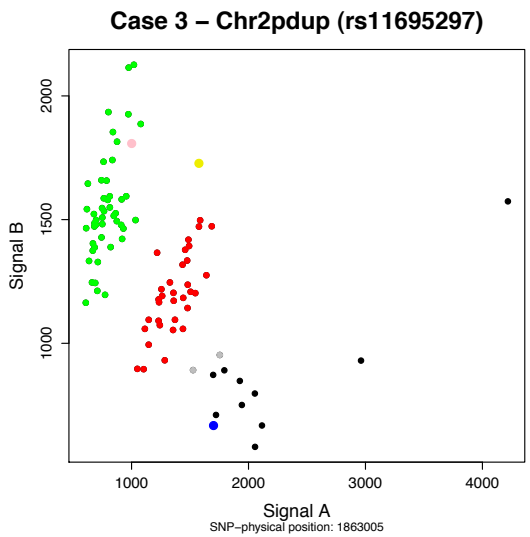

Case 3 – Chr2pdup (rs3961050)
Signal B
Signal A
SNP–physical position: 457320

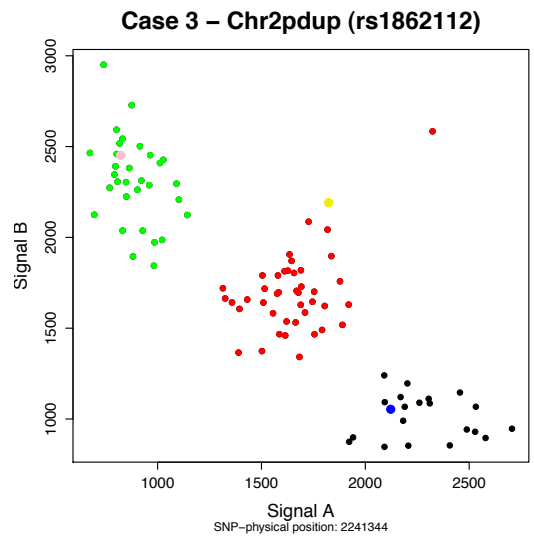

Case 3 – Chr2pdup (rs7596247)
Signal B
Signal A
SNP–physical position: 759749

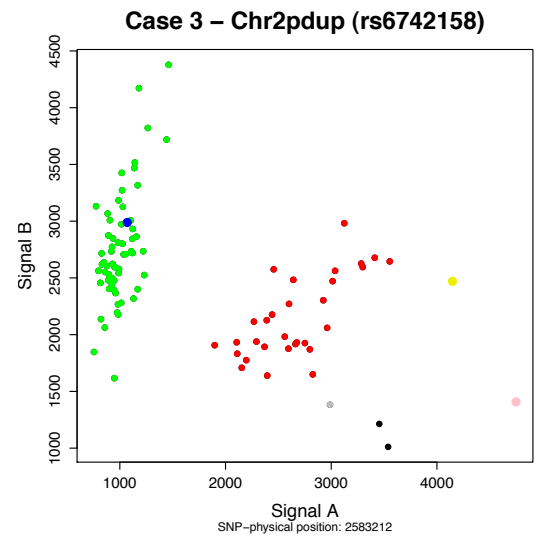

Case 3 – Chr2pdup (rs4854373)
Signal B
Signal A
SNP–physical position: 763411

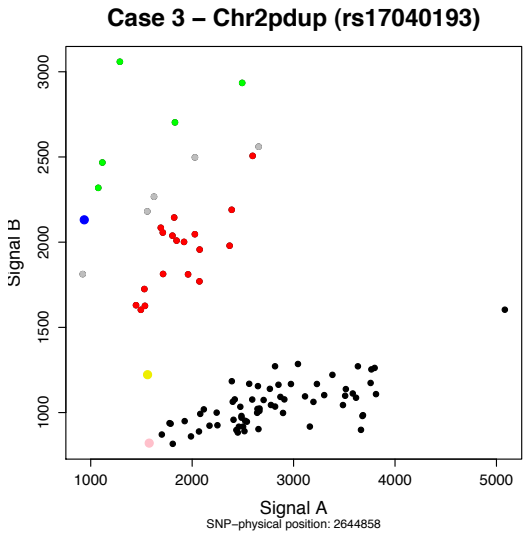

Case 3 – Chr2pdup (rs12618380)
Signal B
Signal A
SNP–physical position: 887936

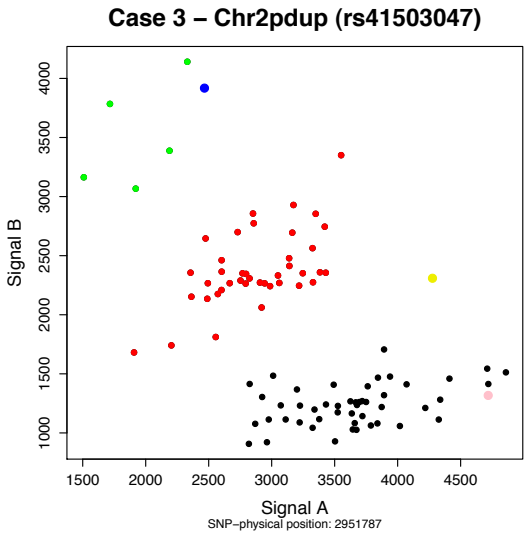

Case 3 – Chr2pdup (rs4971418)
Signal B
Signal A
SNP–physical position: 1216394

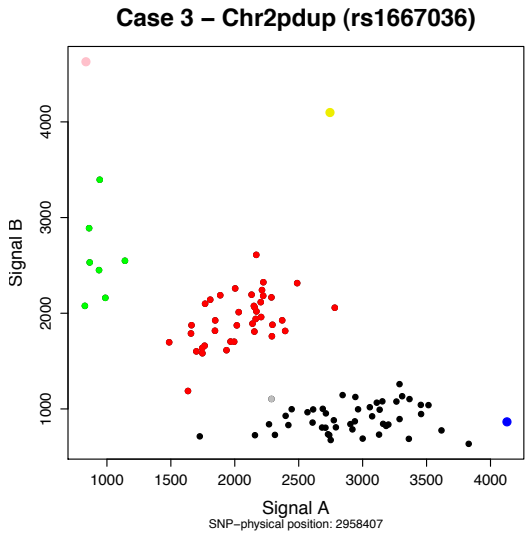

Case 3 – Chr2pdup (rs11695297)
Signal B
Signal A
SNP–physical position: 1863005

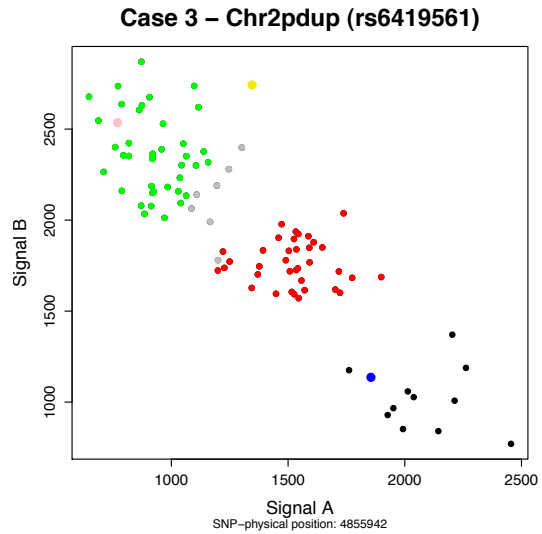

Case 3 – Chr2pdup (rs1862112)
Signal B
Signal A
SNP–physical position: 2241344


Case 3 – Chr2pdup (rs6742158)
Signal B
Signal A
SNP–physical position: 2583212

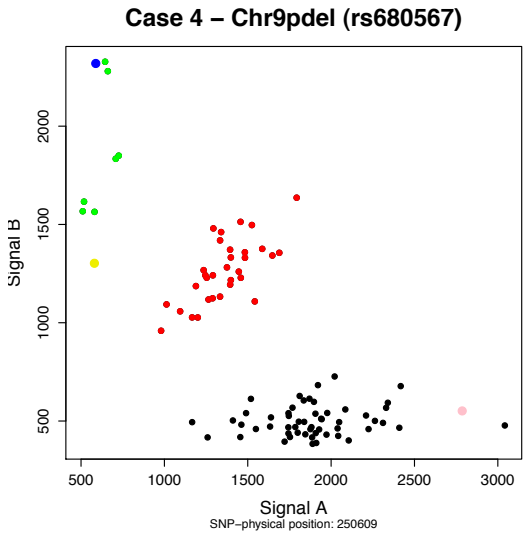

Case 3 – Chr2pdup (rs17040193)
Signal B
Signal A
SNP–physical position: 2644858

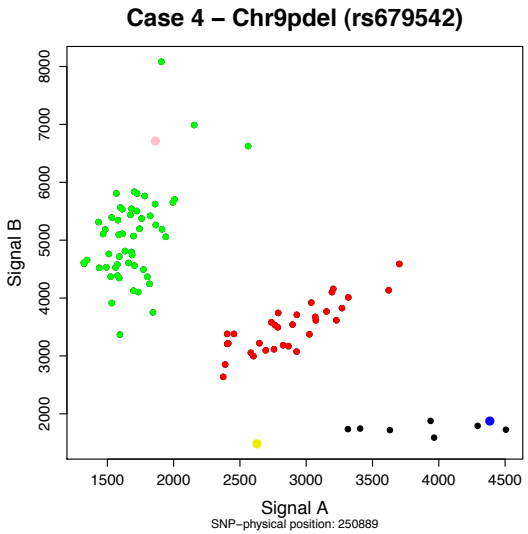

Case 3 – Chr2pdup (rs41503047)
Signal B
Signal A
SNP–physical position: 2951787

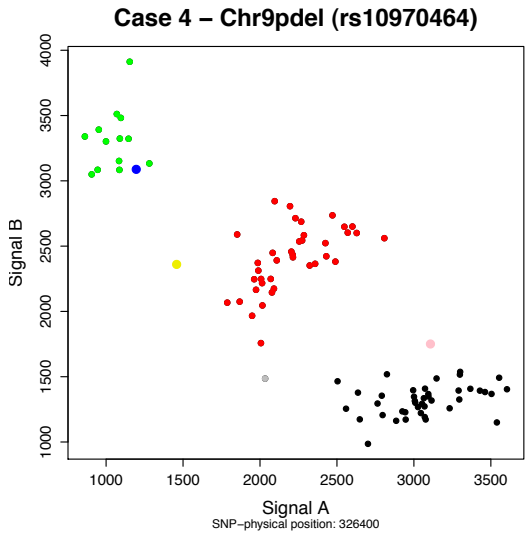

Case 3 – Chr2pdup (rs1667036)
Signal B
Signal A
SNP–physical position: 2958407

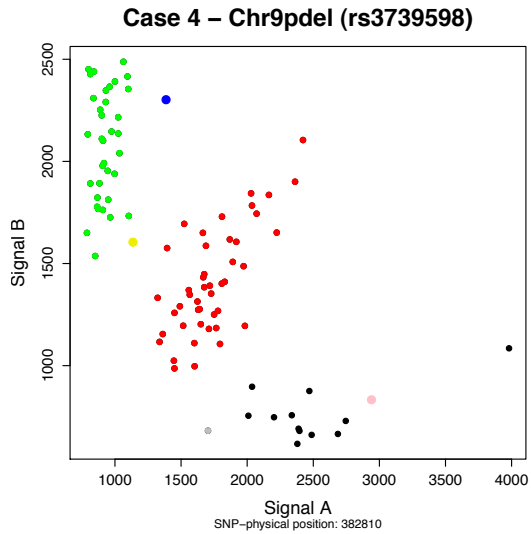

Case 3 – Chr2pdup (rs6419561)
Signal B
Signal A
SNP–physical position: 4855942

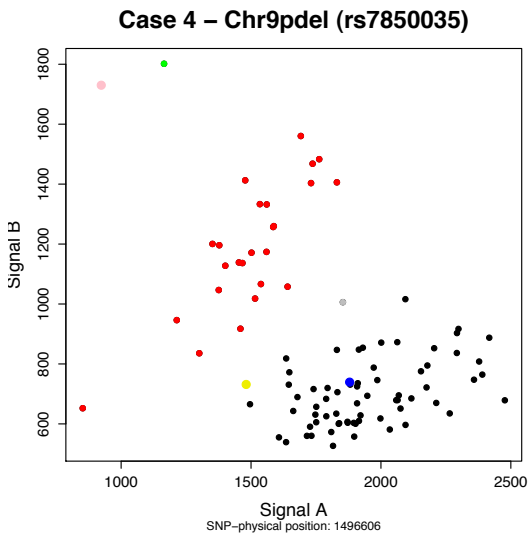
Case: 4
Chromosome: 9p
Abberation: del.

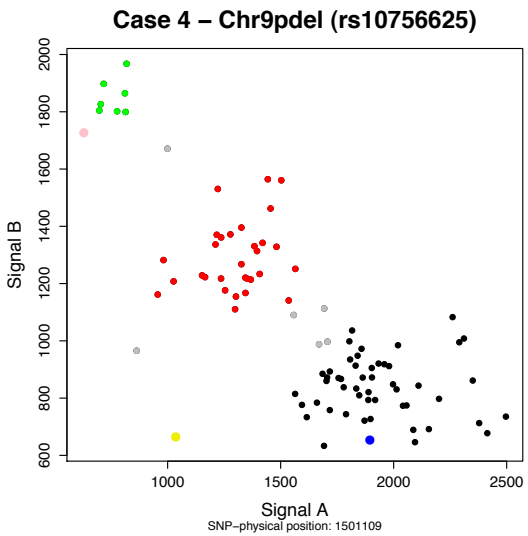

Case 4 – Chr9pdel (rs680567)
Signal B
Signal A
SNP–physical position: 250609

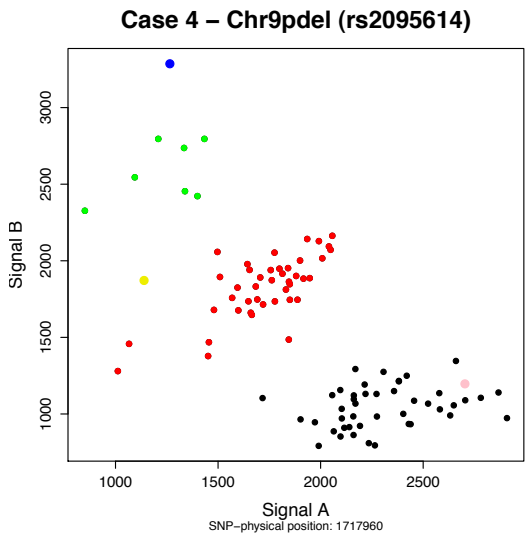

Case 4 – Chr9pdel (rs679542)
Signal B
Signal A
SNP–physical position: 250889

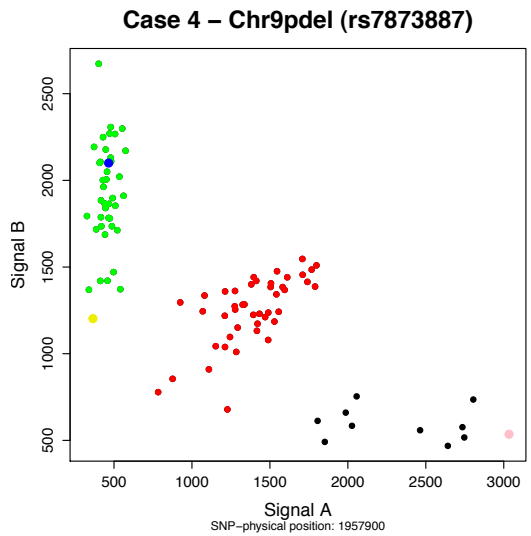

Case 4 – Chr9pdel (rs10970464)
Signal B
Signal A
SNP–physical position: 326400

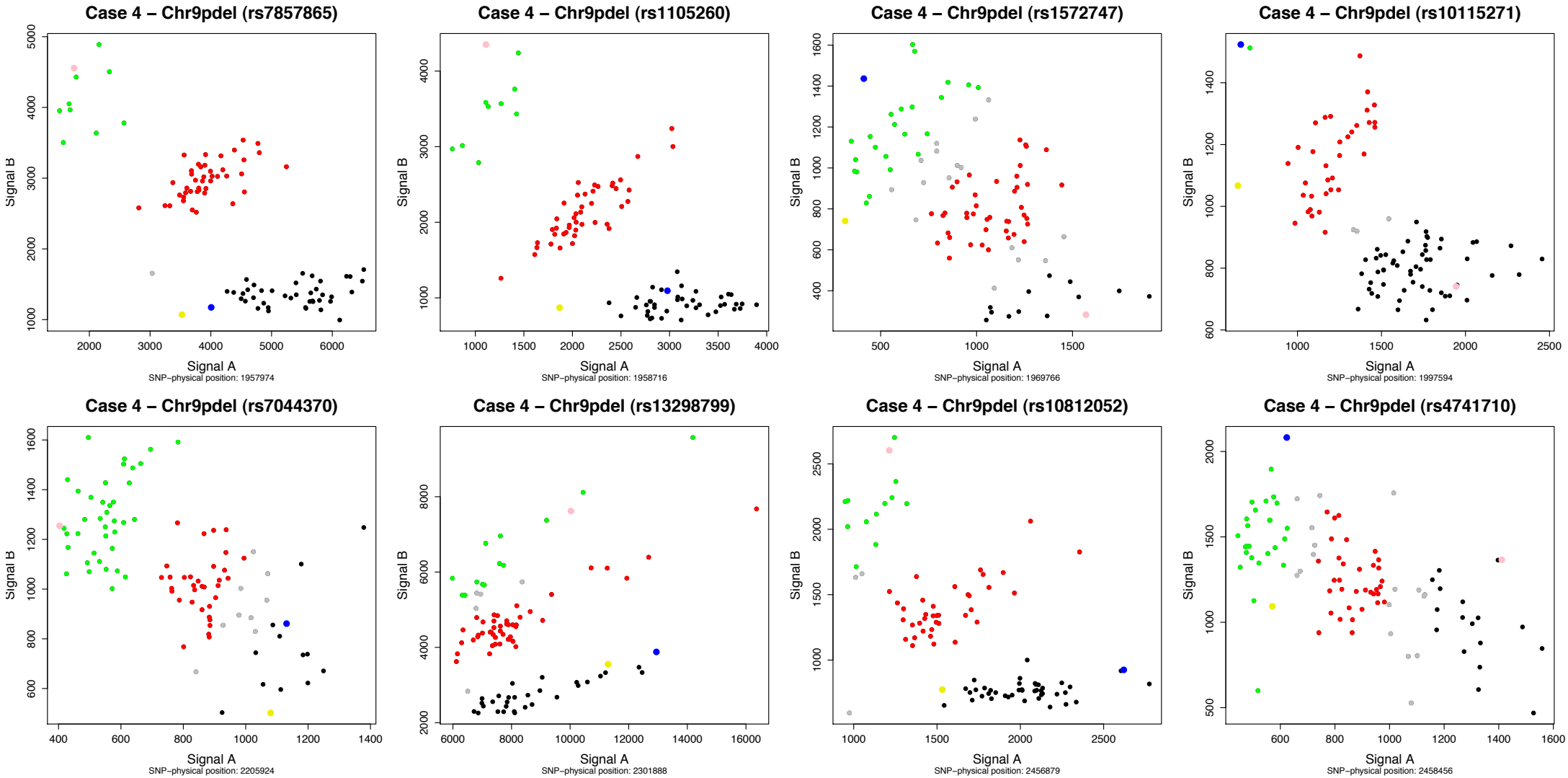

Case 4 – Chr9pdel (rs3739598)
Signal B
Signal A
SNP–physical position: 382810

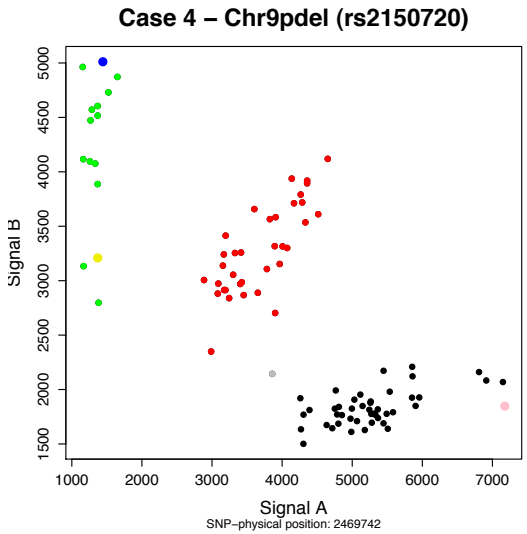

Case 4 – Chr9pdel (rs7850035)
Signal B
Signal A
SNP–physical position: 1496606

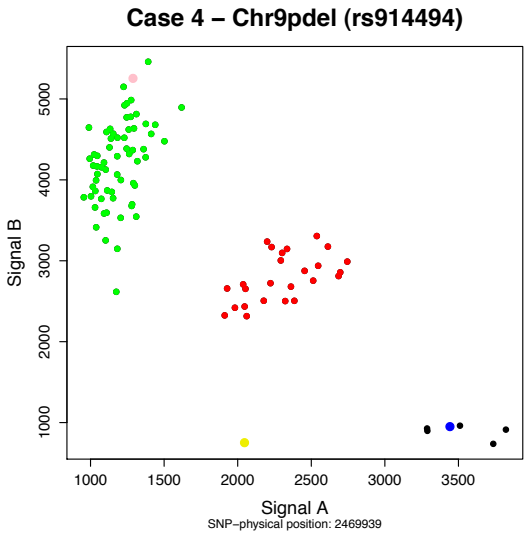

Case 4 – Chr9pdel (rs10756625)
Signal B
Signal A
SNP–physical position: 1501109

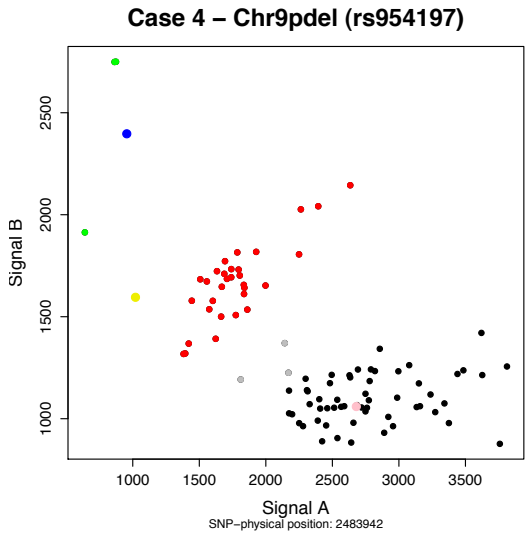

Case 4 – Chr9pdel (rs2095614)
Signal B
Signal A
SNP–physical position: 1717960

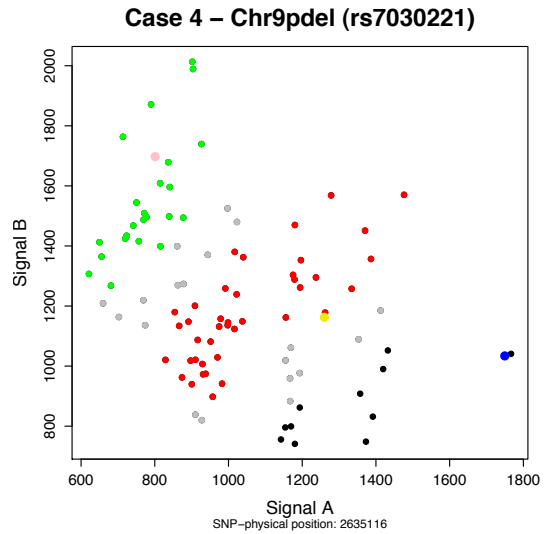

Case 4 – Chr9pdel (rs7873887)
Signal B
Signal A
SNP–physical position: 1957900

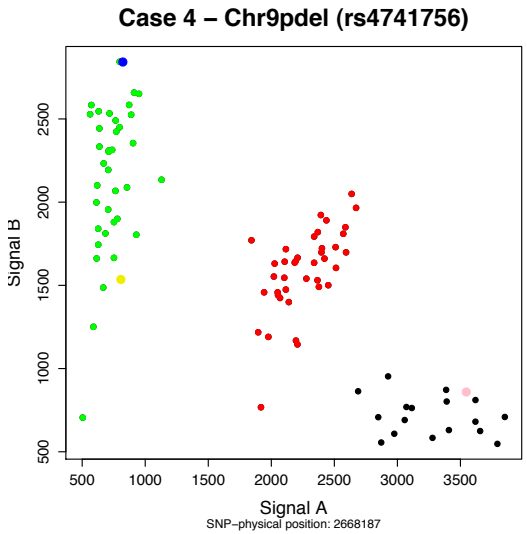

Case 4 – Chr9pdel (rs7857865)
Signal B
Signal A
SNP–physical position: 1957974
Case 4 – Chr9pdel (rs1105260)
Signal B
Signal A
SNP–physical position: 1958716
Case 4 – Chr9pdel (rs1572747)
Signal B
Signal A
SNP–physical position: 1969766
Case 4 – Chr9pdel (rs10115271)
Signal B
Signal A
SNP–physical position: 1997594
Case 4 – Chr9pdel (rs7044370)
Signal B
Signal A
SNP–physical position: 2205924
Case 4 – Chr9pdel (rs13298799)
Signal B
Signal A
SNP–physical position: 2301888
Case 4 – Chr9pdel (rs10812052)
Signal B
Signal A
SNP–physical position: 2456879
Case 4 – Chr9pdel (rs4741710)
Signal B
Signal A
SNP–physical position: 2458456

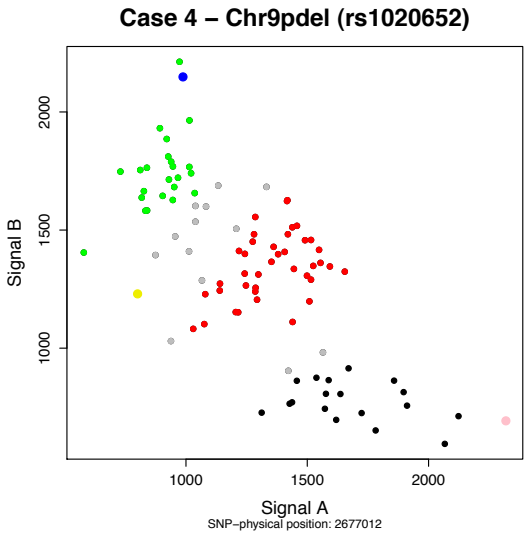

Case 4 – Chr9pdel (rs2150720)
Signal B
Signal A
SNP–physical position: 2469742

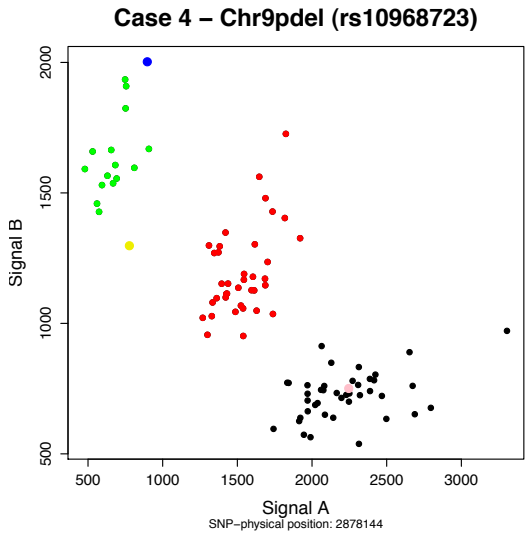

Case 4 – Chr9pdel (rs914494)
Signal B
Signal A
SNP–physical position: 2469939

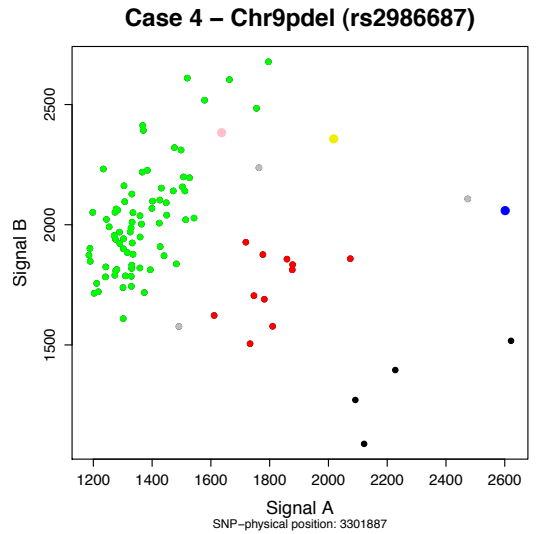

Case 4 – Chr9pdel (rs954197)
Signal B
Signal A
SNP–physical position: 2483942

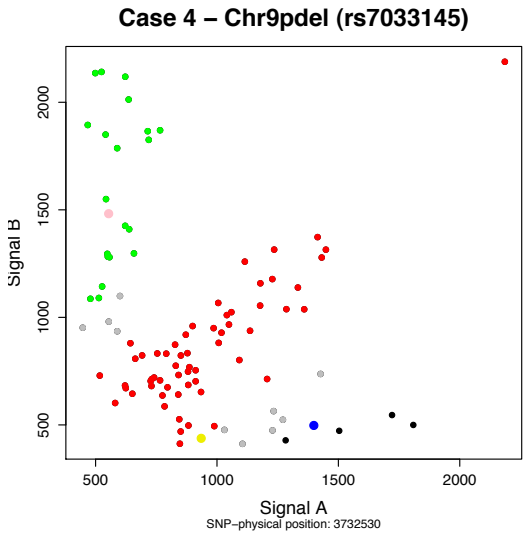

Case 4 – Chr9pdel (rs7030221)
Signal B
Signal A
SNP–physical position: 2635116

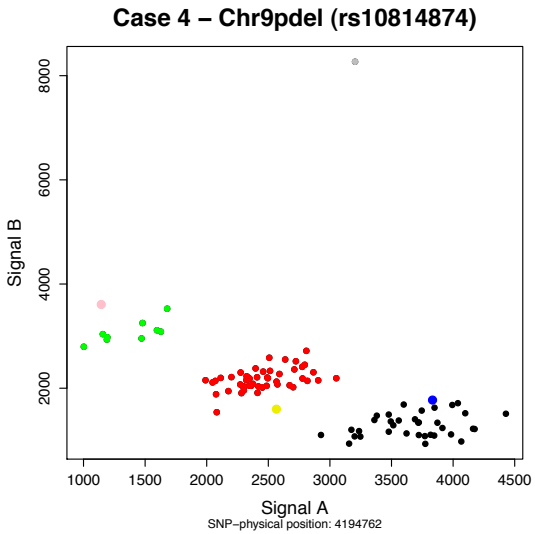

Case 4 – Chr9pdel (rs4741756)
Signal B
Signal A
SNP–physical position: 2668187

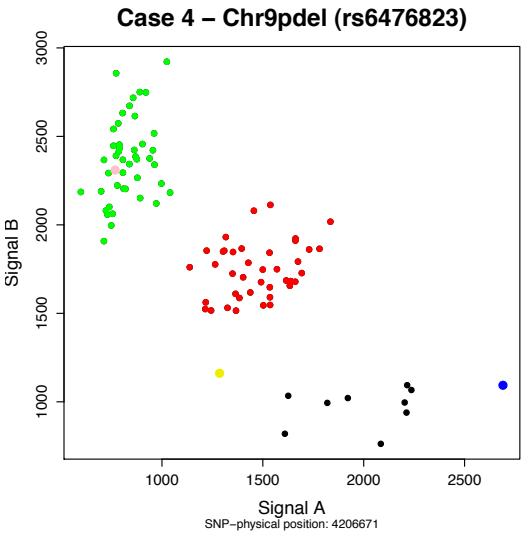

Case 4 – Chr9pdel (rs1020652)
Signal B
Signal A
SNP–physical position: 2677012

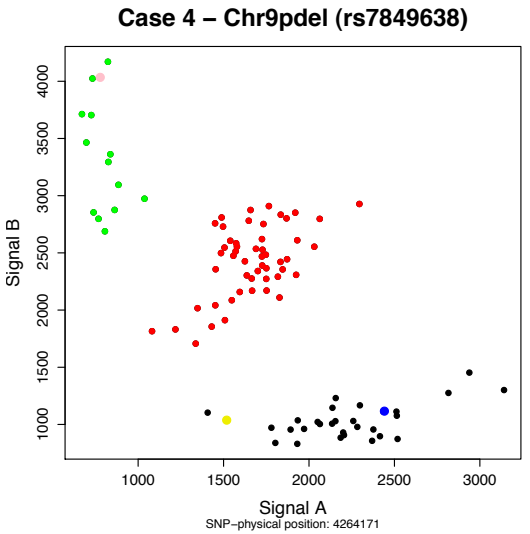

Case 4 – Chr9pdel (rs10968723)
Signal B
Signal A
SNP–physical position: 2878144

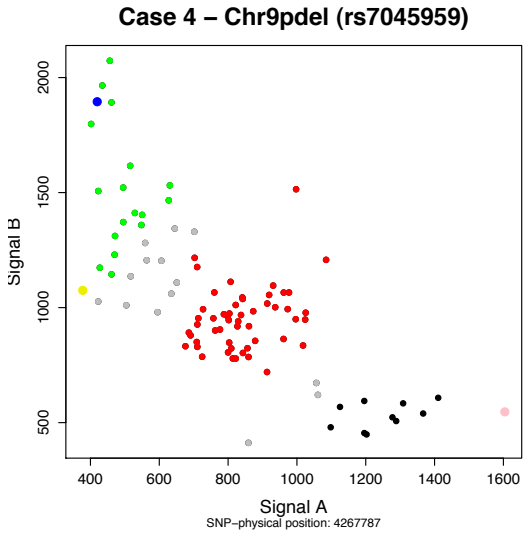

Case 4 – Chr9pdel (rs2986687)
Signal B
Signal A
SNP–physical position: 3301887

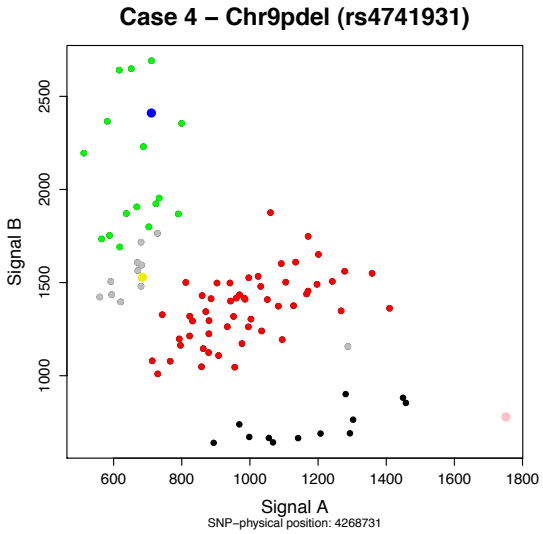

Case 4 – Chr9pdel (rs7033145)
Signal B
Signal A
SNP–physical position: 3732530

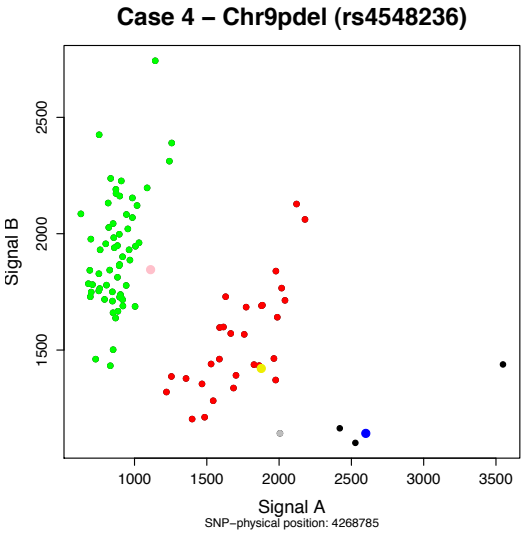

Case 4 – Chr9pdel (rs10814874)
Signal B
Signal A
SNP–physical position: 4194762

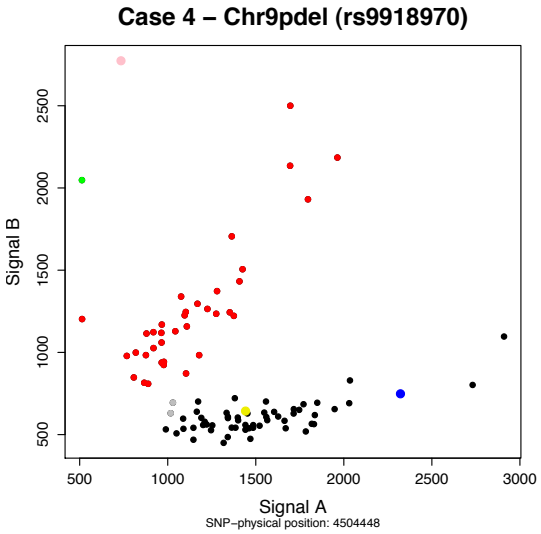

Case 4 – Chr9pdel (rs6476823)
Signal B
Signal A
SNP–physical position: 4206671


Case 4 – Chr9pdel (rs7849638)
Signal B
Signal A
SNP–physical position: 4264171

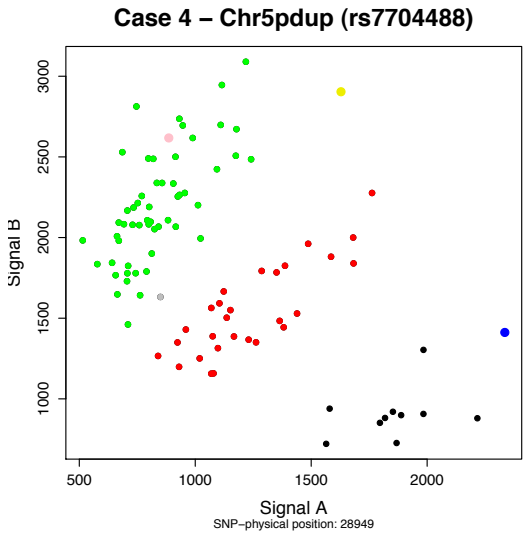

Case 4 – Chr9pdel (rs7045959)
Signal B
Signal A
SNP–physical position: 4267787

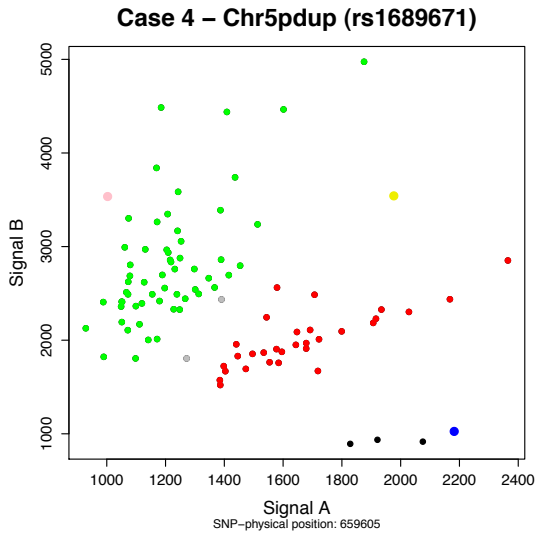

Case 4 – Chr9pdel (rs4741931)
Signal B
Signal A
SNP–physical position: 4268731


Case 4 – Chr9pdel (rs4548236)
Signal B
Signal A
SNP–physical position: 4268785

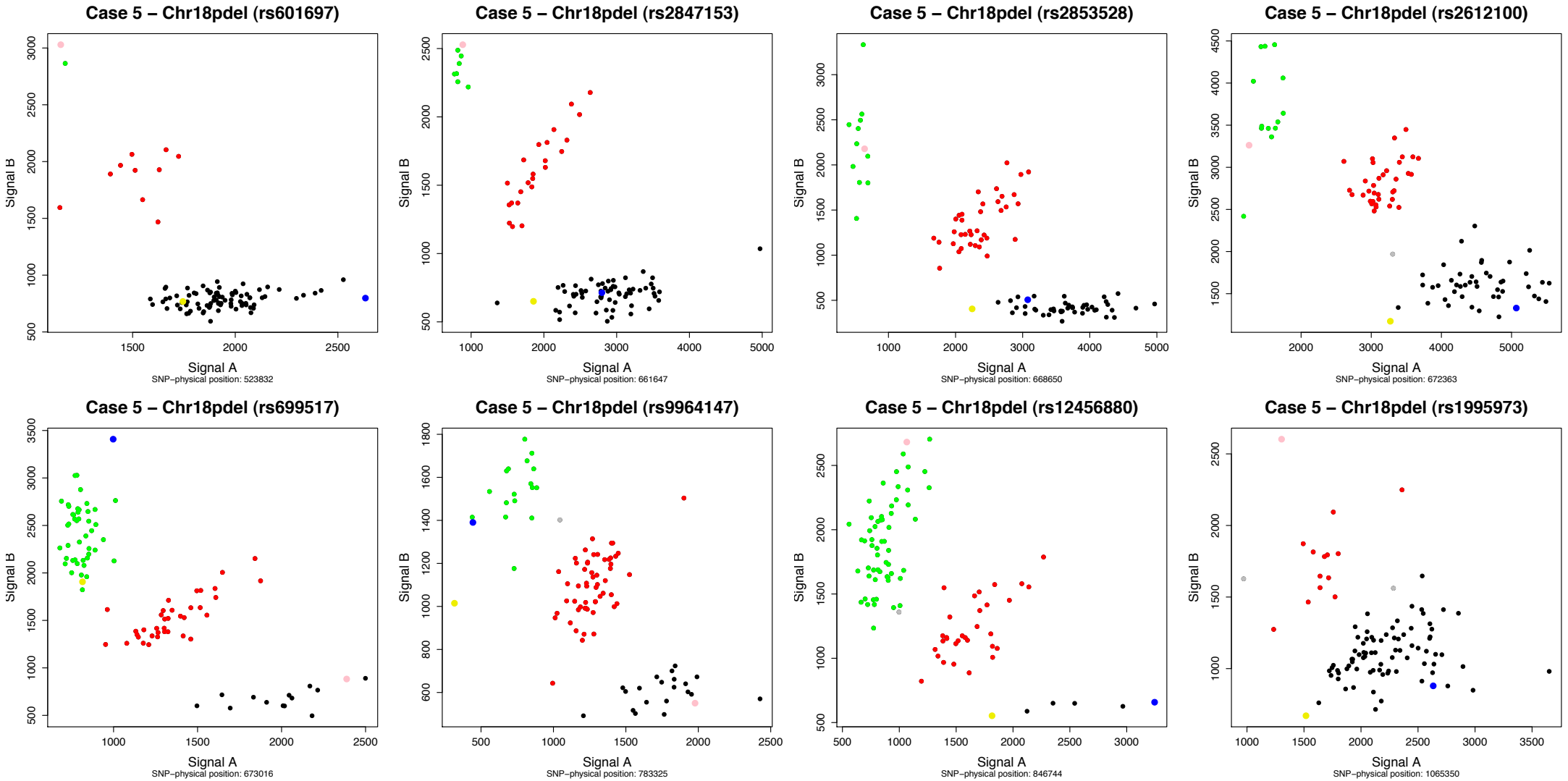

Case 4 – Chr9pdel (rs9918970)
Signal B
Signal A
SNP–physical position: 4504448

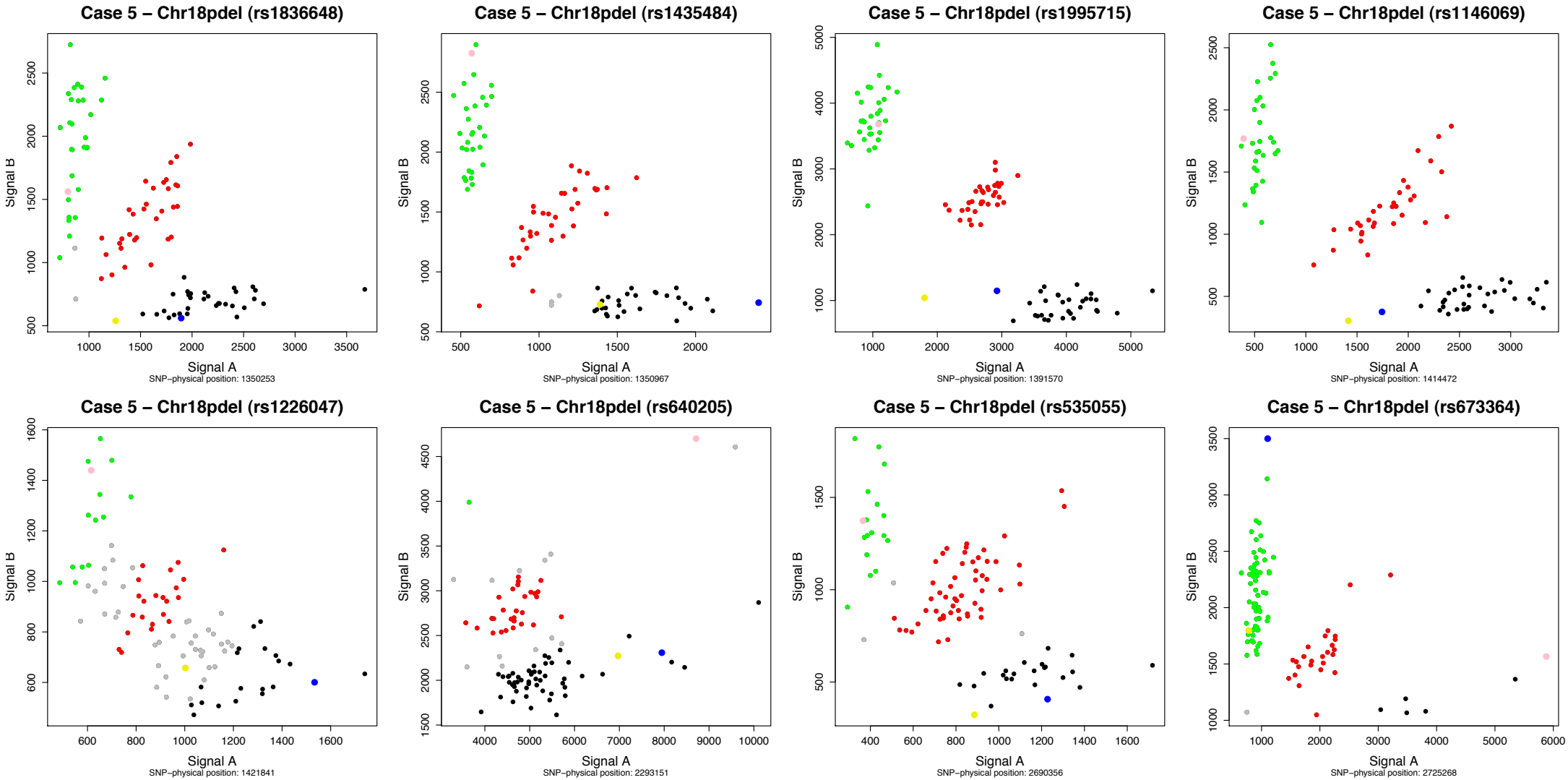
Case: 4
Chromosome: 5p
Abberation: dup.

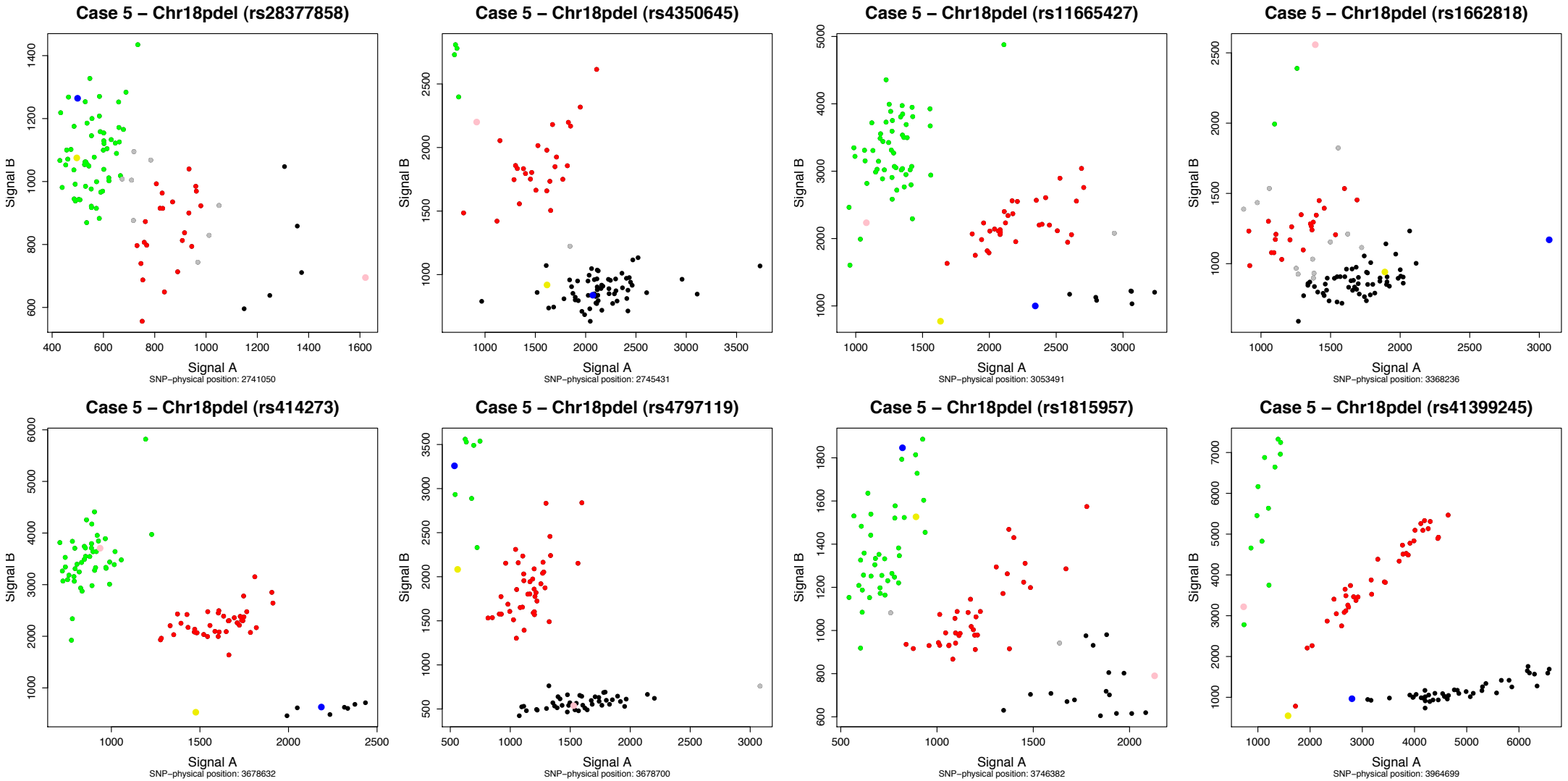

Case 4 – Chr5pdup (rs7704488)
Signal B
1000
1500
2000
2500
3000
500
1000
1500
2000
Signal A
SNP−physical position: 28949

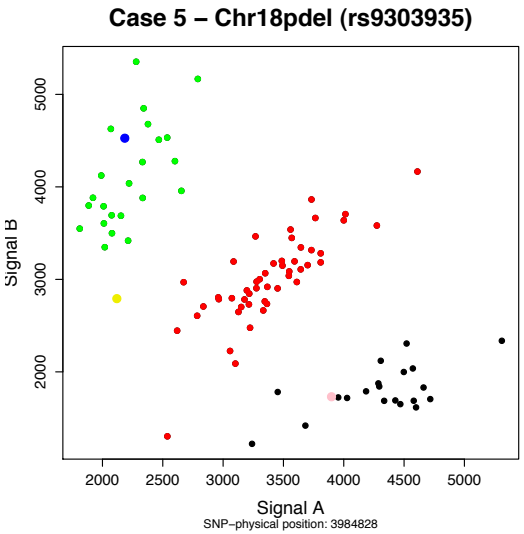

Case 4 – Chr5pdup (rs1689671)
Signal B
1000
2000
3000
4000
5000
1000
1200
1400
1600
1800
2000
2200
2400
Signal A
SNP−physical position: 659605

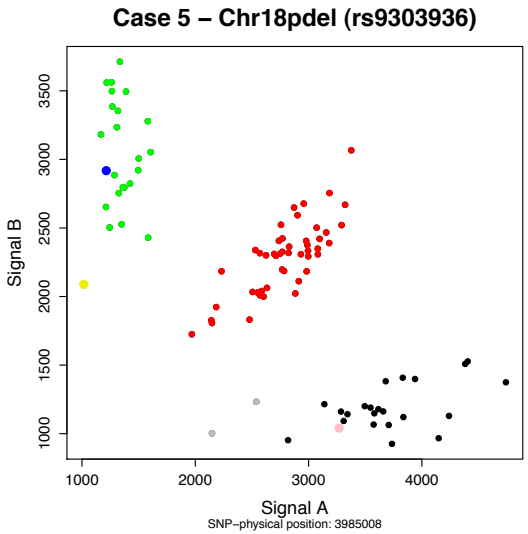
Case: 5
Chromosome: 18p
Abberation: del.

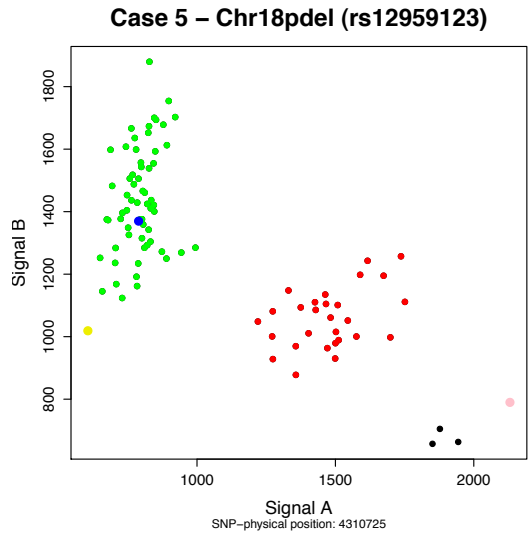

Case 5 – Chr18pdel (rs601697)
Signal B
Signal A
SNP–physical position: 523832
Case 5 – Chr18pdel (rs2847153)
Signal B
Signal A
SNP–physical position: 661647
Case 5 – Chr18pdel (rs2853528)
Signal B
Signal A
SNP–physical position: 668650
Case 5 – Chr18pdel (rs2612100)
Signal B
Signal A
SNP–physical position: 672363
Case 5 – Chr18pdel (rs699517)
Signal B
Signal A
SNP–physical position: 673016
Case 5 – Chr18pdel (rs9964147)
Signal B
Signal A
SNP–physical position: 783325
Case 5 – Chr18pdel (rs12456880)
Signal B
Signal A
SNP–physical position: 846744
Case 5 – Chr18pdel (rs1995973)
Signal B
Signal A
SNP–physical position: 1065350

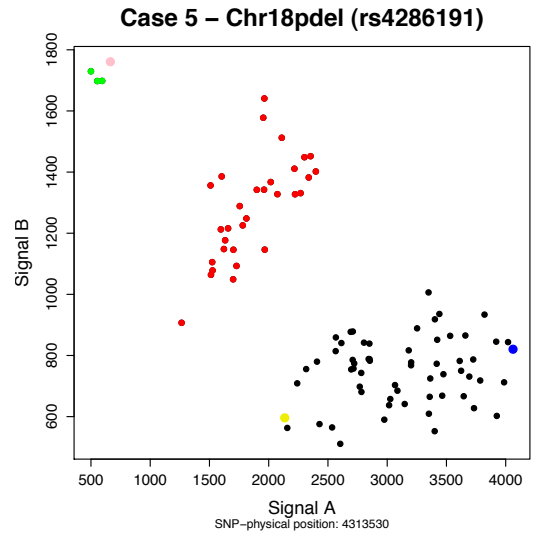

Case 5 – Chr18pdel (rs1836648)
Signal B
Signal A
SNP–physical position: 1350253
Case 5 – Chr18pdel (rs1435484)
Signal B
Signal A
SNP–physical position: 1350967
Case 5 – Chr18pdel (rs1995715)
Signal B
Signal A
SNP–physical position: 1391570
Case 5 – Chr18pdel (rs1146069)
Signal B
Signal A
SNP–physical position: 1414472
Case 5 – Chr18pdel (rs1226047)
Signal B
Signal A
SNP–physical position: 1421841
Case 5 – Chr18pdel (rs640205)
Signal B
Signal A
SNP–physical position: 2293151
Case 5 – Chr18pdel (rs535055)
Signal B
Signal A
SNP–physical position: 2690356
Case 5 – Chr18pdel (rs673364)
Signal B
Signal A
SNP–physical position: 2725268

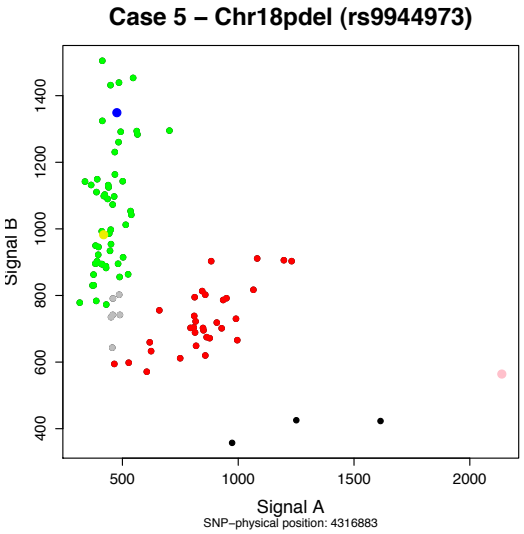

Case 5 – Chr18pdel (rs28377858)
Signal B
Signal A
SNP–physical position: 2741050
Case 5 – Chr18pdel (rs4350645)
Signal B
Signal A
SNP–physical position: 2745431
Case 5 – Chr18pdel (rs11665427)
Signal B
Signal A
SNP–physical position: 3053491
Case 5 – Chr18pdel (rs1662818)
Signal B
Signal A
SNP–physical position: 3368236
Case 5 – Chr18pdel (rs414273)
Signal B
Signal A
SNP–physical position: 3678632
Case 5 – Chr18pdel (rs4797119)
Signal B
Signal A
SNP–physical position: 3678700
Case 5 – Chr18pdel (rs1815957)
Signal B
Signal A
SNP–physical position: 3746382
Case 5 – Chr18pdel (rs41399245)
Signal B
Signal A
SNP–physical position: 3964699

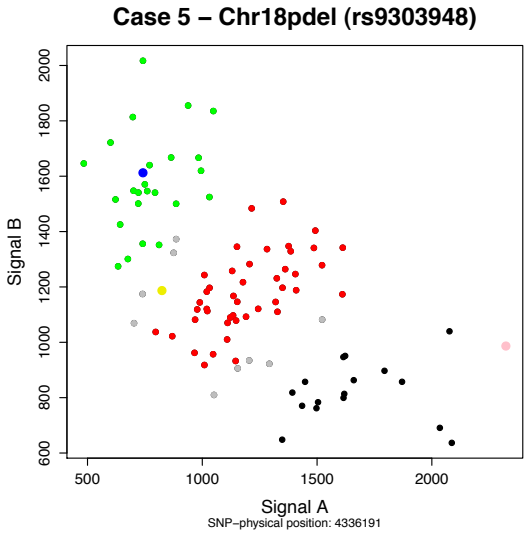

Case 5 – Chr18pdel (rs9303935)
Signal B
Signal A
SNP–physical position: 3984828

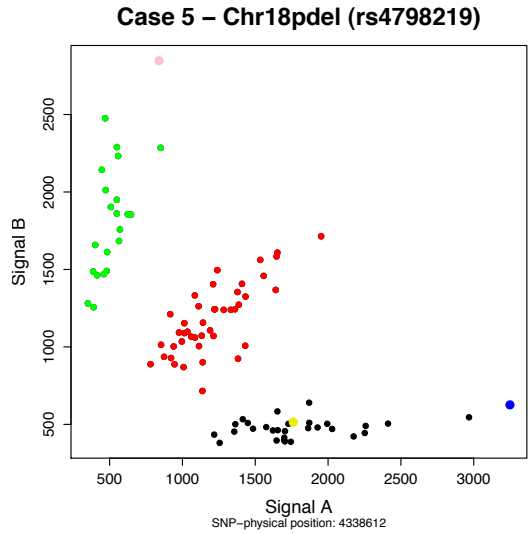

Case 5 – Chr18pdel (rs9303936)
Signal B
Signal A
SNP–physical position: 3985008

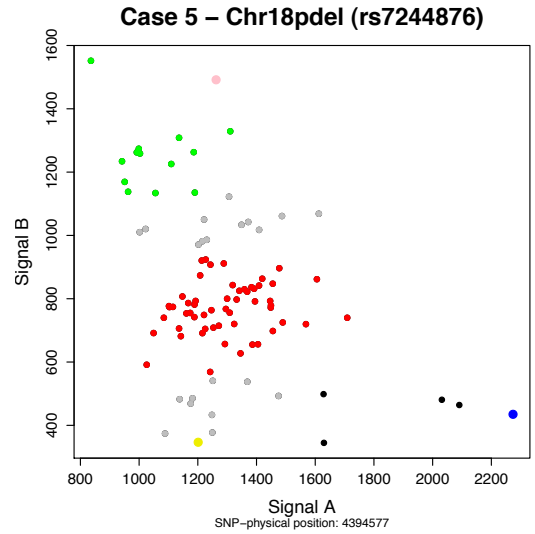

Case 5 – Chr18pdel (rs12959123)
Signal B
Signal A
SNP–physical position: 4310725

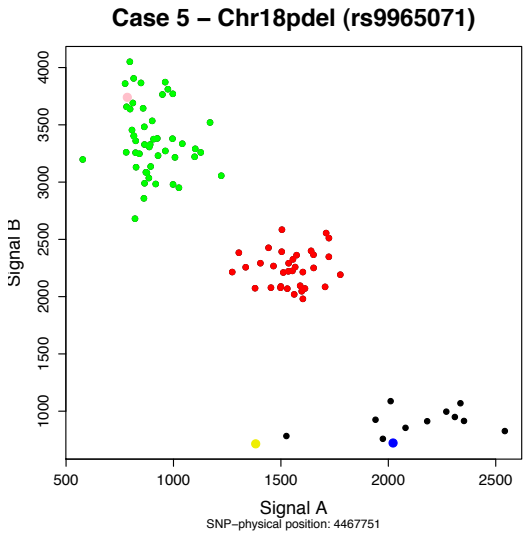

Case 5 – Chr18pdel (rs4286191)
Signal B
Signal A
SNP–physical position: 4313530

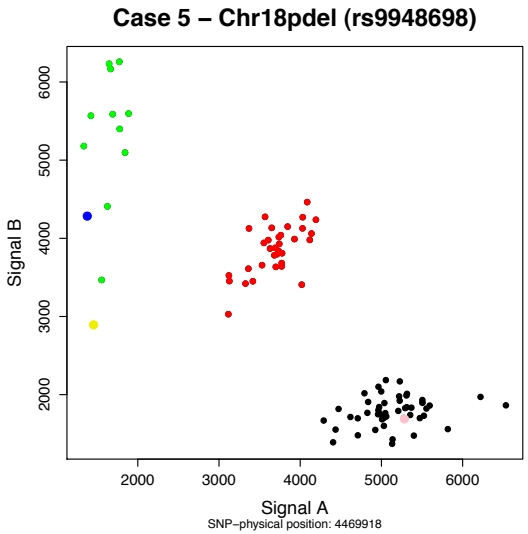

Case 5 – Chr18pdel (rs9944973)
Signal B
Signal A
SNP–physical position: 4316883

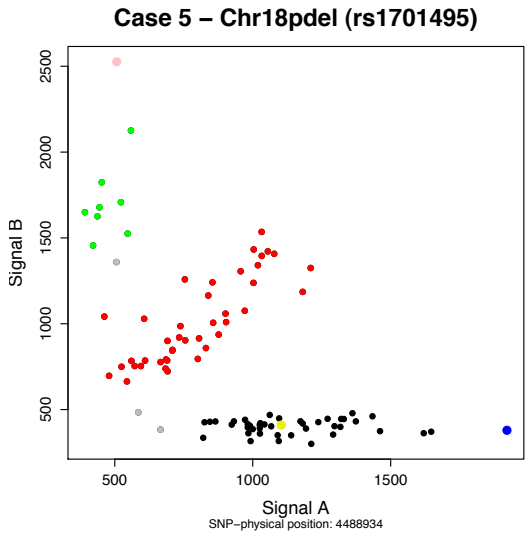

Case 5 – Chr18pdel (rs9303948)
Signal B
Signal A
SNP–physical position: 4336191

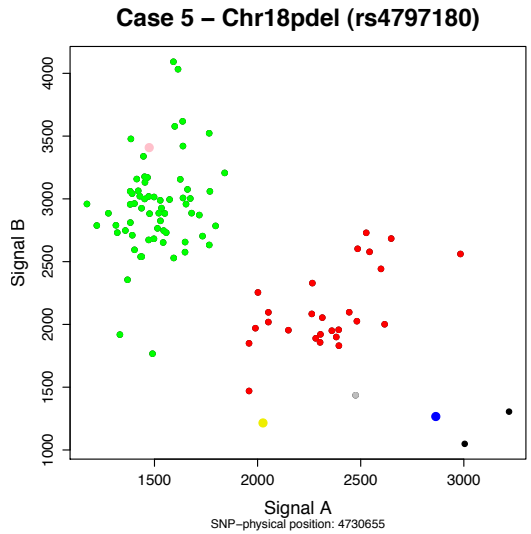

Case 5 – Chr18pdel (rs4798219)
Signal B
Signal A
SNP–physical position: 4338612

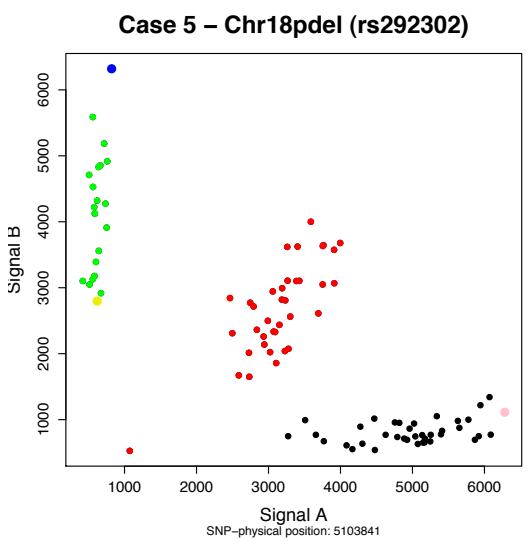

Case 5 – Chr18pdel (rs7244876)
Signal B
Signal A
SNP–physical position: 4394577

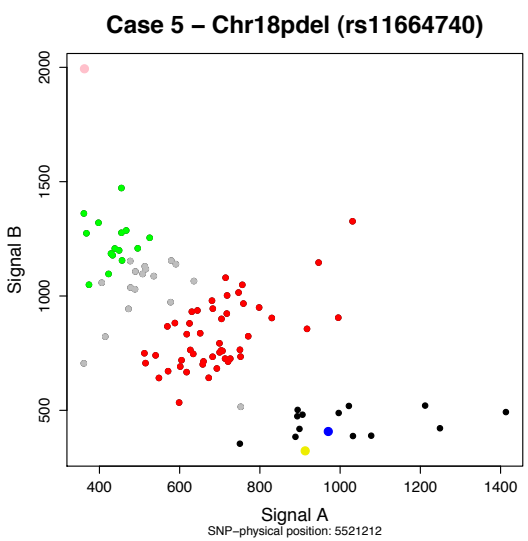

Case 5 – Chr18pdel (rs9965071)
Signal B
Signal A
SNP–physical position: 4467751

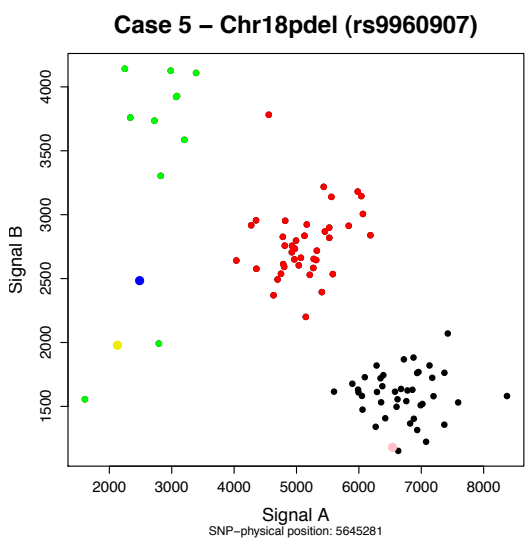

Case 5 – Chr18pdel (rs9948698)
Signal B
Signal A
SNP–physical position: 4469918

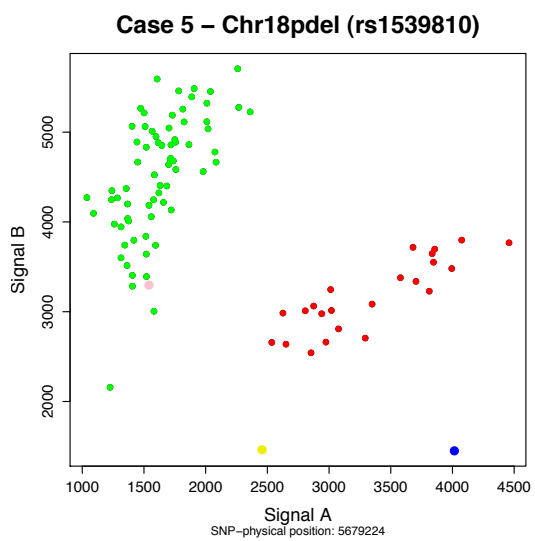

Case 5 – Chr18pdel (rs1701495)
Signal B
Signal A
SNP–physical position: 4488934

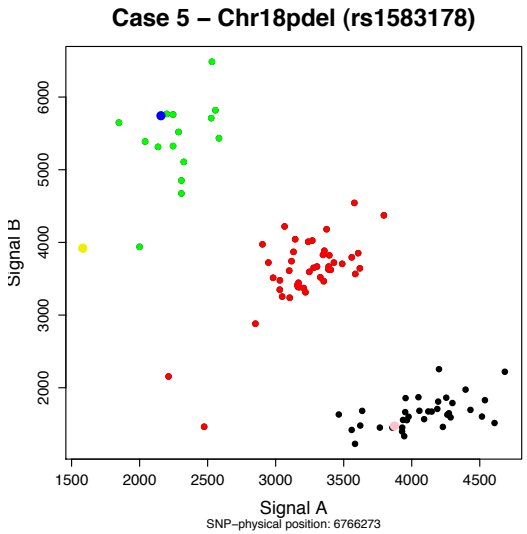

Case 5 – Chr18pdel (rs4797180)
Signal B
Signal A
SNP–physical position: 4730655

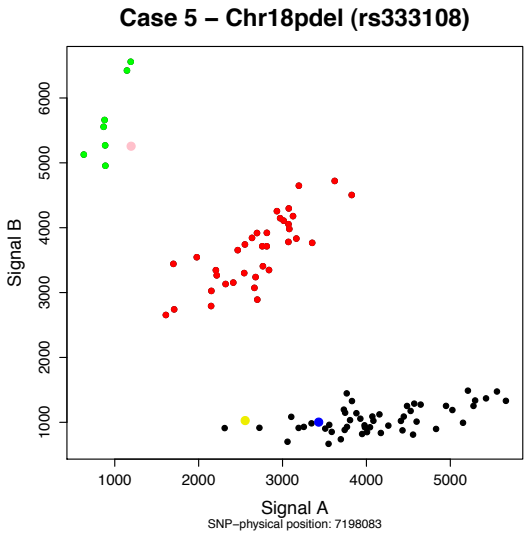

Case 5 – Chr18pdel (rs292302)
Signal B
Signal A
SNP–physical position: 5103841

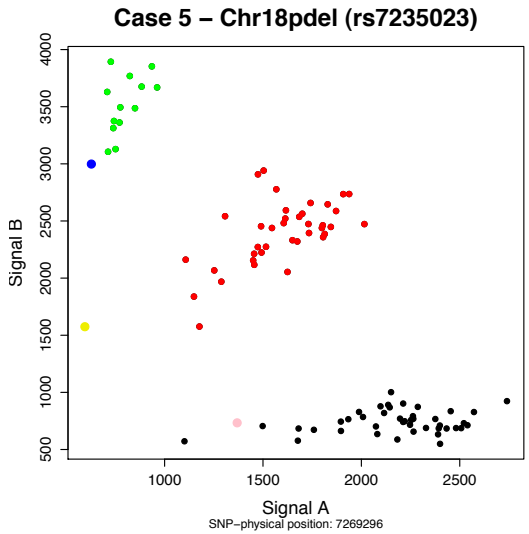

Case 5 – Chr18pdel (rs11664740)
Signal B
Signal A
SNP–physical position: 5521212

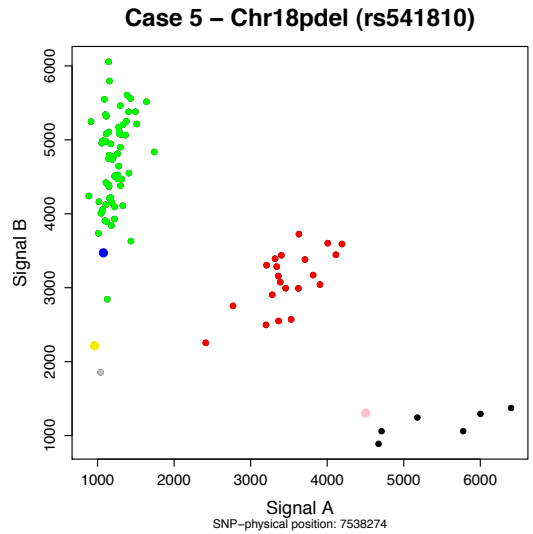

Case 5 – Chr18pdel (rs9960907)
Signal B
Signal A
SNP–physical position: 5645281

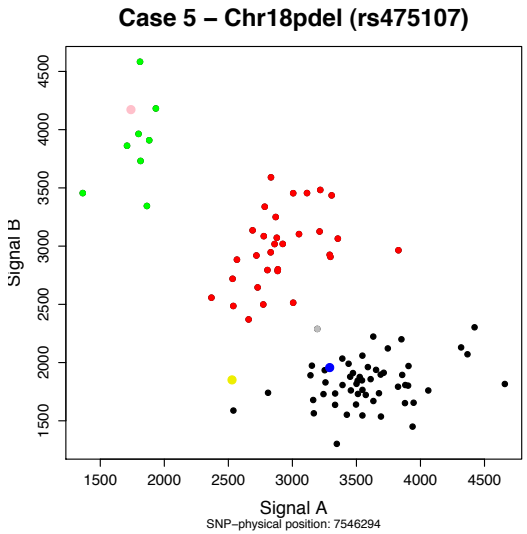

Case 5 – Chr18pdel (rs1539810)
Signal B
Signal A
SNP–physical position: 5679224

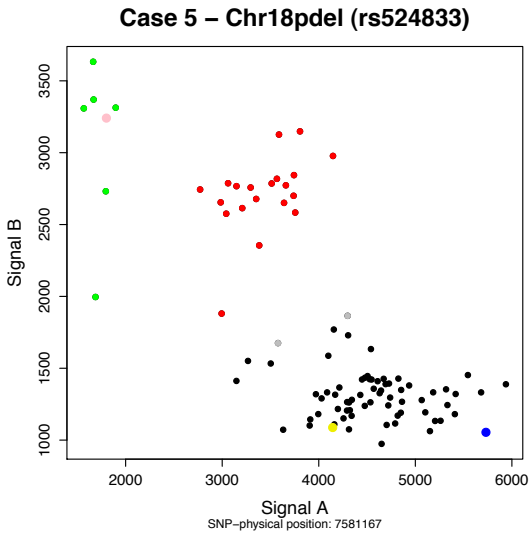

Case 5 – Chr18pdel (rs1583178)
Signal B
Signal A
SNP–physical position: 6766273

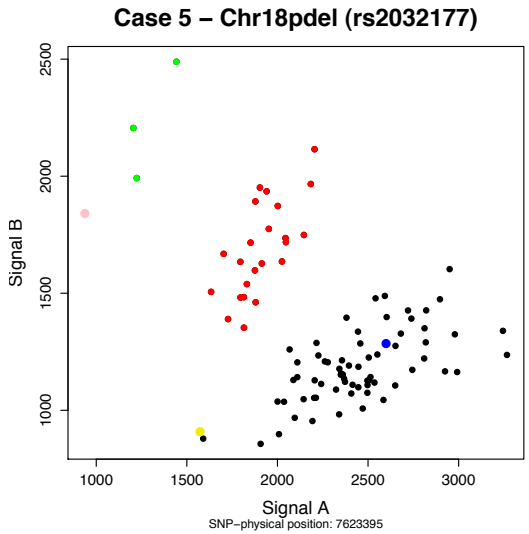

Case 5 – Chr18pdel (rs333108)
Signal B
Signal A
SNP–physical position: 7198083

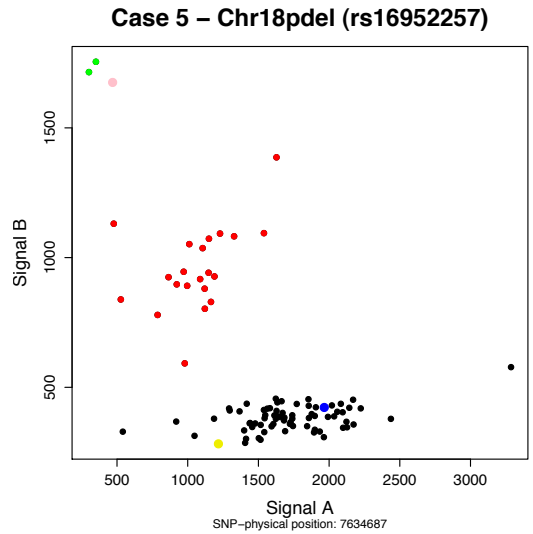

Case 5 – Chr18pdel (rs7235023)
Signal B
Signal A
SNP–physical position: 7269296

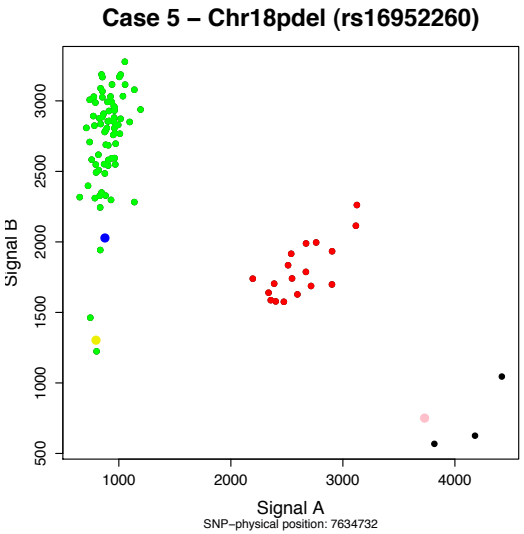

Case 5 – Chr18pdel (rs541810)
Signal B
Signal A
SNP–physical position: 7538274

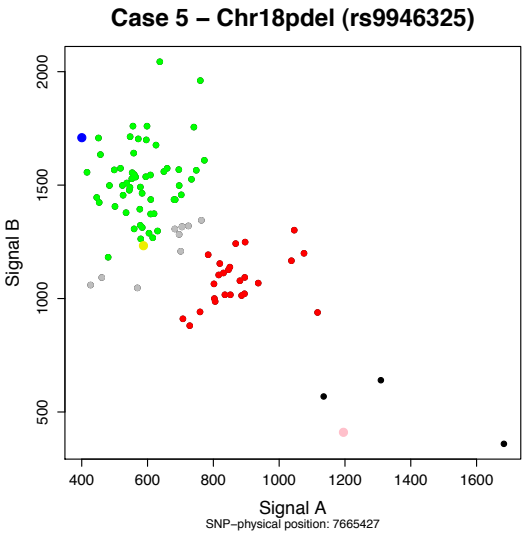

Case 5 – Chr18pdel (rs475107)
Signal B
Signal A
SNP–physical position: 7546294

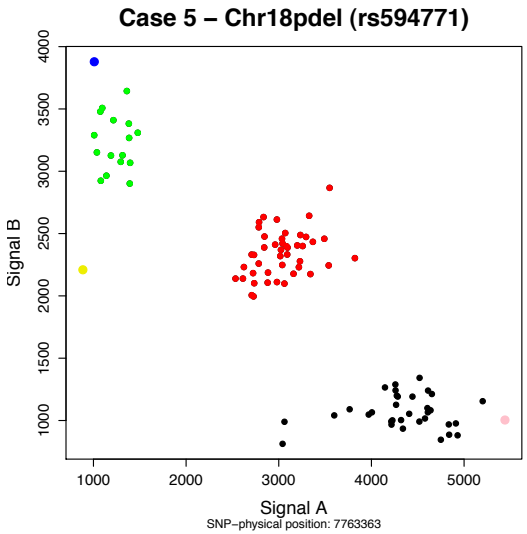

Case 5 – Chr18pdel (rs524833)
Signal B
Signal A
SNP–physical position: 7581167

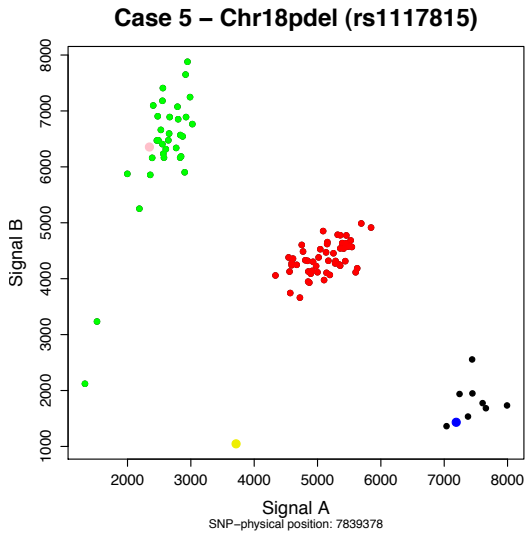

Case 5 – Chr18pdel (rs2032177)
Signal B
Signal A
SNP–physical position: 7623395


Case 5 – Chr18pdel (rs16952257)
Signal B
Signal A
SNP–physical position: 7634687

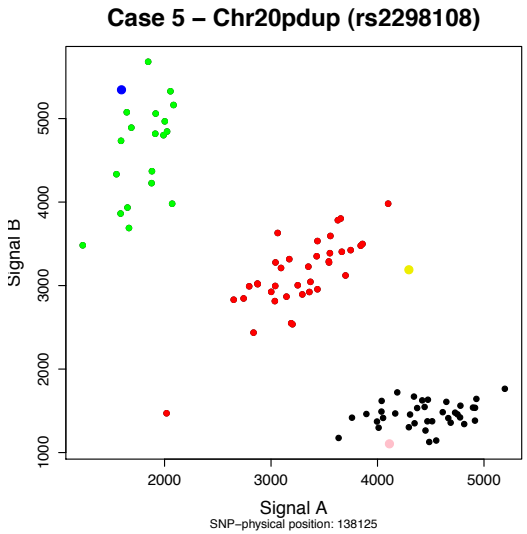

Case 5 – Chr18pdel (rs16952260)
Signal B
Signal A
SNP–physical position: 7634732

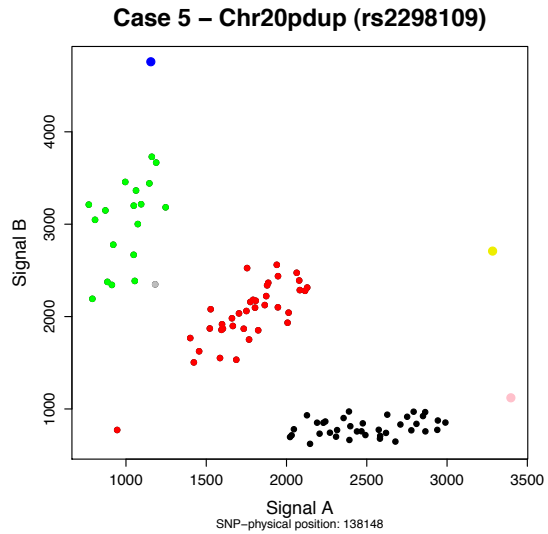

Case 5 – Chr18pdel (rs9946325)
Signal B
Signal A
SNP–physical position: 7665427

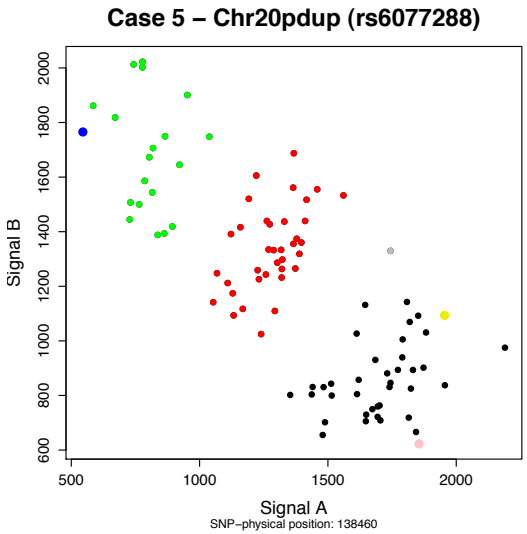

Case 5 – Chr18pdel (rs594771)
Signal B
Signal A
SNP–physical position: 7763363

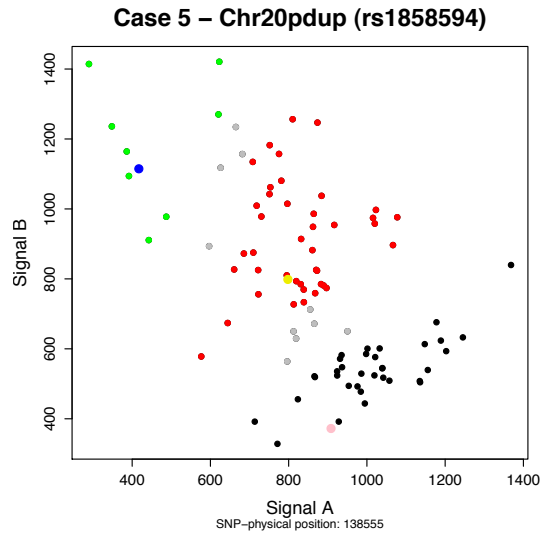

Case 5 – Chr18pdel (rs1117815)
Signal B
Signal A
SNP–physical position: 7839378

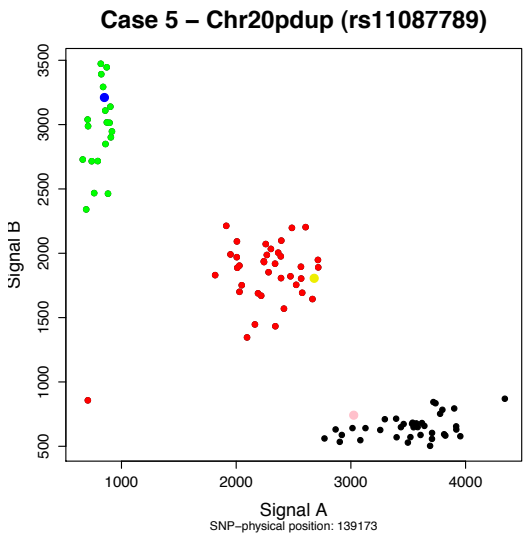
Case: 5
Chromosome: 20p
Abberation: dup.

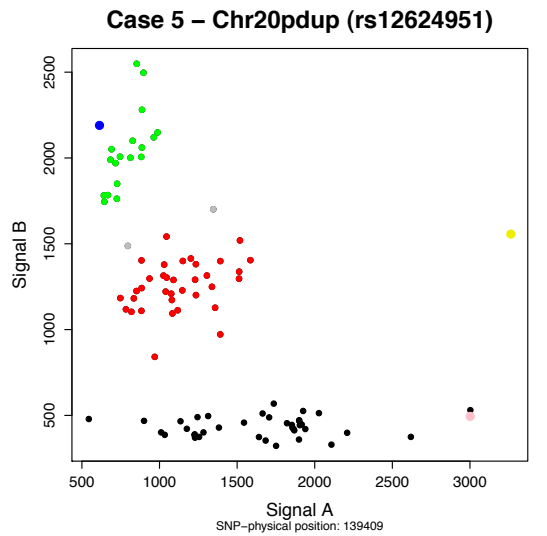

Case 5 – Chr20pdup (rs2298108)
Signal B
Signal A
SNP−physical position: 138125

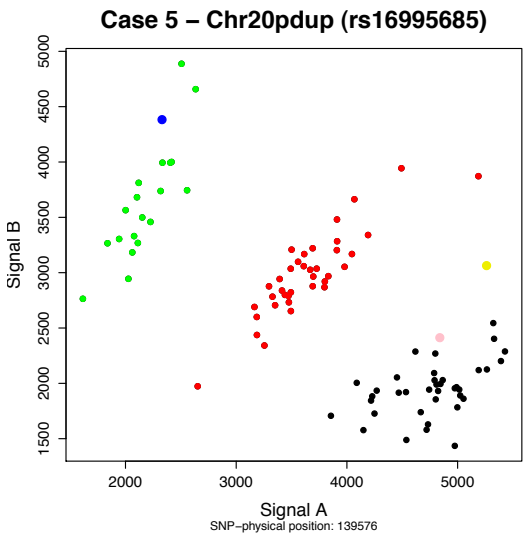

Case 5 – Chr20pdup (rs2298109)
Signal B
Signal A
SNP−physical position: 138148

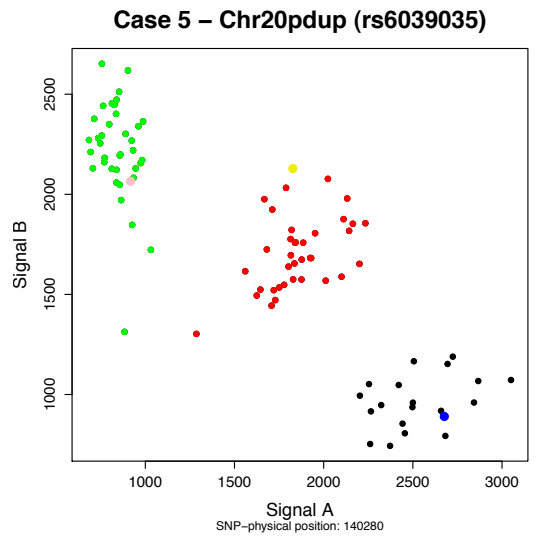

Case 5 – Chr20pdup (rs6077288)
Signal B
Signal A
SNP−physical position: 138460

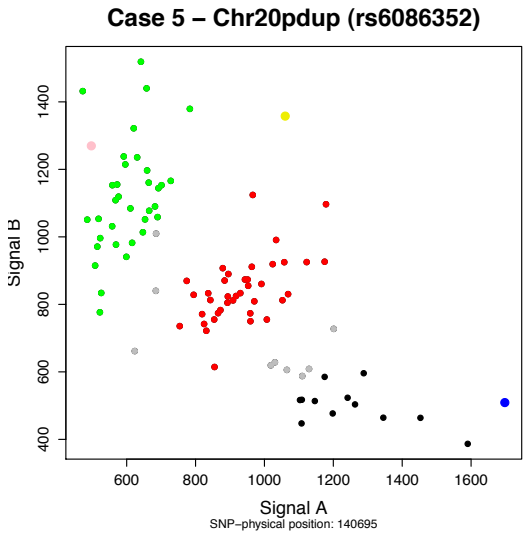

Case 5 – Chr20pdup (rs1858594)
Signal B
Signal A
SNP−physical position: 138555

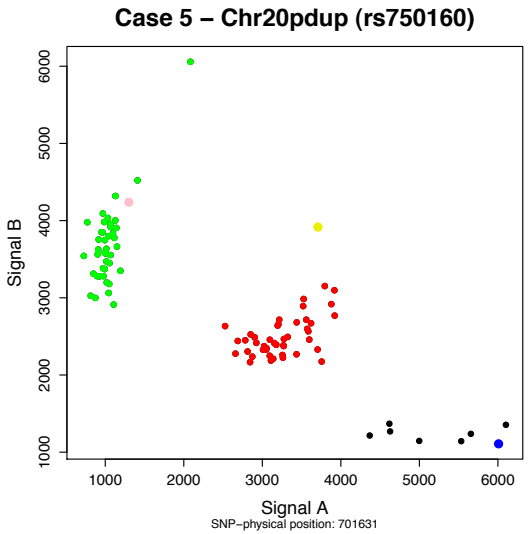

Case 5 – Chr20pdup (rs11087789)
Signal B
Signal A
SNP−physical position: 139173

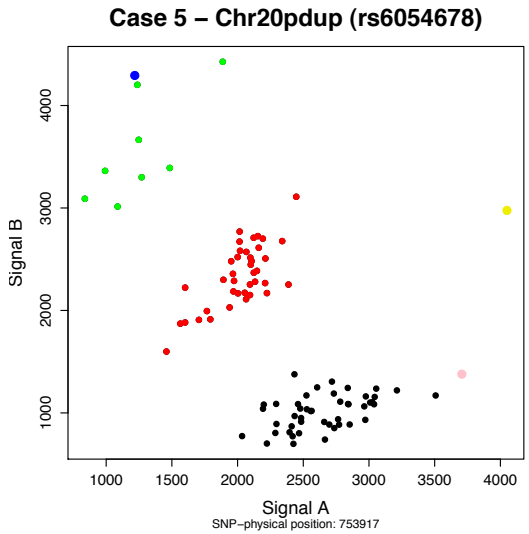

Case 5 – Chr20pdup (rs12624951)
Signal B
Signal A
SNP−physical position: 139409

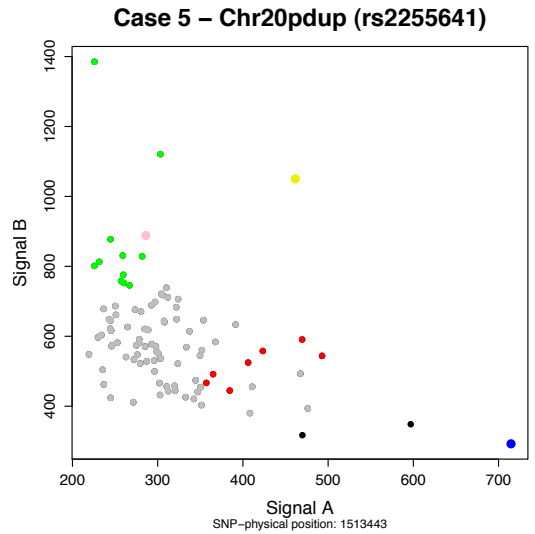

Case 5 – Chr20pdup (rs16995685)
Signal B
Signal A
SNP−physical position: 139576

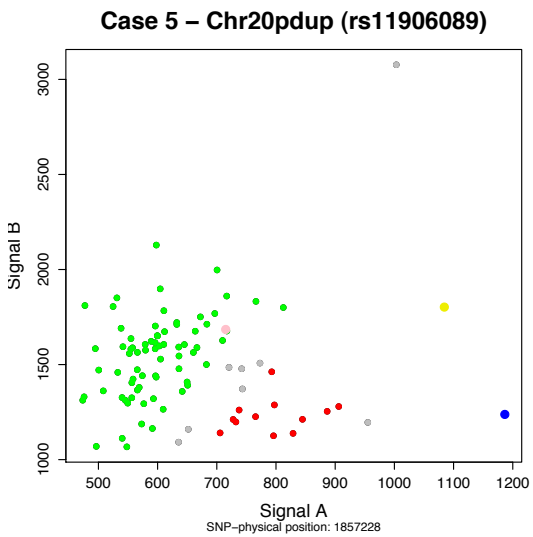

Case 5 – Chr20pdup (rs6039035)
Signal B
Signal A
SNP−physical position: 140280

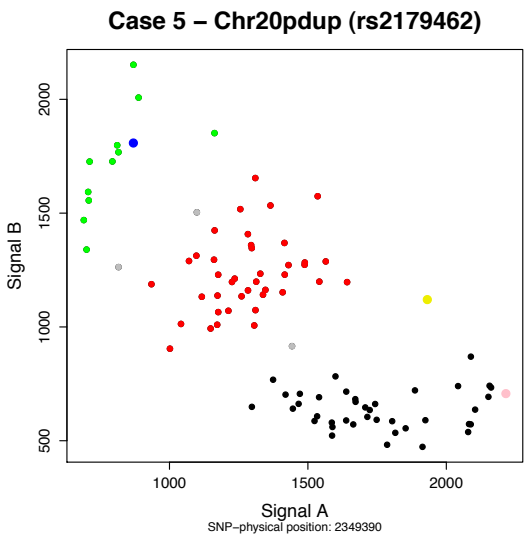

Case 5 – Chr20pdup (rs6086352)
Signal B
Signal A
SNP–physical position: 140695

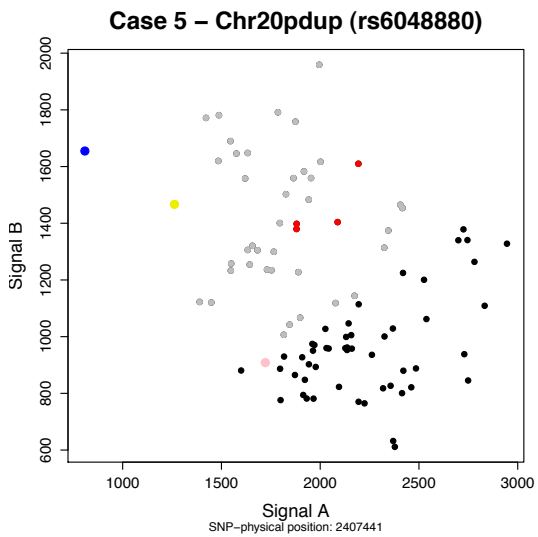

Case 5 – Chr20pdup (rs750160)
Signal B
Signal A
SNP–physical position: 701631

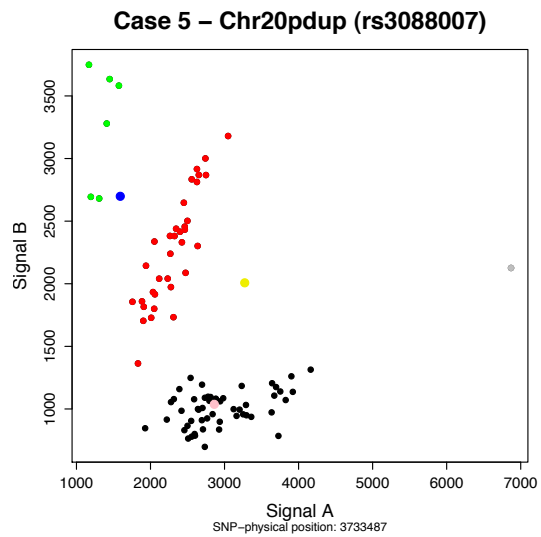

Case 5 – Chr20pdup (rs6054678)
Signal B
Signal A
SNP–physical position: 753917

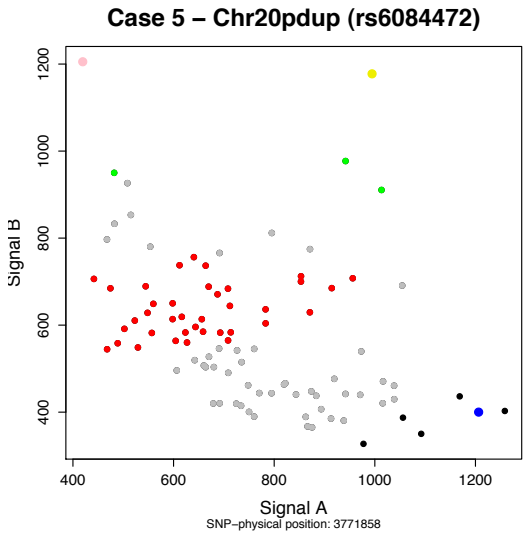

Case 5 – Chr20pdup (rs2255641)
Signal B
Signal A
SNP–physical position: 1513443

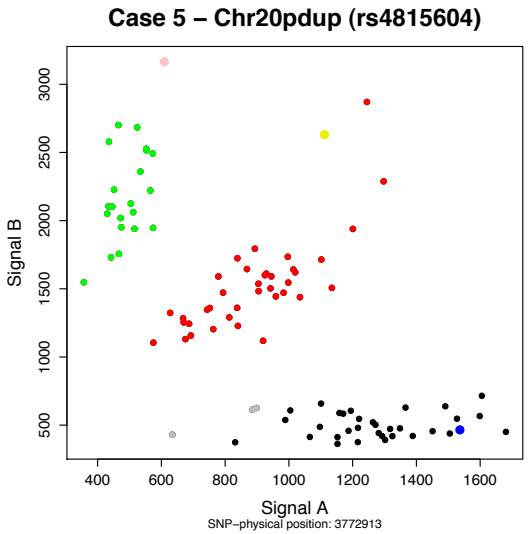

Case 5 – Chr20pdup (rs11906089)
Signal B
Signal A
SNP–physical position: 1857228

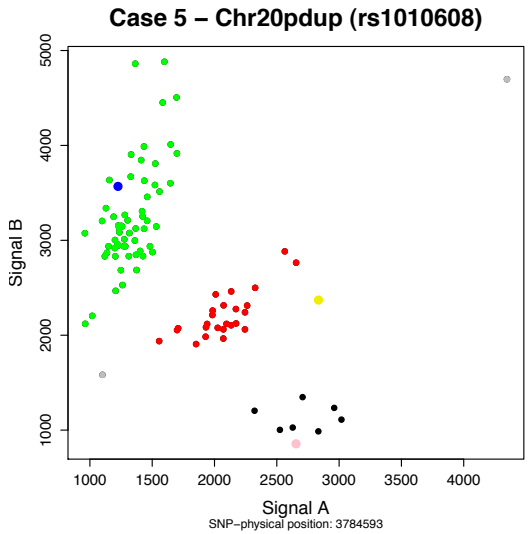

Case 5 – Chr20pdup (rs2179462)
Signal B
Signal A
SNP–physical position: 2349390

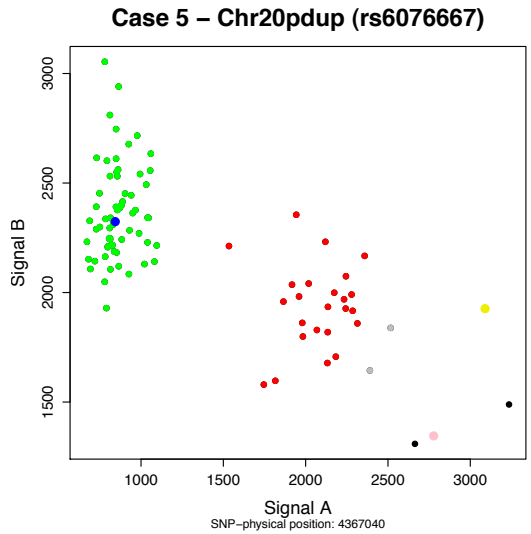

Case 5 – Chr20pdup (rs6048880)
Signal B
Signal A
SNP–physical position: 2407441

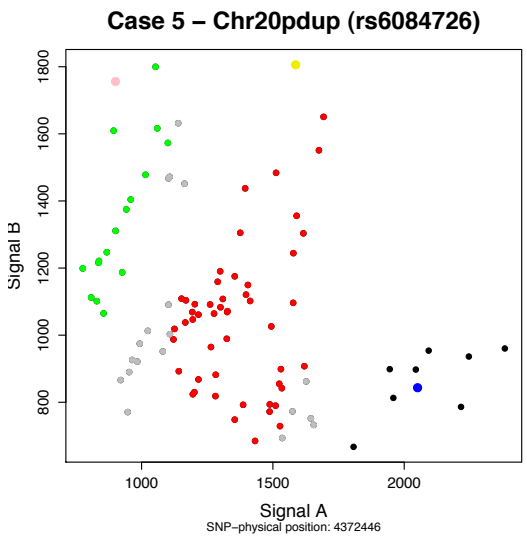

Case 5 – Chr20pdup (rs3088007)
Signal B
Signal A
SNP–physical position: 3733487

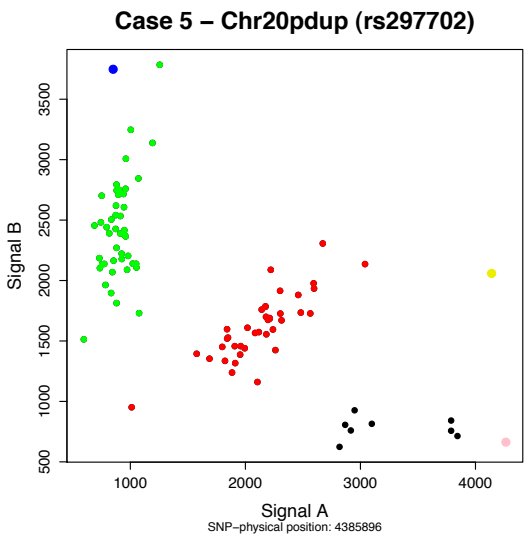

Case 5 – Chr20pdup (rs6084472)
Signal B
Signal A
SNP–physical position: 3771858

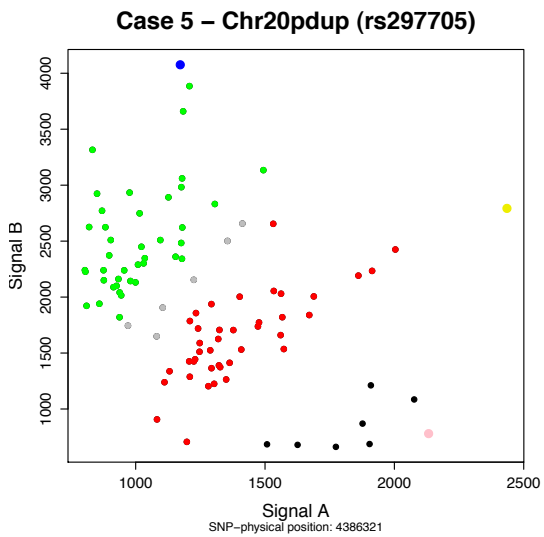

Case 5 – Chr20pdup (rs4815604)
Signal B
Signal A
SNP–physical position: 3772913

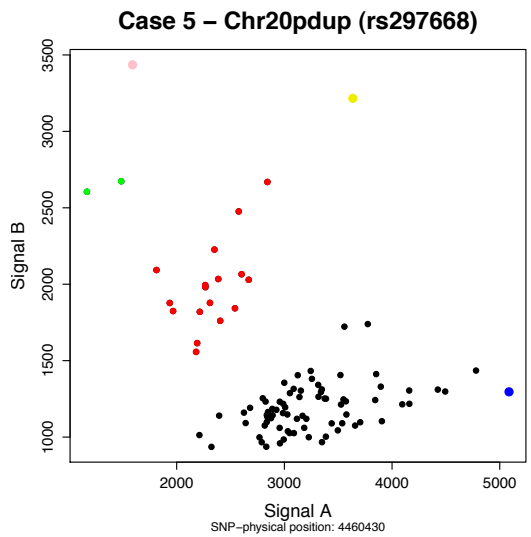

Case 5 – Chr20pdup (rs1010608)
Signal B
Signal A
SNP–physical position: 3784593

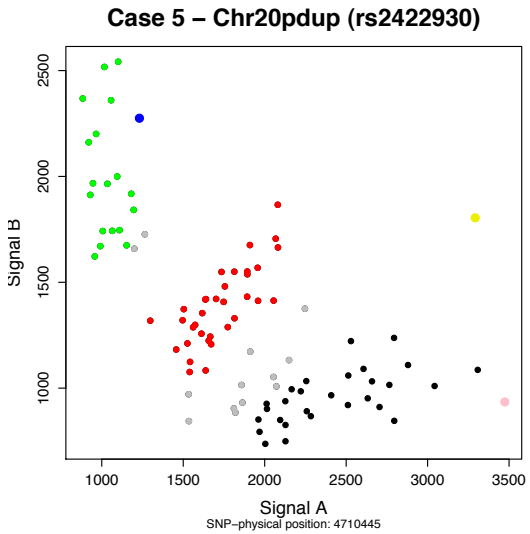

Case 5 – Chr20pdup (rs6076667)
Signal B
Signal A
SNP–physical position: 4367040

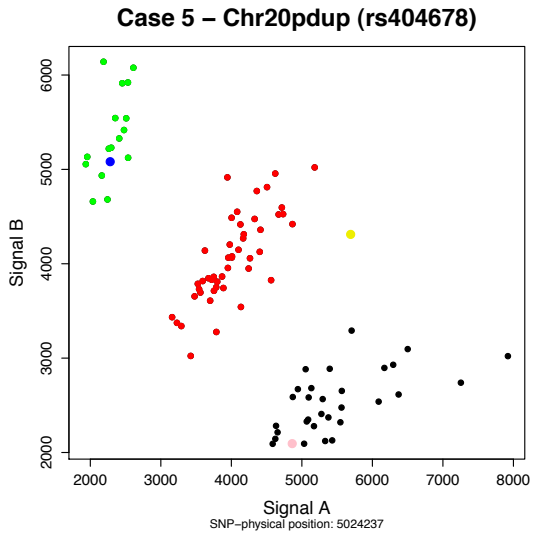

Case 5 – Chr20pdup (rs6084726)
Signal B
Signal A
SNP–physical position: 4372446

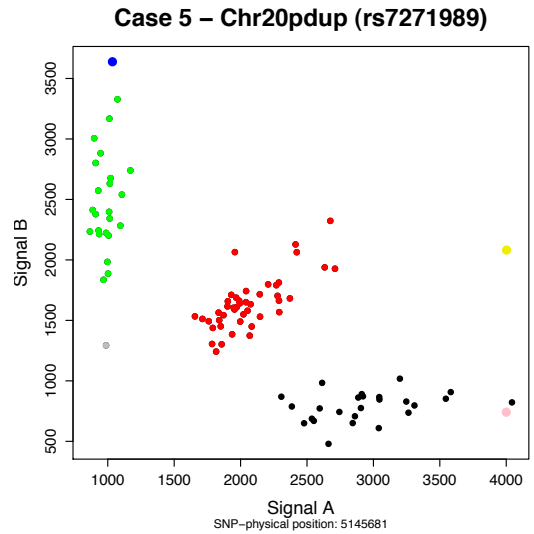

Case 5 – Chr20pdup (rs297702)
Signal B
Signal A
SNP–physical position: 4385896

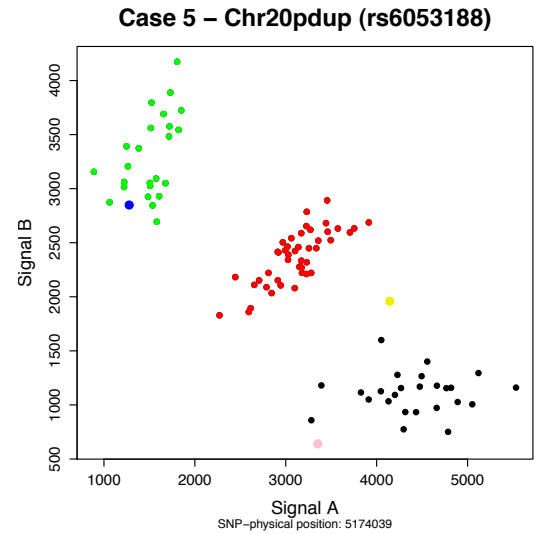

Case 5 – Chr20pdup (rs297705)
Signal B
Signal A
SNP–physical position: 4386321

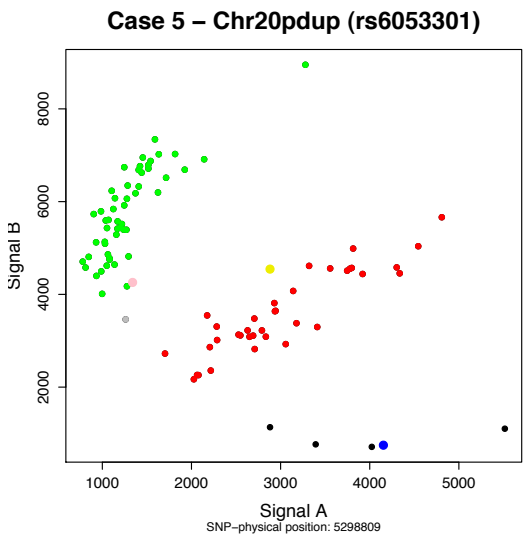

Case 5 – Chr20pdup (rs297668)
Signal B
Signal A
SNP–physical position: 4460430

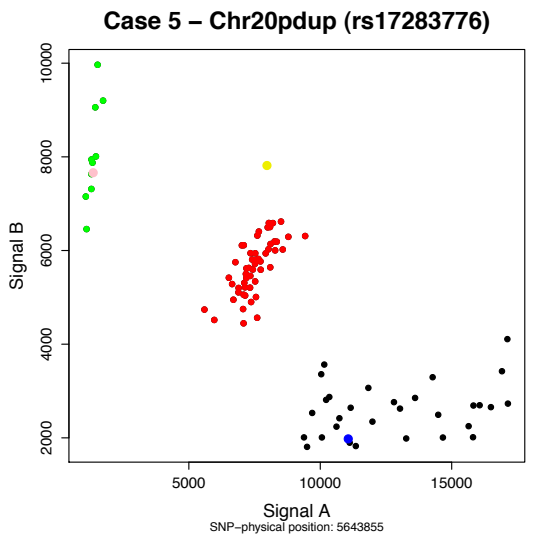

Case 5 – Chr20pdup (rs2422930)
Signal B
Signal A
SNP–physical position: 4710445

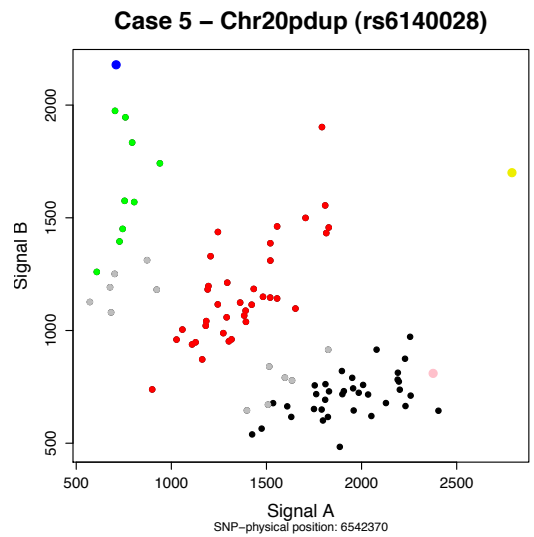

Case 5 – Chr20pdup (rs404678)
Signal B
Signal A
SNP–physical position: 5024237

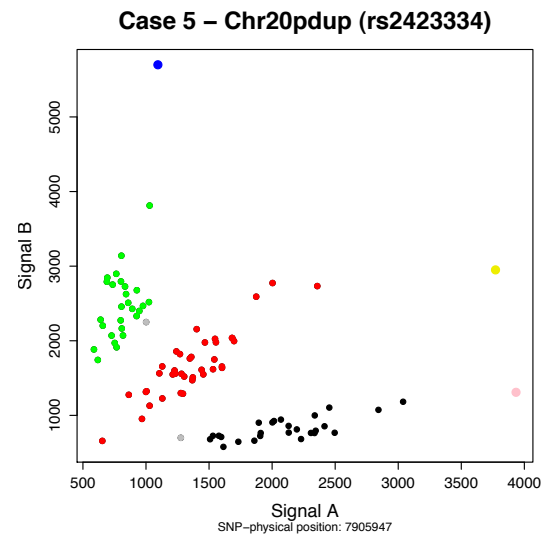

Case 5 – Chr20pdup (rs7271989)
Signal B
Signal A
SNP–physical position: 5145681

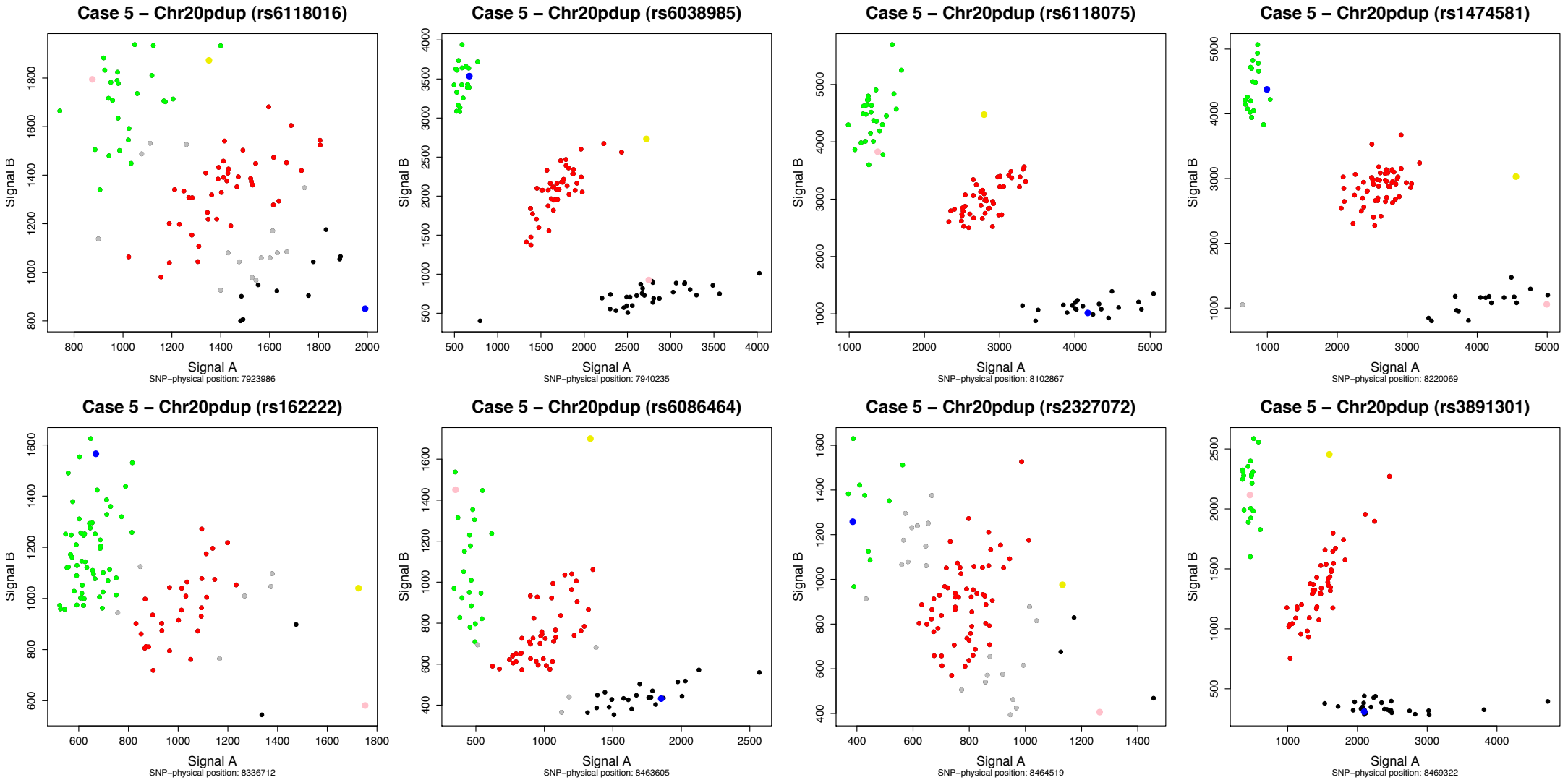

Case 5 – Chr20pdup (rs6053188)
Signal B
Signal A
SNP–physical position: 5174039

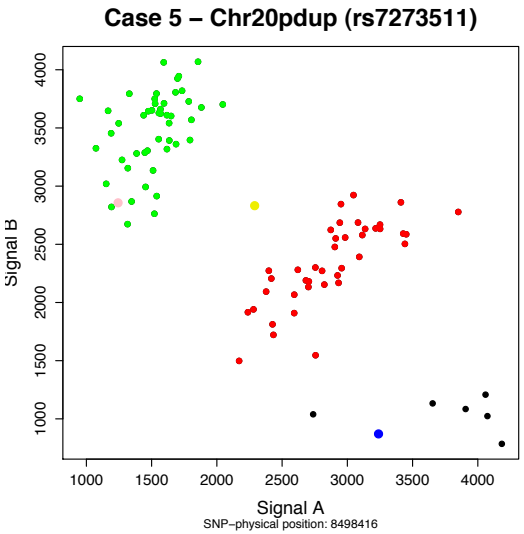

Case 5 – Chr20pdup (rs6053301)
Signal B
Signal A
SNP–physical position: 5298809

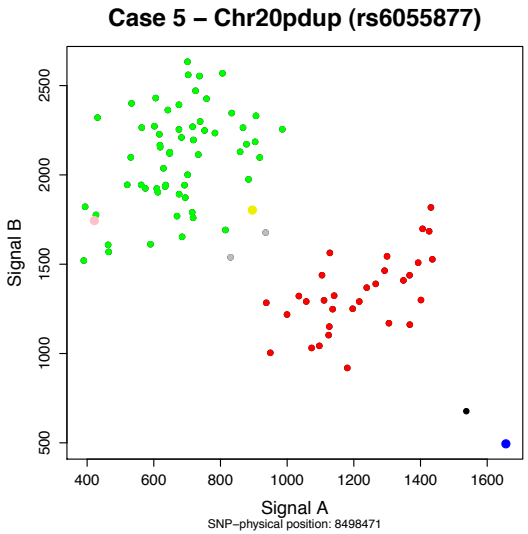

Case 5 – Chr20pdup (rs17283776)
Signal B
Signal A
SNP–physical position: 5643855

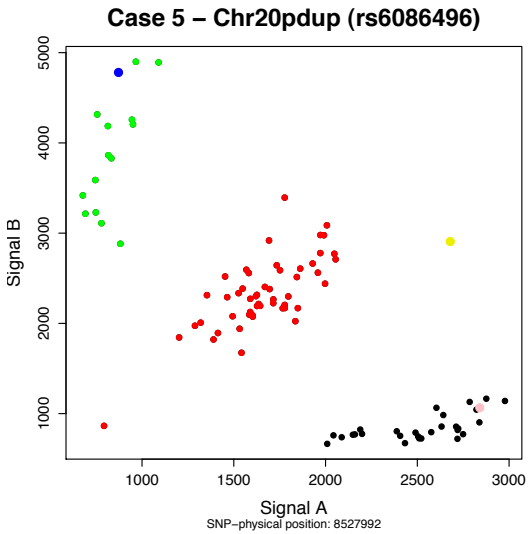

Case 5 – Chr20pdup (rs6140028)
Signal B
Signal A
SNP–physical position: 6542370


Case 5 – Chr20pdup (rs2423334)
Signal B
Signal A
SNP–physical position: 7905947

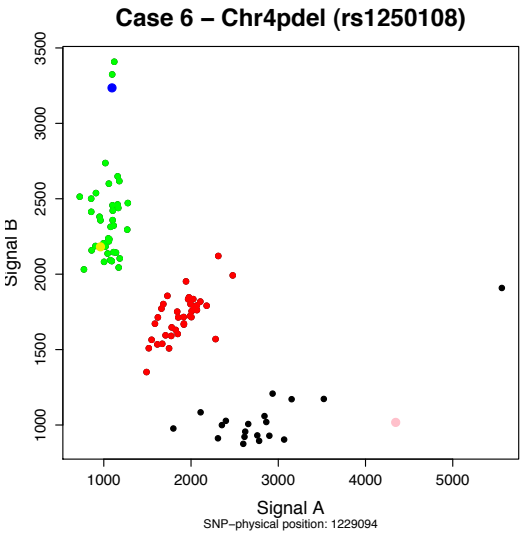

Case 5 – Chr20pdup (rs6118016)
Signal B
Signal A
SNP–physical position: 7923986
Case 5 – Chr20pdup (rs6038985)
Signal B
Signal A
SNP–physical position: 7940235
Case 5 – Chr20pdup (rs6118075)
Signal B
Signal A
SNP–physical position: 8102867
Case 5 – Chr20pdup (rs1474581)
Signal B
Signal A
SNP–physical position: 8220069
Case 5 – Chr20pdup (rs162222)
Signal B
Signal A
SNP–physical position: 8336712
Case 5 – Chr20pdup (rs6086464)
Signal B
Signal A
SNP–physical position: 8463605
Case 5 – Chr20pdup (rs2327072)
Signal B
Signal A
SNP–physical position: 8464519
Case 5 – Chr20pdup (rs3891301)
Signal B
Signal A
SNP–physical position: 8469322


Case 5 – Chr20pdup (rs7273511)
Signal B
Signal A
SNP–physical position: 8498416

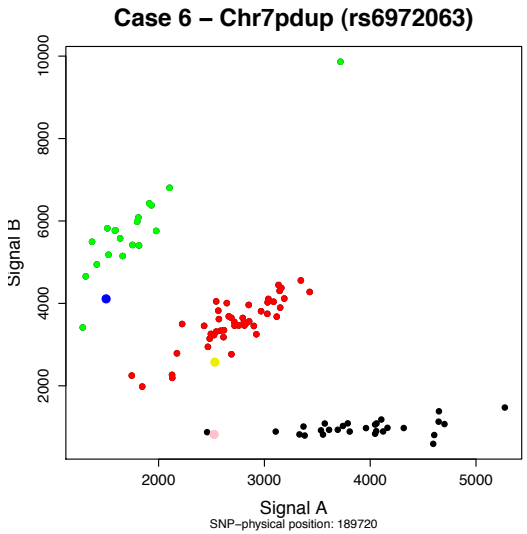

Case 5 – Chr20pdup (rs6055877)
Signal B
Signal A
SNP–physical position: 8498471

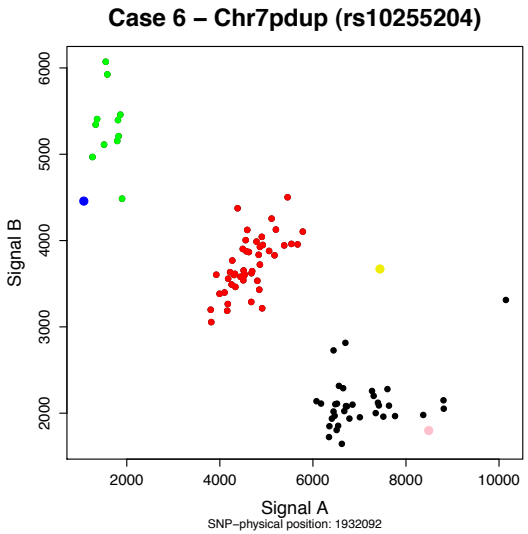

Case 5 – Chr20pdup (rs6086496)
Signal B
Signal A
SNP–physical position: 8527992

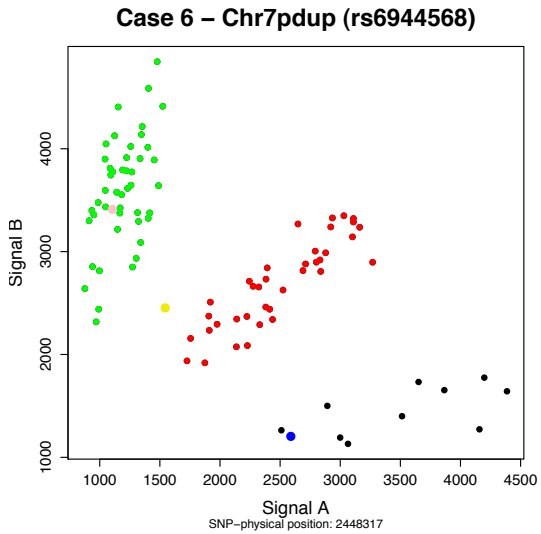
Case: 6
Chromosome: 4p
Abberation: del.

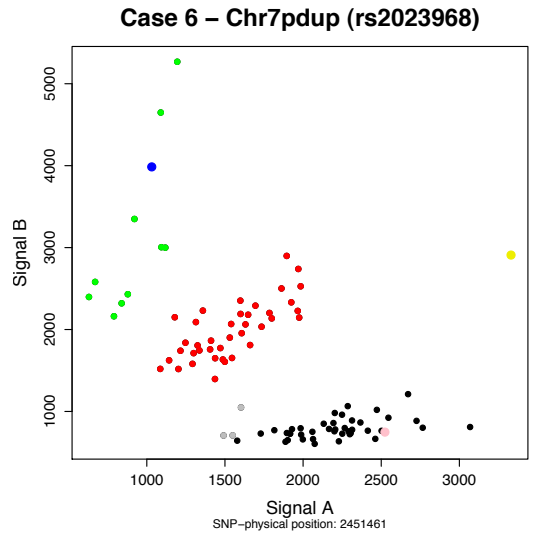

Case 6 – Chr4pdel (rs1250108)
Signal B
1000
1500
2000
2500
3000
3500
1000
2000
3000
4000
5000
Signal A
SNP–physical position: 1229094

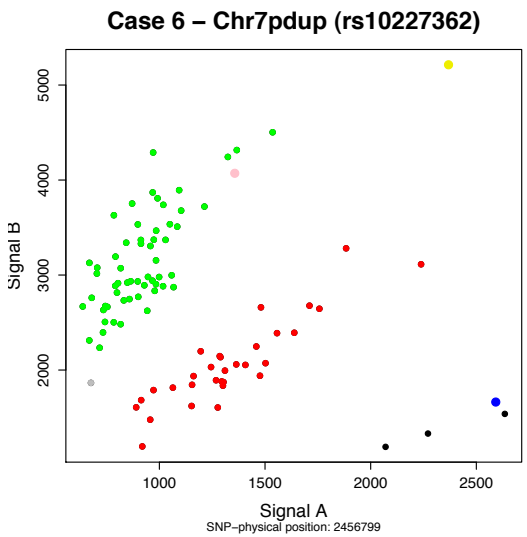
Case: 6
Chromosome: 7p
Abberation: dup.

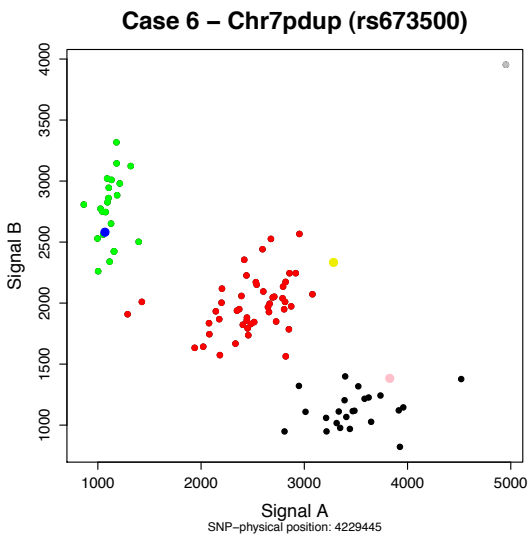

Case 6 – Chr7pdup (rs6972063)
Signal B
Signal A
SNP–physical position: 189720

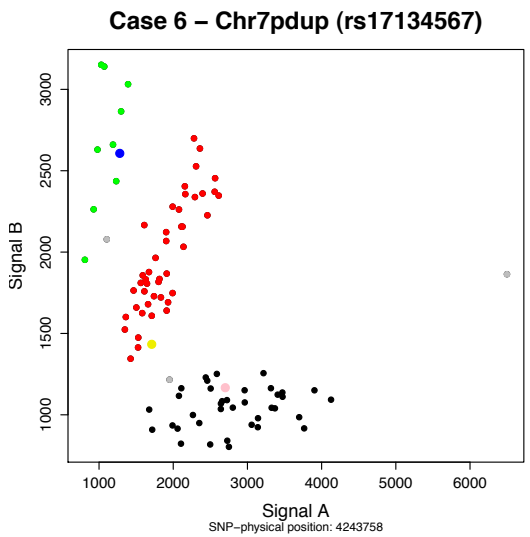

Case 6 – Chr7pdup (rs10255204)
Signal B
Signal A
SNP–physical position: 1932092

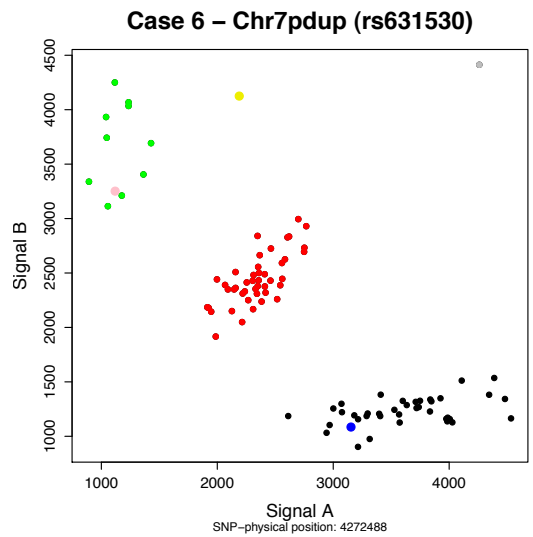

Case 6 – Chr7pdup (rs6944568)
Signal B
Signal A
SNP–physical position: 2448317

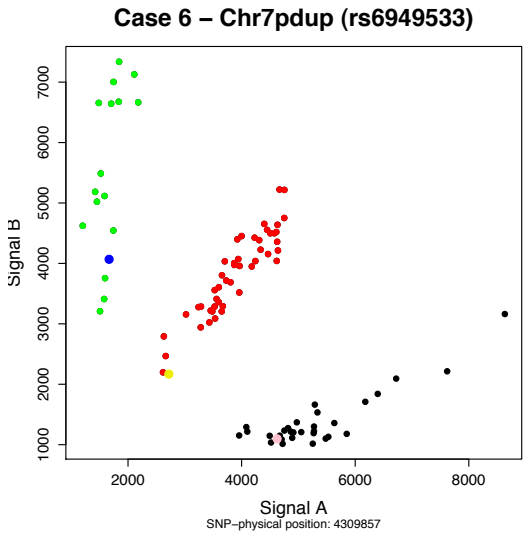

Case 6 – Chr7pdup (rs2023968)
Signal B
Signal A
SNP–physical position: 2451461

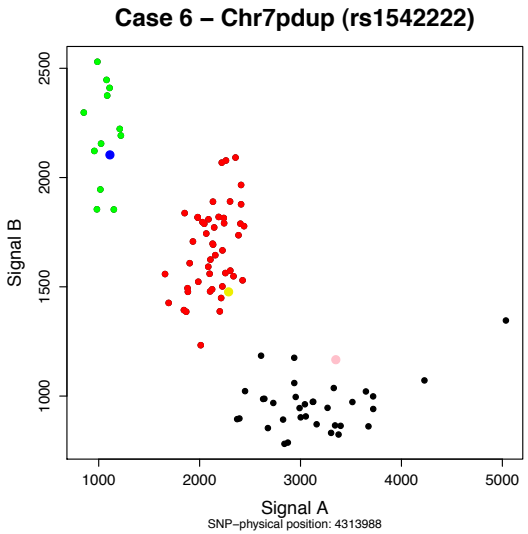

Case 6 – Chr7pdup (rs10227362)
Signal B
Signal A
SNP–physical position: 2456799

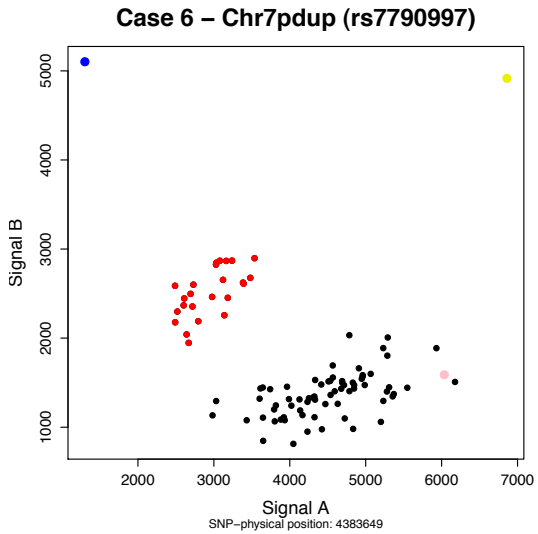

Case 6 – Chr7pdup (rs673500)
Signal B
Signal A
SNP–physical position: 4229445

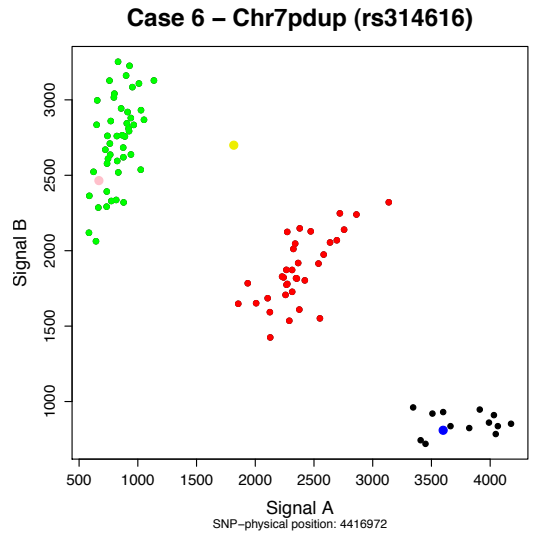

Case 6 – Chr7pdup (rs17134567)
Signal B
Signal A
SNP–physical position: 4243758

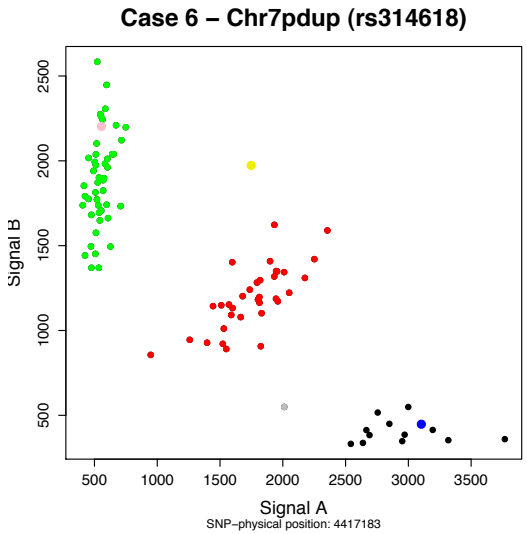

Case 6 – Chr7pdup (rs631530)
Signal B
Signal A
SNP–physical position: 4272488

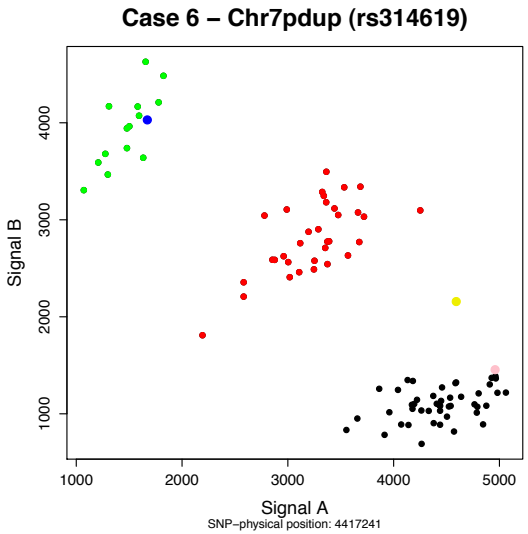

Case 6 – Chr7pdup (rs6949533)
Signal B
Signal A
SNP–physical position: 4309857

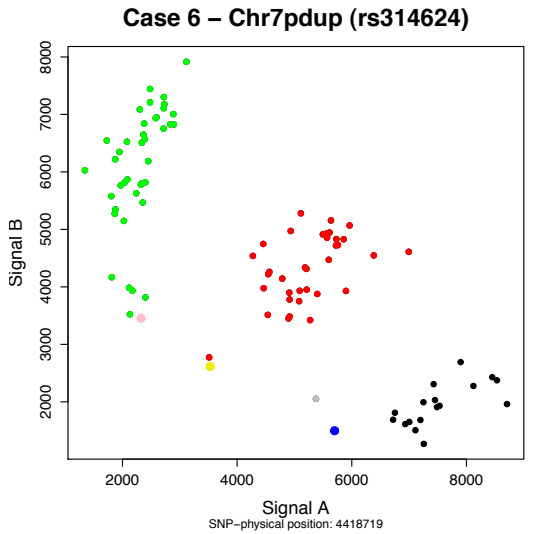

Case 6 – Chr7pdup (rs1542222)
Signal B
Signal A
SNP–physical position: 4313988

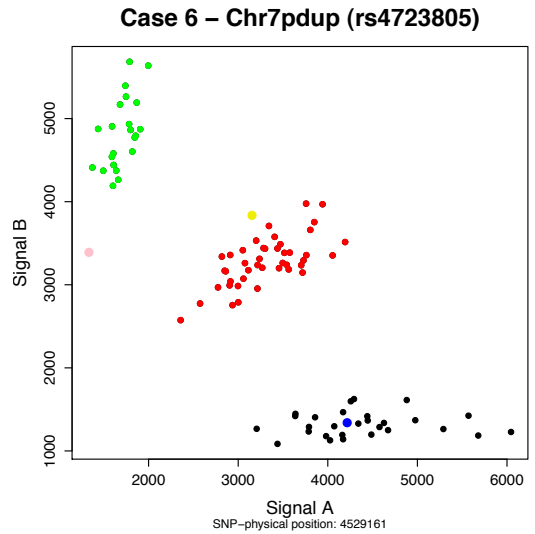

Case 6 – Chr7pdup (rs7790997)
Signal B
Signal A
SNP–physical position: 4383649

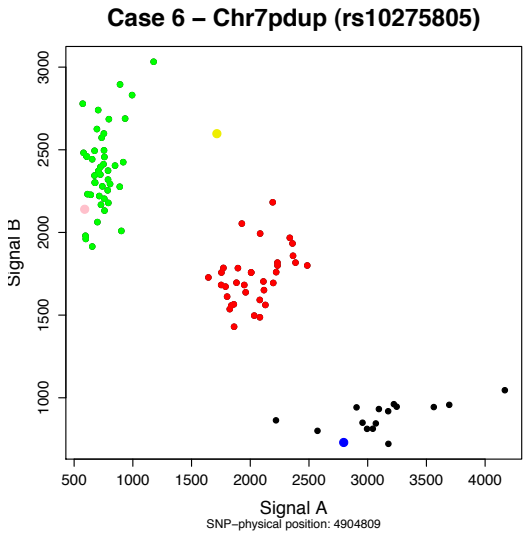

Case 6 – Chr7pdup (rs314616)
Signal B
Signal A
SNP–physical position: 4416972

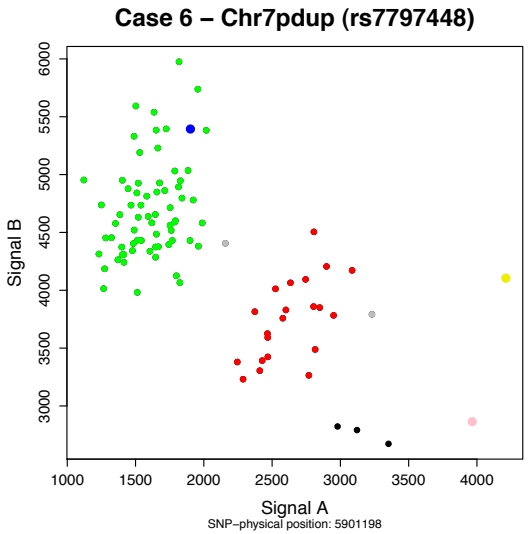

Case 6 – Chr7pdup (rs314618)
Signal B
Signal A
SNP–physical position: 4417183

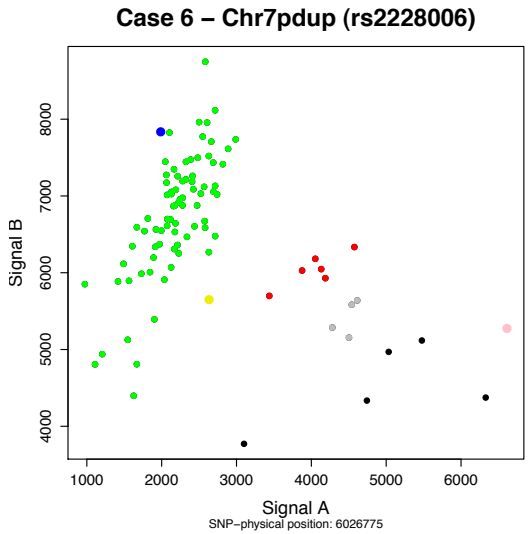

Case 6 – Chr7pdup (rs314619)
Signal B
Signal A
SNP–physical position: 4417241

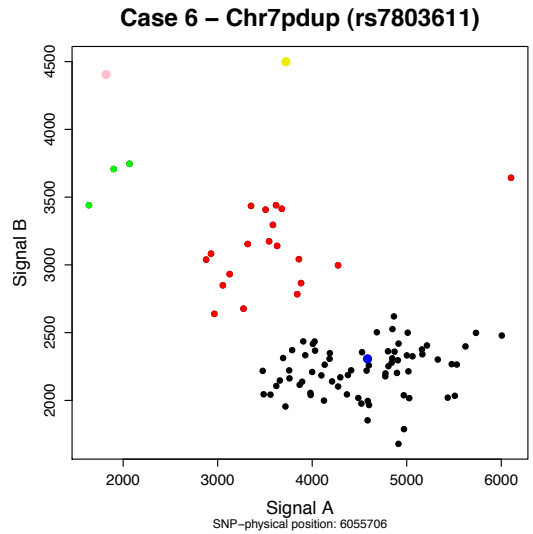

Case 6 – Chr7pdup (rs314624)
Signal B
Signal A
SNP–physical position: 4418719

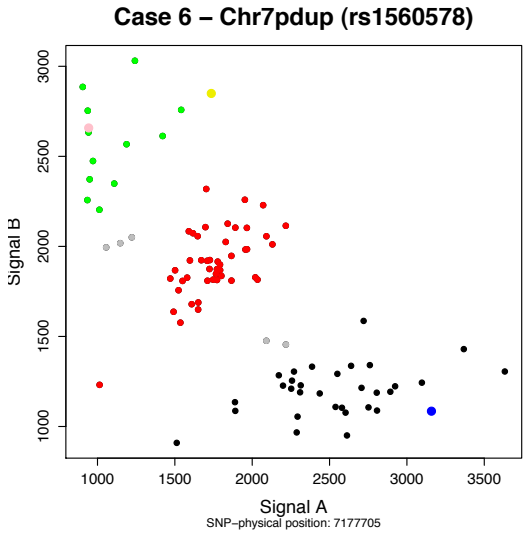

Case 6 – Chr7pdup (rs4723805)
Signal B
Signal A
SNP–physical position: 4529161

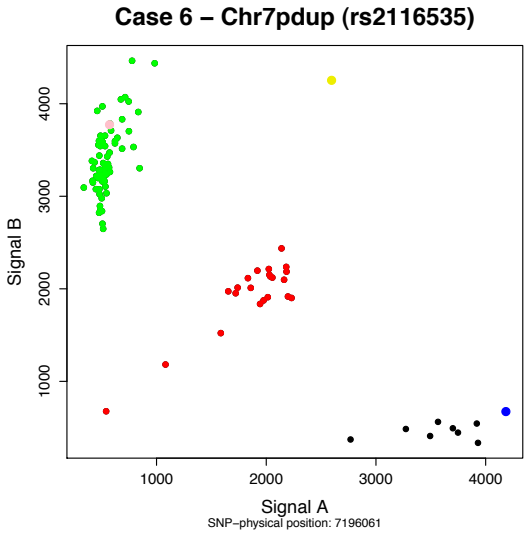

Case 6 – Chr7pdup (rs10275805)
Signal B
Signal A
SNP–physical position: 4904809

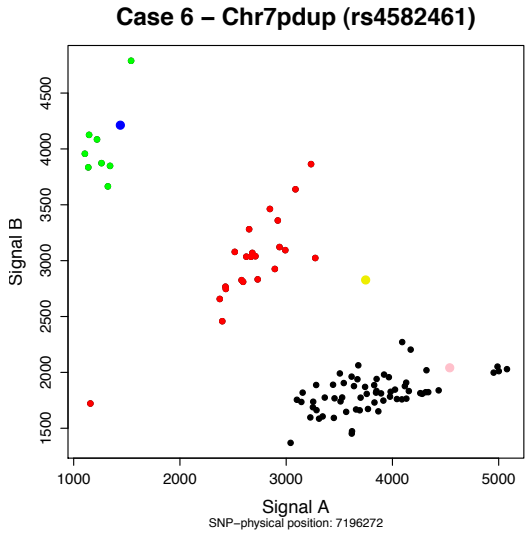

Case 6 – Chr7pdup (rs7797448)
Signal B
Signal A
SNP–physical position: 5901198

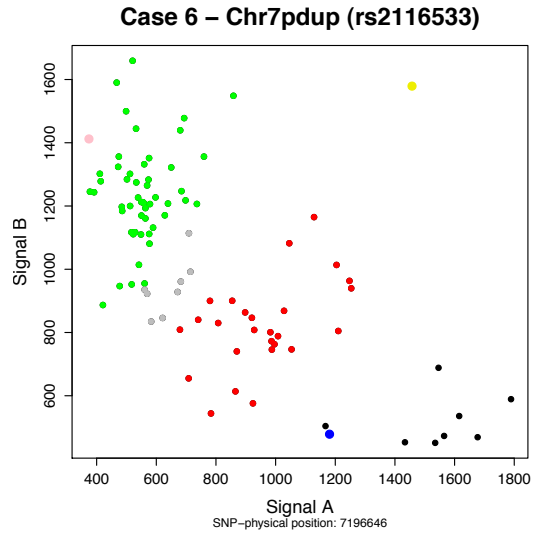

Case 6 – Chr7pdup (rs2228006)
Signal B
Signal A
SNP–physical position: 6026775

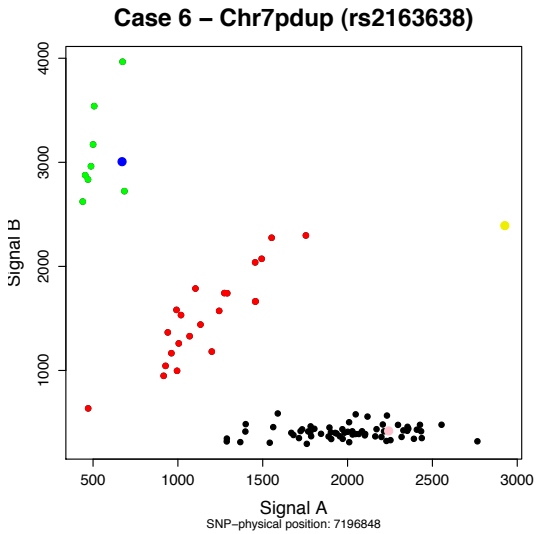

Case 6 – Chr7pdup (rs7803611)
Signal B
Signal A
SNP–physical position: 6055706

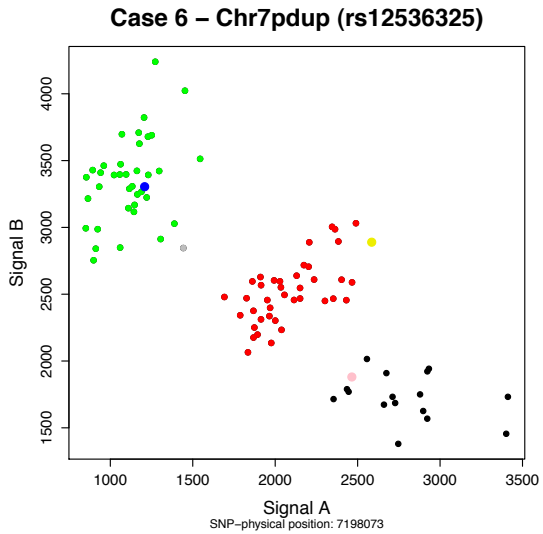

Case 6 – Chr7pdup (rs1560578)
Signal B
Signal A
SNP–physical position: 7177705

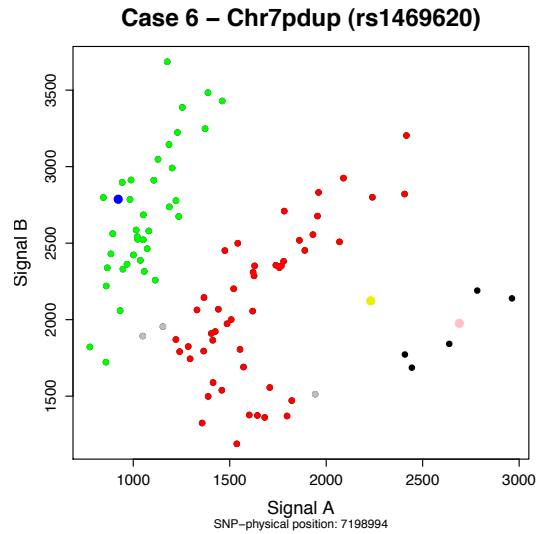

Case 6 – Chr7pdup (rs2116535)
Signal B
Signal A
SNP–physical position: 7196061

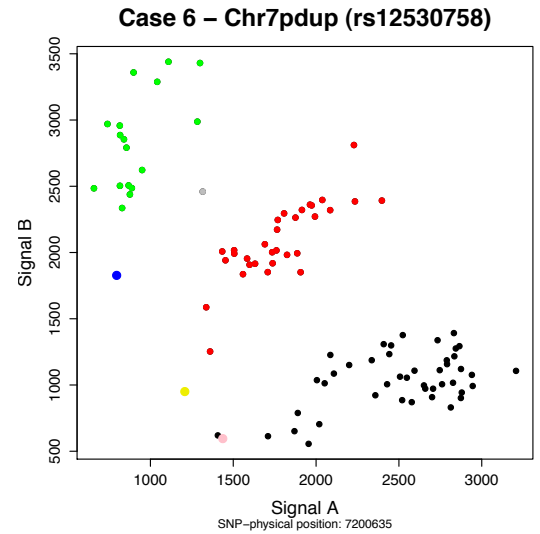

Case 6 – Chr7pdup (rs4582461)
Signal B
Signal A
SNP–physical position: 7196272

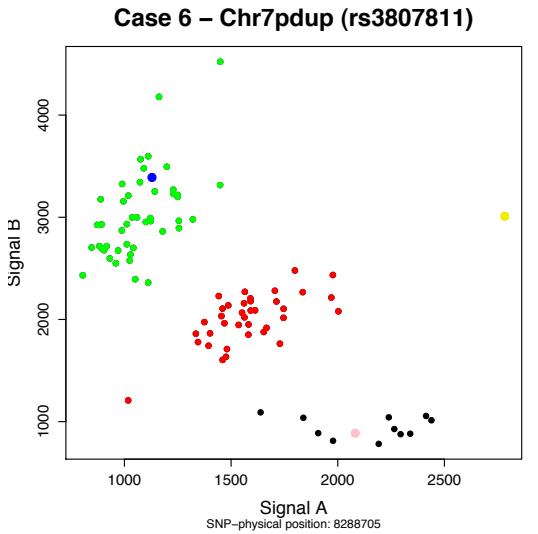

Case 6 – Chr7pdup (rs2116533)
Signal B
Signal A
SNP–physical position: 7196646

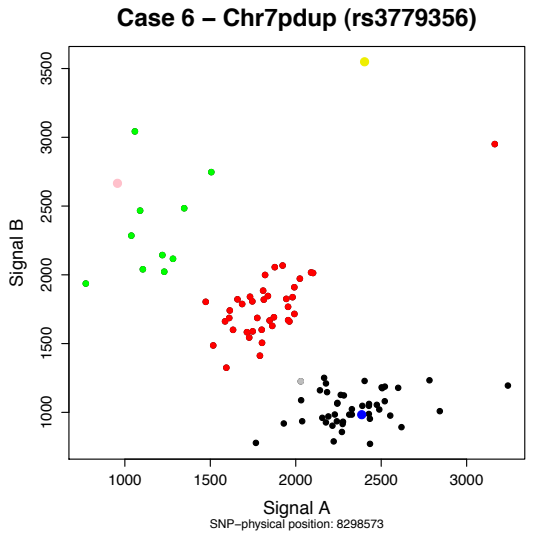

Case 6 – Chr7pdup (rs2163638)
Signal B
Signal A
SNP–physical position: 7196848

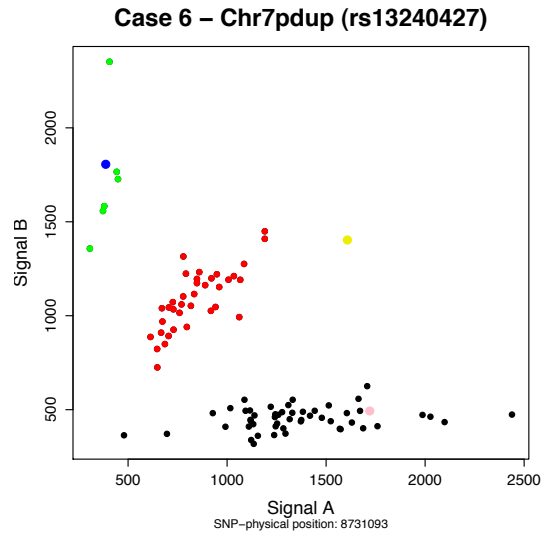

Case 6 – Chr7pdup (rs12536325)
Signal B
Signal A
SNP–physical position: 7198073

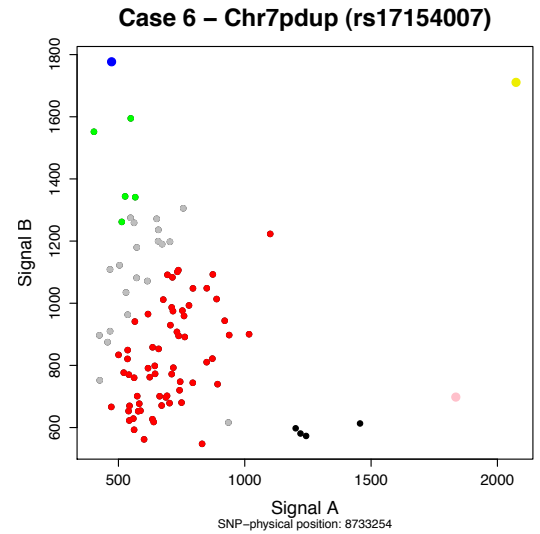

Case 6 – Chr7pdup (rs1469620)
Signal B
Signal A
SNP–physical position: 7198994

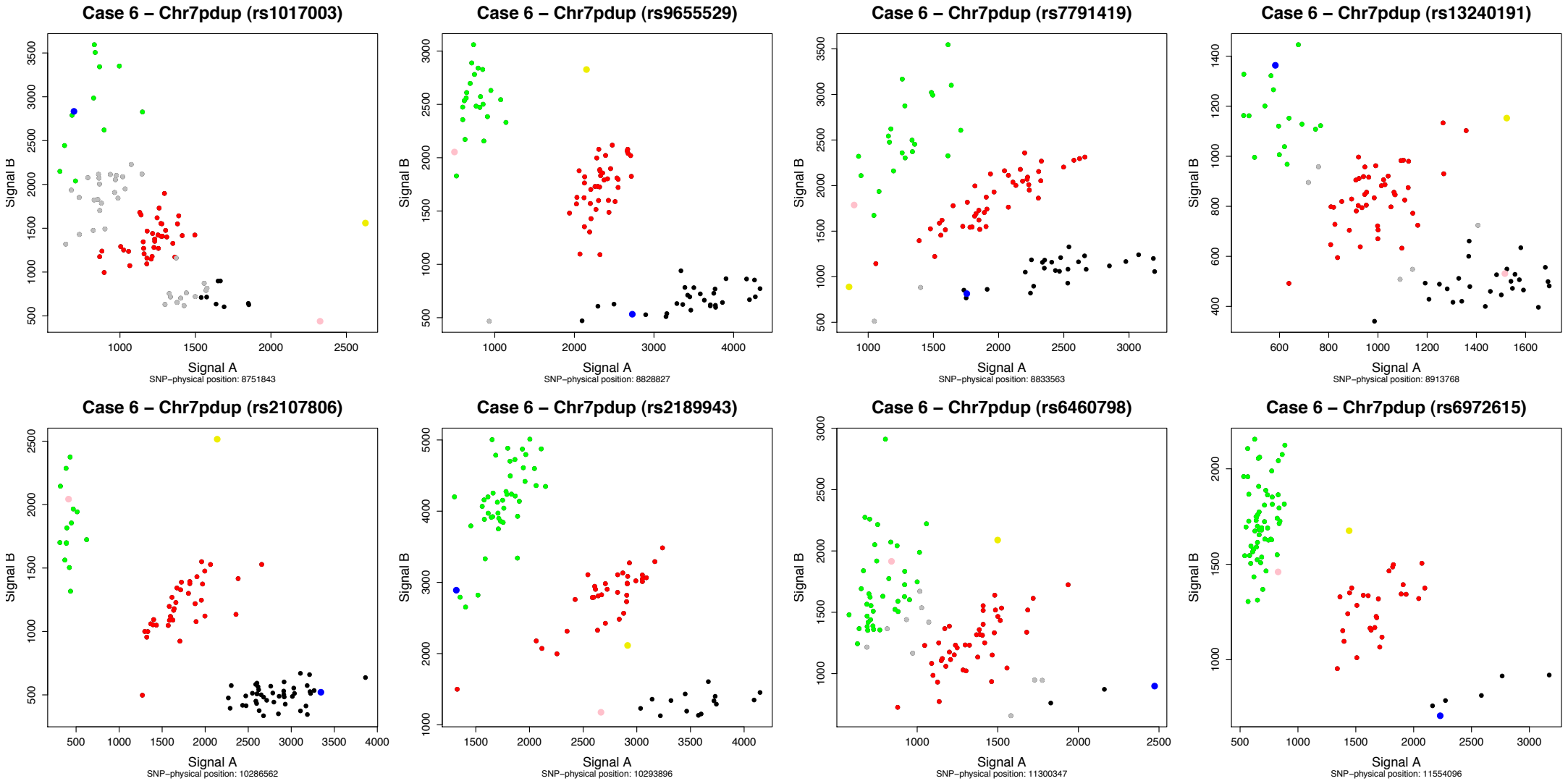

Case 6 – Chr7pdup (rs12530758)
Signal B
Signal A
SNP–physical position: 7200635

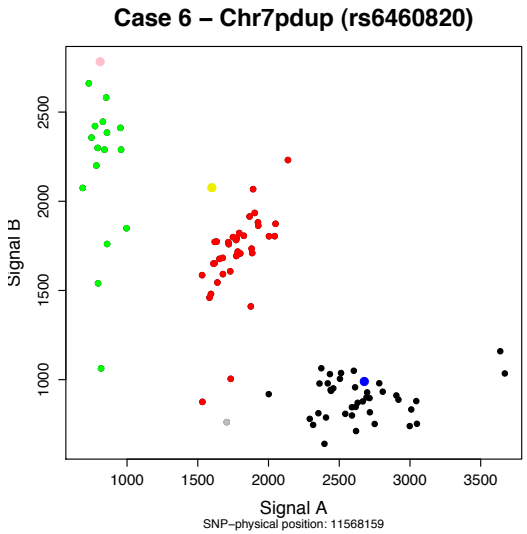

Case 6 – Chr7pdup (rs3807811)
Signal B
Signal A
SNP–physical position: 8288705

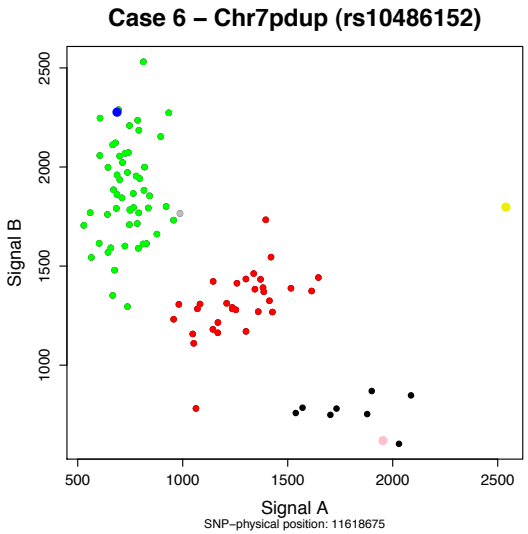

Case 6 – Chr7pdup (rs3779356)
Signal B
Signal A
SNP–physical position: 8298573

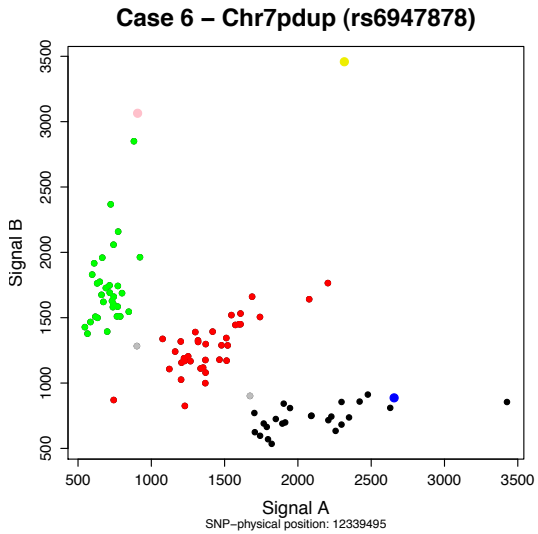

Case 6 – Chr7pdup (rs13240427)
Signal B
Signal A
SNP–physical position: 8731093

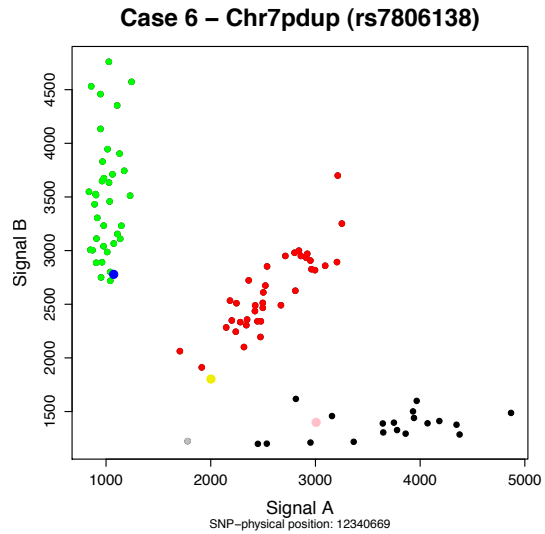

Case 6 – Chr7pdup (rs17154007)
Signal B
Signal A
SNP–physical position: 8733254

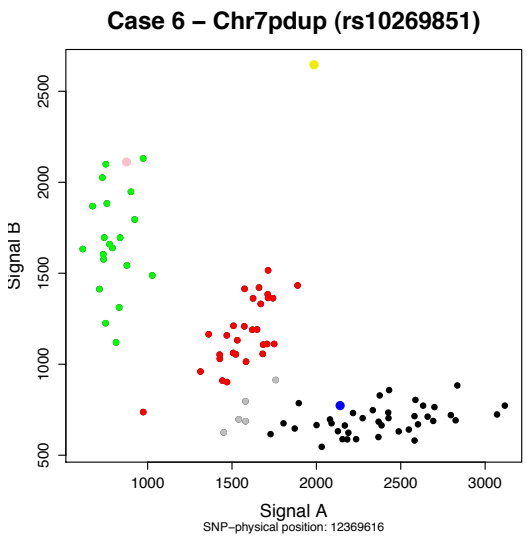

Case 6 – Chr7pdup (rs1017003)
Signal B
Signal A
SNP–physical position: 8751843
Case 6 – Chr7pdup (rs9655529)
Signal B
Signal A
SNP–physical position: 8828827
Case 6 – Chr7pdup (rs7791419)
Signal B
Signal A
SNP–physical position: 8833563
Case 6 – Chr7pdup (rs13240191)
Signal B
Signal A
SNP–physical position: 8913768
Case 6 – Chr7pdup (rs2107806)
Signal B
Signal A
SNP–physical position: 10286562
Case 6 – Chr7pdup (rs2189943)
Signal B
Signal A
SNP–physical position: 10293896
Case 6 – Chr7pdup (rs6460798)
Signal B
Signal A
SNP–physical position: 11300347
Case 6 – Chr7pdup (rs6972615)
Signal B
Signal A
SNP–physical position: 11554096

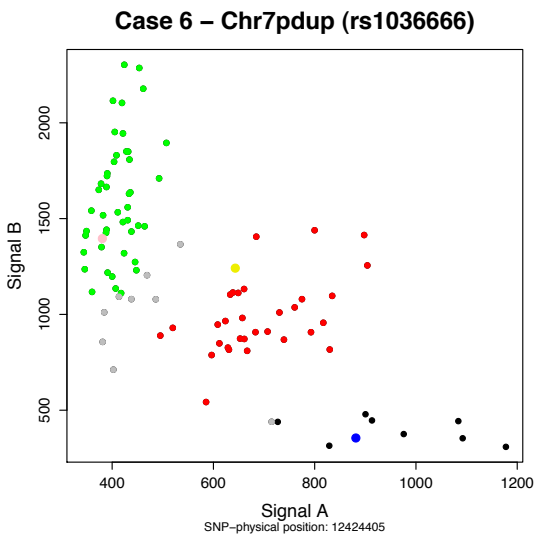

Case 6 – Chr7pdup (rs6460820)
Signal B
Signal A
SNP–physical position: 11568159

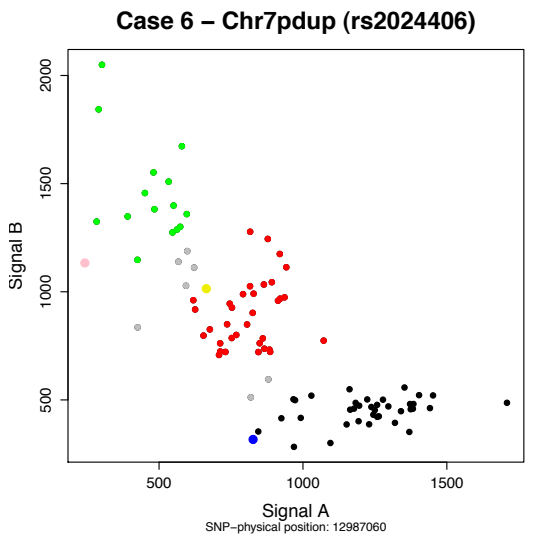

Case 6 – Chr7pdup (rs10486152)
Signal B
Signal A
SNP–physical position: 11618675

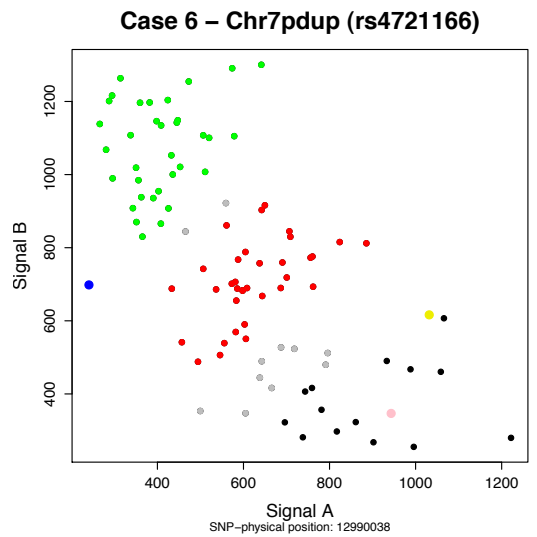

Case 6 – Chr7pdup (rs6947878)
Signal B
Signal A
SNP–physical position: 12339495

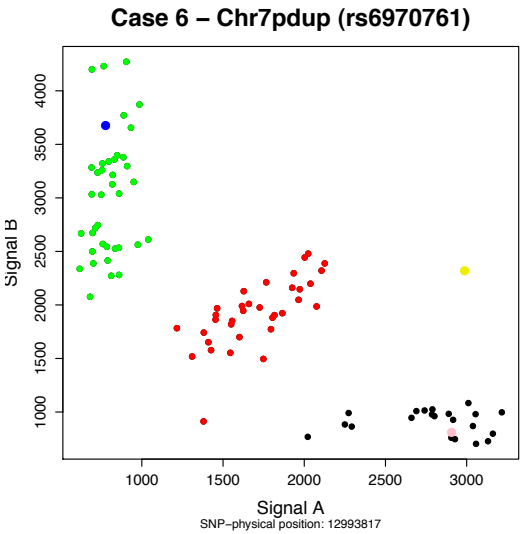

Case 6 – Chr7pdup (rs7806138)
Signal B
Signal A
SNP–physical position: 12340669

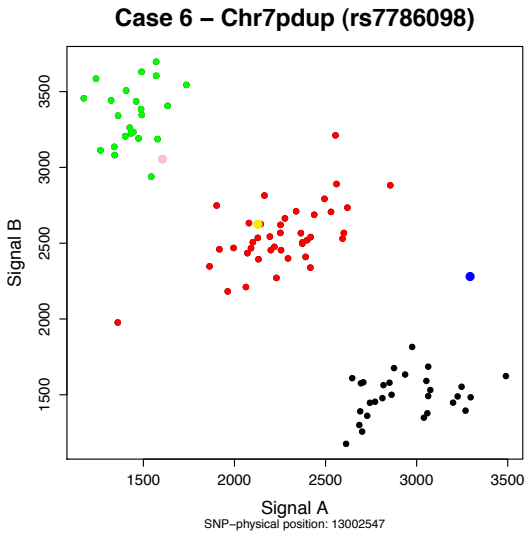

Case 6 – Chr7pdup (rs10269851)
Signal B
Signal A
SNP–physical position: 12369616

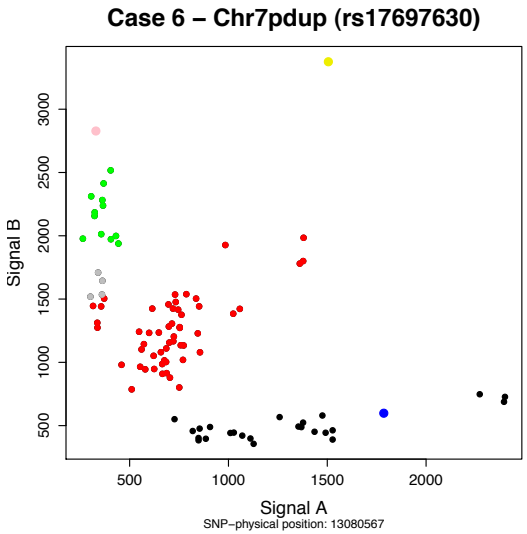

Case 6 – Chr7pdup (rs1036666)
Signal B
Signal A
SNP–physical position: 12424405

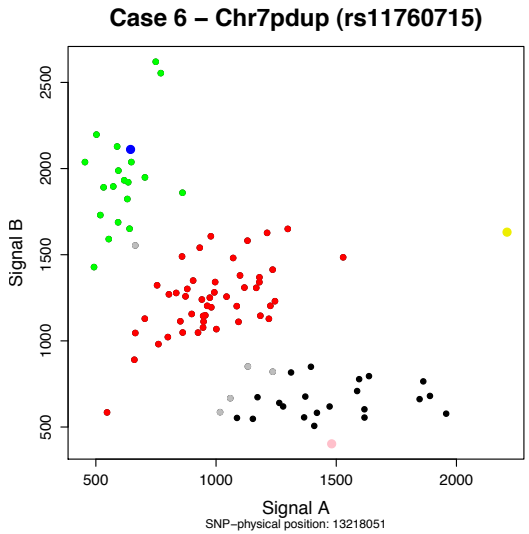

Case 6 – Chr7pdup (rs2024406)
Signal B
Signal A
SNP–physical position: 12987060

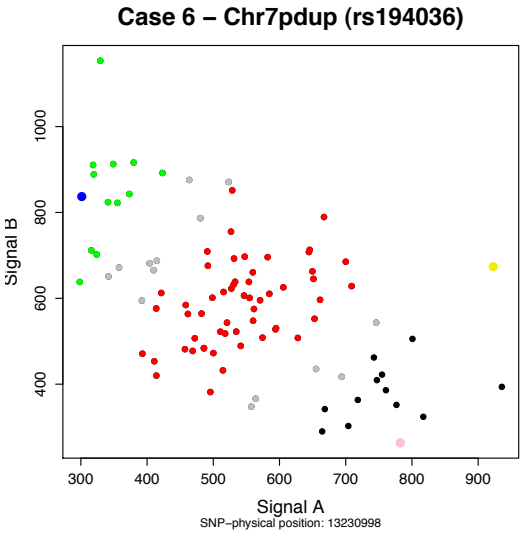

Case 6 – Chr7pdup (rs4721166)
Signal B
Signal A
SNP–physical position: 12990038

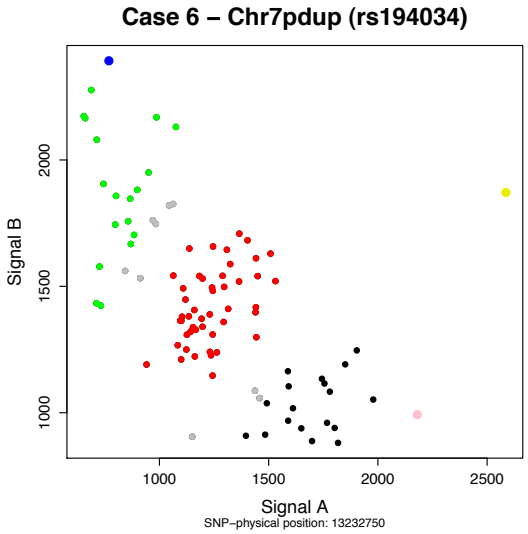

Case 6 – Chr7pdup (rs6970761)
Signal B
Signal A
SNP–physical position: 12993817

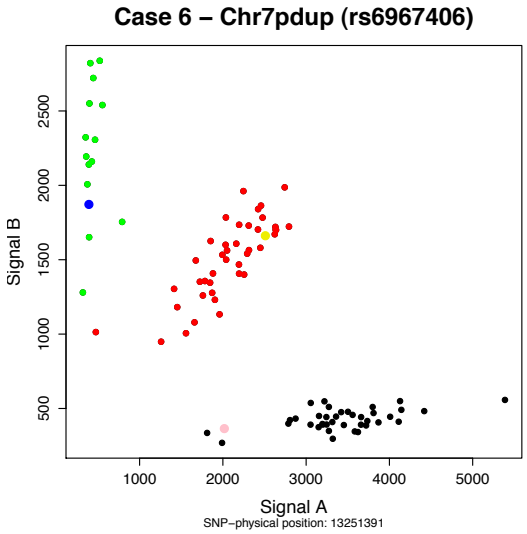

Case 6 – Chr7pdup (rs7786098)
Signal B
Signal A
SNP–physical position: 13002547

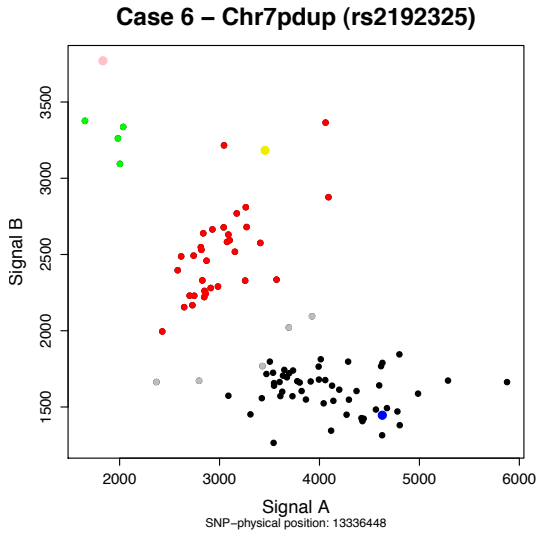

Case 6 – Chr7pdup (rs17697630)
Signal B
Signal A
SNP–physical position: 13080567

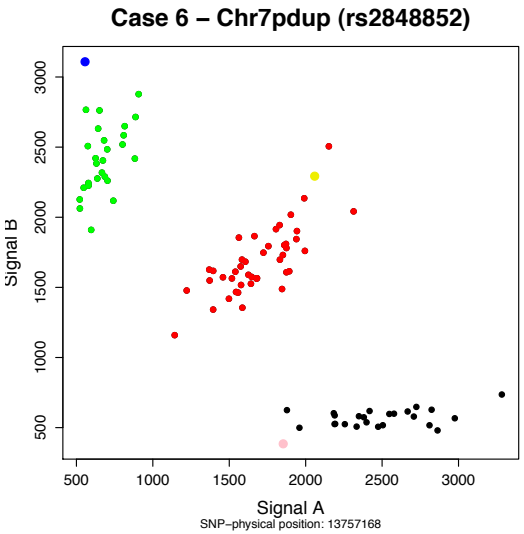

Case 6 – Chr7pdup (rs11760715)
Signal B
Signal A
SNP–physical position: 13218051

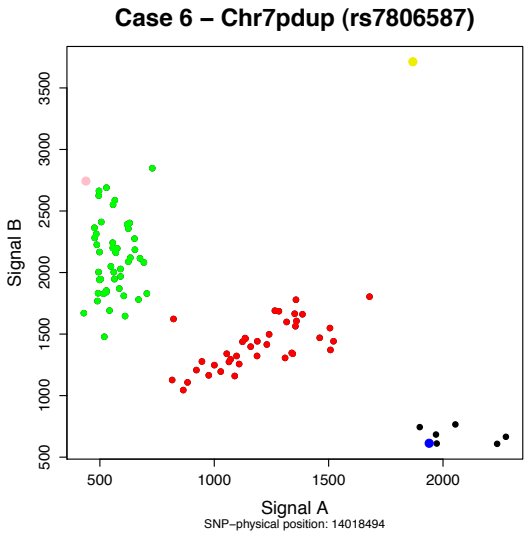

Case 6 – Chr7pdup (rs194036)
Signal B
Signal A
SNP–physical position: 13230998

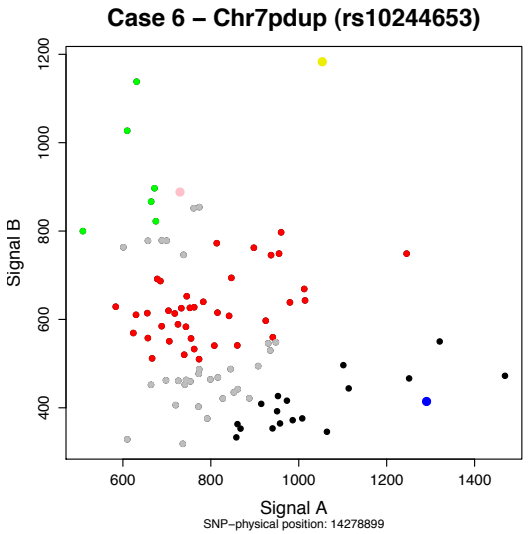

Case 6 – Chr7pdup (rs194034)
Signal B
Signal A
SNP–physical position: 13232750

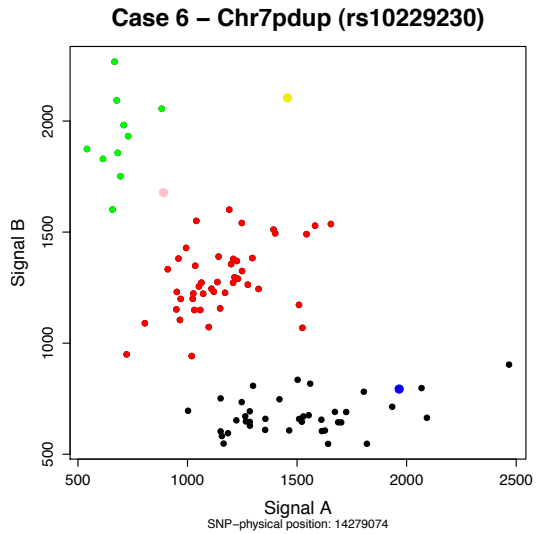

Case 6 – Chr7pdup (rs6967406)
Signal B
Signal A
SNP–physical position: 13251391

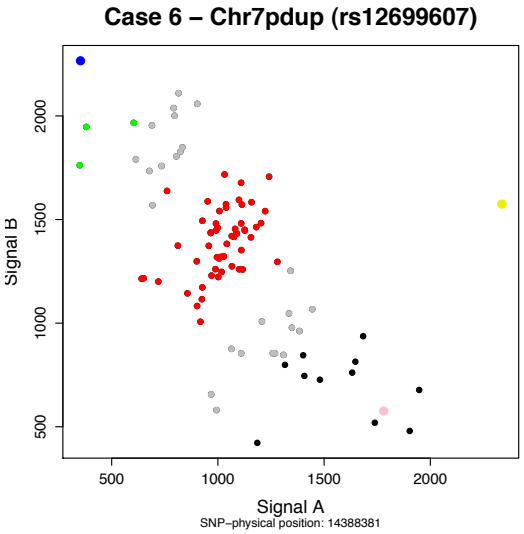

Case 6 – Chr7pdup (rs2192325)
Signal B
Signal A
SNP–physical position: 13336448

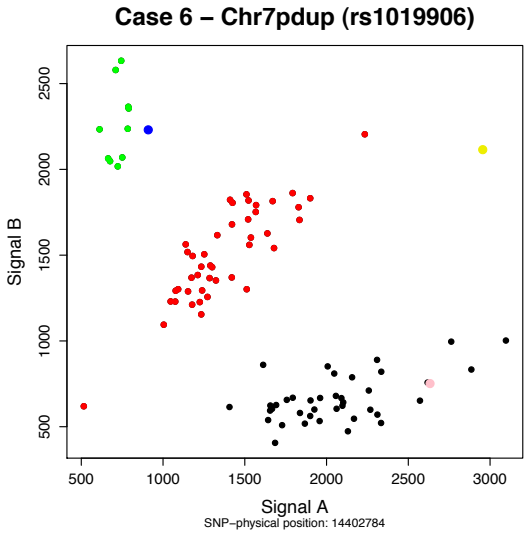

Case 6 – Chr7pdup (rs2848852)
Signal B
Signal A
SNP–physical position: 13757168

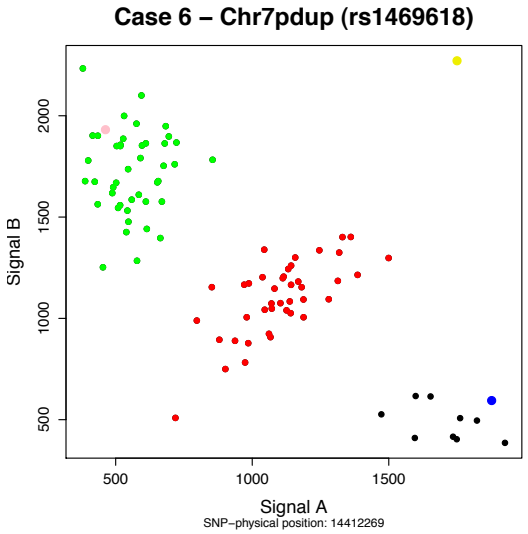

Case 6 – Chr7pdup (rs7806587)
Signal B
Signal A
SNP–physical position: 14018494

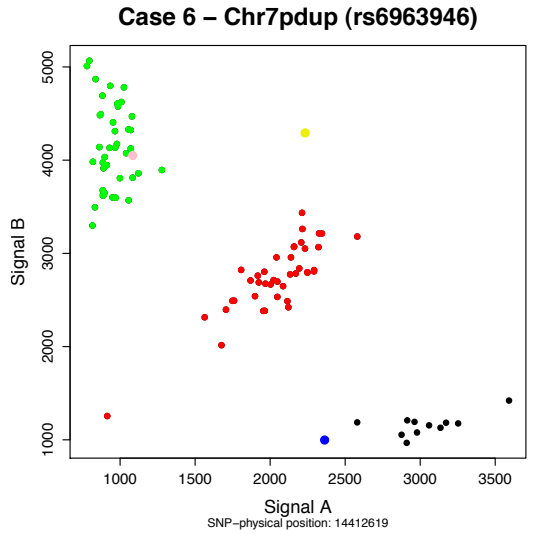

Case 6 – Chr7pdup (rs10244653)
Signal B
Signal A
SNP–physical position: 14278899

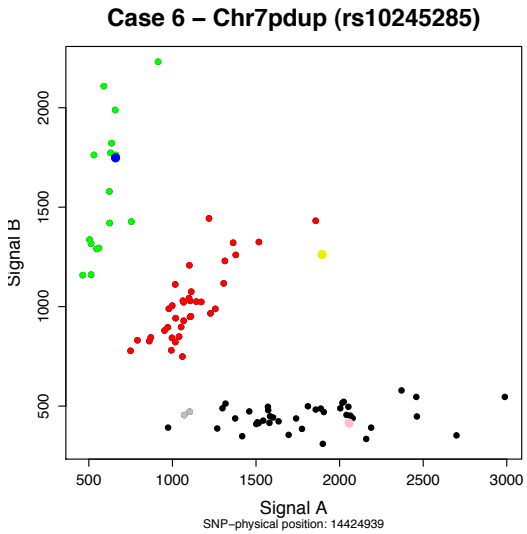

Case 6 – Chr7pdup (rs10229230)
Signal B
Signal A
SNP–physical position: 14279074

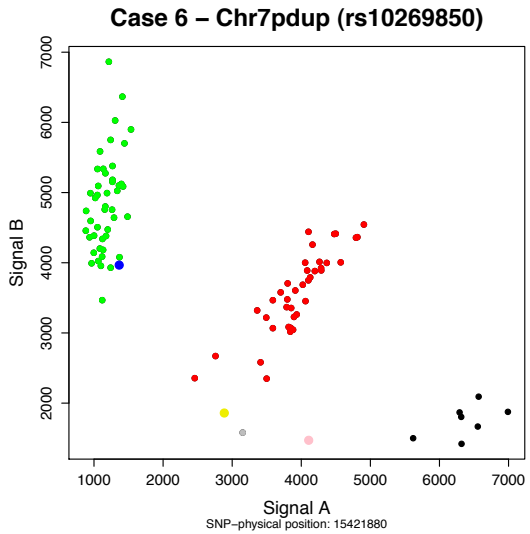

Case 6 – Chr7pdup (rs12699607)
Signal B
Signal A
SNP–physical position: 14388381

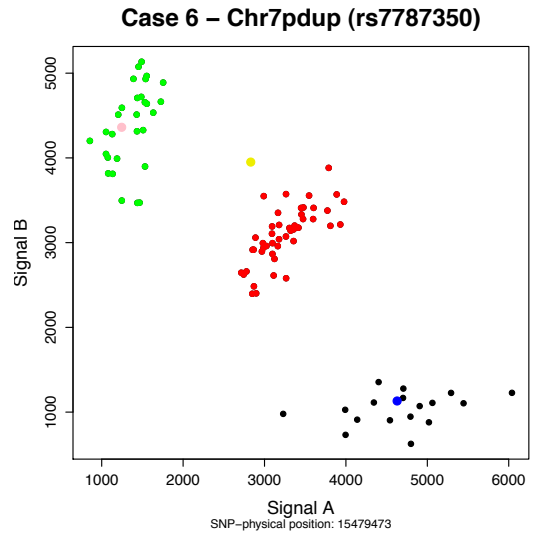

Case 6 – Chr7pdup (rs1019906)
Signal B
Signal A
SNP–physical position: 14402784

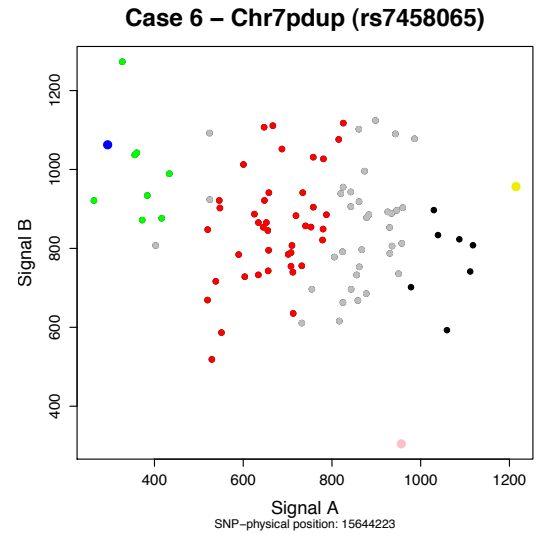

Case 6 – Chr7pdup (rs1469618)
Signal B
Signal A
SNP–physical position: 14412269

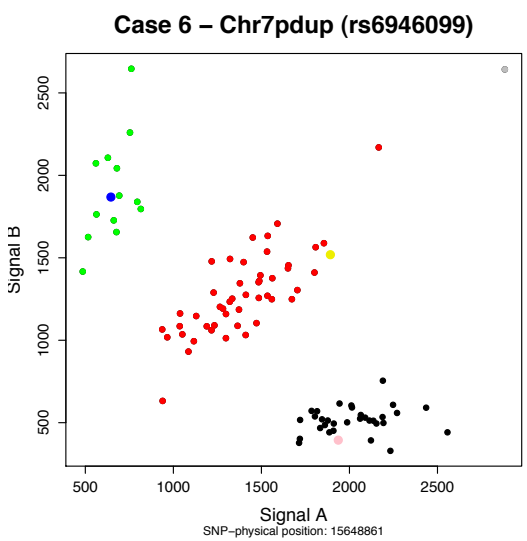

Case 6 – Chr7pdup (rs6963946)
Signal B
Signal A
SNP–physical position: 14412619

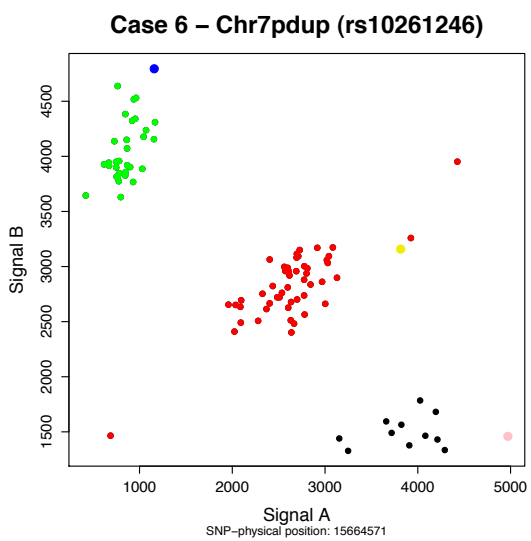

Case 6 – Chr7pdup (rs10245285)
Signal B
Signal A
SNP–physical position: 14424939

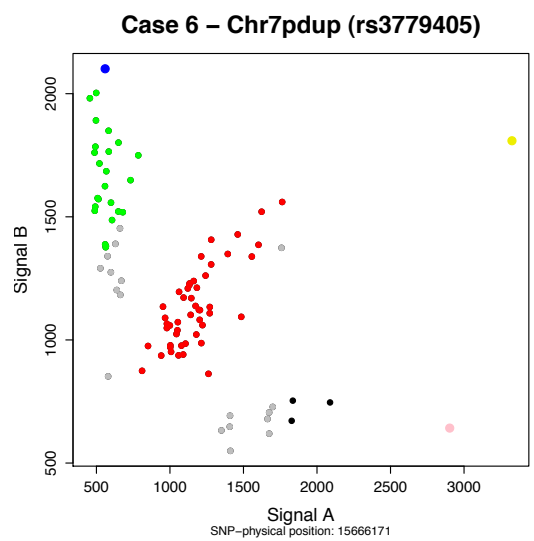

Case 6 – Chr7pdup (rs10269850)
Signal B
Signal A
SNP–physical position: 15421880

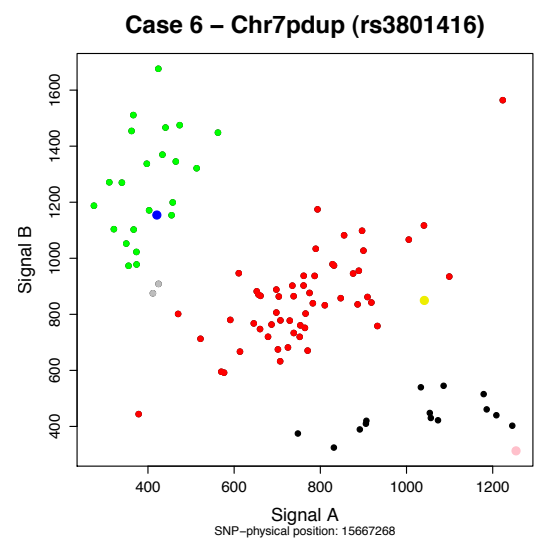

Case 6 – Chr7pdup (rs7787350)
Signal B
Signal A
SNP–physical position: 15479473

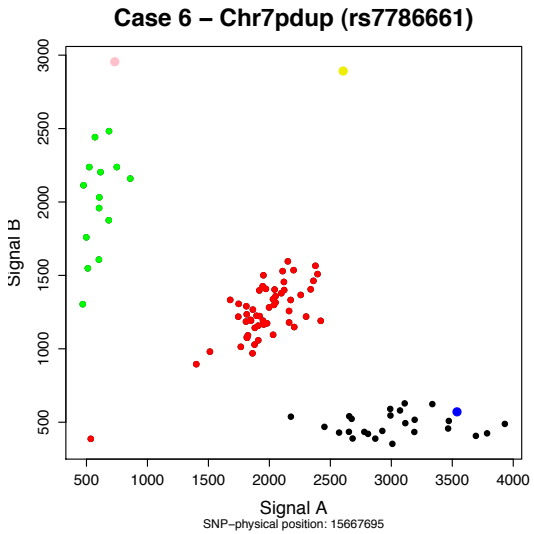

Case 6 – Chr7pdup (rs7458065)
Signal B
Signal A
SNP–physical position: 15644223

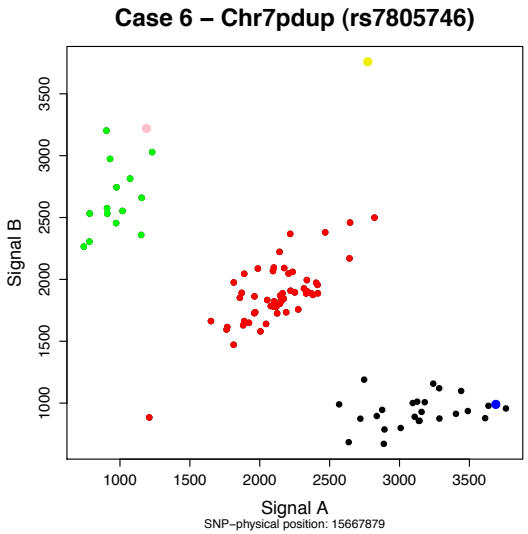

Case 6 – Chr7pdup (rs6946099)
Signal B
Signal A
SNP–physical position: 15648861

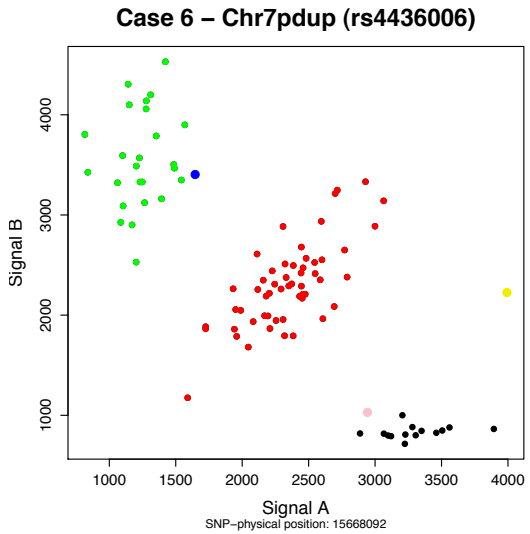

Case 6 – Chr7pdup (rs10261246)
Signal B
Signal A
SNP–physical position: 15664571

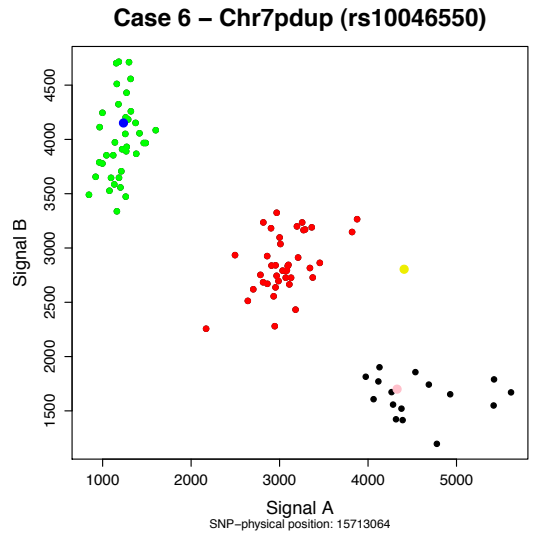

Case 6 – Chr7pdup (rs3779405)
Signal B
Signal A
SNP–physical position: 15666171

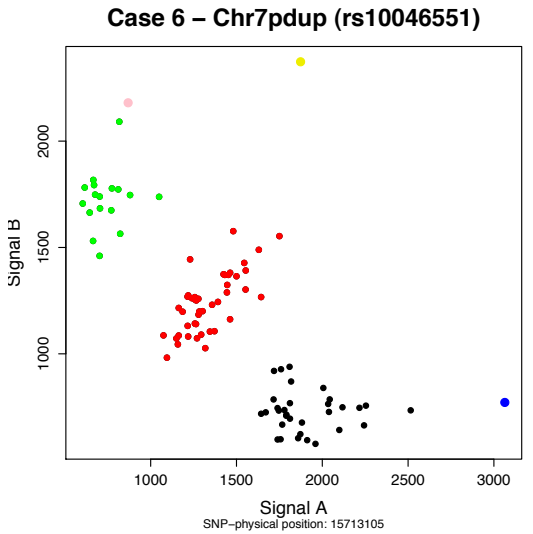

Case 6 – Chr7pdup (rs3801416)
Signal B
Signal A
SNP–physical position: 15667268

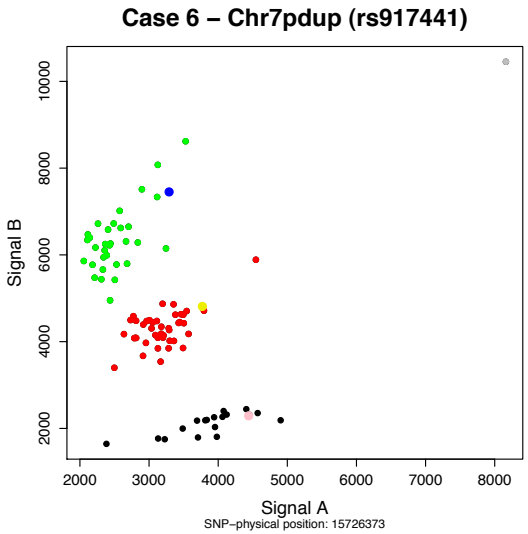

Case 6 – Chr7pdup (rs7786661)
Signal B
Signal A
SNP–physical position: 15667695

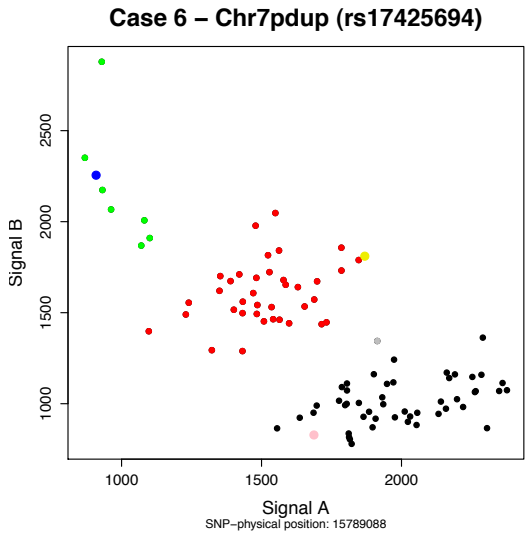

Case 6 – Chr7pdup (rs7805746)
Signal B
Signal A
SNP–physical position: 15667879

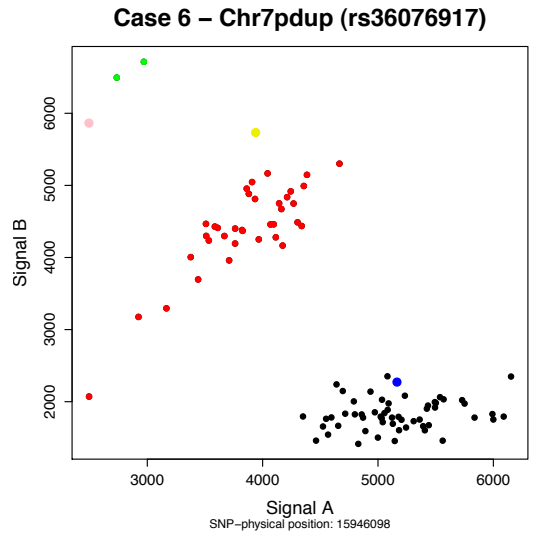

Case 6 – Chr7pdup (rs4436006)
Signal B
Signal A
SNP–physical position: 15668092

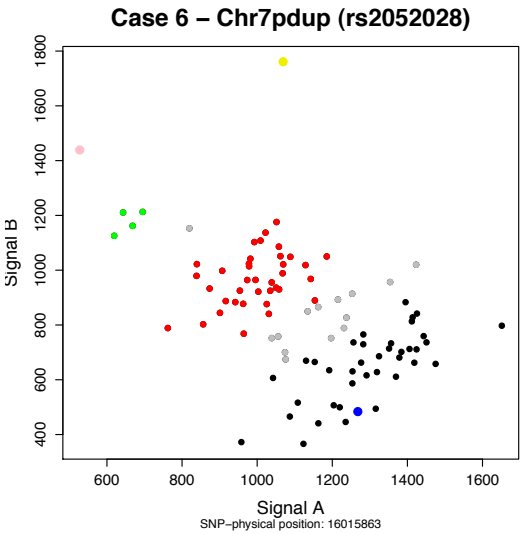

Case 6 – Chr7pdup (rs10046550)
Signal B
Signal A
SNP–physical position: 15713064

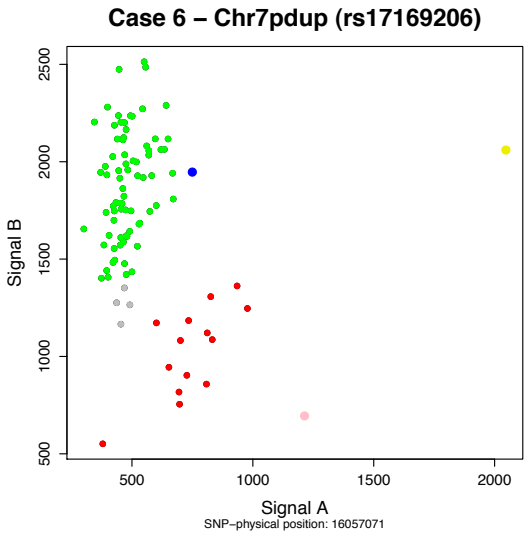

Case 6 – Chr7pdup (rs10046551)
Signal B
Signal A
SNP–physical position: 15713105


Case 6 – Chr7pdup (rs917441)
Signal B
Signal A
SNP–physical position: 15726373

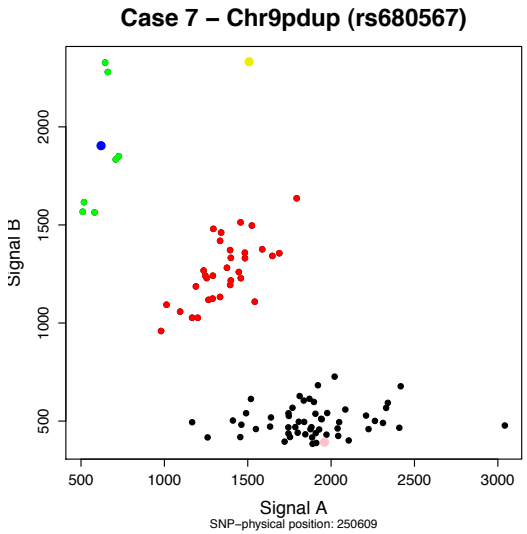

Case 6 – Chr7pdup (rs17425694)
Signal B
Signal A
SNP–physical position: 15789088

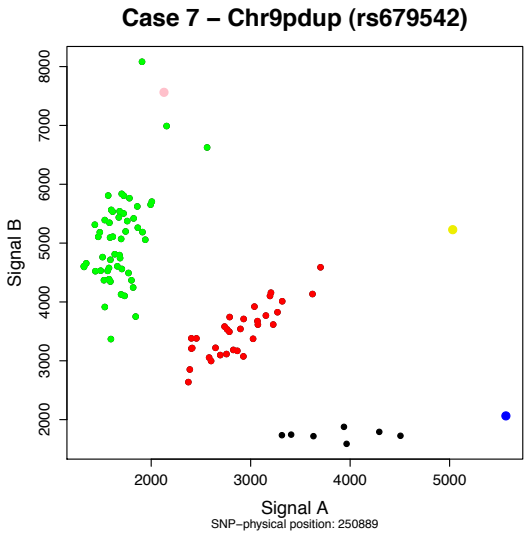

Case 6 – Chr7pdup (rs36076917)
Signal B
Signal A
SNP–physical position: 15946098

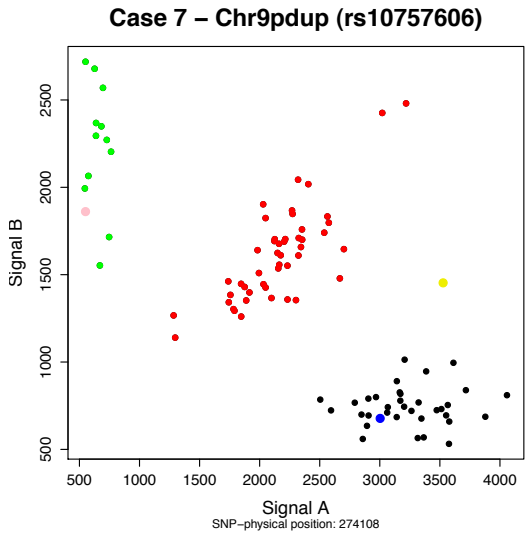

Case 6 – Chr7pdup (rs2052028)
Signal B
400
600
800
1000
1200
1400
1600
1800
600
800
1000
1200
1400
1600
Signal A
SNP–physical position: 16015863

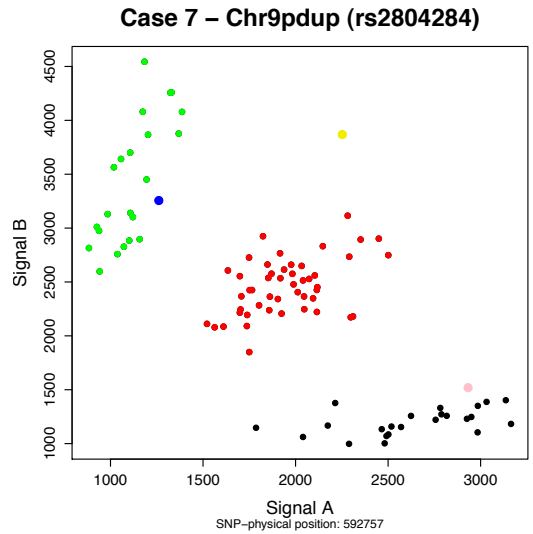

Case 6 – Chr7pdup (rs17169206)
Signal B
500
1000
1500
2000
2500
500
1000
1500
2000
Signal A
SNP–physical position: 16057071

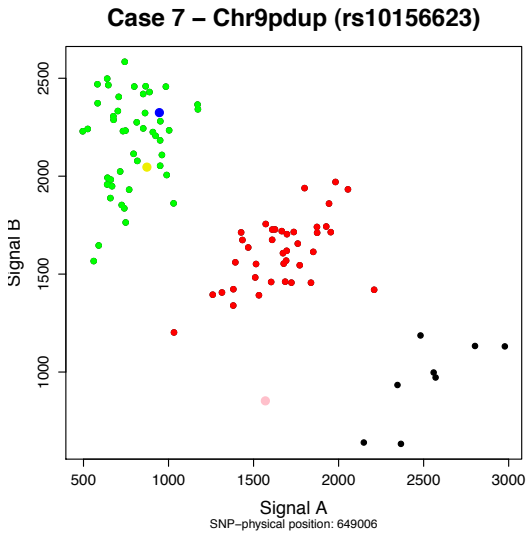
Case: 7
Chromosome: 9p
Abberation: dup.

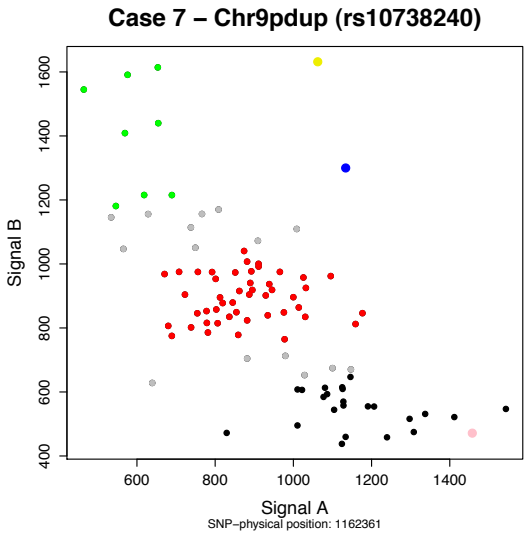

Case 7 – Chr9pdup (rs680567)
Signal B
Signal A
SNP–physical position: 250609

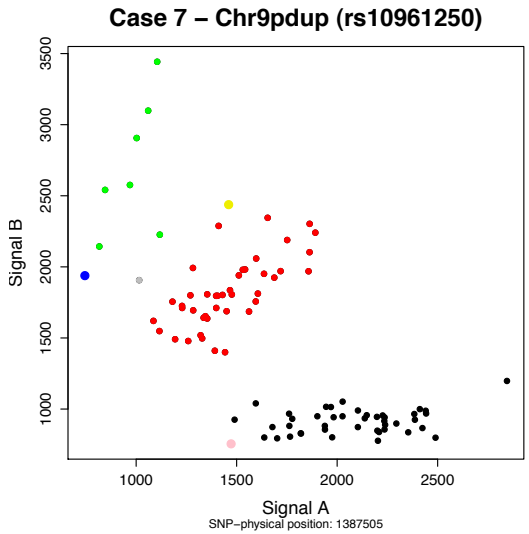

Case 7 – Chr9pdup (rs679542)
Signal B
Signal A
SNP–physical position: 250889

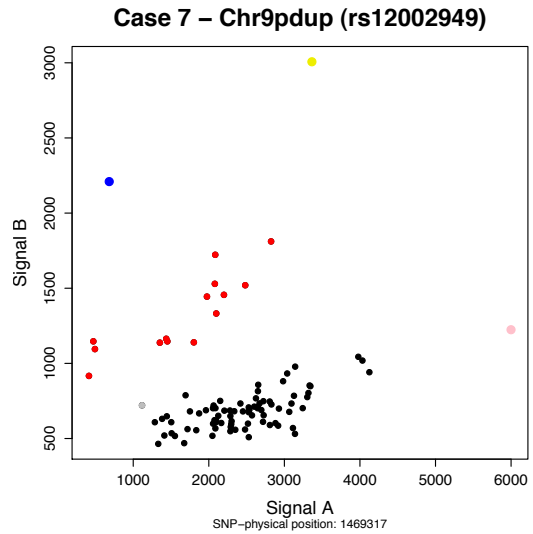

Case 7 – Chr9pdup (rs10757606)
Signal B
Signal A
SNP–physical position: 274108

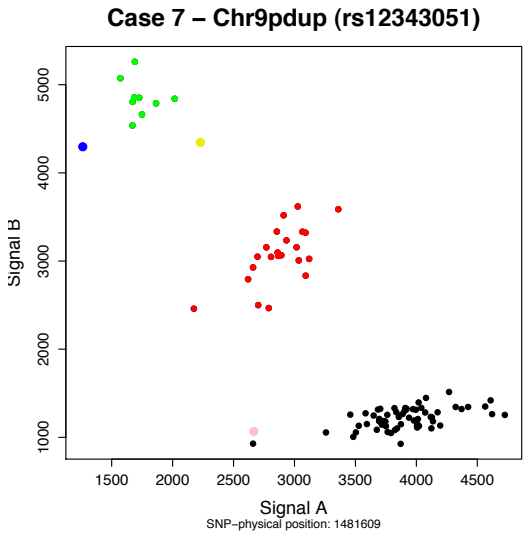

Case 7 – Chr9pdup (rs2804284)
Signal B
Signal A
SNP–physical position: 592757

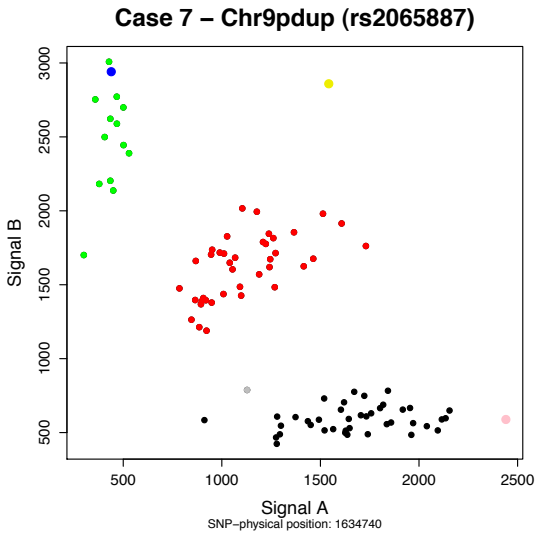

Case 7 – Chr9pdup (rs10156623)
Signal B
Signal A
SNP–physical position: 649006

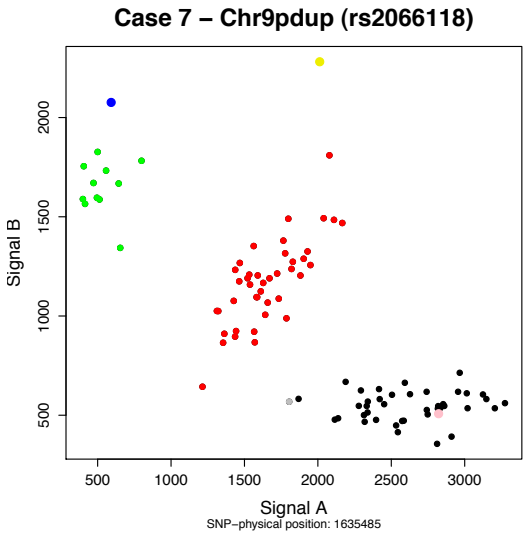

Case 7 – Chr9pdup (rs10738240)
Signal B
Signal A
SNP–physical position: 1162361

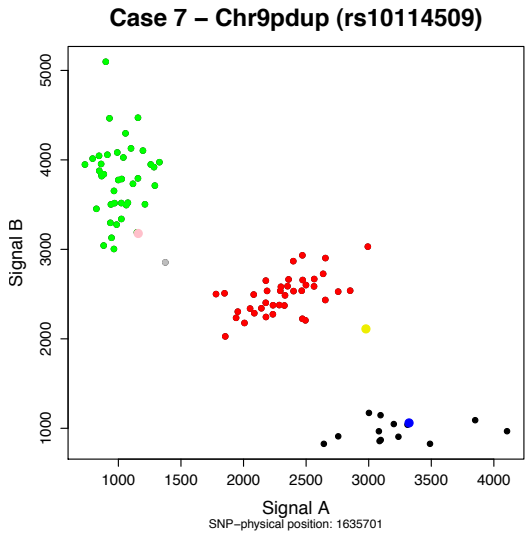

Case 7 – Chr9pdup (rs10961250)
Signal B
Signal A
SNP–physical position: 1387505

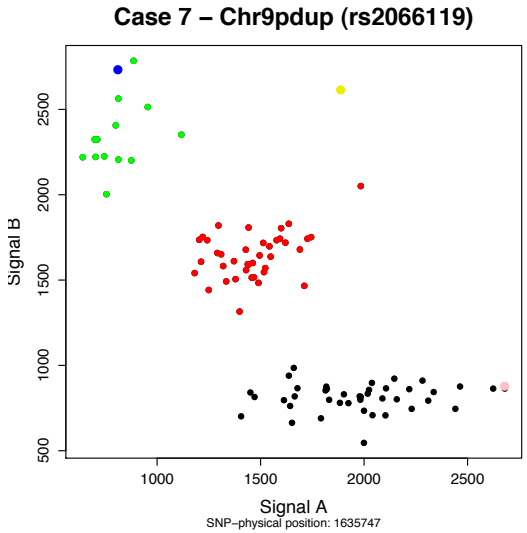

Case 7 – Chr9pdup (rs12002949)
Signal B
Signal A
SNP–physical position: 1469317

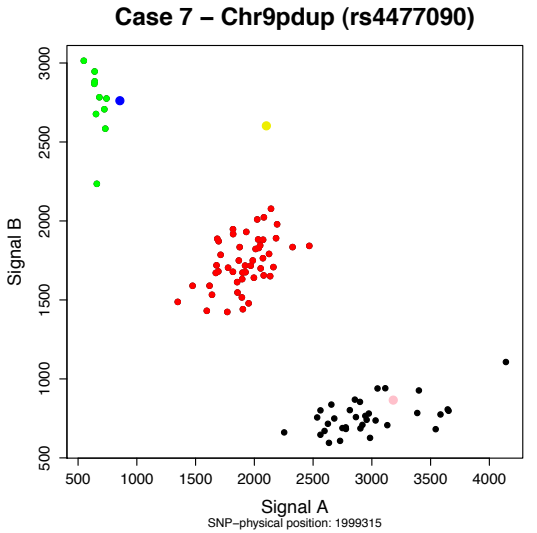

Case 7 – Chr9pdup (rs12343051)
Signal B
Signal A
SNP–physical position: 1481609

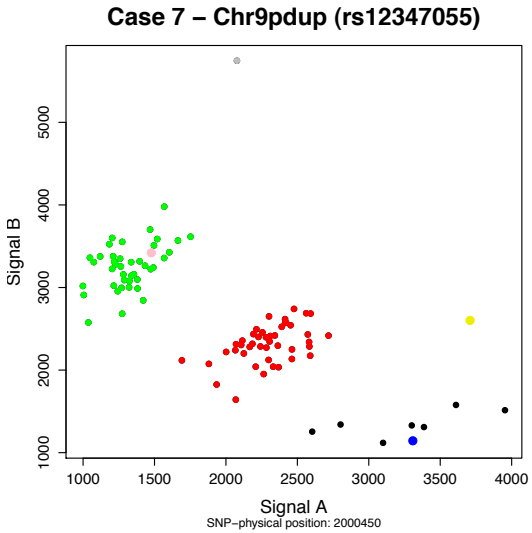

Case 7 – Chr9pdup (rs2065887)
Signal B
Signal A
SNP–physical position: 1634740

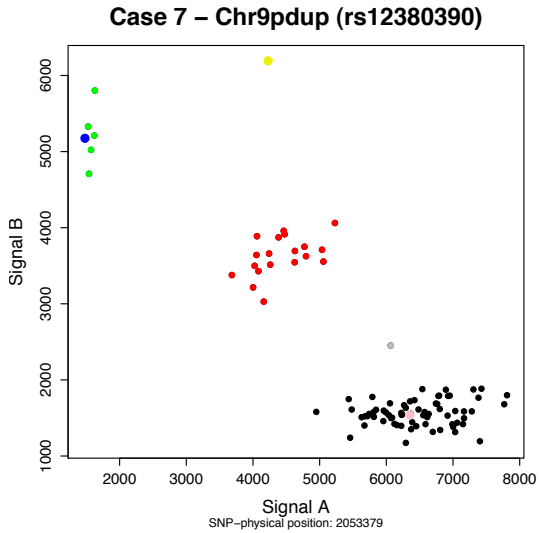

Case 7 – Chr9pdup (rs2066118)
Signal B
Signal A
SNP–physical position: 1635485

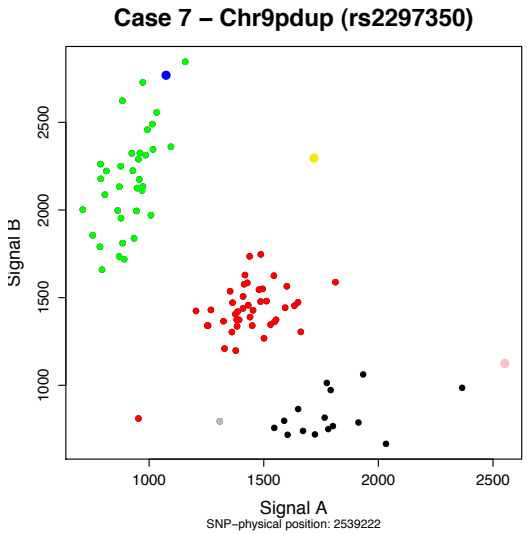

Case 7 – Chr9pdup (rs10114509)
Signal B
Signal A
SNP–physical position: 1635701

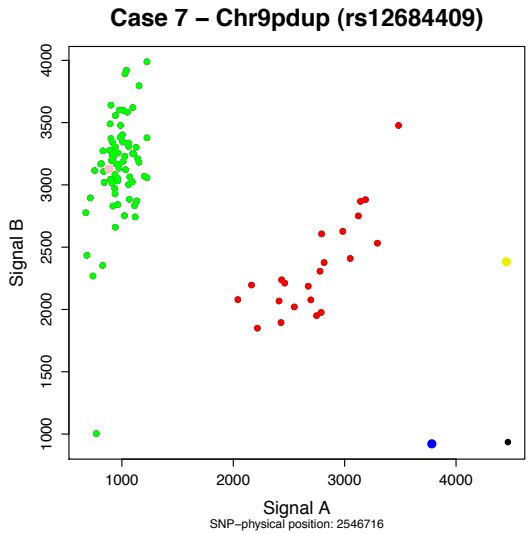

Case 7 – Chr9pdup (rs2066119)
Signal B
Signal A
SNP–physical position: 1635747

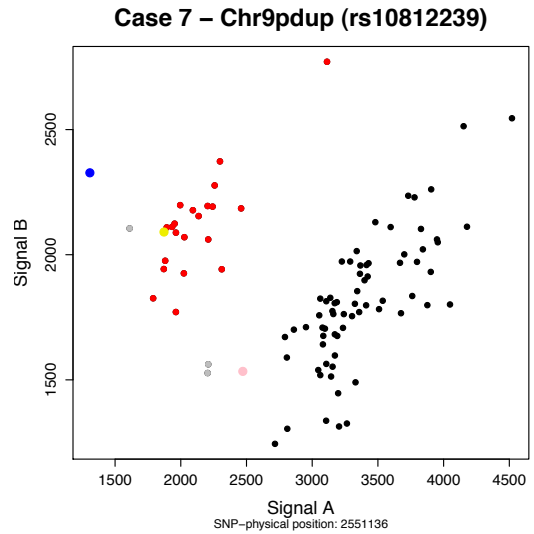

Case 7 – Chr9pdup (rs4477090)
Signal B
Signal A
SNP–physical position: 1999315

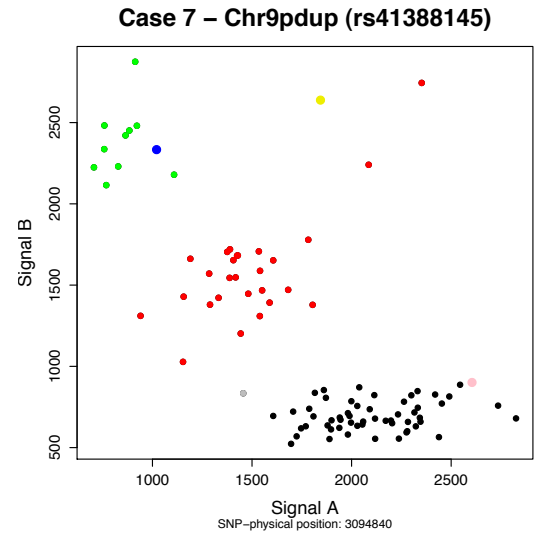

Case 7 – Chr9pdup (rs12347055)
Signal B
Signal A
SNP–physical position: 2000450

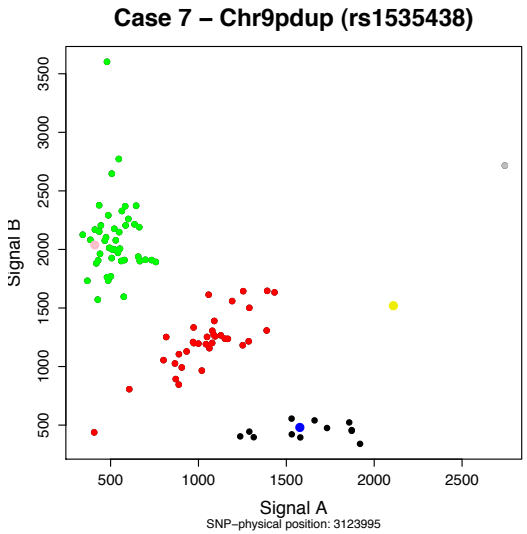

Case 7 – Chr9pdup (rs12380390)
Signal B
Signal A
SNP–physical position: 2053379

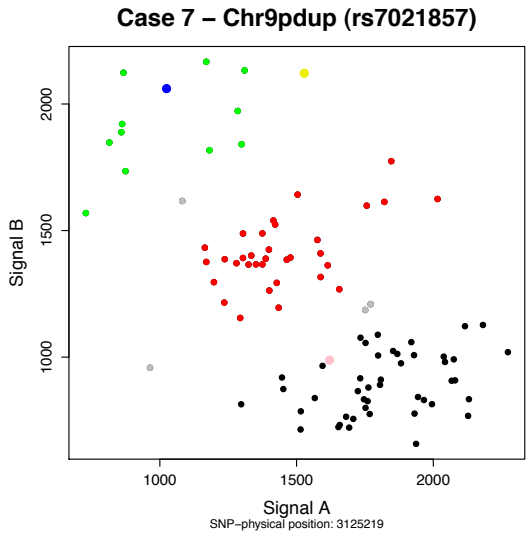

Case 7 – Chr9pdup (rs2297350)
Signal B
Signal A
SNP–physical position: 2539222

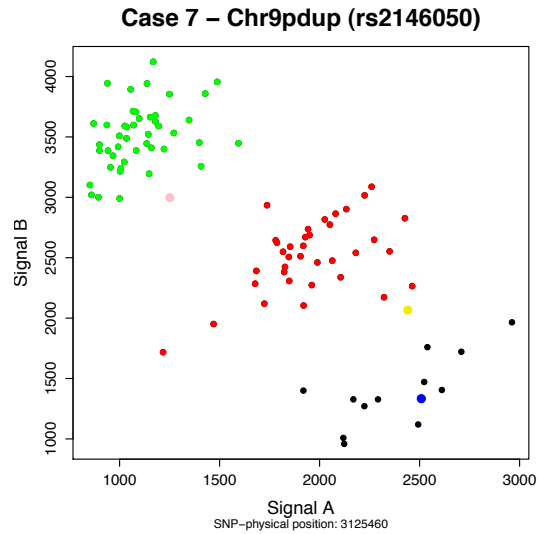

Case 7 – Chr9pdup (rs12684409)
Signal B
Signal A
SNP–physical position: 2546716

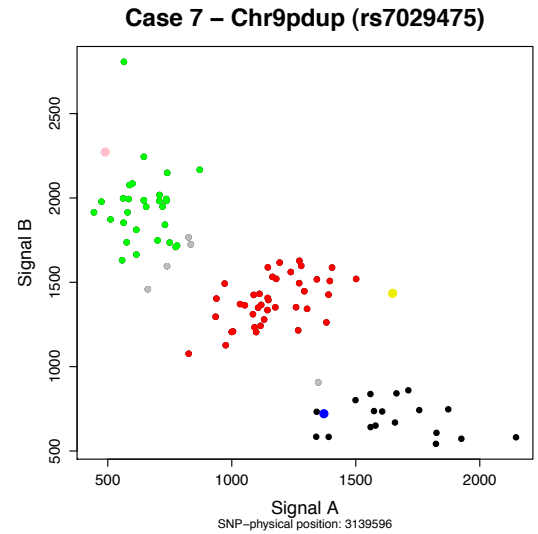

Case 7 – Chr9pdup (rs10812239)
Signal B
Signal A
SNP–physical position: 2551136

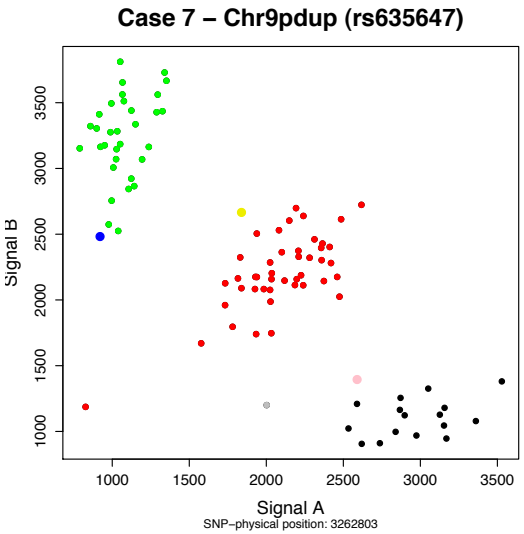

Case 7 – Chr9pdup (rs41388145)
Signal B
Signal A
SNP–physical position: 3094840

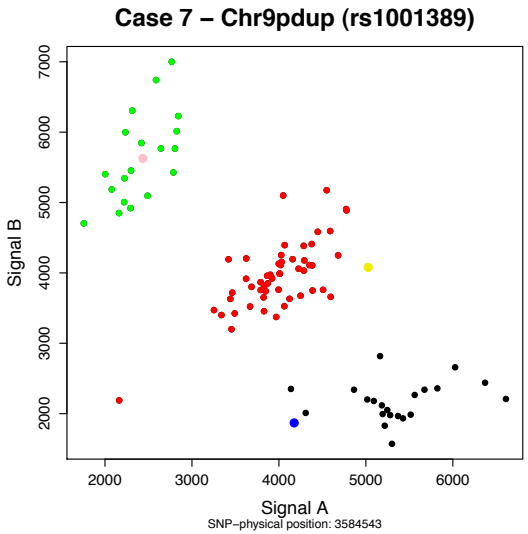

Case 7 – Chr9pdup (rs1535438)
Signal B
Signal A
SNP–physical position: 3123995

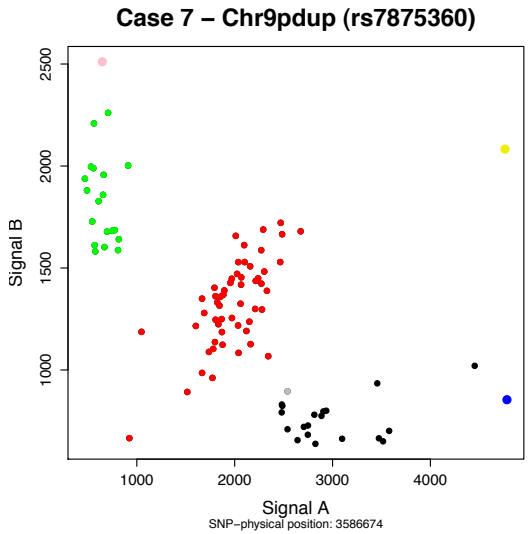

Case 7 – Chr9pdup (rs7021857)
Signal B
Signal A
SNP–physical position: 3125219

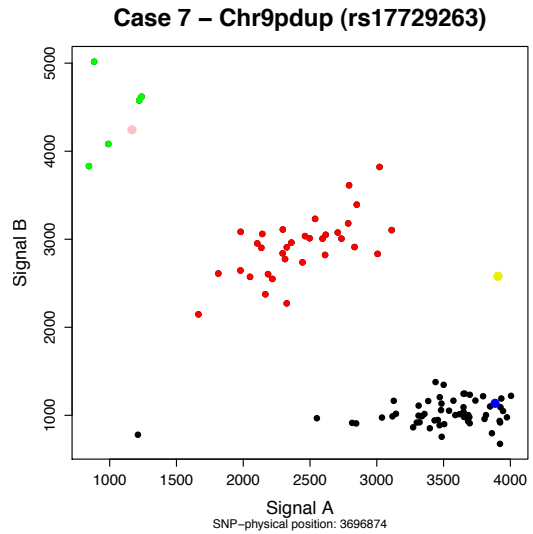

Case 7 – Chr9pdup (rs2146050)
Signal B
Signal A
SNP–physical position: 3125460

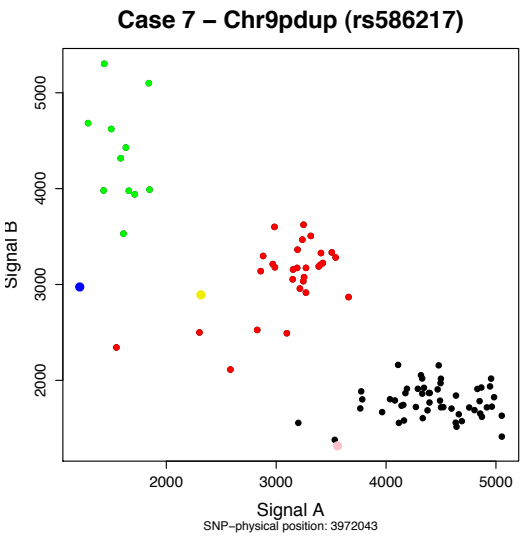

Case 7 – Chr9pdup (rs7029475)
Signal B
Signal A
SNP–physical position: 3139596

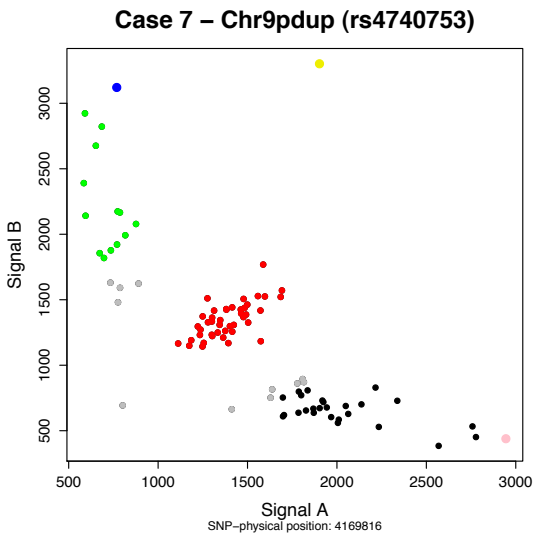

Case 7 – Chr9pdup (rs635647)
Signal B
Signal A
SNP–physical position: 3262803

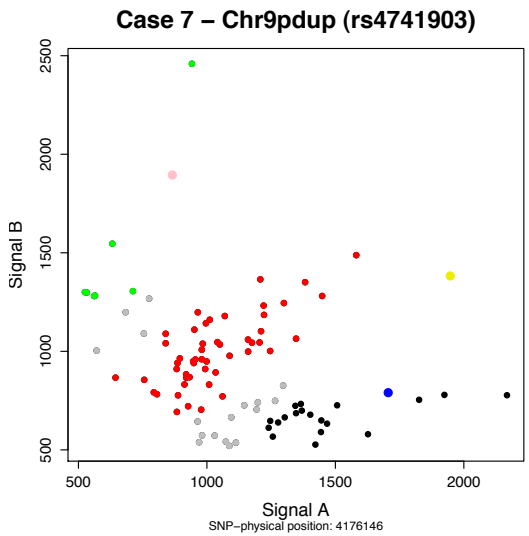

Case 7 – Chr9pdup (rs1001389)
Signal B
Signal A
SNP–physical position: 3584543

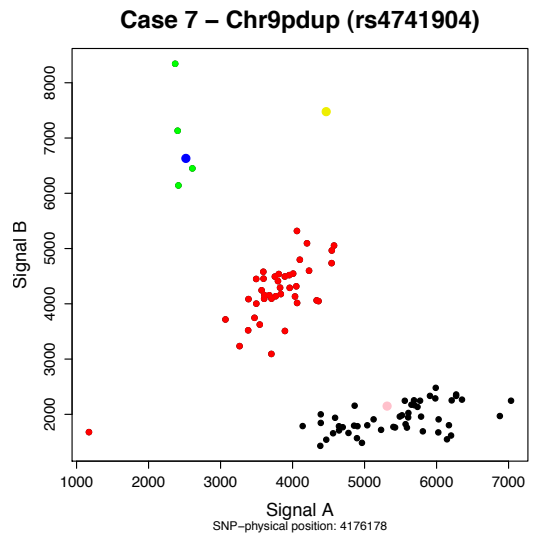

Case 7 – Chr9pdup (rs7875360)
Signal B
Signal A
SNP–physical position: 3586674

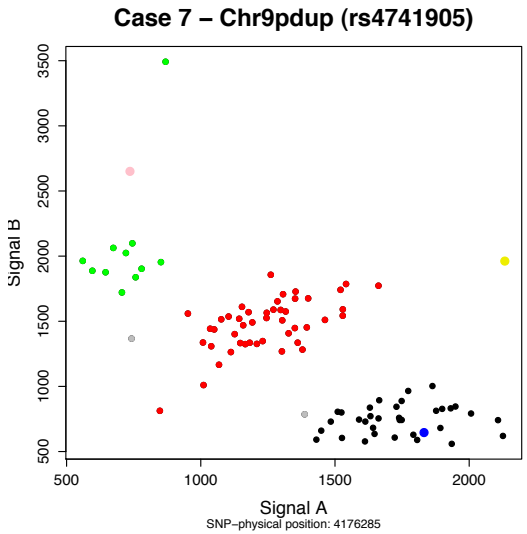

Case 7 – Chr9pdup (rs17729263)
Signal B
Signal A
SNP–physical position: 3696874

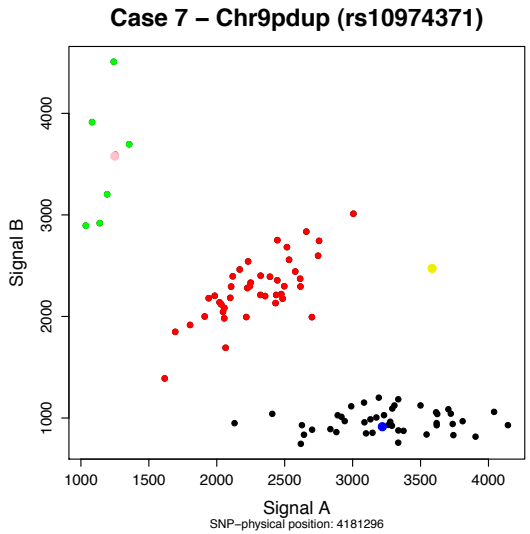

Case 7 – Chr9pdup (rs586217)
Signal B
Signal A
SNP–physical position: 3972043

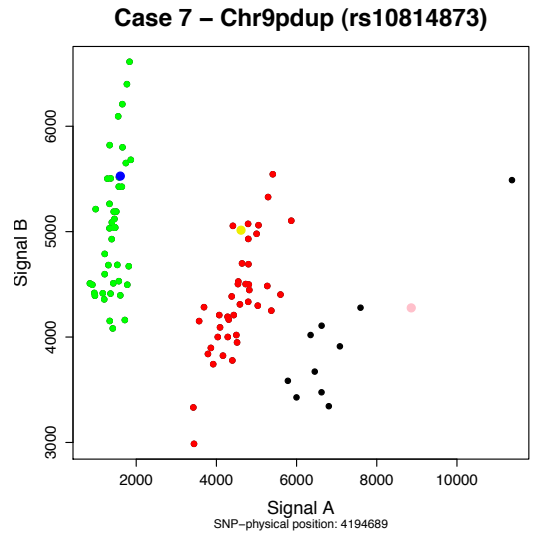

Case 7 – Chr9pdup (rs4740753)
Signal B
Signal A
SNP–physical position: 4169816

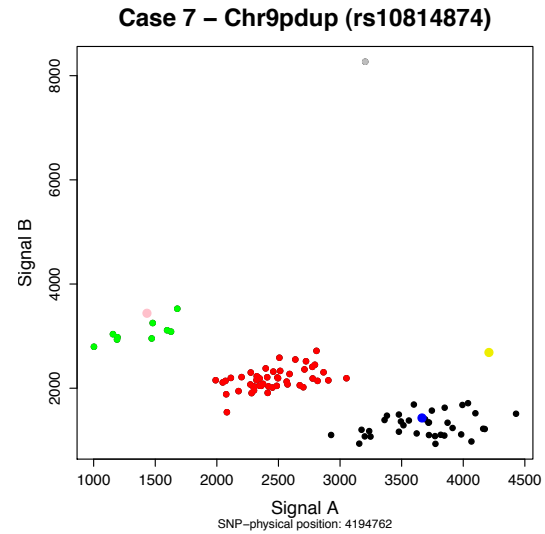

Case 7 – Chr9pdup (rs4741903)
Signal B
Signal A
SNP–physical position: 4176146

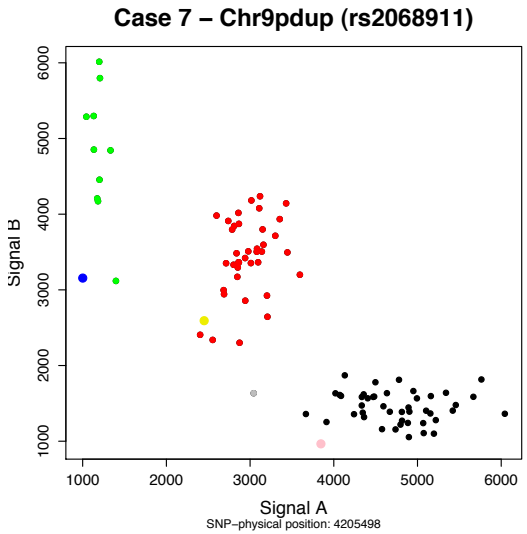

Case 7 – Chr9pdup (rs4741904)
Signal B
Signal A
SNP–physical position: 4176178

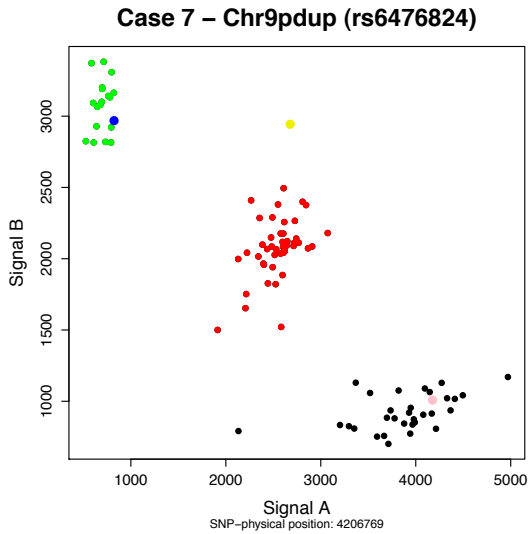

Case 7 – Chr9pdup (rs4741905)
Signal B
Signal A
SNP–physical position: 4176285

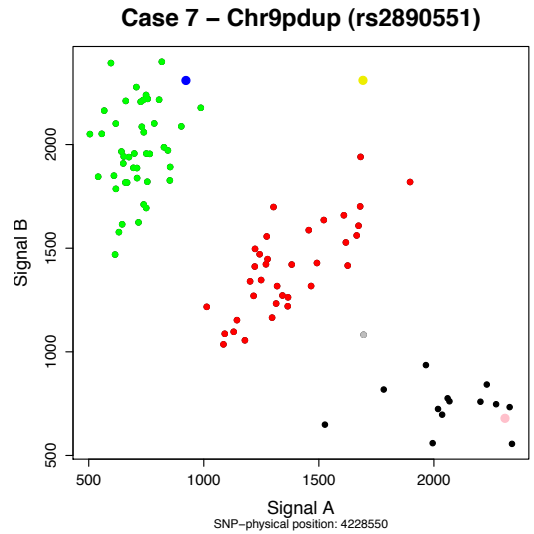

Case 7 – Chr9pdup (rs10974371)
Signal B
Signal A
SNP–physical position: 4181296

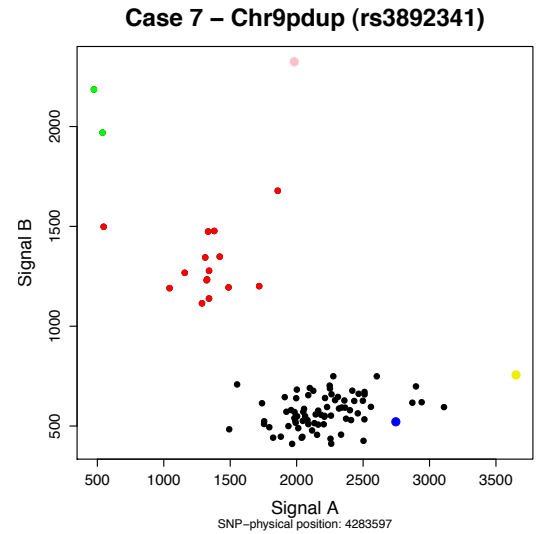

Case 7 – Chr9pdup (rs10814873)
Signal B
Signal A
SNP–physical position: 4194689

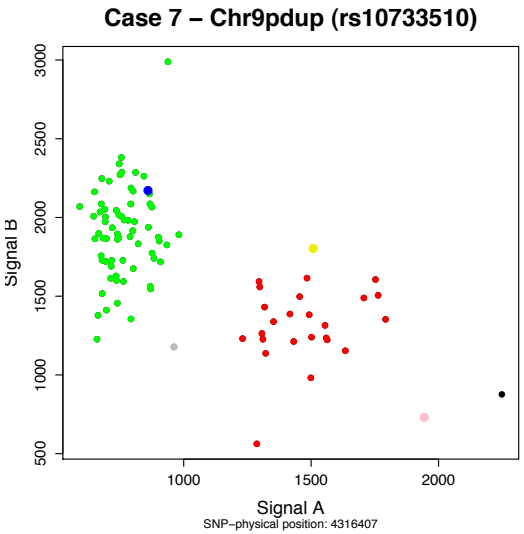

Case 7 – Chr9pdup (rs10814874)
Signal B
Signal A
SNP–physical position: 4194762

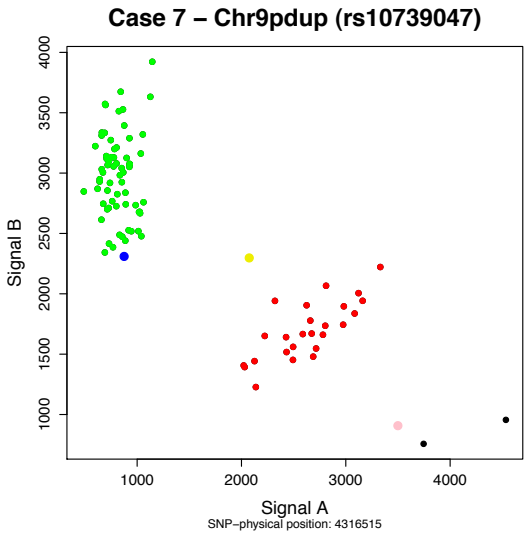

Case 7 – Chr9pdup (rs2068911)
Signal B
Signal A
SNP–physical position: 4205498

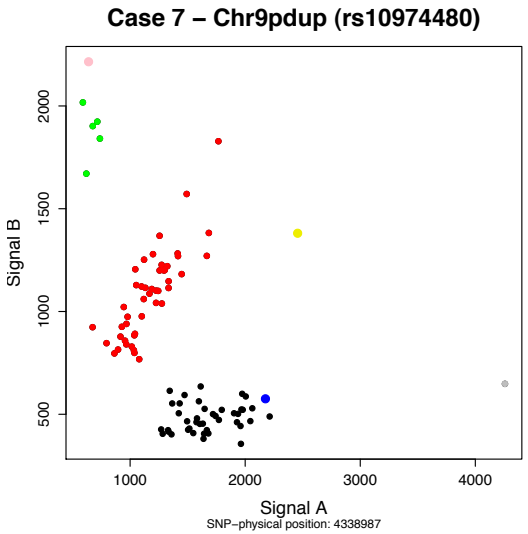

Case 7 – Chr9pdup (rs6476824)
Signal B
Signal A
SNP–physical position: 4206769

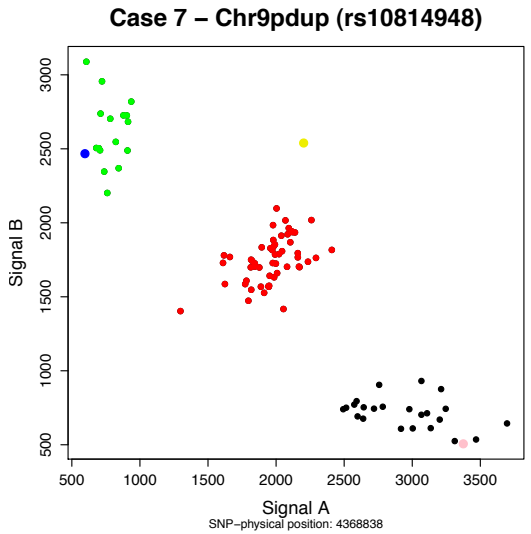

Case 7 – Chr9pdup (rs2890551)
Signal B
Signal A
SNP–physical position: 4228550

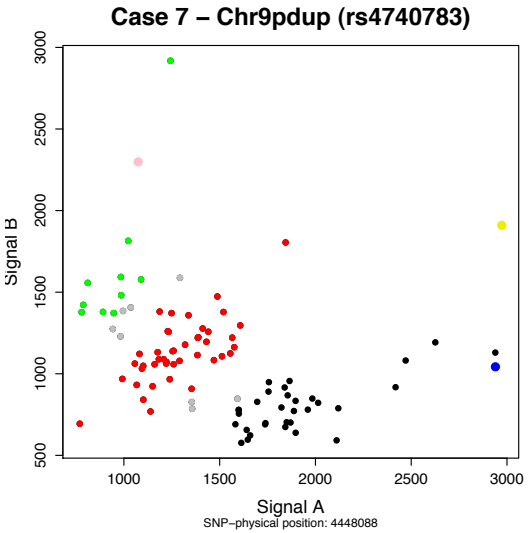

Case 7 – Chr9pdup (rs3892341)
Signal B
Signal A
SNP–physical position: 4283597

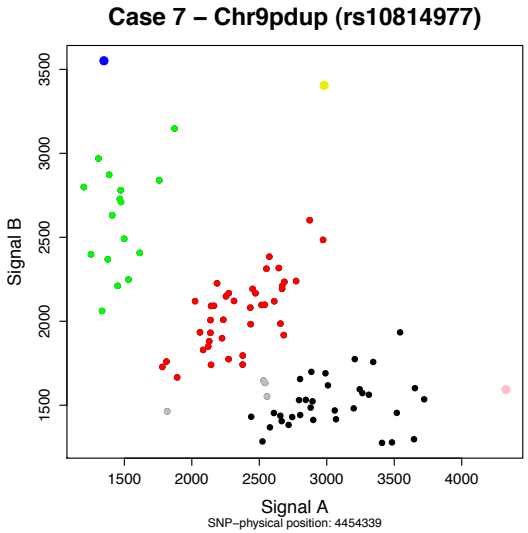

Case 7 – Chr9pdup (rs10733510)
Signal B
Signal A
SNP–physical position: 4316407

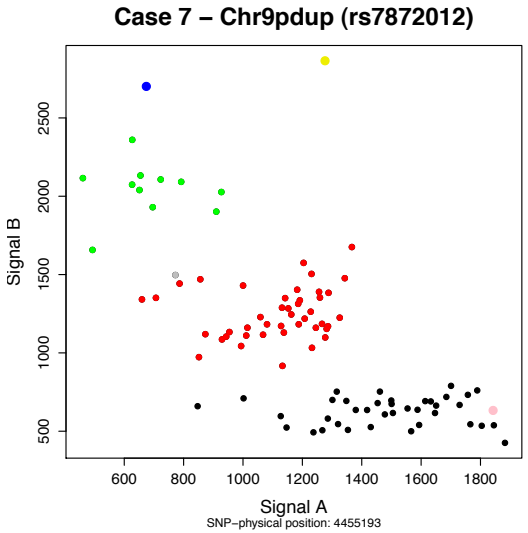

Case 7 – Chr9pdup (rs10739047)
Signal B
Signal A
SNP–physical position: 4316515

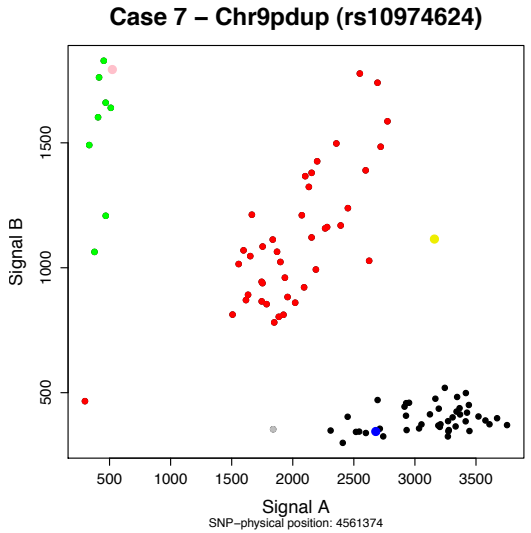

Case 7 – Chr9pdup (rs10974480)
Signal B
Signal A
SNP–physical position: 4338987

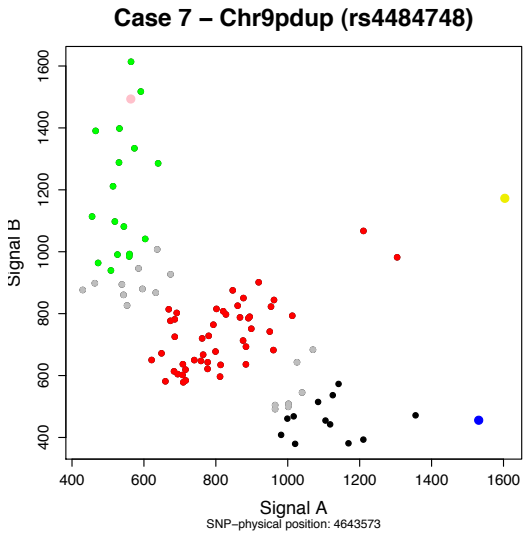

Case 7 – Chr9pdup (rs10814948)
Signal B
Signal A
SNP–physical position: 4368838

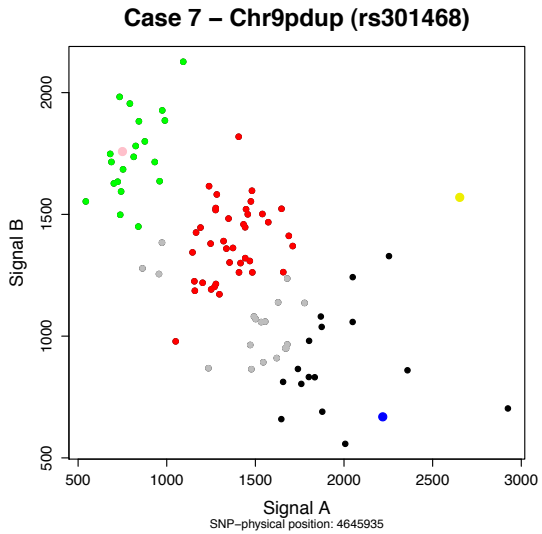

Case 7 – Chr9pdup (rs4740783)
Signal B
Signal A
SNP–physical position: 4448088

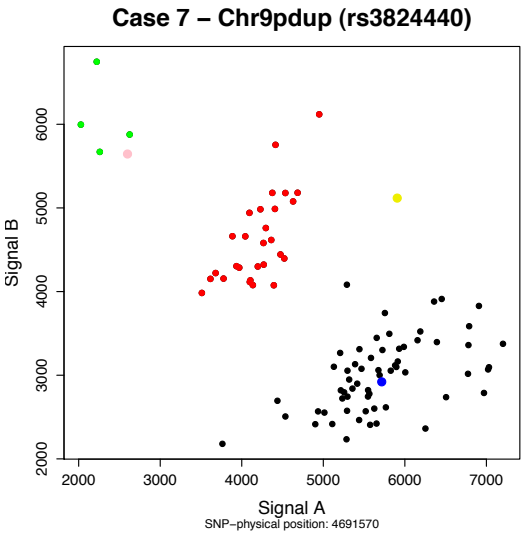

Case 7 – Chr9pdup (rs10814977)
Signal B
Signal A
SNP–physical position: 4454339

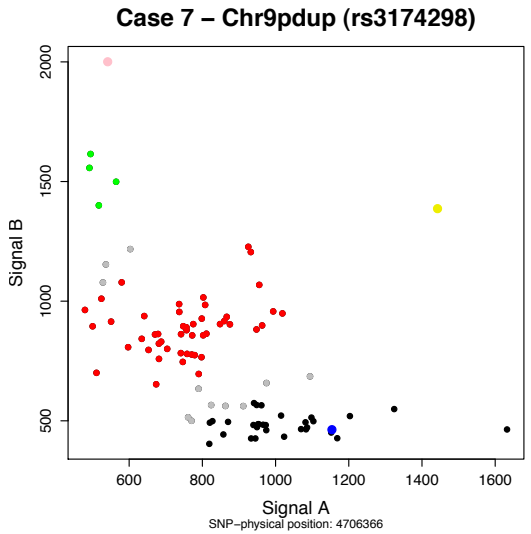

Case 7 – Chr9pdup (rs7872012)
Signal B
Signal A
SNP–physical position: 4455193

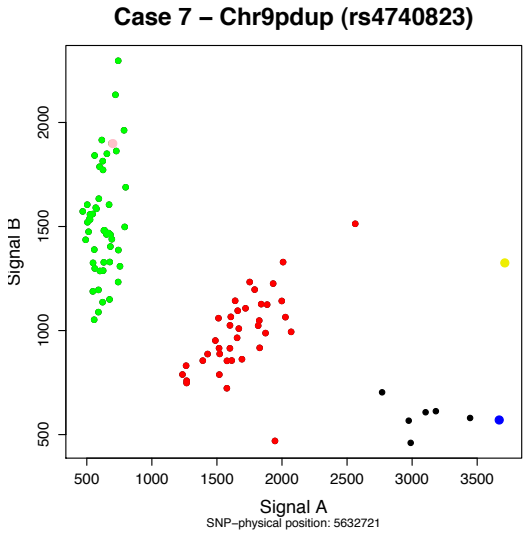

Case 7 – Chr9pdup (rs10974624)
Signal B
Signal A
SNP–physical position: 4561374

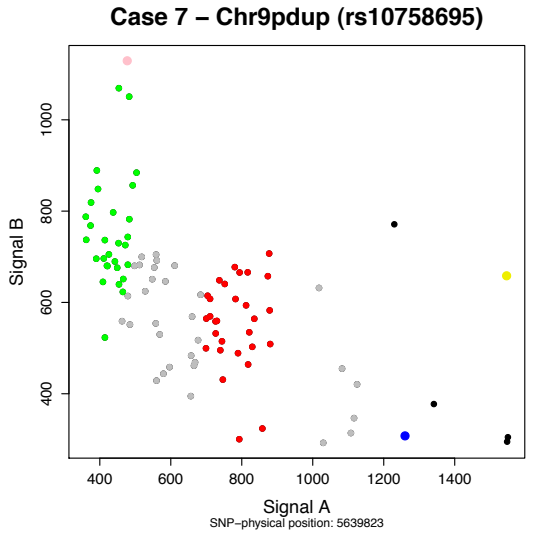

Case 7 – Chr9pdup (rs4484748)
Signal B
Signal A
SNP–physical position: 4643573

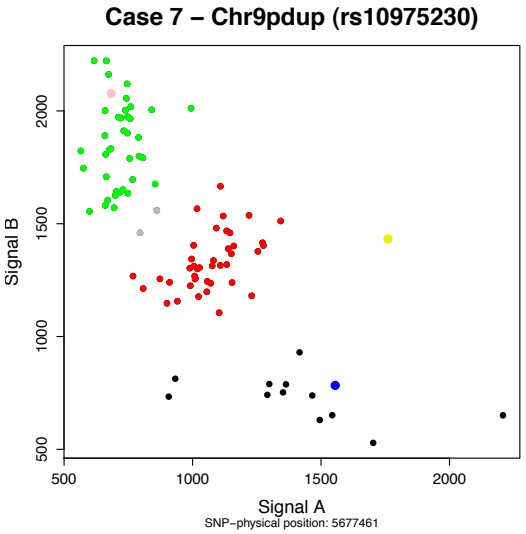

Case 7 – Chr9pdup (rs301468)
Signal B
Signal A
SNP–physical position: 4645935

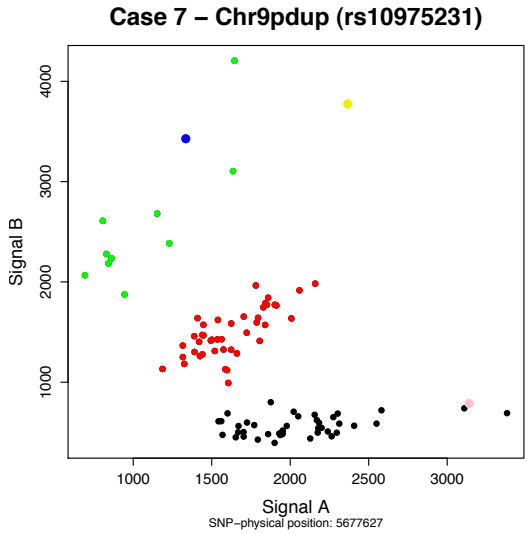

Case 7 – Chr9pdup (rs3824440)
Signal B
Signal A
SNP–physical position: 4691570

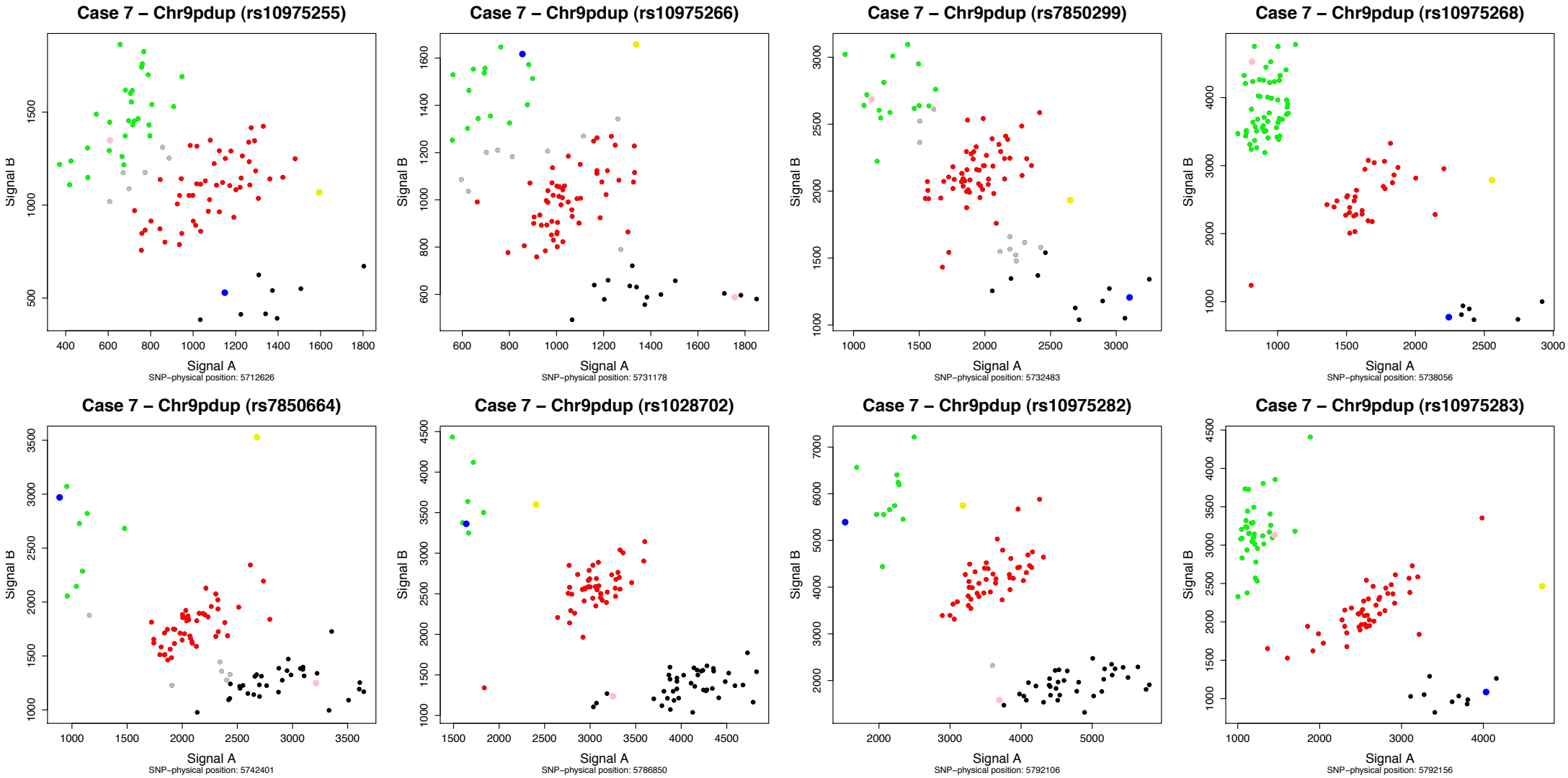

Case 7 – Chr9pdup (rs3174298)
Signal B
Signal A
SNP–physical position: 4706366

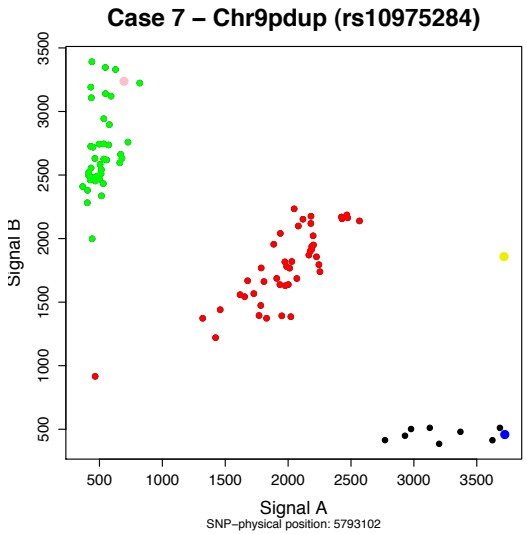

Case 7 – Chr9pdup (rs4740823)
Signal B
Signal A
SNP–physical position: 5632721

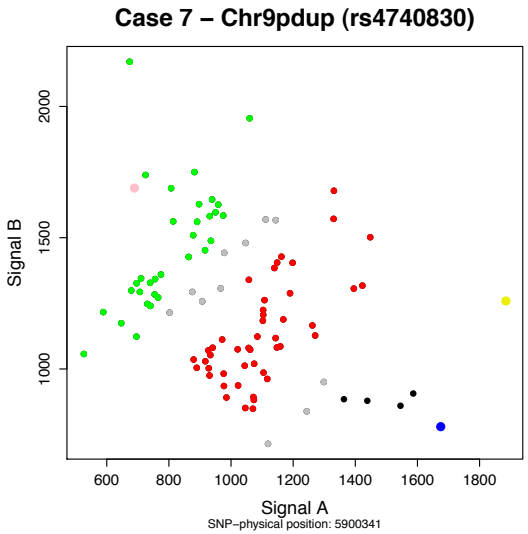

Case 7 – Chr9pdup (rs10758695)
Signal B
Signal A
SNP–physical position: 5639823

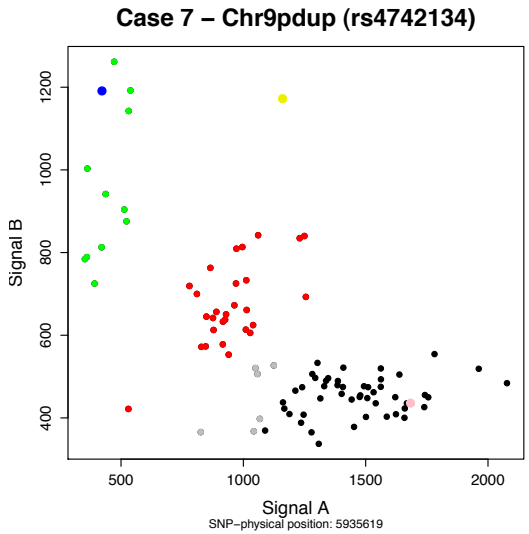

Case 7 – Chr9pdup (rs10975230)
Signal B
Signal A
SNP–physical position: 5677461

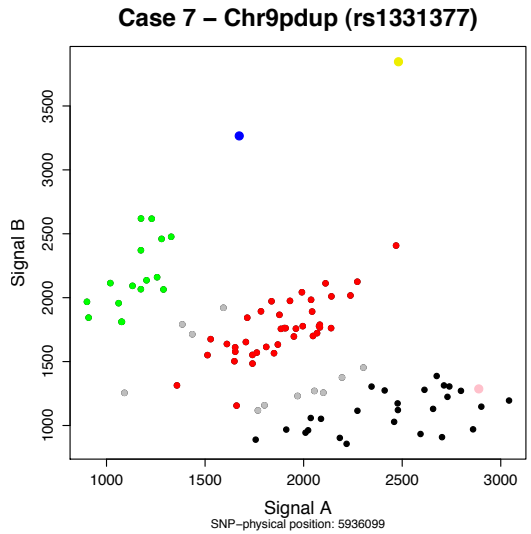

Case 7 – Chr9pdup (rs10975231)
Signal B
Signal A
SNP–physical position: 5677627

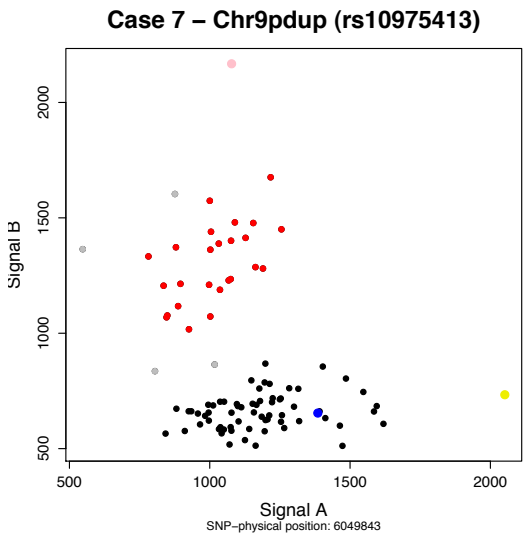

Case 7 – Chr9pdup (rs10975255)
Signal B
Signal A
SNP–physical position: 5712626
Case 7 – Chr9pdup (rs10975266)
Signal B
Signal A
SNP–physical position: 5731178
Case 7 – Chr9pdup (rs7850299)
Signal B
Signal A
SNP–physical position: 5732483
Case 7 – Chr9pdup (rs10975268)
Signal B
Signal A
SNP–physical position: 5738056
Case 7 – Chr9pdup (rs7850664)
Signal B
Signal A
SNP–physical position: 5742401
Case 7 – Chr9pdup (rs1028702)
Signal B
Signal A
SNP–physical position: 5786850
Case 7 – Chr9pdup (rs10975282)
Signal B
Signal A
SNP–physical position: 5792106
Case 7 – Chr9pdup (rs10975283)
Signal B
Signal A
SNP–physical position: 5792156

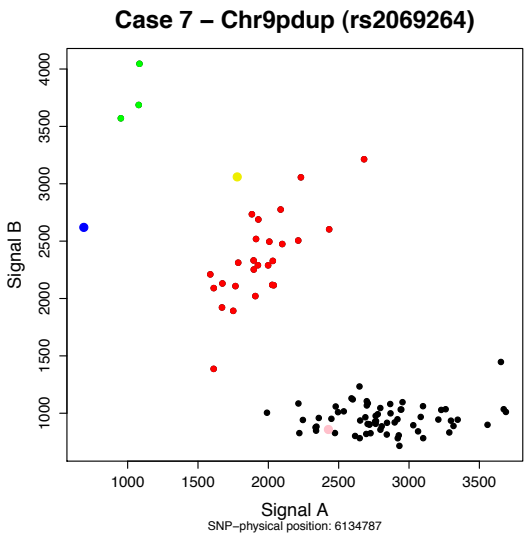

Case 7 – Chr9pdup (rs10975284)
Signal B
Signal A
SNP–physical position: 5793102

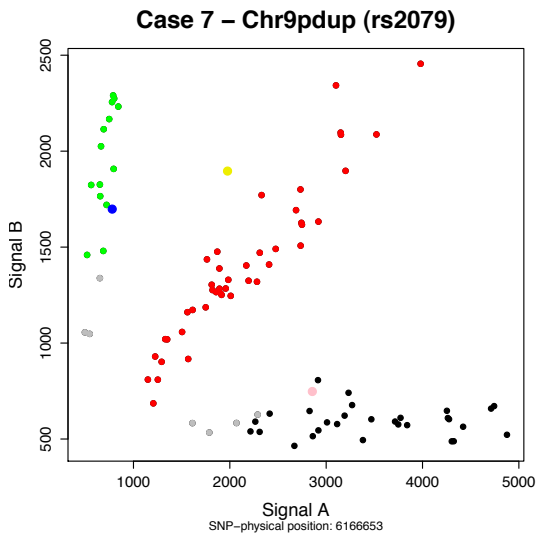

Case 7 – Chr9pdup (rs4740830)
Signal B
Signal A
SNP–physical position: 5900341

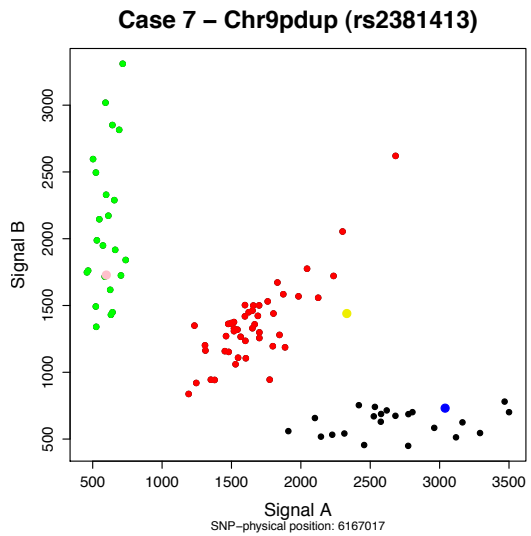

Case 7 – Chr9pdup (rs4742134)
Signal B
Signal A
SNP–physical position: 5935619

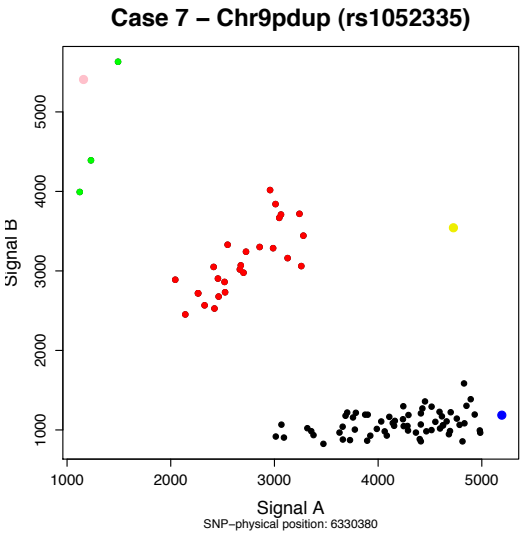

Case 7 – Chr9pdup (rs1331377)
Signal B
Signal A
SNP–physical position: 5936099

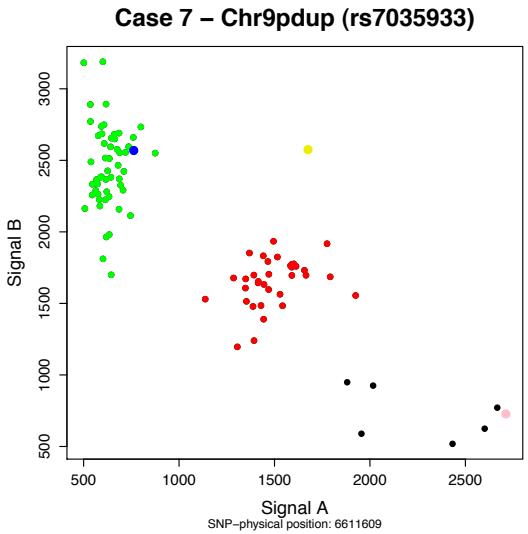

Case 7 – Chr9pdup (rs10975413)
Signal B
Signal A
SNP–physical position: 6049843

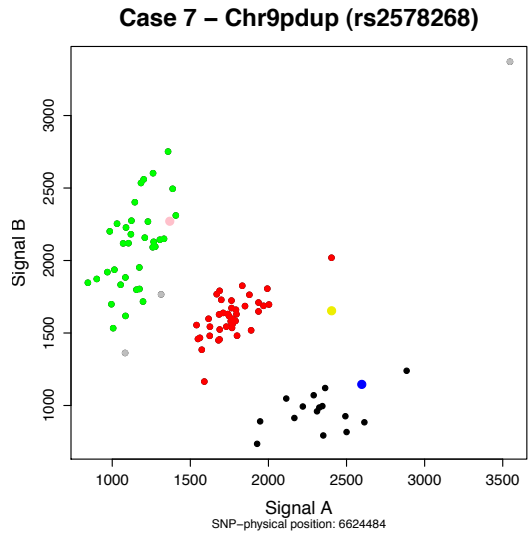

Case 7 – Chr9pdup (rs2069264)
Signal B
Signal A
SNP–physical position: 6134787

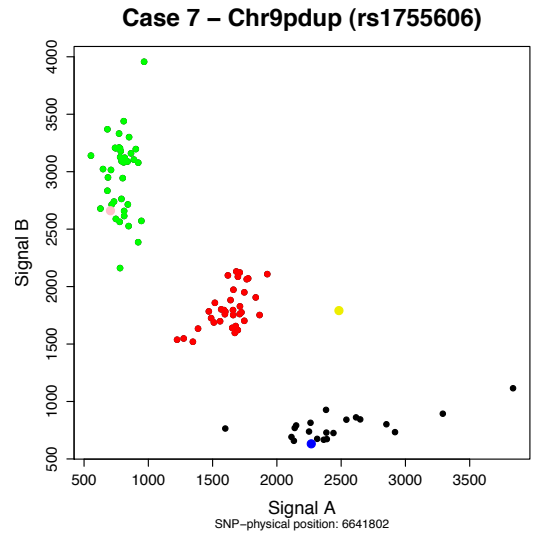

Case 7 – Chr9pdup (rs2079)
Signal B
Signal A
SNP–physical position: 6166653

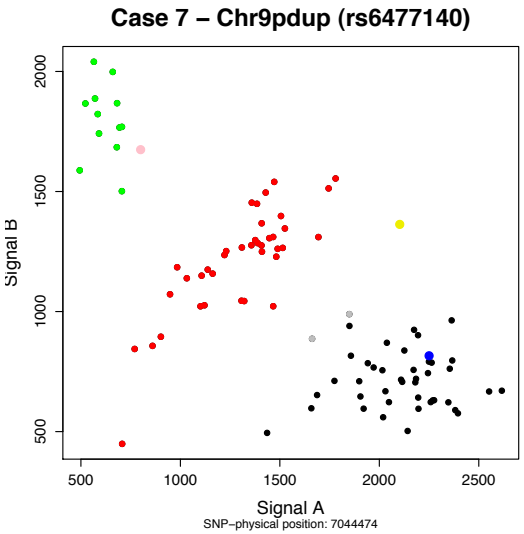

Case 7 – Chr9pdup (rs2381413)
Signal B
Signal A
SNP–physical position: 6167017

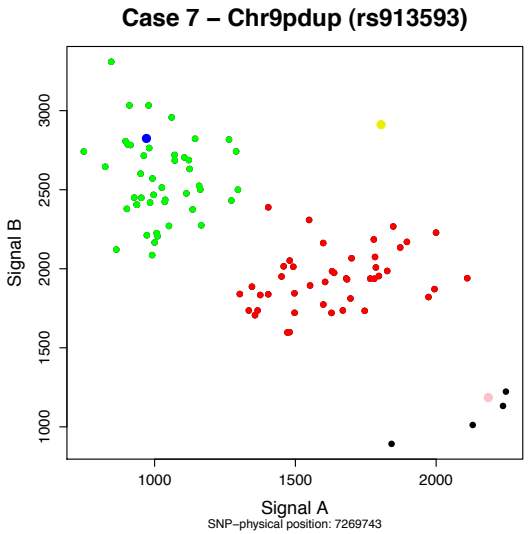

Case 7 – Chr9pdup (rs1052335)
Signal B
Signal A
SNP–physical position: 6330380

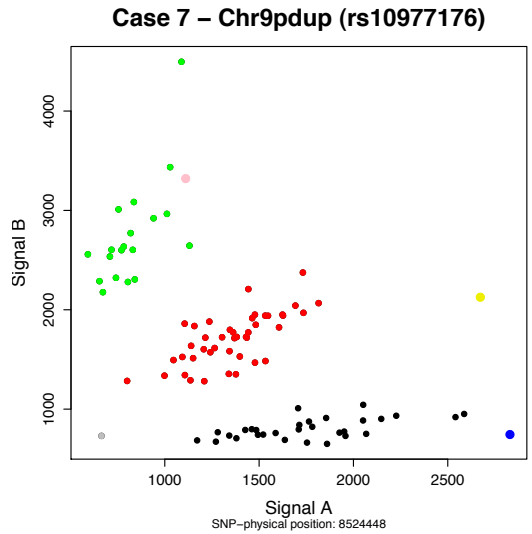

Case 7 – Chr9pdup (rs7035933)
Signal B
Signal A
SNP–physical position: 6611609

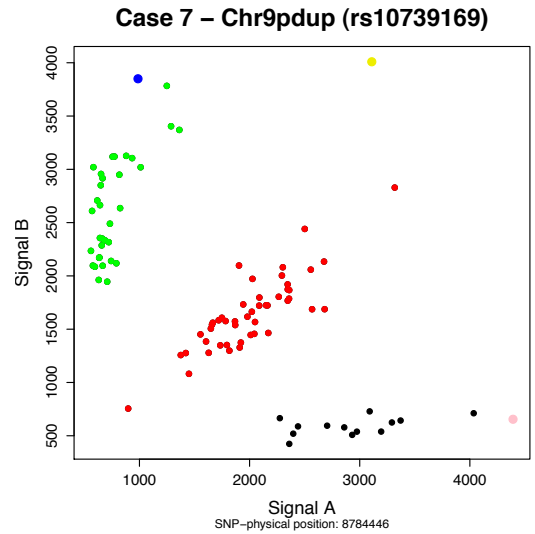

Case 7 – Chr9pdup (rs2578268)
Signal B
Signal A
SNP–physical position: 6624484

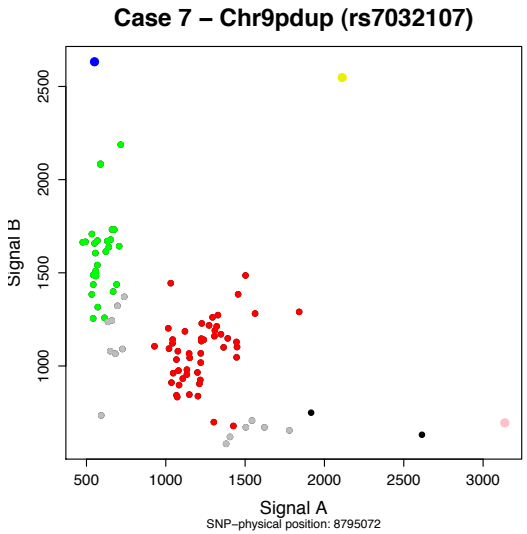

Case 7 – Chr9pdup (rs1755606)
Signal B
Signal A
SNP–physical position: 6641802

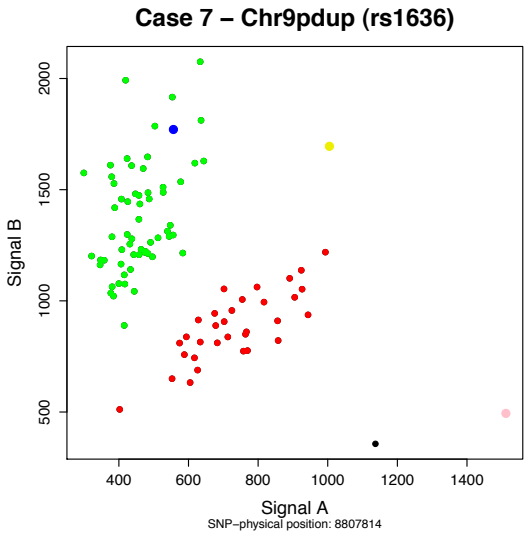

Case 7 – Chr9pdup (rs6477140)
Signal B
Signal A
SNP–physical position: 7044474

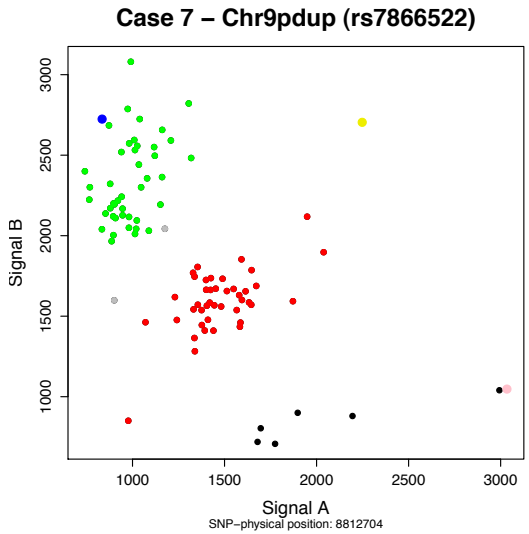

Case 7 – Chr9pdup (rs913593)
Signal B
Signal A
SNP–physical position: 7269743

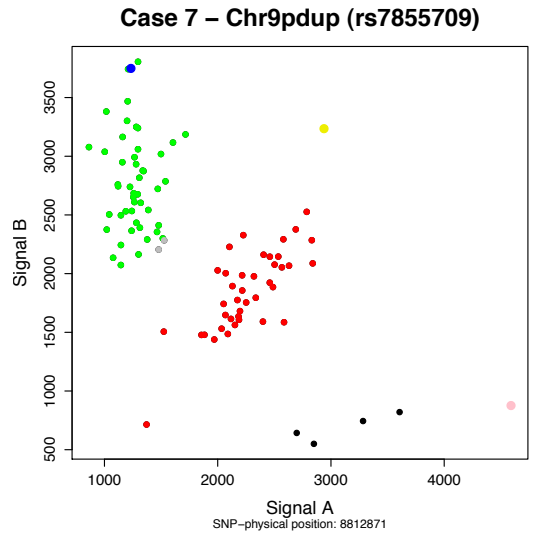

Case 7 – Chr9pdup (rs10977176)
Signal B
Signal A
SNP–physical position: 8524448

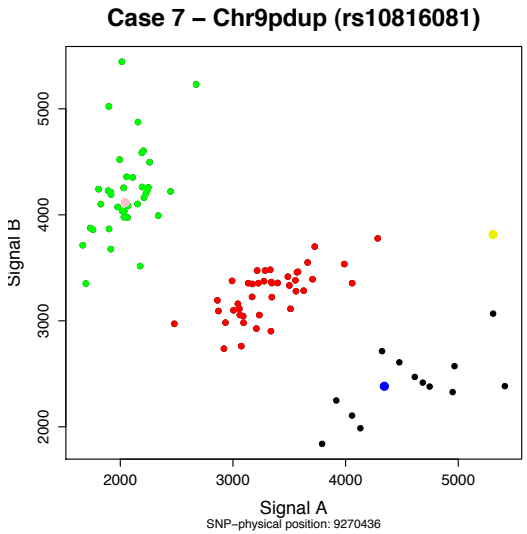

Case 7 – Chr9pdup (rs10739169)
Signal B
Signal A
SNP–physical position: 8784446

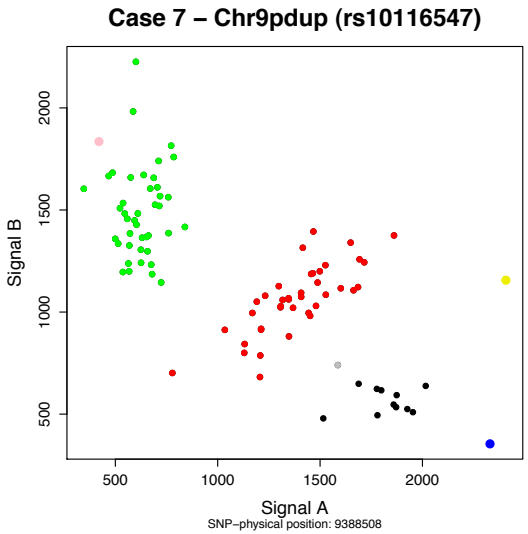

Case 7 – Chr9pdup (rs7032107)
Signal B
Signal A
SNP–physical position: 8795072

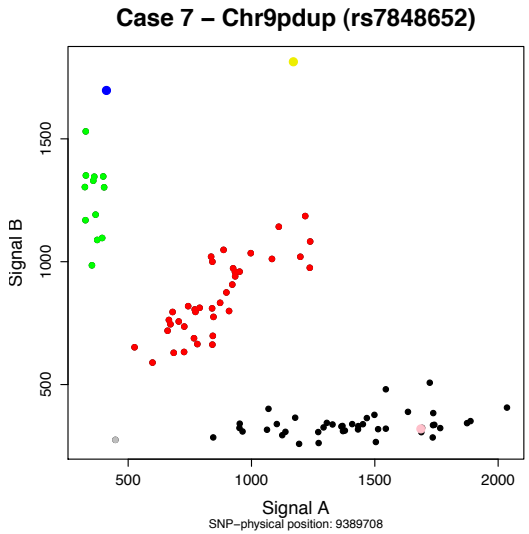

Case 7 – Chr9pdup (rs1636)
Signal B
Signal A
SNP–physical position: 8807814

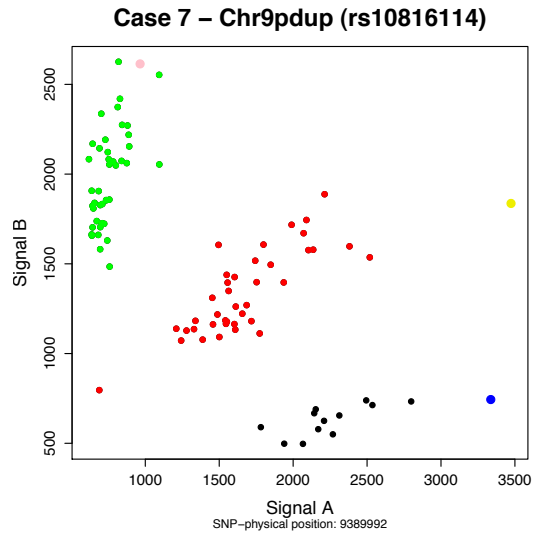

Case 7 – Chr9pdup (rs7866522)
Signal B
Signal A
SNP–physical position: 8812704

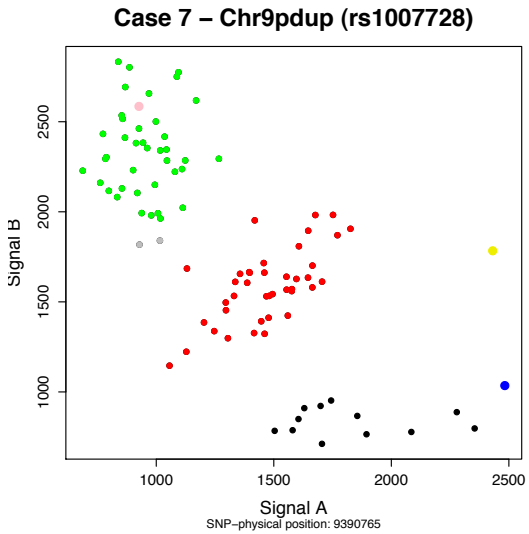

Case 7 – Chr9pdup (rs7855709)
Signal B
Signal A
SNP–physical position: 8812871

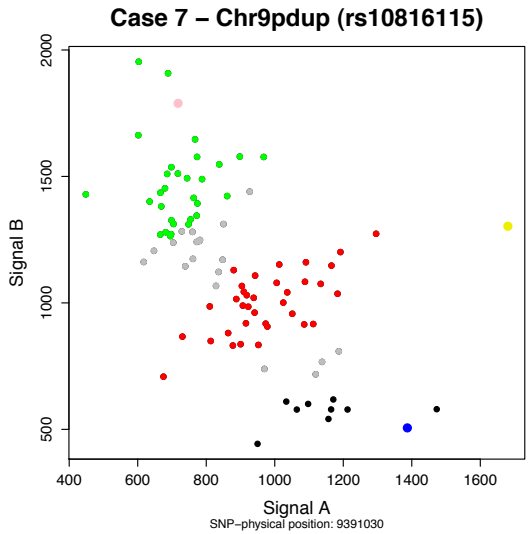

Case 7 – Chr9pdup (rs10816081)
Signal B
Signal A
SNP–physical position: 9270436

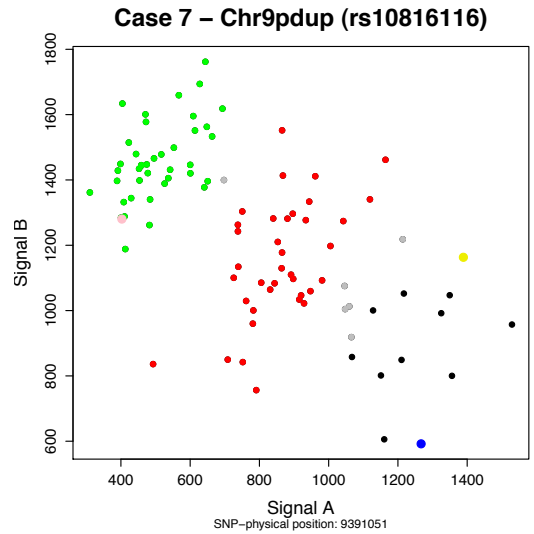

Case 7 – Chr9pdup (rs10116547)
Signal B
Signal A
SNP–physical position: 9388508

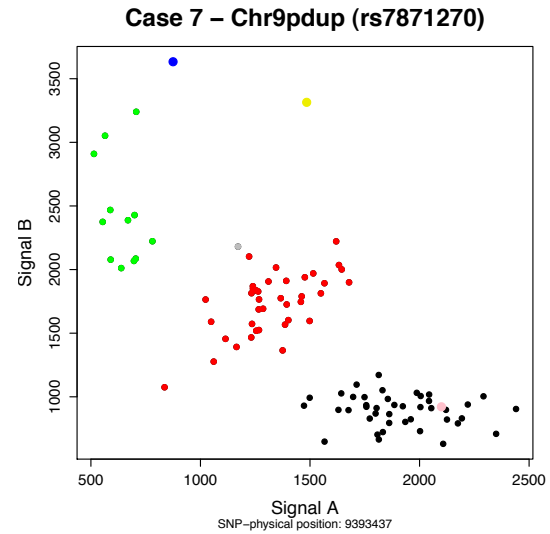

Case 7 – Chr9pdup (rs7848652)
Signal B
Signal A
SNP–physical position: 9389708

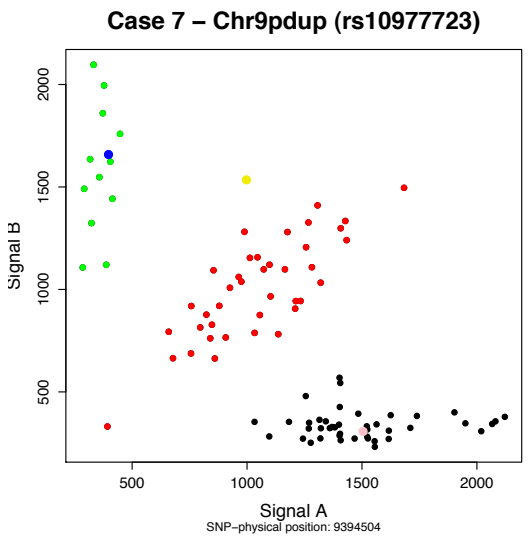

Case 7 – Chr9pdup (rs10816114)
Signal B
Signal A
SNP–physical position: 9389992

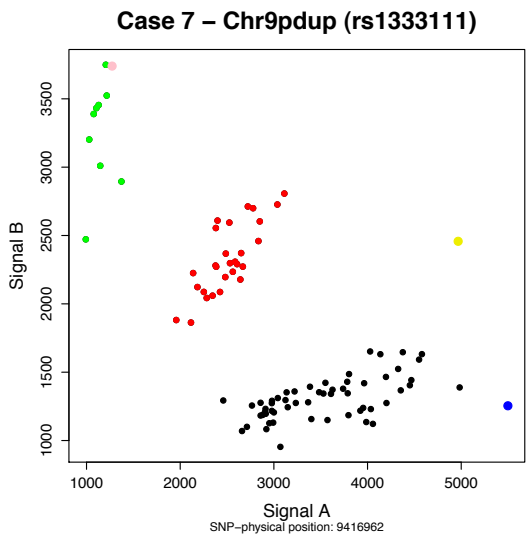

Case 7 – Chr9pdup (rs1007728)
Signal B
Signal A
SNP–physical position: 9390765

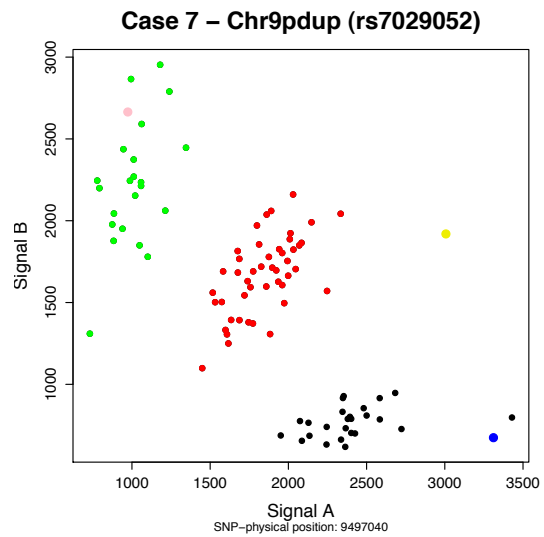

Case 7 – Chr9pdup (rs10816115)
Signal B
Signal A
SNP–physical position: 9391030

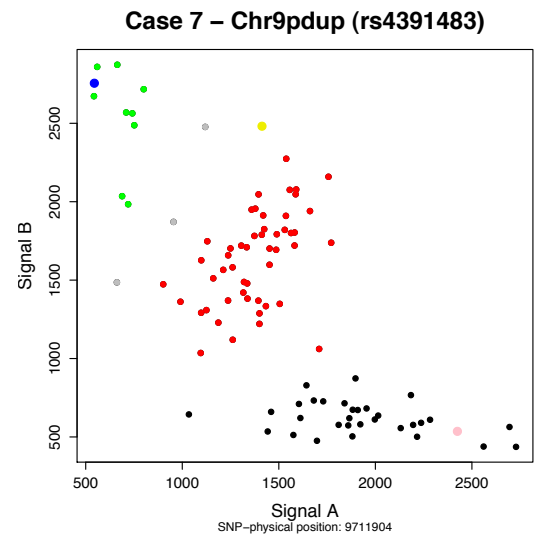

Case 7 – Chr9pdup (rs10816116)
Signal B
Signal A
SNP–physical position: 9391051

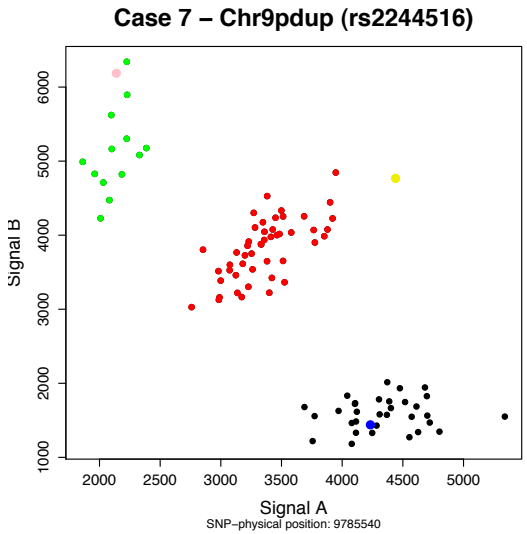

Case 7 – Chr9pdup (rs7871270)
Signal B
Signal A
SNP–physical position: 9393437

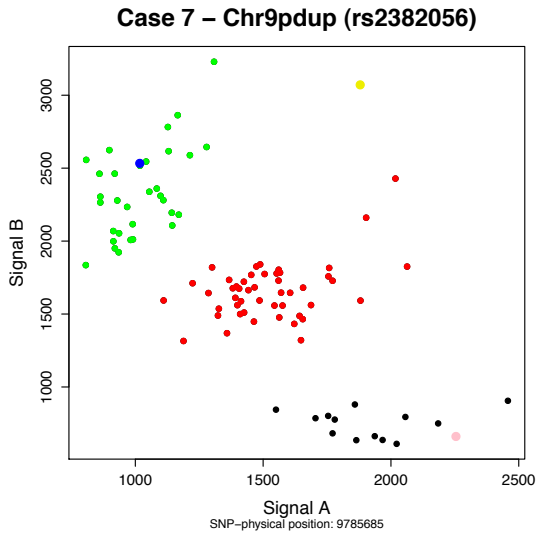

Case 7 – Chr9pdup (rs10977723)
Signal B
Signal A
SNP–physical position: 9394504

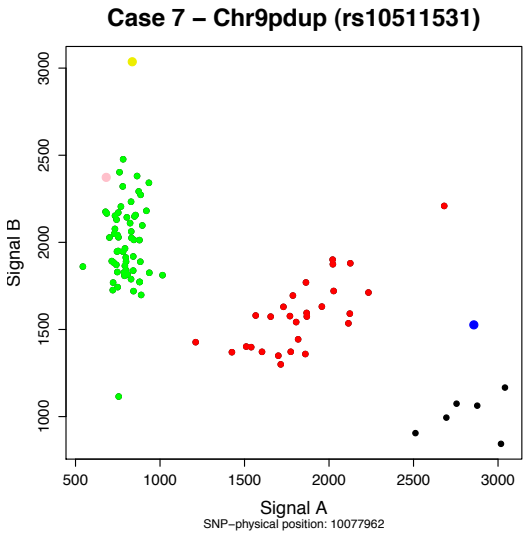

Case 7 – Chr9pdup (rs1333111)
Signal B
Signal A
SNP–physical position: 9416962

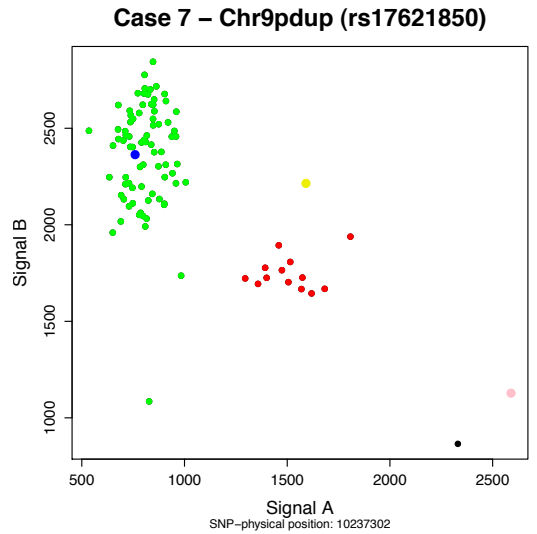

Case 7 – Chr9pdup (rs7029052)
Signal B
Signal A
SNP–physical position: 9497040

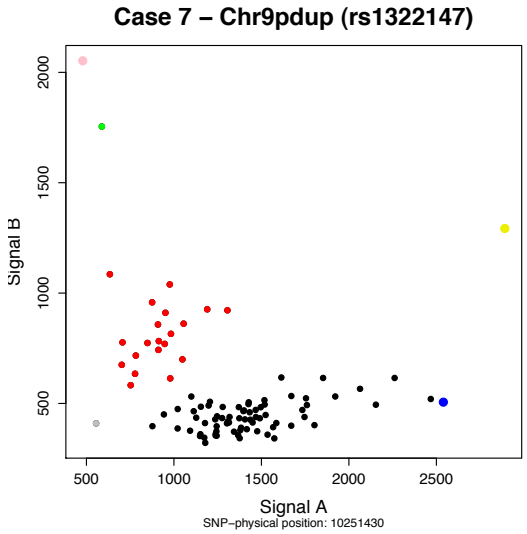

Case 7 – Chr9pdup (rs4391483)
Signal B
Signal A
SNP–physical position: 9711904

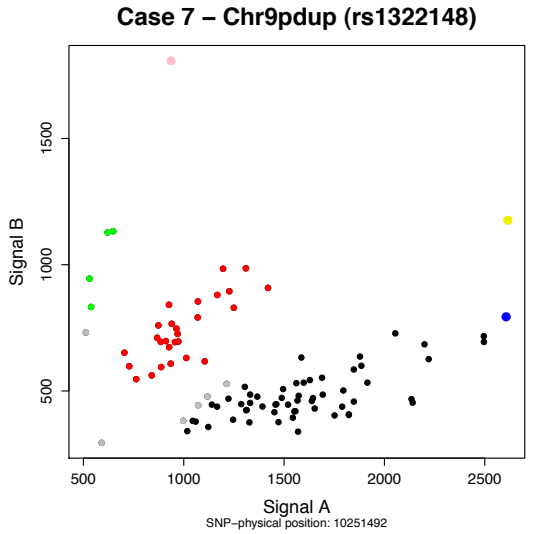

Case 7 – Chr9pdup (rs2244516)
Signal B
Signal A
SNP–physical position: 9785540

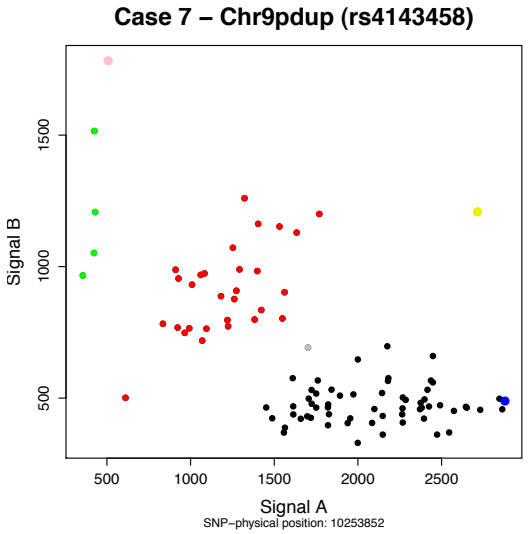

Case 7 – Chr9pdup (rs2382056)
Signal B
Signal A
SNP–physical position: 9785685

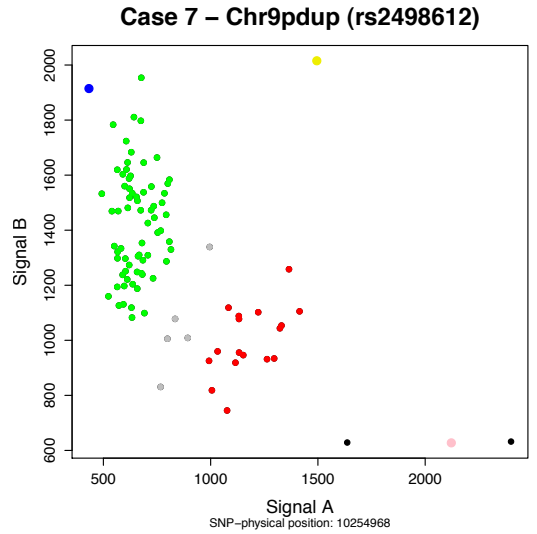

Case 7 – Chr9pdup (rs10511531)
Signal B
Signal A
SNP–physical position: 10077962

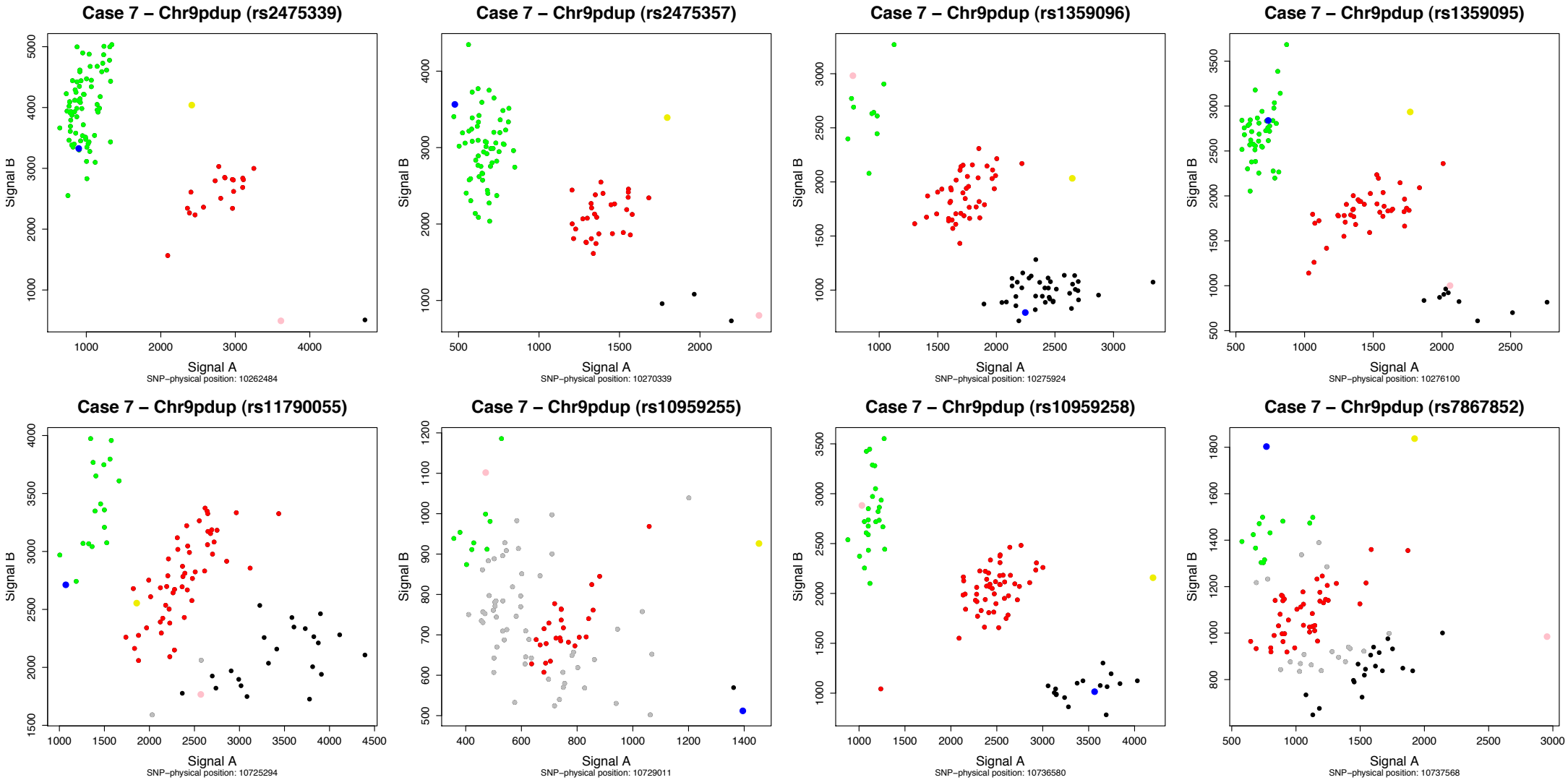

Case 7 – Chr9pdup (rs17621850)
Signal B
Signal A
SNP–physical position: 10237302

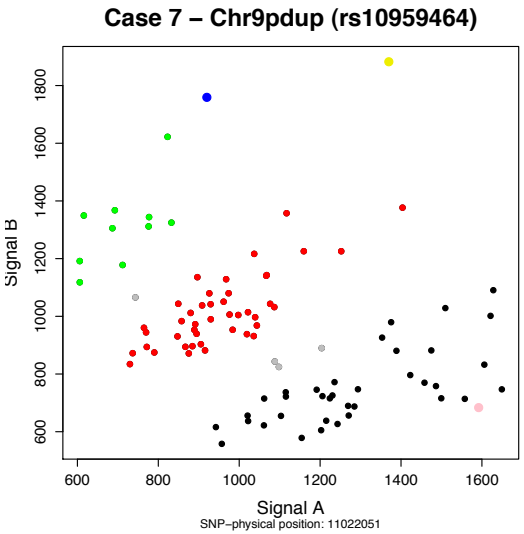

Case 7 – Chr9pdup (rs1322147)
Signal B
Signal A
SNP–physical position: 10251430

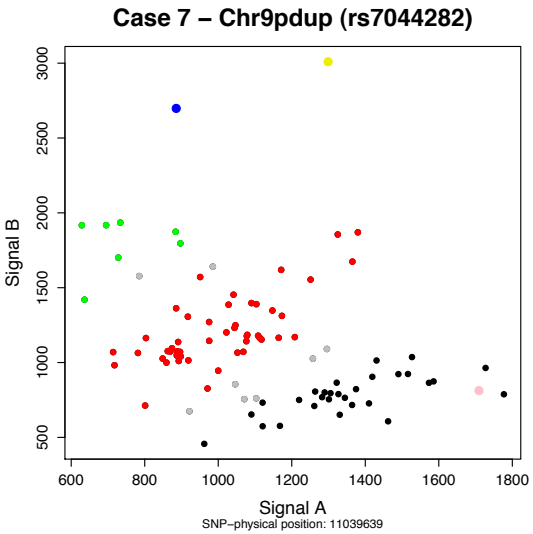

Case 7 – Chr9pdup (rs1322148)
Signal B
Signal A
SNP–physical position: 10251492

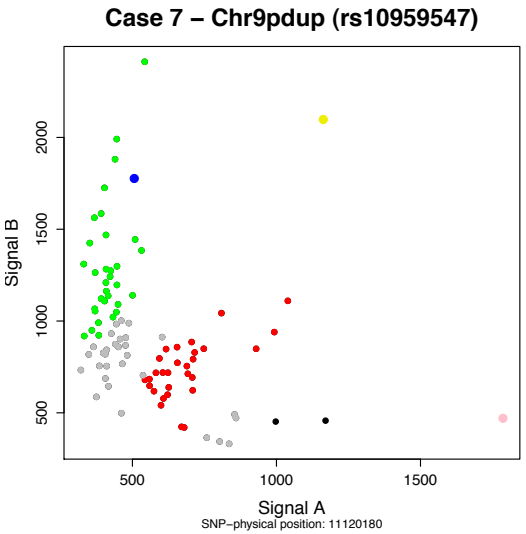

Case 7 – Chr9pdup (rs4143458)
Signal B
Signal A
SNP–physical position: 10253852

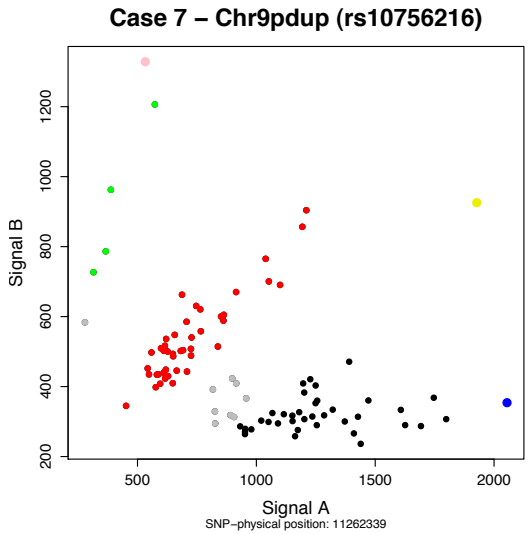

Case 7 – Chr9pdup (rs2498612)
Signal B
Signal A
SNP–physical position: 10254968

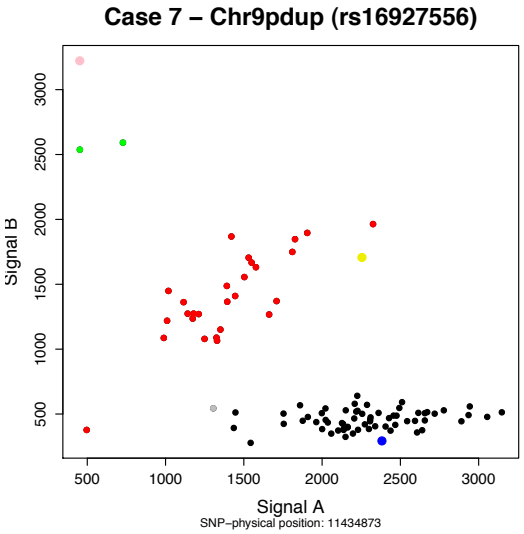

Case 7 – Chr9pdup (rs2475339)
Signal B
Signal A
SNP–physical position: 10262484
Case 7 – Chr9pdup (rs2475357)
Signal B
Signal A
SNP–physical position: 10270339
Case 7 – Chr9pdup (rs1359096)
Signal B
Signal A
SNP–physical position: 10275924
Case 7 – Chr9pdup (rs1359095)
Signal B
Signal A
SNP–physical position: 10276100
Case 7 – Chr9pdup (rs11790055)
Signal B
Signal A
SNP–physical position: 10725294
Case 7 – Chr9pdup (rs10959255)
Signal B
Signal A
SNP–physical position: 10729011
Case 7 – Chr9pdup (rs10959258)
Signal B
Signal A
SNP–physical position: 10736580
Case 7 – Chr9pdup (rs7867852)
Signal B
Signal A
SNP–physical position: 10737568

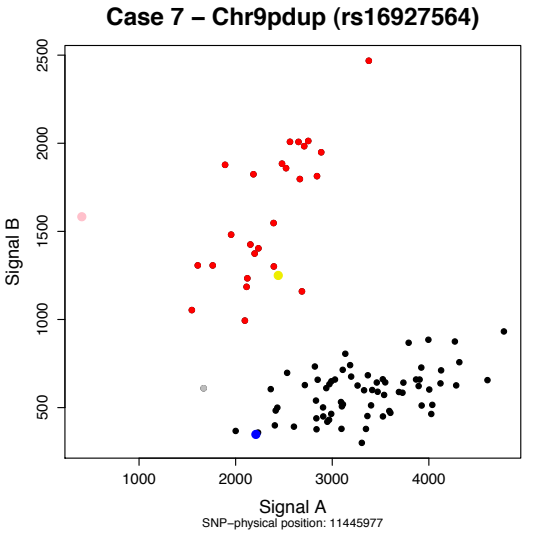

Case 7 – Chr9pdup (rs10959464)
Signal B
Signal A
SNP–physical position: 11022051

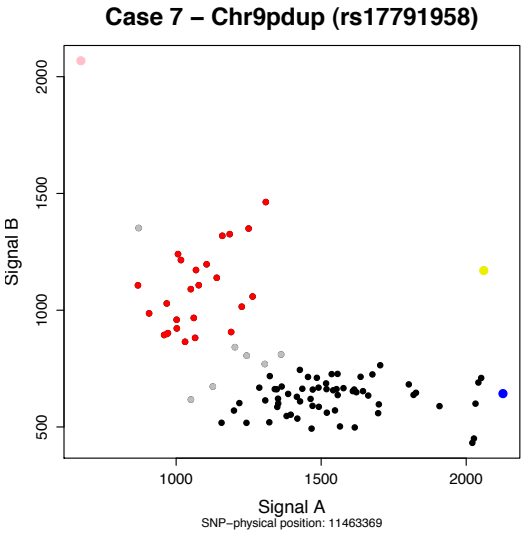

Case 7 – Chr9pdup (rs7044282)
Signal B
Signal A
SNP–physical position: 11039639

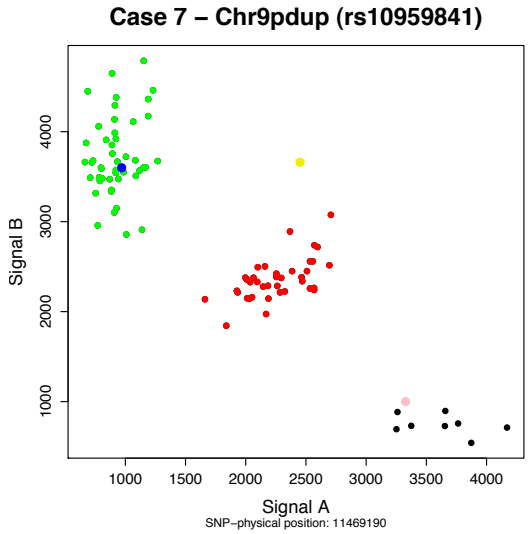

Case 7 – Chr9pdup (rs10959547)
Signal B
Signal A
SNP–physical position: 11120180

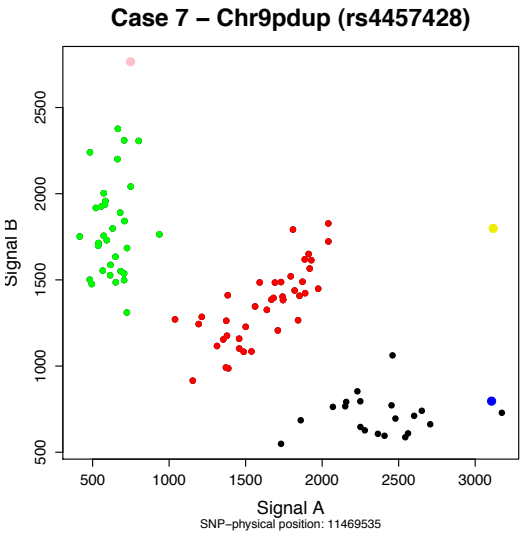

Case 7 – Chr9pdup (rs10756216)
Signal B
Signal A
SNP–physical position: 11262339

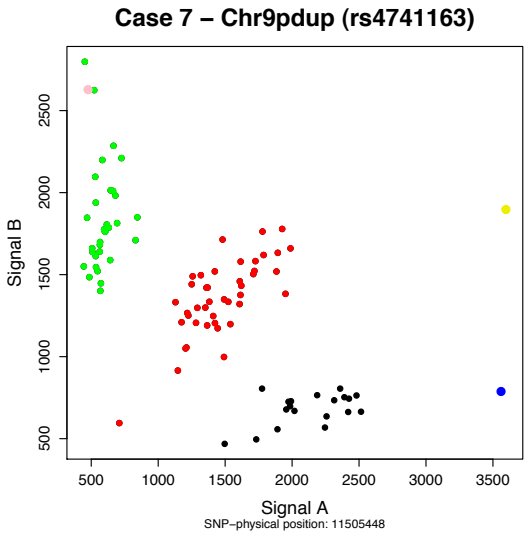

Case 7 – Chr9pdup (rs16927556)
Signal B
Signal A
SNP–physical position: 11434873

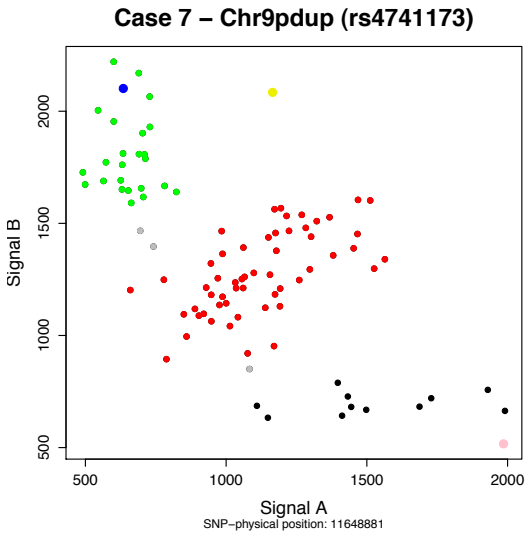

Case 7 – Chr9pdup (rs16927564)
Signal B
Signal A
SNP–physical position: 11445977

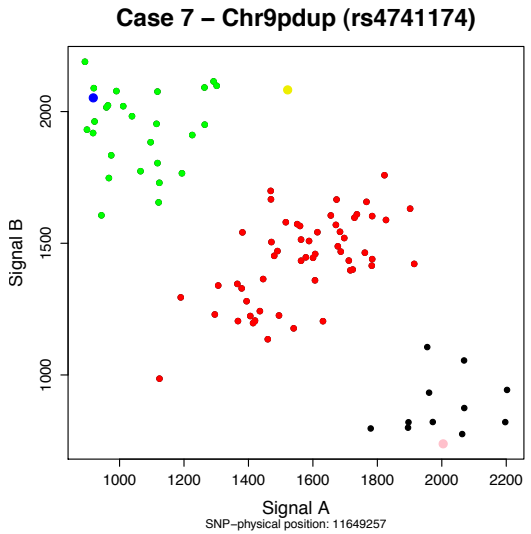

Case 7 – Chr9pdup (rs17791958)
Signal B
Signal A
SNP–physical position: 11463369

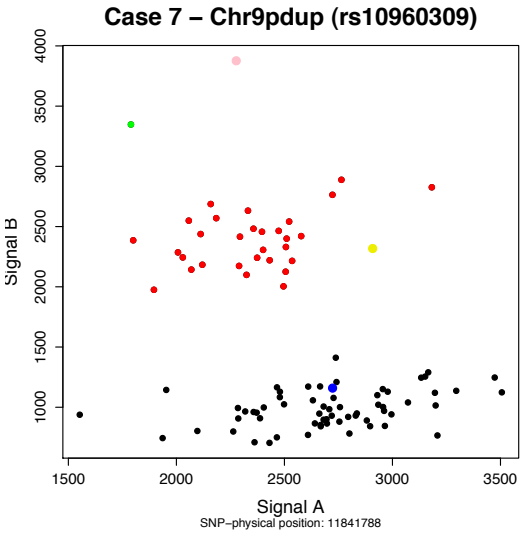

Case 7 – Chr9pdup (rs10959841)
Signal B
Signal A
SNP–physical position: 11469190

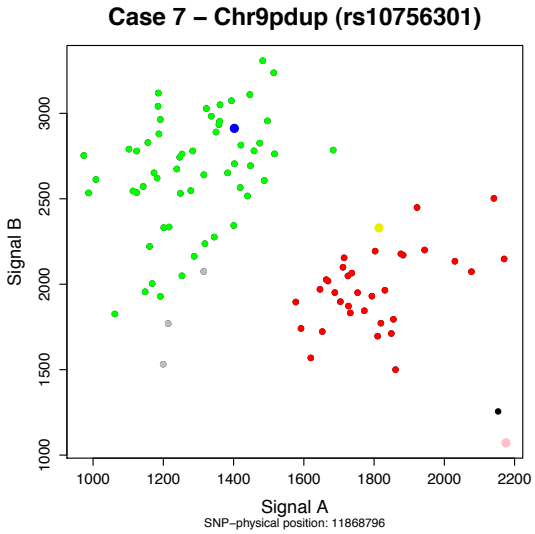

Case 7 – Chr9pdup (rs4457428)
Signal B
Signal A
SNP–physical position: 11469535

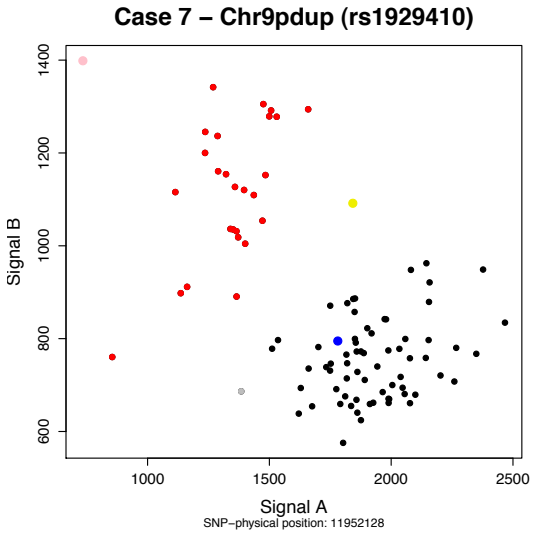

Case 7 – Chr9pdup (rs4741163)
Signal B
Signal A
SNP–physical position: 11505448

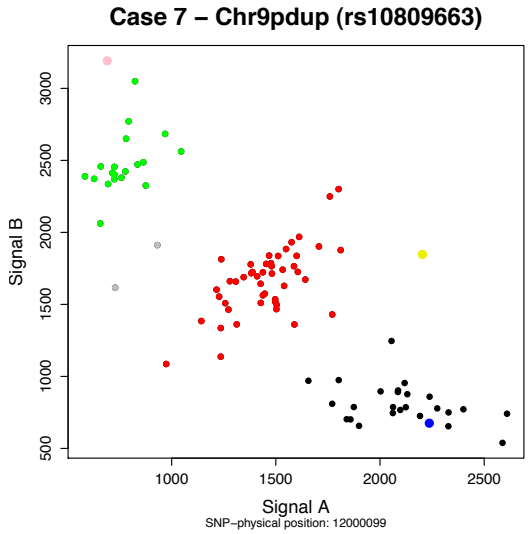

Case 7 – Chr9pdup (rs4741173)
Signal B
Signal A
SNP–physical position: 11648881

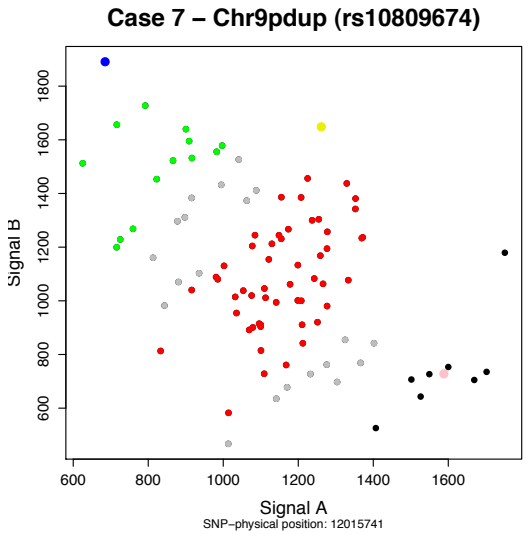

Case 7 – Chr9pdup (rs4741174)
Signal B
Signal A
SNP–physical position: 11649257

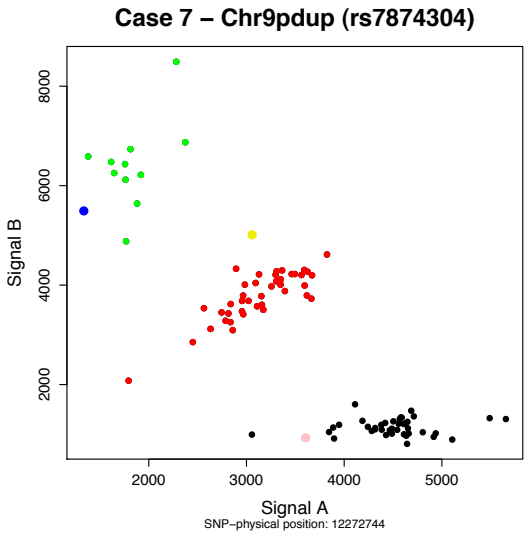

Case 7 – Chr9pdup (rs10960309)
Signal B
Signal A
SNP–physical position: 11841788

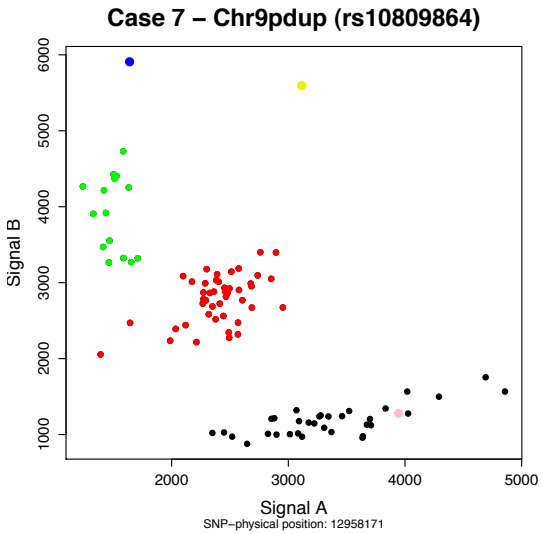

Case 7 – Chr9pdup (rs10756301)
Signal B
Signal A
SNP–physical position: 11868796

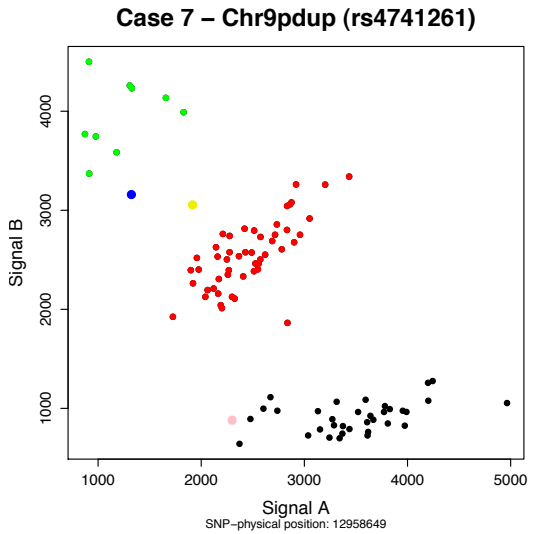

Case 7 – Chr9pdup (rs1929410)
Signal B
Signal A
SNP–physical position: 11952128

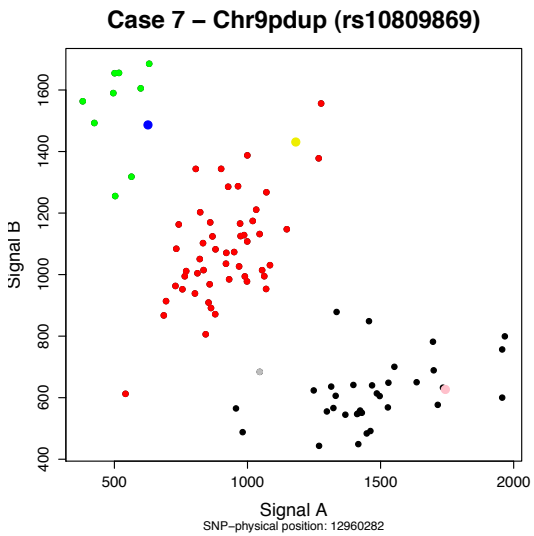

Case 7 – Chr9pdup (rs10809663)
Signal B
Signal A
SNP–physical position: 12000099

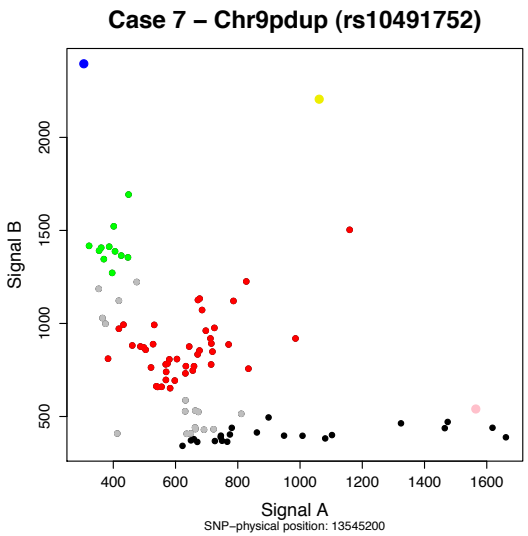

Case 7 – Chr9pdup (rs10809674)
Signal B
Signal A
SNP–physical position: 12015741

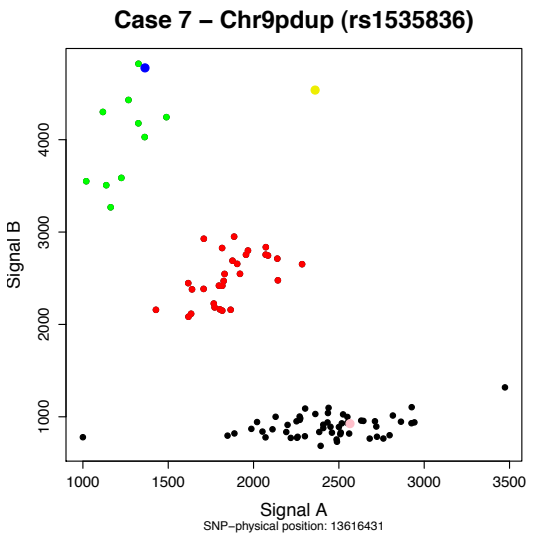

Case 7 – Chr9pdup (rs7874304)
Signal B
Signal A
SNP–physical position: 12272744

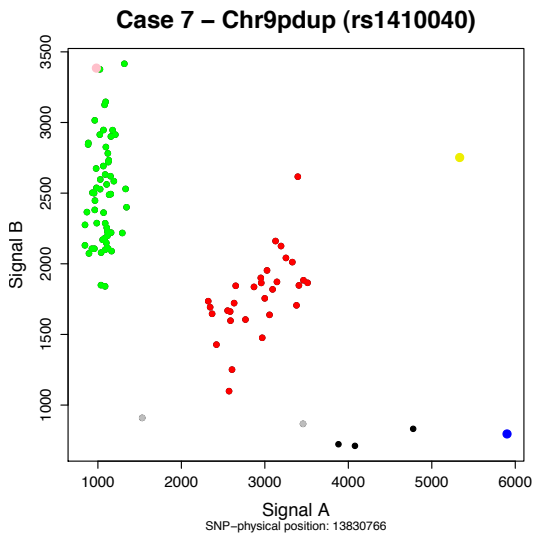

Case 7 – Chr9pdup (rs10809864)
Signal B
Signal A
SNP–physical position: 12958171

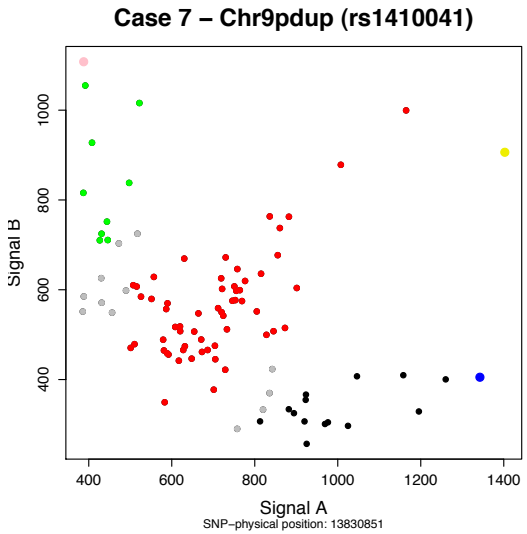

Case 7 – Chr9pdup (rs4741261)
Signal B
Signal A
SNP–physical position: 12958649

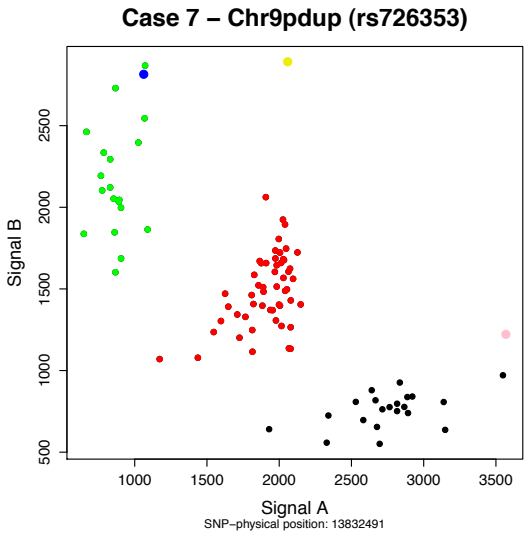

Case 7 – Chr9pdup (rs10809869)
Signal B
Signal A
SNP–physical position: 12960282

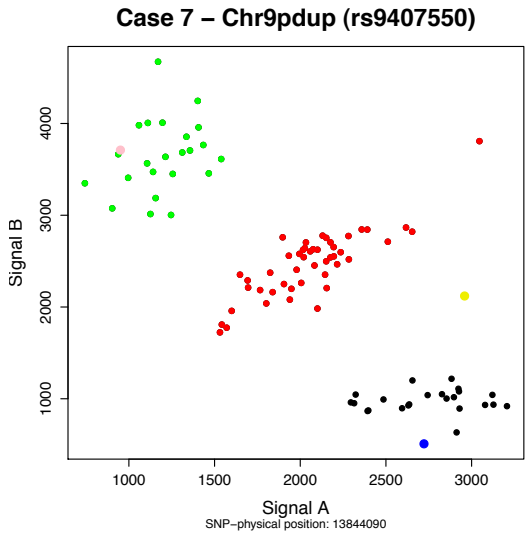

Case 7 – Chr9pdup (rs10491752)
Signal B
Signal A
SNP–physical position: 13545200

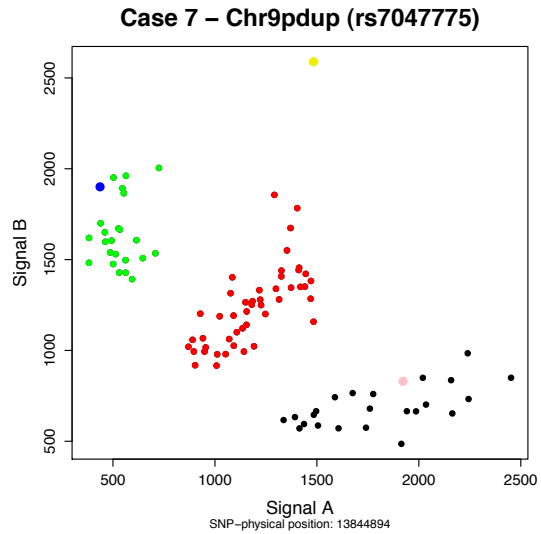

Case 7 – Chr9pdup (rs1535836)
Signal B
Signal A
SNP–physical position: 13616431

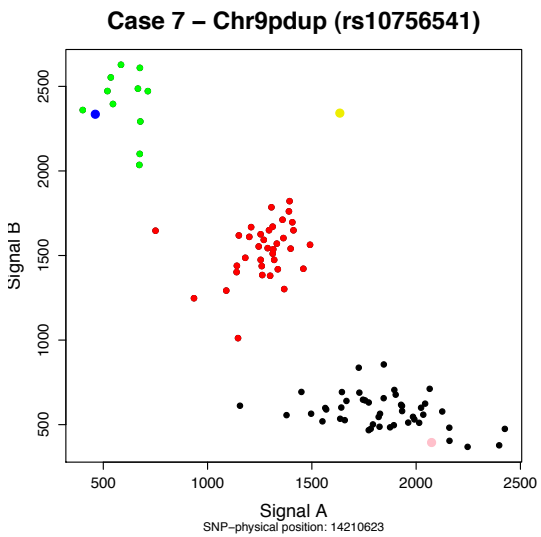

Case 7 – Chr9pdup (rs1410040)
Signal B
Signal A
SNP–physical position: 13830766

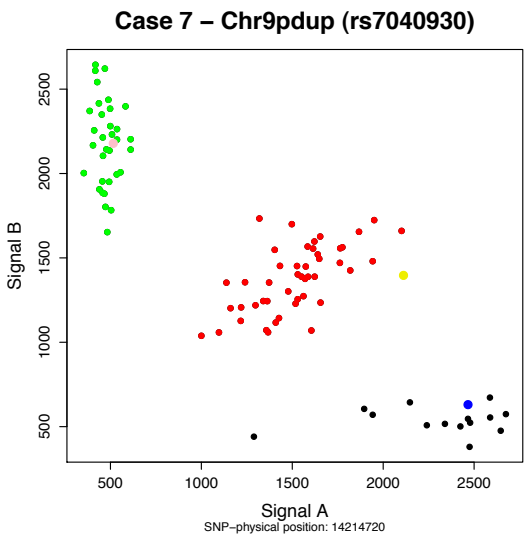

Case 7 – Chr9pdup (rs1410041)
Signal B
Signal A
SNP–physical position: 13830851

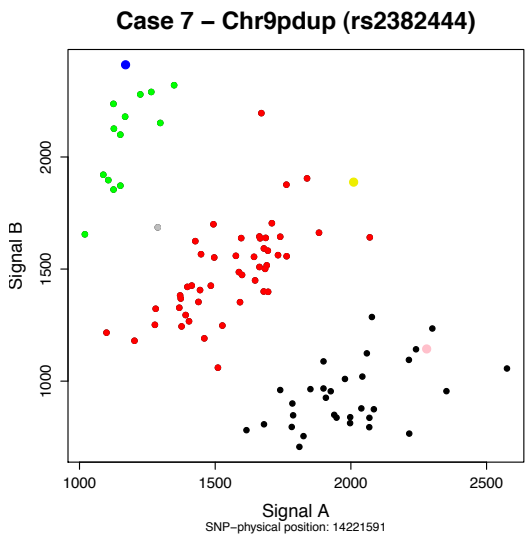

Case 7 – Chr9pdup (rs726353)
Signal B
Signal A
SNP–physical position: 13832491

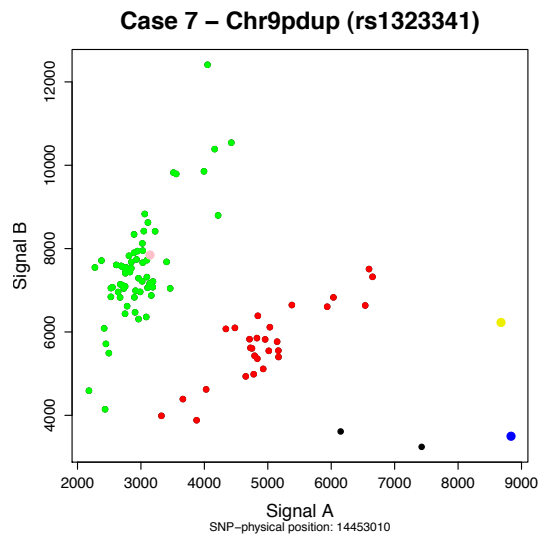

Case 7 – Chr9pdup (rs9407550)
Signal B
Signal A
SNP–physical position: 13844090

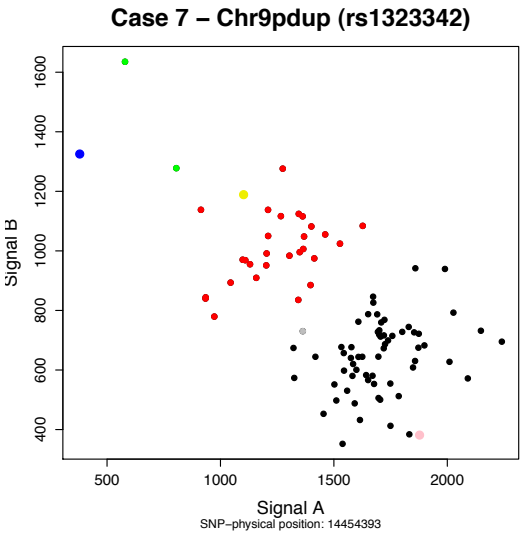

Case 7 – Chr9pdup (rs7047775)
Signal B
Signal A
SNP–physical position: 13844894

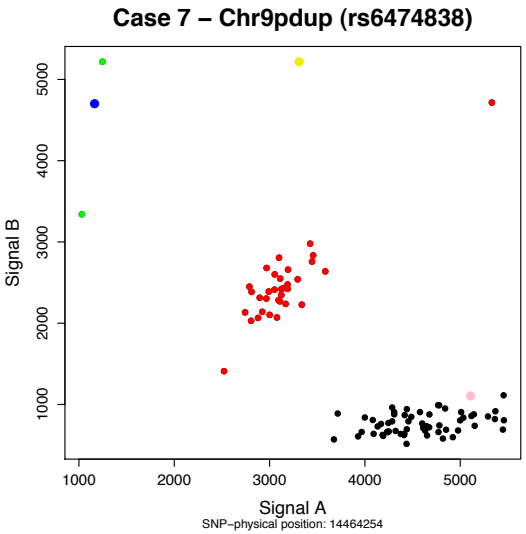

Case 7 – Chr9pdup (rs10756541)
Signal B
Signal A
SNP–physical position: 14210623

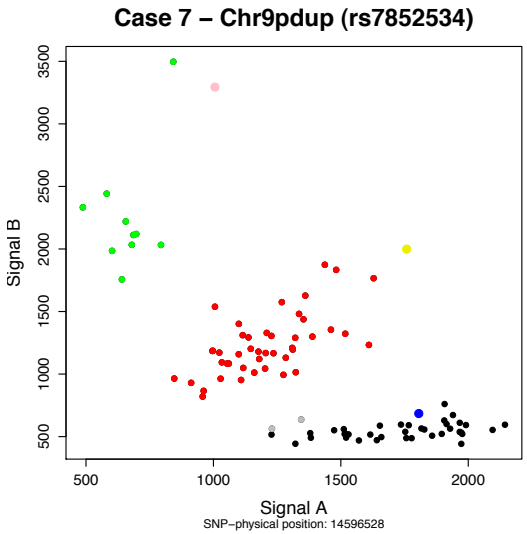

Case 7 – Chr9pdup (rs7040930)
Signal B
Signal A
SNP–physical position: 14214720

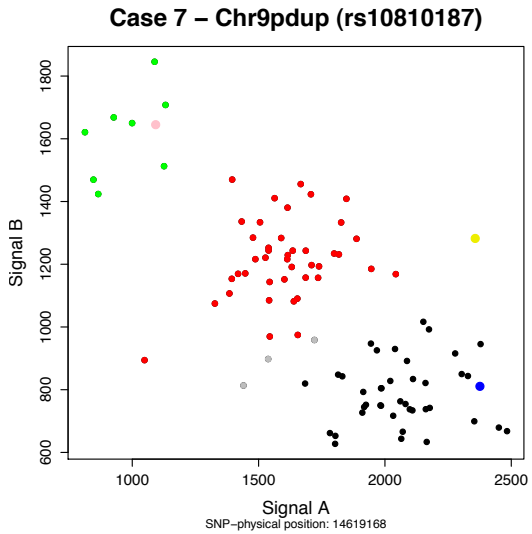

Case 7 – Chr9pdup (rs2382444)
Signal B
Signal A
SNP–physical position: 14221591

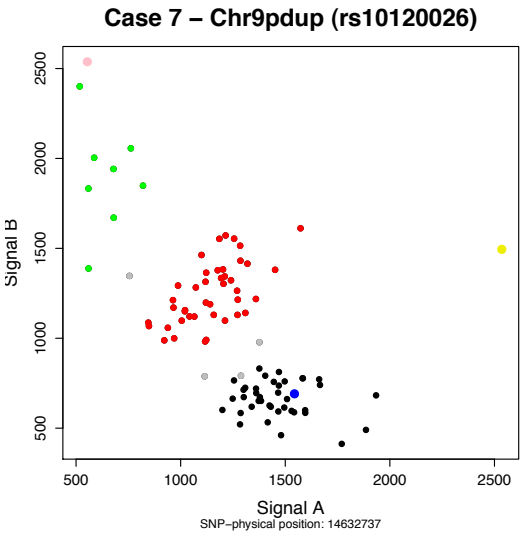

Case 7 – Chr9pdup (rs1323341)
Signal B
Signal A
SNP–physical position: 14453010

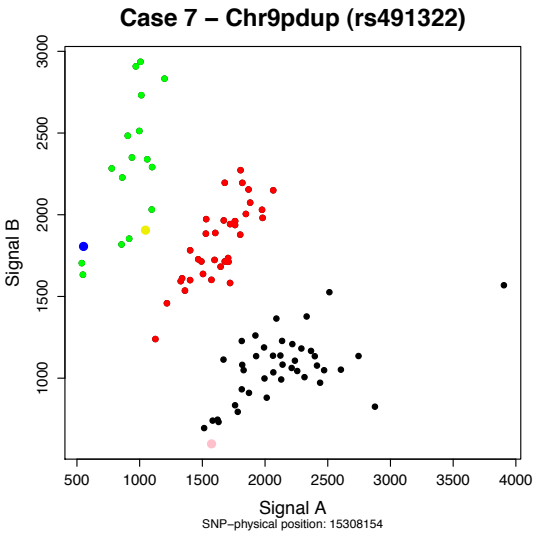

Case 7 – Chr9pdup (rs1323342)
Signal B
Signal A
SNP–physical position: 14454393

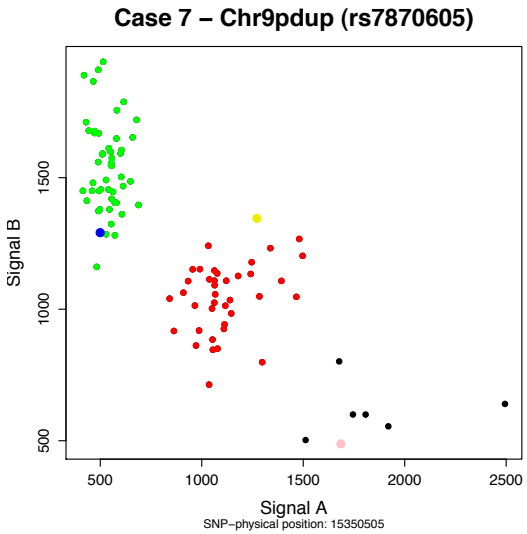

Case 7 – Chr9pdup (rs6474838)
Signal B
Signal A
SNP–physical position: 14464254


Case 7 – Chr9pdup (rs7852534)
Signal B
Signal A
SNP–physical position: 14596528

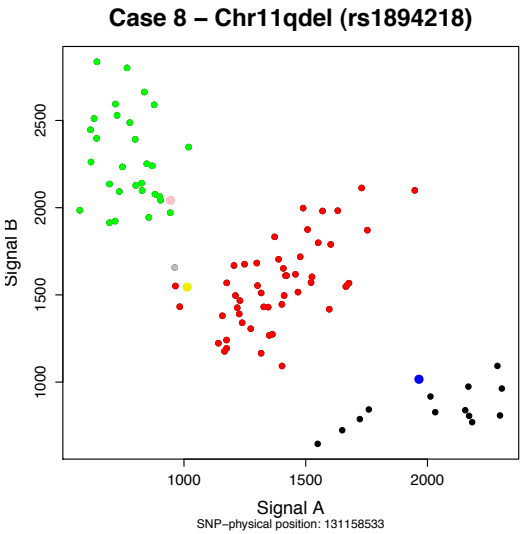

Case 7 – Chr9pdup (rs10810187)
Signal B
Signal A
SNP–physical position: 14619168

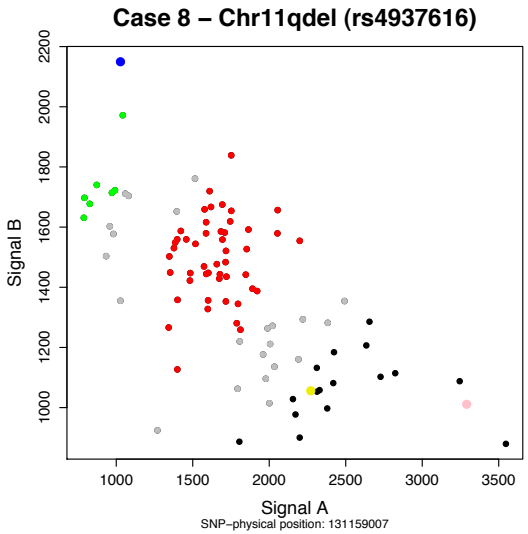

Case 7 – Chr9pdup (rs10120026)
Signal B
Signal A
SNP–physical position: 14632737

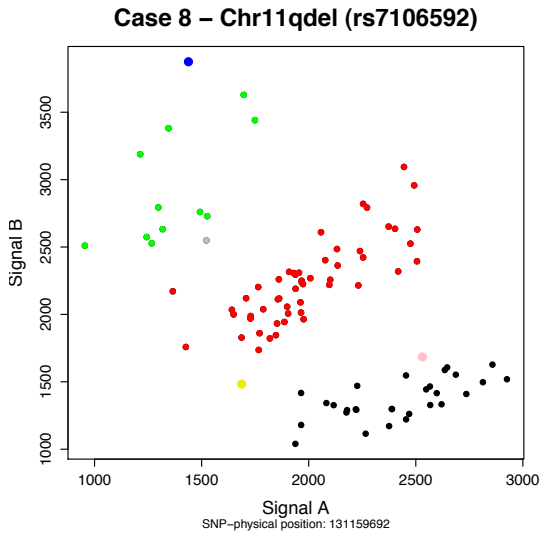

Case 7 – Chr9pdup (rs491322)
Signal B
Signal A
SNP–physical position: 15308154

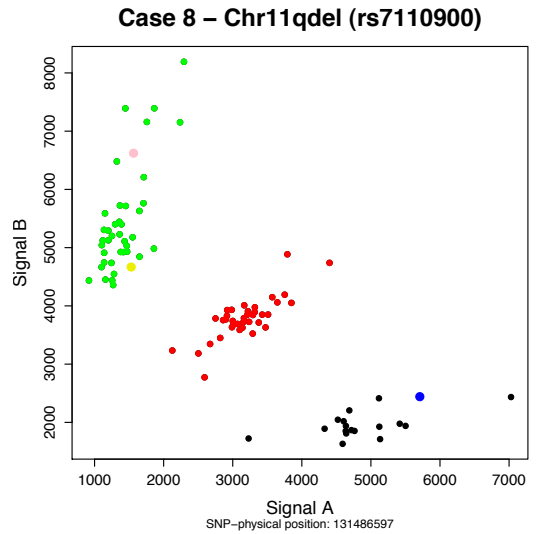

Case 7 – Chr9pdup (rs7870605)
Signal B
Signal A
SNP–physical position: 15350505

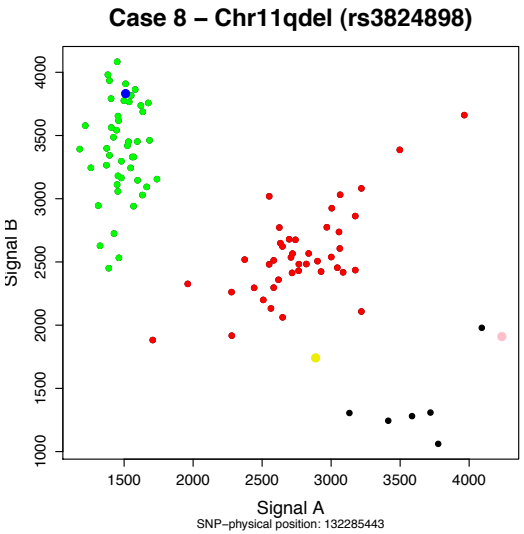
Case: 8
Chromosome: 11q
Abberation: del.

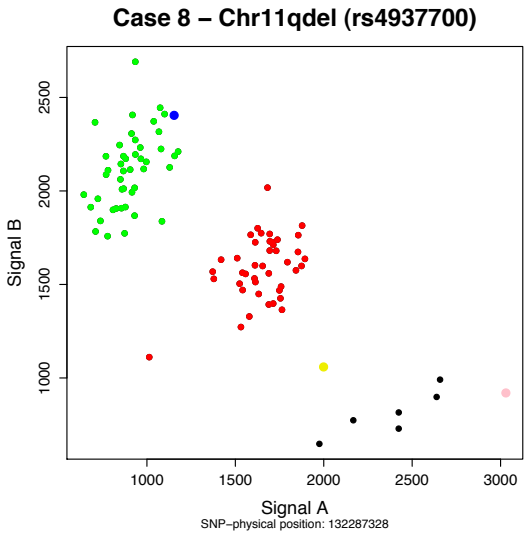

Case 8 – Chr11qdel (rs1894218)
Signal B
Signal A
SNP−physical position: 131158533

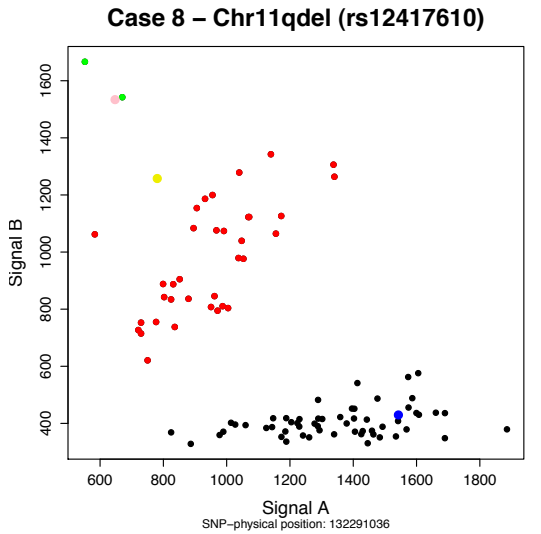

Case 8 – Chr11qdel (rs4937616)
Signal B
Signal A
SNP−physical position: 131159007

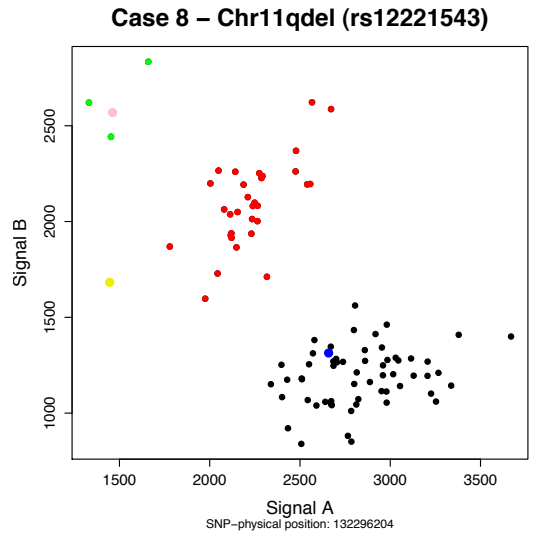

Case 8 – Chr11qdel (rs7106592)
Signal B
Signal A
SNP−physical position: 131159692

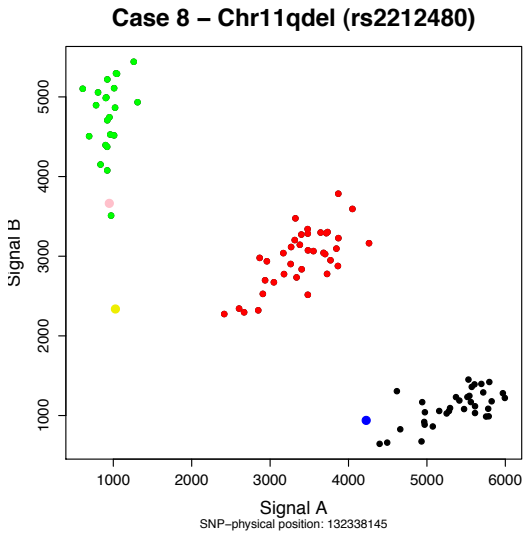

Case 8 – Chr11qdel (rs7110900)
Signal B
Signal A
SNP−physical position: 131486597

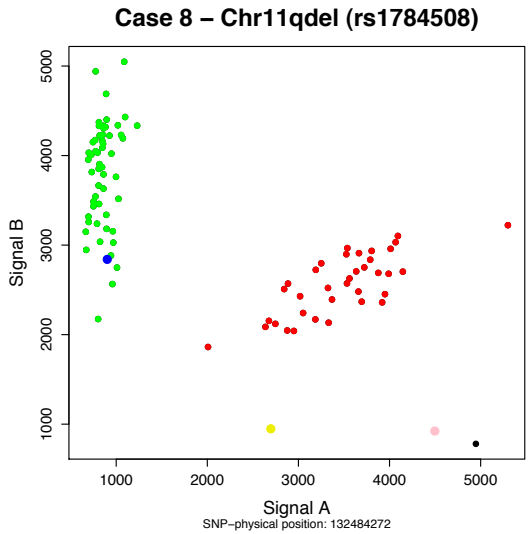

Case 8 – Chr11qdel (rs3824898)
Signal B
Signal A
SNP−physical position: 132285443

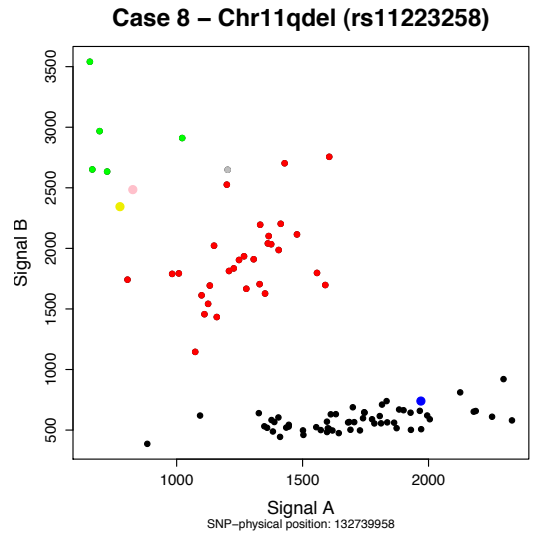

Case 8 – Chr11qdel (rs4937700)
Signal B
Signal A
SNP−physical position: 132287328

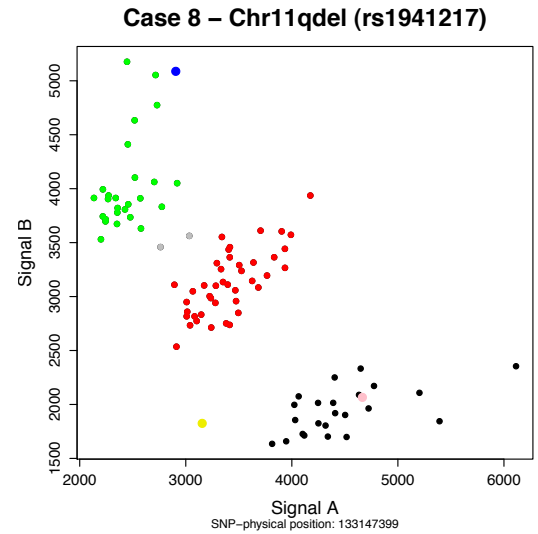

Case 8 – Chr11qdel (rs12417610)
Signal B
Signal A
SNP−physical position: 132291036

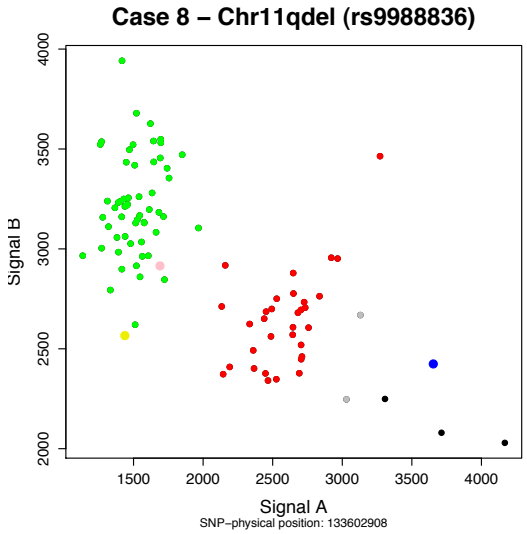

Case 8 – Chr11qdel (rs12221543)
Signal B
Signal A
SNP−physical position: 132296204

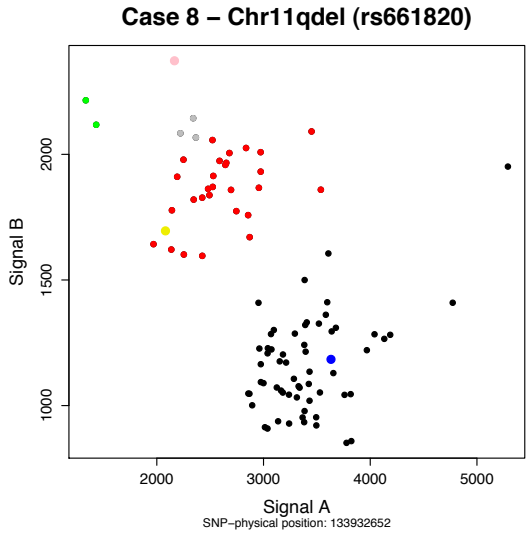

Case 8 – Chr11qdel (rs2212480)
Signal B
Signal A
SNP−physical position: 132338145

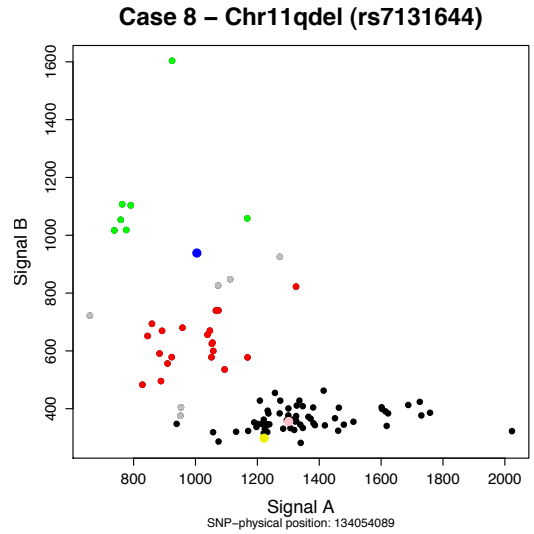

Case 8 – Chr11qdel (rs1784508)
Signal B
Signal A
SNP−physical position: 132484272

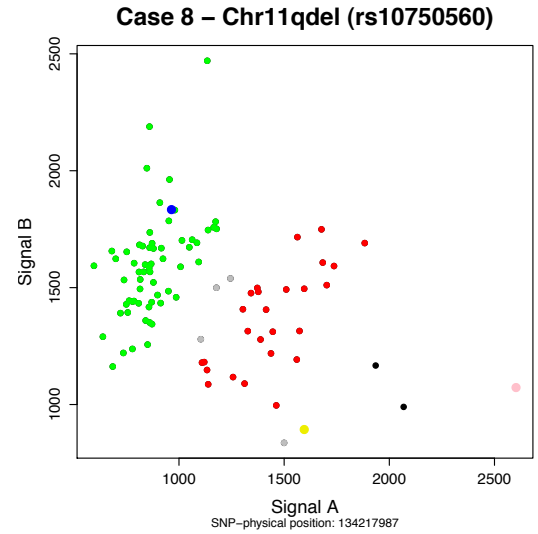

Case 8 – Chr11qdel (rs11223258)
Signal B
Signal A
SNP−physical position: 132739958

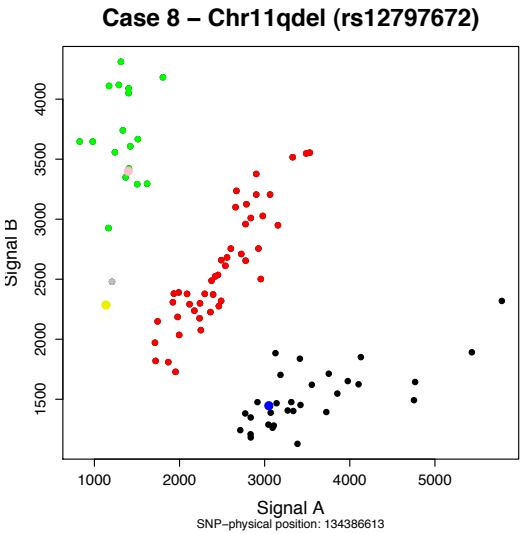

Case 8 – Chr11qdel (rs1941217)
Signal B
Signal A
SNP−physical position: 133147399

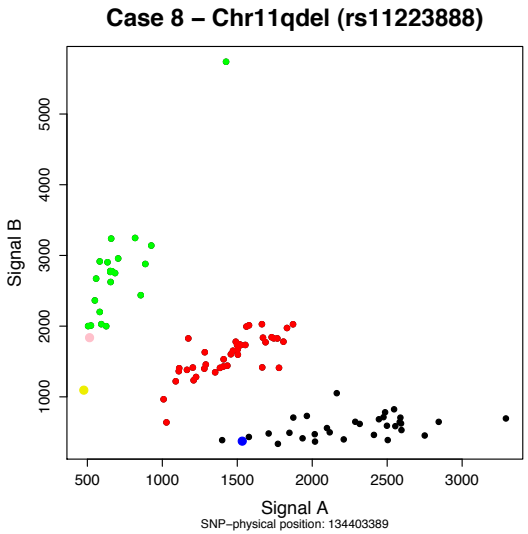

Case 8 – Chr11qdel (rs9988836)
Signal B
Signal A
SNP−physical position: 133602908

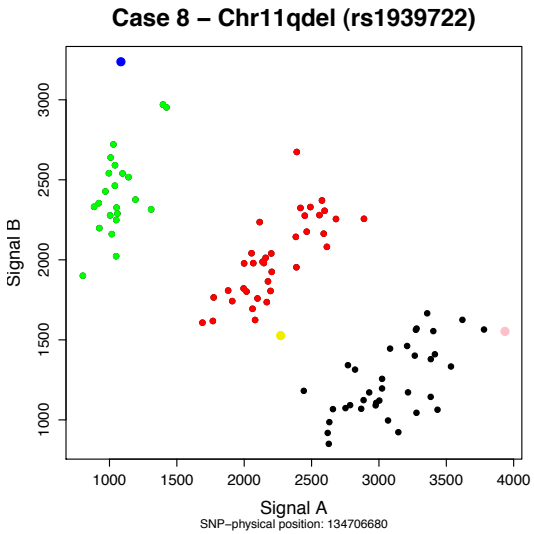

Case 8 – Chr11qdel (rs661820)
Signal B
Signal A
SNP−physical position: 133932652


Case 8 – Chr11qdel (rs7131644)
Signal B
Signal A
SNP−physical position: 134054089

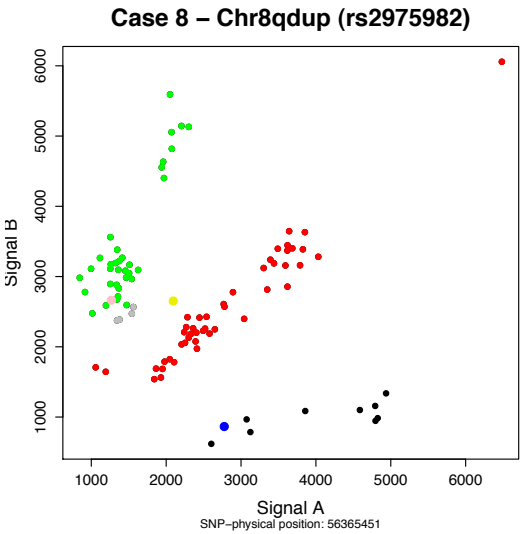

Case 8 – Chr11qdel (rs10750560)
Signal B
Signal A
SNP−physical position: 134217987

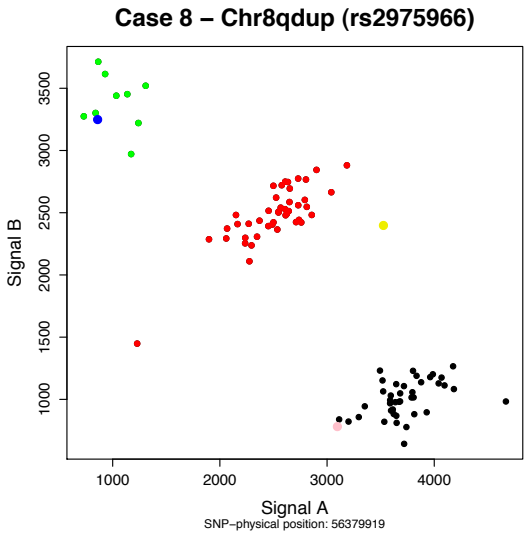

Case 8 – Chr11qdel (rs12797672)
Signal B
Signal A
SNP−physical position: 134386613

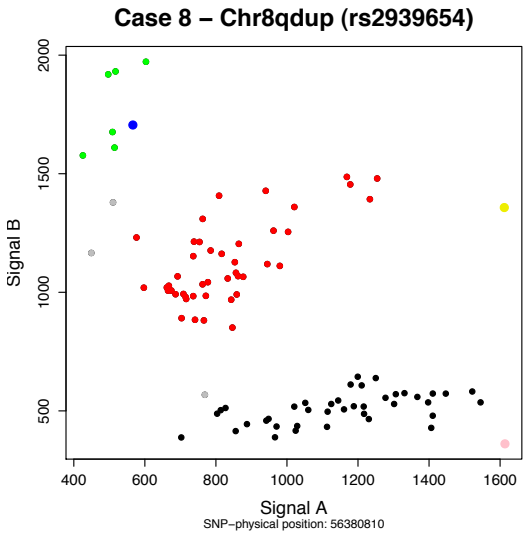

Case 8 – Chr11qdel (rs11223888)
Signal B
Signal A
SNP−physical position: 134403389

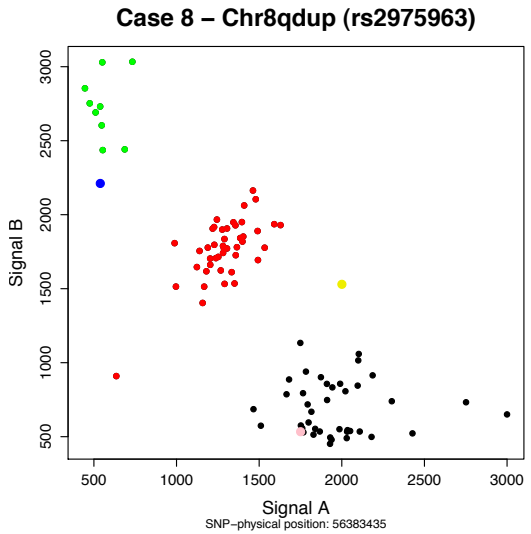

Case 8 – Chr11qdel (rs1939722)
Signal B
Signal A
SNP−physical position: 134706680

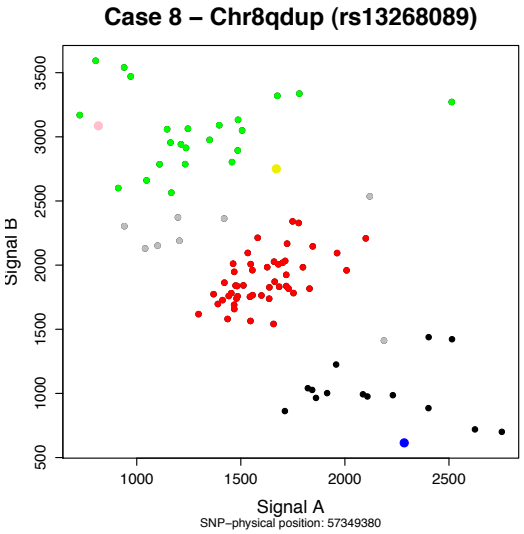
Case: 8
Chromosome: 8q
Abberation: dup.

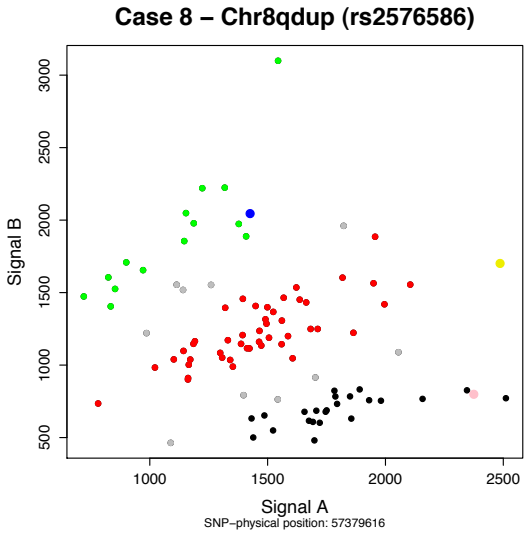

Case 8 – Chr8qdup (rs2975982)
Signal B
Signal A
SNP–physical position: 56365451

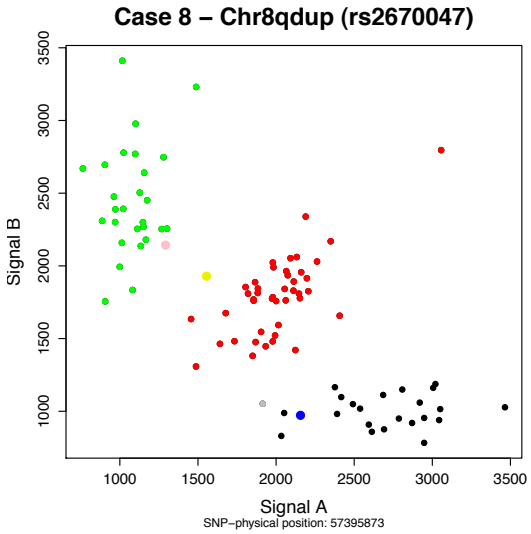

Case 8 – Chr8qdup (rs2975966)
Signal B
Signal A
SNP–physical position: 56379919

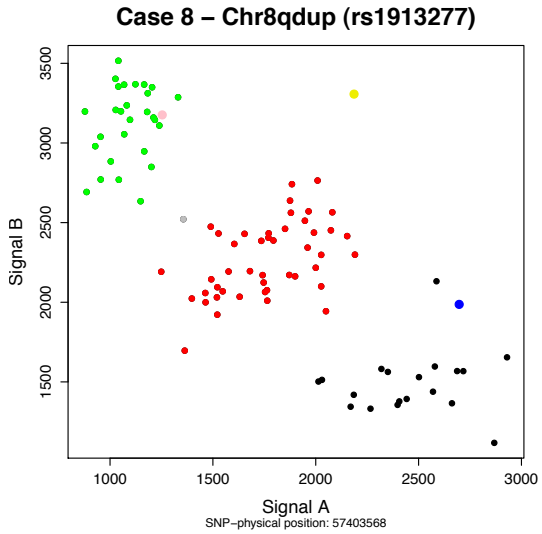

Case 8 – Chr8qdup (rs2939654)
Signal B
Signal A
SNP–physical position: 56380810

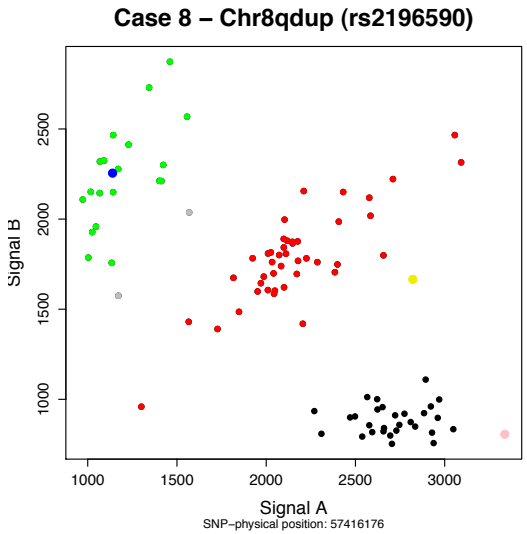

Case 8 – Chr8qdup (rs2975963)
Signal B
Signal A
SNP–physical position: 56383435

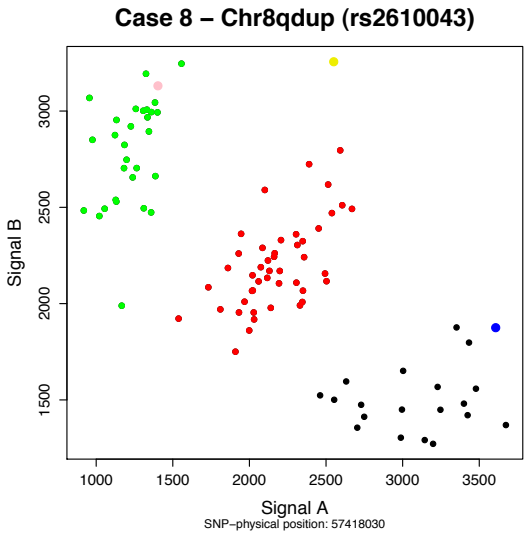

Case 8 – Chr8qdup (rs13268089)
Signal B
Signal A
SNP–physical position: 57349380

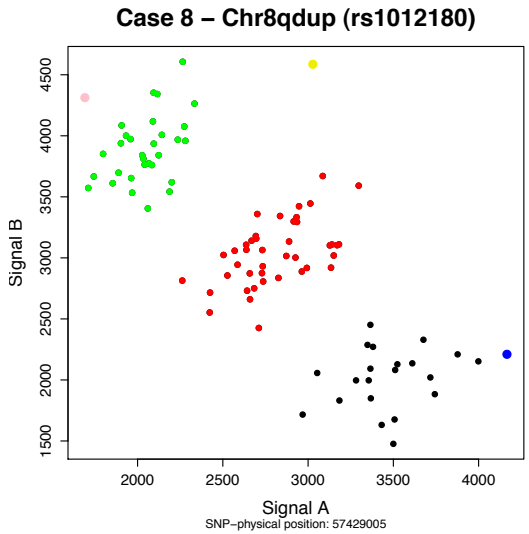

Case 8 – Chr8qdup (rs2576586)
Signal B
Signal A
SNP–physical position: 57379616

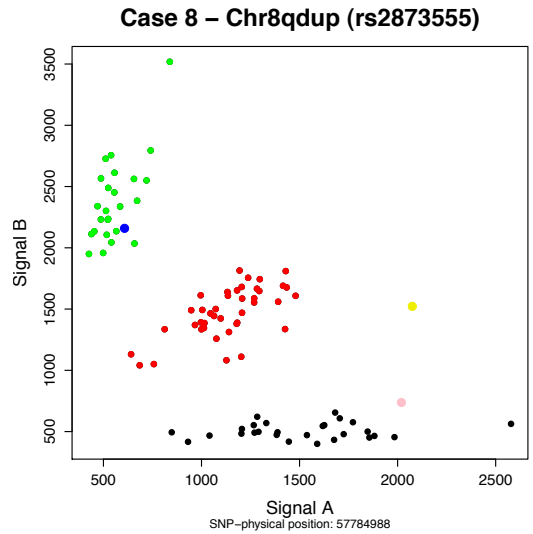

Case 8 – Chr8qdup (rs2670047)
Signal B
Signal A
SNP–physical position: 57395873

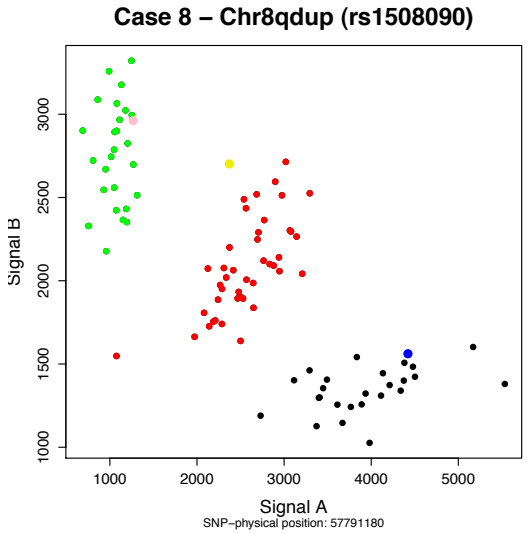

Case 8 – Chr8qdup (rs1913277)
Signal B
Signal A
SNP–physical position: 57403568

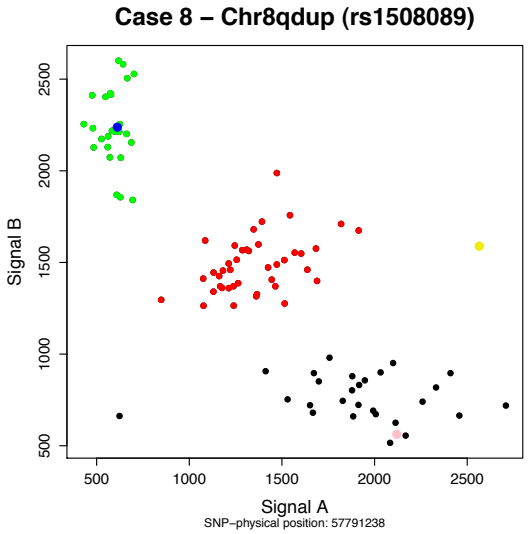

Case 8 – Chr8qdup (rs2196590)
Signal B
Signal A
SNP–physical position: 57416176

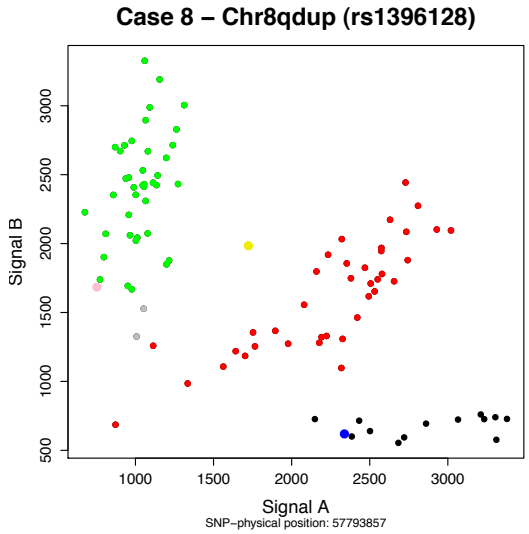

Case 8 – Chr8qdup (rs2610043)
Signal B
Signal A
SNP–physical position: 57418030

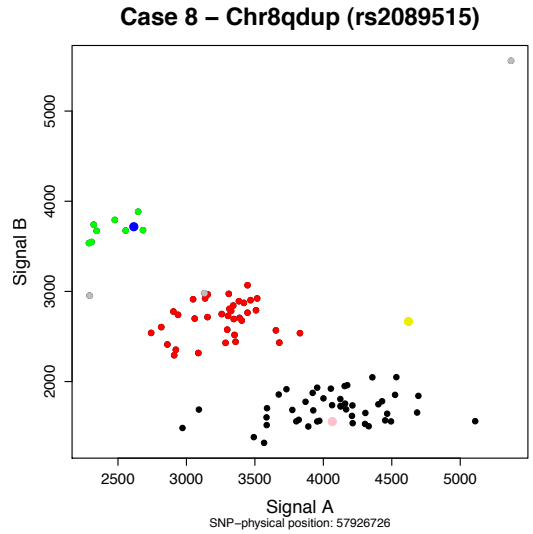

Case 8 – Chr8qdup (rs1012180)
Signal B
Signal A
SNP–physical position: 57429005

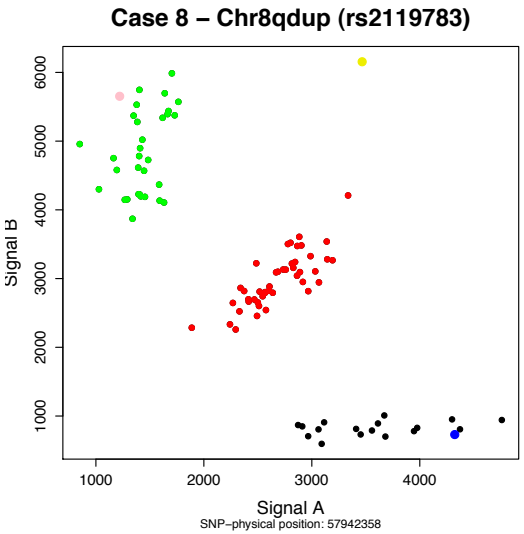

Case 8 – Chr8qdup (rs2873555)
Signal B
Signal A
SNP–physical position: 57784988

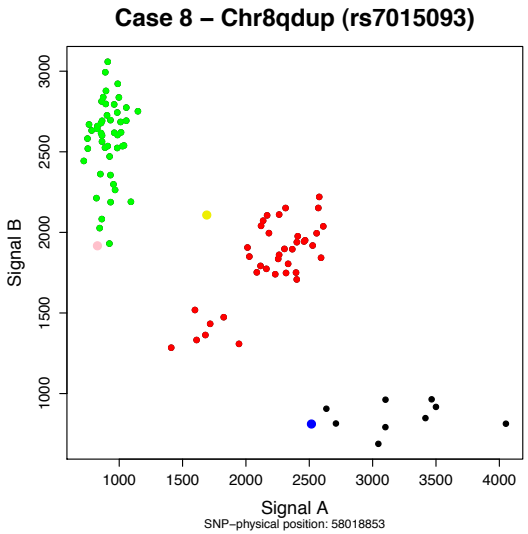

Case 8 – Chr8qdup (rs1508090)
Signal B
Signal A
SNP–physical position: 57791180

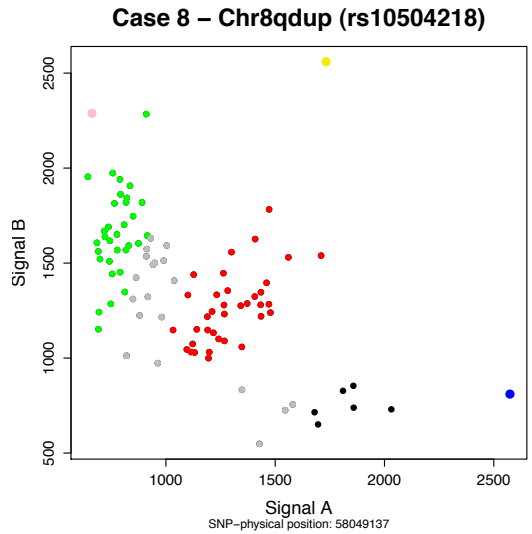

Case 8 – Chr8qdup (rs1508089)
Signal B
Signal A
SNP–physical position: 57791238

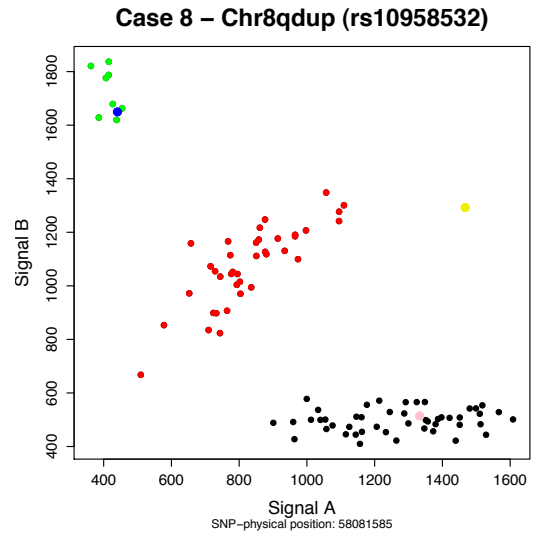

Case 8 – Chr8qdup (rs1396128)
Signal B
Signal A
SNP–physical position: 57793857

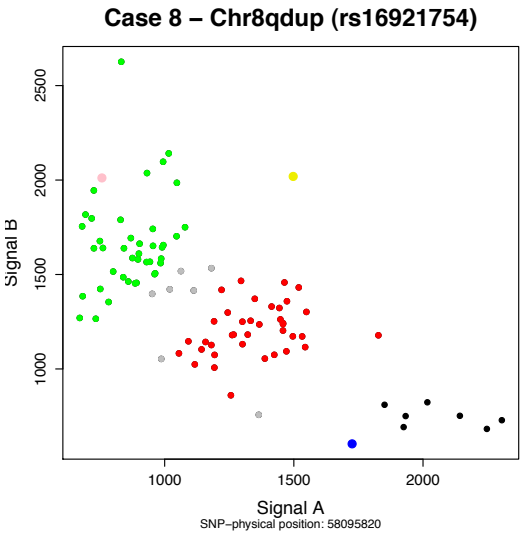

Case 8 – Chr8qdup (rs2089515)
Signal B
Signal A
SNP–physical position: 57926726

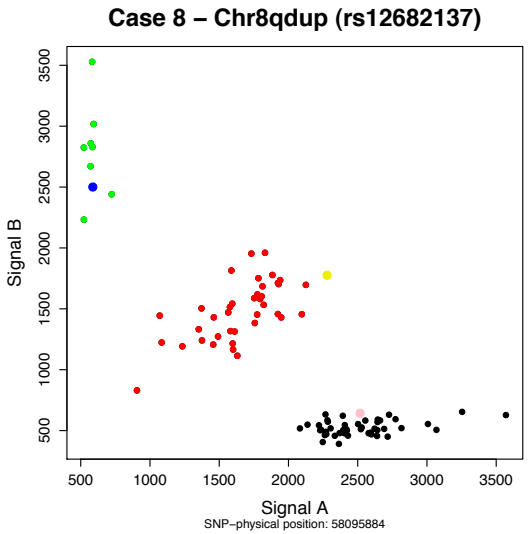

Case 8 – Chr8qdup (rs2119783)
Signal B
Signal A
SNP–physical position: 57942358

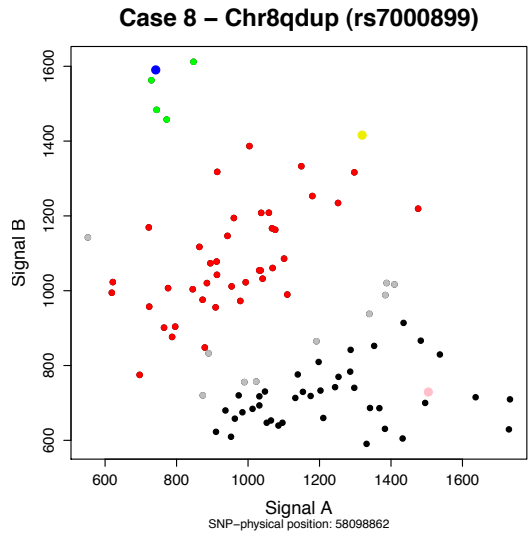

Case 8 – Chr8qdup (rs7015093)
Signal B
Signal A
SNP–physical position: 58018853

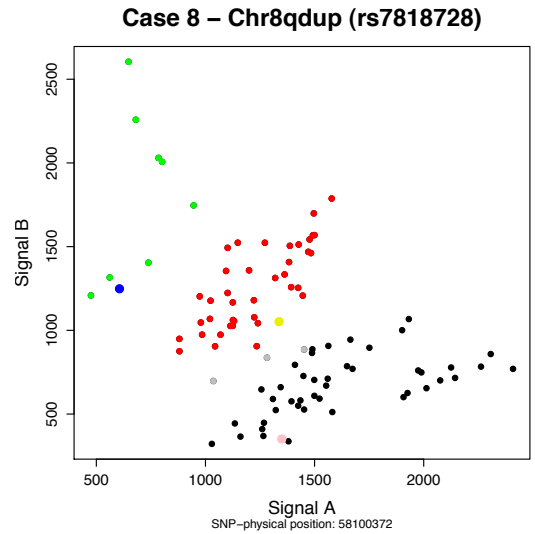

Case 8 – Chr8qdup (rs10504218)
Signal B
Signal A
SNP–physical position: 58049137

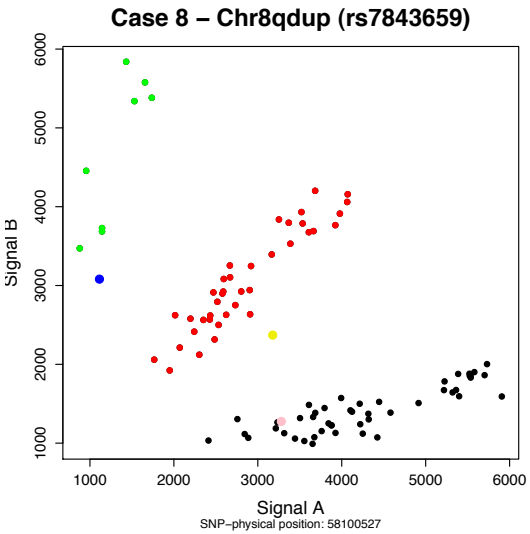

Case 8 – Chr8qdup (rs10958532)
Signal B
Signal A
SNP–physical position: 58081585

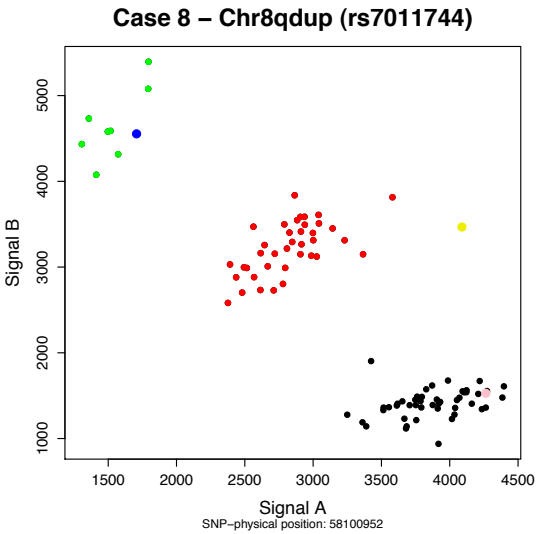

Case 8 – Chr8qdup (rs16921754)
Signal B
Signal A
SNP–physical position: 58095820

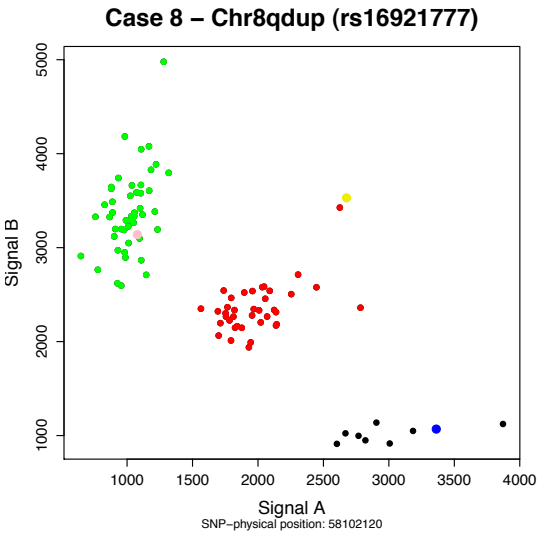

Case 8 – Chr8qdup (rs12682137)
Signal B
Signal A
SNP–physical position: 58095884

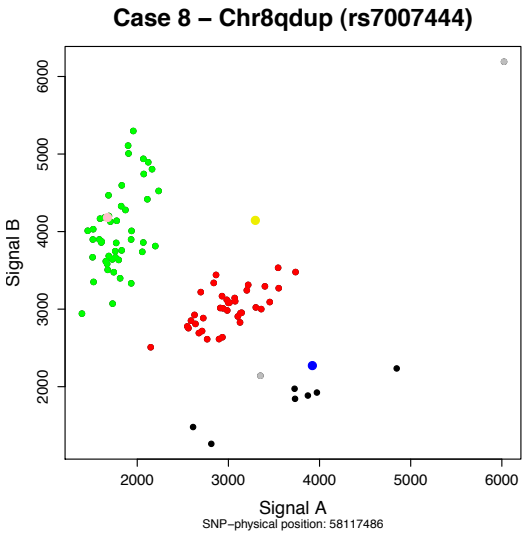

Case 8 – Chr8qdup (rs7000899)
Signal B
Signal A
SNP–physical position: 58098862

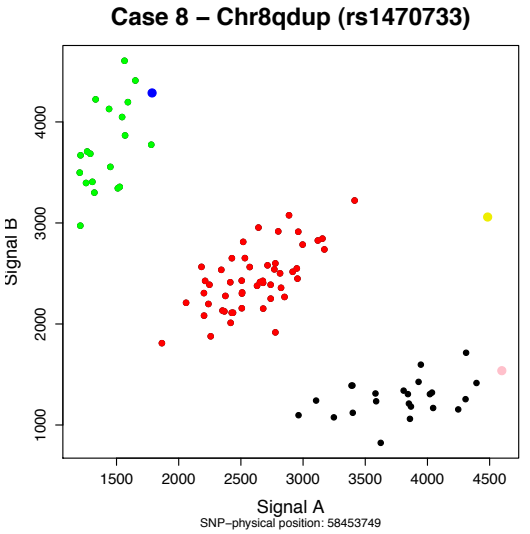

Case 8 – Chr8qdup (rs7818728)
Signal B
Signal A
SNP–physical position: 58100372

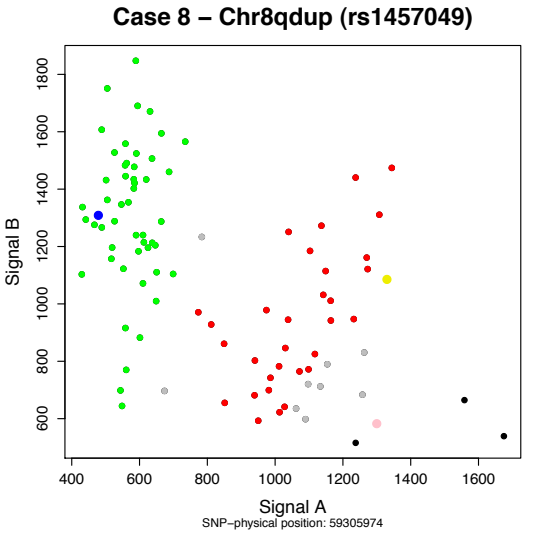

Case 8 – Chr8qdup (rs7843659)
Signal B
Signal A
SNP–physical position: 58100527

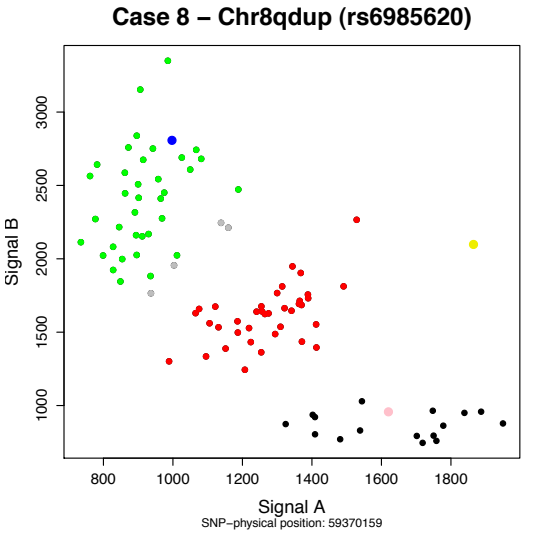

Case 8 – Chr8qdup (rs7011744)
Signal B
Signal A
SNP–physical position: 58100952

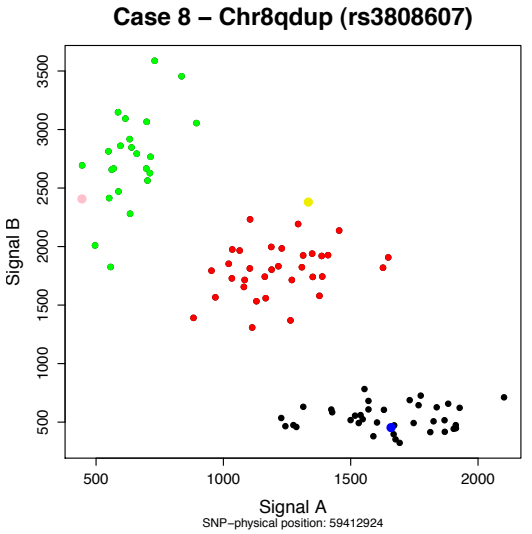

Case 8 – Chr8qdup (rs16921777)
Signal B
Signal A
SNP–physical position: 58102120

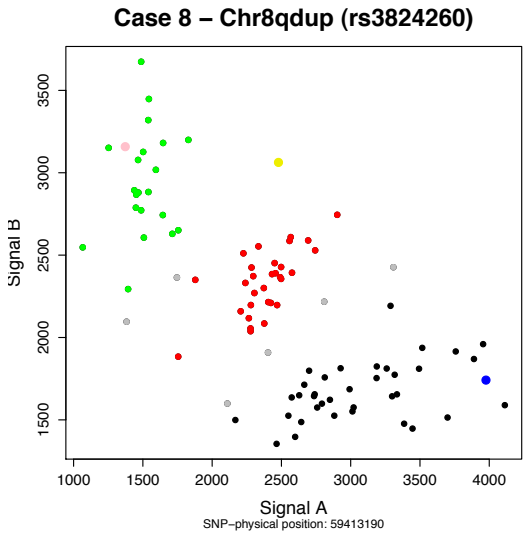

Case 8 – Chr8qdup (rs7007444)
Signal B
Signal A
SNP–physical position: 58117486

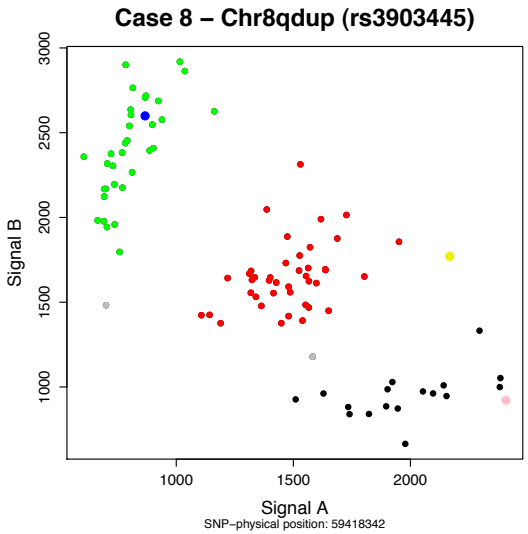

Case 8 – Chr8qdup (rs1470733)
Signal B
Signal A
SNP–physical position: 58453749

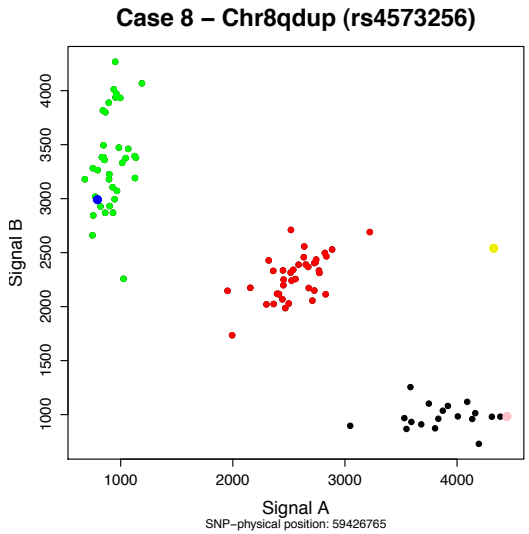

Case 8 – Chr8qdup (rs1457049)
Signal B
Signal A
SNP–physical position: 59305974

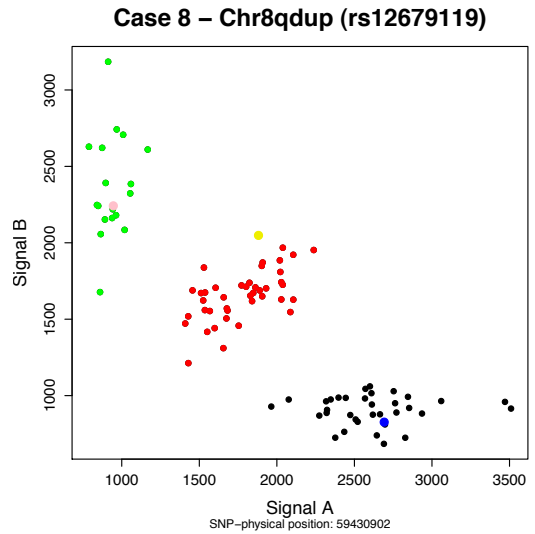

Case 8 – Chr8qdup (rs6985620)
Signal B
Signal A
SNP–physical position: 59370159

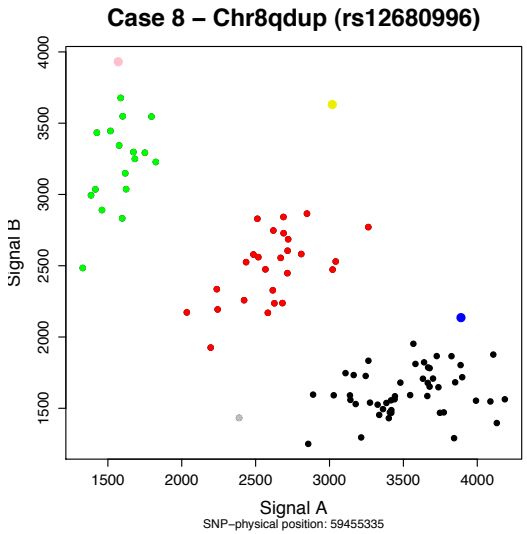

Case 8 – Chr8qdup (rs3808607)
Signal B
Signal A
SNP–physical position: 59412924

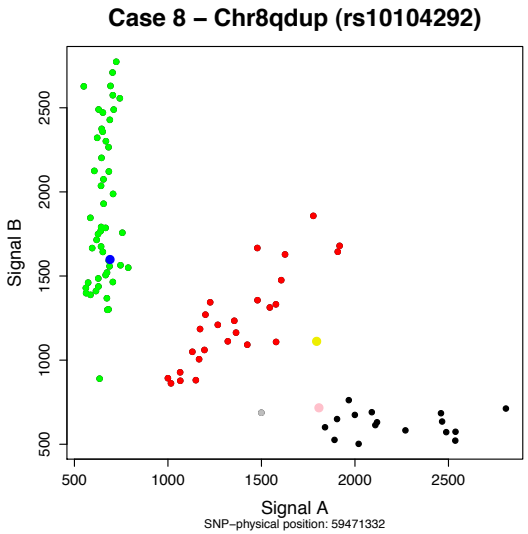

Case 8 – Chr8qdup (rs3824260)
Signal B
Signal A
SNP–physical position: 59413190

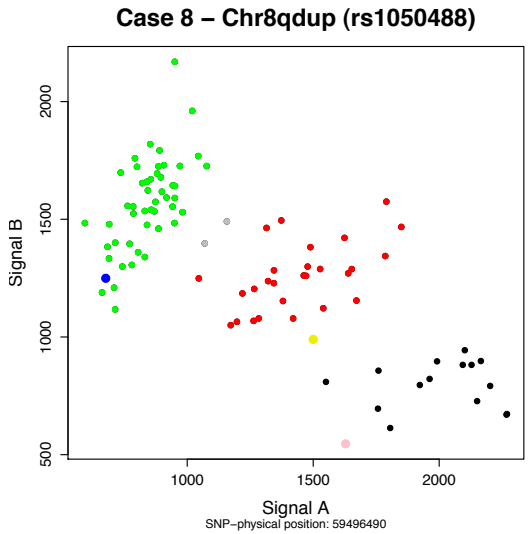

Case 8 – Chr8qdup (rs3903445)
Signal B
Signal A
SNP–physical position: 59418342

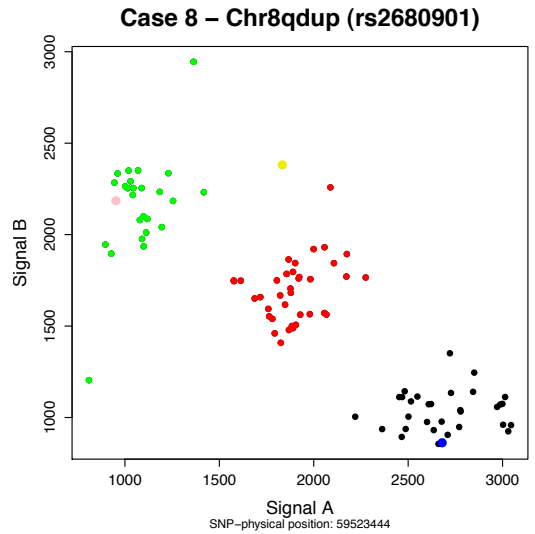

Case 8 – Chr8qdup (rs4573256)
Signal B
Signal A
SNP–physical position: 59426765

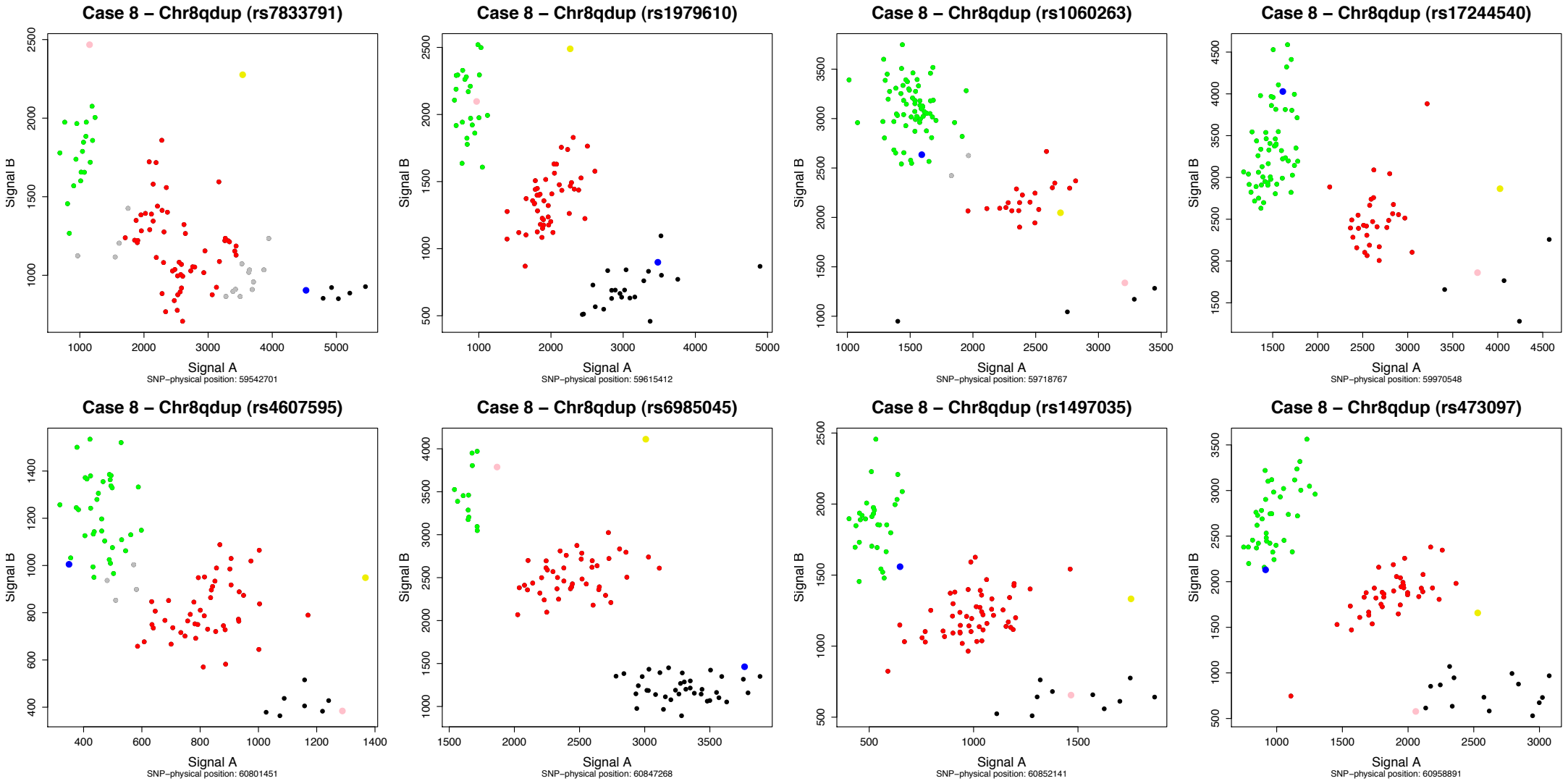

Case 8 – Chr8qdup (rs12679119)
Signal B
Signal A
SNP–physical position: 59430902

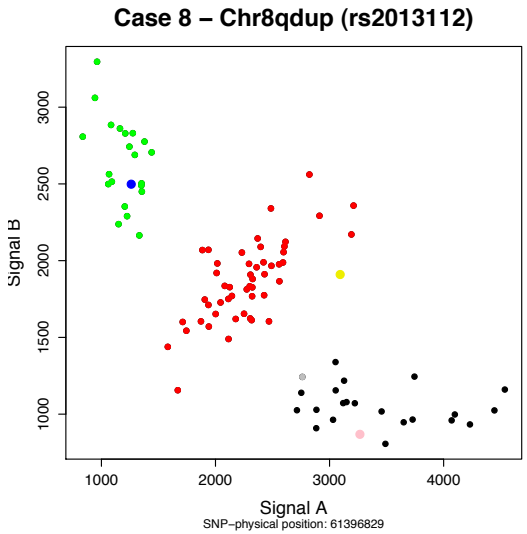

Case 8 – Chr8qdup (rs12680996)
Signal B
Signal A
SNP–physical position: 59455335

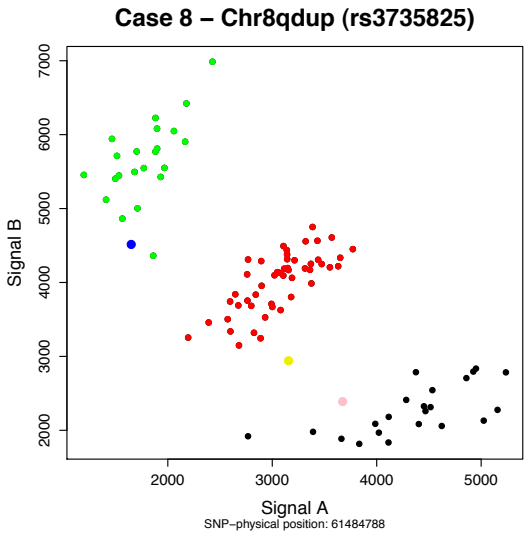

Case 8 – Chr8qdup (rs10104292)
Signal B
Signal A
SNP–physical position: 59471332

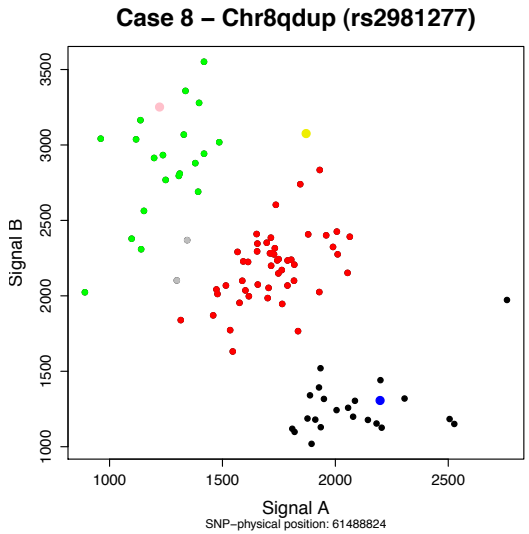

Case 8 – Chr8qdup (rs1050488)
Signal B
Signal A
SNP–physical position: 59496490

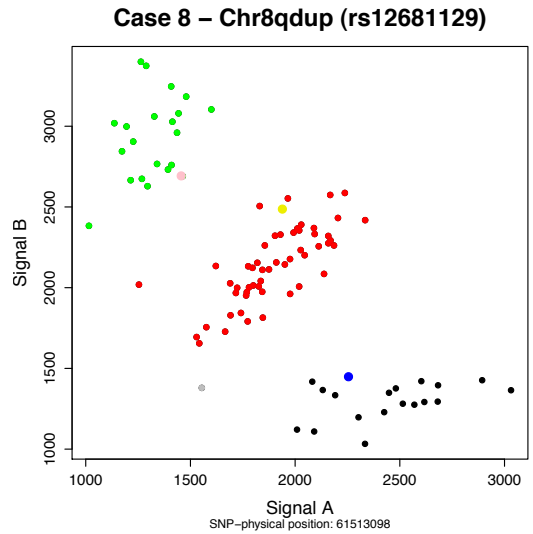

Case 8 – Chr8qdup (rs2680901)
Signal B
Signal A
SNP–physical position: 59523444

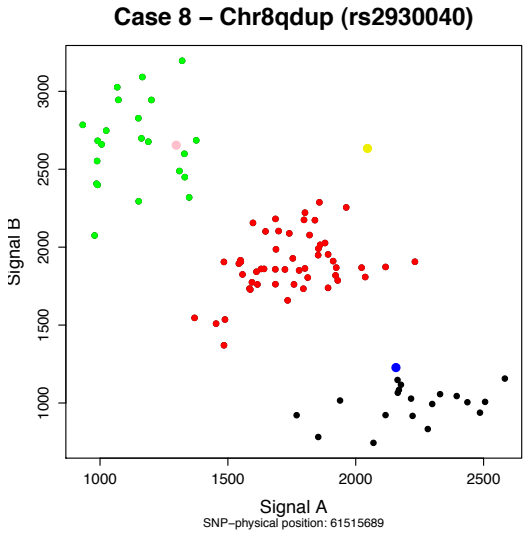

Case 8 – Chr8qdup (rs7833791)
Signal B
Signal A
SNP–physical position: 59542701
Case 8 – Chr8qdup (rs1979610)
Signal B
Signal A
SNP–physical position: 59615412
Case 8 – Chr8qdup (rs1060263)
Signal B
Signal A
SNP–physical position: 59718767
Case 8 – Chr8qdup (rs17244540)
Signal B
Signal A
SNP–physical position: 59970548
Case 8 – Chr8qdup (rs4607595)
Signal B
Signal A
SNP–physical position: 60801451
Case 8 – Chr8qdup (rs6985045)
Signal B
Signal A
SNP–physical position: 60847268
Case 8 – Chr8qdup (rs1497035)
Signal B
Signal A
SNP–physical position: 60852141
Case 8 – Chr8qdup (rs473097)
Signal B
Signal A
SNP–physical position: 60958891

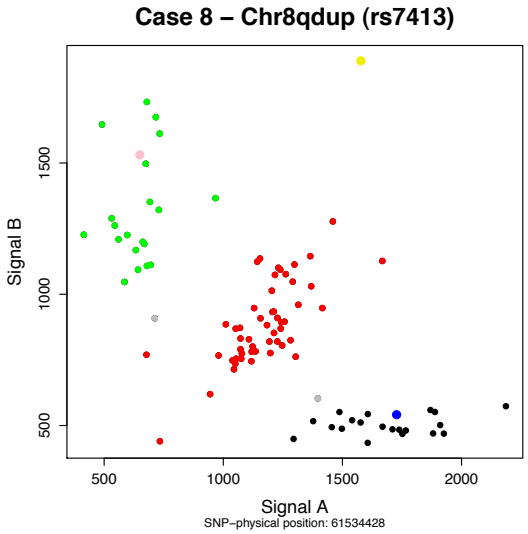

Case 8 – Chr8qdup (rs2013112)
Signal B
Signal A
SNP–physical position: 61396829

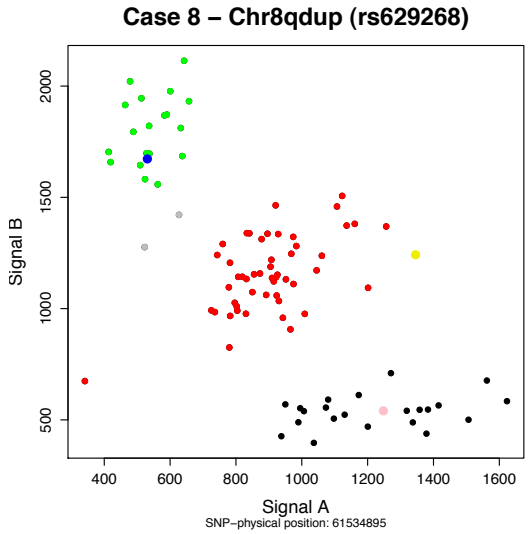

Case 8 – Chr8qdup (rs3735825)
Signal B
Signal A
SNP–physical position: 61484788

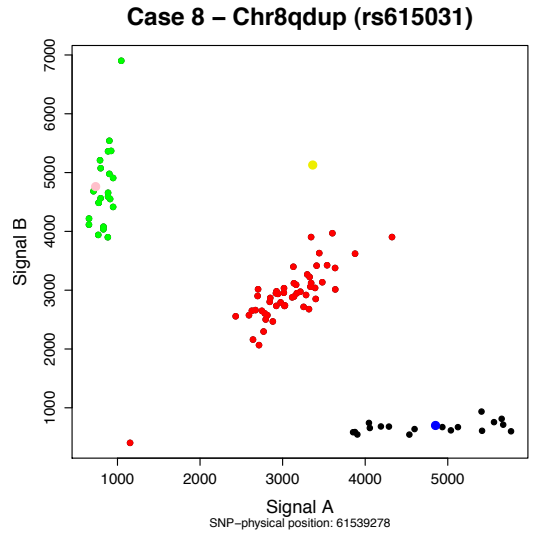

Case 8 – Chr8qdup (rs2981277)
Signal B
Signal A
SNP–physical position: 61488824

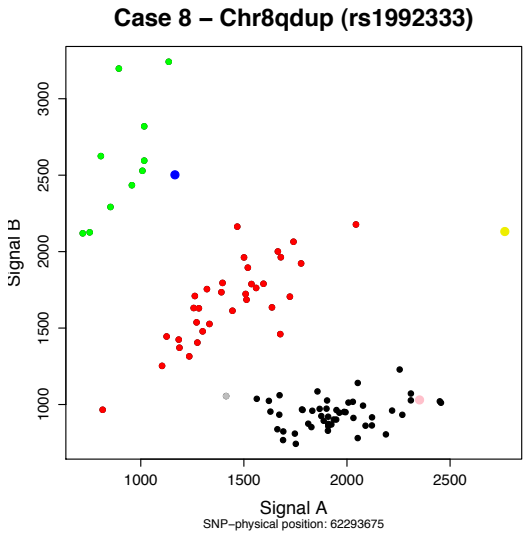

Case 8 – Chr8qdup (rs12681129)
Signal B
Signal A
SNP–physical position: 61513098

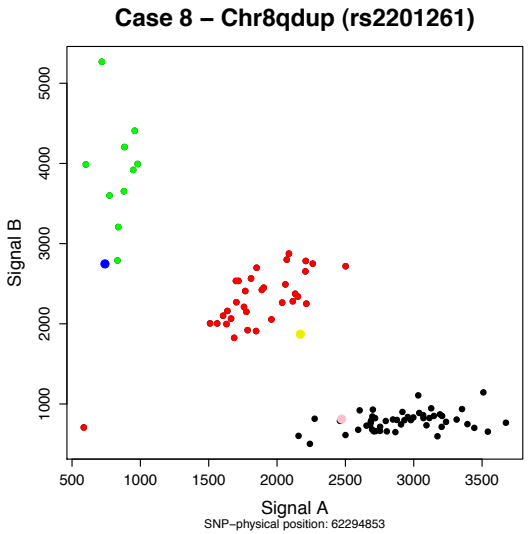

Case 8 – Chr8qdup (rs2930040)
Signal B
Signal A
SNP–physical position: 61515689

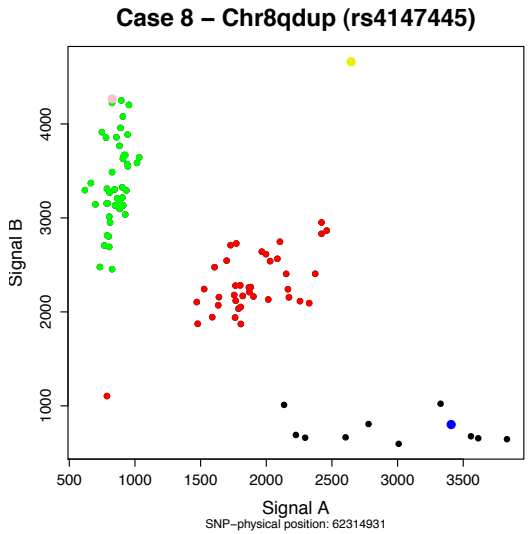

Case 8 – Chr8qdup (rs7413)
Signal B
Signal A
SNP–physical position: 61534428

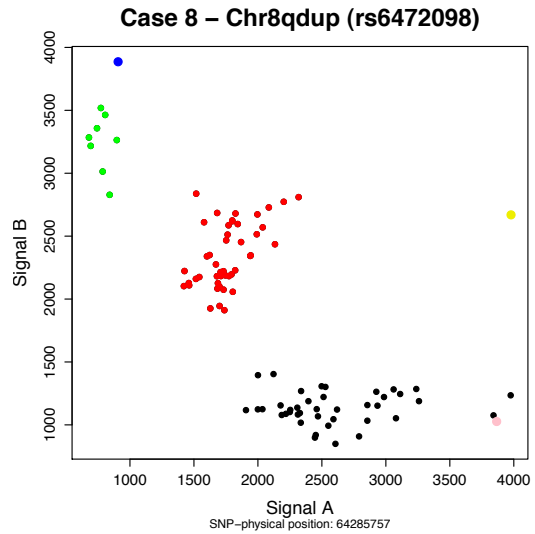

Case 8 – Chr8qdup (rs629268)
Signal B
Signal A
SNP–physical position: 61534895

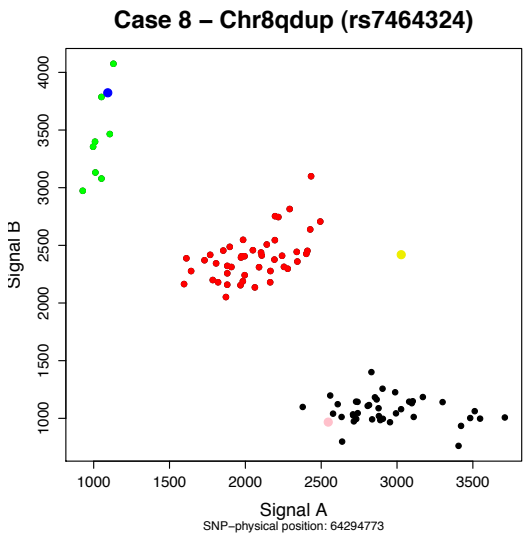

Case 8 – Chr8qdup (rs615031)
Signal B
Signal A
SNP–physical position: 61539278

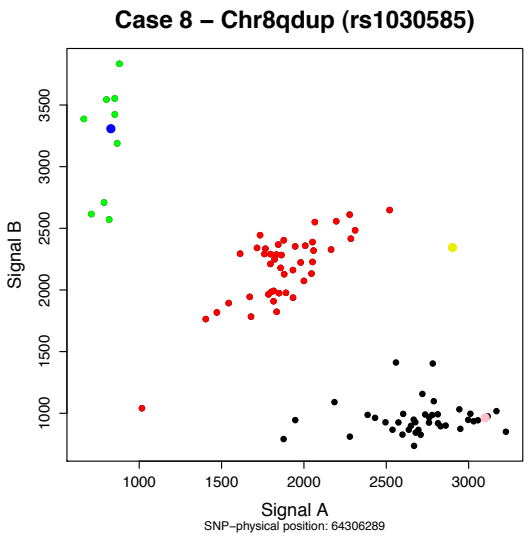

Case 8 – Chr8qdup (rs1992333)
Signal B
Signal A
SNP−physical position: 62293675

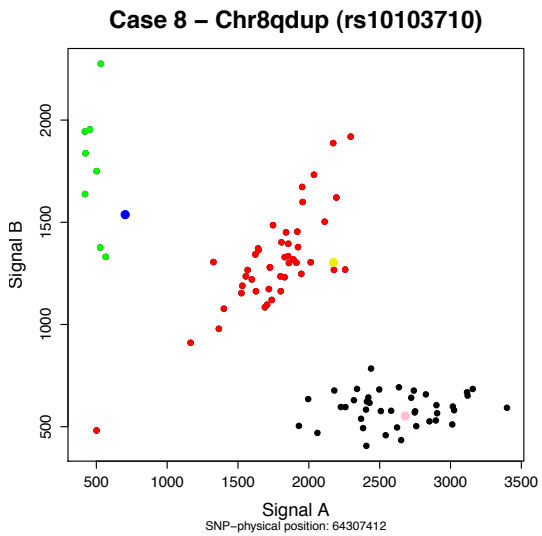

Case 8 – Chr8qdup (rs2201261)
Signal B
Signal A
SNP−physical position: 62294853

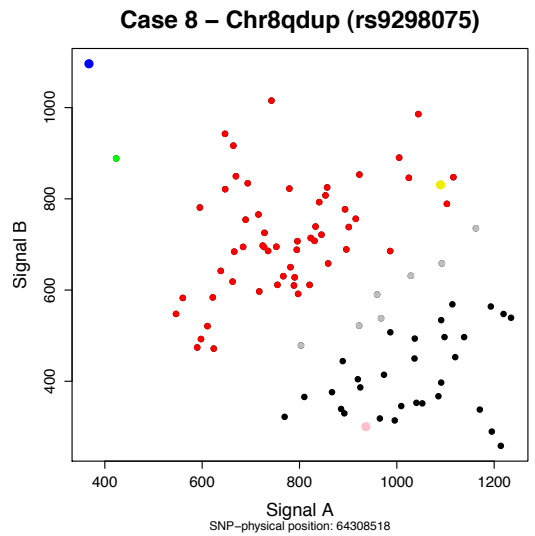

Case 8 – Chr8qdup (rs4147445)
Signal B
Signal A
SNP−physical position: 62314931

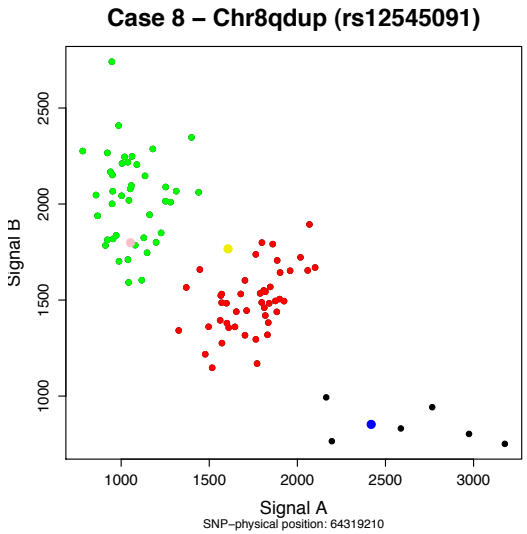

Case 8 – Chr8qdup (rs6472098)
Signal B
Signal A
SNP−physical position: 64285757

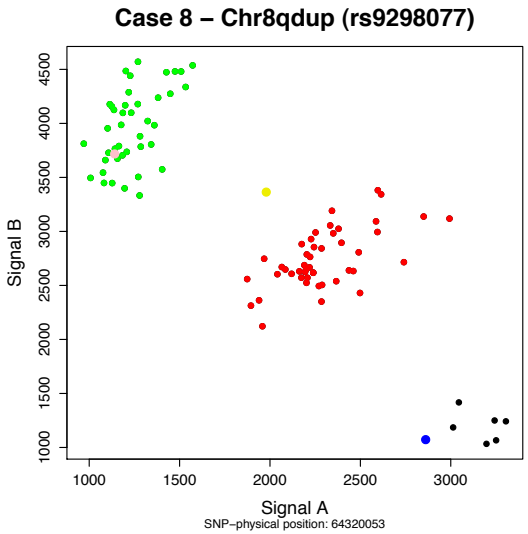

Case 8 – Chr8qdup (rs7464324)
Signal B
Signal A
SNP−physical position: 64294773

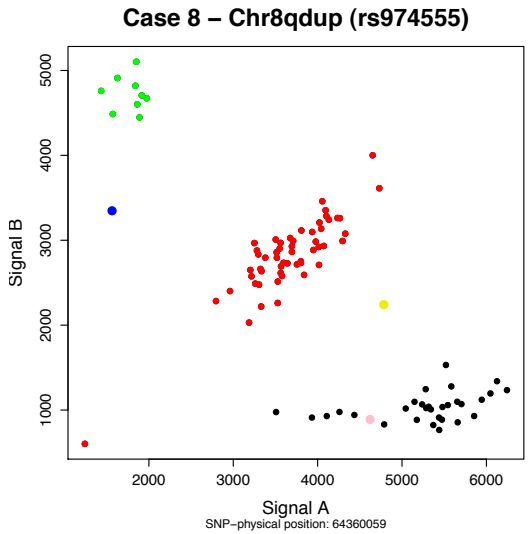

Case 8 – Chr8qdup (rs1030585)
Signal B
Signal A
SNP−physical position: 64306289

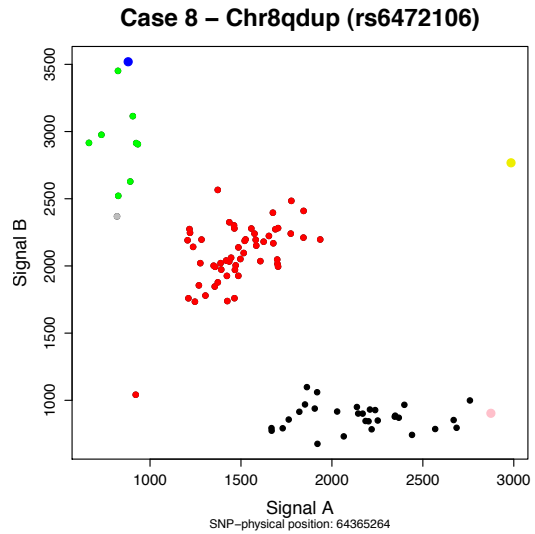

Case 8 – Chr8qdup (rs10103710)
Signal B
Signal A
SNP−physical position: 64307412

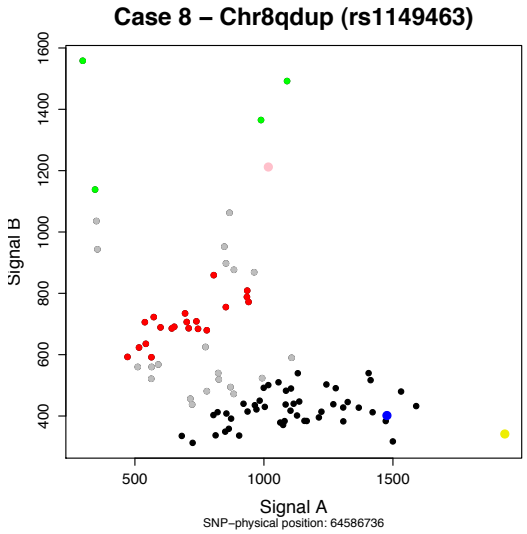

Case 8 – Chr8qdup (rs9298075)
Signal B
Signal A
SNP−physical position: 64308518

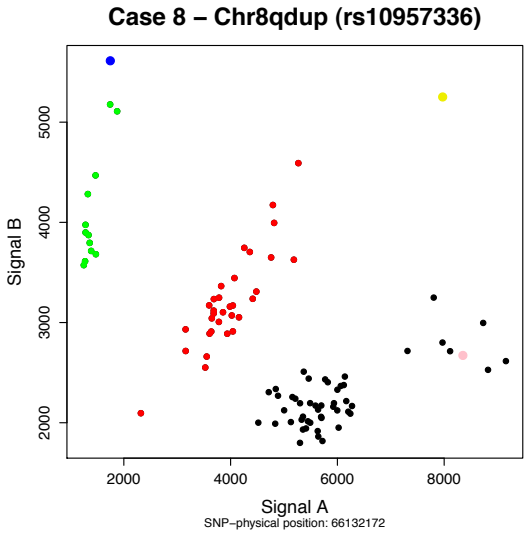

Case 8 – Chr8qdup (rs12545091)
Signal B
Signal A
SNP–physical position: 64319210

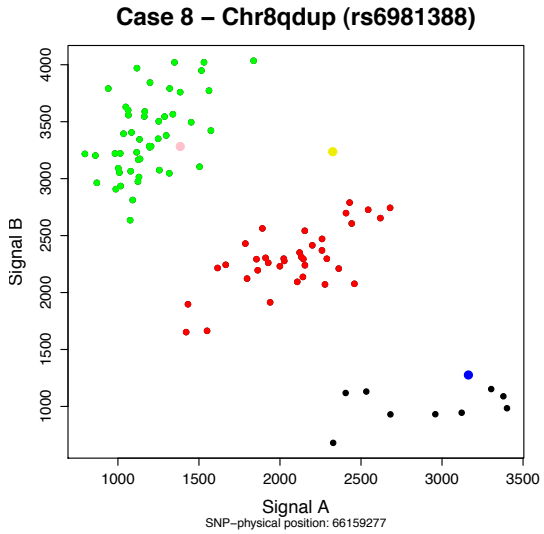

Case 8 – Chr8qdup (rs9298077)
Signal B
Signal A
SNP–physical position: 64320053

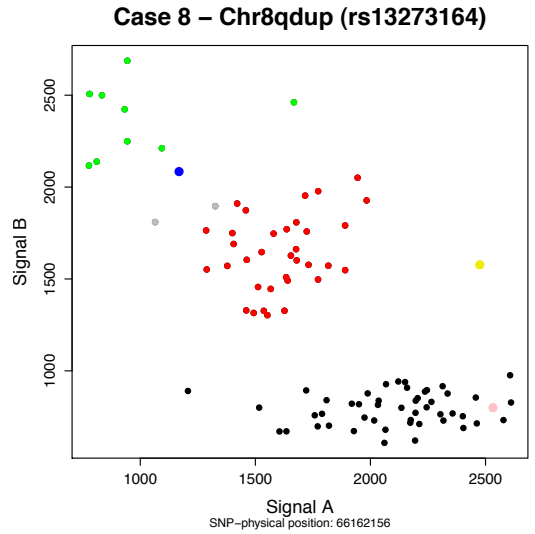

Case 8 – Chr8qdup (rs974555)
Signal B
Signal A
SNP–physical position: 64360059

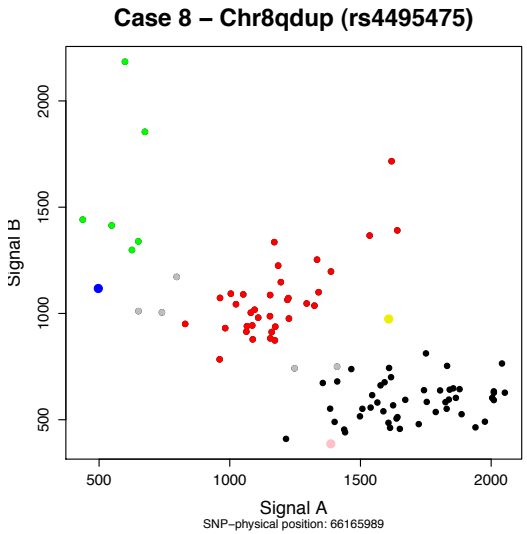

Case 8 – Chr8qdup (rs6472106)
Signal B
Signal A
SNP–physical position: 64365264

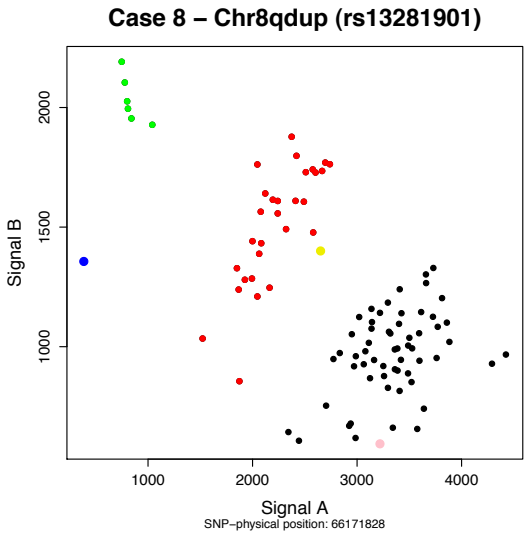

Case 8 – Chr8qdup (rs1149463)
Signal B
Signal A
SNP–physical position: 64586736

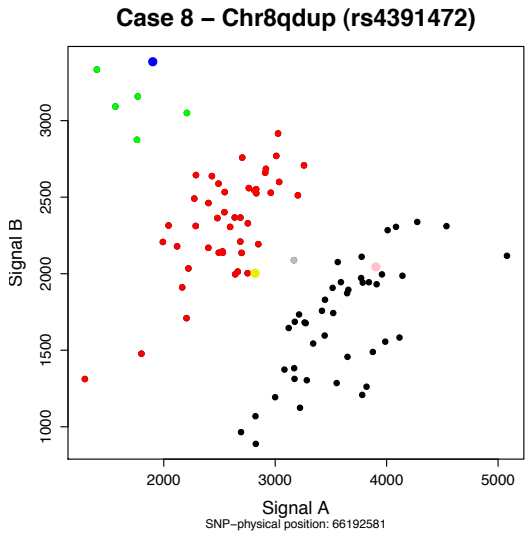

Case 8 – Chr8qdup (rs10957336)
Signal B
Signal A
SNP–physical position: 66132172

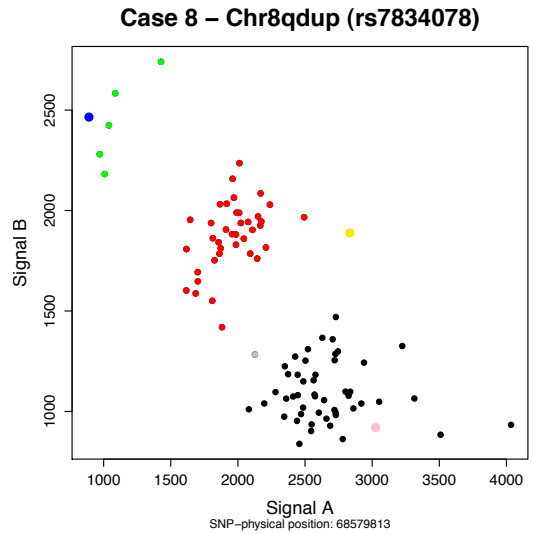

Case 8 – Chr8qdup (rs6981388)
Signal B
Signal A
SNP–physical position: 66159277

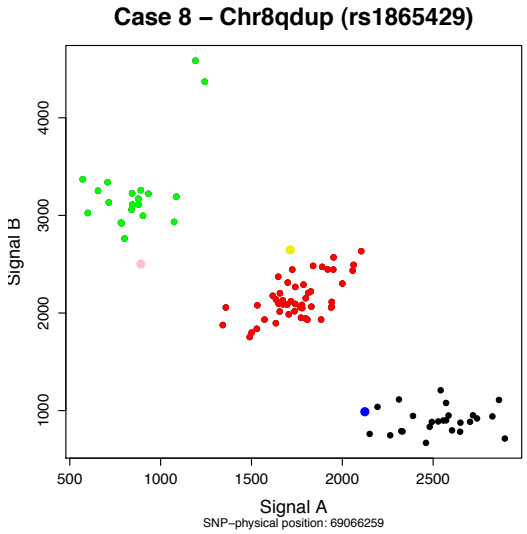

Case 8 – Chr8qdup (rs13273164)
Signal B
Signal A
SNP–physical position: 66162156

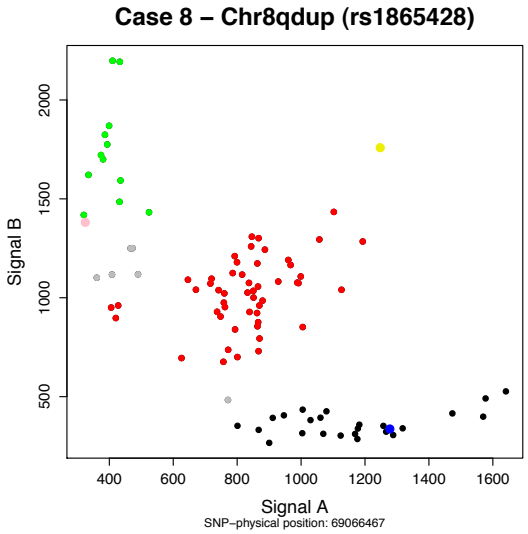

Case 8 – Chr8qdup (rs4495475)
Signal B
Signal A
SNP−physical position: 66165989

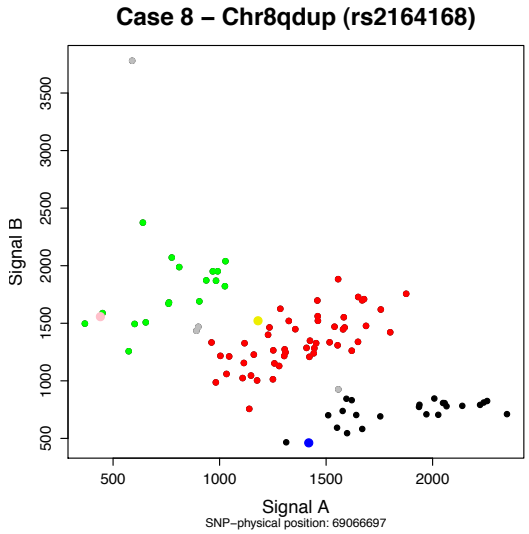

Case 8 – Chr8qdup (rs13281901)
Signal B
Signal A
SNP−physical position: 66171828

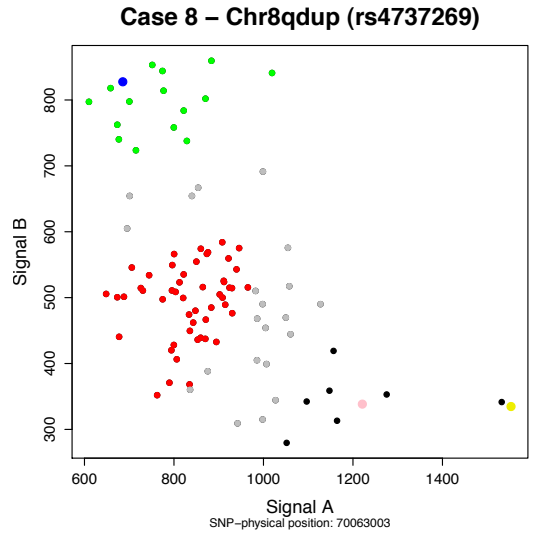

Case 8 – Chr8qdup (rs4391472)
Signal B
Signal A
SNP−physical position: 66192581

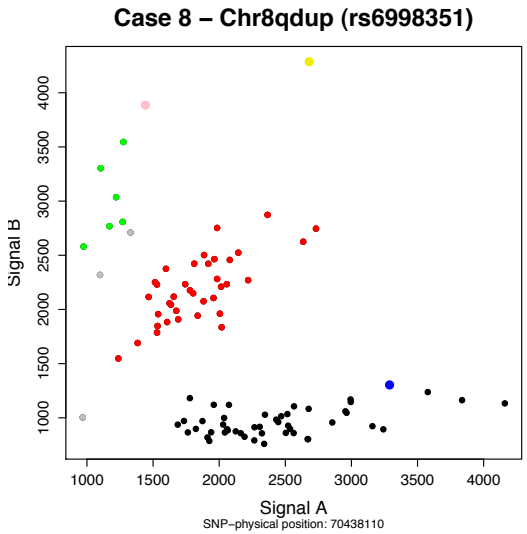

Case 8 – Chr8qdup (rs7834078)
Signal B
Signal A
SNP−physical position: 68579813

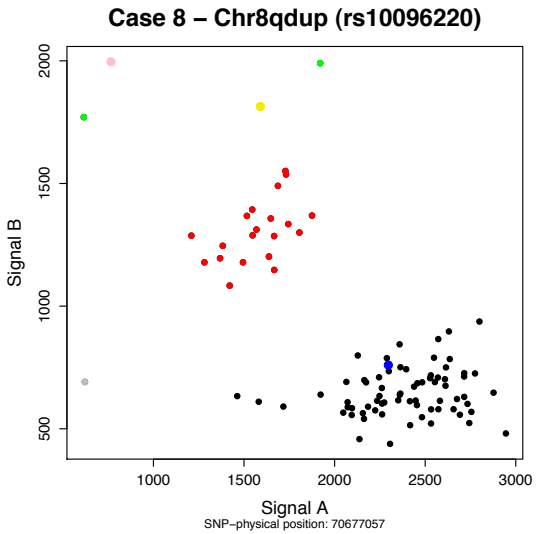

Case 8 – Chr8qdup (rs1865429)
Signal B
Signal A
SNP−physical position: 69066259

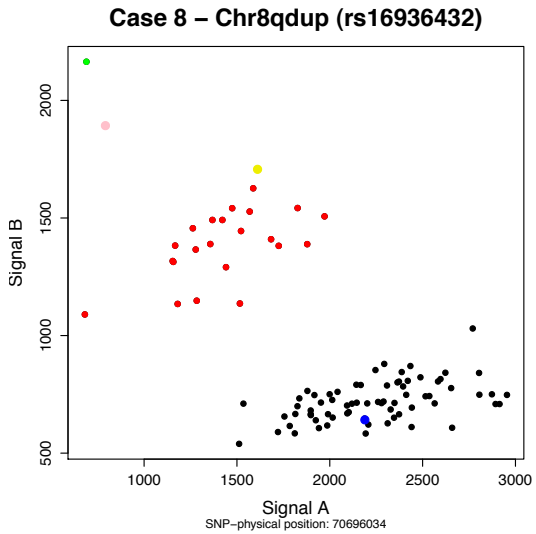

Case 8 – Chr8qdup (rs1865428)
Signal B
Signal A
SNP−physical position: 69066467

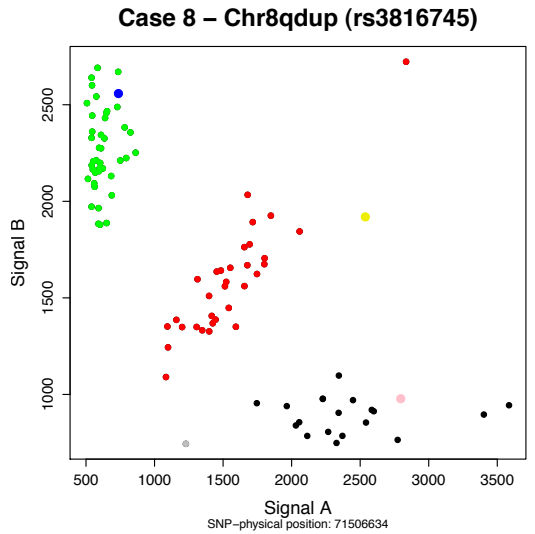

Case 8 – Chr8qdup (rs2164168)
Signal B
Signal A
SNP−physical position: 69066697

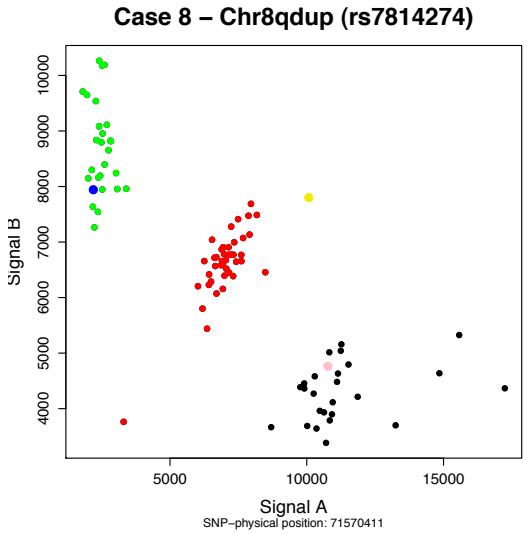

Case 8 – Chr8qdup (rs4737269)
Signal B
Signal A
SNP−physical position: 70063003

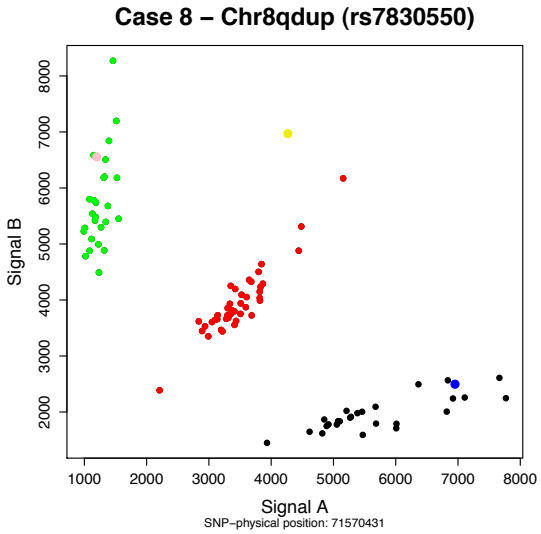

Case 8 – Chr8qdup (rs6998351)
Signal B
Signal A
SNP–physical position: 70438110

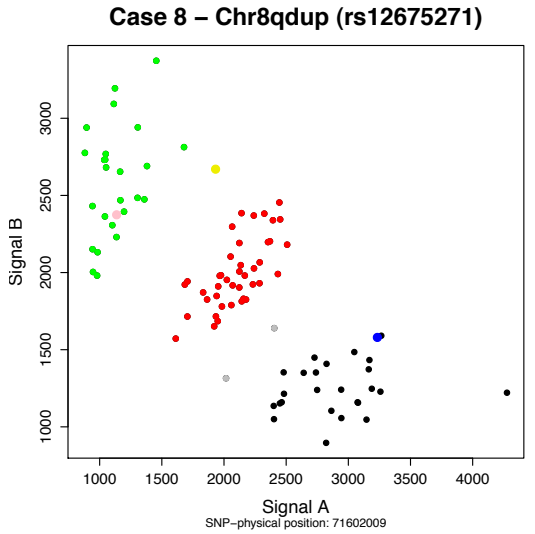

Case 8 – Chr8qdup (rs10096220)
Signal B
Signal A
SNP–physical position: 70677057

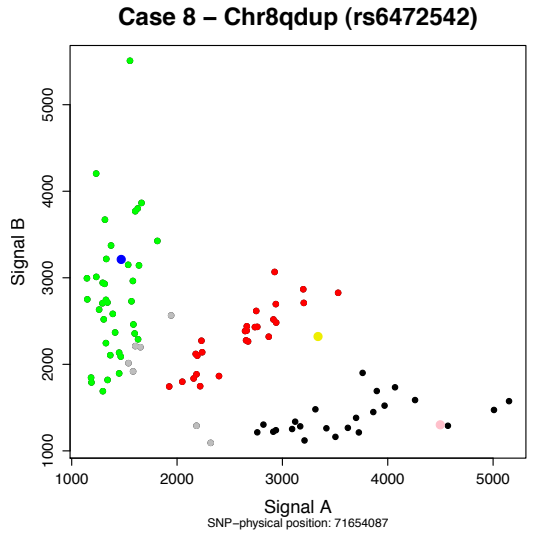

Case 8 – Chr8qdup (rs16936432)
Signal B
Signal A
SNP–physical position: 70696034

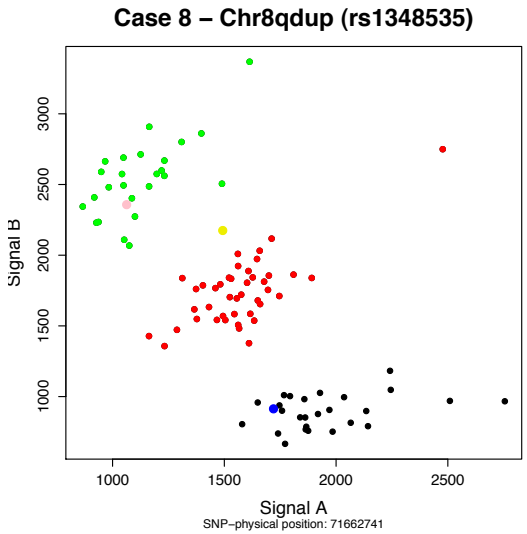

Case 8 – Chr8qdup (rs3816745)
Signal B
Signal A
SNP–physical position: 71506634

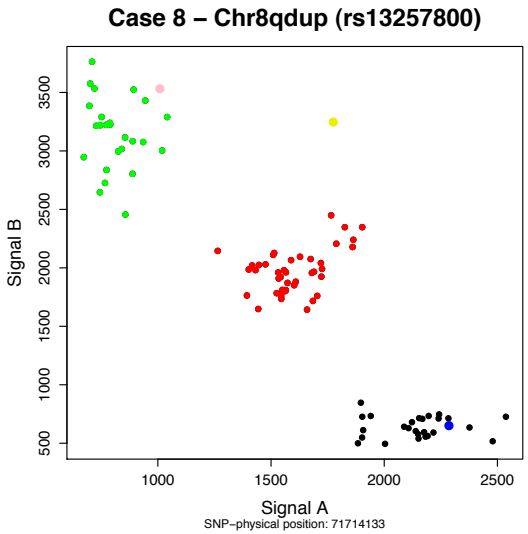

Case 8 – Chr8qdup (rs7814274)
Signal B
Signal A
SNP–physical position: 71570411

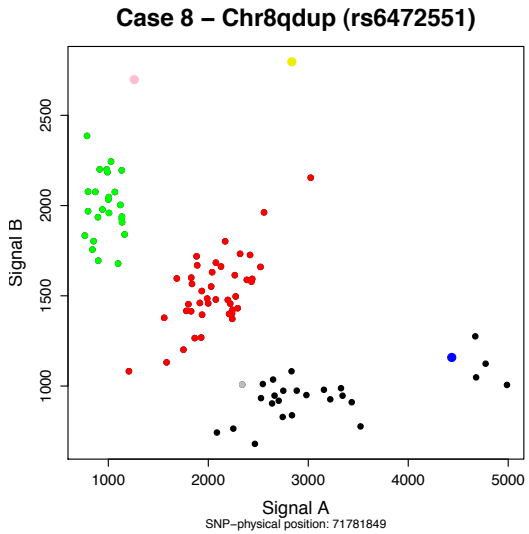

Case 8 – Chr8qdup (rs7830550)
Signal B
Signal A
SNP–physical position: 71570431

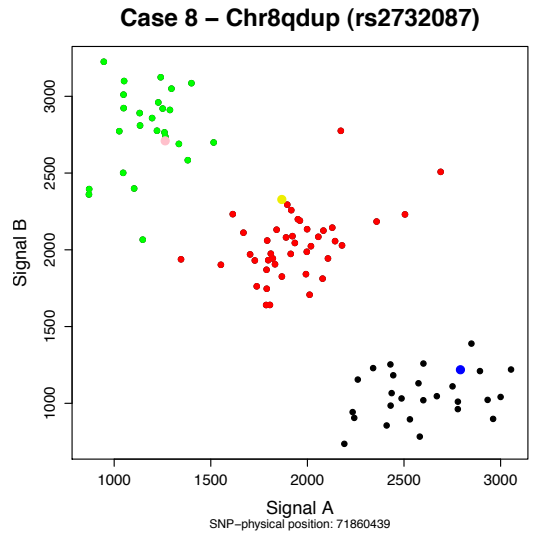

Case 8 – Chr8qdup (rs12675271)
Signal B
Signal A
SNP–physical position: 71602009

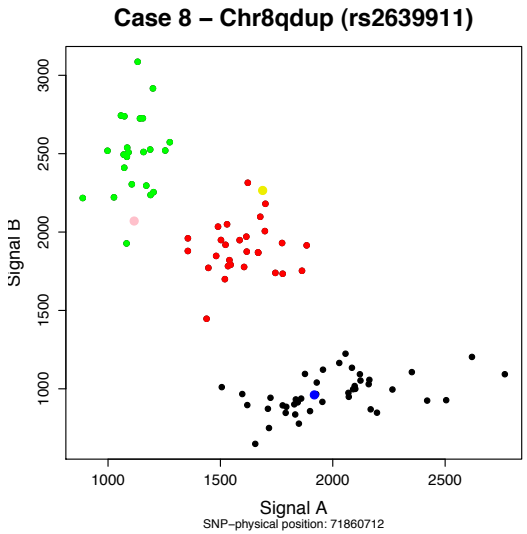

Case 8 – Chr8qdup (rs6472542)
Signal B
Signal A
SNP–physical position: 71654087

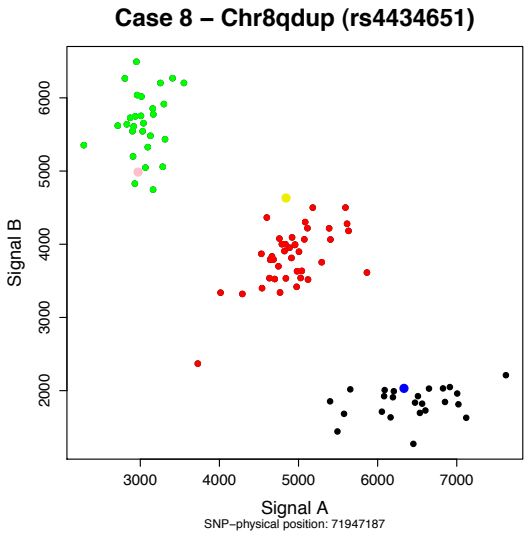

Case 8 – Chr8qdup (rs1348535)
Signal B
Signal A
SNP–physical position: 71662741

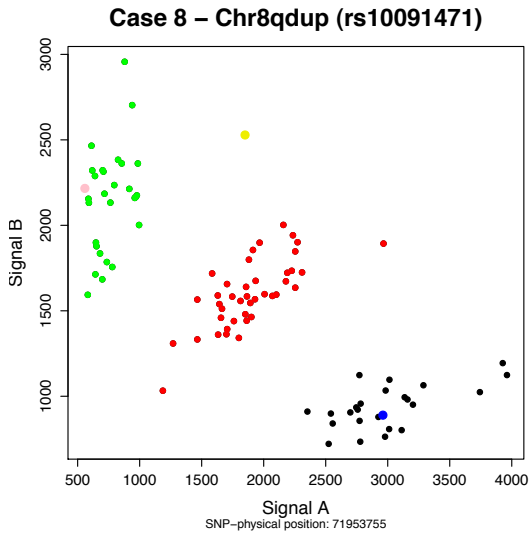

Case 8 – Chr8qdup (rs13257800)
Signal B
Signal A
SNP–physical position: 71714133

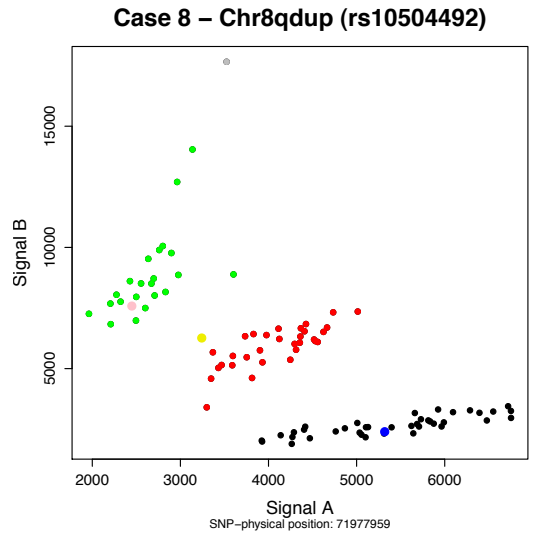

Case 8 – Chr8qdup (rs6472551)
Signal B
Signal A
SNP–physical position: 71781849

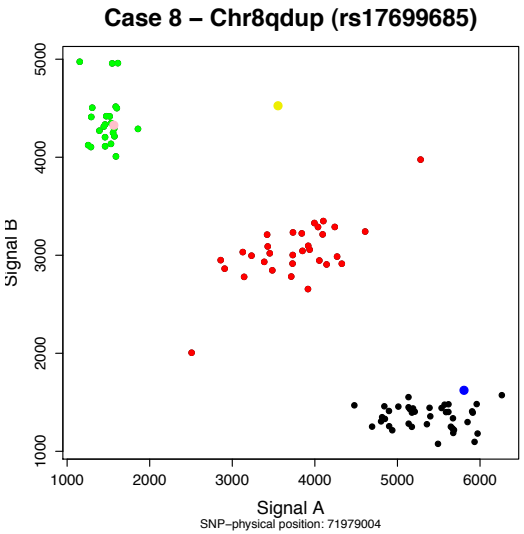

Case 8 – Chr8qdup (rs2732087)
Signal B
Signal A
SNP–physical position: 71860439

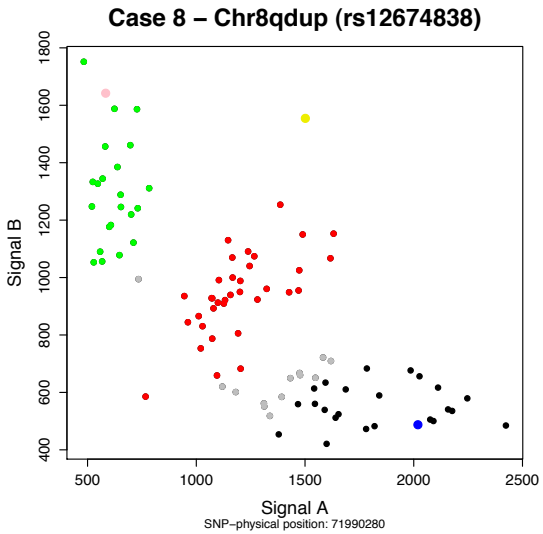

Case 8 – Chr8qdup (rs2639911)
Signal B
Signal A
SNP–physical position: 71860712

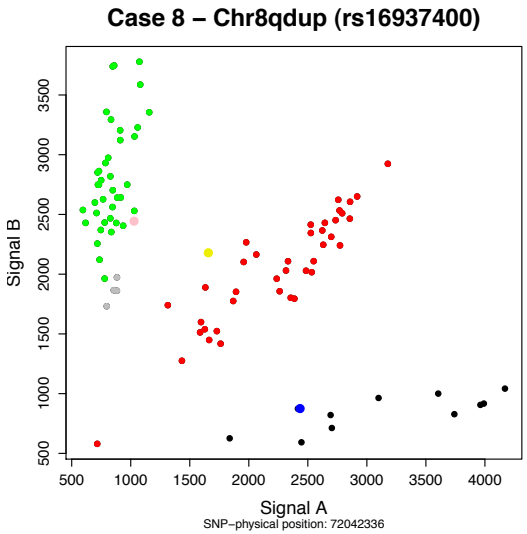

Case 8 – Chr8qdup (rs4434651)
Signal B
Signal A
SNP–physical position: 71947187

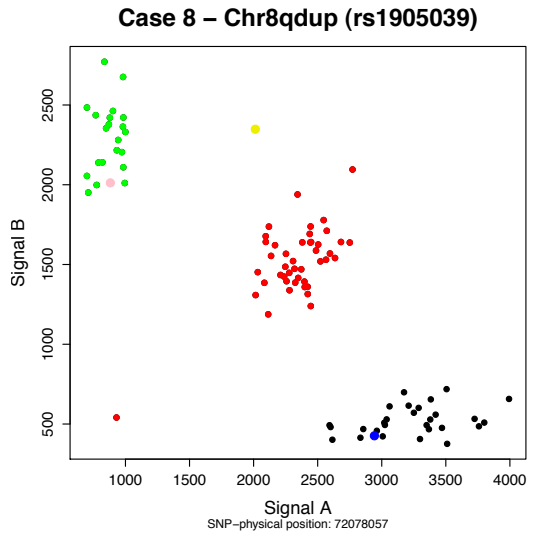

Case 8 – Chr8qdup (rs10091471)
Signal B
Signal A
SNP–physical position: 71953755

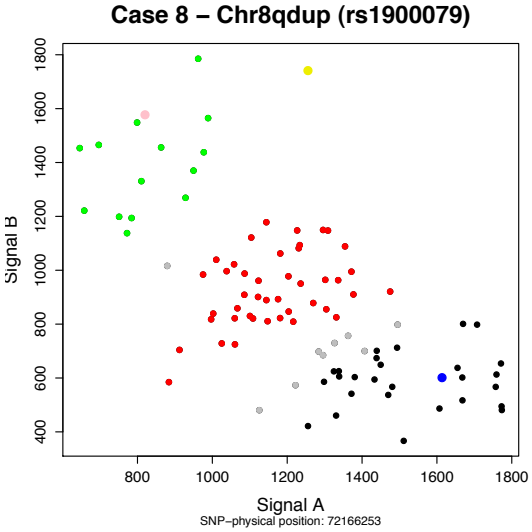

Case 8 – Chr8qdup (rs10504492)
Signal B
Signal A
SNP–physical position: 71977959

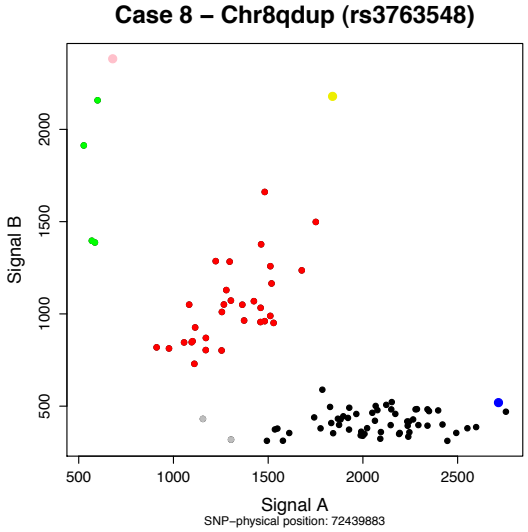

Case 8 – Chr8qdup (rs17699685)
Signal B
Signal A
SNP–physical position: 71979004

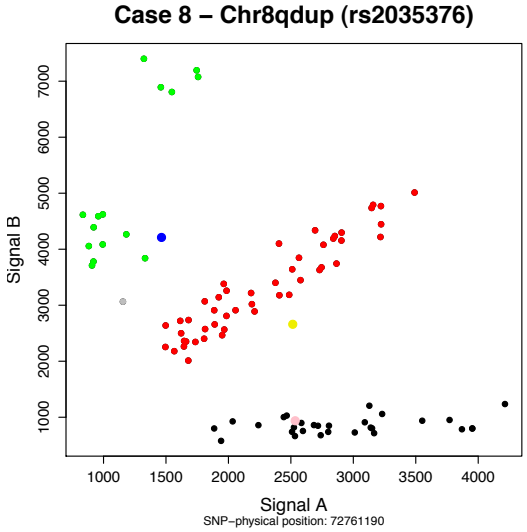

Case 8 – Chr8qdup (rs12674838)
Signal B
Signal A
SNP–physical position: 71990280

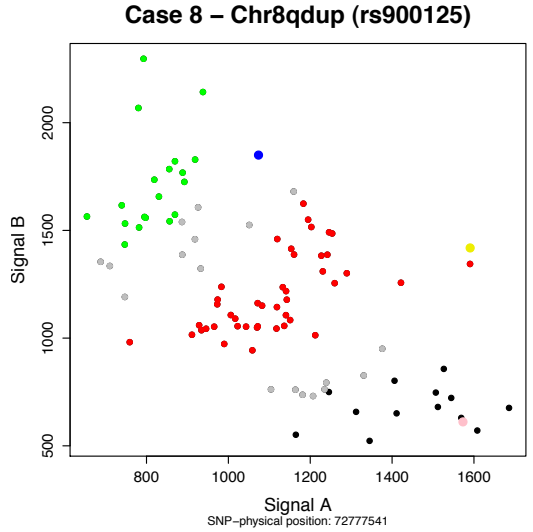

Case 8 – Chr8qdup (rs16937400)
Signal B
Signal A
SNP–physical position: 72042336

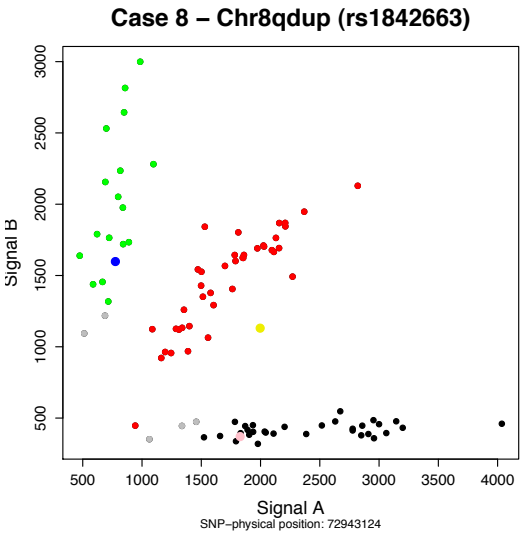

Case 8 – Chr8qdup (rs1905039)
Signal B
Signal A
SNP–physical position: 72078057

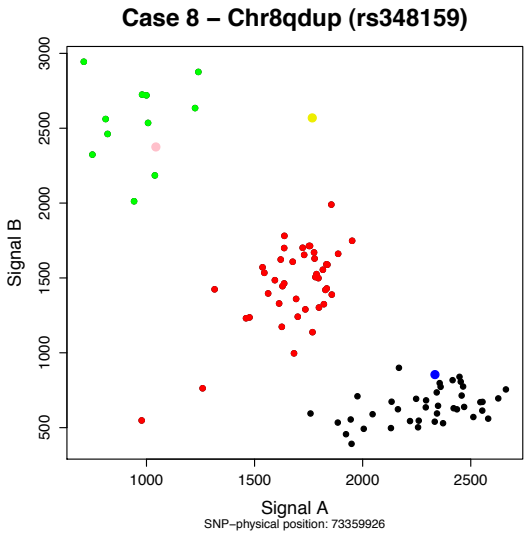

Case 8 – Chr8qdup (rs1900079)
Signal B
Signal A
SNP–physical position: 72166253

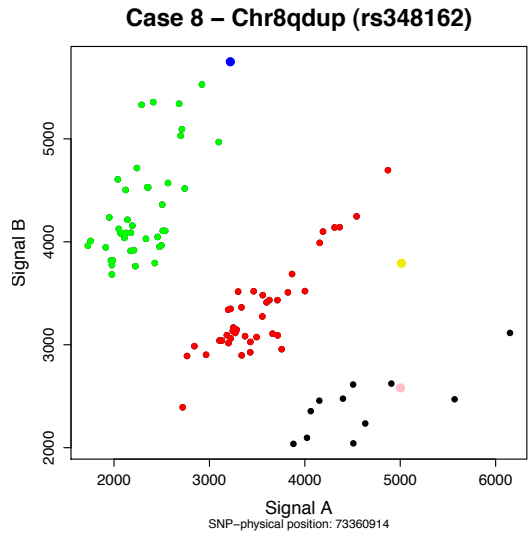

Case 8 – Chr8qdup (rs3763548)
Signal B
Signal A
SNP–physical position: 72439883

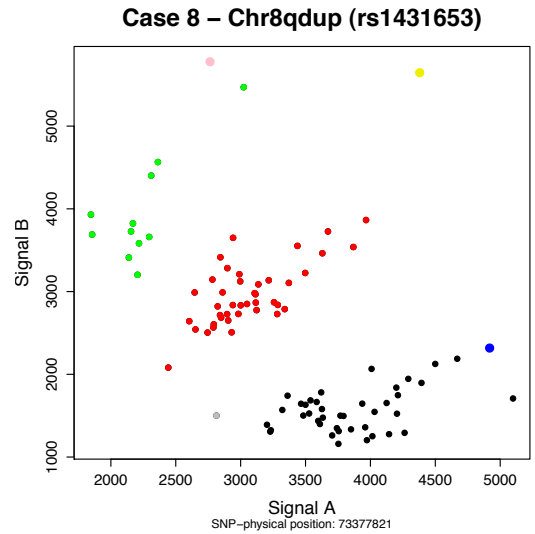

Case 8 – Chr8qdup (rs2035376)
Signal B
Signal A
SNP–physical position: 72761190

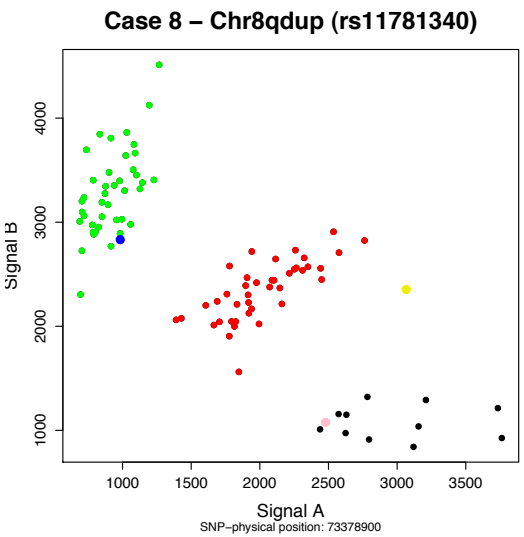

Case 8 – Chr8qdup (rs900125)
Signal B
Signal A
SNP–physical position: 72777541

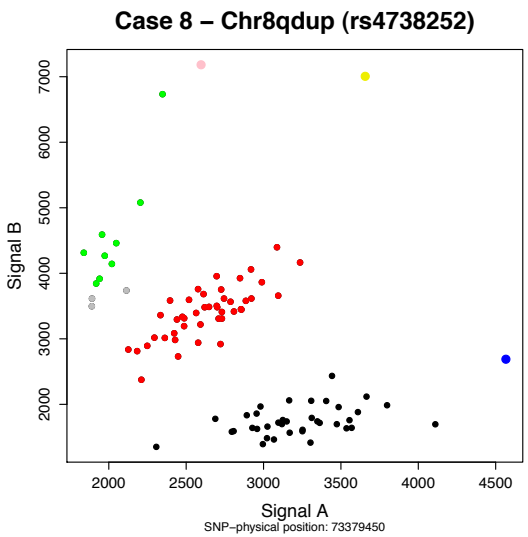

Case 8 – Chr8qdup (rs1842663)
Signal B
Signal A
SNP–physical position: 72943124

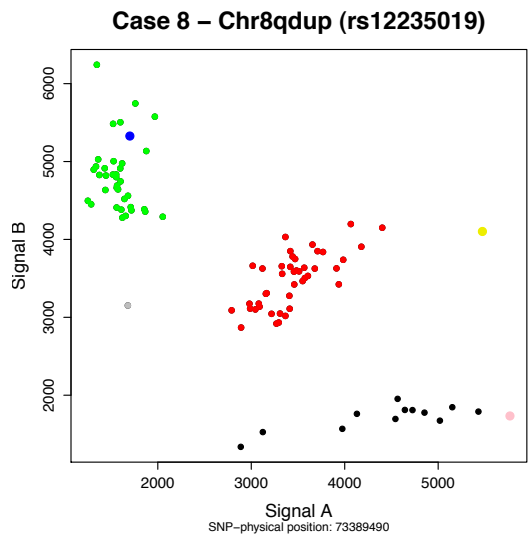

Case 8 – Chr8qdup (rs348159)
Signal B
Signal A
SNP–physical position: 73359926

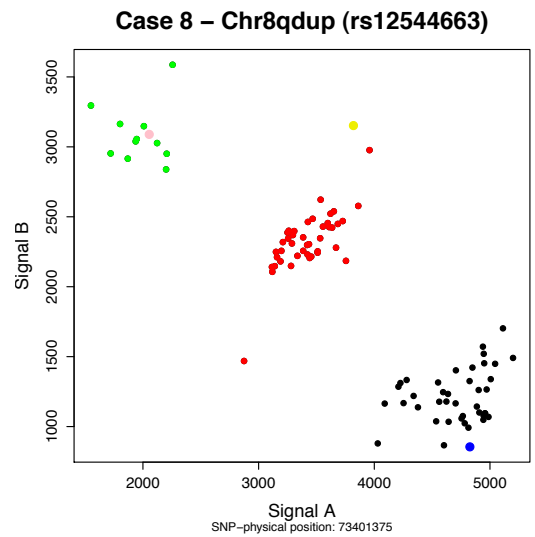

Case 8 – Chr8qdup (rs348162)
Signal B
Signal A
SNP–physical position: 73360914

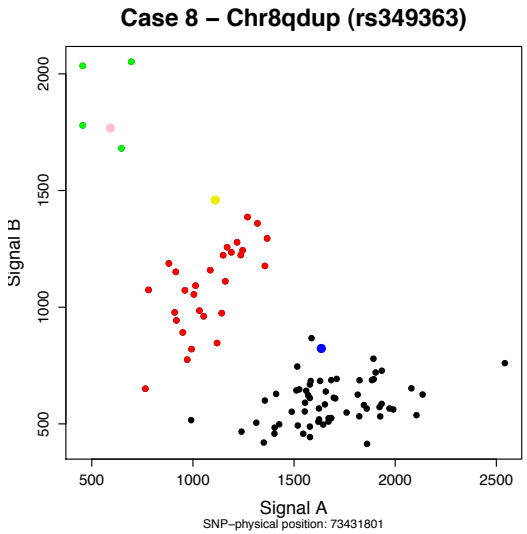

Case 8 – Chr8qdup (rs1431653)
Signal B
Signal A
SNP–physical position: 73377821

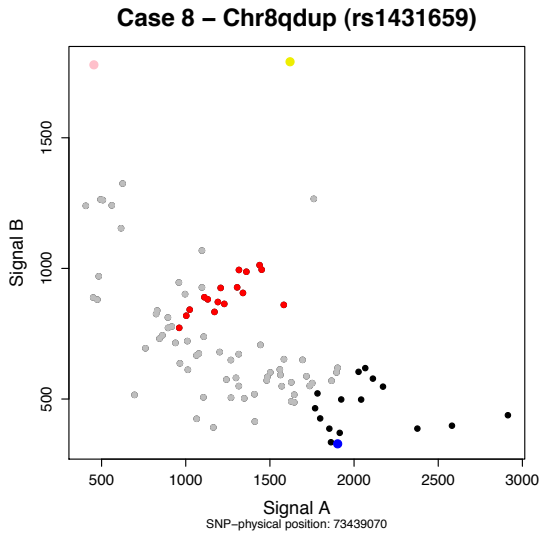

Case 8 – Chr8qdup (rs11781340)
Signal B
Signal A
SNP–physical position: 73378900

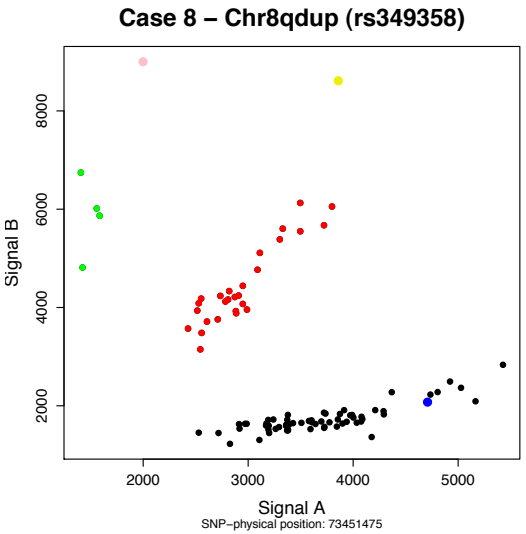

Case 8 – Chr8qdup (rs4738252)
Signal B
Signal A
SNP–physical position: 73379450

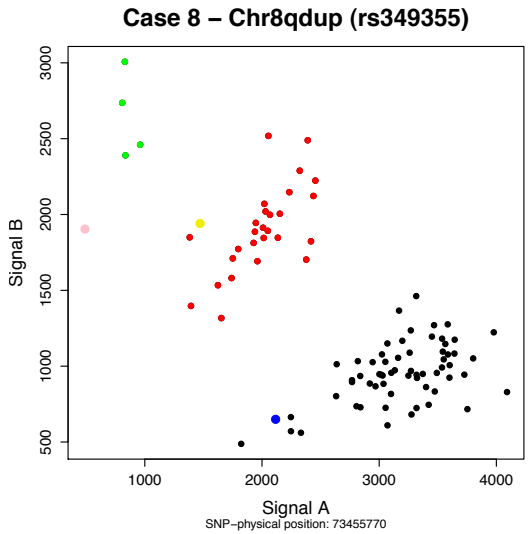

Case 8 – Chr8qdup (rs12235019)
Signal B
Signal A
SNP–physical position: 73389490

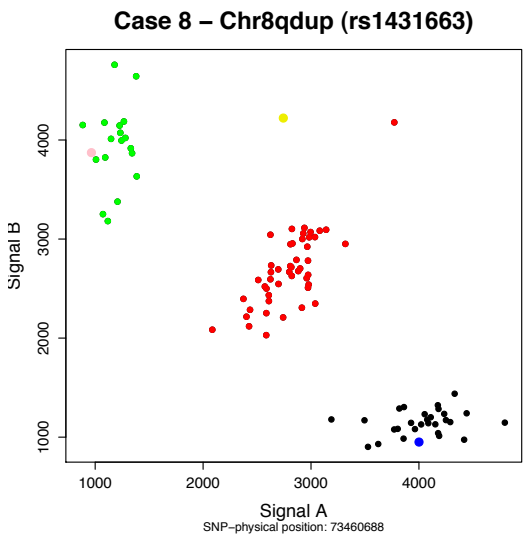

Case 8 – Chr8qdup (rs12544663)
Signal B
Signal A
SNP–physical position: 73401375

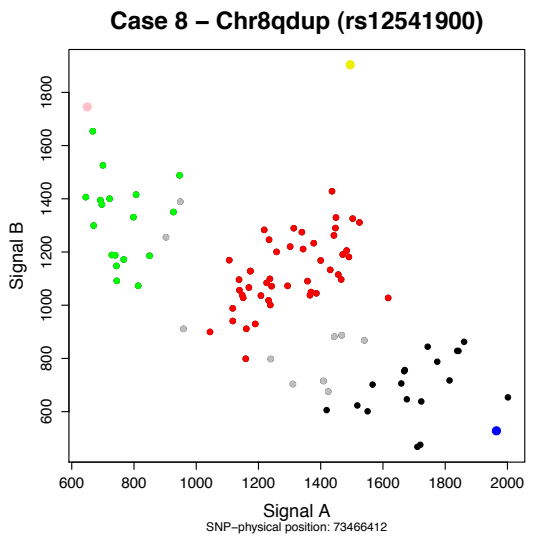

Case 8 – Chr8qdup (rs349363)
Signal B
Signal A
SNP–physical position: 73431801

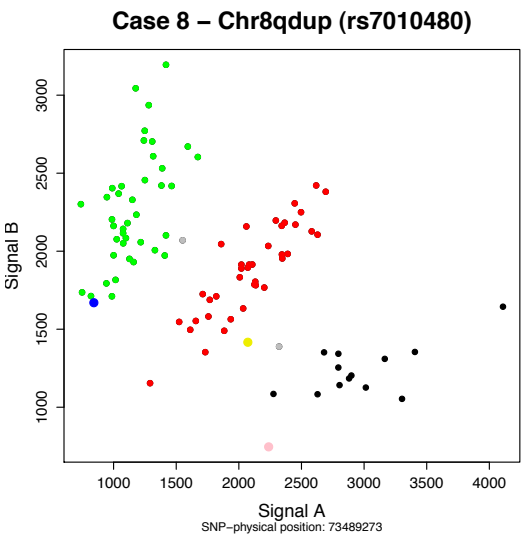

Case 8 – Chr8qdup (rs1431659)
Signal B
Signal A
SNP–physical position: 73439070

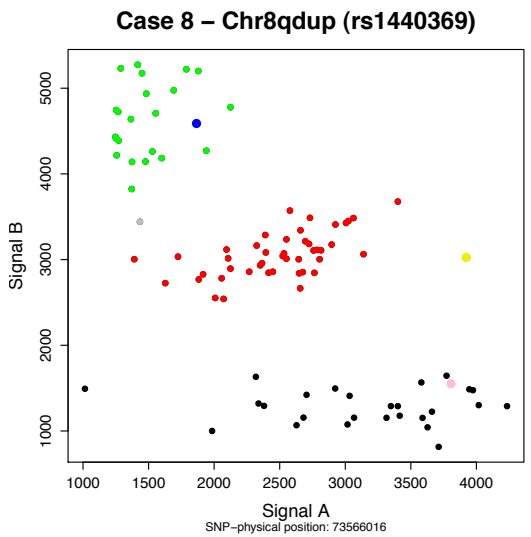

Case 8 – Chr8qdup (rs349358)
Signal B
Signal A
SNP–physical position: 73451475

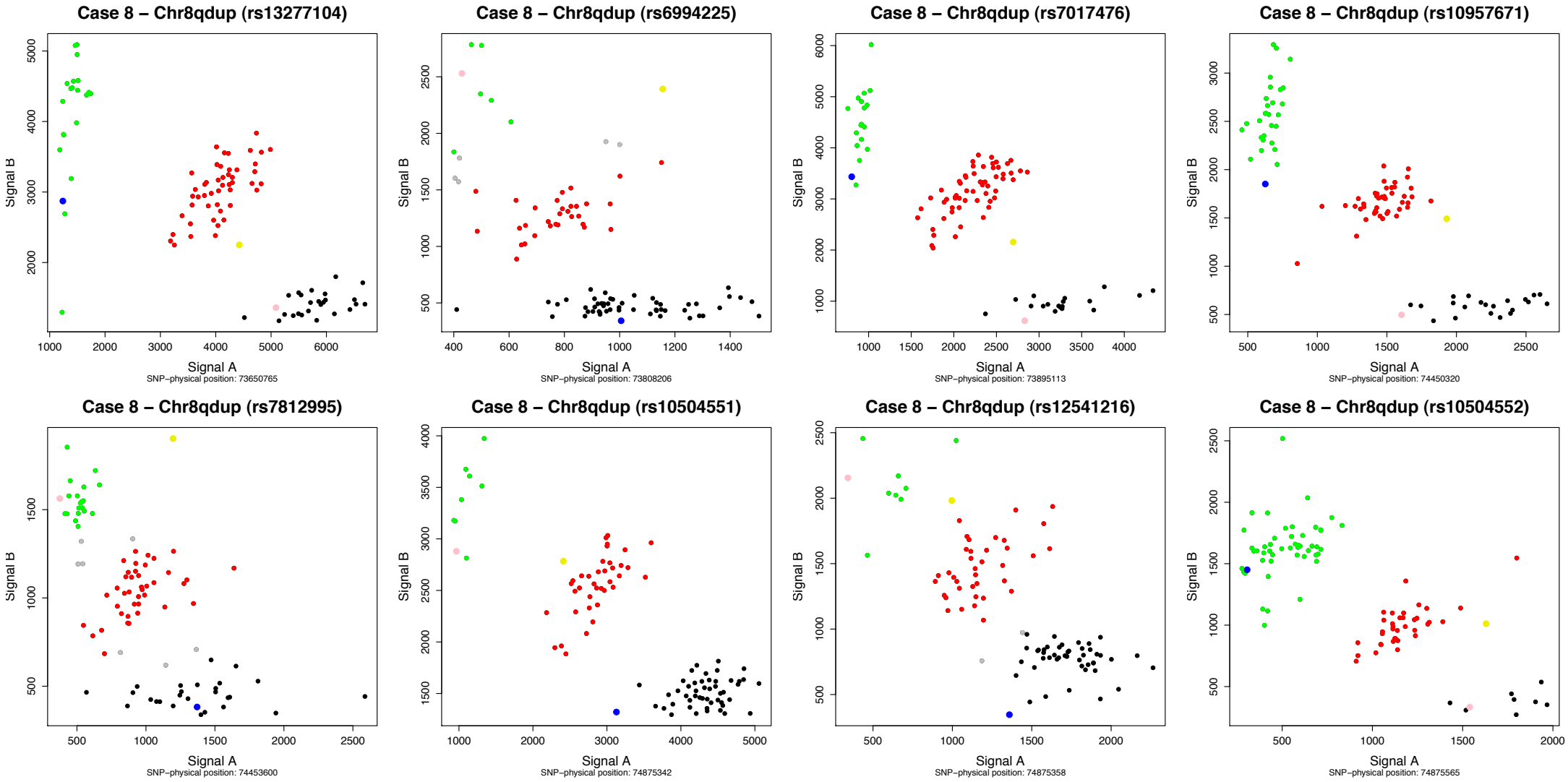

Case 8 – Chr8qdup (rs349355)
Signal B
Signal A
SNP–physical position: 73455770

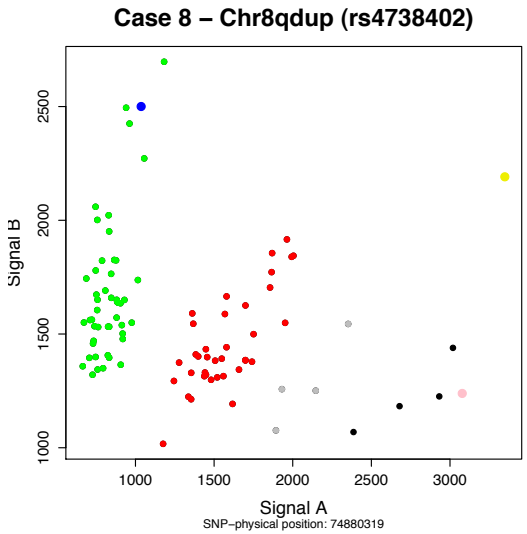

Case 8 – Chr8qdup (rs1431663)
Signal B
Signal A
SNP–physical position: 73460688

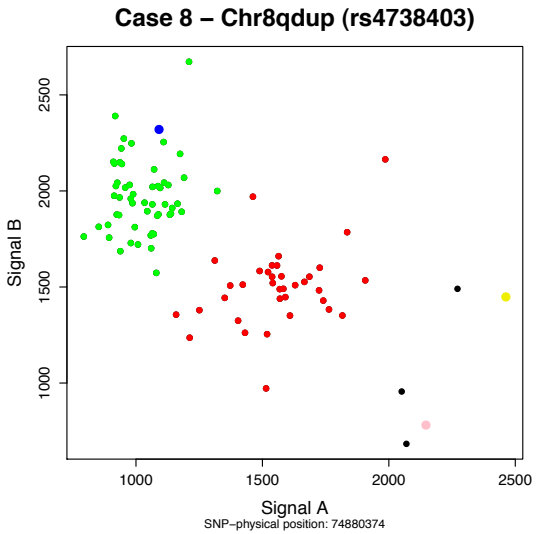

Case 8 – Chr8qdup (rs12541900)
Signal B
Signal A
SNP–physical position: 73466412

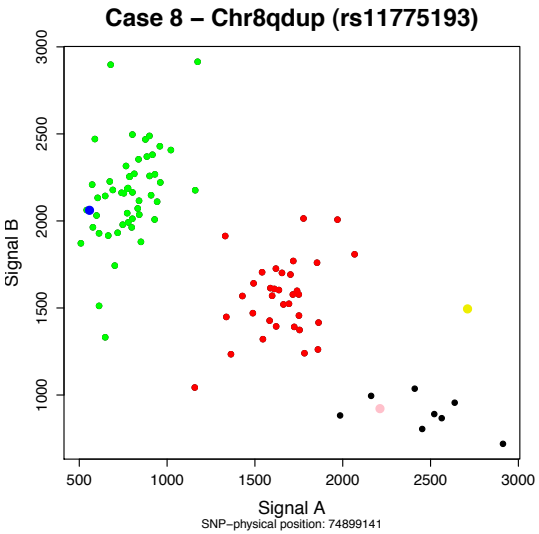

Case 8 – Chr8qdup (rs7010480)
Signal B
Signal A
SNP–physical position: 73489273

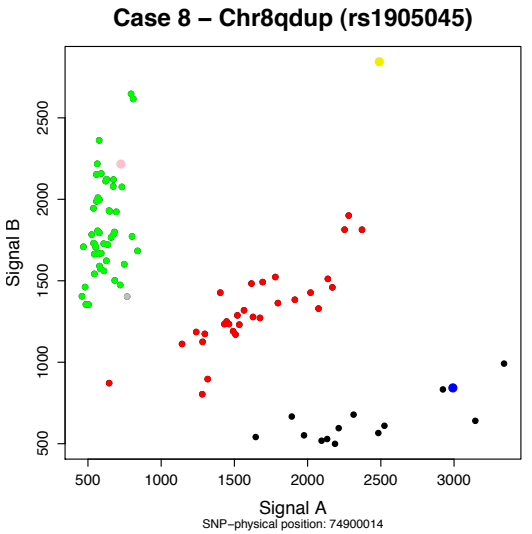

Case 8 – Chr8qdup (rs1440369)
Signal B
Signal A
SNP–physical position: 73566016

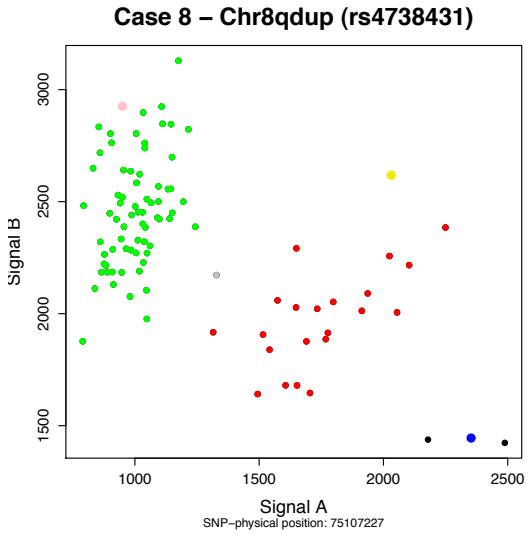

Case 8 – Chr8qdup (rs13277104)
Signal B
Signal A
SNP–physical position: 73650765
Case 8 – Chr8qdup (rs6994225)
Signal B
Signal A
SNP–physical position: 73808206
Case 8 – Chr8qdup (rs7017476)
Signal B
Signal A
SNP–physical position: 73895113
Case 8 – Chr8qdup (rs10957671)
Signal B
Signal A
SNP–physical position: 74450320
Case 8 – Chr8qdup (rs7812995)
Signal B
Signal A
SNP–physical position: 74453600
Case 8 – Chr8qdup (rs10504551)
Signal B
Signal A
SNP–physical position: 74875342
Case 8 – Chr8qdup (rs12541216)
Signal B
Signal A
SNP–physical position: 74875358
Case 8 – Chr8qdup (rs10504552)
Signal B
Signal A
SNP–physical position: 74875565

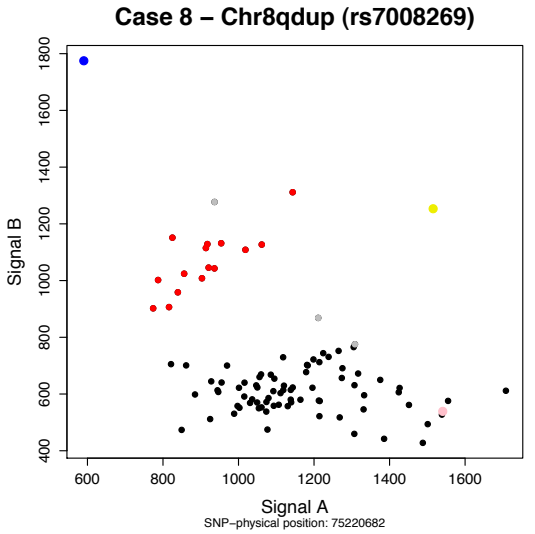

Case 8 – Chr8qdup (rs4738402)
Signal B
Signal A
SNP–physical position: 74880319

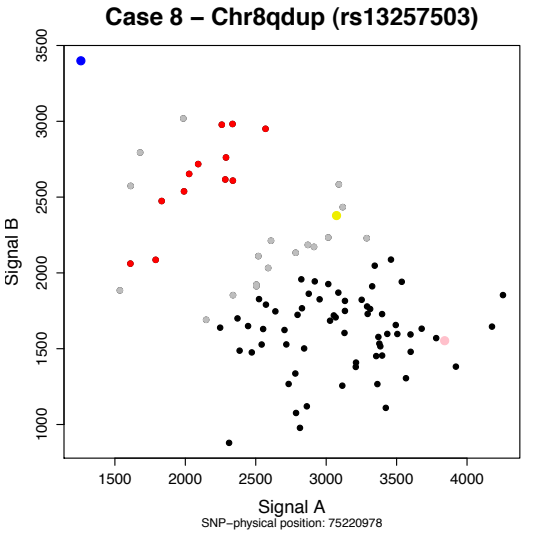

Case 8 – Chr8qdup (rs4738403)
Signal B
Signal A
SNP–physical position: 74880374

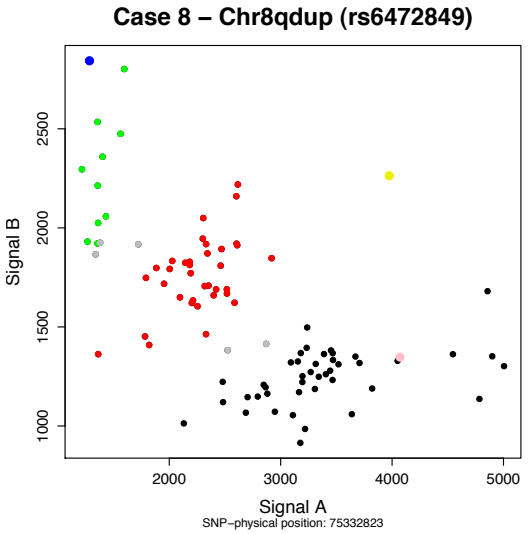

Case 8 – Chr8qdup (rs11775193)
Signal B
Signal A
SNP–physical position: 74899141

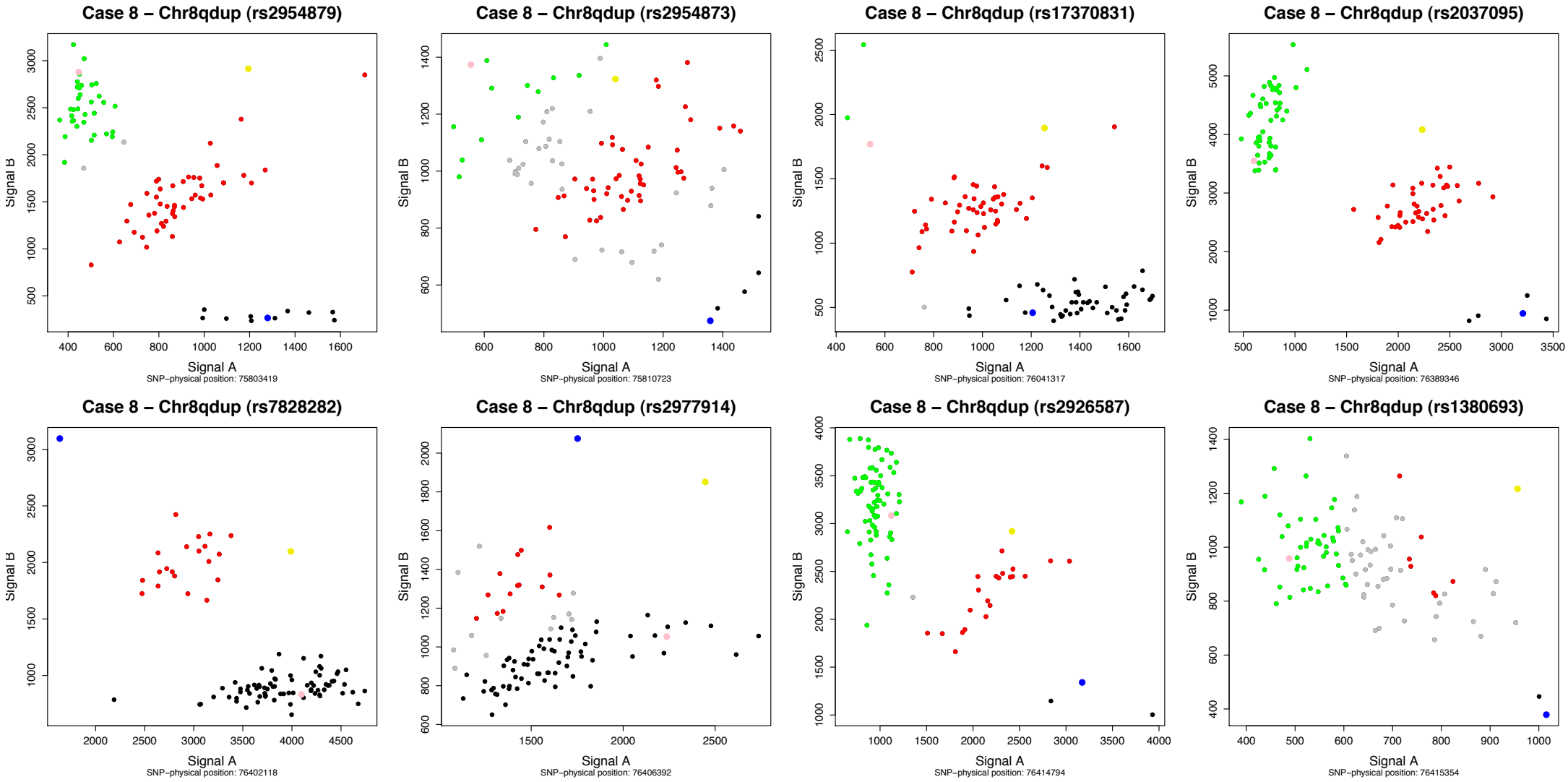

Case 8 – Chr8qdup (rs1905045)
Signal B
Signal A
SNP–physical position: 74900014

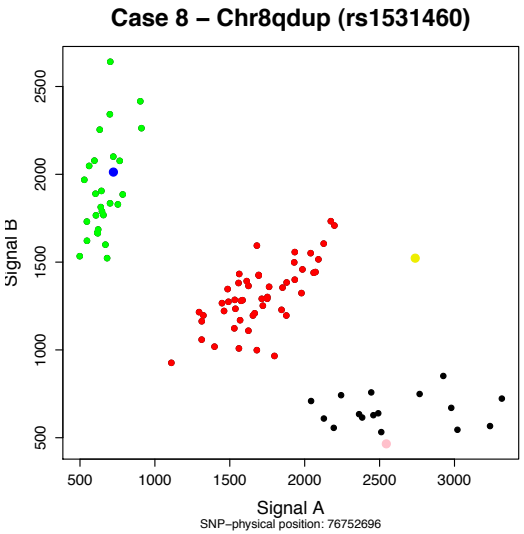

Case 8 – Chr8qdup (rs4738431)
Signal B
Signal A
SNP–physical position: 75107227

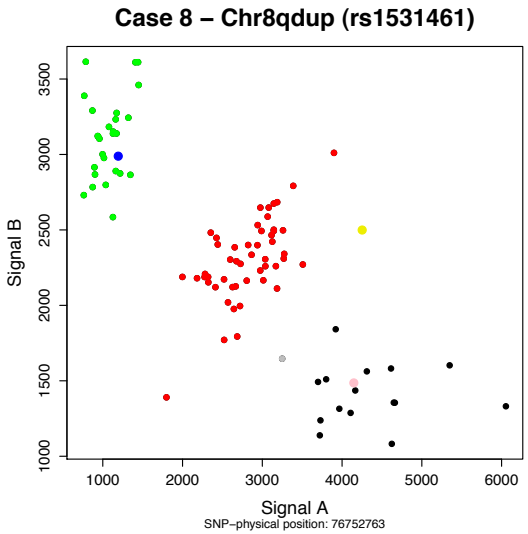

Case 8 – Chr8qdup (rs7008269)
Signal B
Signal A
SNP–physical position: 75220682

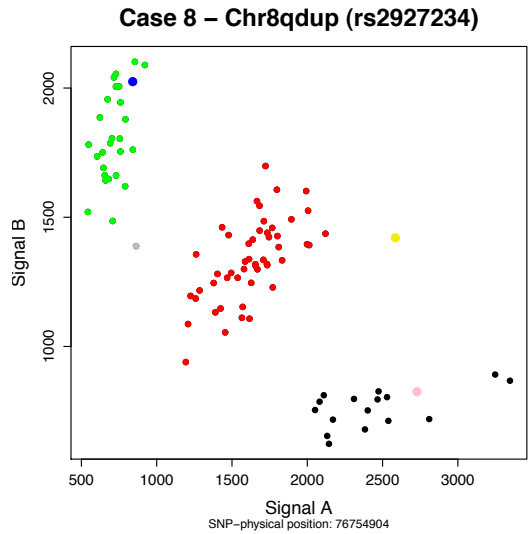

Case 8 – Chr8qdup (rs13257503)
Signal B
Signal A
SNP–physical position: 75220978

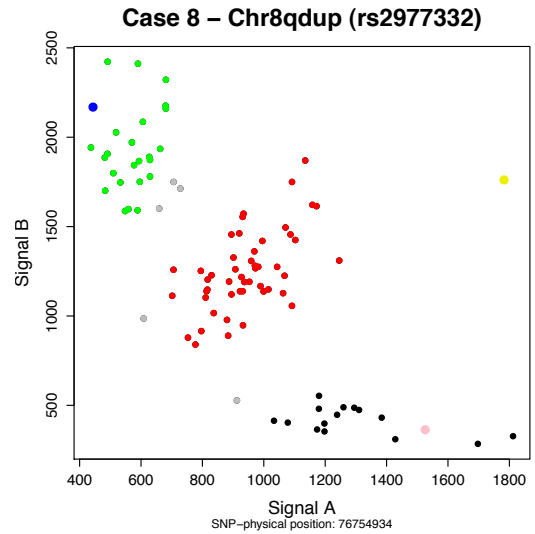

Case 8 – Chr8qdup (rs6472849)
Signal B
Signal A
SNP–physical position: 75332823

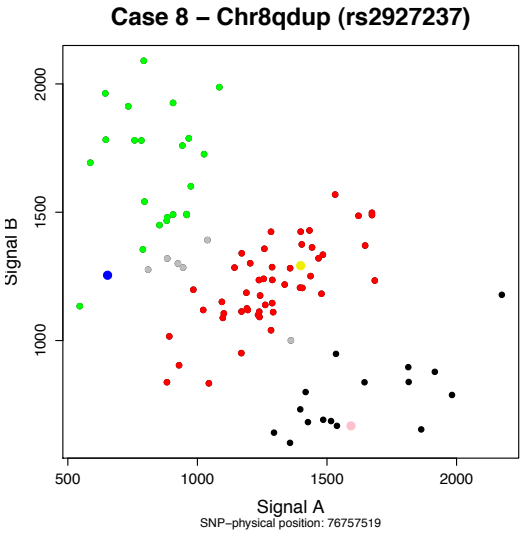

Case 8 – Chr8qdup (rs2954879)
Signal B
Signal A
SNP–physical position: 75803419
Case 8 – Chr8qdup (rs2954873)
Signal B
Signal A
SNP–physical position: 75810723
Case 8 – Chr8qdup (rs17370831)
Signal B
Signal A
SNP–physical position: 76041317
Case 8 – Chr8qdup (rs2037095)
Signal B
Signal A
SNP–physical position: 76389346
Case 8 – Chr8qdup (rs7828282)
Signal B
Signal A
SNP–physical position: 76402118
Case 8 – Chr8qdup (rs2977914)
Signal B
Signal A
SNP–physical position: 76406392
Case 8 – Chr8qdup (rs2926587)
Signal B
Signal A
SNP–physical position: 76414794
Case 8 – Chr8qdup (rs1380693)
Signal B
Signal A
SNP–physical position: 76415354

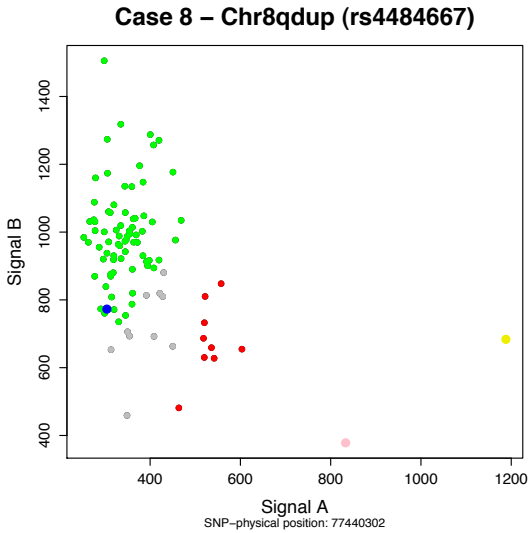

Case 8 – Chr8qdup (rs1531460)
Signal B
Signal A
SNP−physical position: 76752696

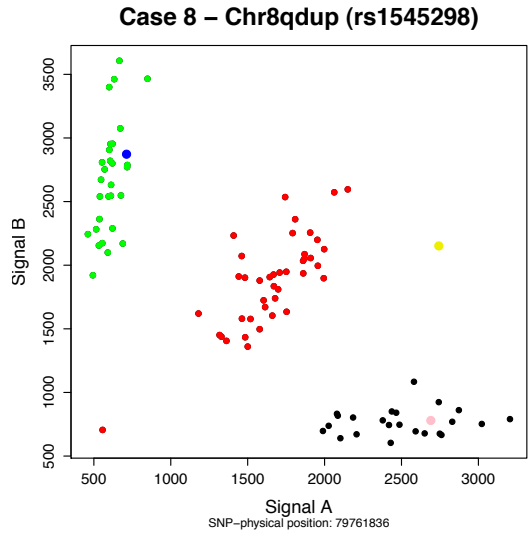

Case 8 – Chr8qdup (rs1531461)
Signal B
Signal A
SNP−physical position: 76752763

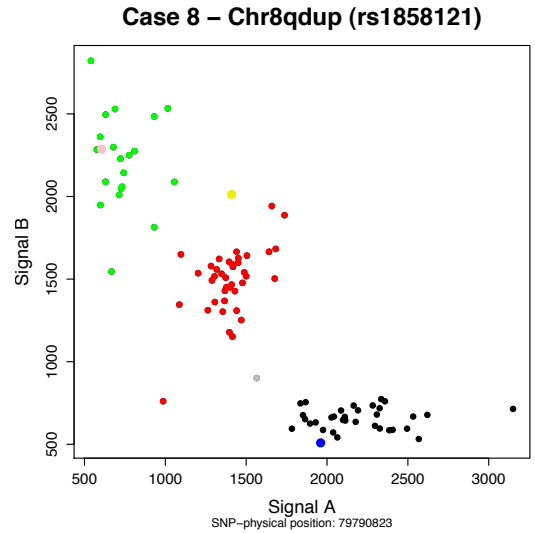

Case 8 – Chr8qdup (rs2927234)
Signal B
Signal A
SNP−physical position: 76754904

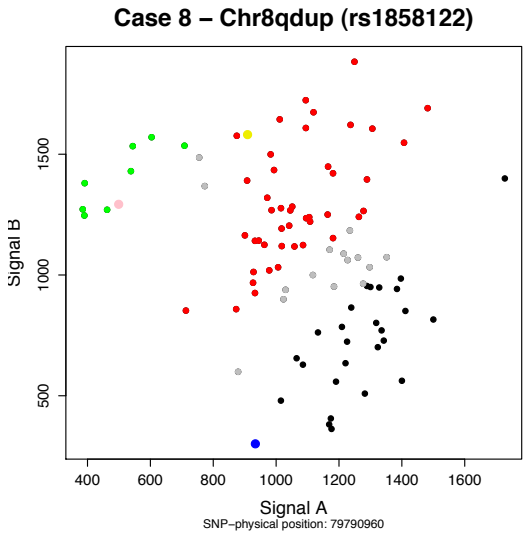

Case 8 – Chr8qdup (rs2977332)
Signal B
Signal A
SNP−physical position: 76754934

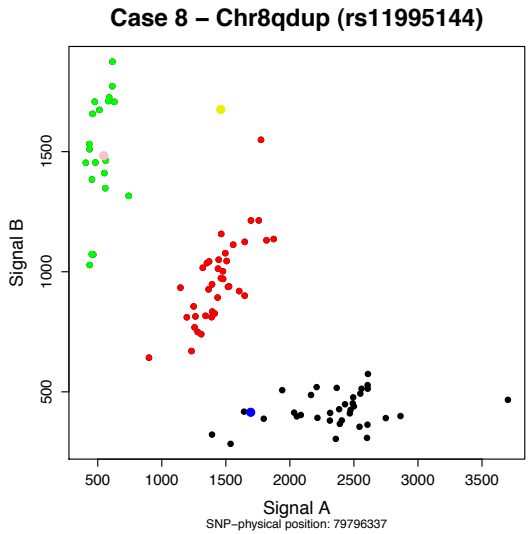

Case 8 – Chr8qdup (rs2927237)
Signal B
Signal A
SNP−physical position: 76757519

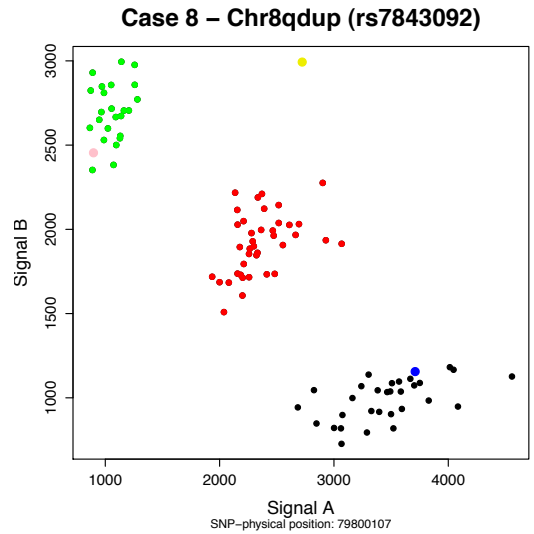

Case 8 – Chr8qdup (rs4484667)
Signal B
Signal A
SNP−physical position: 77440302

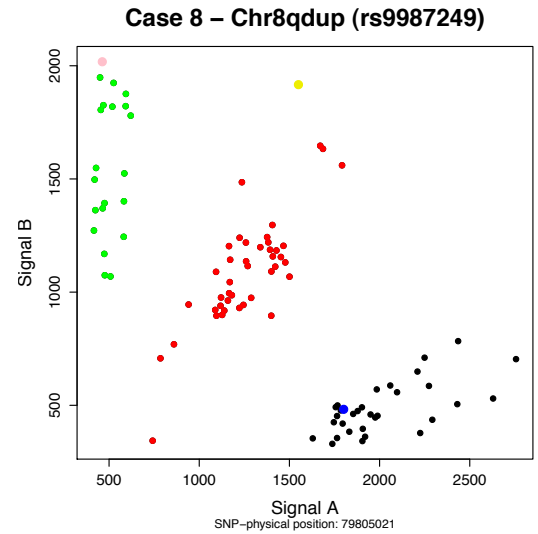

Case 8 – Chr8qdup (rs1545298)
Signal B
Signal A
SNP−physical position: 79761836

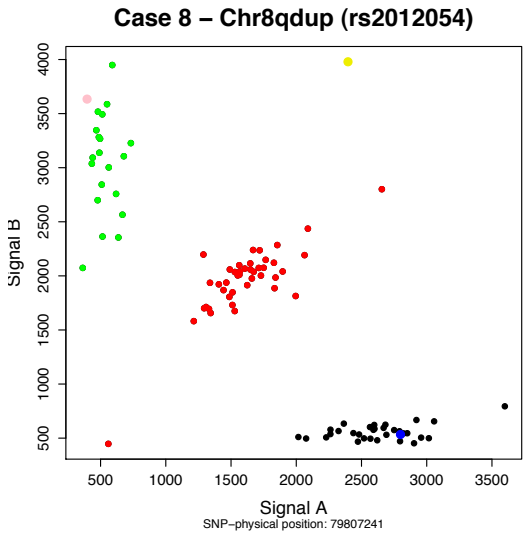

Case 8 – Chr8qdup (rs1858121)
Signal B
Signal A
SNP−physical position: 79790823

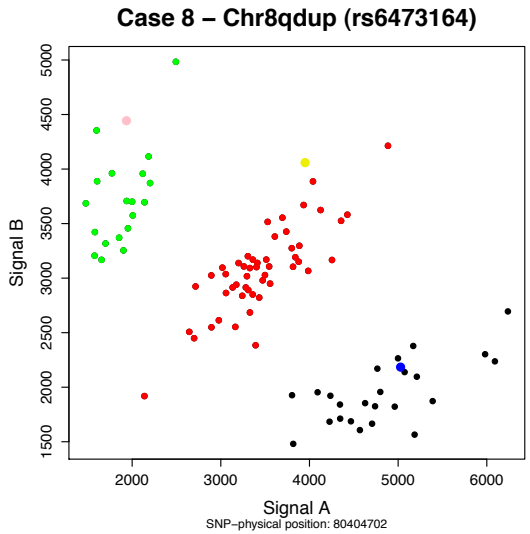

Case 8 – Chr8qdup (rs1858122)
Signal B
Signal A
SNP−physical position: 79790960

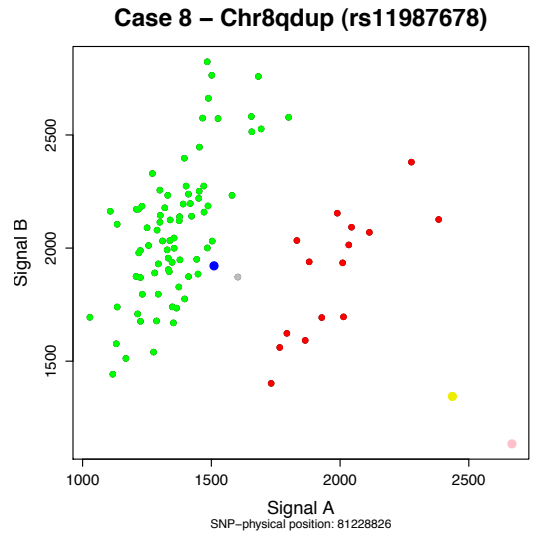

Case 8 – Chr8qdup (rs11995144)
Signal B
Signal A
SNP−physical position: 79796337

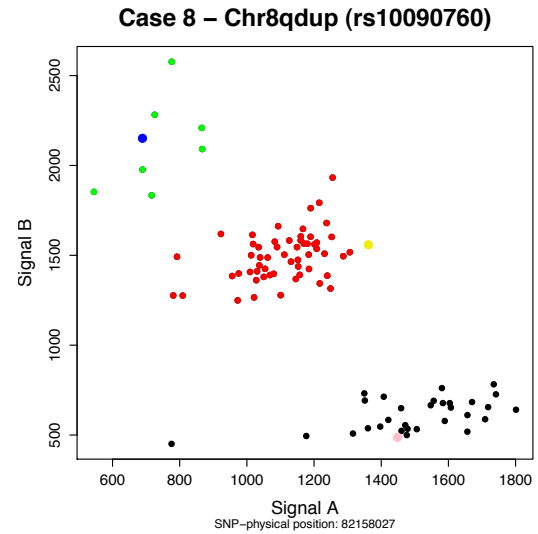

Case 8 – Chr8qdup (rs7843092)
Signal B
Signal A
SNP−physical position: 79800107

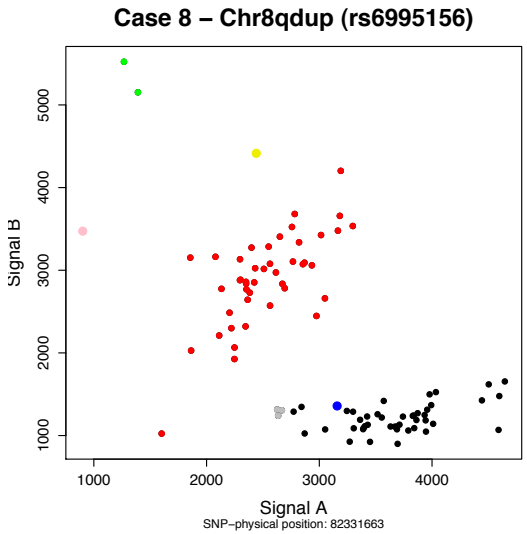

Case 8 – Chr8qdup (rs9987249)
Signal B
Signal A
SNP−physical position: 79805021

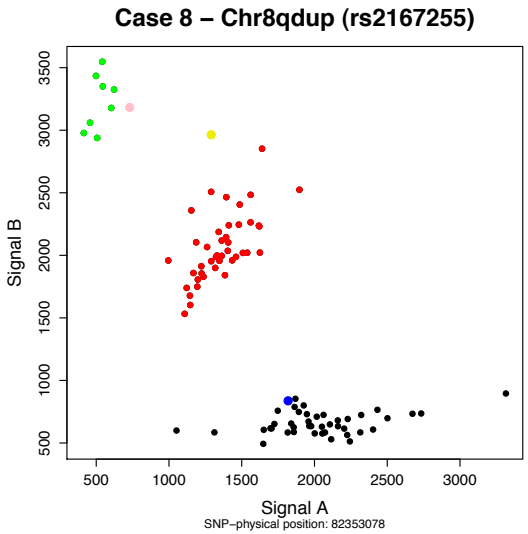

Case 8 – Chr8qdup (rs2012054)
Signal B
Signal A
SNP−physical position: 79807241

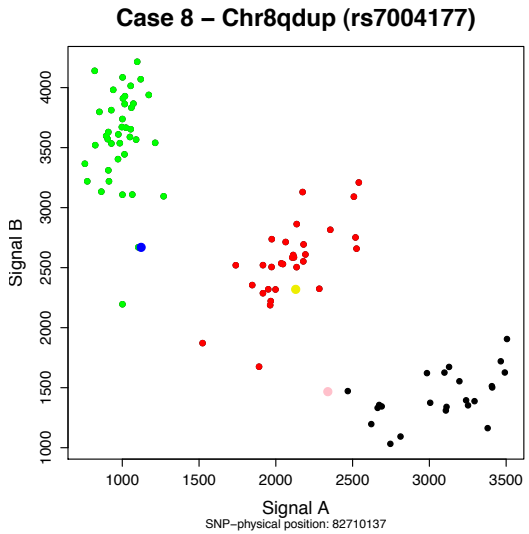

Case 8 – Chr8qdup (rs6473164)
Signal B
Signal A
SNP−physical position: 80404702

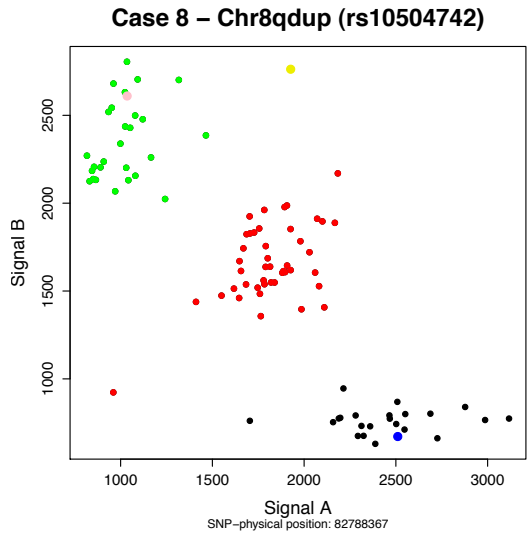

Case 8 – Chr8qdup (rs11987678)
Signal B
Signal A
SNP−physical position: 81228826

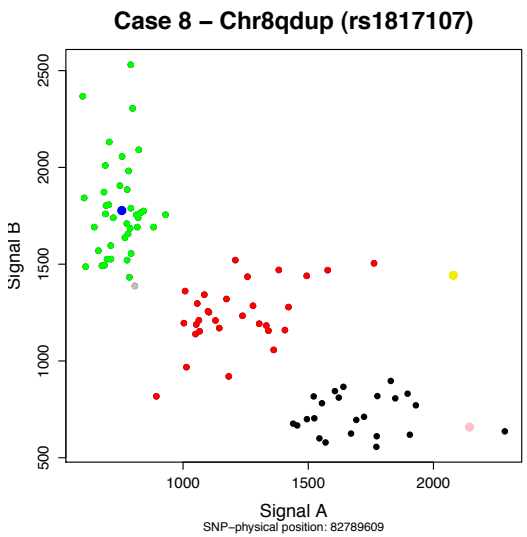

Case 8 – Chr8qdup (rs10090760)
Signal B
Signal A
SNP−physical position: 82158027

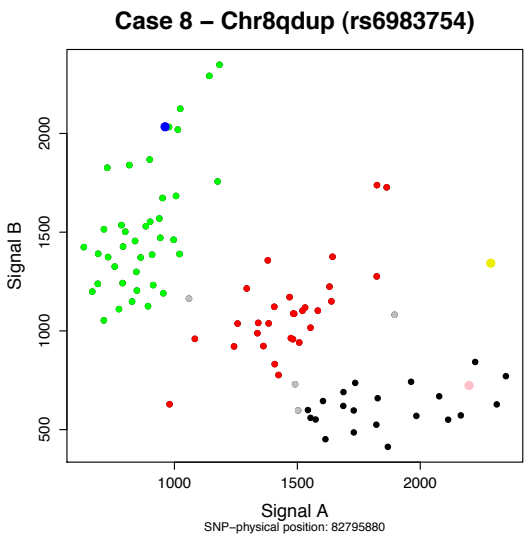

Case 8 – Chr8qdup (rs6995156)
Signal B
Signal A
SNP–physical position: 82331663

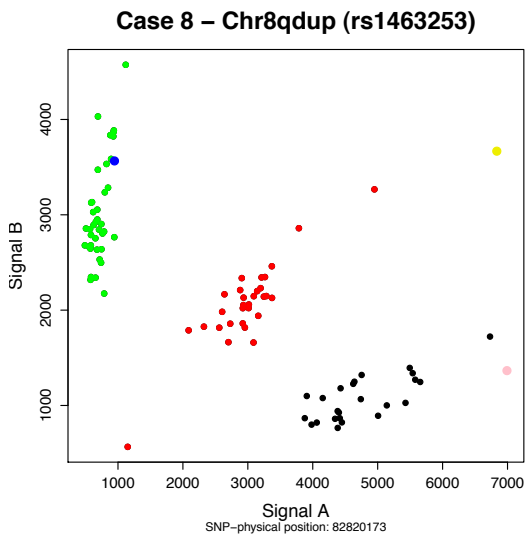

Case 8 – Chr8qdup (rs2167255)
Signal B
Signal A
SNP–physical position: 82353078

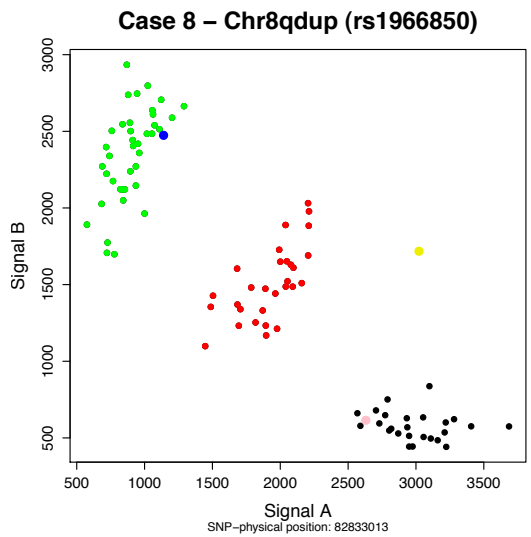

Case 8 – Chr8qdup (rs7004177)
Signal B
Signal A
SNP–physical position: 82710137

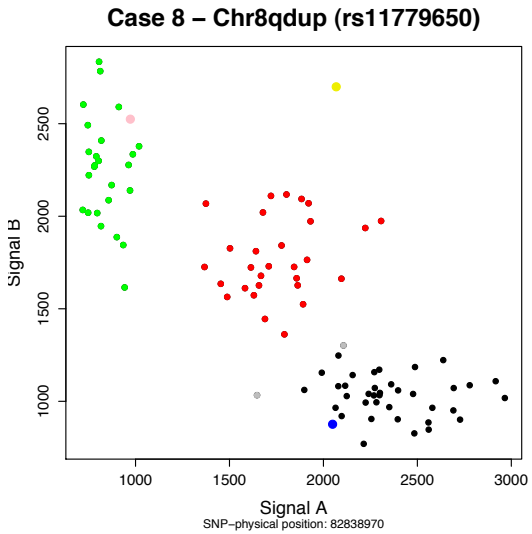

Case 8 – Chr8qdup (rs10504742)
Signal B
Signal A
SNP–physical position: 82788367

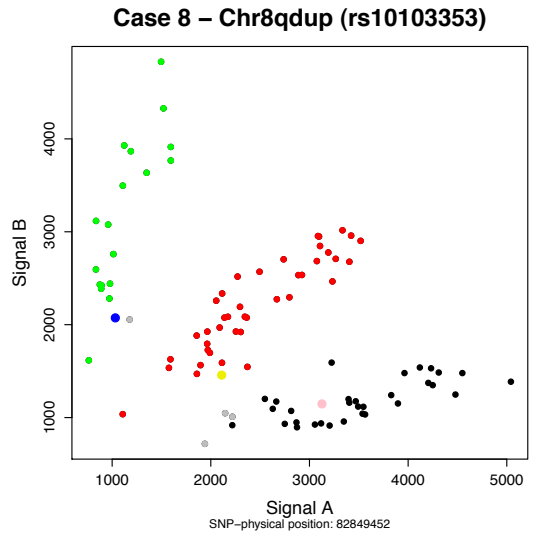

Case 8 – Chr8qdup (rs1817107)
Signal B
Signal A
SNP–physical position: 82789609

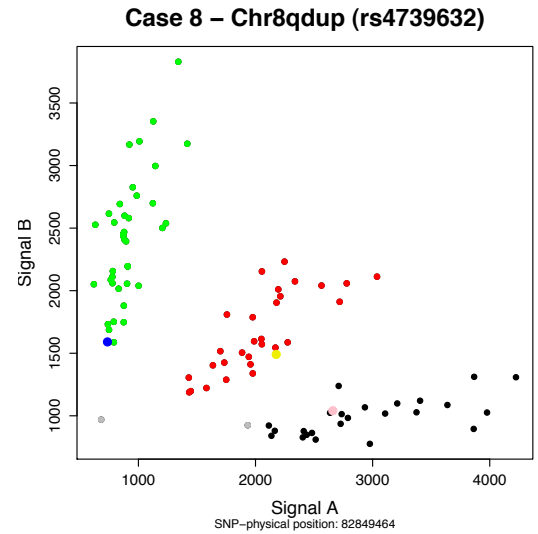

Case 8 – Chr8qdup (rs6983754)
Signal B
Signal A
SNP–physical position: 82795880

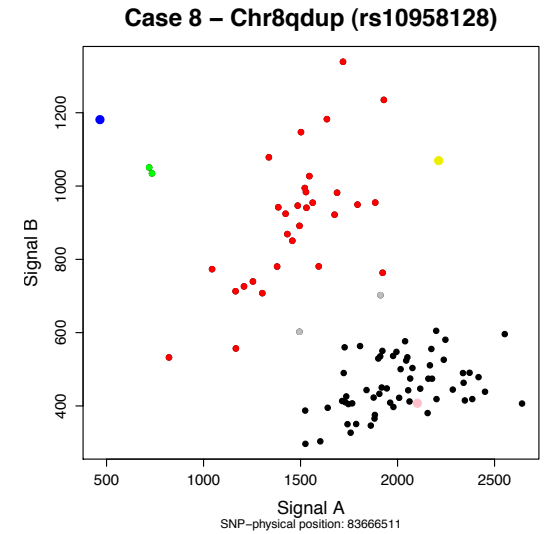

Case 8 – Chr8qdup (rs1463253)
Signal B
Signal A
SNP–physical position: 82820173

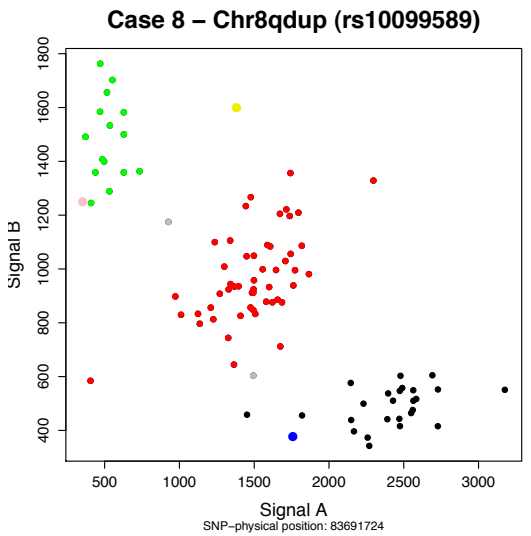

Case 8 – Chr8qdup (rs1966850)
Signal B
Signal A
SNP–physical position: 82833013

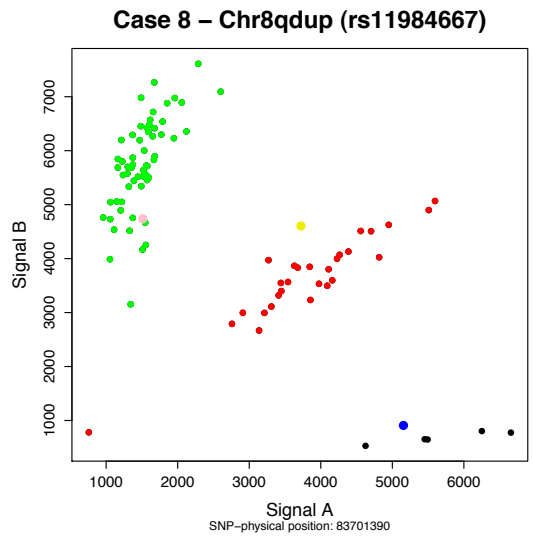

Case 8 – Chr8qdup (rs11779650)
Signal B
Signal A
SNP–physical position: 82838970

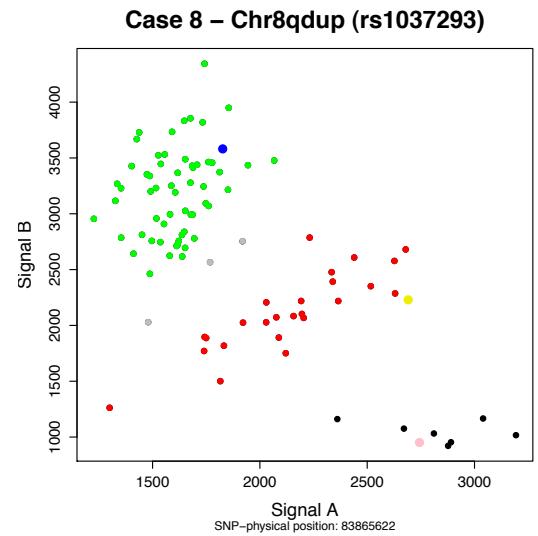

Case 8 – Chr8qdup (rs10103353)
Signal B
Signal A
SNP–physical position: 82849452

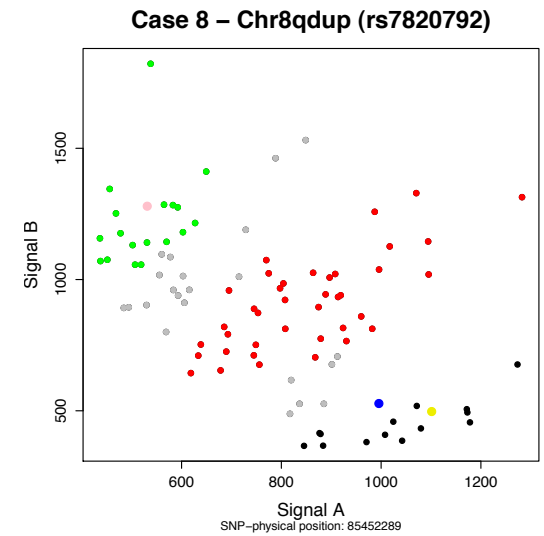

Case 8 – Chr8qdup (rs4739632)
Signal B
Signal A
SNP–physical position: 82849464

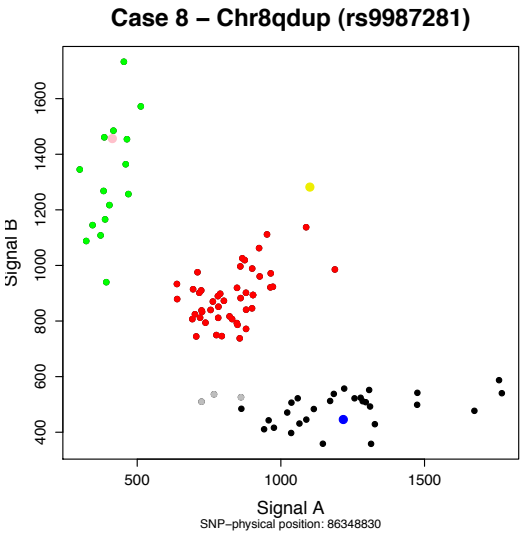

Case 8 – Chr8qdup (rs10958128)
Signal B
Signal A
SNP–physical position: 83666511

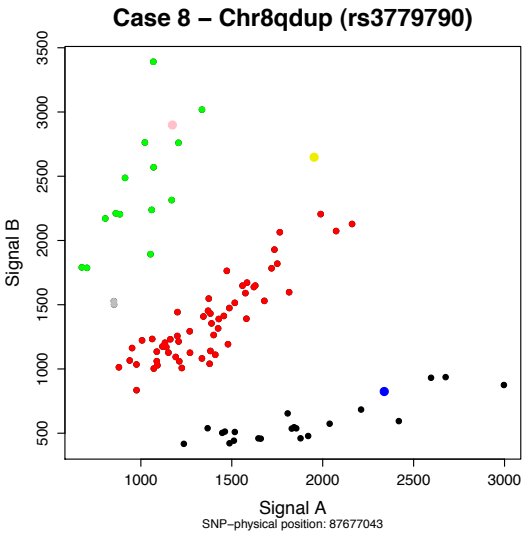

Case 8 – Chr8qdup (rs10099589)
Signal B
Signal A
SNP–physical position: 83691724

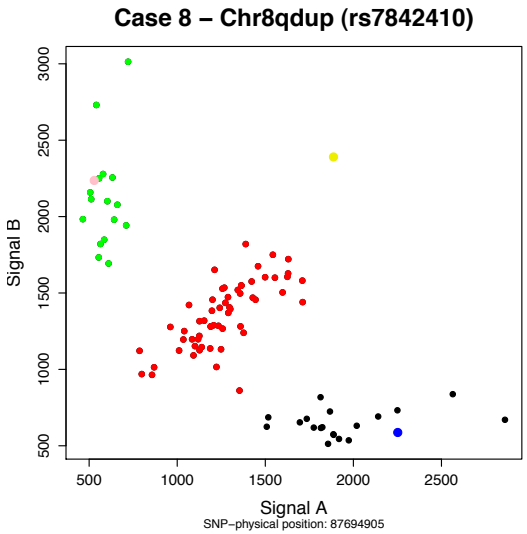

Case 8 – Chr8qdup (rs11984667)
Signal B
Signal A
SNP–physical position: 83701390

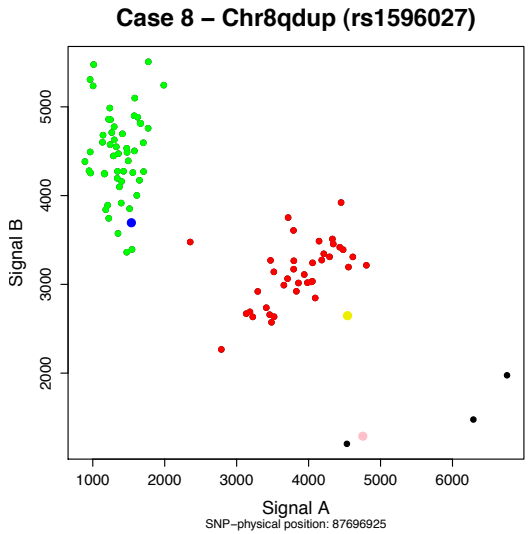

Case 8 – Chr8qdup (rs1037293)
Signal B
Signal A
SNP–physical position: 83865622

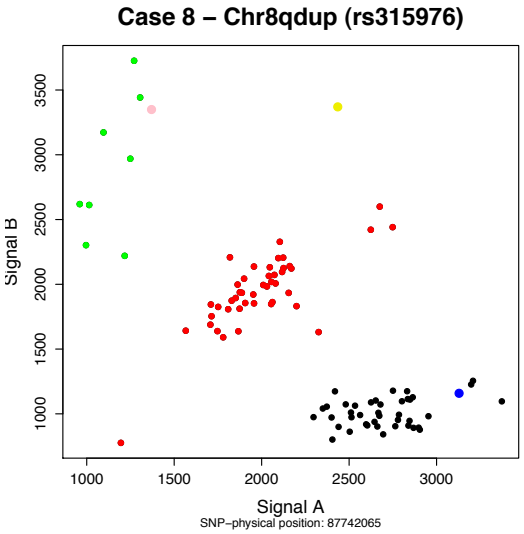

Case 8 – Chr8qdup (rs7820792)
Signal B
Signal A
SNP–physical position: 85452289

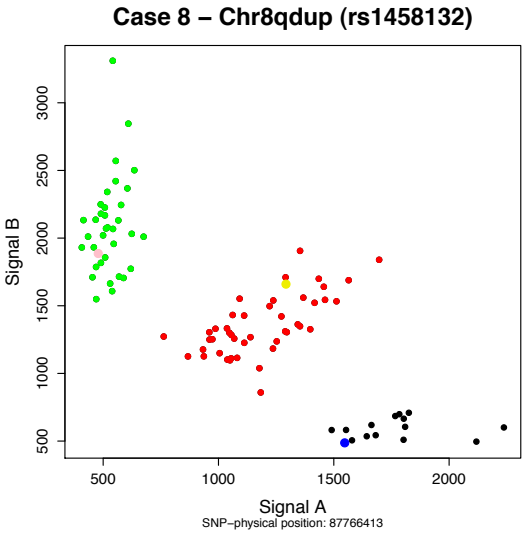

Case 8 – Chr8qdup (rs9987281)
Signal B
Signal A
SNP–physical position: 86348830

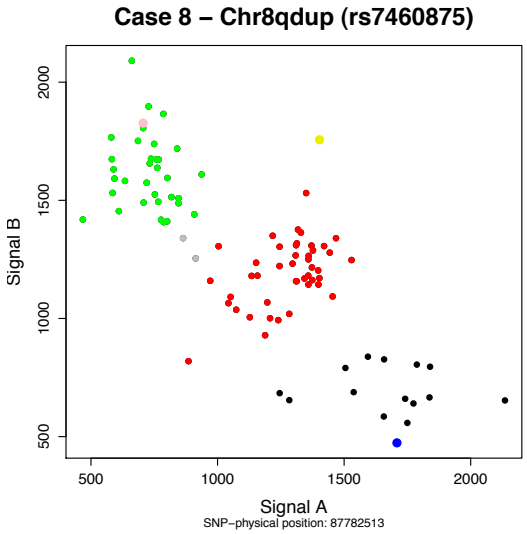

Case 8 – Chr8qdup (rs3779790)
Signal B
Signal A
SNP–physical position: 87677043

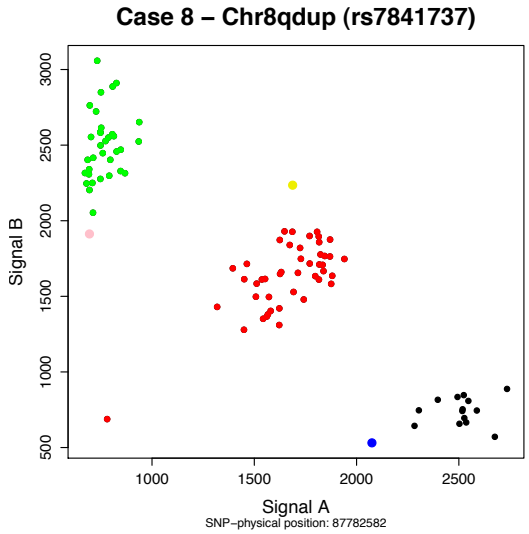

Case 8 – Chr8qdup (rs7842410)
Signal B
Signal A
SNP–physical position: 87694905

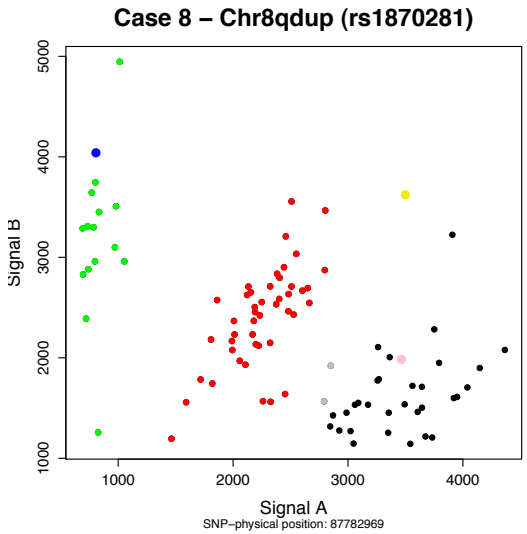

Case 8 – Chr8qdup (rs1596027)
Signal B
Signal A
SNP–physical position: 87696925

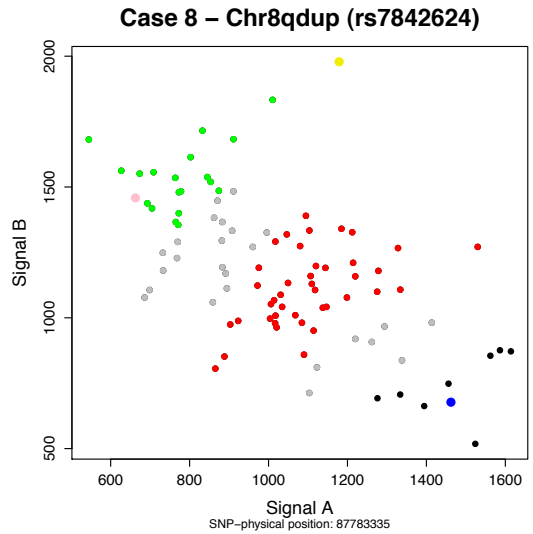

Case 8 – Chr8qdup (rs315976)
Signal B
Signal A
SNP–physical position: 87742065

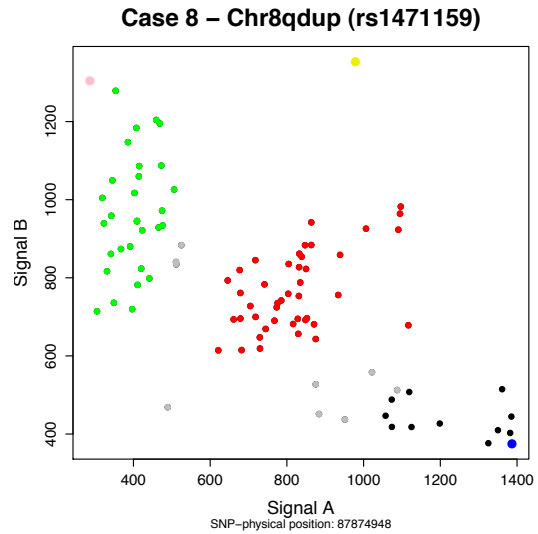

Case 8 – Chr8qdup (rs1458132)
Signal B
Signal A
SNP–physical position: 87766413

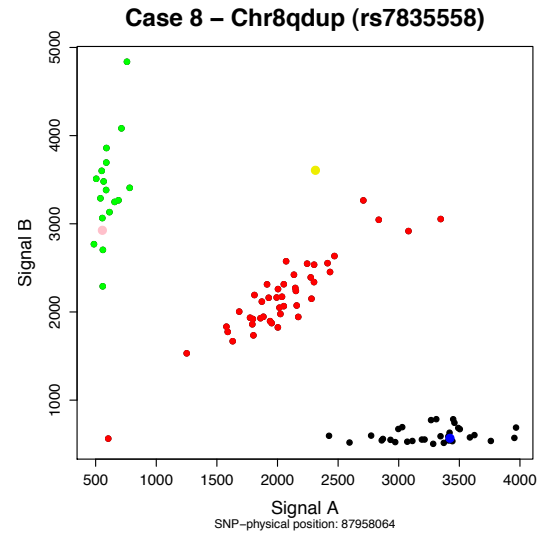

Case 8 – Chr8qdup (rs7460875)
Signal B
Signal A
SNP–physical position: 87782513

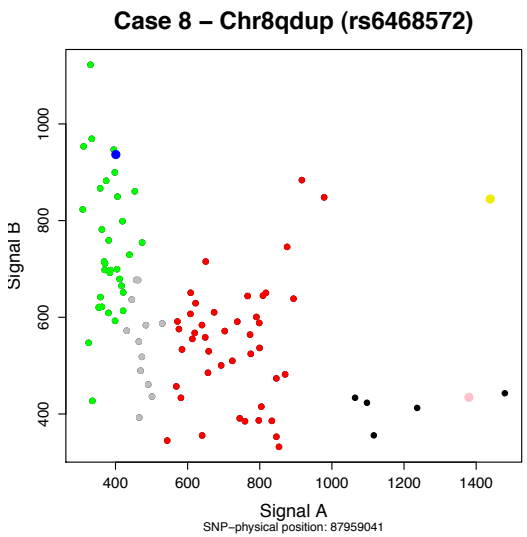

Case 8 – Chr8qdup (rs7841737)
Signal B
Signal A
SNP–physical position: 87782582

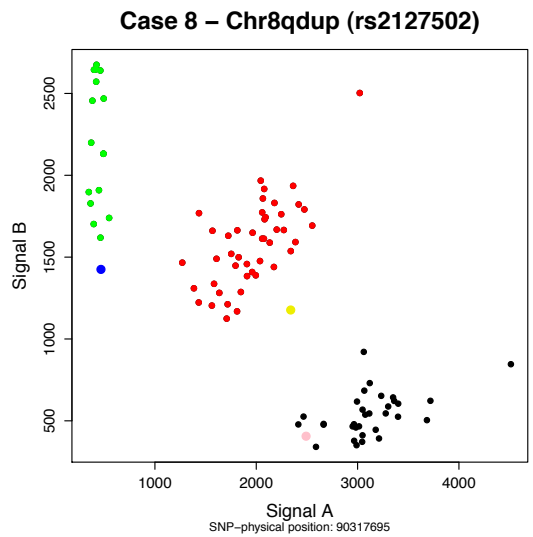

Case 8 – Chr8qdup (rs1870281)
Signal B
Signal A
SNP–physical position: 87782969

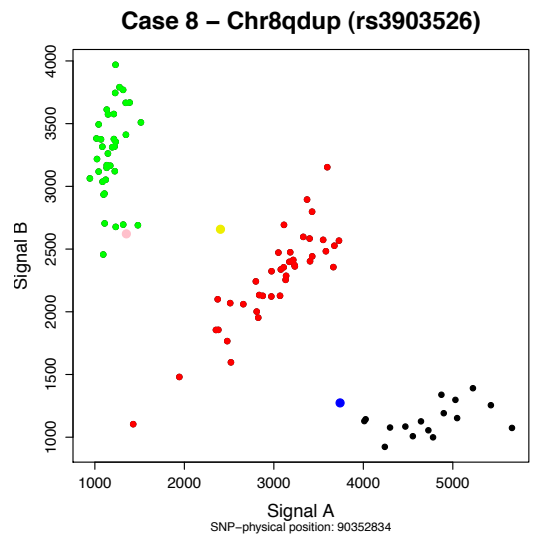

Case 8 – Chr8qdup (rs7842624)
Signal B
Signal A
SNP–physical position: 87783335

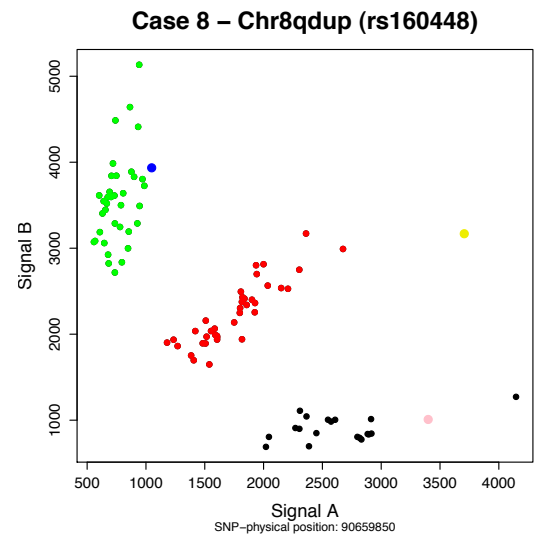

Case 8 – Chr8qdup (rs1471159)
Signal B
Signal A
SNP–physical position: 87874948

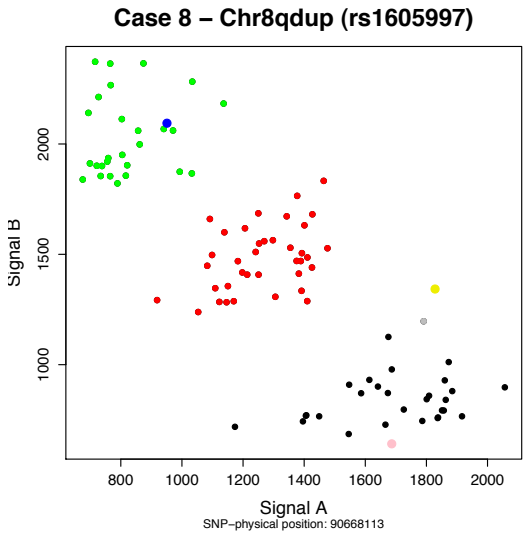

Case 8 – Chr8qdup (rs7835558)
Signal B
Signal A
SNP–physical position: 87958064

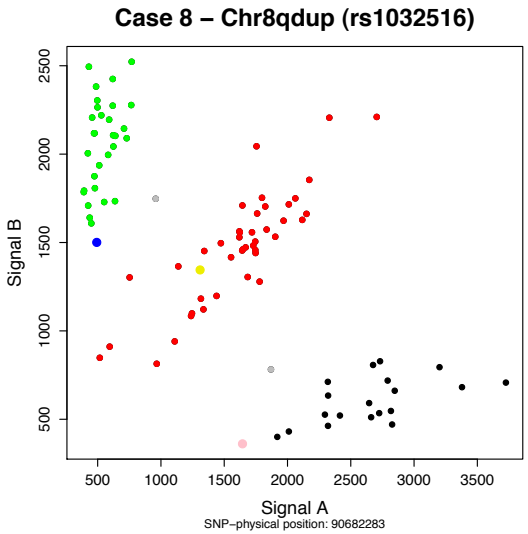

Case 8 – Chr8qdup (rs6468572)
Signal B
Signal A
SNP–physical position: 87959041

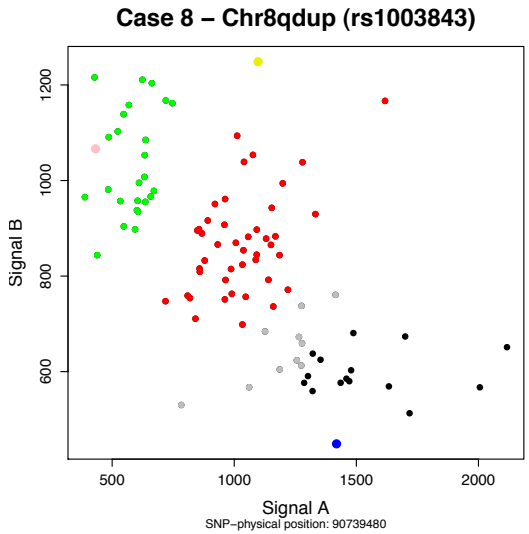

Case 8 – Chr8qdup (rs2127502)
Signal B
Signal A
SNP–physical position: 90317695

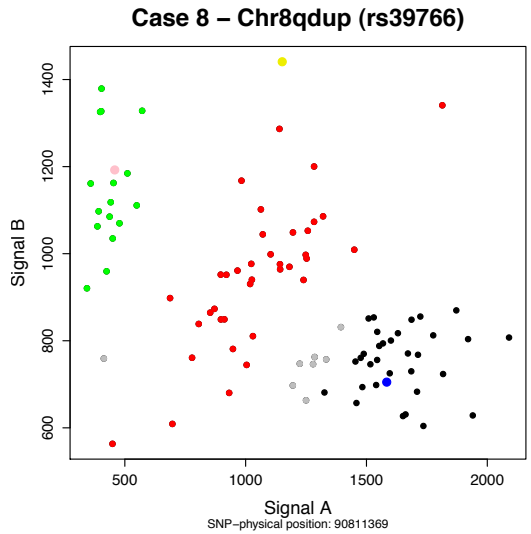

Case 8 – Chr8qdup (rs3903526)
Signal B
Signal A
SNP–physical position: 90352834

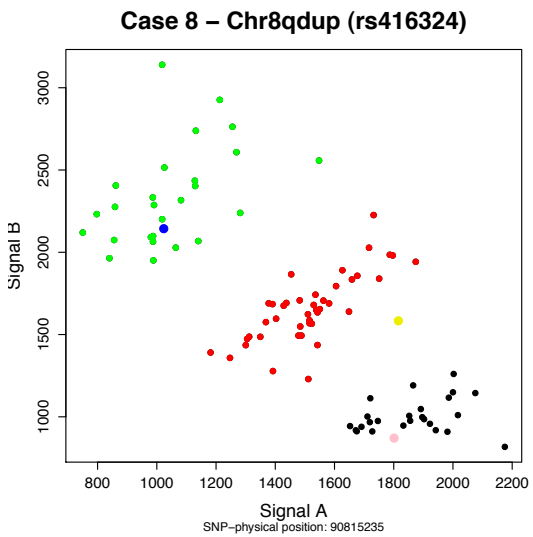

Case 8 – Chr8qdup (rs160448)
Signal B
Signal A
SNP–physical position: 90659850

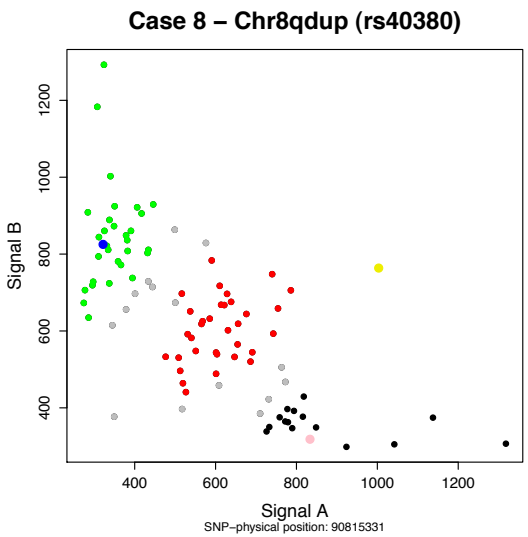

Case 8 – Chr8qdup (rs1605997)
Signal B
Signal A
SNP–physical position: 90668113

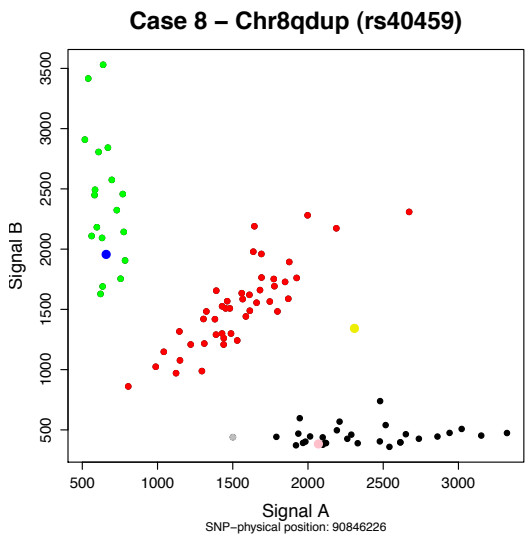

Case 8 – Chr8qdup (rs1032516)
Signal B
Signal A
SNP–physical position: 90682283

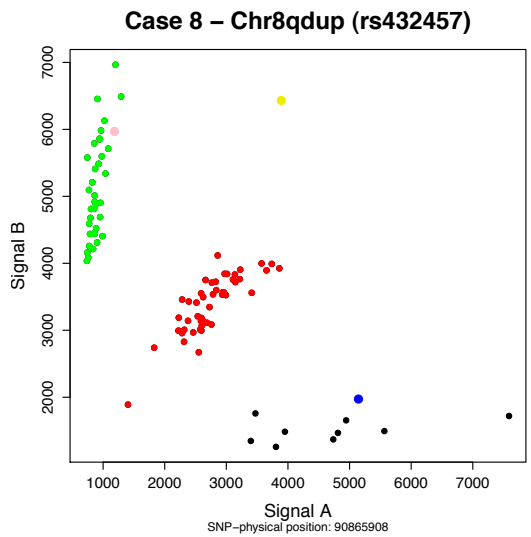

Case 8 – Chr8qdup (rs1003843)
Signal B
Signal A
SNP–physical position: 90739480

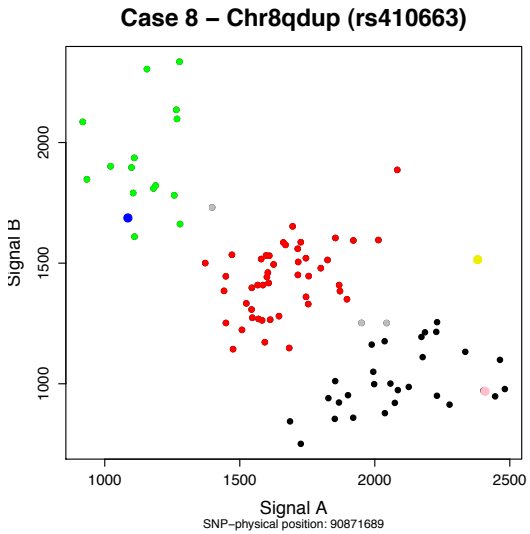

Case 8 – Chr8qdup (rs39766)
Signal B
Signal A
SNP–physical position: 90811369

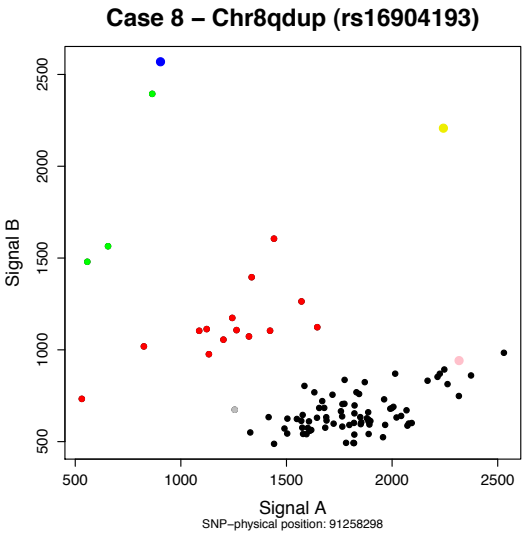

Case 8 – Chr8qdup (rs416324)
Signal B
Signal A
SNP–physical position: 90815235

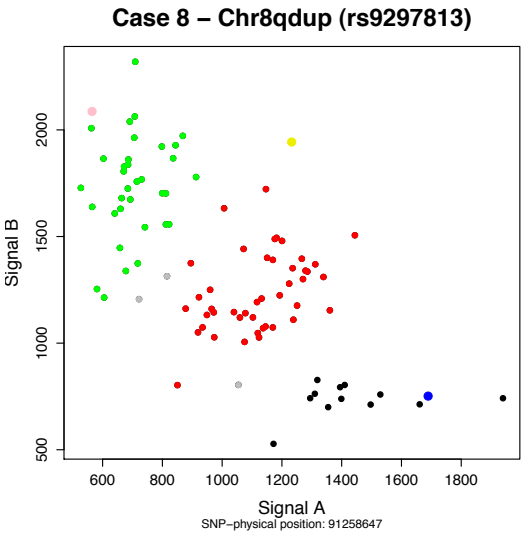

Case 8 – Chr8qdup (rs40380)
Signal B
Signal A
SNP–physical position: 90815331

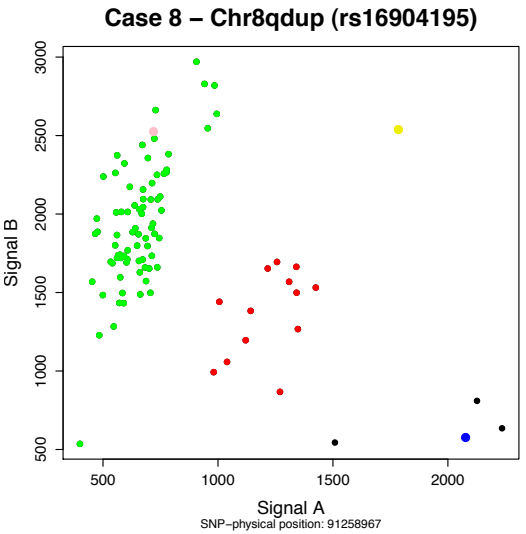

Case 8 – Chr8qdup (rs40459)
Signal B
Signal A
SNP–physical position: 90846226

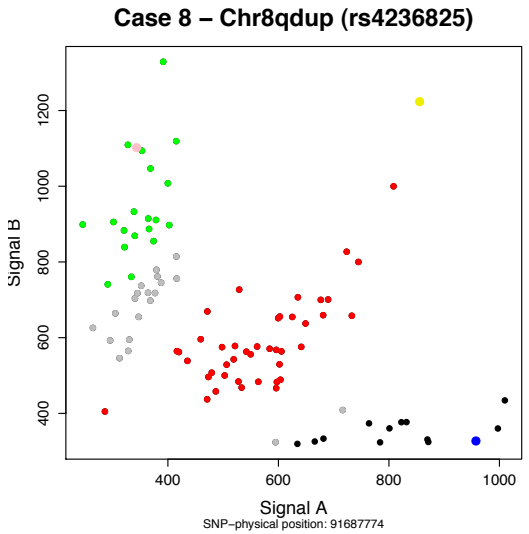

Case 8 – Chr8qdup (rs432457)
Signal B
Signal A
SNP–physical position: 90865908

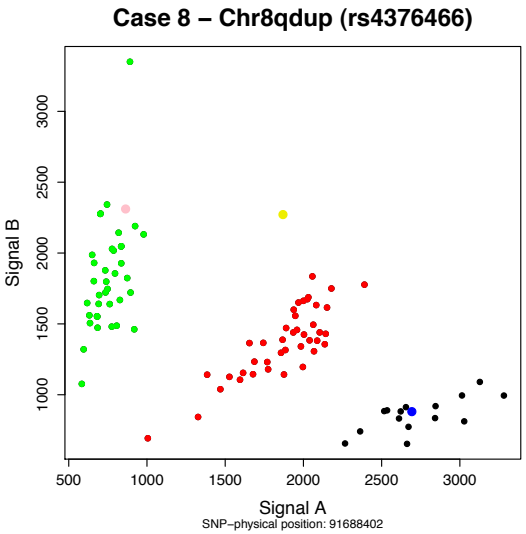

Case 8 – Chr8qdup (rs410663)
Signal B
Signal A
SNP–physical position: 90871689

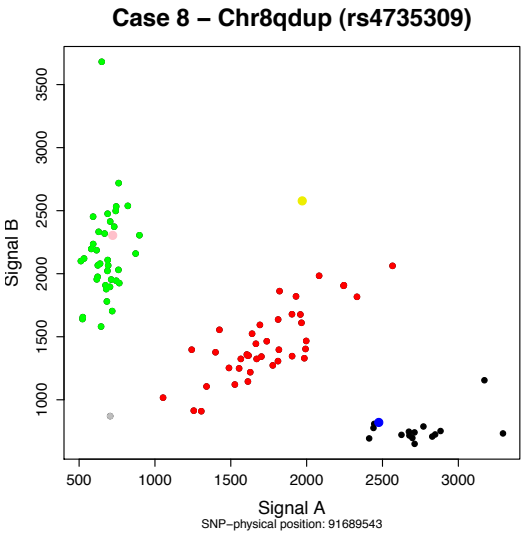

Case 8 – Chr8qdup (rs16904193)
Signal B
Signal A
SNP–physical position: 91258298

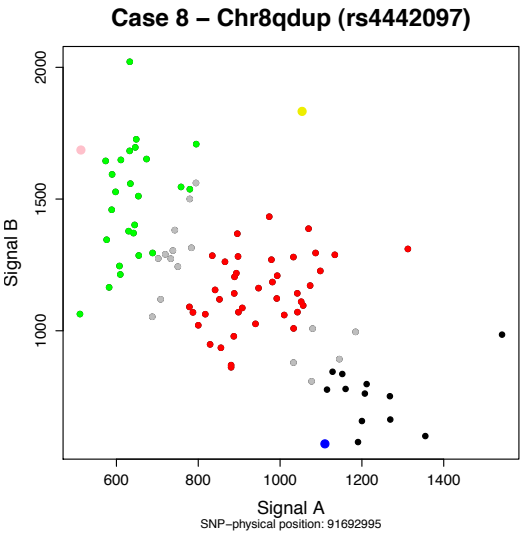

Case 8 – Chr8qdup (rs9297813)
Signal B
Signal A
SNP–physical position: 91258647

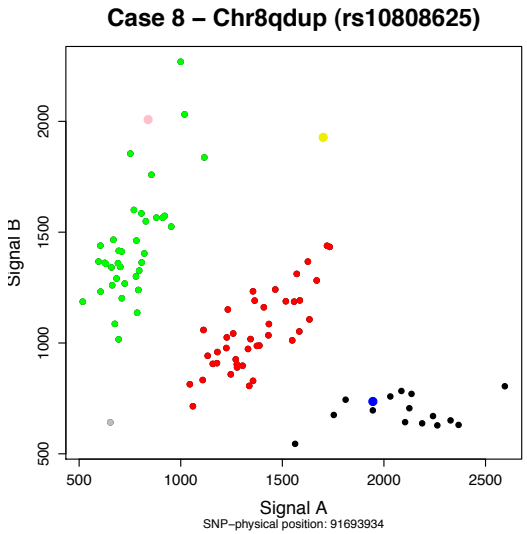

Case 8 – Chr8qdup (rs16904195)
Signal B
Signal A
SNP–physical position: 91258967

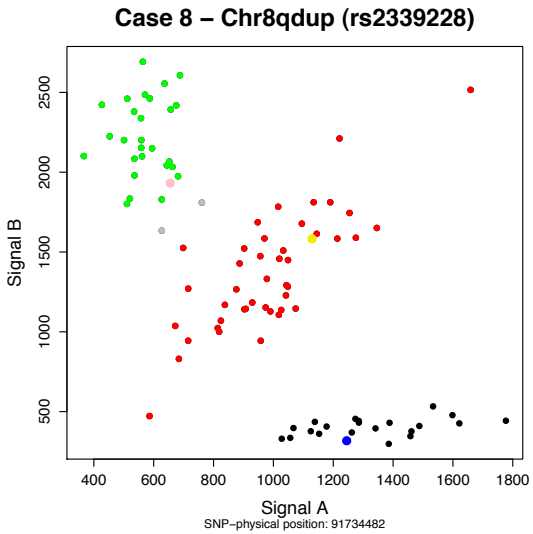

Case 8 – Chr8qdup (rs4236825)
Signal B
Signal A
SNP–physical position: 91687774

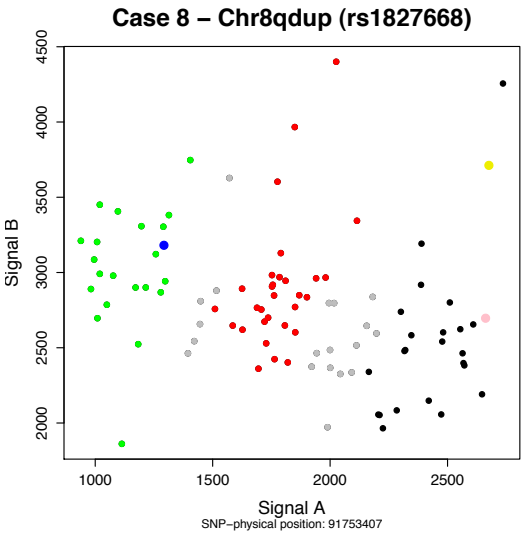

Case 8 – Chr8qdup (rs4376466)
Signal B
Signal A
SNP–physical position: 91688402

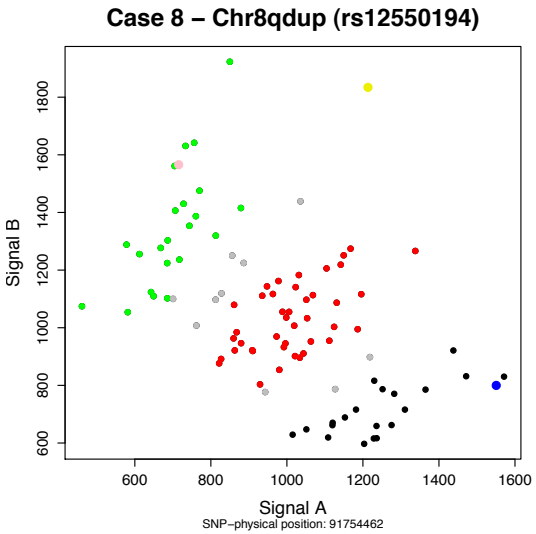

Case 8 – Chr8qdup (rs4735309)
Signal B
Signal A
SNP–physical position: 91689543

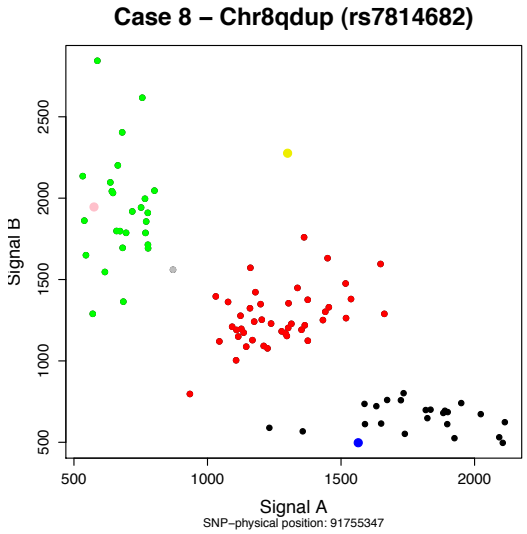

Case 8 – Chr8qdup (rs4442097)
Signal B
Signal A
SNP–physical position: 91692995

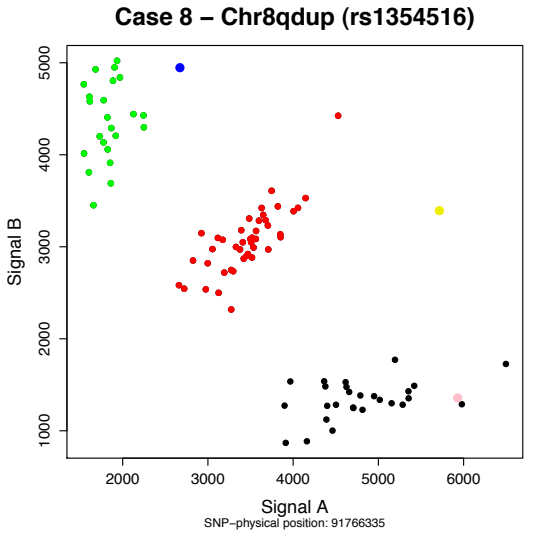

Case 8 – Chr8qdup (rs10808625)
Signal B
Signal A
SNP–physical position: 91693934

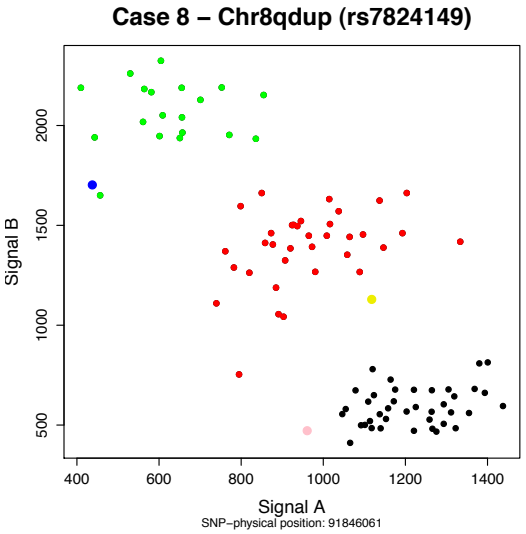

Case 8 – Chr8qdup (rs2339228)
Signal B
Signal A
SNP–physical position: 91734482

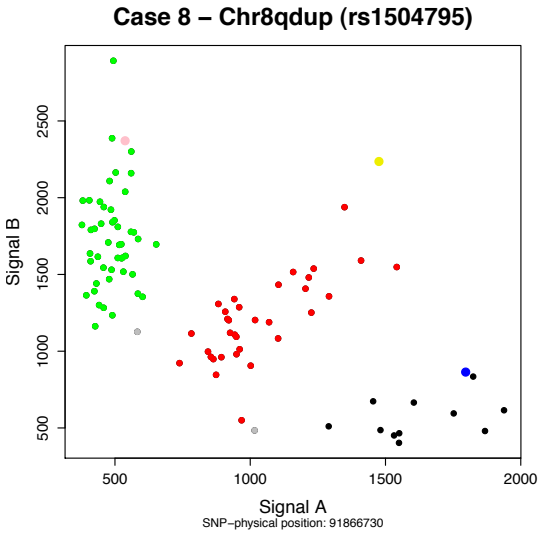

Case 8 – Chr8qdup (rs1827668)
Signal B
Signal A
SNP–physical position: 91753407

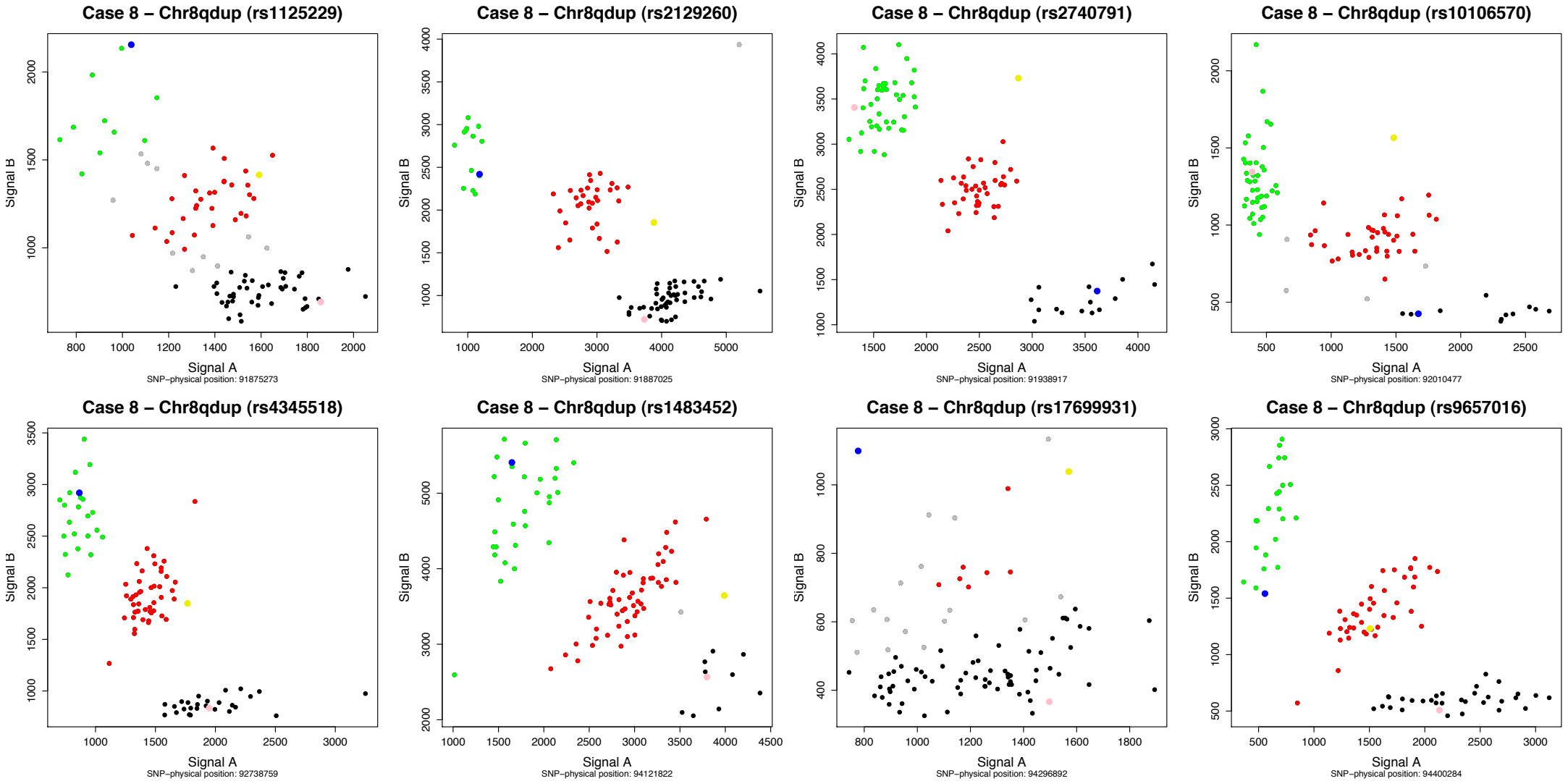

Case 8 – Chr8qdup (rs12550194)
Signal B
Signal A
SNP–physical position: 91754462

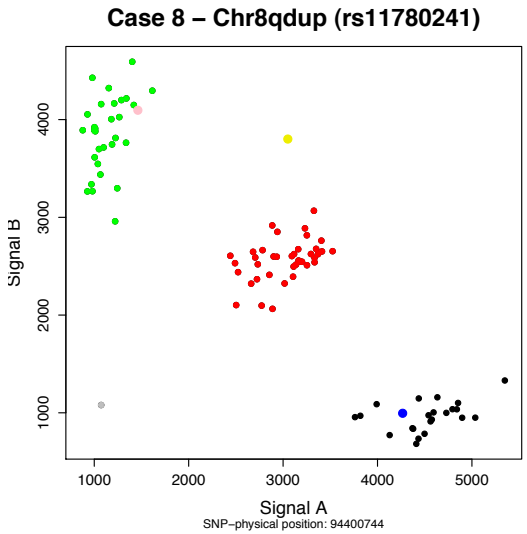

Case 8 – Chr8qdup (rs7814682)
Signal B
Signal A
SNP–physical position: 91755347

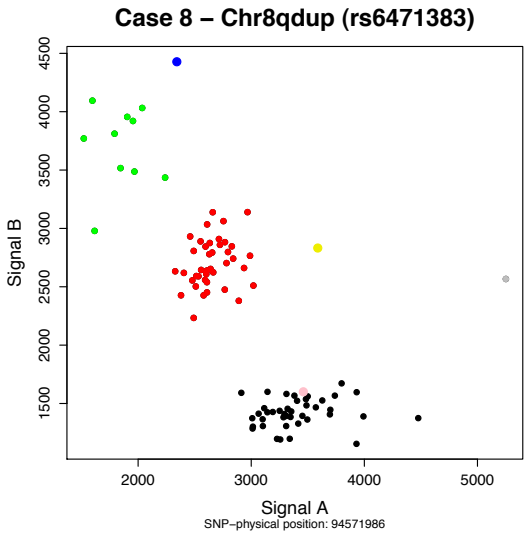

Case 8 – Chr8qdup (rs1354516)
Signal B
Signal A
SNP–physical position: 91766335

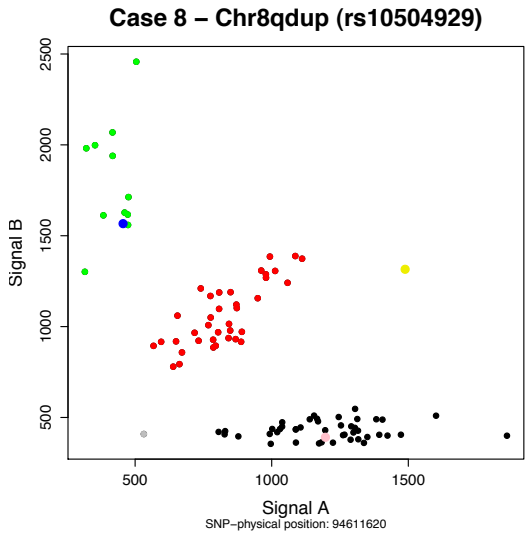

Case 8 – Chr8qdup (rs7824149)
Signal B
Signal A
SNP–physical position: 91846061

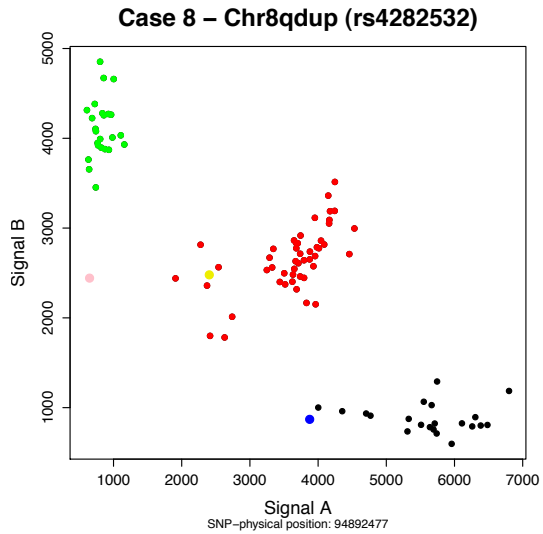

Case 8 – Chr8qdup (rs1504795)
Signal B
Signal A
SNP–physical position: 91866730

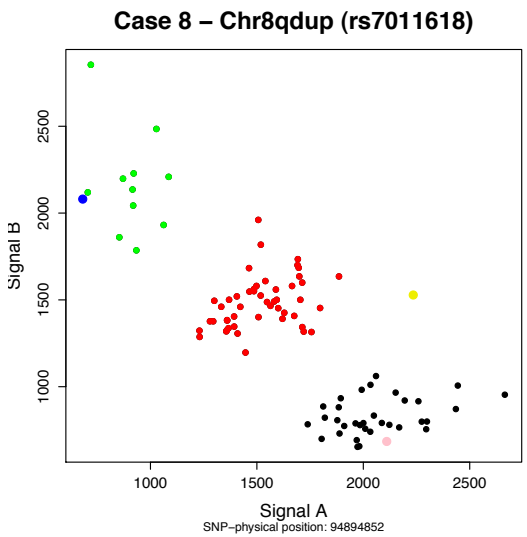

Case 8 – Chr8qdup (rs1125229)
Signal B
Signal A
SNP–physical position: 91875273
Case 8 – Chr8qdup (rs2129260)
Signal B
Signal A
SNP–physical position: 91887025
Case 8 – Chr8qdup (rs2740791)
Signal B
Signal A
SNP–physical position: 91938917
Case 8 – Chr8qdup (rs10106570)
Signal B
Signal A
SNP–physical position: 92010477
Case 8 – Chr8qdup (rs4345518)
Signal B
Signal A
SNP–physical position: 92738759
Case 8 – Chr8qdup (rs1483452)
Signal B
Signal A
SNP–physical position: 94121822
Case 8 – Chr8qdup (rs17699931)
Signal B
Signal A
SNP–physical position: 94296892
Case 8 – Chr8qdup (rs9657016)
Signal B
Signal A
SNP–physical position: 94400284

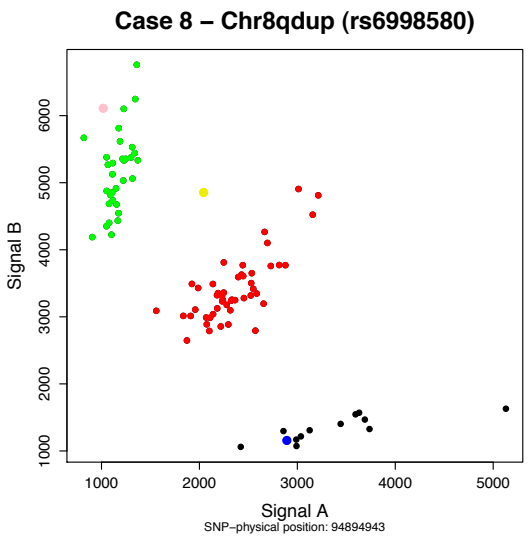

Case 8 – Chr8qdup (rs11780241)
Signal B
Signal A
SNP–physical position: 94400744

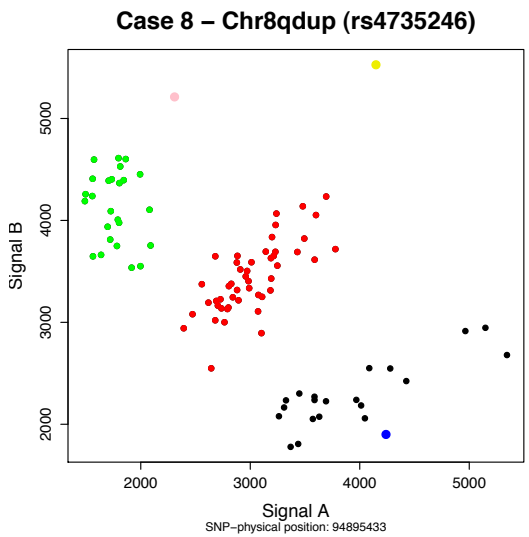

Case 8 – Chr8qdup (rs6471383)
Signal B
Signal A
SNP–physical position: 94571986

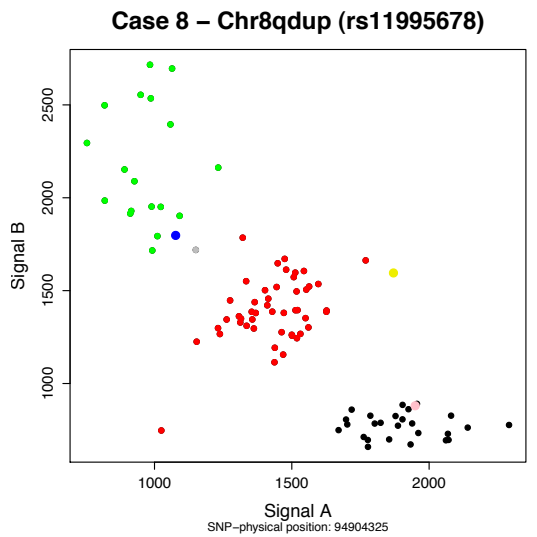

Case 8 – Chr8qdup (rs10504929)
Signal B
Signal A
SNP–physical position: 94611620

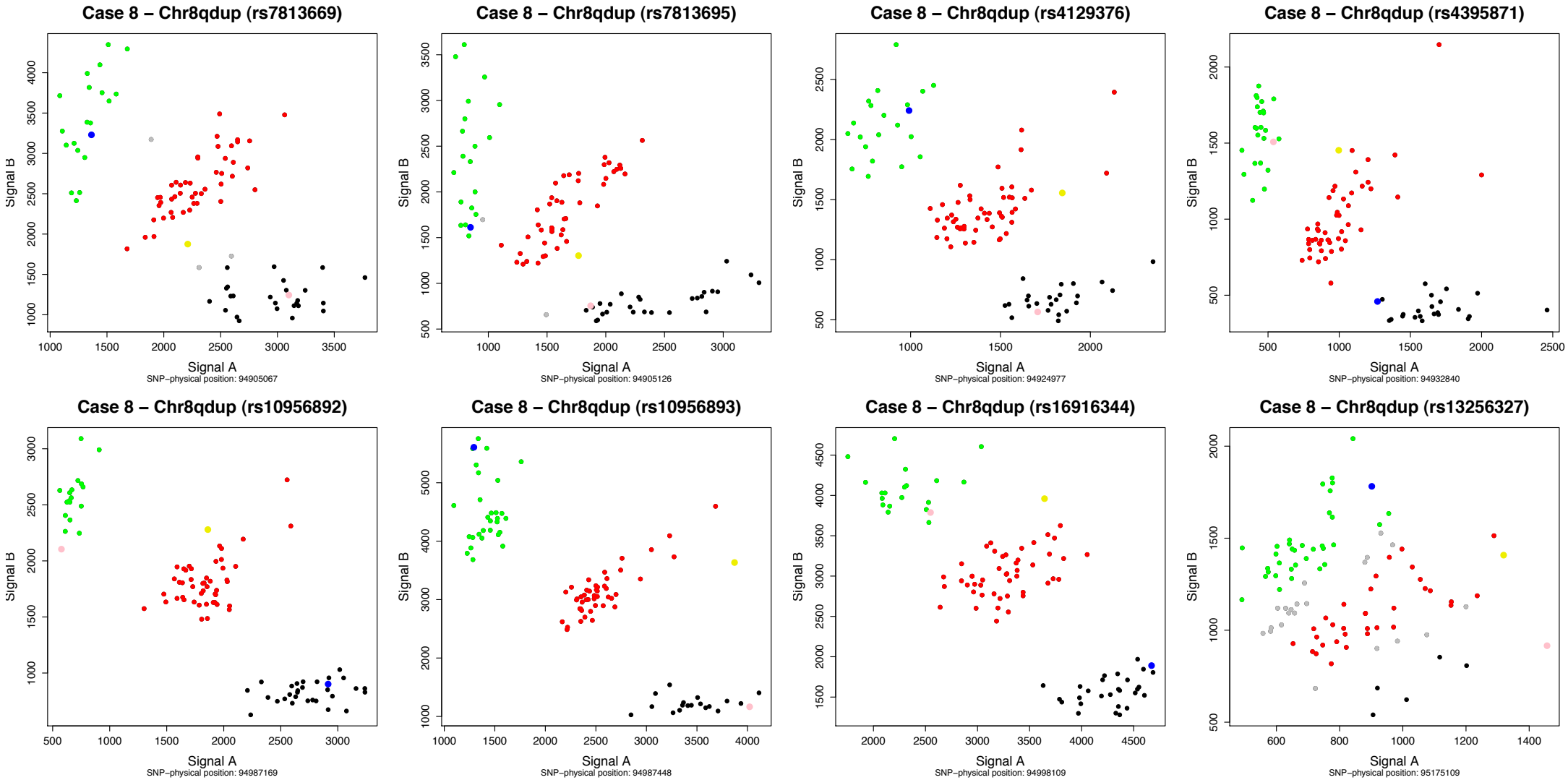

Case 8 – Chr8qdup (rs4282532)
Signal B
Signal A
SNP–physical position: 94892477

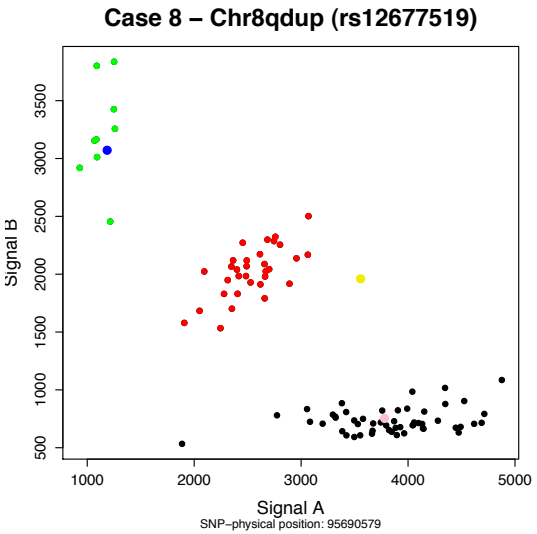

Case 8 – Chr8qdup (rs7011618)
Signal B
Signal A
SNP–physical position: 94894852

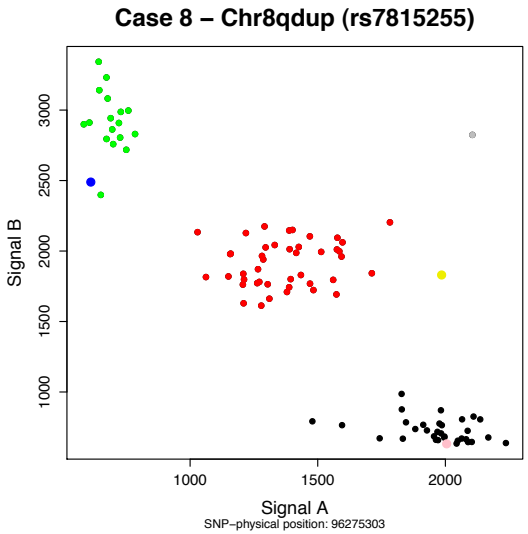

Case 8 – Chr8qdup (rs6998580)
Signal B
Signal A
SNP–physical position: 94894943

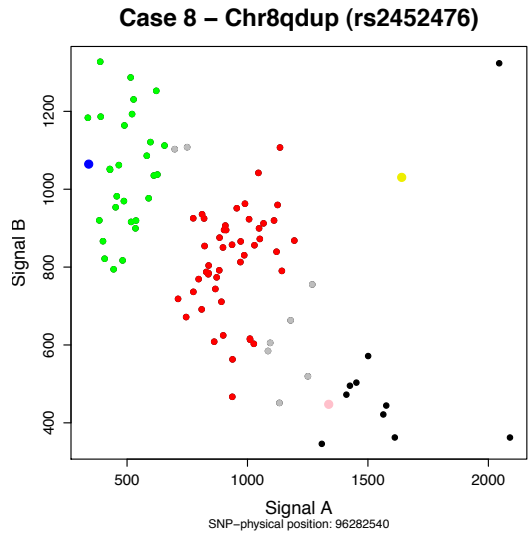

Case 8 – Chr8qdup (rs4735246)
Signal B
Signal A
SNP–physical position: 94895433

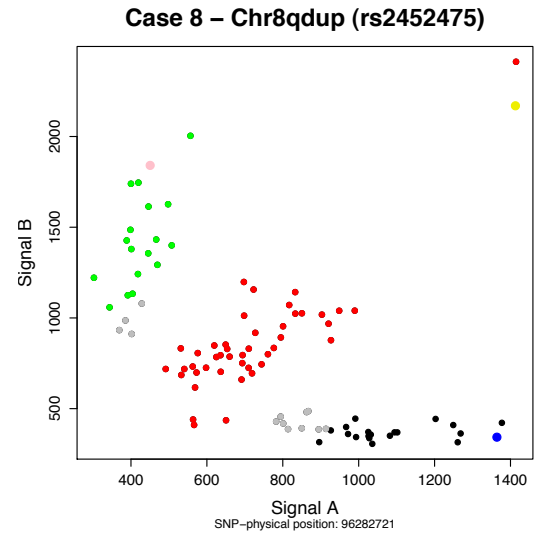

Case 8 – Chr8qdup (rs11995678)
Signal B
Signal A
SNP–physical position: 94904325

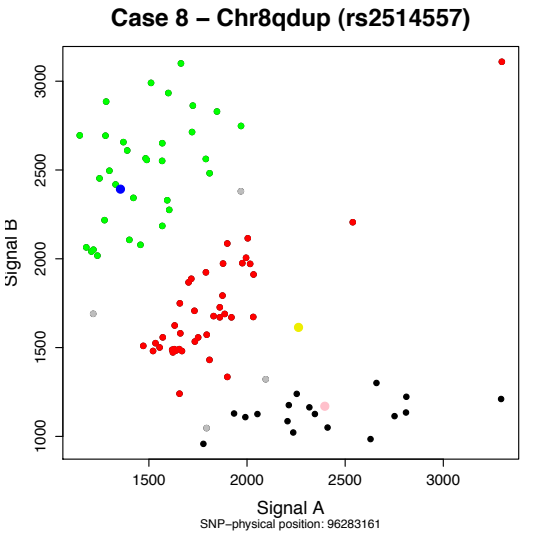

Case 8 – Chr8qdup (rs7813669)
Signal B
Signal A
SNP–physical position: 94905067
Case 8 – Chr8qdup (rs7813695)
Signal B
Signal A
SNP–physical position: 94905126
Case 8 – Chr8qdup (rs4129376)
Signal B
Signal A
SNP–physical position: 94924977
Case 8 – Chr8qdup (rs4395871)
Signal B
Signal A
SNP–physical position: 94932840
Case 8 – Chr8qdup (rs10956892)
Signal B
Signal A
SNP–physical position: 94987169
Case 8 – Chr8qdup (rs10956893)
Signal B
Signal A
SNP–physical position: 94987448
Case 8 – Chr8qdup (rs16916344)
Signal B
Signal A
SNP–physical position: 94998109
Case 8 – Chr8qdup (rs13256327)
Signal B
Signal A
SNP–physical position: 95175109

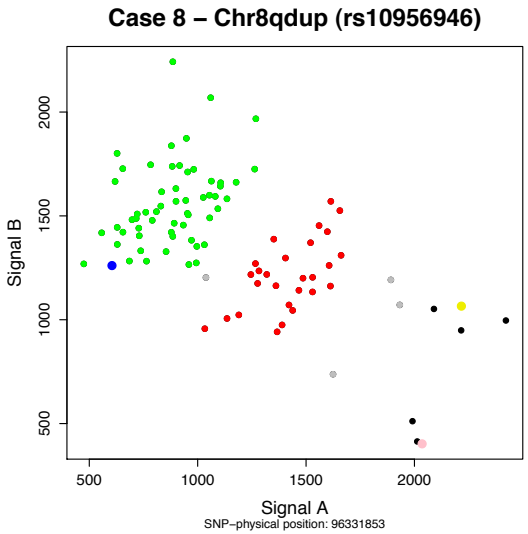

Case 8 – Chr8qdup (rs12677519)
Signal B
Signal A
SNP–physical position: 95690579

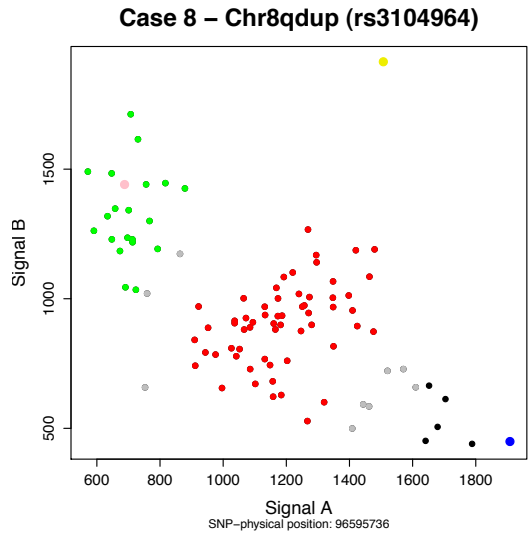

Case 8 – Chr8qdup (rs7815255)
Signal B
Signal A
SNP–physical position: 96275303

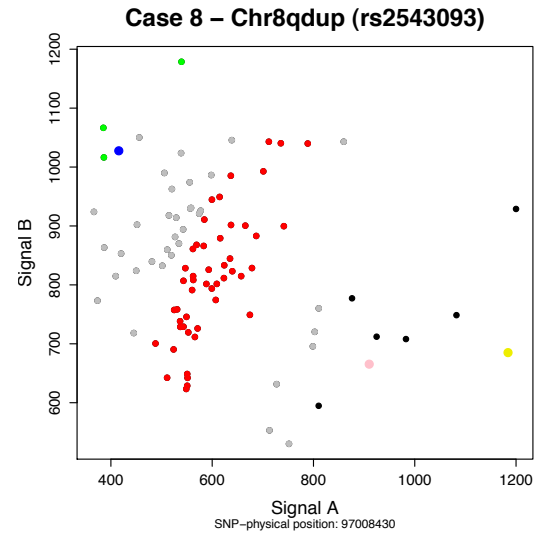

Case 8 – Chr8qdup (rs2452476)
Signal B
Signal A
SNP–physical position: 96282540

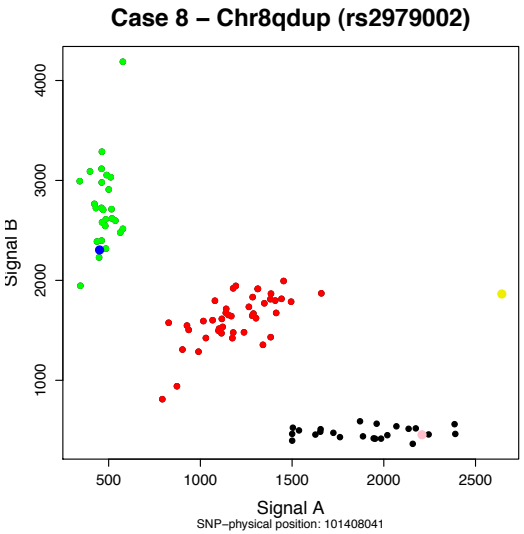

Case 8 – Chr8qdup (rs2452475)
Signal B
Signal A
SNP–physical position: 96282721

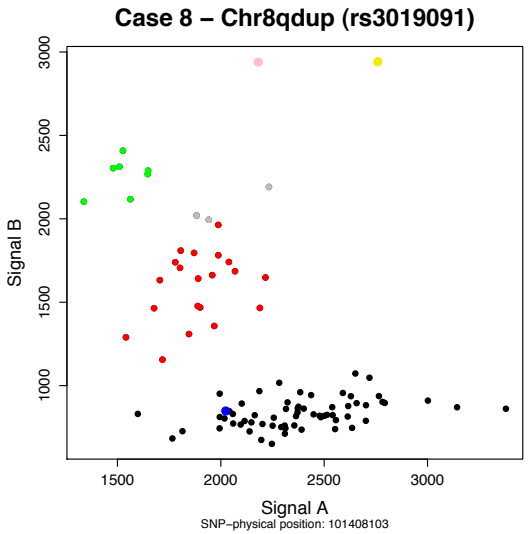

Case 8 – Chr8qdup (rs2514557)
Signal B
Signal A
SNP–physical position: 96283161

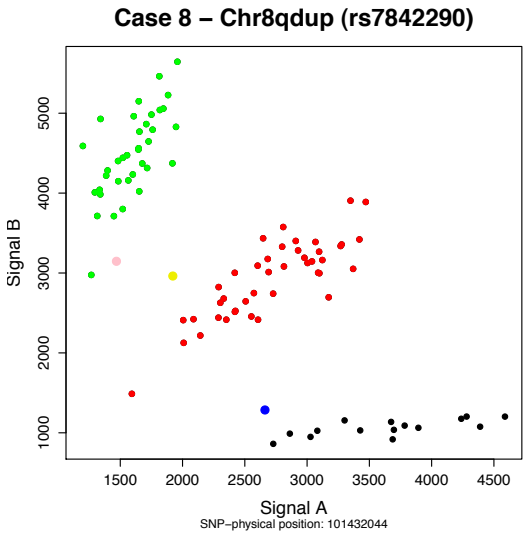

Case 8 – Chr8qdup (rs10956946)
Signal B
Signal A
SNP–physical position: 96331853

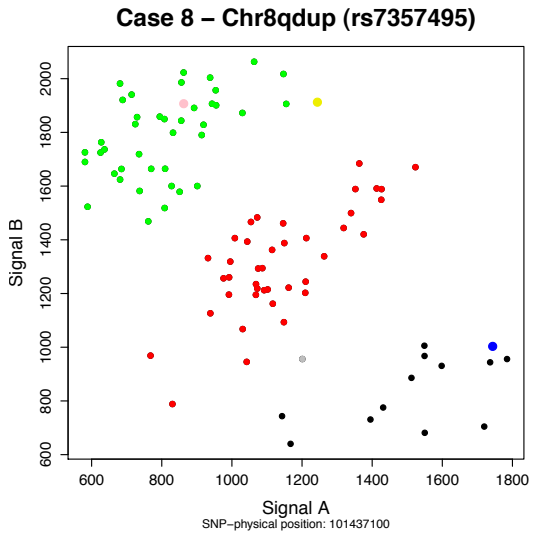

Case 8 – Chr8qdup (rs3104964)
Signal B
Signal A
SNP–physical position: 96595736

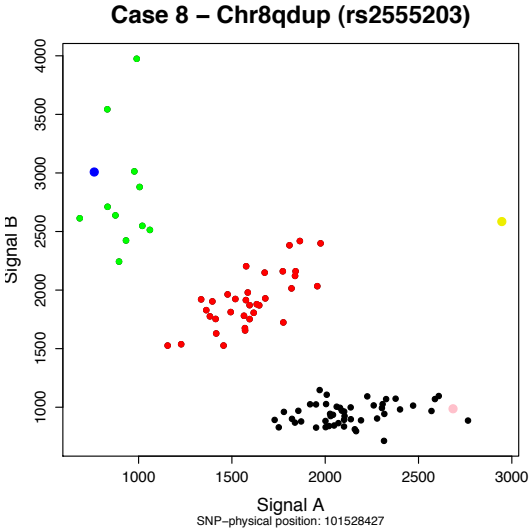

Case 8 – Chr8qdup (rs2543093)
Signal B
Signal A
SNP–physical position: 97008430

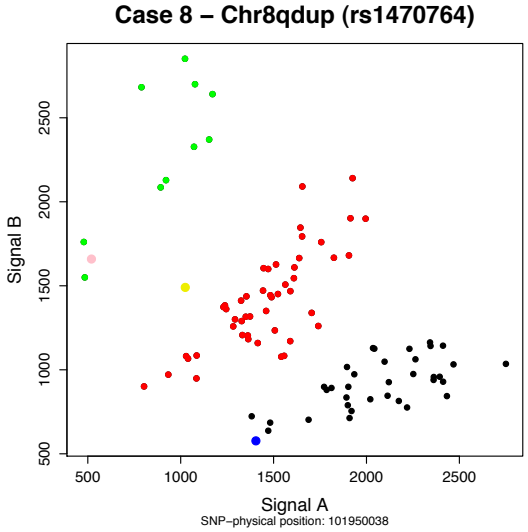

Case 8 – Chr8qdup (rs2979002)
Signal B
Signal A
SNP−physical position: 101408041

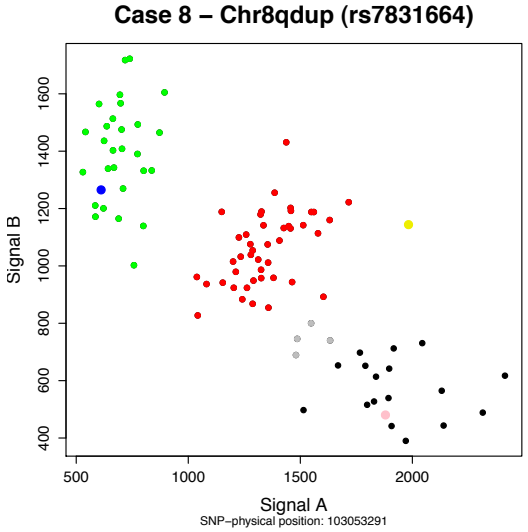

Case 8 – Chr8qdup (rs3019091)
Signal B
Signal A
SNP−physical position: 101408103

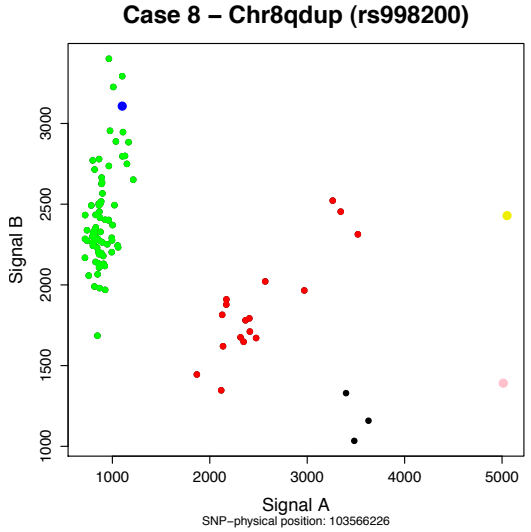

Case 8 – Chr8qdup (rs7842290)
Signal B
Signal A
SNP−physical position: 101432044

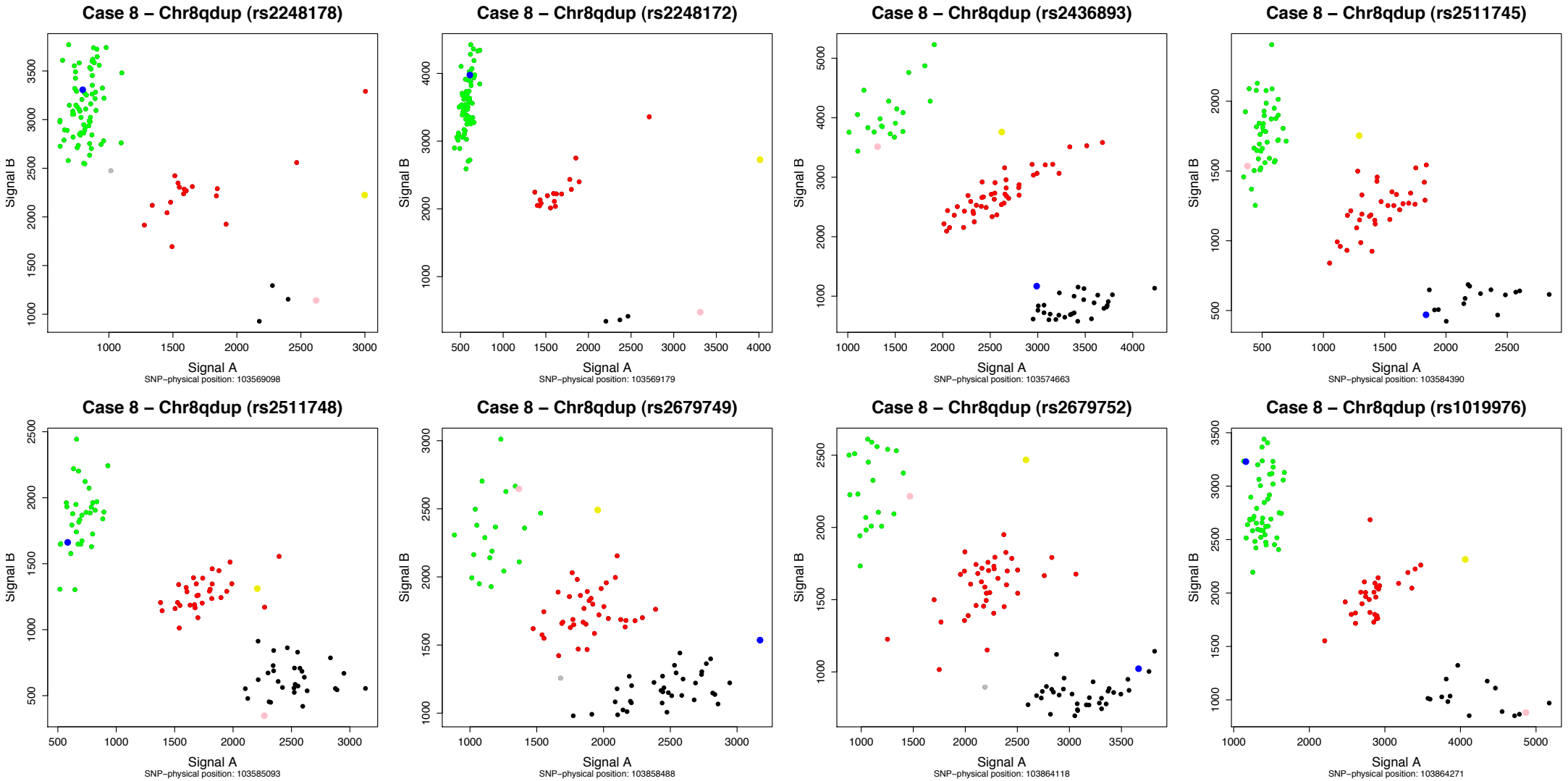

Case 8 – Chr8qdup (rs7357495)
Signal B
Signal A
SNP−physical position: 101437100

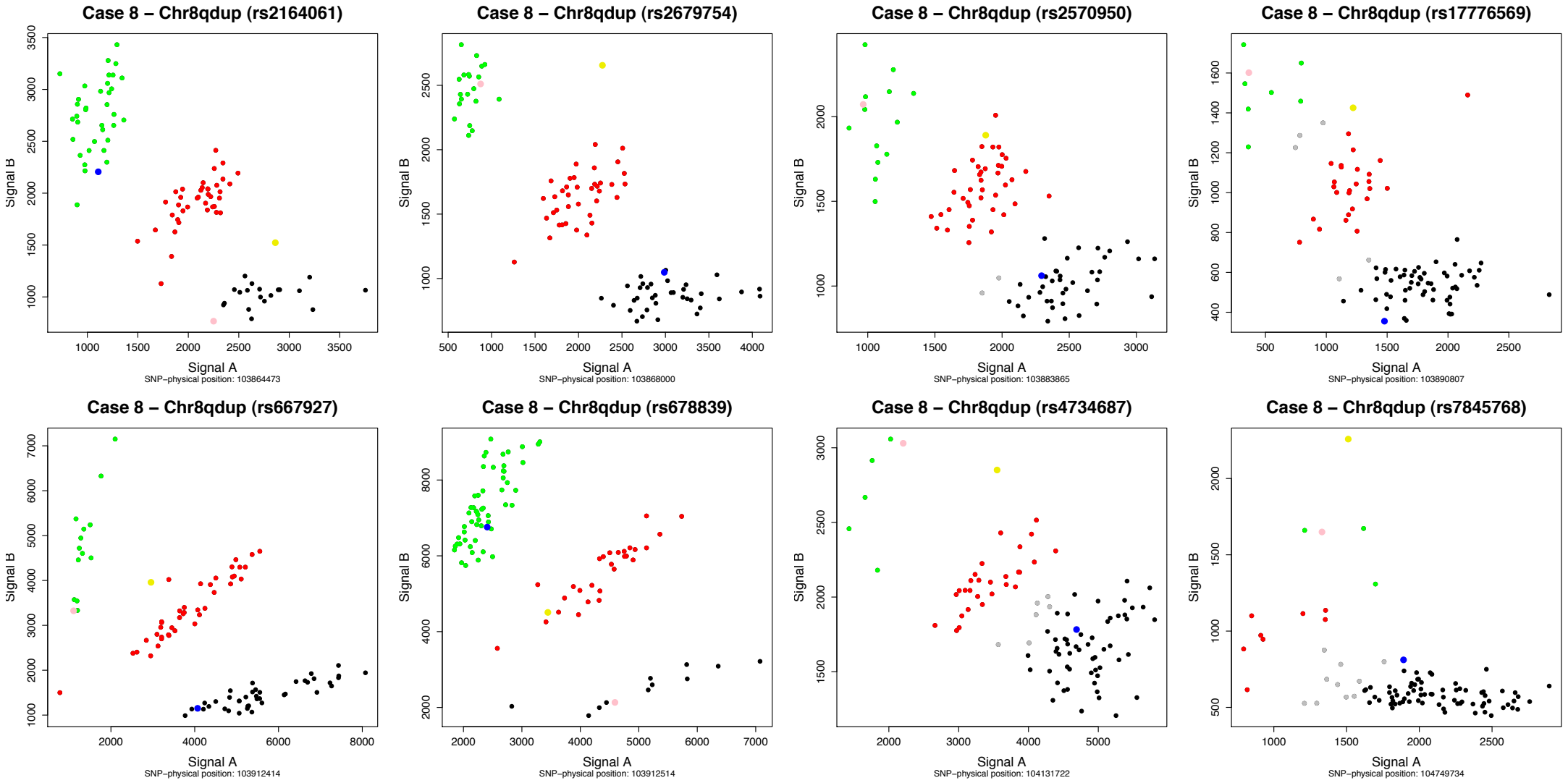

Case 8 – Chr8qdup (rs2555203)
Signal B
Signal A
SNP−physical position: 101528427

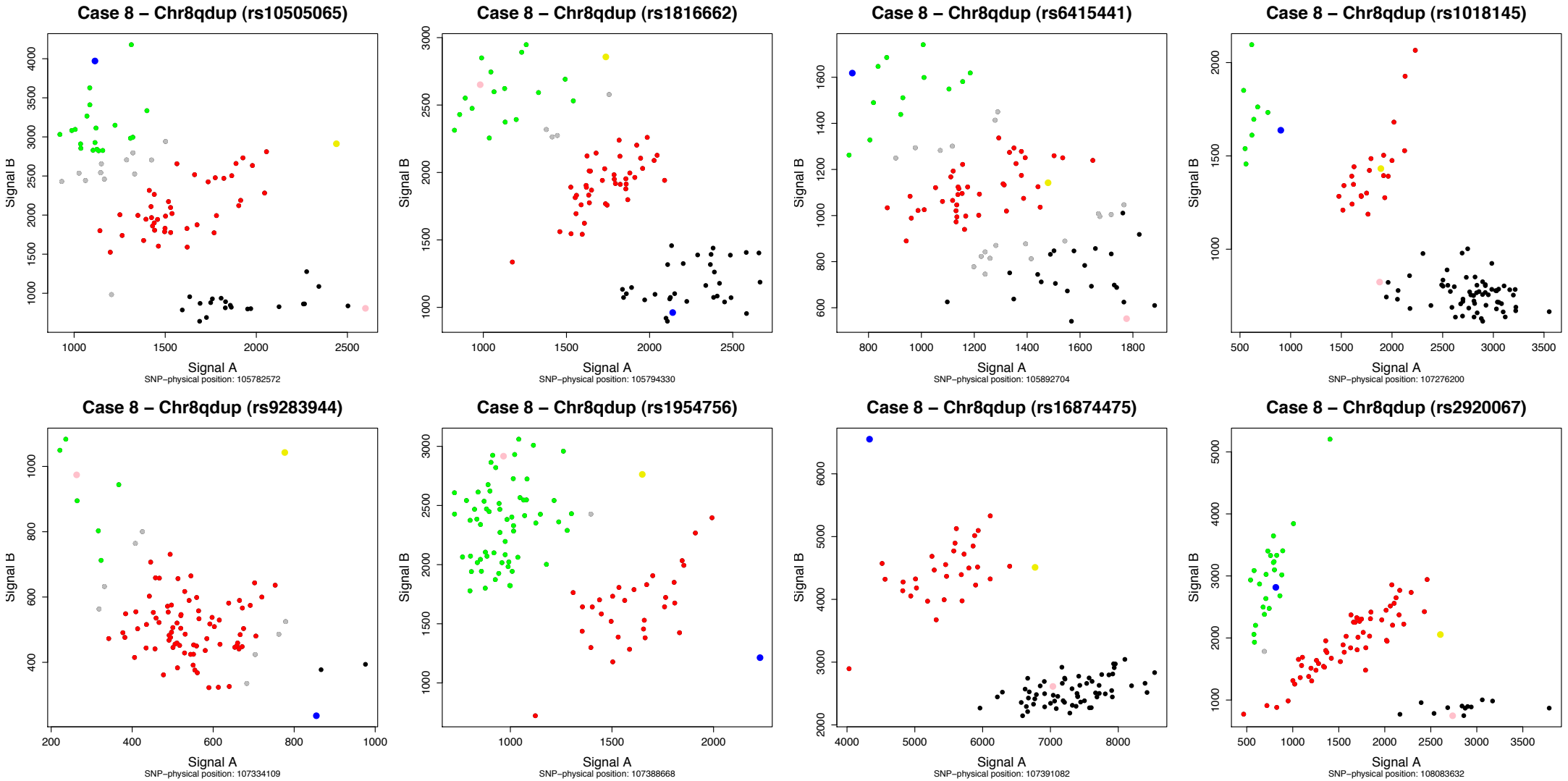

Case 8 – Chr8qdup (rs1470764)
Signal B
Signal A
SNP−physical position: 101950038

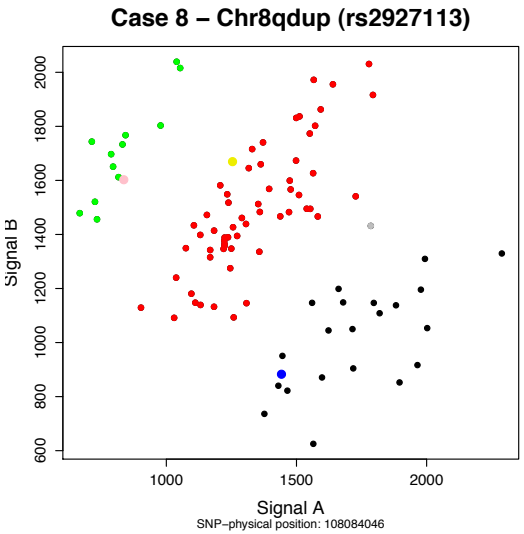

Case 8 – Chr8qdup (rs7831664)
Signal B
Signal A
SNP−physical position: 103053291

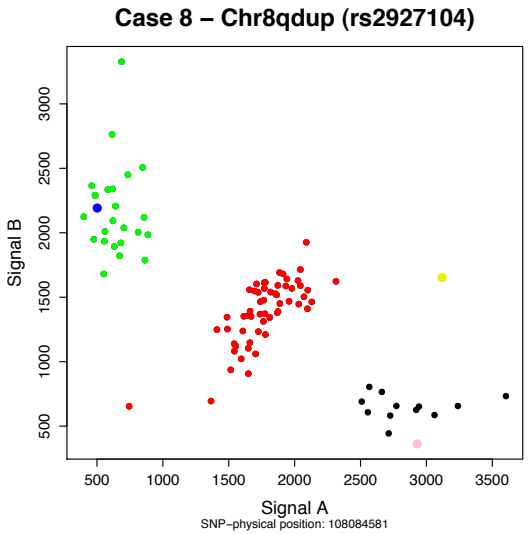

Case 8 – Chr8qdup (rs998200)
Signal B
Signal A
SNP−physical position: 103566226

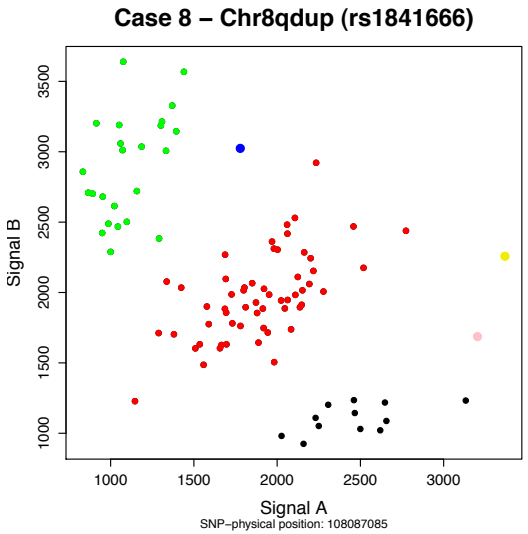

Case 8 – Chr8qdup (rs2248178)
Signal B
Signal A
SNP–physical position: 103569098
Case 8 – Chr8qdup (rs2248172)
Signal B
Signal A
SNP–physical position: 103569179
Case 8 – Chr8qdup (rs2436893)
Signal B
Signal A
SNP–physical position: 103574663
Case 8 – Chr8qdup (rs2511745)
Signal B
Signal A
SNP–physical position: 103584390
Case 8 – Chr8qdup (rs2511748)
Signal B
Signal A
SNP–physical position: 103585093
Case 8 – Chr8qdup (rs2679749)
Signal B
Signal A
SNP–physical position: 103858488
Case 8 – Chr8qdup (rs2679752)
Signal B
Signal A
SNP–physical position: 103864118
Case 8 – Chr8qdup (rs1019976)
Signal B
Signal A
SNP–physical position: 103864271

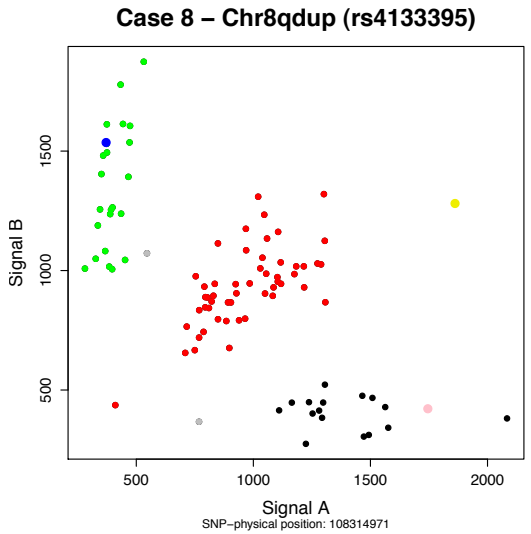

Case 8 – Chr8qdup (rs2164061)
Signal B
Signal A
SNP−physical position: 103864473
Case 8 – Chr8qdup (rs2679754)
Signal B
Signal A
SNP−physical position: 103868000
Case 8 – Chr8qdup (rs2570950)
Signal B
Signal A
SNP−physical position: 103883865
Case 8 – Chr8qdup (rs17776569)
Signal B
Signal A
SNP−physical position: 103890807
Case 8 – Chr8qdup (rs667927)
Signal B
Signal A
SNP−physical position: 103912414
Case 8 – Chr8qdup (rs678839)
Signal B
Signal A
SNP−physical position: 103912514
Case 8 – Chr8qdup (rs4734687)
Signal B
Signal A
SNP−physical position: 104131722
Case 8 – Chr8qdup (rs7845768)
Signal B
Signal A
SNP−physical position: 104749734

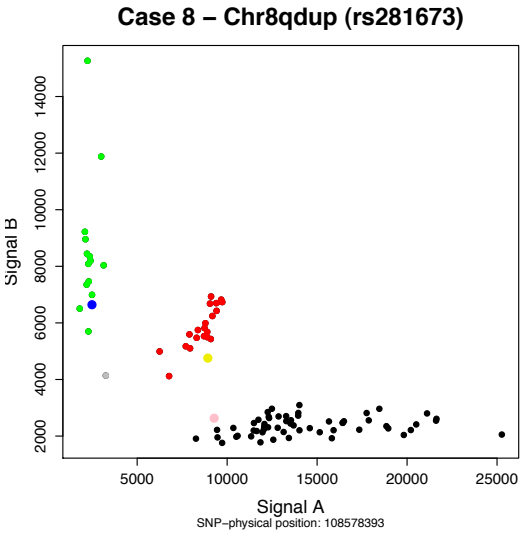

Case 8 – Chr8qdup (rs10505065)
Signal B
Signal A
SNP–physical position: 105782572
Case 8 – Chr8qdup (rs1816662)
Signal B
Signal A
SNP–physical position: 105794330
Case 8 – Chr8qdup (rs6415441)
Signal B
Signal A
SNP–physical position: 105892704
Case 8 – Chr8qdup (rs1018145)
Signal B
Signal A
SNP–physical position: 107276200
Case 8 – Chr8qdup (rs9283944)
Signal B
Signal A
SNP–physical position: 107334109
Case 8 – Chr8qdup (rs1954756)
Signal B
Signal A
SNP–physical position: 107388668
Case 8 – Chr8qdup (rs16874475)
Signal B
Signal A
SNP–physical position: 107391082
Case 8 – Chr8qdup (rs2920067)
Signal B
Signal A
SNP–physical position: 108083632

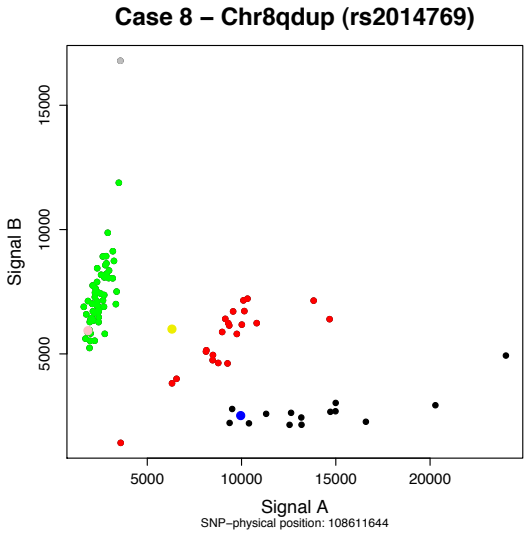

Case 8 – Chr8qdup (rs2927113)
Signal B
Signal A
SNP–physical position: 108084046

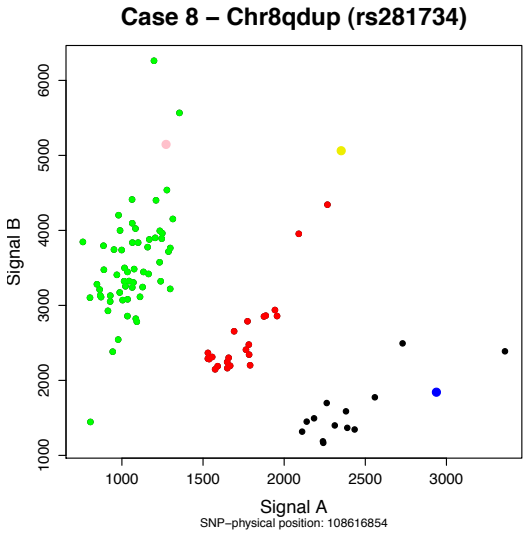

Case 8 – Chr8qdup (rs2927104)
Signal B
Signal A
SNP–physical position: 108084581

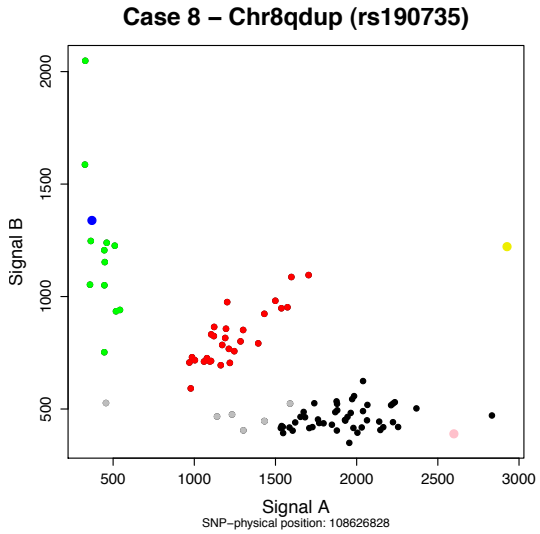

Case 8 – Chr8qdup (rs1841666)
Signal B
Signal A
SNP–physical position: 108087085

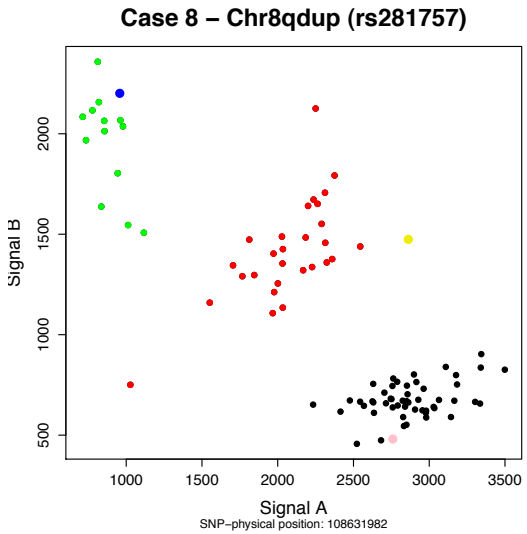

Case 8 – Chr8qdup (rs4133395)
Signal B
Signal A
SNP–physical position: 108314971

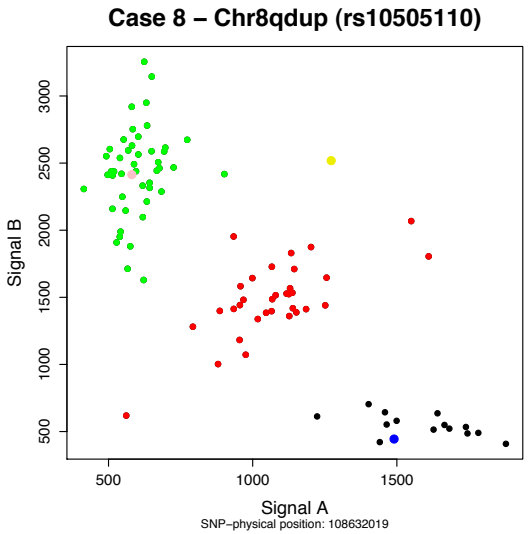

Case 8 – Chr8qdup (rs281673)
Signal B
Signal A
SNP–physical position: 108578393

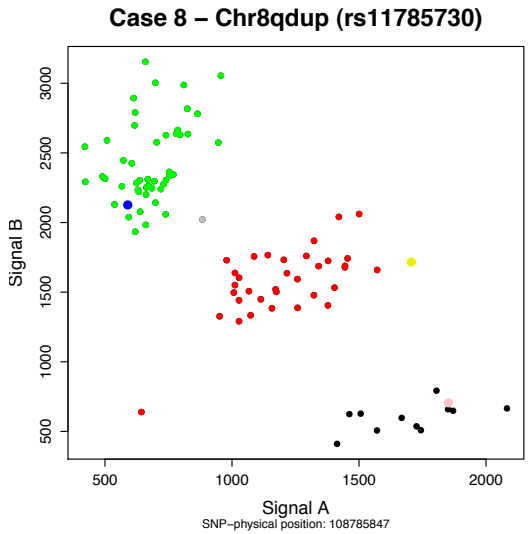

Case 8 – Chr8qdup (rs2014769)
Signal B
Signal A
SNP–physical position: 108611644

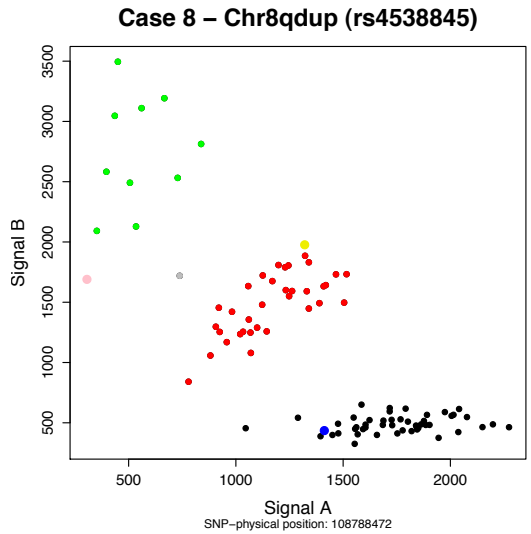

Case 8 – Chr8qdup (rs281734)
Signal B
Signal A
SNP–physical position: 108616854

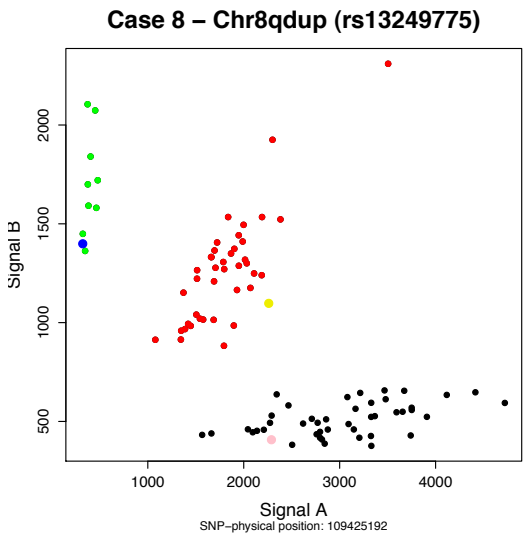

Case 8 – Chr8qdup (rs190735)
Signal B
Signal A
SNP–physical position: 108626828

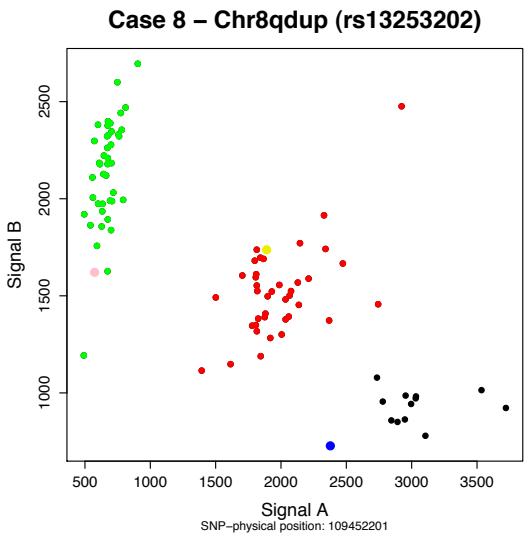

Case 8 – Chr8qdup (rs281757)
Signal B
Signal A
SNP−physical position: 108631982

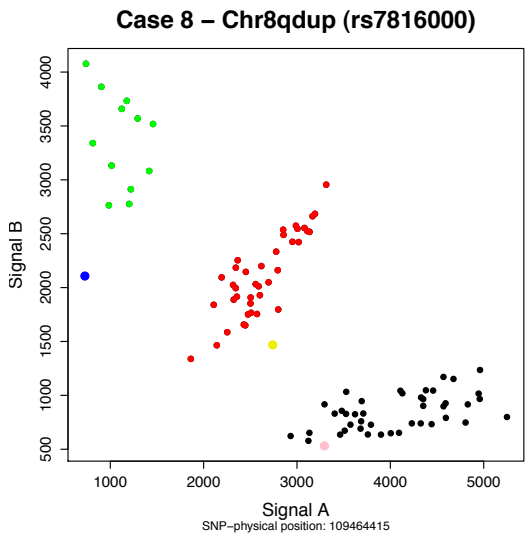

Case 8 – Chr8qdup (rs10505110)
Signal B
Signal A
SNP−physical position: 108632019

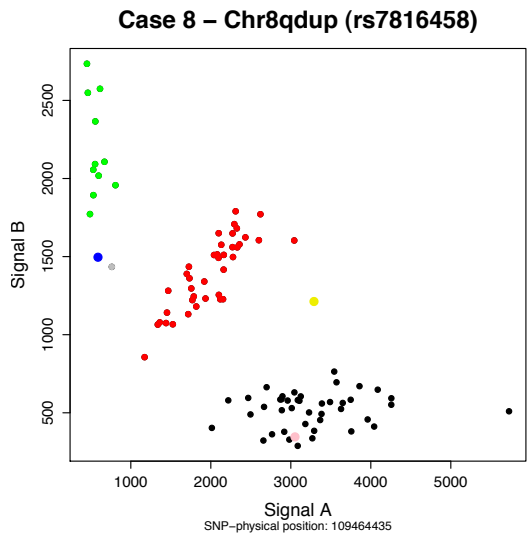

Case 8 – Chr8qdup (rs11785730)
Signal B
Signal A
SNP−physical position: 108785847

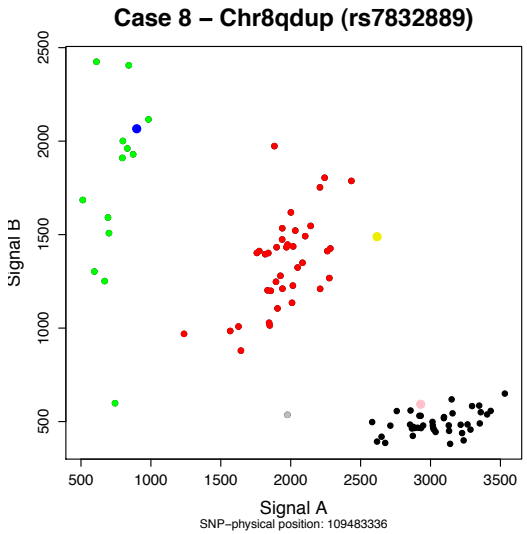

Case 8 – Chr8qdup (rs4538845)
Signal B
Signal A
SNP−physical position: 108788472

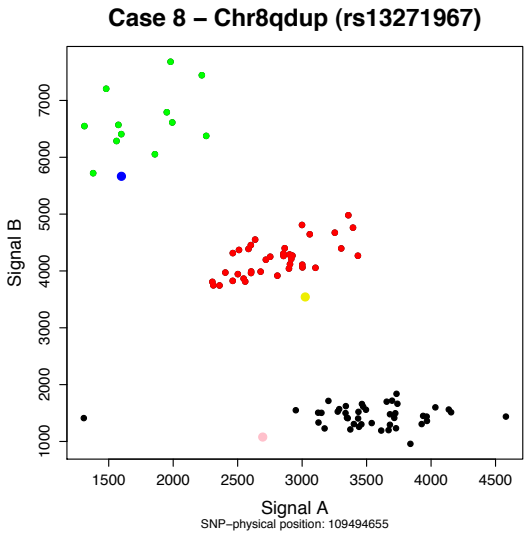

Case 8 – Chr8qdup (rs13249775)
Signal B
Signal A
SNP−physical position: 109425192

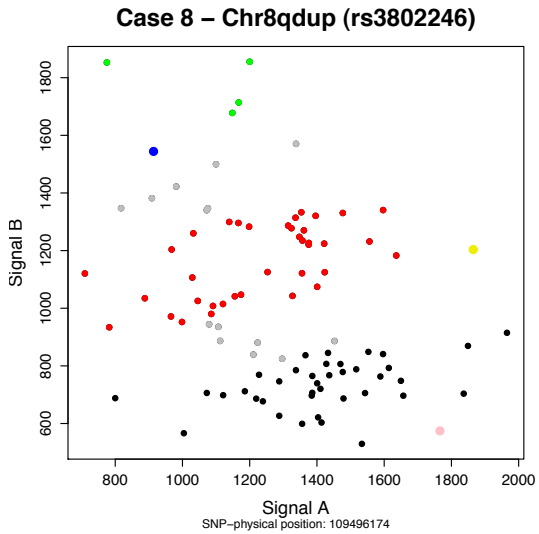

Case 8 – Chr8qdup (rs13253202)
Signal B
Signal A
SNP−physical position: 109452201

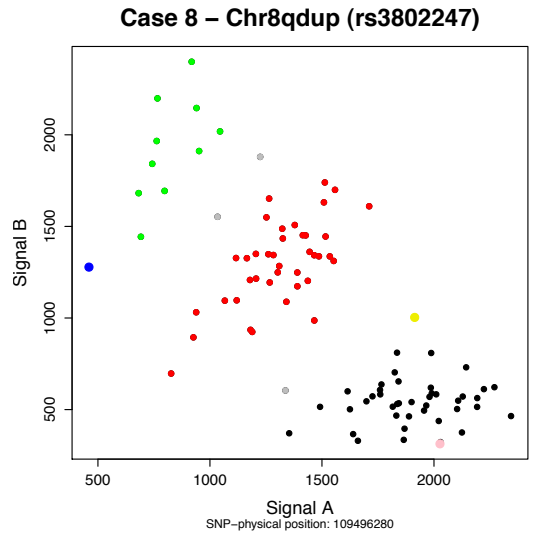

Case 8 – Chr8qdup (rs7816000)
Signal B
Signal A
SNP−physical position: 109464415

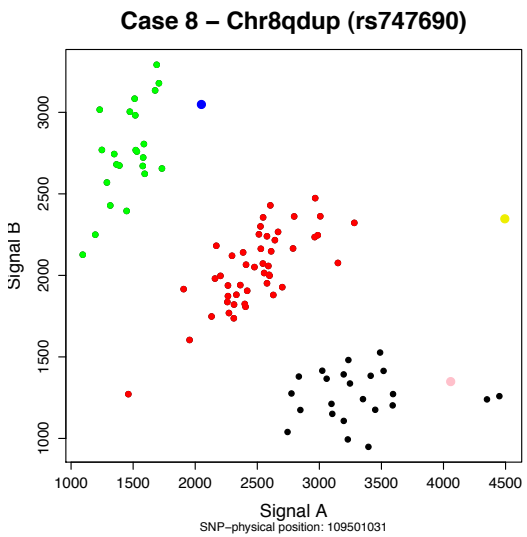

Case 8 – Chr8qdup (rs7816458)
Signal B
Signal A
SNP−physical position: 109464435

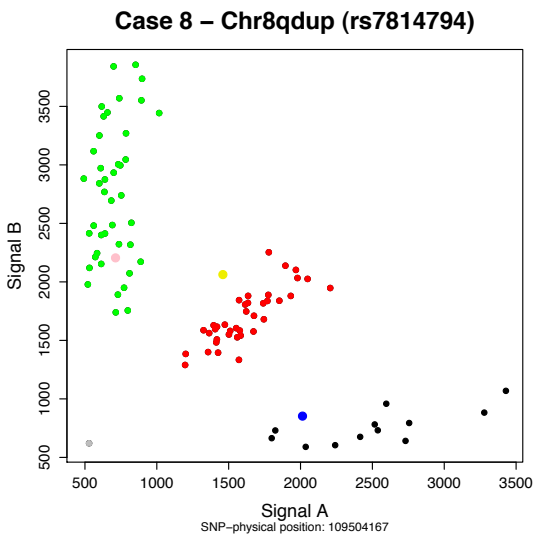

Case 8 – Chr8qdup (rs7832889)
Signal B
Signal A
SNP−physical position: 109483336

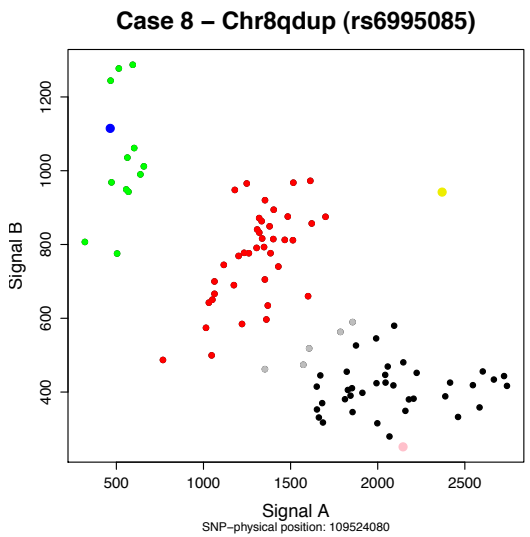

Case 8 – Chr8qdup (rs13271967)
Signal B
Signal A
SNP−physical position: 109494655

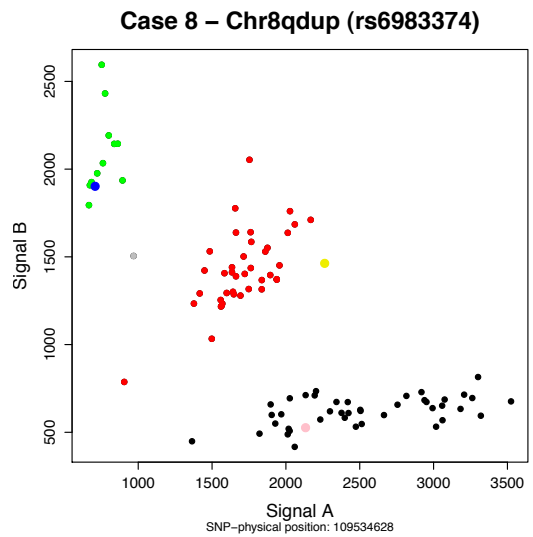

Case 8 – Chr8qdup (rs3802246)
Signal B
Signal A
SNP−physical position: 109496174

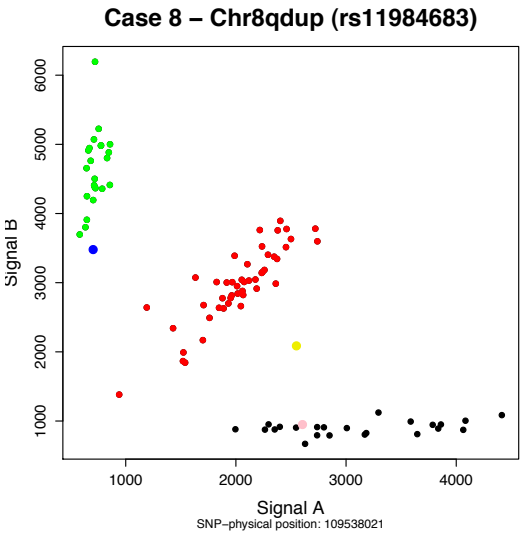

Case 8 – Chr8qdup (rs3802247)
Signal B
Signal A
SNP−physical position: 109496280

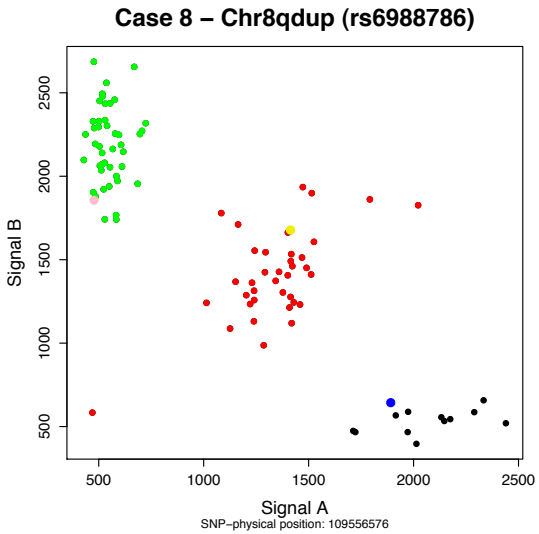

Case 8 – Chr8qdup (rs747690)
Signal B
Signal A
SNP−physical position: 109501031

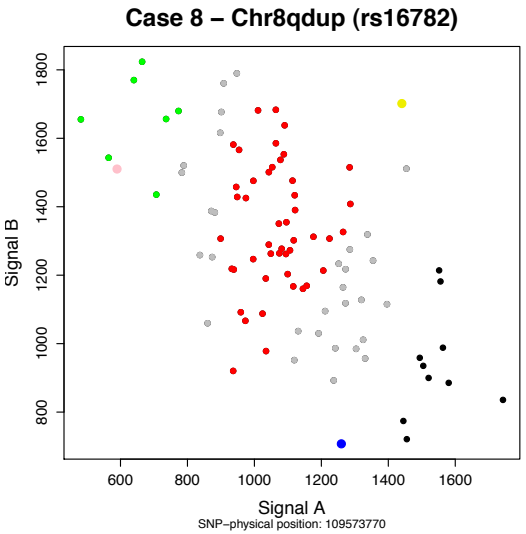

Case 8 – Chr8qdup (rs7814794)
Signal B
Signal A
SNP−physical position: 109504167

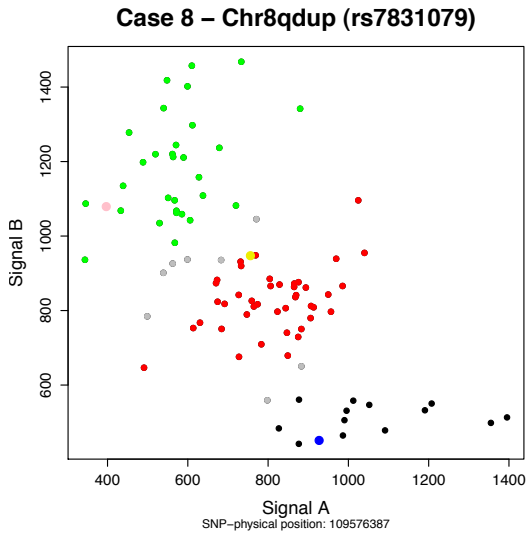

Case 8 – Chr8qdup (rs6995085)
Signal B
Signal A
SNP−physical position: 109524080

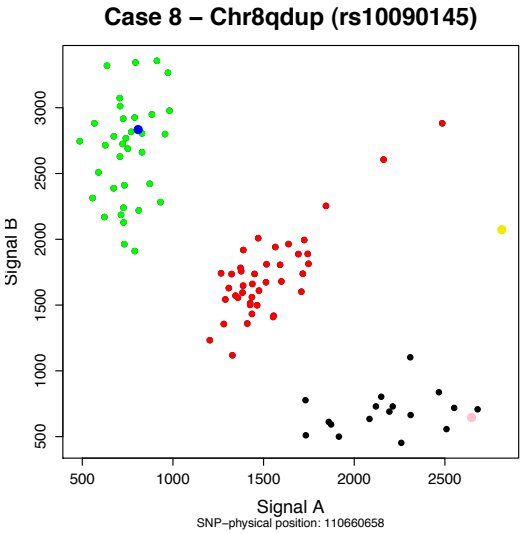

Case 8 – Chr8qdup (rs6983374)
Signal B
Signal A
SNP−physical position: 109534628

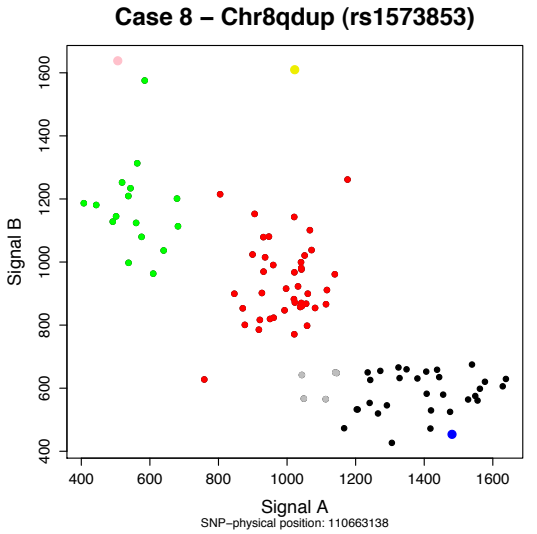

Case 8 – Chr8qdup (rs11984683)
Signal B
Signal A
SNP−physical position: 109538021

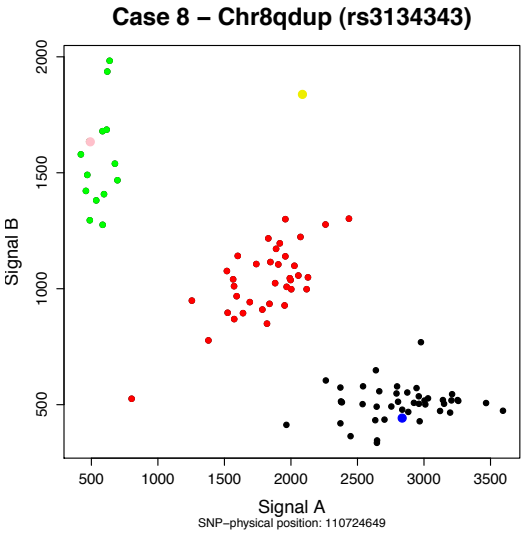

Case 8 – Chr8qdup (rs6988786)
Signal B
Signal A
SNP−physical position: 109556576

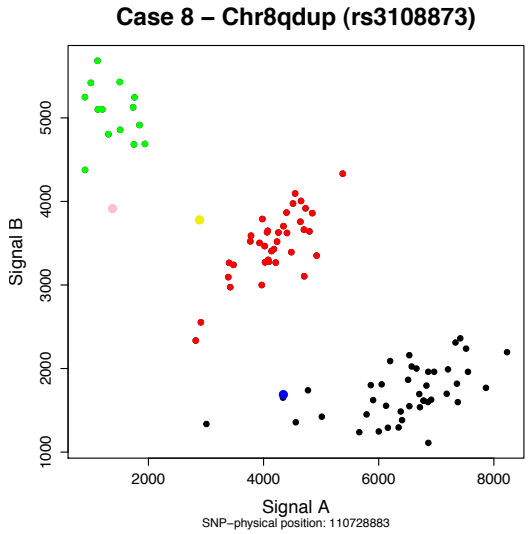

Case 8 – Chr8qdup (rs16782)
Signal B
Signal A
SNP−physical position: 109573770

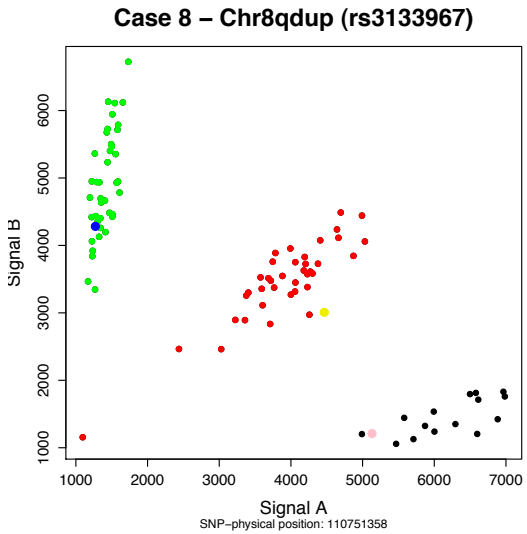

Case 8 – Chr8qdup (rs7831079)
Signal B
Signal A
SNP−physical position: 109576387

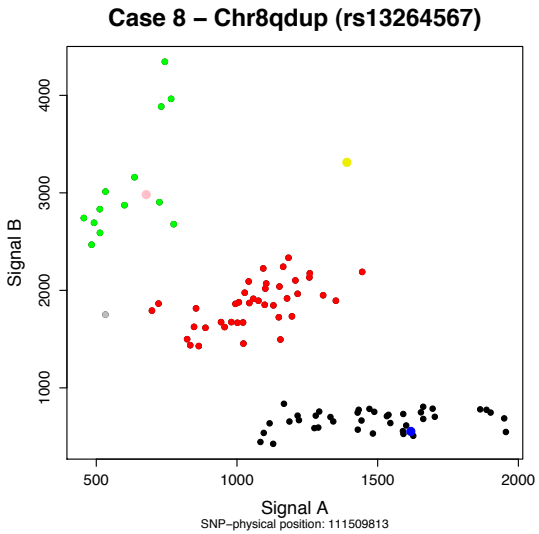

Case 8 – Chr8qdup (rs10090145)
Signal B
Signal A
SNP−physical position: 110660658

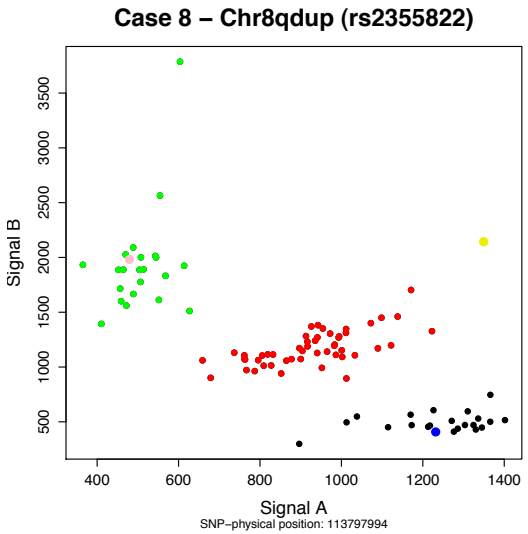

Case 8 – Chr8qdup (rs1573853)
Signal B
Signal A
SNP−physical position: 110663138

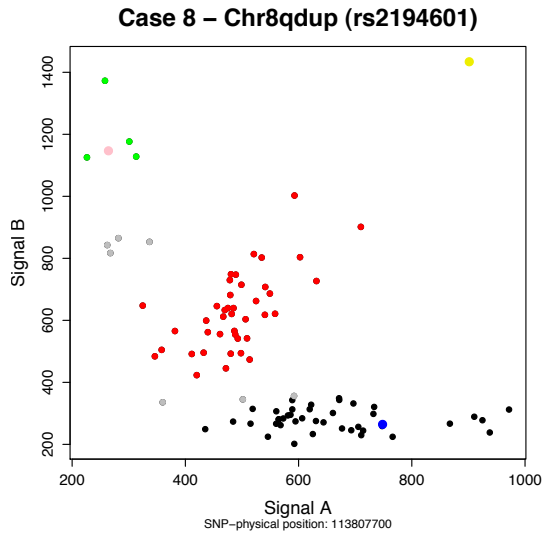

Case 8 – Chr8qdup (rs3134343)
Signal B
Signal A
SNP−physical position: 110724649

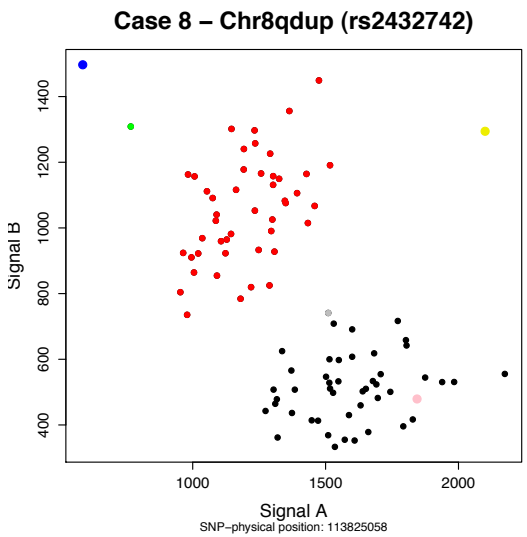

Case 8 – Chr8qdup (rs3108873)
Signal B
Signal A
SNP−physical position: 110728883

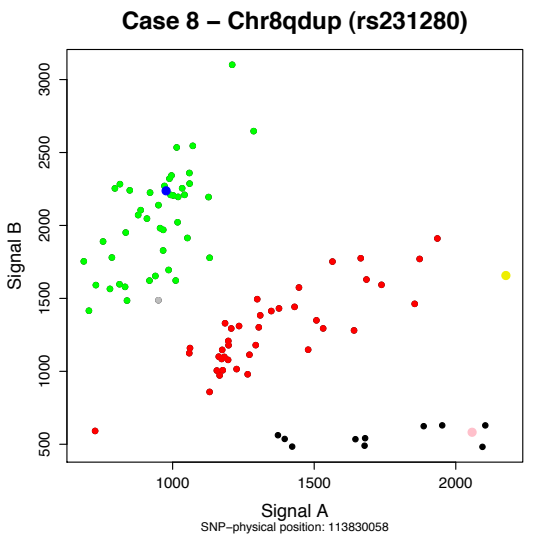

Case 8 – Chr8qdup (rs3133967)
Signal B
Signal A
SNP−physical position: 110751358

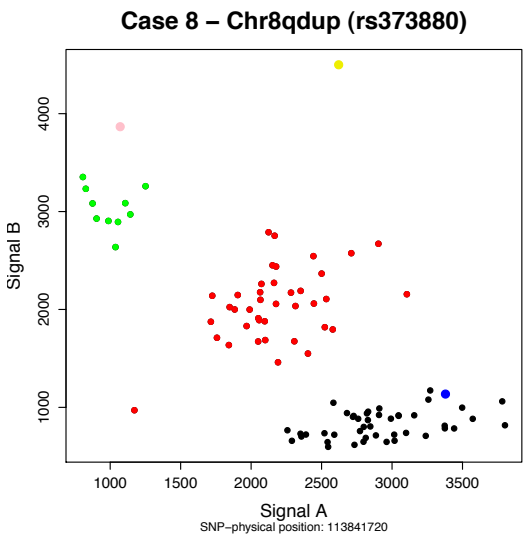

Case 8 – Chr8qdup (rs13264567)
Signal B
Signal A
SNP−physical position: 111509813

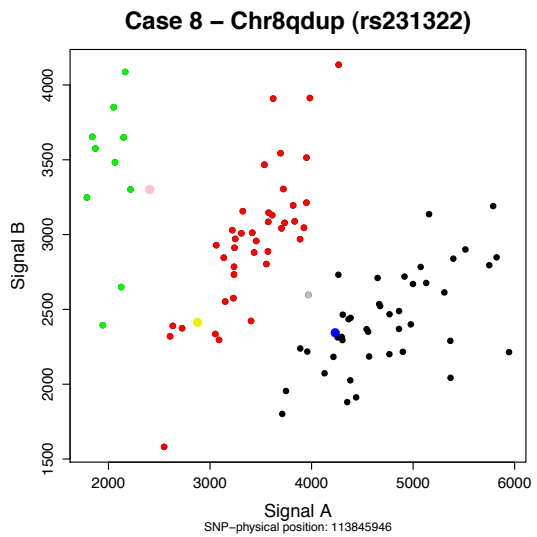

Case 8 – Chr8qdup (rs2355822)
Signal B
Signal A
SNP−physical position: 113797994

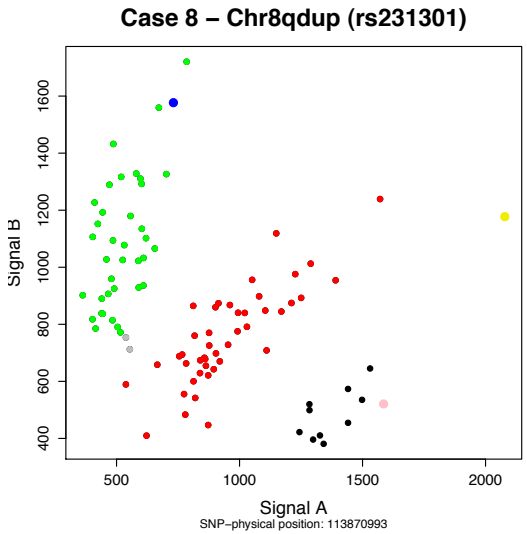

Case 8 – Chr8qdup (rs2194601)
Signal B
Signal A
SNP−physical position: 113807700

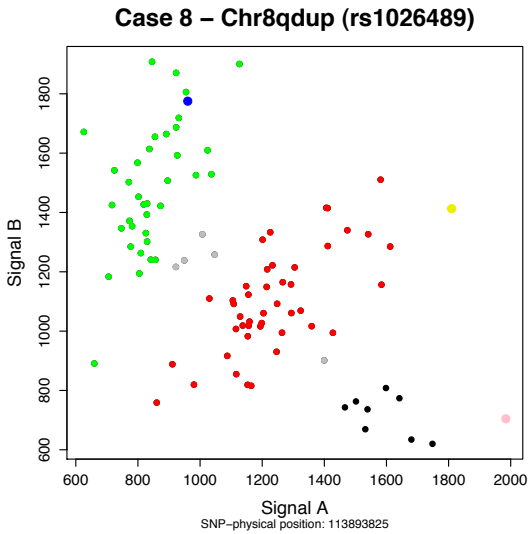

Case 8 – Chr8qdup (rs2432742)
Signal B
Signal A
SNP−physical position: 113825058

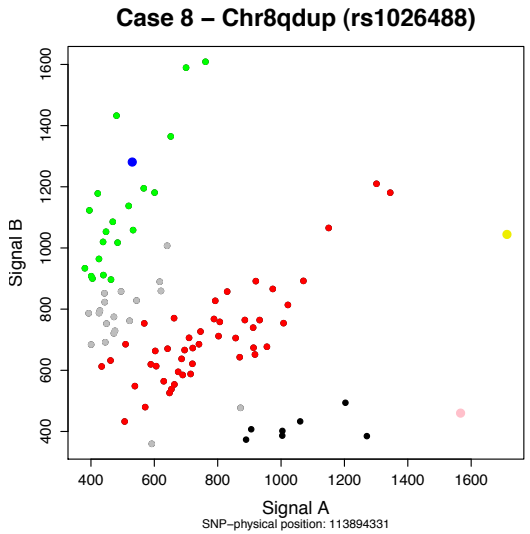

Case 8 – Chr8qdup (rs231280)
Signal B
Signal A
SNP−physical position: 113830058

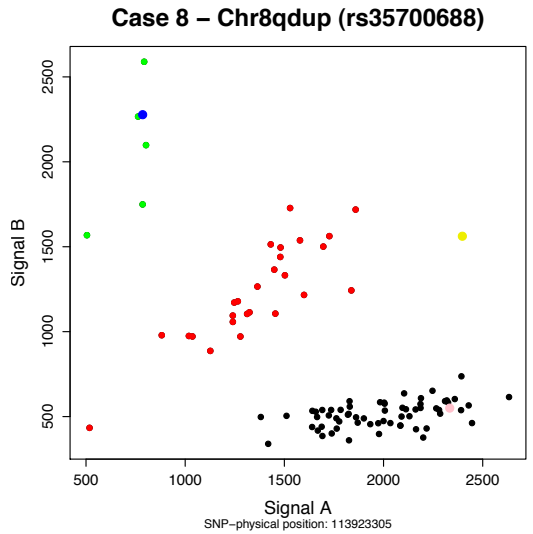

Case 8 – Chr8qdup (rs373880)
Signal B
Signal A
SNP−physical position: 113841720

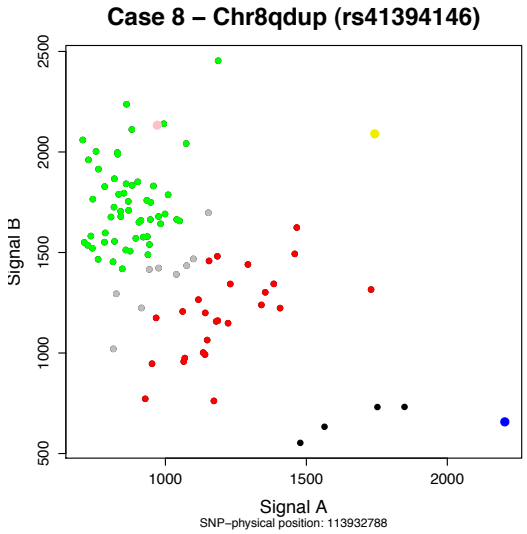

Case 8 – Chr8qdup (rs231322)
Signal B
Signal A
SNP−physical position: 113845946

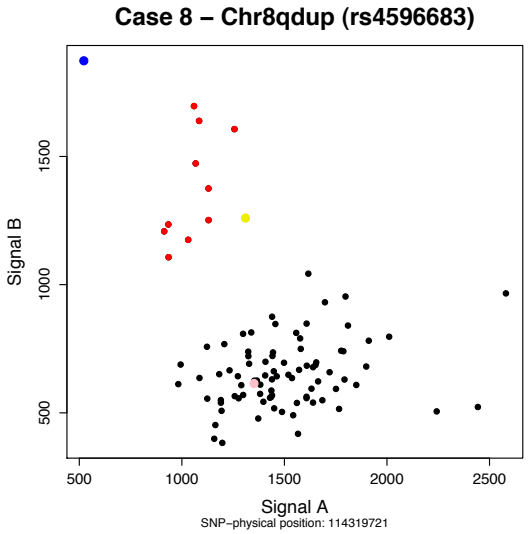

Case 8 – Chr8qdup (rs231301)
Signal B
Signal A
SNP–physical position: 113870993

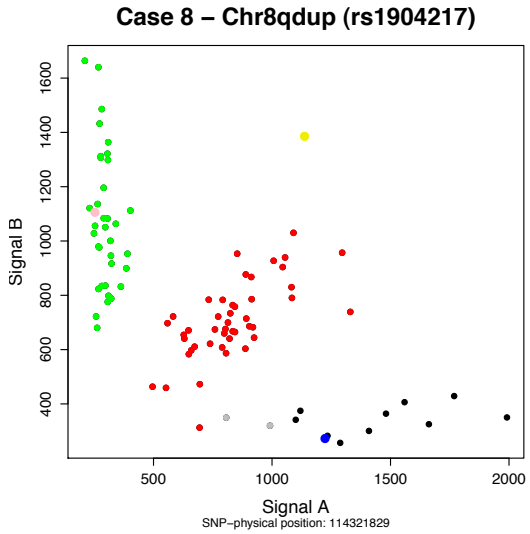

Case 8 – Chr8qdup (rs1026489)
Signal B
Signal A
SNP–physical position: 113893825

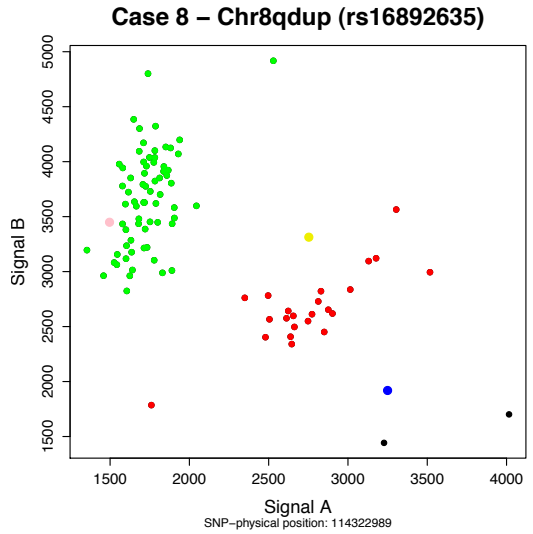

Case 8 – Chr8qdup (rs1026488)
Signal B
Signal A
SNP–physical position: 113894331

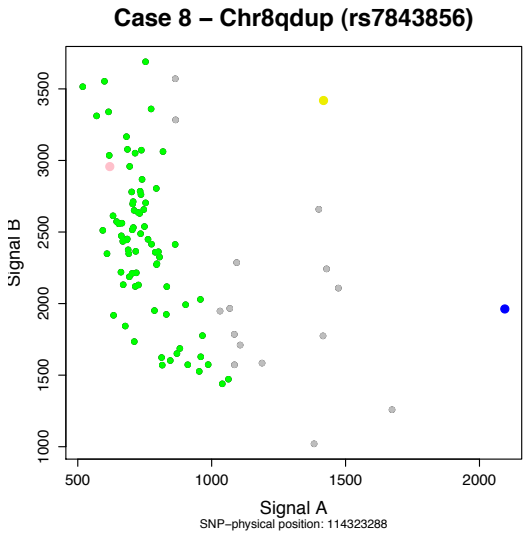

Case 8 – Chr8qdup (rs35700688)
Signal B
Signal A
SNP–physical position: 113923305

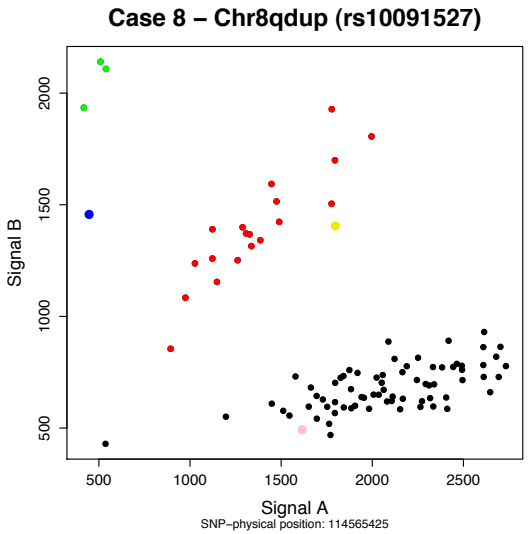

Case 8 – Chr8qdup (rs41394146)
Signal B
Signal A
SNP–physical position: 113932788

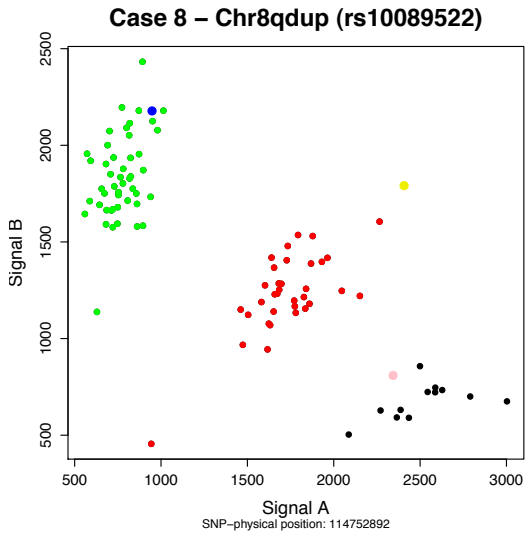

Case 8 – Chr8qdup (rs4596683)
Signal B
Signal A
SNP–physical position: 114319721

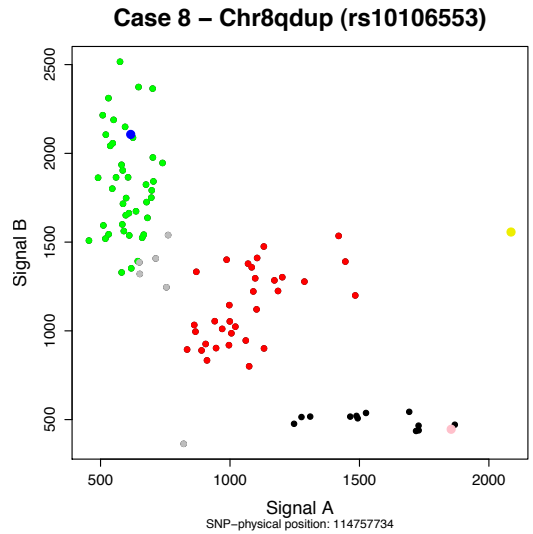

Case 8 – Chr8qdup (rs1904217)
Signal B
Signal A
SNP–physical position: 114321829

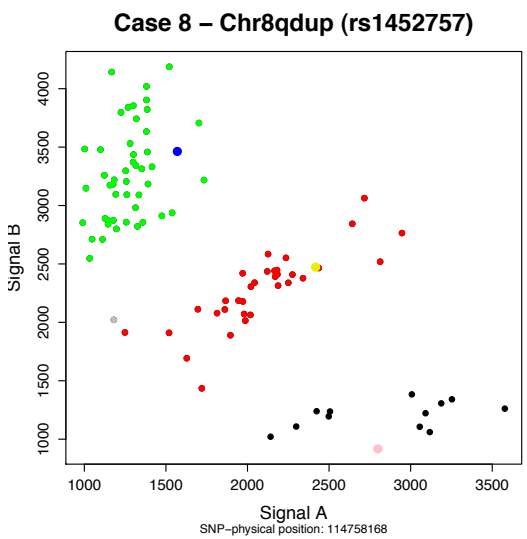

Case 8 – Chr8qdup (rs16892635)
Signal B
Signal A
SNP–physical position: 114322989

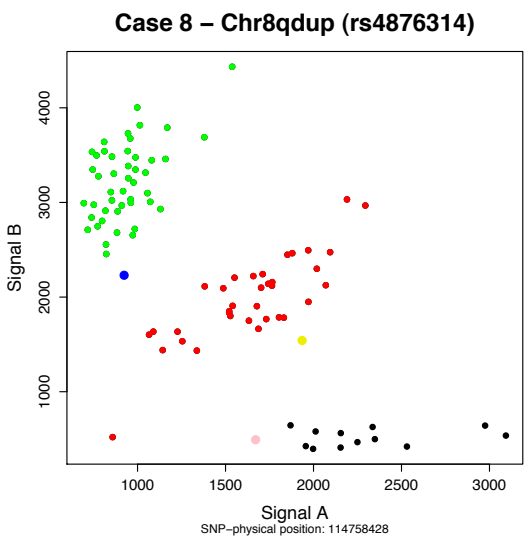

Case 8 – Chr8qdup (rs7843856)
Signal B
Signal A
SNP−physical position: 114323288

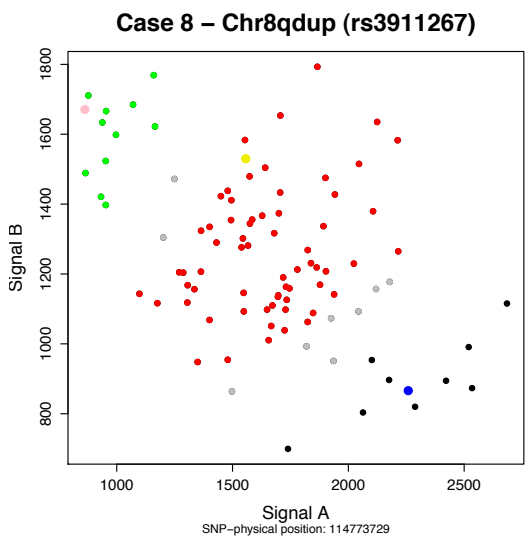

Case 8 – Chr8qdup (rs10091527)
Signal B
Signal A
SNP−physical position: 114565425

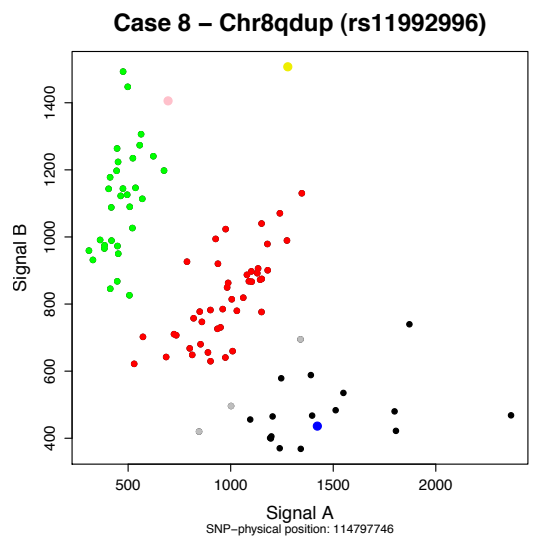

Case 8 – Chr8qdup (rs10089522)
Signal B
Signal A
SNP−physical position: 114752892

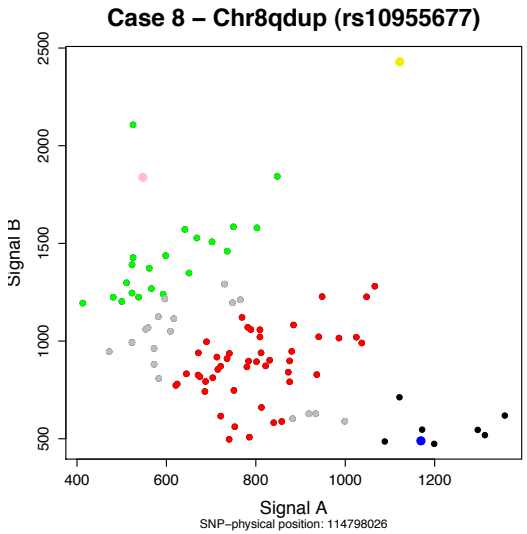

Case 8 – Chr8qdup (rs10106553)
Signal B
Signal A
SNP−physical position: 114757734

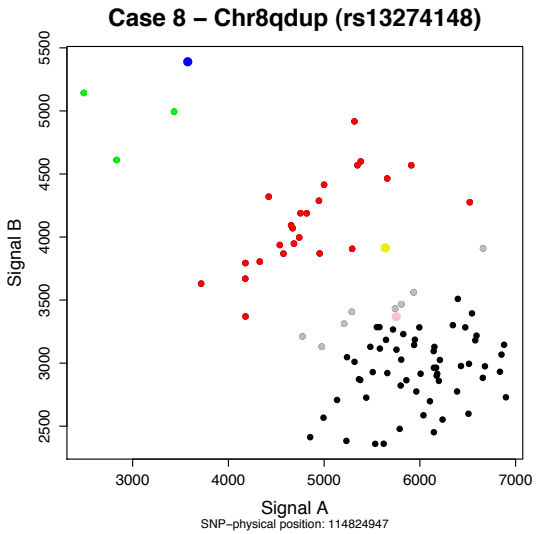

Case 8 – Chr8qdup (rs1452757)
Signal B
Signal A
SNP−physical position: 114758168

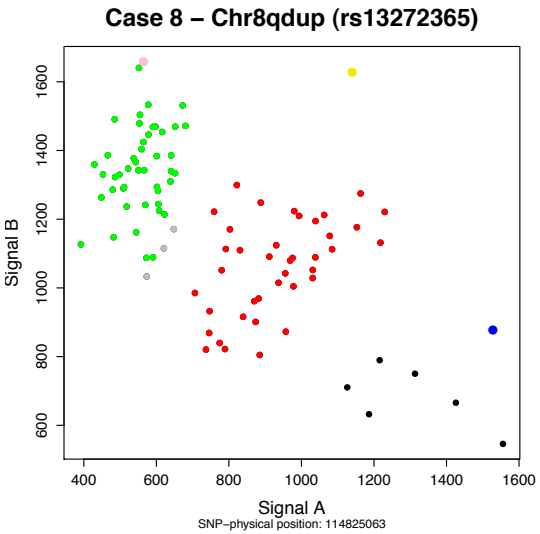

Case 8 – Chr8qdup (rs4876314)
Signal B
Signal A
SNP−physical position: 114758428

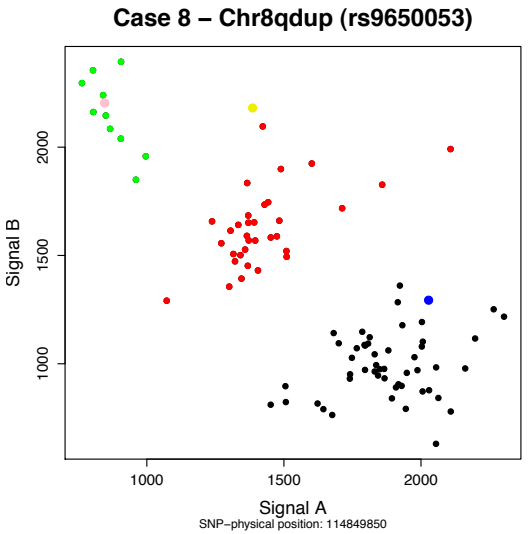

Case 8 – Chr8qdup (rs3911267)
Signal B
Signal A
SNP−physical position: 114773729

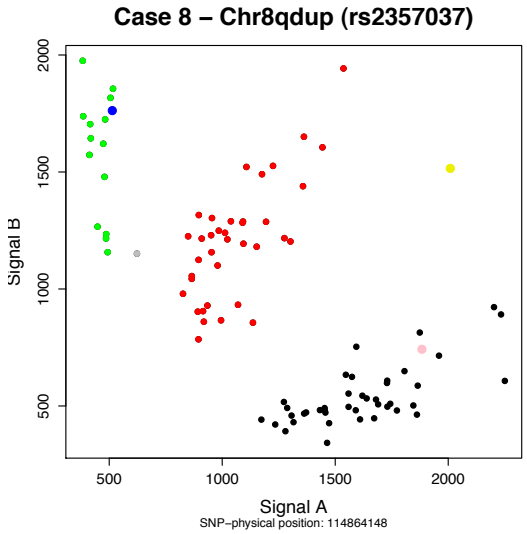

Case 8 – Chr8qdup (rs11992996)
Signal B
Signal A
SNP−physical position: 114797746

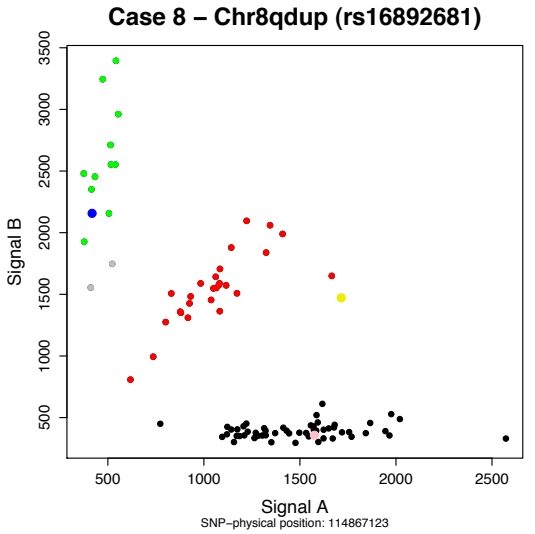

Case 8 – Chr8qdup (rs10955677)
Signal B
Signal A
SNP−physical position: 114798026

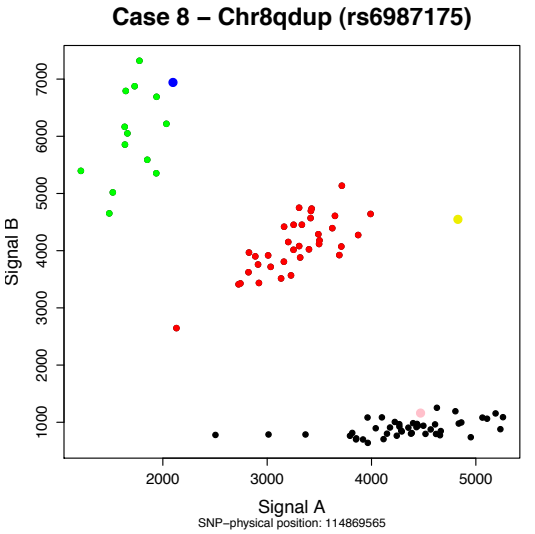

Case 8 – Chr8qdup (rs13274148)
Signal B
Signal A
SNP−physical position: 114824947

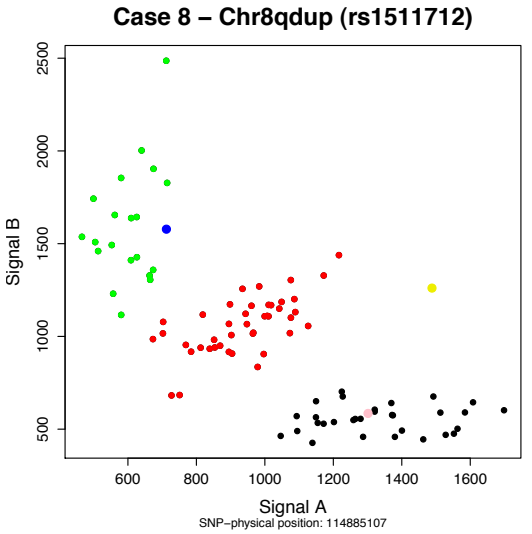

Case 8 – Chr8qdup (rs13272365)
Signal B
Signal A
SNP−physical position: 114825063

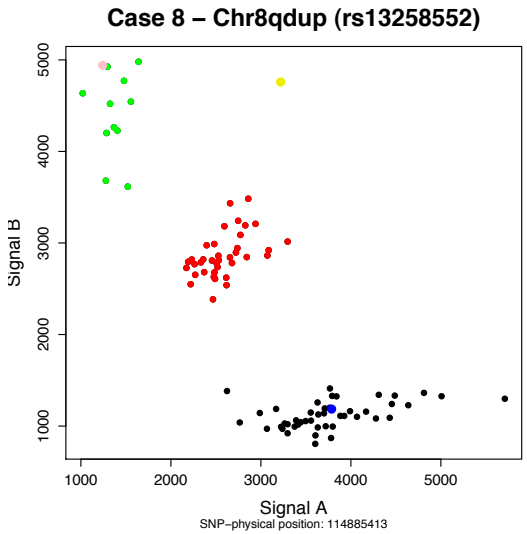

Case 8 – Chr8qdup (rs9650053)
Signal B
Signal A
SNP−physical position: 114849850

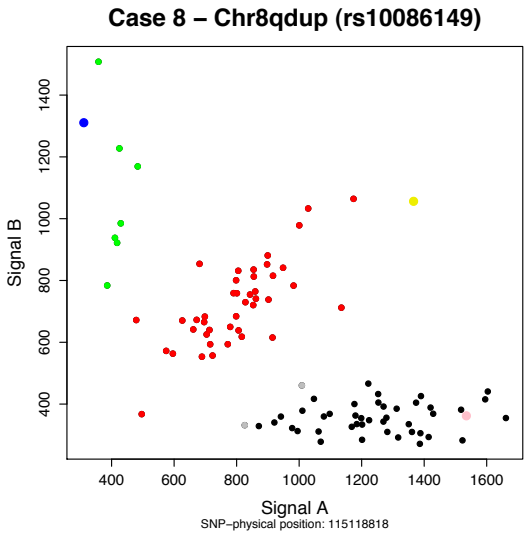

Case 8 – Chr8qdup (rs2357037)
Signal B
Signal A
SNP−physical position: 114864148

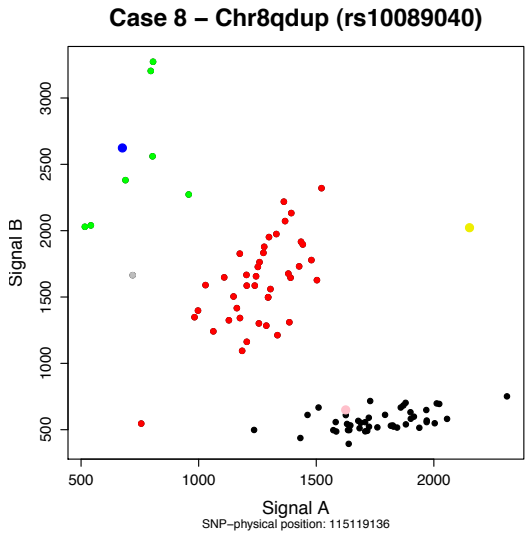

Case 8 – Chr8qdup (rs16892681)
Signal B
Signal A
SNP−physical position: 114867123

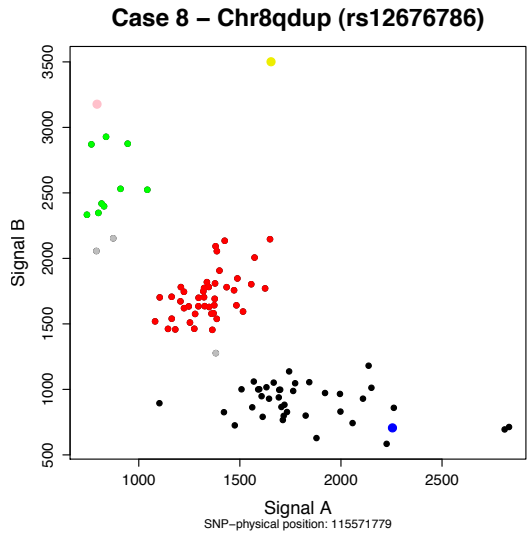

Case 8 – Chr8qdup (rs6987175)
Signal B
Signal A
SNP−physical position: 114869565

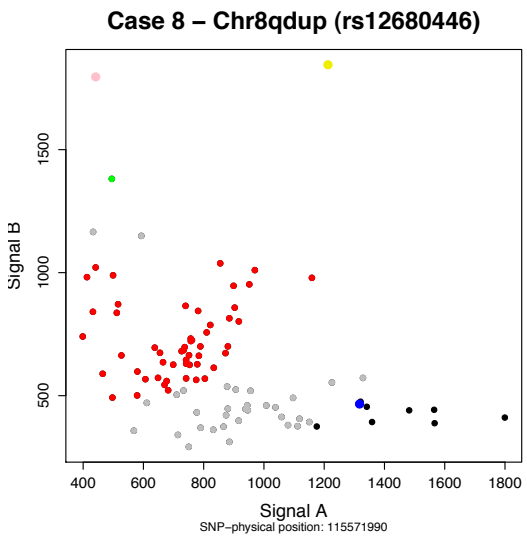

Case 8 – Chr8qdup (rs1511712)
Signal B
Signal A
SNP−physical position: 114885107

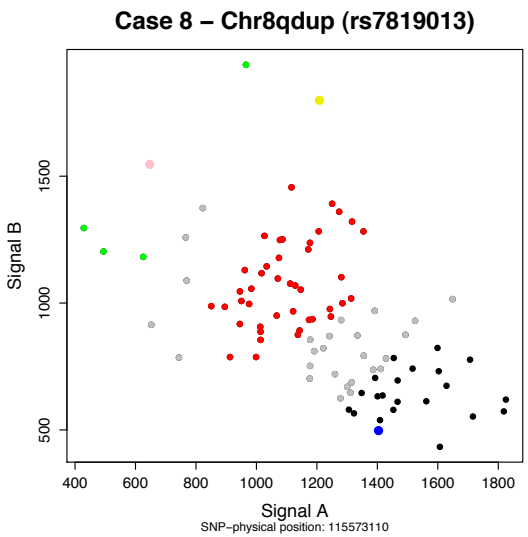

Case 8 – Chr8qdup (rs13258552)
Signal B
Signal A
SNP−physical position: 114885413

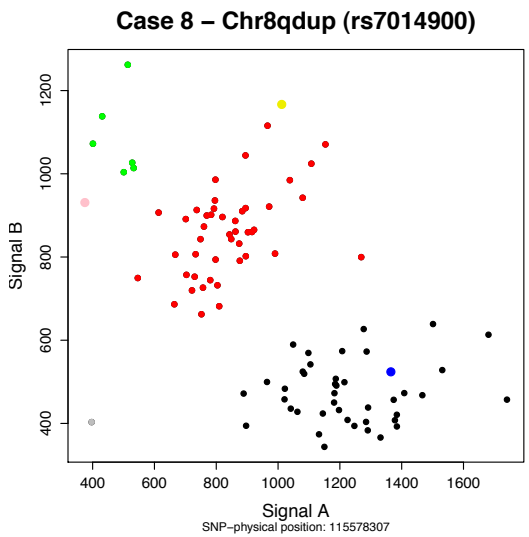

Case 8 – Chr8qdup (rs10086149)
Signal B
Signal A
SNP−physical position: 115118818

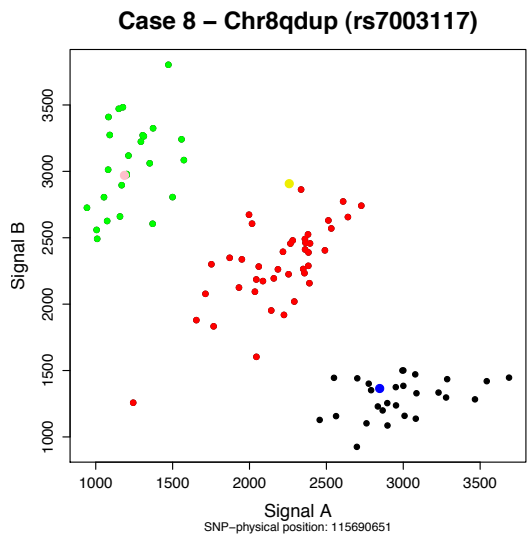

Case 8 – Chr8qdup (rs10089040)
Signal B
Signal A
SNP−physical position: 115119136

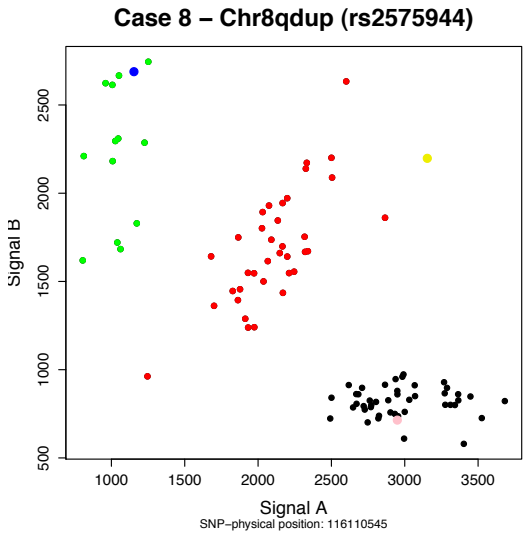

Case 8 – Chr8qdup (rs12676786)
Signal B
Signal A
SNP−physical position: 115571779

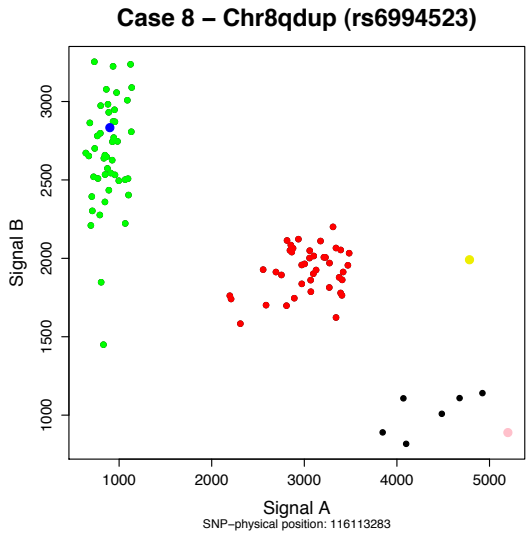

Case 8 – Chr8qdup (rs12680446)
Signal B
Signal A
SNP−physical position: 115571990

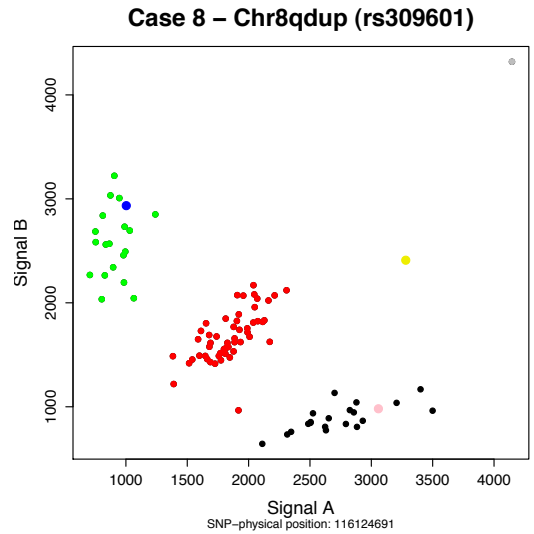

Case 8 – Chr8qdup (rs7819013)
Signal B
Signal A
SNP−physical position: 115573110

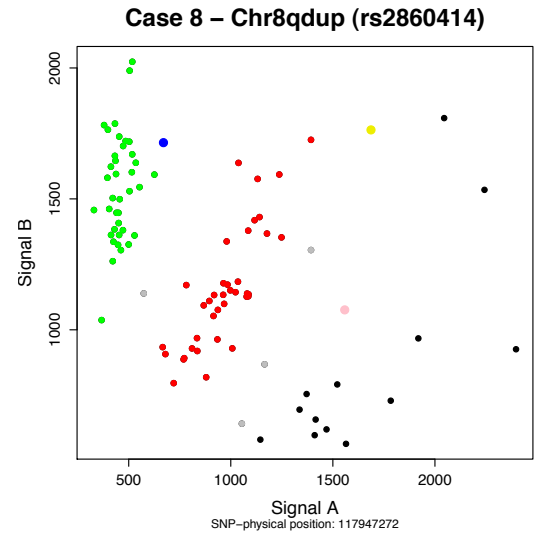

Case 8 – Chr8qdup (rs7014900)
Signal B
Signal A
SNP−physical position: 115578307

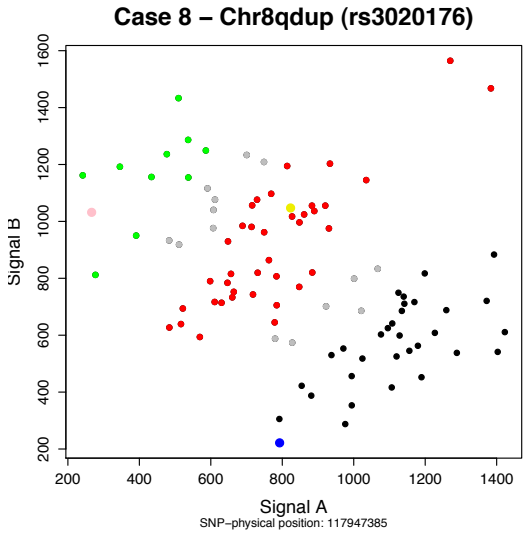

Case 8 – Chr8qdup (rs7003117)
Signal B
Signal A
SNP−physical position: 115690651

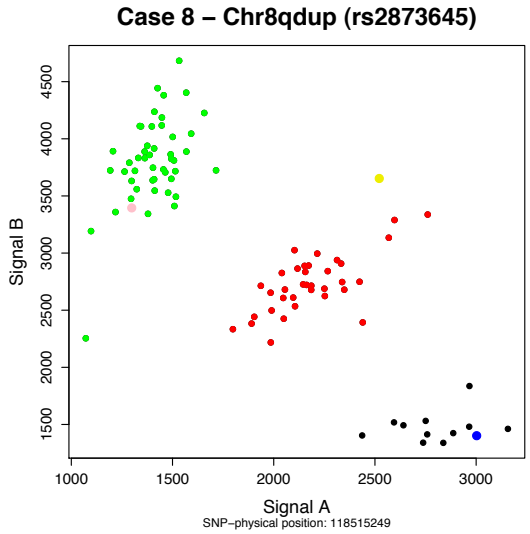

Case 8 – Chr8qdup (rs2575944)
Signal B
Signal A
SNP−physical position: 116110545

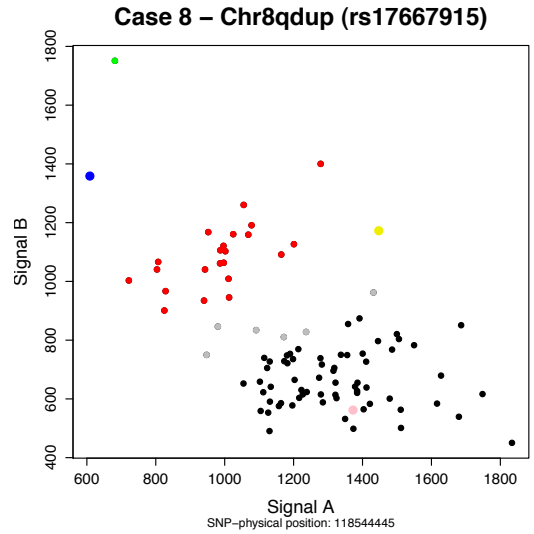

Case 8 – Chr8qdup (rs6994523)
Signal B
Signal A
SNP−physical position: 116113283

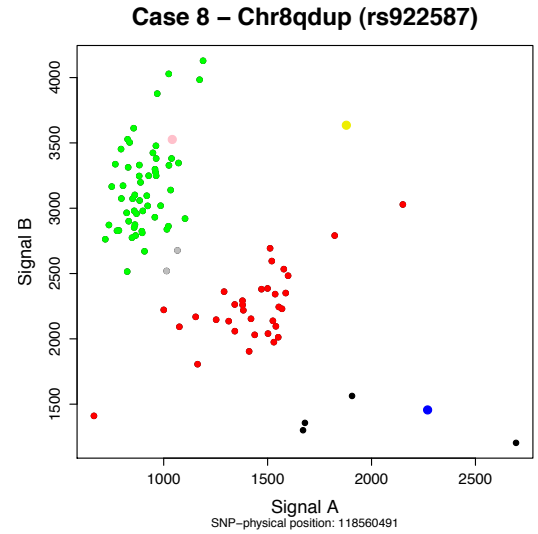

Case 8 – Chr8qdup (rs309601)
Signal B
Signal A
SNP−physical position: 116124691

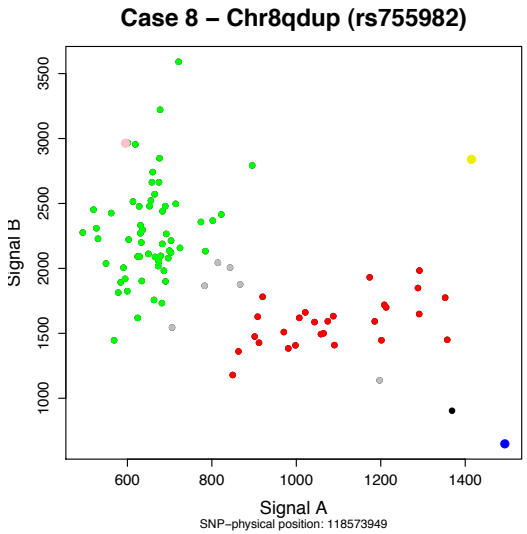

Case 8 – Chr8qdup (rs2860414)
Signal B
Signal A
SNP−physical position: 117947272

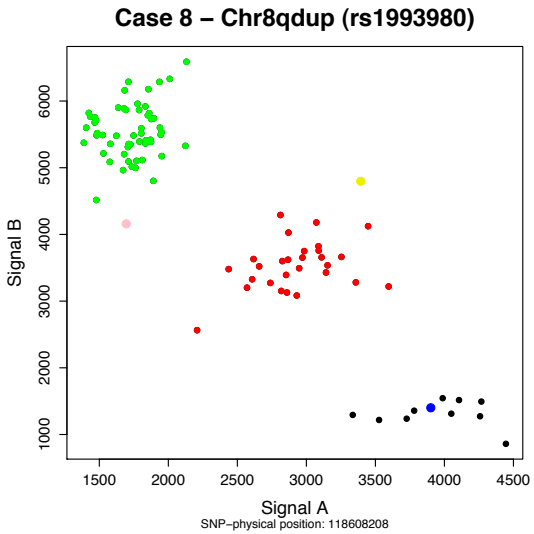

Case 8 – Chr8qdup (rs3020176)
Signal B
Signal A
SNP−physical position: 117947385

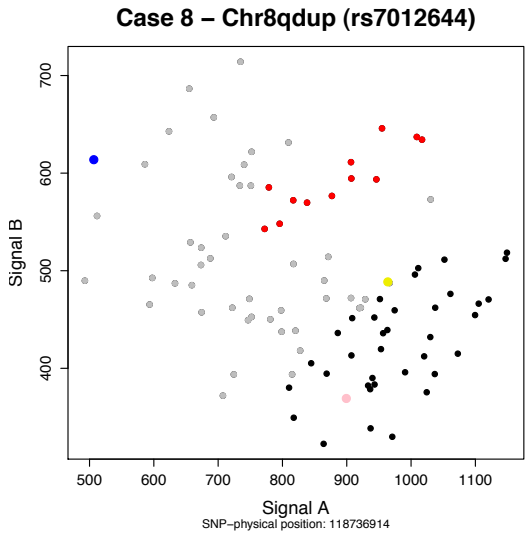

Case 8 – Chr8qdup (rs2873645)
Signal B
Signal A
SNP−physical position: 118515249

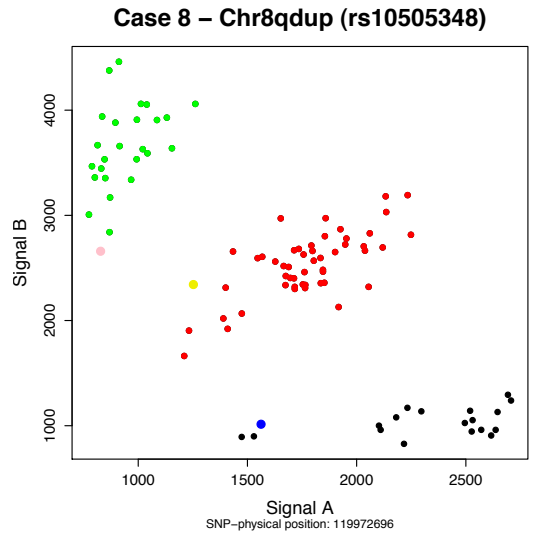

Case 8 – Chr8qdup (rs17667915)
Signal B
Signal A
SNP−physical position: 118544445

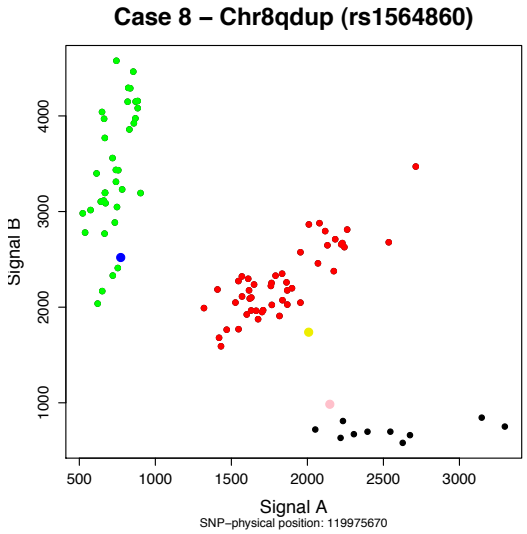

Case 8 – Chr8qdup (rs922587)
Signal B
Signal A
SNP−physical position: 118560491

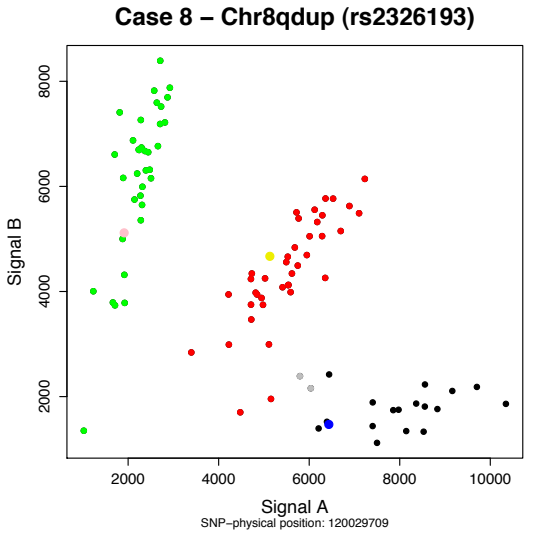

Case 8 – Chr8qdup (rs755982)
Signal B
Signal A
SNP–physical position: 118573949

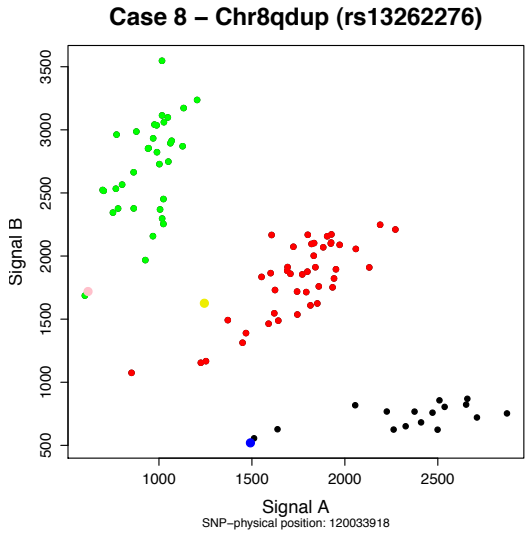

Case 8 – Chr8qdup (rs1993980)
Signal B
Signal A
SNP–physical position: 118608208

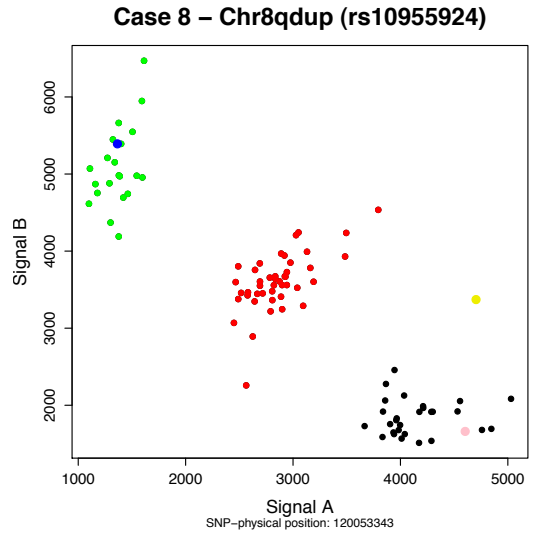

Case 8 – Chr8qdup (rs7012644)
Signal B
Signal A
SNP–physical position: 118736914

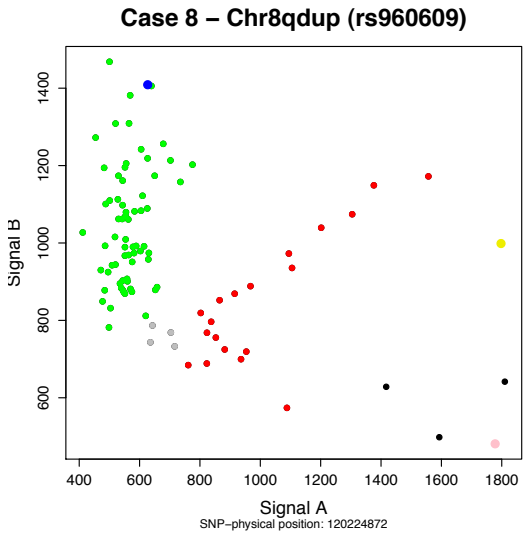

Case 8 – Chr8qdup (rs10505348)
Signal B
Signal A
SNP–physical position: 119972696

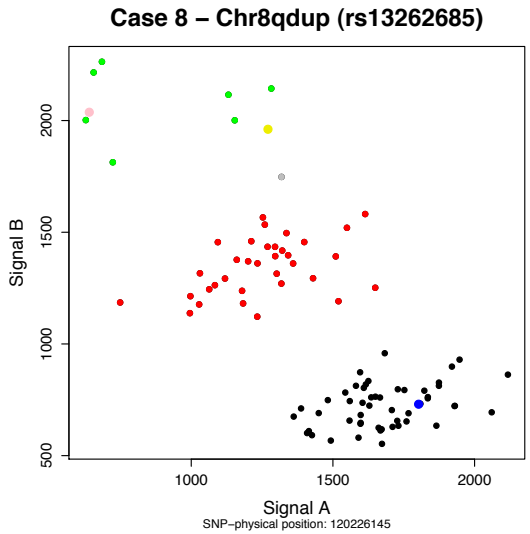

Case 8 – Chr8qdup (rs1564860)
Signal B
Signal A
SNP–physical position: 119975670

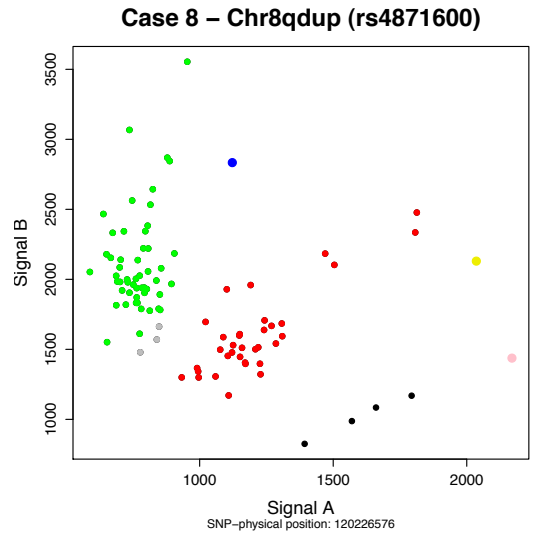

Case 8 – Chr8qdup (rs2326193)
Signal B
Signal A
SNP–physical position: 120029709

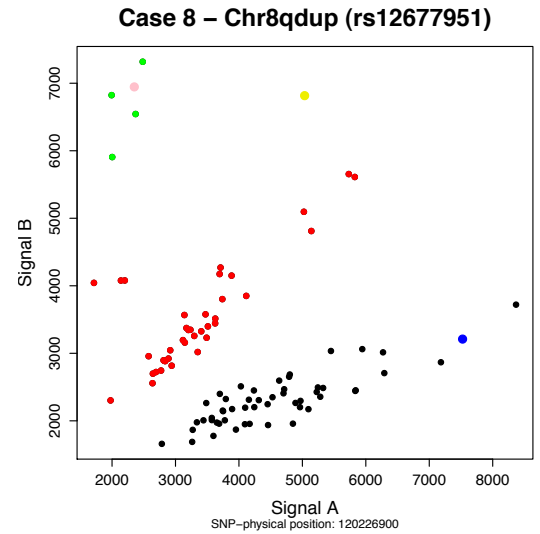

Case 8 – Chr8qdup (rs13262276)
Signal B
Signal A
SNP–physical position: 120033918

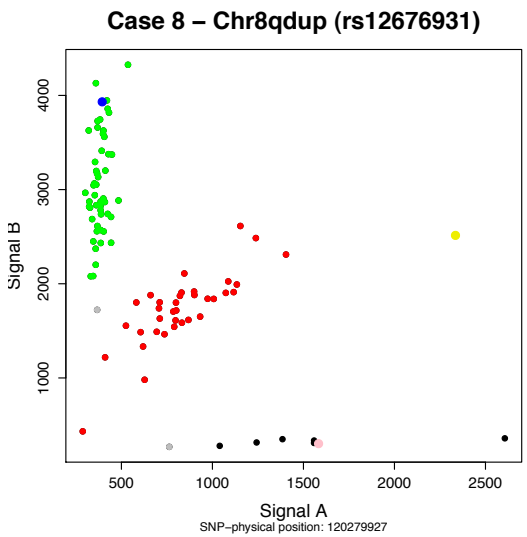

Case 8 – Chr8qdup (rs10955924)
Signal B
Signal A
SNP–physical position: 120053343

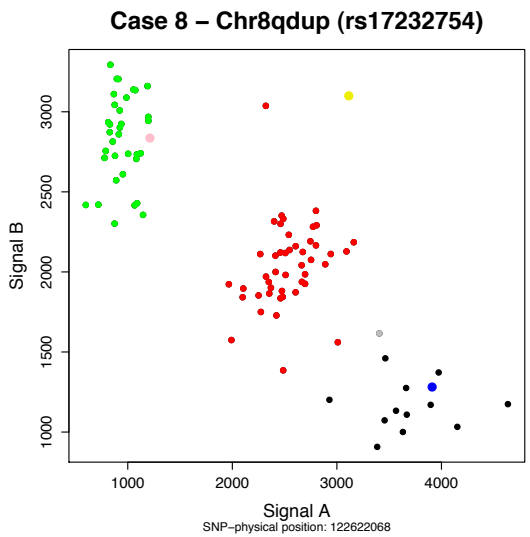

Case 8 – Chr8qdup (rs960609)
Signal B
Signal A
SNP–physical position: 120224872

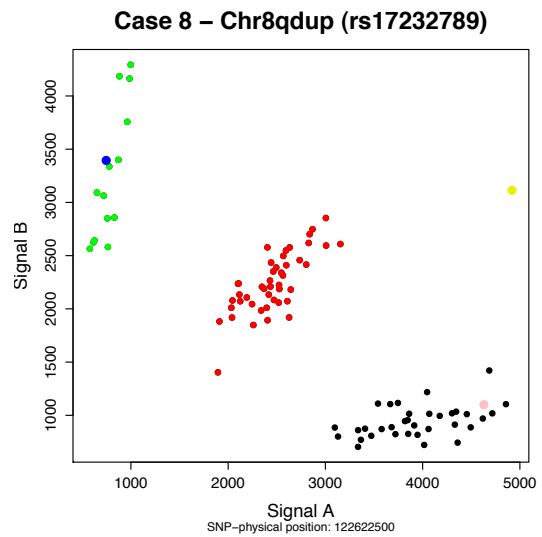

Case 8 – Chr8qdup (rs13262685)
Signal B
Signal A
SNP–physical position: 120226145

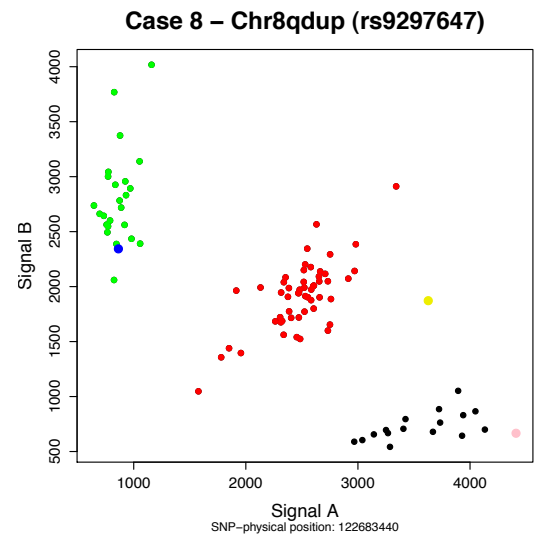

Case 8 – Chr8qdup (rs4871600)
Signal B
Signal A
SNP–physical position: 120226576

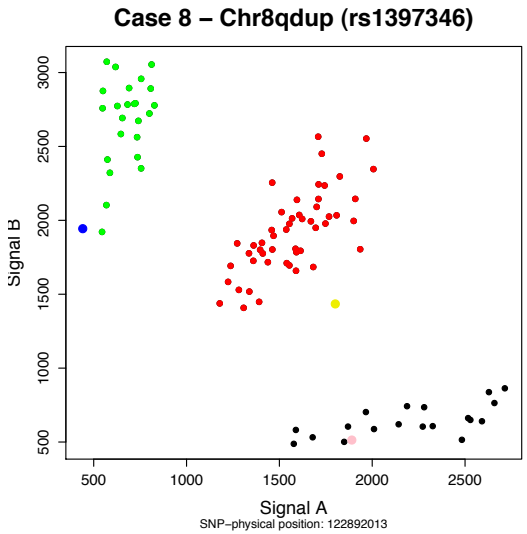

Case 8 – Chr8qdup (rs12677951)
Signal B
Signal A
SNP–physical position: 120226900

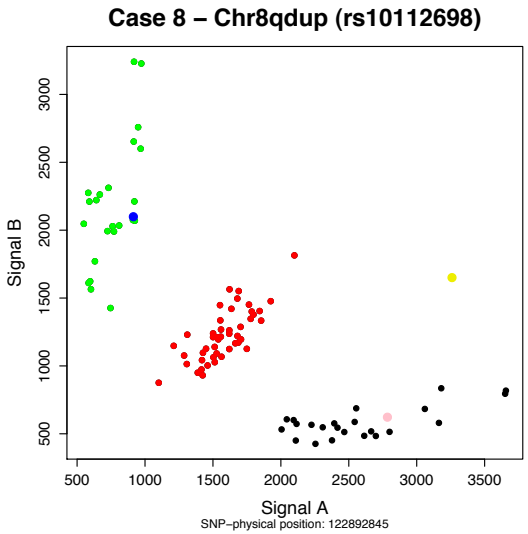

Case 8 – Chr8qdup (rs12676931)
Signal B
Signal A
SNP–physical position: 120279927

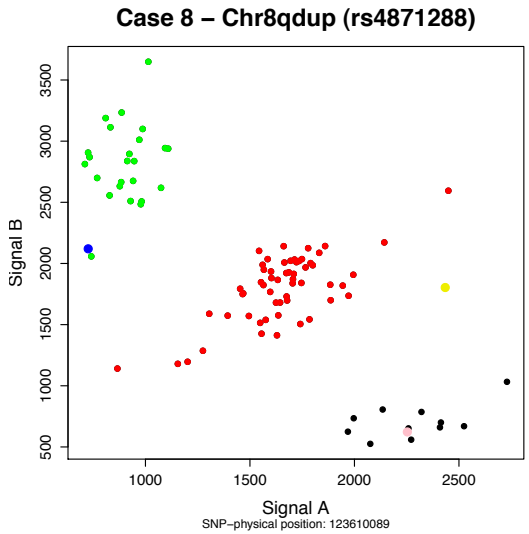

Case 8 – Chr8qdup (rs17232754)
Signal B
Signal A
SNP–physical position: 122622068

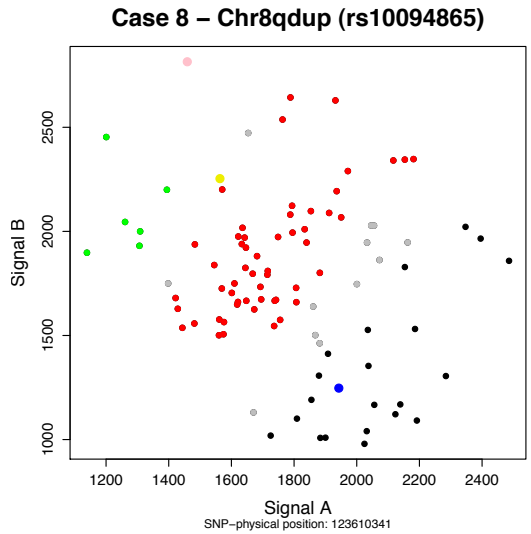

Case 8 – Chr8qdup (rs17232789)
Signal B
Signal A
SNP–physical position: 122622500

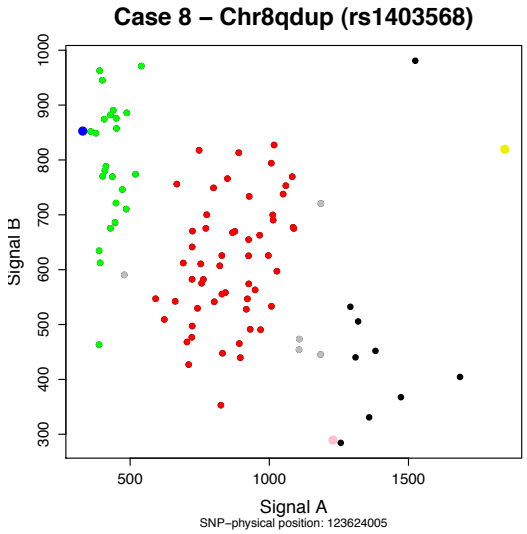

Case 8 – Chr8qdup (rs9297647)
Signal B
Signal A
SNP–physical position: 122683440

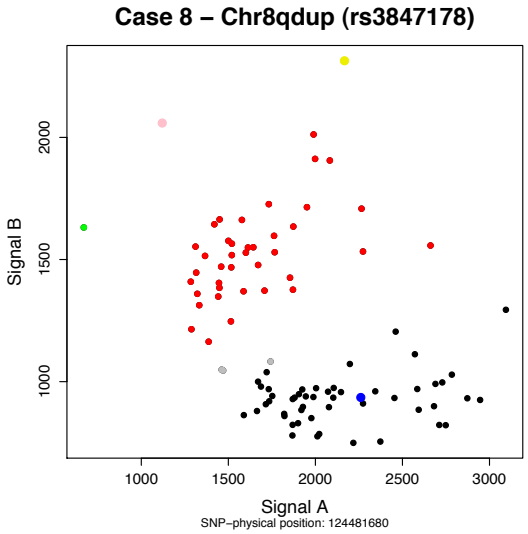

Case 8 – Chr8qdup (rs1397346)
Signal B
Signal A
SNP−physical position: 122892013

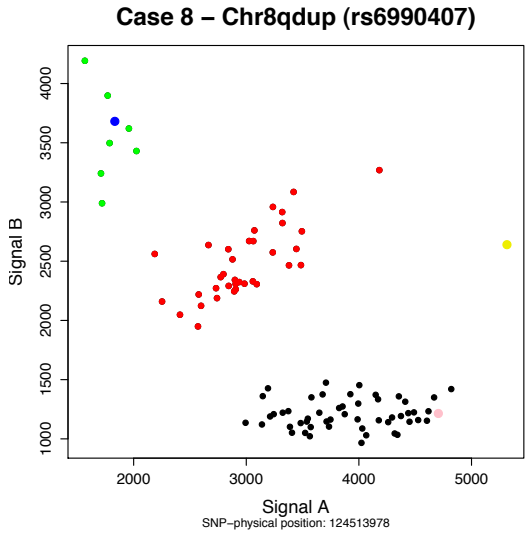

Case 8 – Chr8qdup (rs10112698)
Signal B
Signal A
SNP−physical position: 122892845

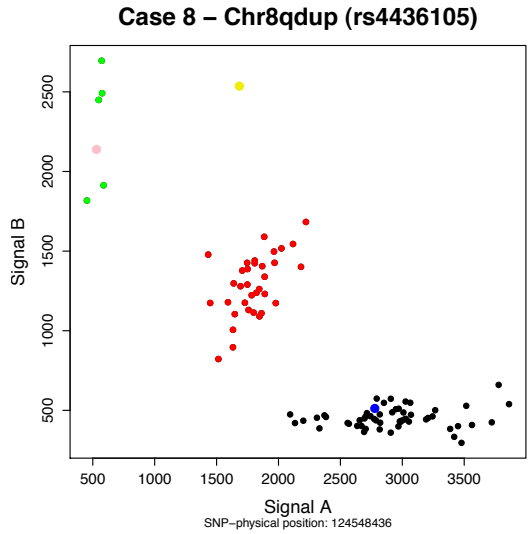

Case 8 – Chr8qdup (rs4871288)
Signal B
Signal A
SNP−physical position: 123610089

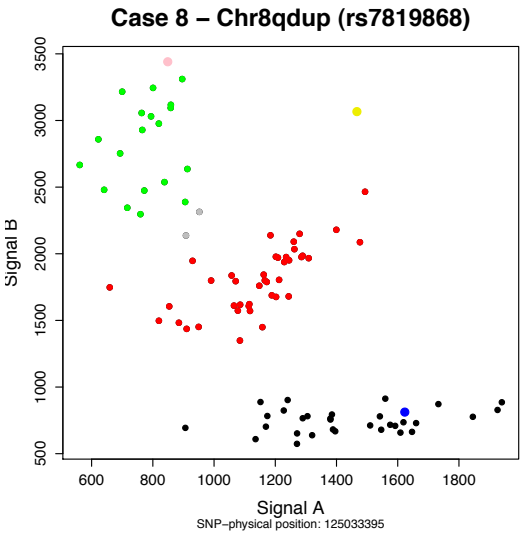

Case 8 – Chr8qdup (rs10094865)
Signal B
Signal A
SNP−physical position: 123610341

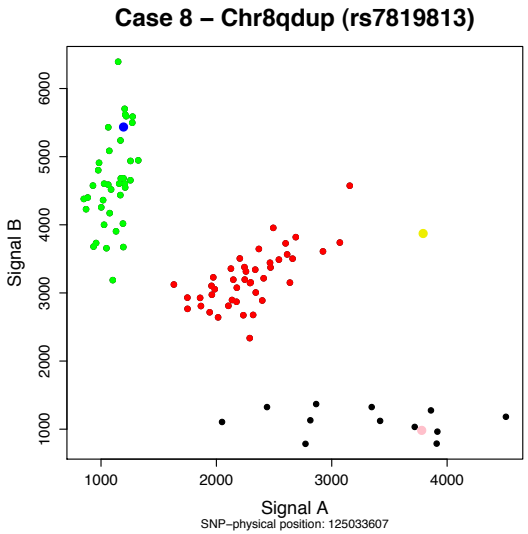

Case 8 – Chr8qdup (rs1403568)
Signal B
Signal A
SNP−physical position: 123624005

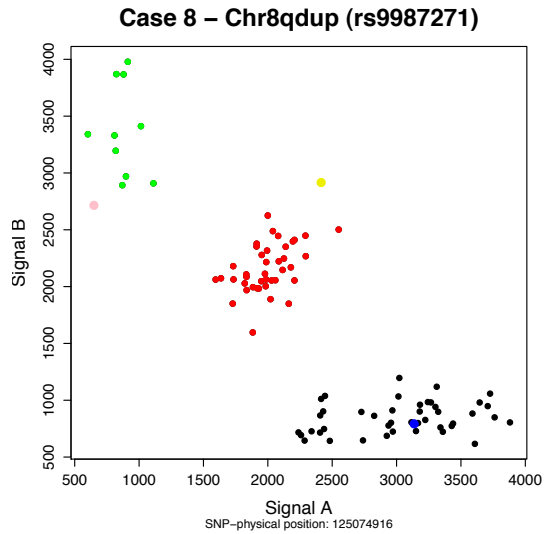

Case 8 – Chr8qdup (rs3847178)
Signal B
Signal A
SNP−physical position: 124481680

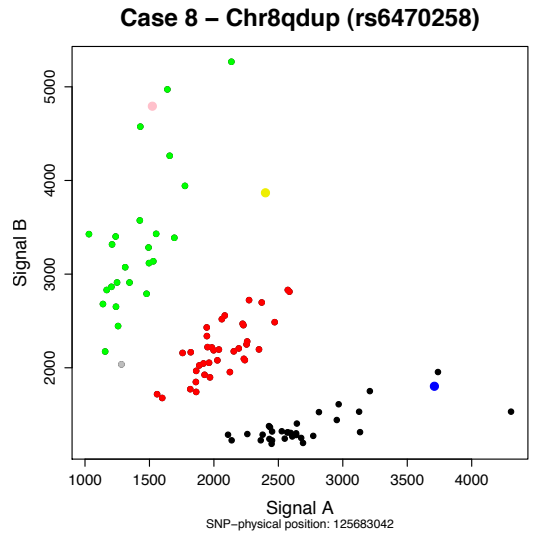

Case 8 – Chr8qdup (rs6990407)
Signal B
Signal A
SNP−physical position: 124513978

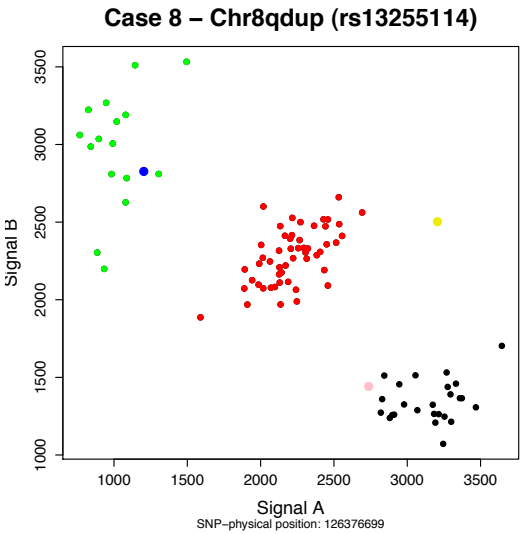

Case 8 – Chr8qdup (rs4436105)
Signal B
Signal A
SNP−physical position: 124548436

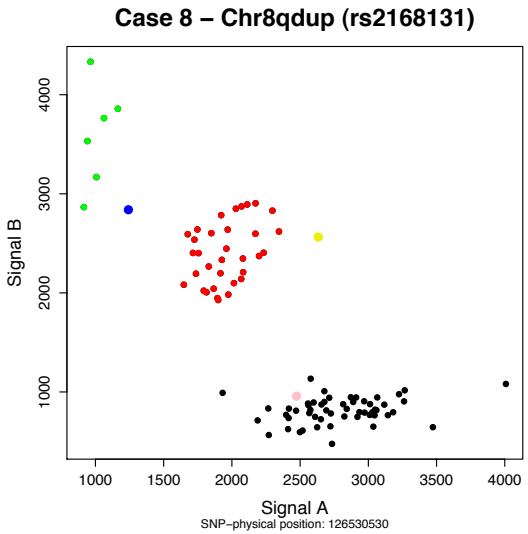

Case 8 – Chr8qdup (rs7819868)
Signal B
Signal A
SNP−physical position: 125033395

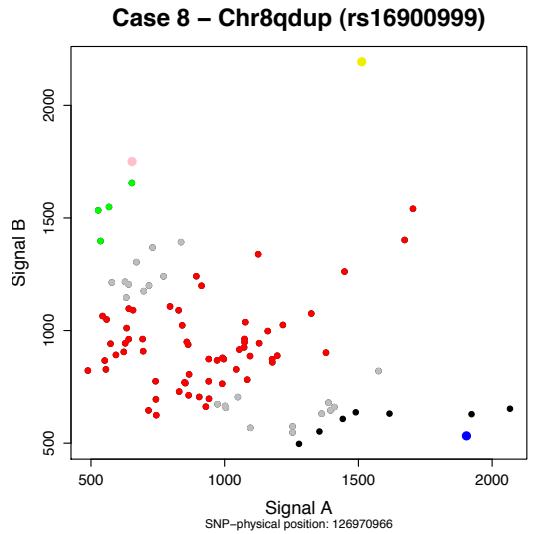

Case 8 – Chr8qdup (rs7819813)
Signal B
Signal A
SNP−physical position: 125033607

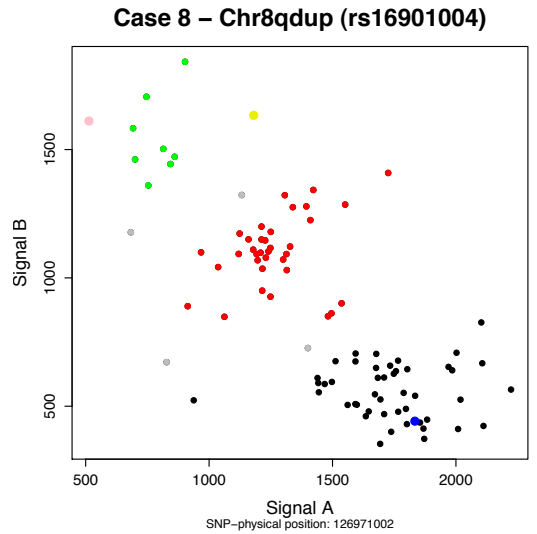

Case 8 – Chr8qdup (rs9987271)
Signal B
Signal A
SNP−physical position: 125074916

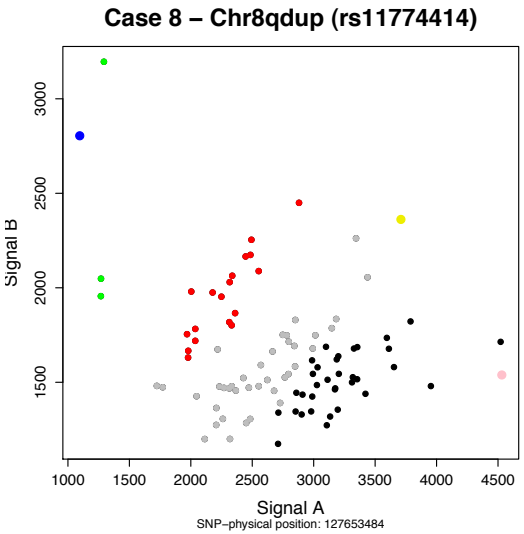

Case 8 – Chr8qdup (rs6470258)
Signal B
Signal A
SNP−physical position: 125683042

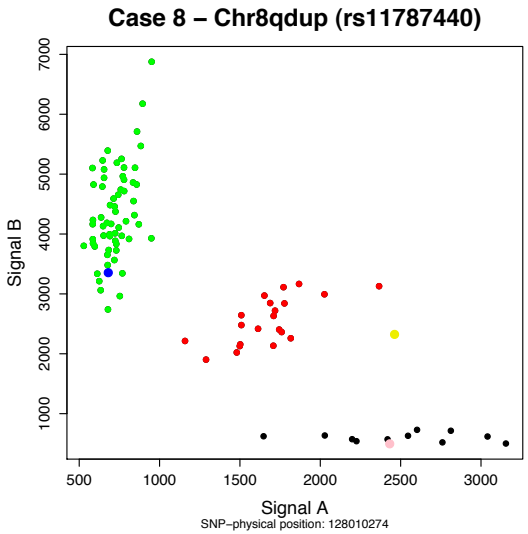

Case 8 – Chr8qdup (rs13255114)
Signal B
Signal A
SNP−physical position: 126376699

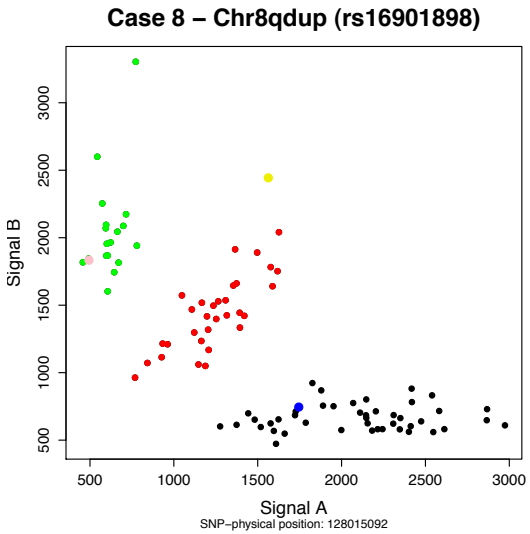

Case 8 – Chr8qdup (rs2168131)
Signal B
Signal A
SNP−physical position: 126530530

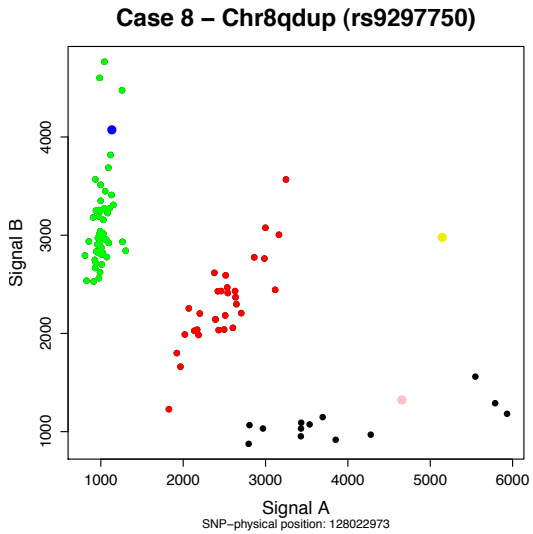

Case 8 – Chr8qdup (rs16900999)
Signal B
Signal A
SNP−physical position: 126970966

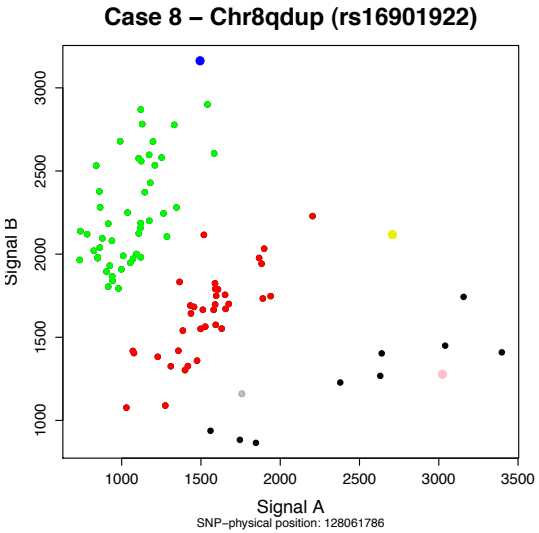

Case 8 – Chr8qdup (rs16901004)
Signal B
Signal A
SNP−physical position: 126971002

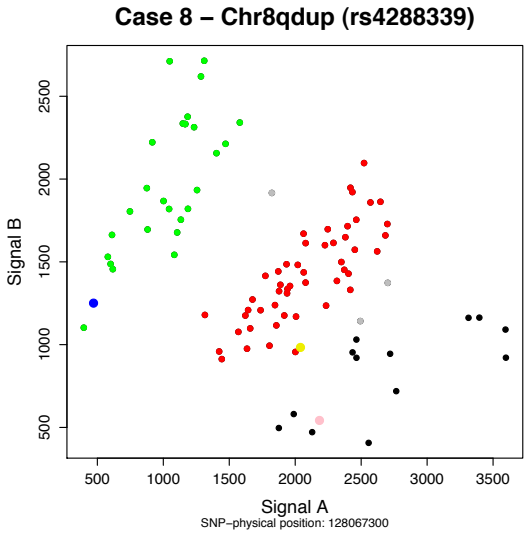

Case 8 – Chr8qdup (rs11774414)
Signal B
Signal A
SNP−physical position: 127653484

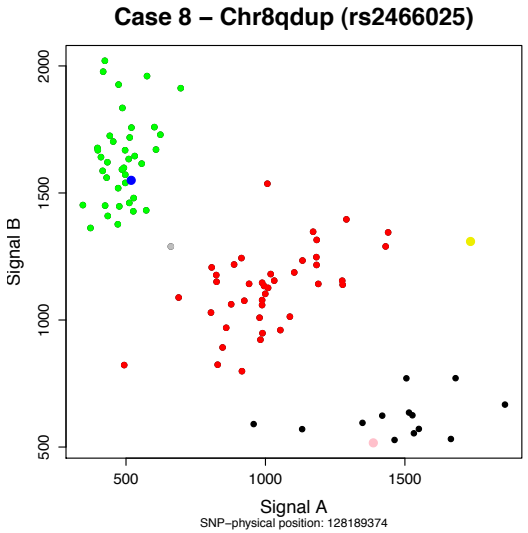

Case 8 – Chr8qdup (rs11787440)
Signal B
Signal A
SNP−physical position: 128010274

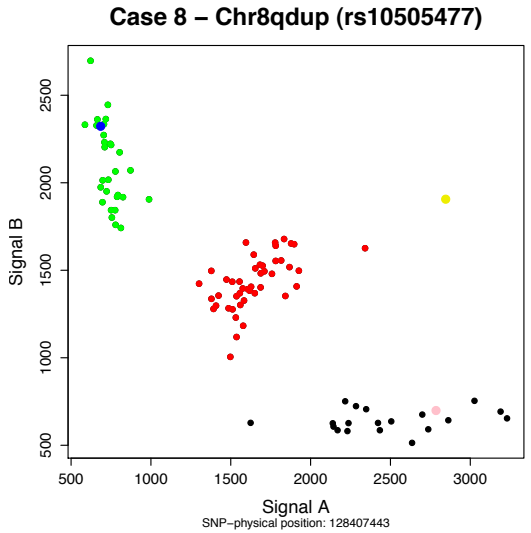

Case 8 – Chr8qdup (rs16901898)
Signal B
Signal A
SNP−physical position: 128015092

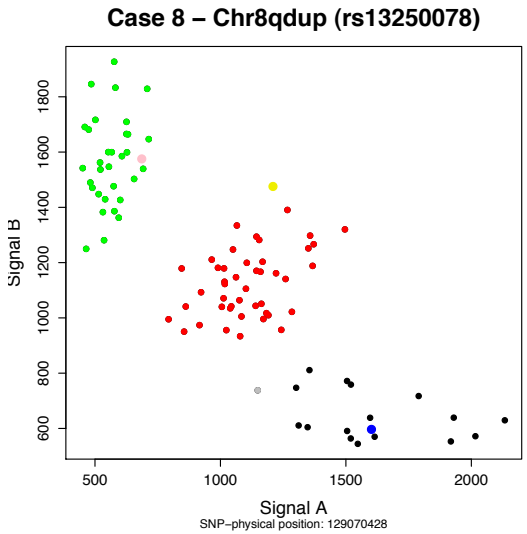

Case 8 – Chr8qdup (rs9297750)
Signal B
Signal A
SNP−physical position: 128022973

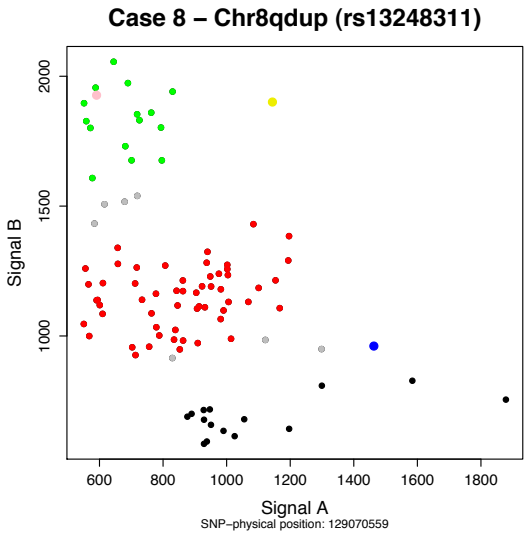

Case 8 – Chr8qdup (rs16901922)
Signal B
Signal A
SNP−physical position: 128061786

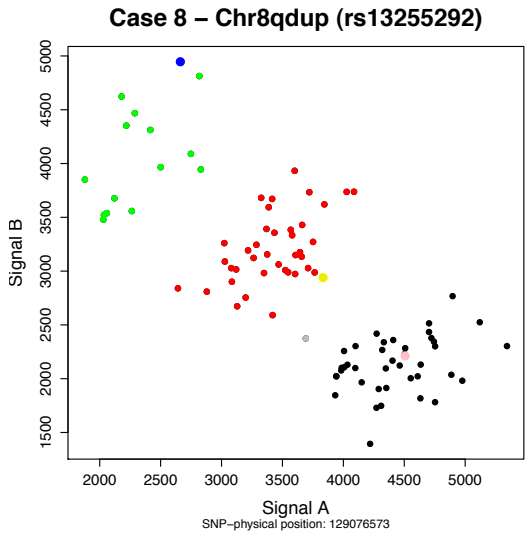

Case 8 – Chr8qdup (rs4288339)
Signal B
Signal A
SNP−physical position: 128067300

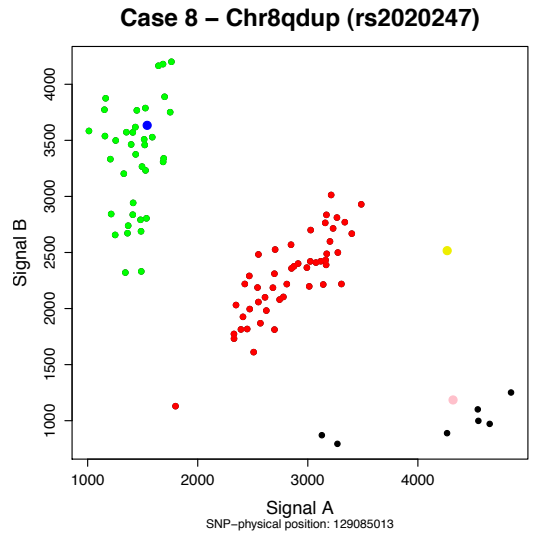

Case 8 – Chr8qdup (rs2466025)
Signal B
Signal A
SNP−physical position: 128189374

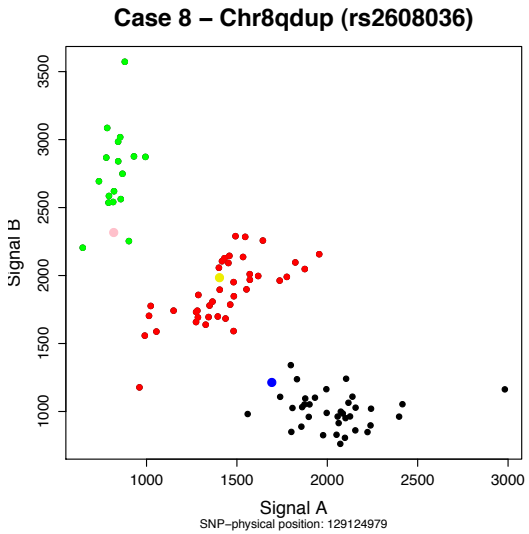

Case 8 – Chr8qdup (rs10505477)
Signal B
Signal A
SNP−physical position: 128407443

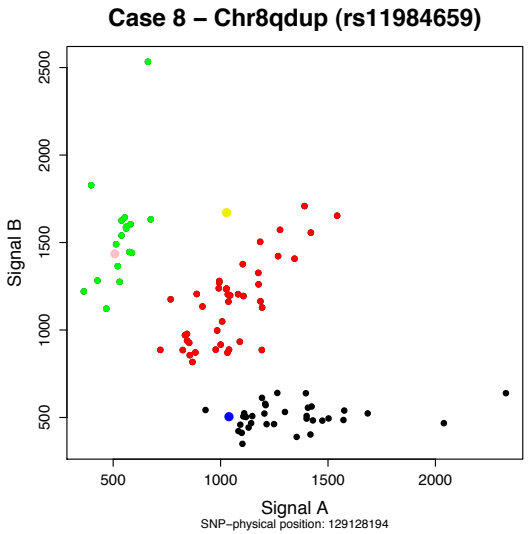

Case 8 – Chr8qdup (rs13250078)
Signal B
Signal A
SNP–physical position: 129070428

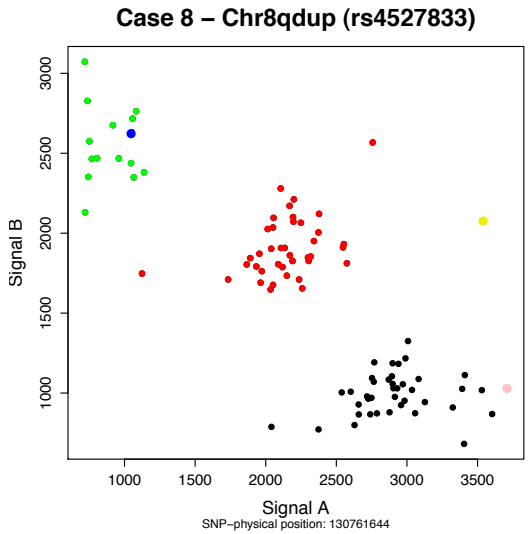

Case 8 – Chr8qdup (rs13248311)
Signal B
Signal A
SNP–physical position: 129070559

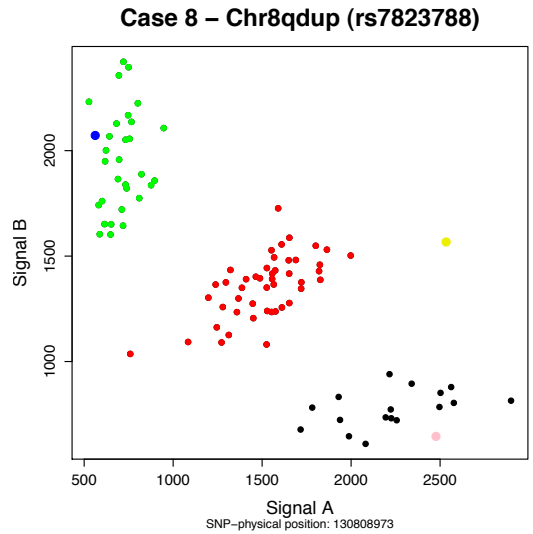

Case 8 – Chr8qdup (rs13255292)
Signal B
Signal A
SNP–physical position: 129076573

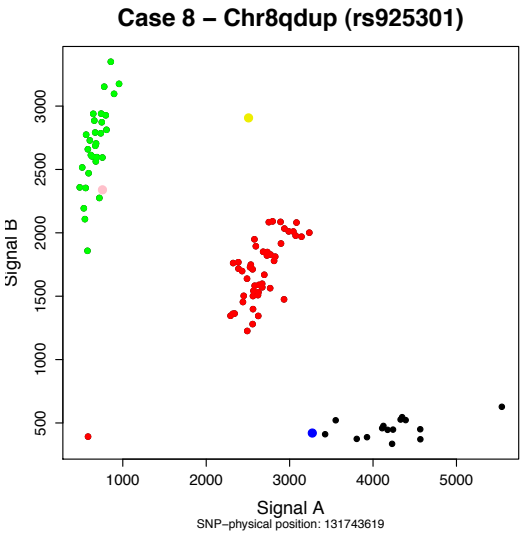

Case 8 – Chr8qdup (rs2020247)
Signal B
Signal A
SNP–physical position: 129085013

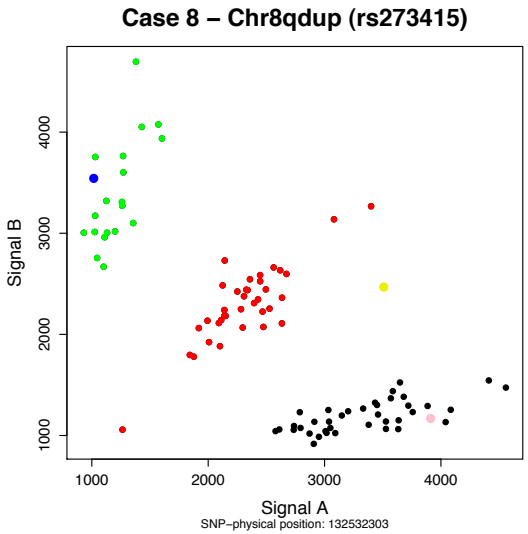

Case 8 – Chr8qdup (rs2608036)
Signal B
Signal A
SNP–physical position: 129124979

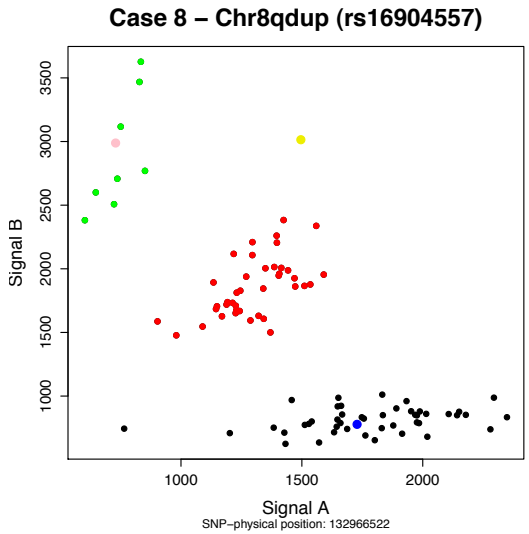

Case 8 – Chr8qdup (rs11984659)
Signal B
Signal A
SNP–physical position: 129128194

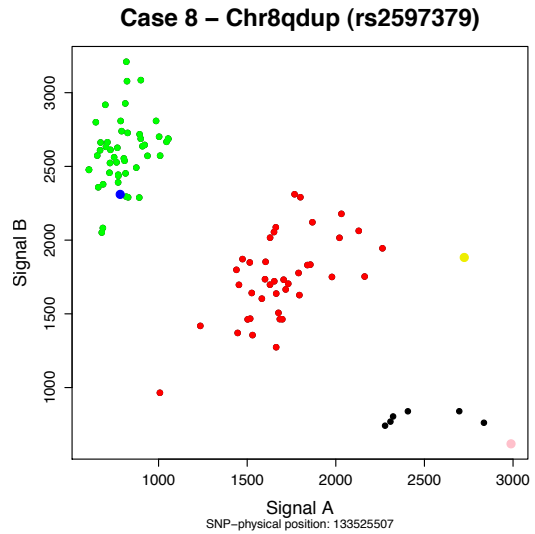

Case 8 – Chr8qdup (rs4527833)
Signal B
Signal A
SNP–physical position: 130761644

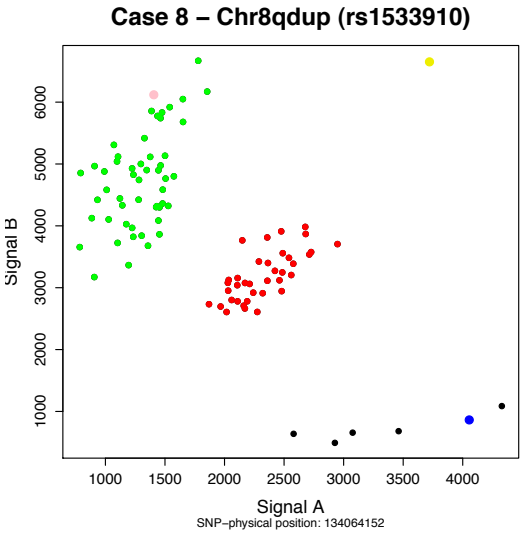

Case 8 – Chr8qdup (rs7823788)
Signal B
Signal A
SNP–physical position: 130808973

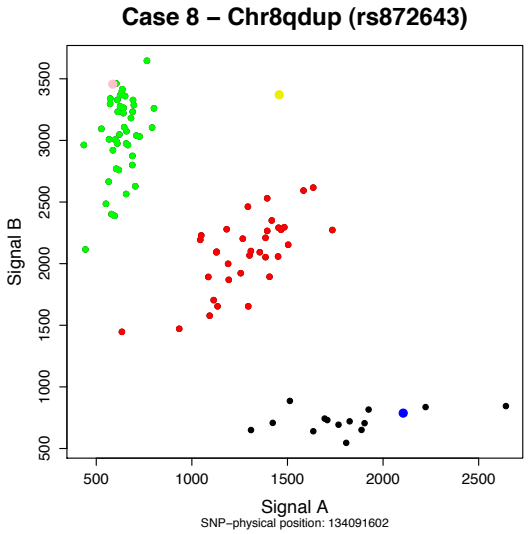

Case 8 – Chr8qdup (rs925301)
Signal B
Signal A
SNP−physical position: 131743619

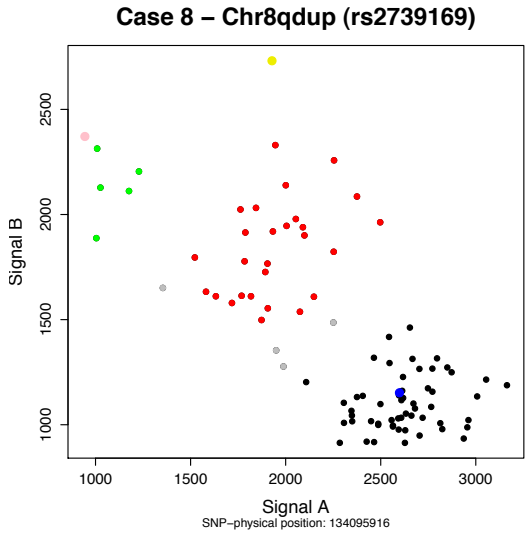

Case 8 – Chr8qdup (rs273415)
Signal B
Signal A
SNP−physical position: 132532303

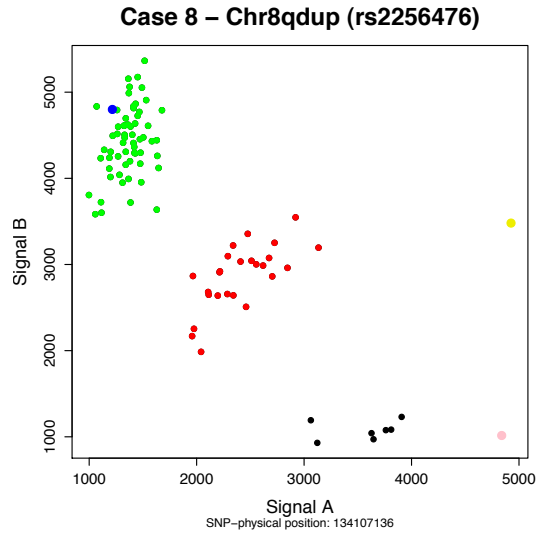

Case 8 – Chr8qdup (rs16904557)
Signal B
Signal A
SNP−physical position: 132966522

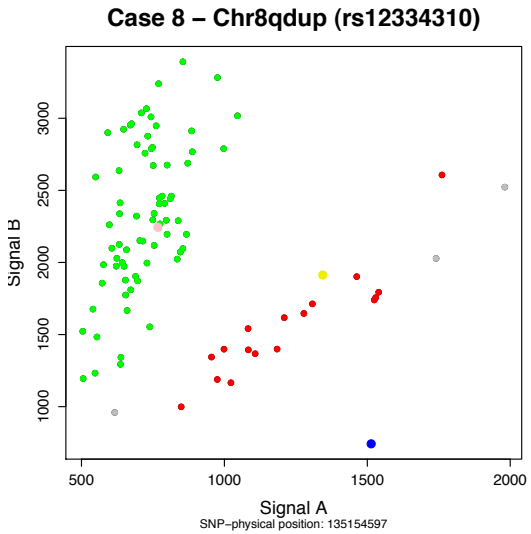

Case 8 – Chr8qdup (rs2597379)
Signal B
Signal A
SNP−physical position: 133525507

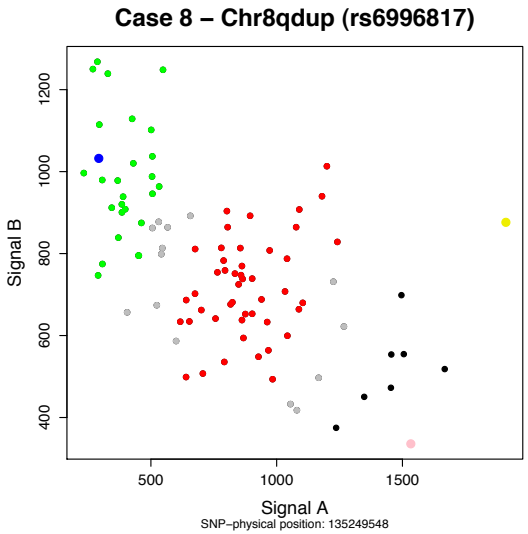

Case 8 – Chr8qdup (rs1533910)
Signal B
Signal A
SNP−physical position: 134064152

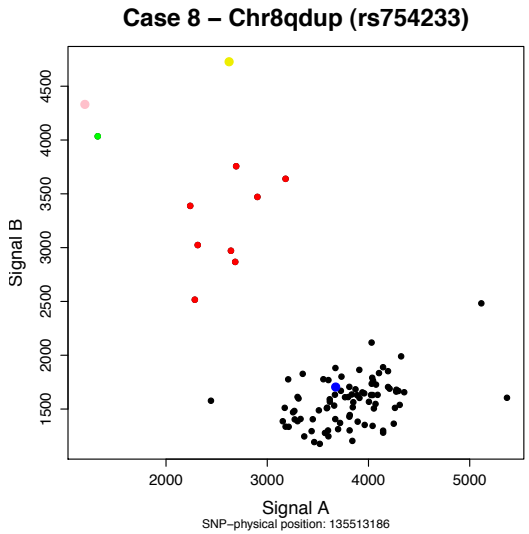

Case 8 – Chr8qdup (rs872643)
Signal B
Signal A
SNP−physical position: 134091602

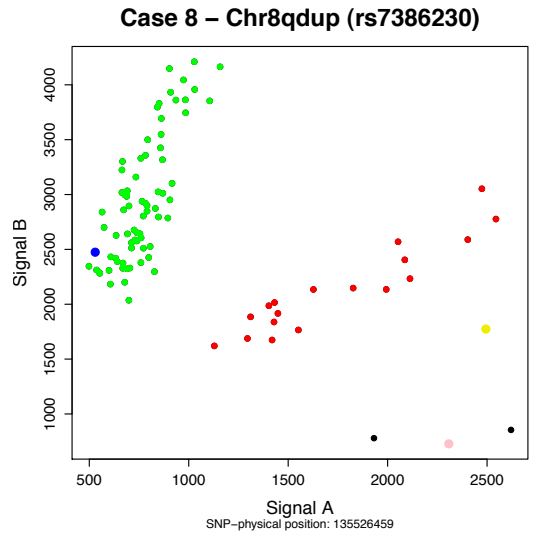

Case 8 – Chr8qdup (rs2739169)
Signal B
Signal A
SNP−physical position: 134095916

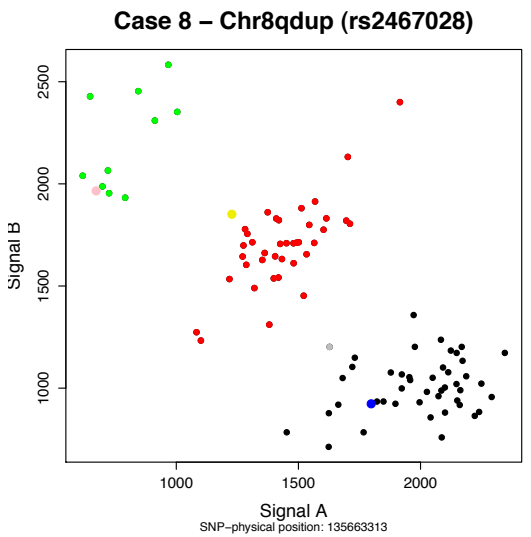

Case 8 – Chr8qdup (rs2256476)
Signal B
Signal A
SNP−physical position: 134107136

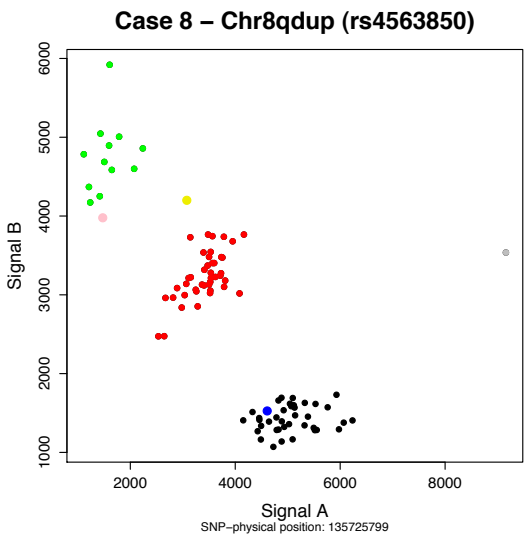

Case 8 – Chr8qdup (rs12334310)
Signal B
Signal A
SNP–physical position: 135154597

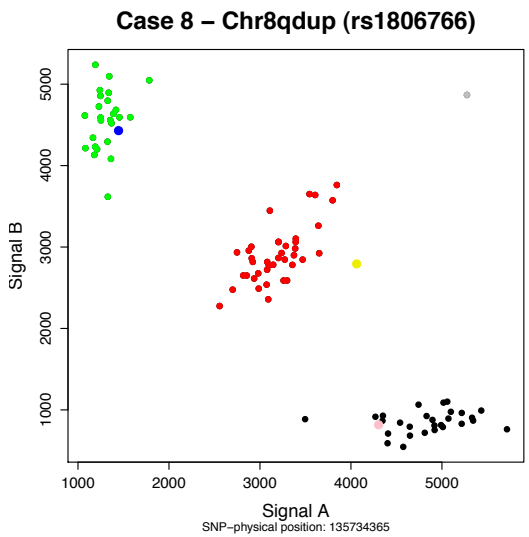

Case 8 – Chr8qdup (rs6996817)
Signal B
Signal A
SNP–physical position: 135249548

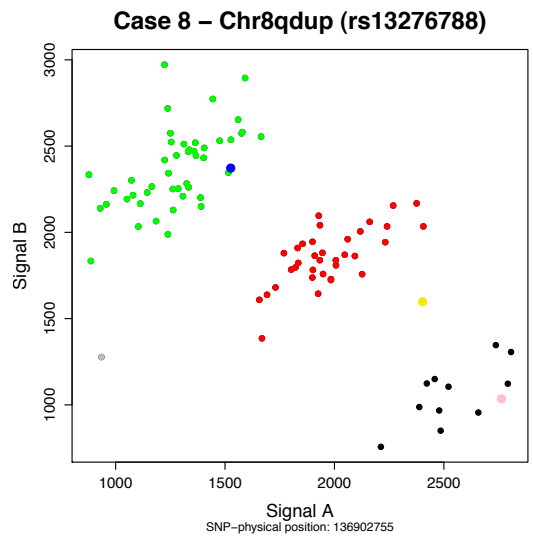

Case 8 – Chr8qdup (rs754233)
Signal B
Signal A
SNP–physical position: 135513186

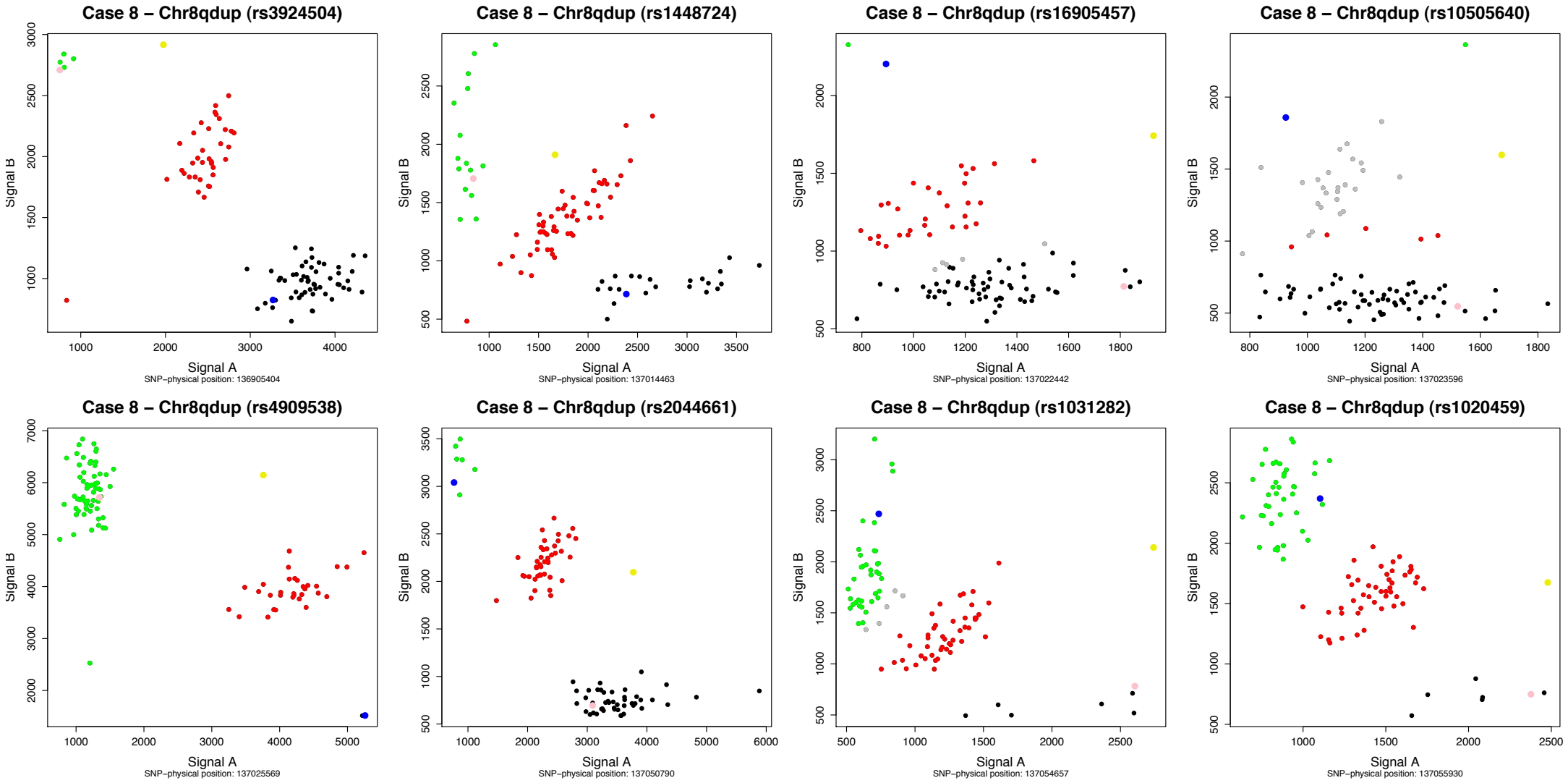

Case 8 – Chr8qdup (rs7386230)
Signal B
Signal A
SNP–physical position: 135526459

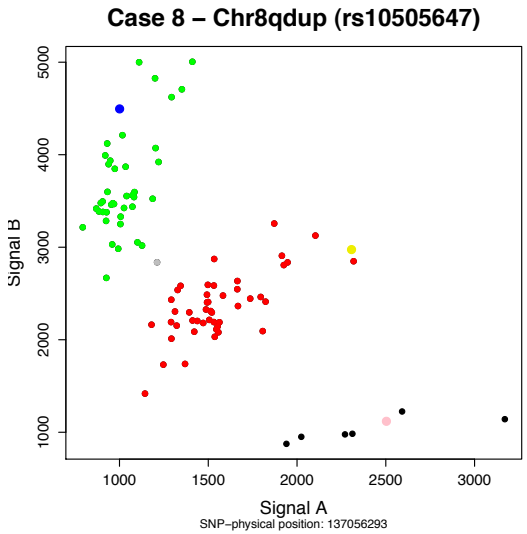

Case 8 – Chr8qdup (rs2467028)
Signal B
Signal A
SNP–physical position: 135663313

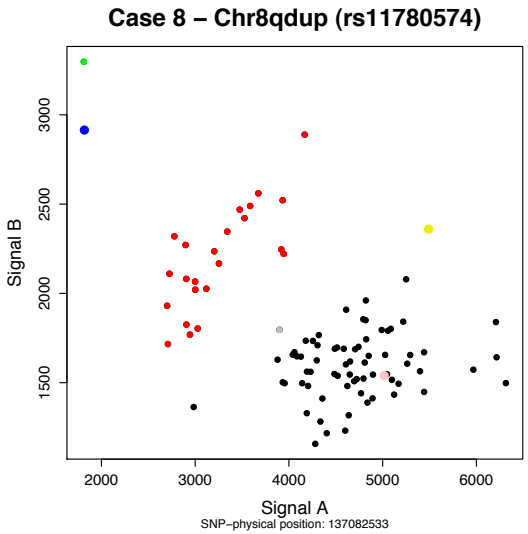

Case 8 – Chr8qdup (rs4563850)
Signal B
Signal A
SNP–physical position: 135725799

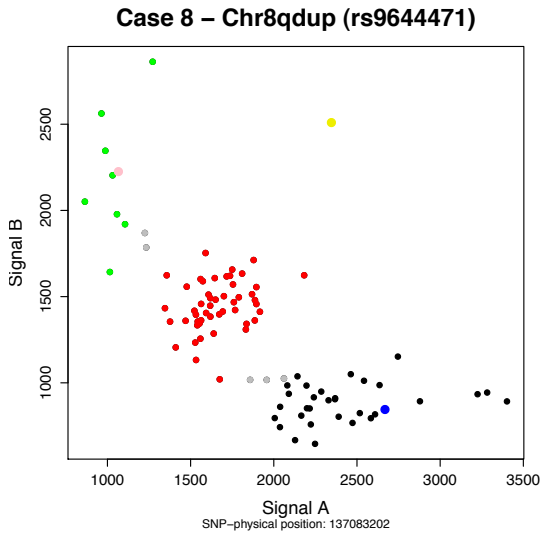

Case 8 – Chr8qdup (rs1806766)
Signal B
Signal A
SNP–physical position: 135734365

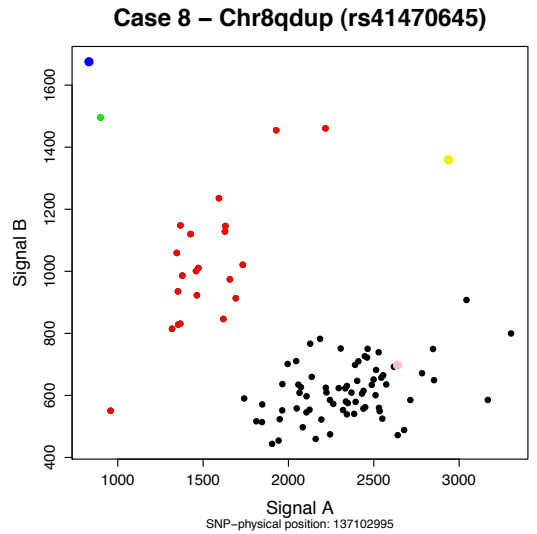

Case 8 – Chr8qdup (rs13276788)
Signal B
Signal A
SNP–physical position: 136902755

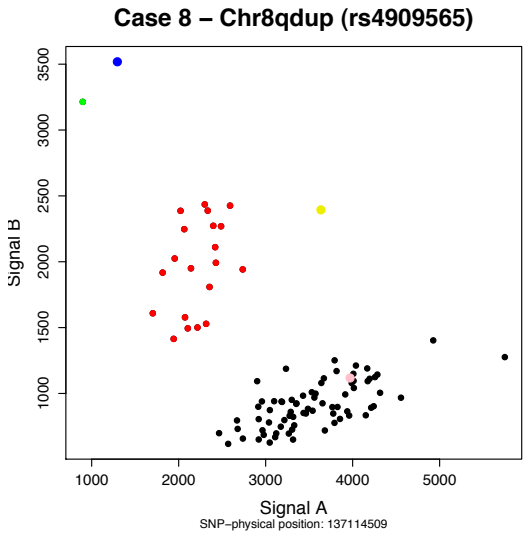

Case 8 – Chr8qdup (rs3924504)
Signal B
Signal A
SNP–physical position: 136905404
Case 8 – Chr8qdup (rs1448724)
Signal B
Signal A
SNP–physical position: 137014463
Case 8 – Chr8qdup (rs16905457)
Signal B
Signal A
SNP–physical position: 137022442
Case 8 – Chr8qdup (rs10505640)
Signal B
Signal A
SNP–physical position: 137023596
Case 8 – Chr8qdup (rs4909538)
Signal B
Signal A
SNP–physical position: 137025569
Case 8 – Chr8qdup (rs2044661)
Signal B
Signal A
SNP–physical position: 137050790
Case 8 – Chr8qdup (rs1031282)
Signal B
Signal A
SNP–physical position: 137054657
Case 8 – Chr8qdup (rs1020459)
Signal B
Signal A
SNP–physical position: 137055930

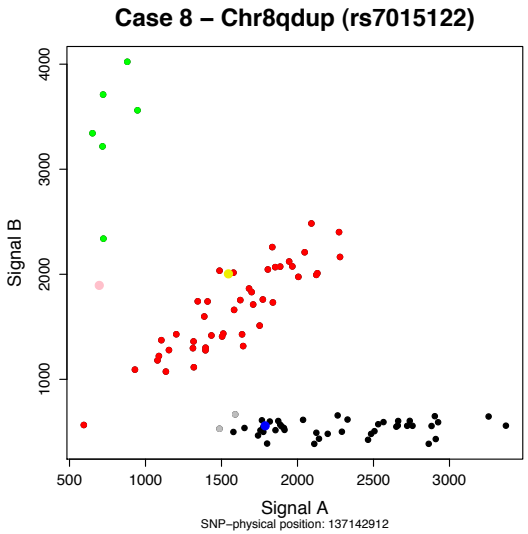

Case 8 – Chr8qdup (rs10505647)
Signal B
Signal A
SNP−physical position: 137056293

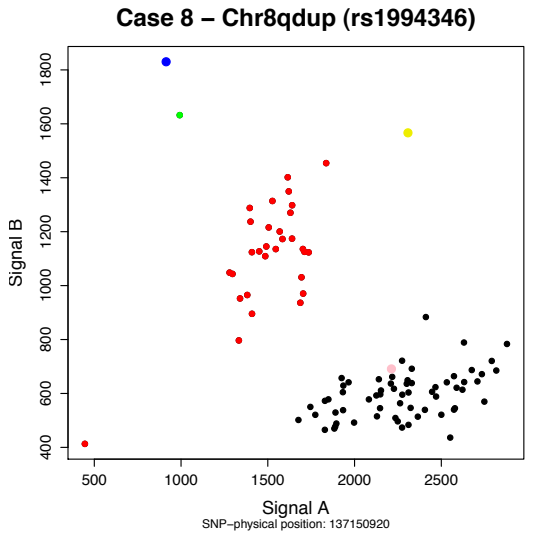

Case 8 – Chr8qdup (rs11780574)
Signal B
Signal A
SNP−physical position: 137082533

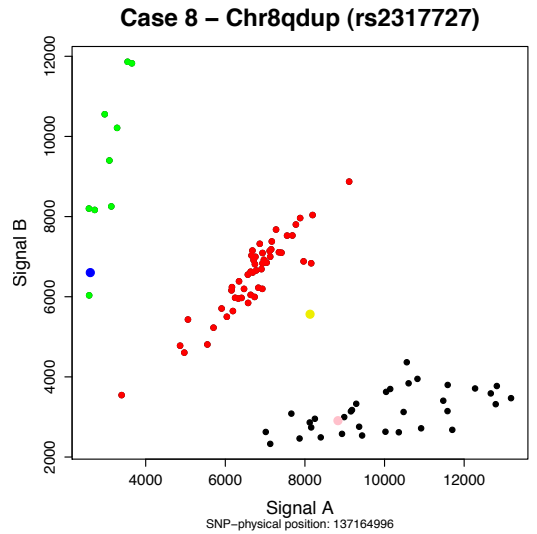

Case 8 – Chr8qdup (rs9644471)
Signal B
Signal A
SNP−physical position: 137083202

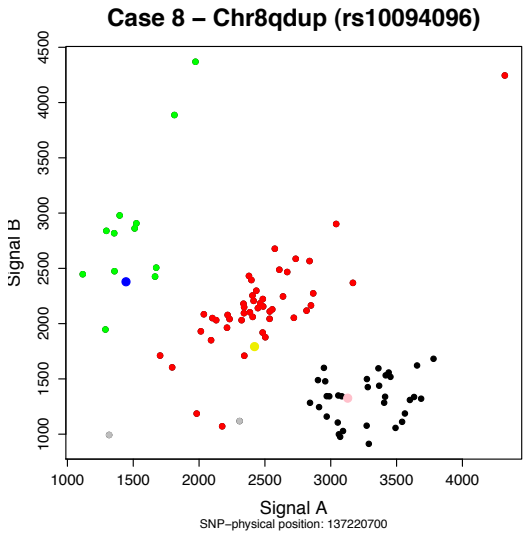

Case 8 – Chr8qdup (rs41470645)
Signal B
Signal A
SNP−physical position: 137102995

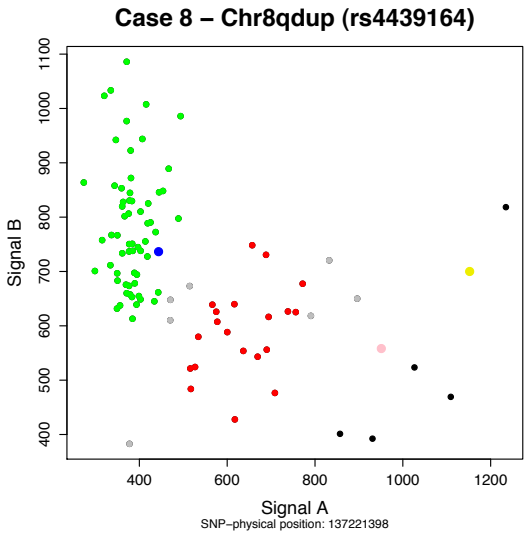

Case 8 – Chr8qdup (rs4909565)
Signal B
Signal A
SNP−physical position: 137114509

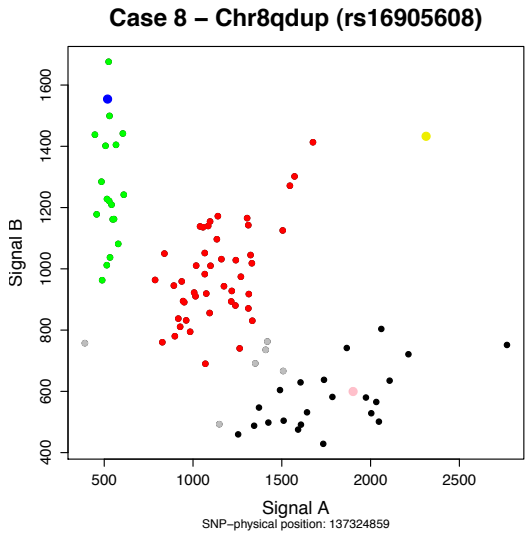

Case 8 – Chr8qdup (rs7015122)
Signal B
Signal A
SNP−physical position: 137142912

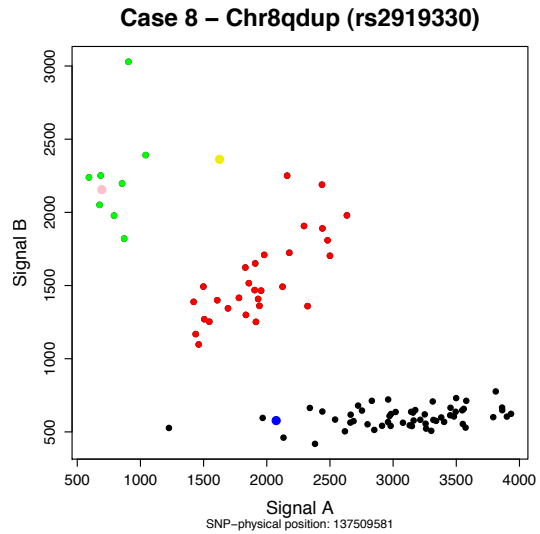

Case 8 – Chr8qdup (rs1994346)
Signal B
Signal A
SNP−physical position: 137150920

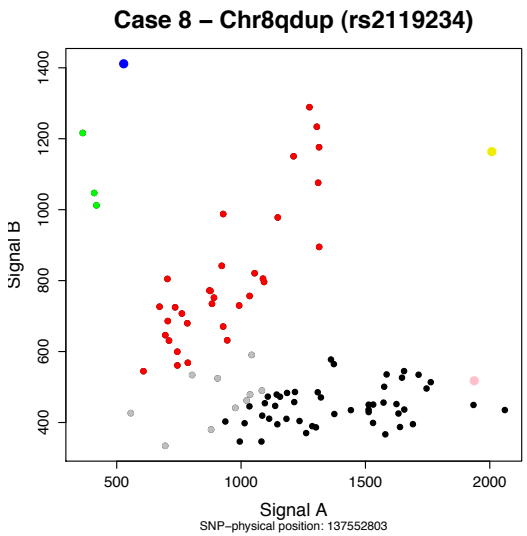

Case 8 – Chr8qdup (rs2317727)
Signal B
Signal A
SNP−physical position: 137164996

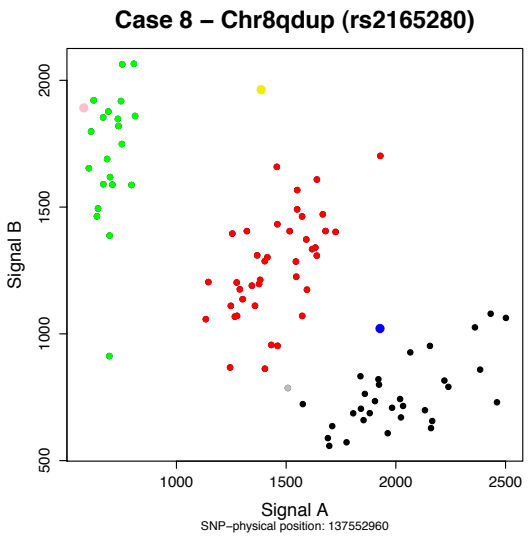

Case 8 – Chr8qdup (rs10094096)
Signal B
Signal A
SNP−physical position: 137220700

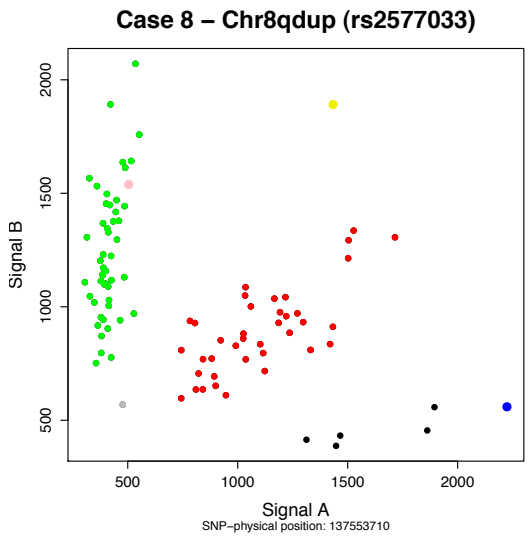

Case 8 – Chr8qdup (rs4439164)
Signal B
Signal A
SNP−physical position: 137221398

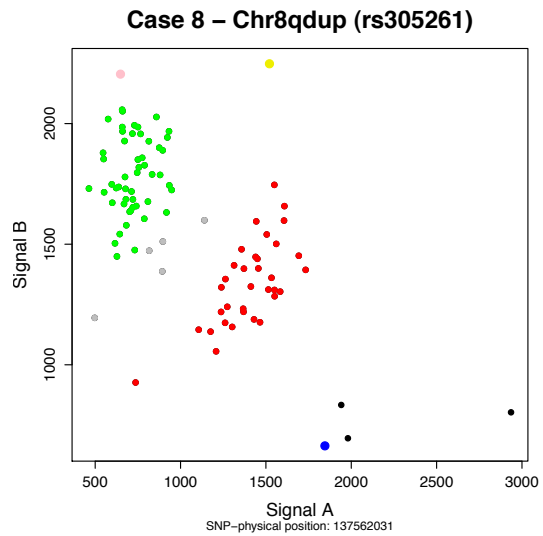

Case 8 – Chr8qdup (rs16905608)
Signal B
Signal A
SNP−physical position: 137324859

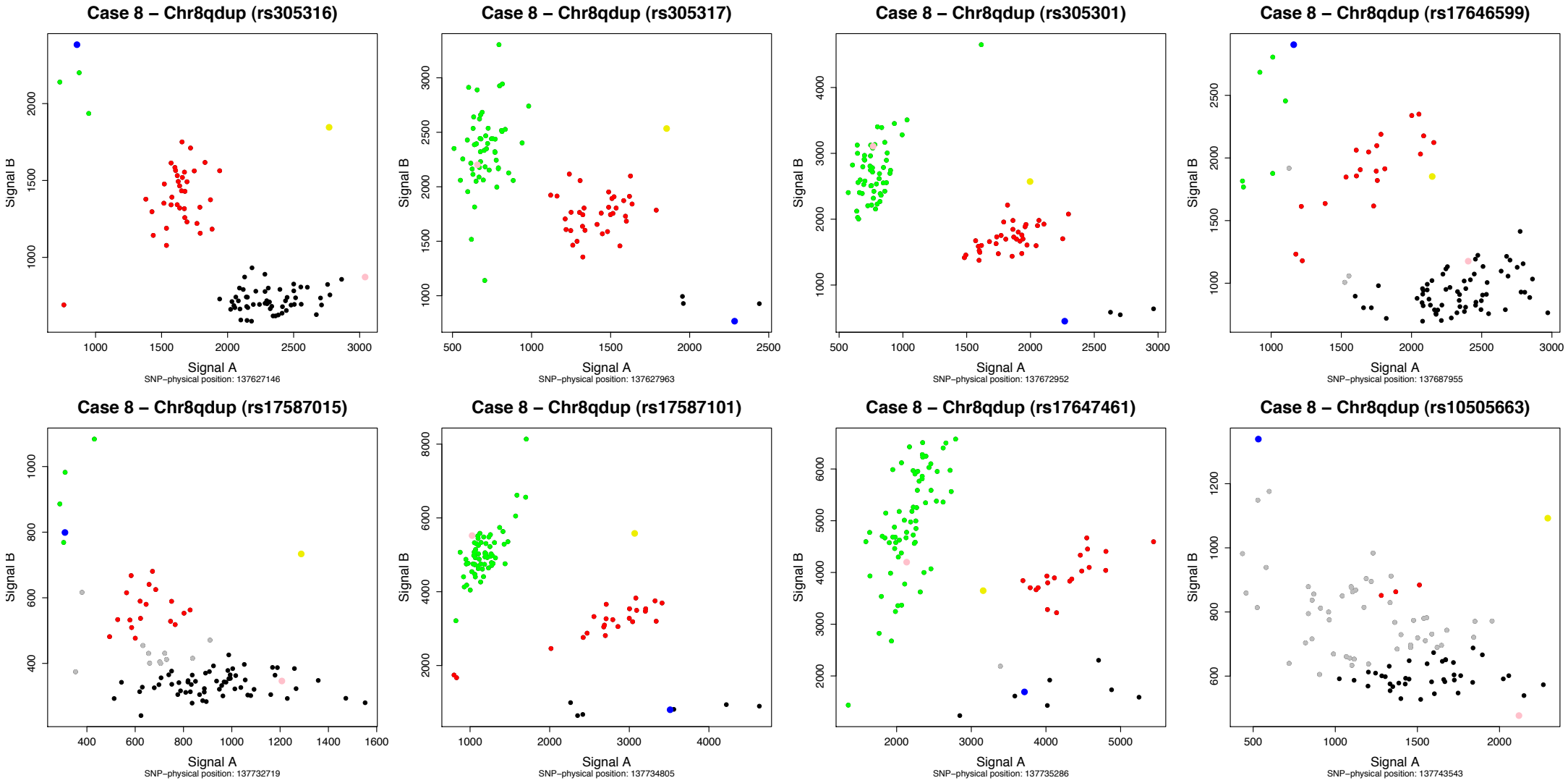

Case 8 – Chr8qdup (rs2919330)
Signal B
Signal A
SNP−physical position: 137509581

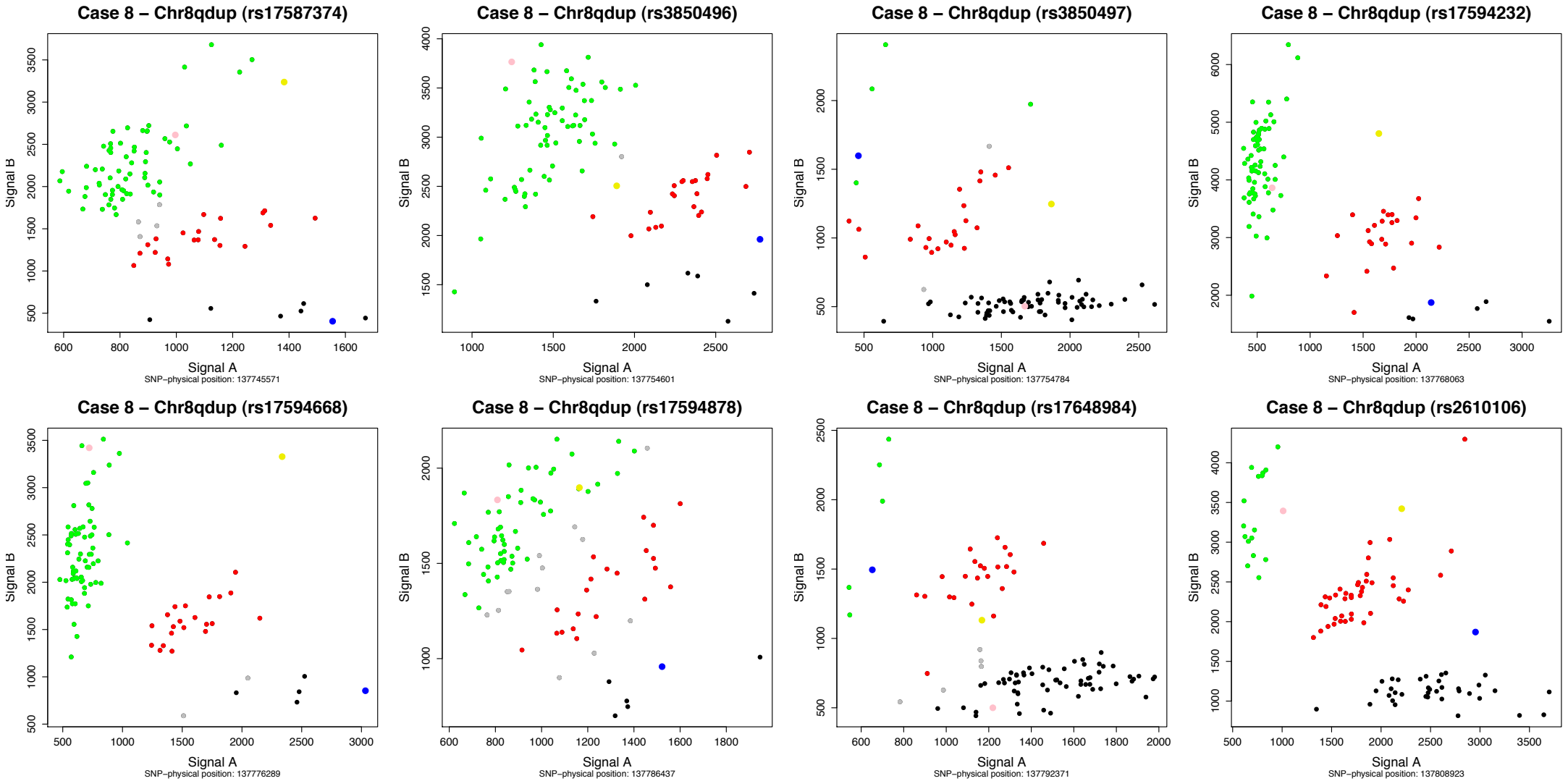

Case 8 – Chr8qdup (rs2119234)
Signal B
Signal A
SNP−physical position: 137552803

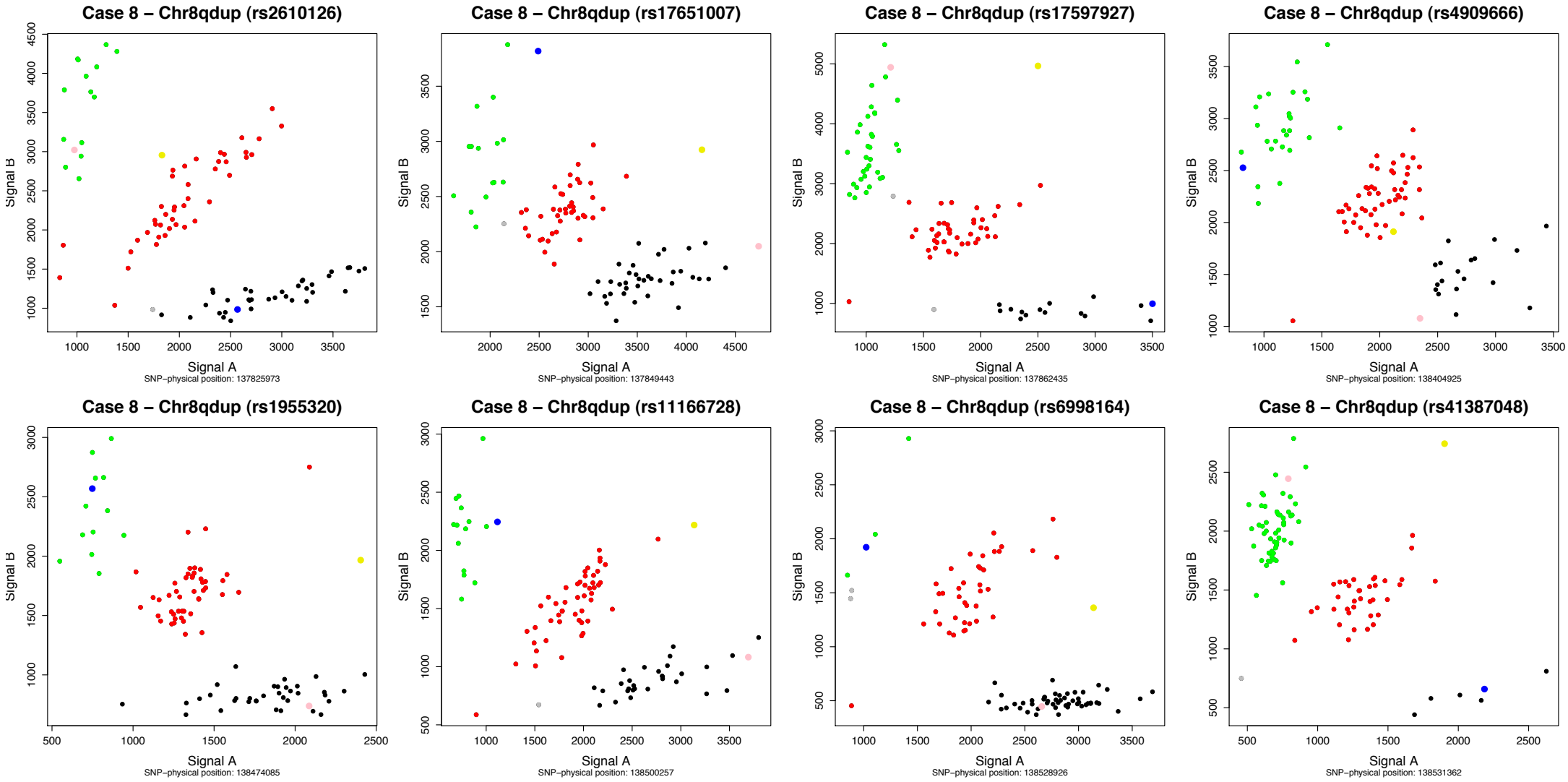

Case 8 – Chr8qdup (rs2165280)
Signal B
Signal A
SNP−physical position: 137552960

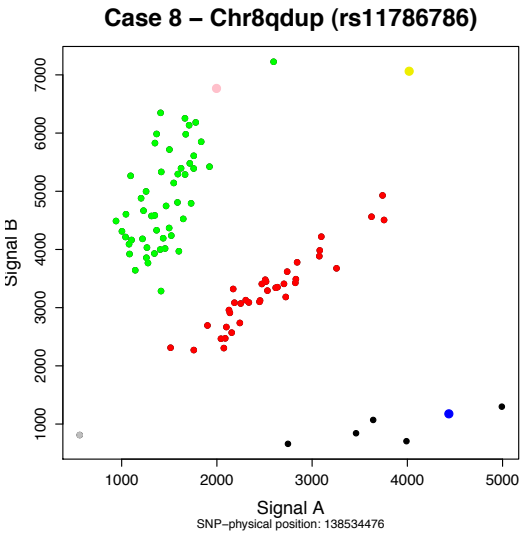

Case 8 – Chr8qdup (rs2577033)
Signal B
Signal A
SNP−physical position: 137553710

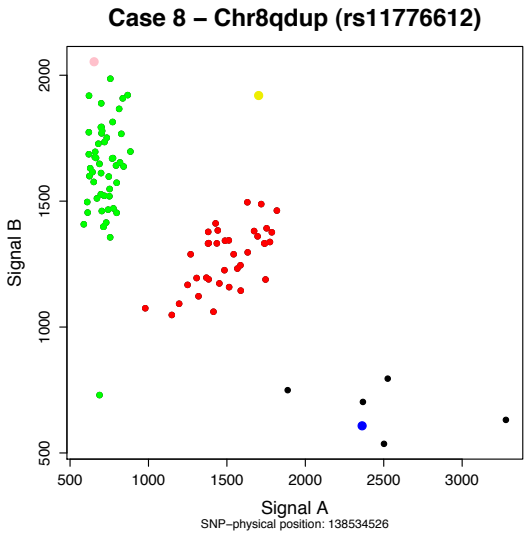

Case 8 – Chr8qdup (rs305261)
Signal B
Signal A
SNP−physical position: 137562031

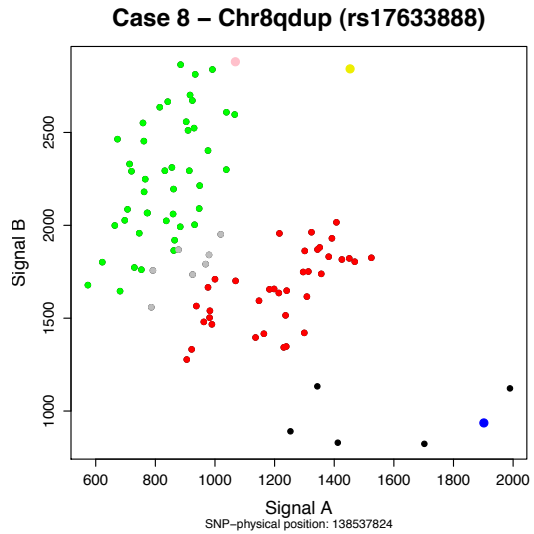

Case 8 – Chr8qdup (rs305316)
Signal B
Signal A
SNP–physical position: 137627146
Case 8 – Chr8qdup (rs305317)
Signal B
Signal A
SNP–physical position: 137627963
Case 8 – Chr8qdup (rs305301)
Signal B
Signal A
SNP–physical position: 137672952
Case 8 – Chr8qdup (rs17646599)
Signal B
Signal A
SNP–physical position: 137687955
Case 8 – Chr8qdup (rs17587015)
Signal B
Signal A
SNP–physical position: 137732719
Case 8 – Chr8qdup (rs17587101)
Signal B
Signal A
SNP–physical position: 137734805
Case 8 – Chr8qdup (rs17647461)
Signal B
Signal A
SNP–physical position: 137735286
Case 8 – Chr8qdup (rs10505663)
Signal B
Signal A
SNP–physical position: 137743543

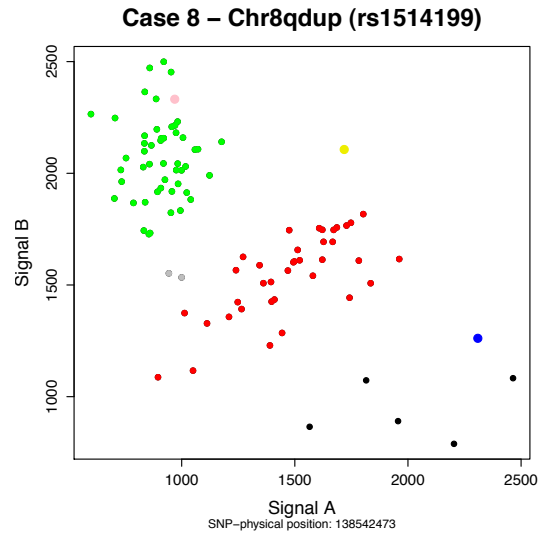

Case 8 – Chr8qdup (rs17587374)
Signal B
Signal A
SNP−physical position: 137745571
Case 8 – Chr8qdup (rs3850496)
Signal B
Signal A
SNP−physical position: 137754601
Case 8 – Chr8qdup (rs3850497)
Signal B
Signal A
SNP−physical position: 137754784
Case 8 – Chr8qdup (rs17594232)
Signal B
Signal A
SNP−physical position: 137768063
Case 8 – Chr8qdup (rs17594668)
Signal B
Signal A
SNP−physical position: 137776289
Case 8 – Chr8qdup (rs17594878)
Signal B
Signal A
SNP−physical position: 137786437
Case 8 – Chr8qdup (rs17648984)
Signal B
Signal A
SNP−physical position: 137792371
Case 8 – Chr8qdup (rs2610106)
Signal B
Signal A
SNP−physical position: 137808923

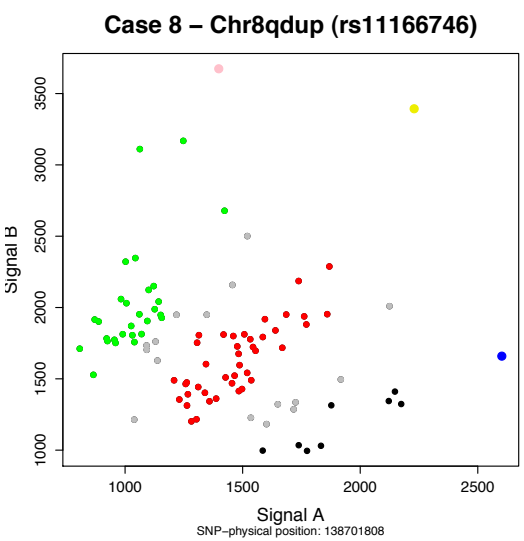

Case 8 – Chr8qdup (rs2610126)
Signal B
Signal A
SNP−physical position: 137825973
Case 8 – Chr8qdup (rs17651007)
Signal B
Signal A
SNP−physical position: 137849443
Case 8 – Chr8qdup (rs17597927)
Signal B
Signal A
SNP−physical position: 137862435
Case 8 – Chr8qdup (rs4909666)
Signal B
Signal A
SNP−physical position: 138404925
Case 8 – Chr8qdup (rs1955320)
Signal B
Signal A
SNP−physical position: 138474085
Case 8 – Chr8qdup (rs11166728)
Signal B
Signal A
SNP−physical position: 138500257
Case 8 – Chr8qdup (rs6998164)
Signal B
Signal A
SNP−physical position: 138528926
Case 8 – Chr8qdup (rs41387048)
Signal B
Signal A
SNP−physical position: 138531362

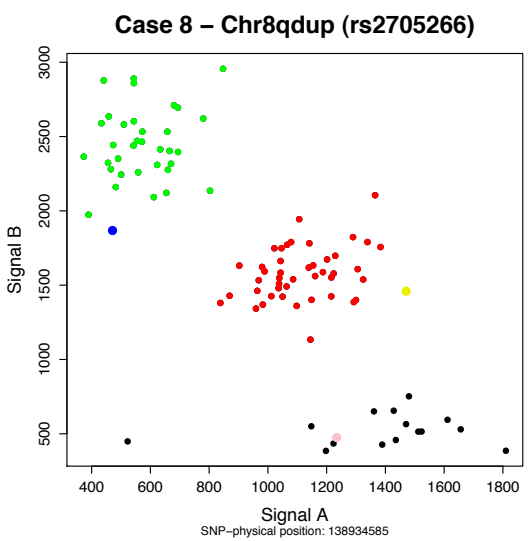

Case 8 – Chr8qdup (rs11786786)
Signal B
Signal A
SNP–physical position: 138534476

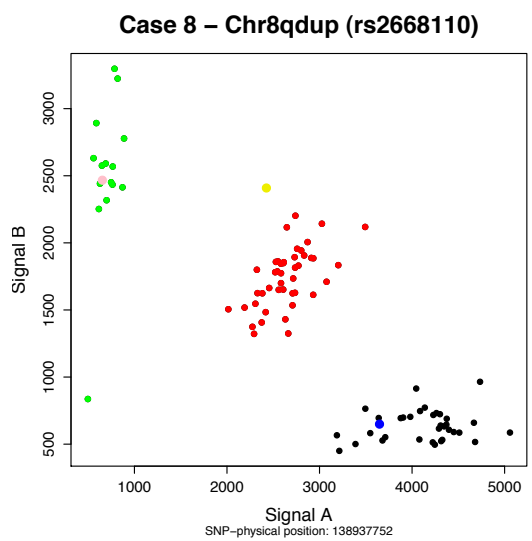

Case 8 – Chr8qdup (rs11776612)
Signal B
Signal A
SNP–physical position: 138534526

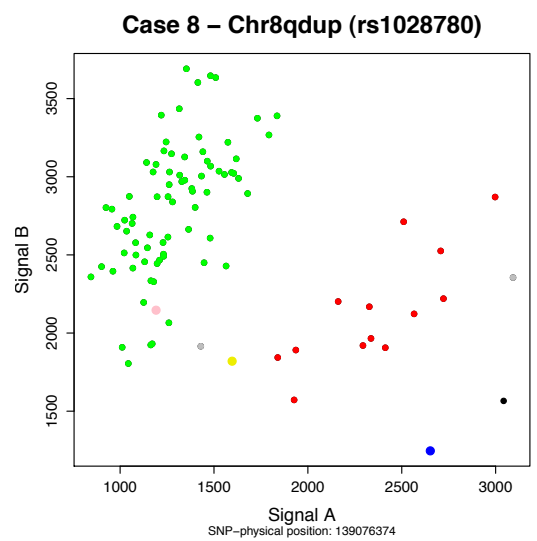

Case 8 – Chr8qdup (rs17633888)
Signal B
Signal A
SNP–physical position: 138537824

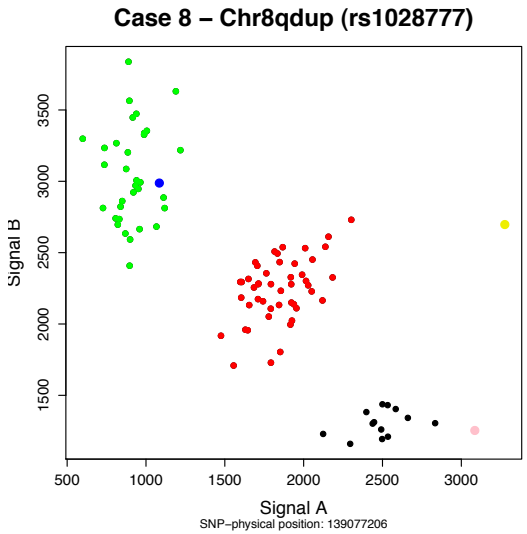

Case 8 – Chr8qdup (rs1514199)
Signal B
Signal A
SNP–physical position: 138542473

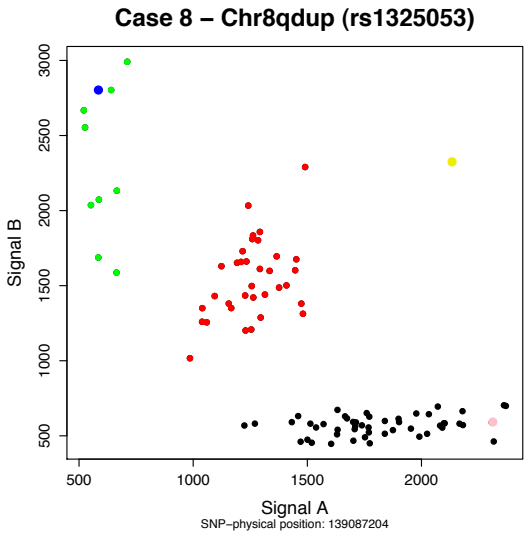

Case 8 – Chr8qdup (rs11166746)
Signal B
Signal A
SNP–physical position: 138701808

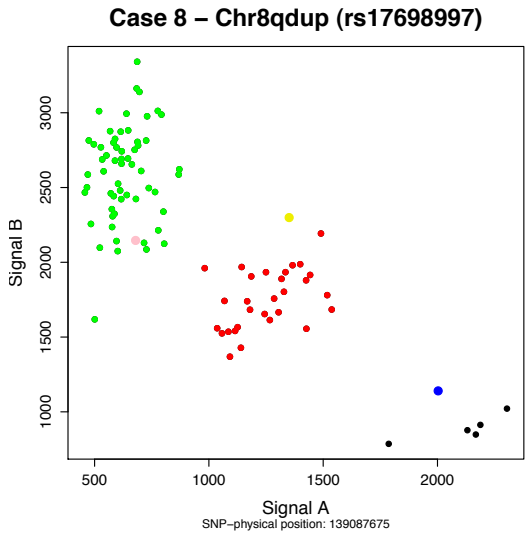

Case 8 – Chr8qdup (rs2705266)
Signal B
Signal A
SNP–physical position: 138934585

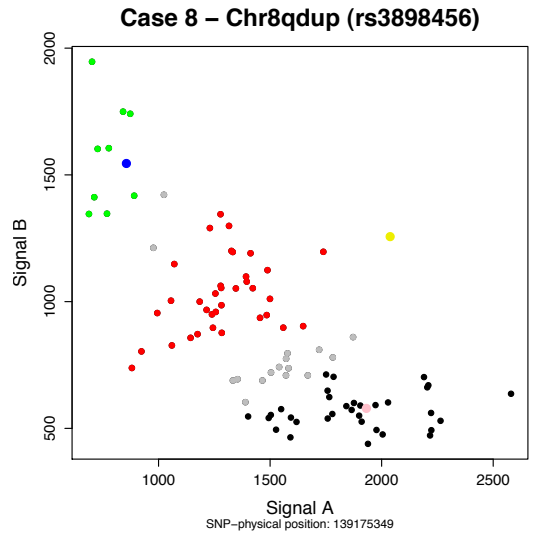

Case 8 – Chr8qdup (rs2668110)
Signal B
Signal A
SNP–physical position: 138937752

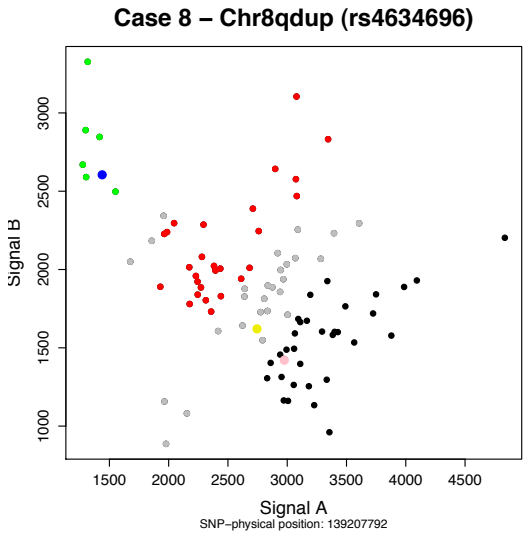

Case 8 – Chr8qdup (rs1028780)
Signal B
Signal A
SNP–physical position: 139076374

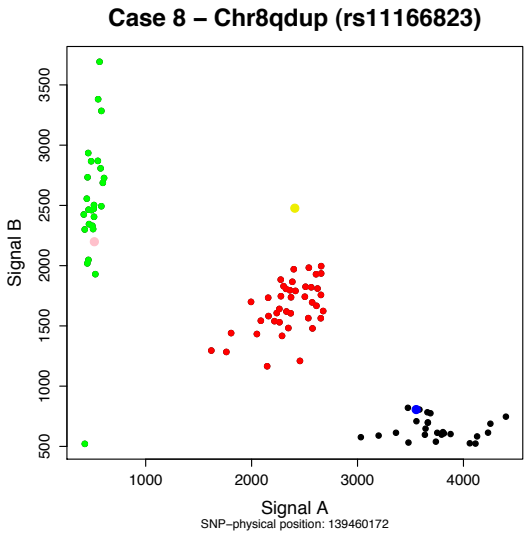

Case 8 – Chr8qdup (rs1028777)
Signal B
Signal A
SNP−physical position: 139077206

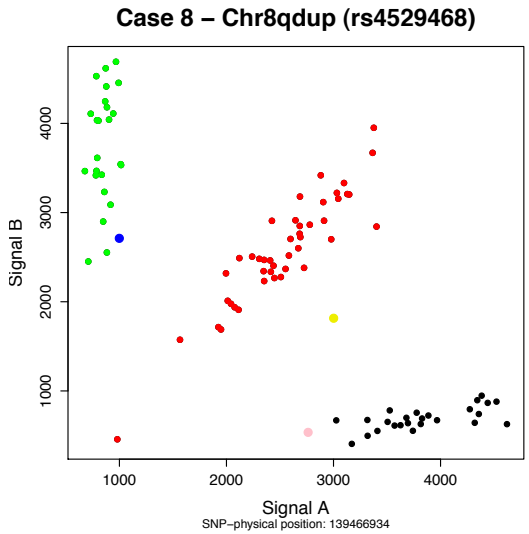

Case 8 – Chr8qdup (rs1325053)
Signal B
Signal A
SNP−physical position: 139087204

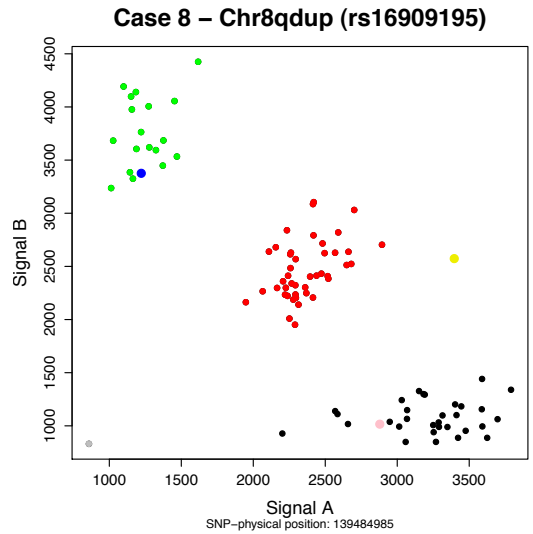

Case 8 – Chr8qdup (rs17698997)
Signal B
Signal A
SNP−physical position: 139087675

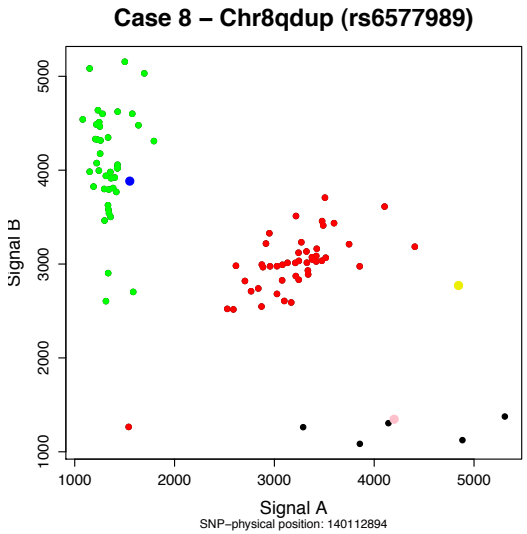

Case 8 – Chr8qdup (rs3898456)
Signal B
Signal A
SNP−physical position: 139175349

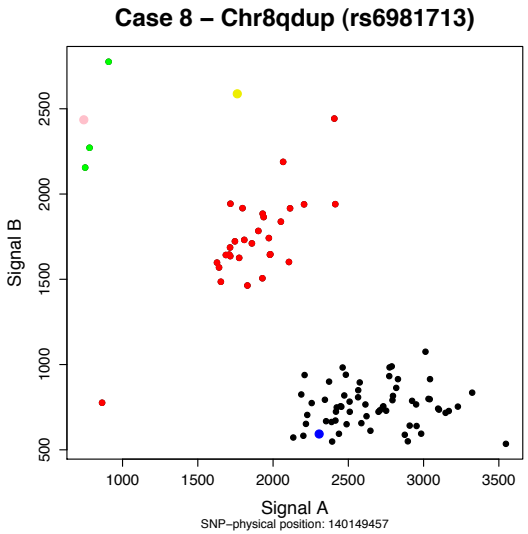

Case 8 – Chr8qdup (rs4634696)
Signal B
Signal A
SNP−physical position: 139207792

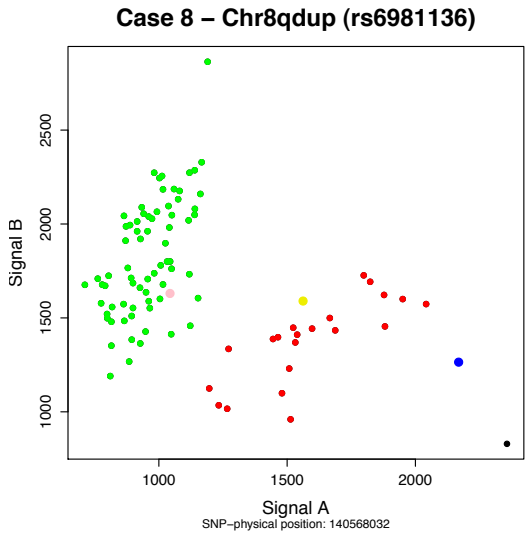

Case 8 – Chr8qdup (rs11166823)
Signal B
Signal A
SNP−physical position: 139460172

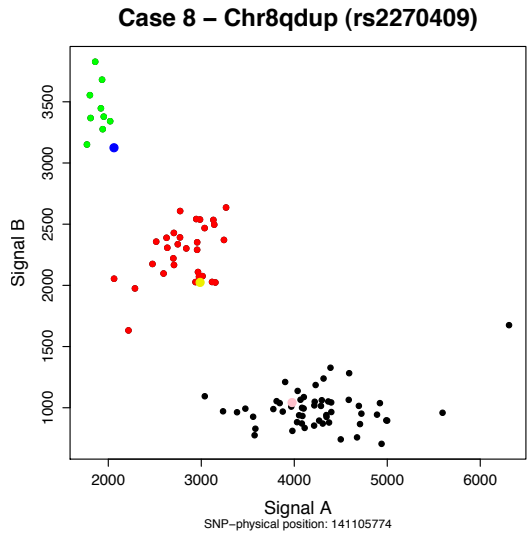

Case 8 – Chr8qdup (rs4529468)
Signal B
Signal A
SNP−physical position: 139466934

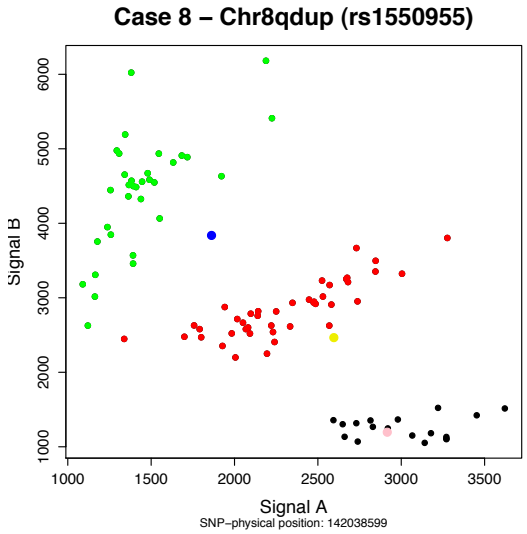

Case 8 – Chr8qdup (rs16909195)
Signal B
Signal A
SNP−physical position: 139484985

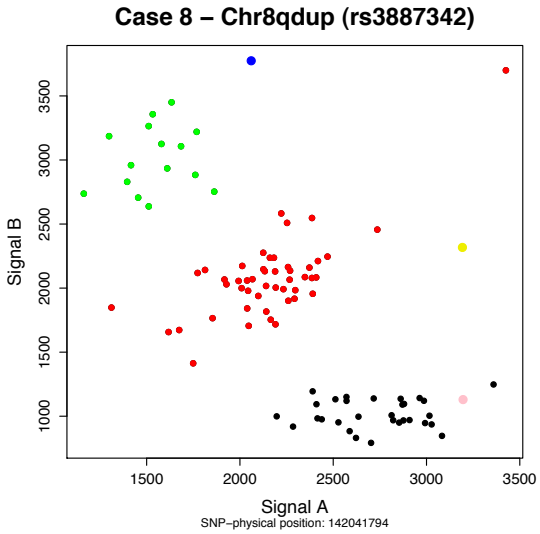

Case 8 – Chr8qdup (rs6577989)
Signal B
Signal A
SNP−physical position: 140112894

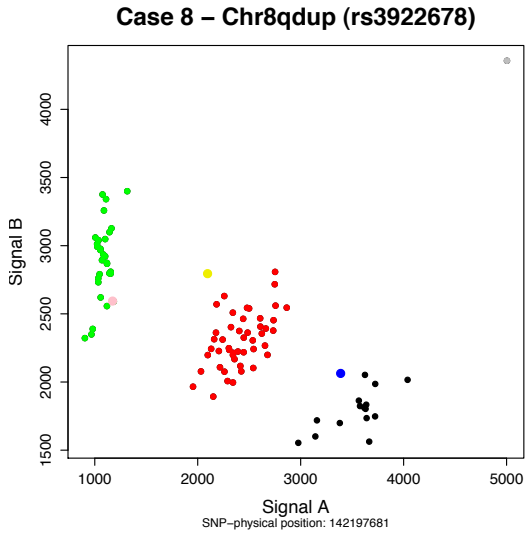

Case 8 – Chr8qdup (rs6981713)
Signal B
Signal A
SNP−physical position: 140149457

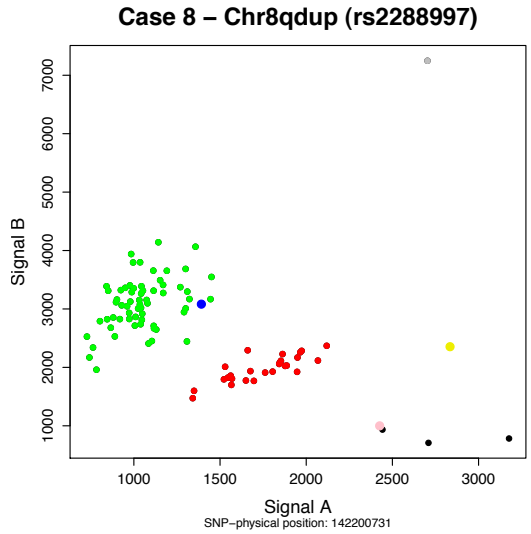

Case 8 – Chr8qdup (rs6981136)
Signal B
Signal A
SNP−physical position: 140568032

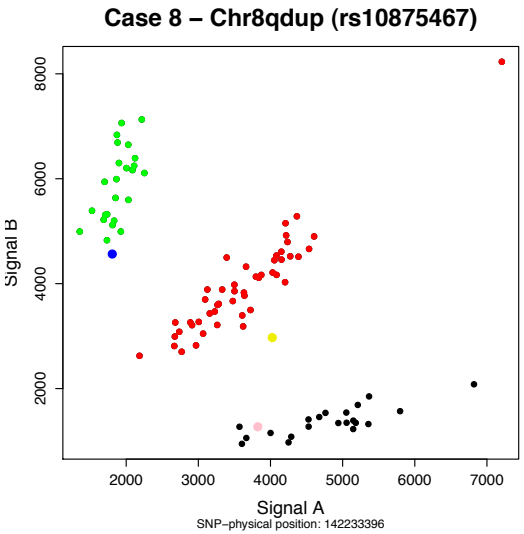

Case 8 – Chr8qdup (rs2270409)
Signal B
Signal A
SNP−physical position: 141105774

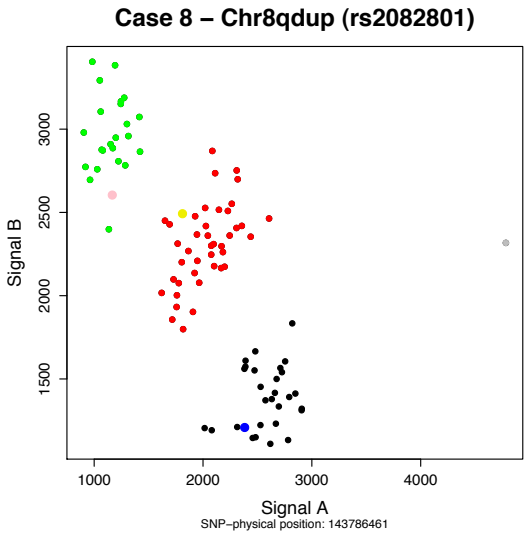

Case 8 – Chr8qdup (rs1550955)
Signal B
Signal A
SNP−physical position: 142038599

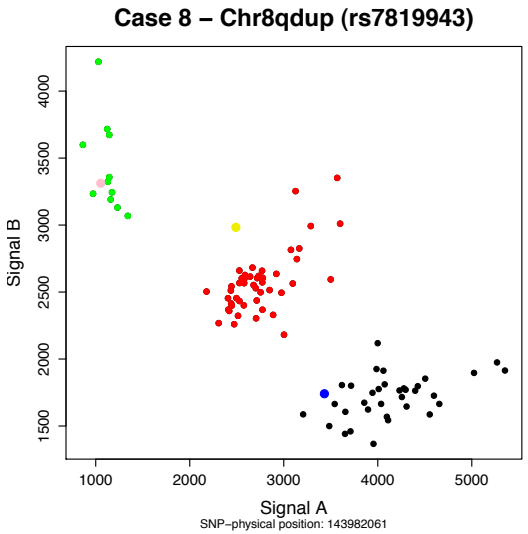

Case 8 – Chr8qdup (rs3887342)
Signal B
Signal A
SNP−physical position: 142041794

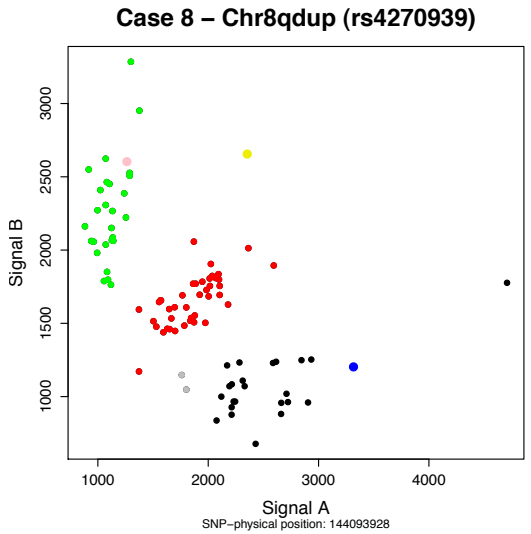

Case 8 – Chr8qdup (rs3922678)
Signal B
Signal A
SNP−physical position: 142197681

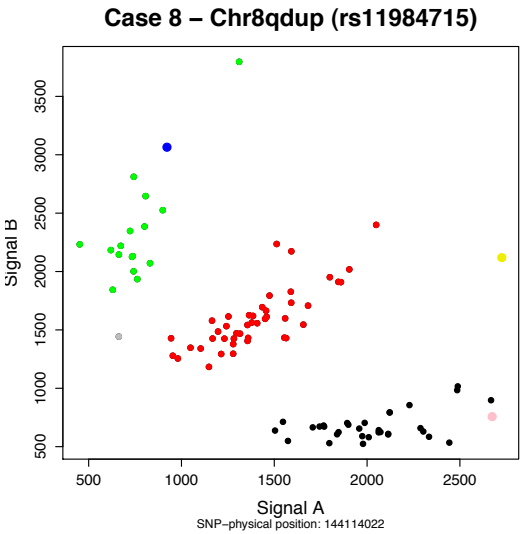

Case 8 – Chr8qdup (rs2288997)
Signal B
Signal A
SNP−physical position: 142200731

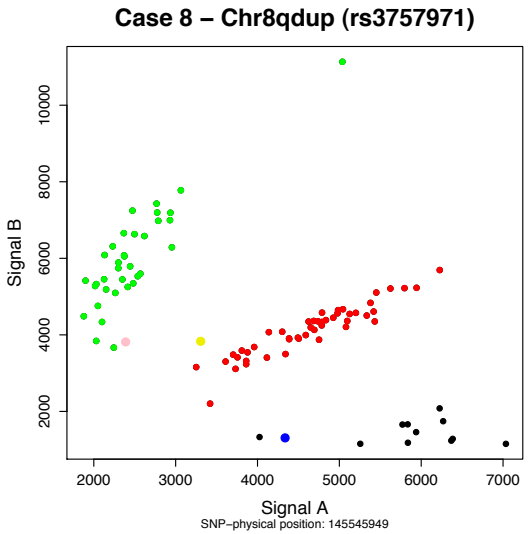

Case 8 – Chr8qdup (rs10875467)
Signal B
Signal A
SNP−physical position: 142233396

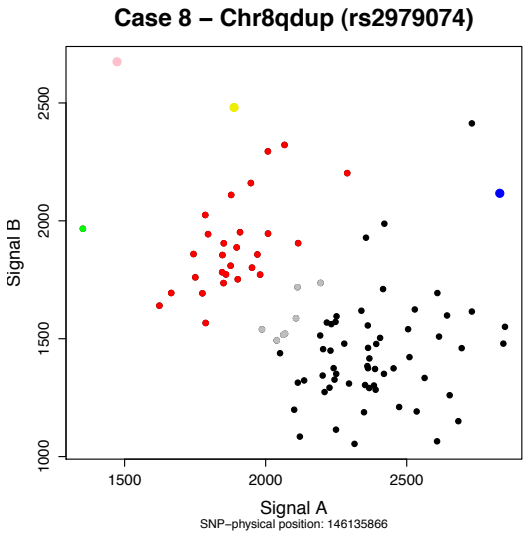

Case 8 – Chr8qdup (rs2082801)
Signal B
Signal A
SNP−physical position: 143786461


Case 8 – Chr8qdup (rs7819943)
Signal B
Signal A
SNP−physical position: 143982061

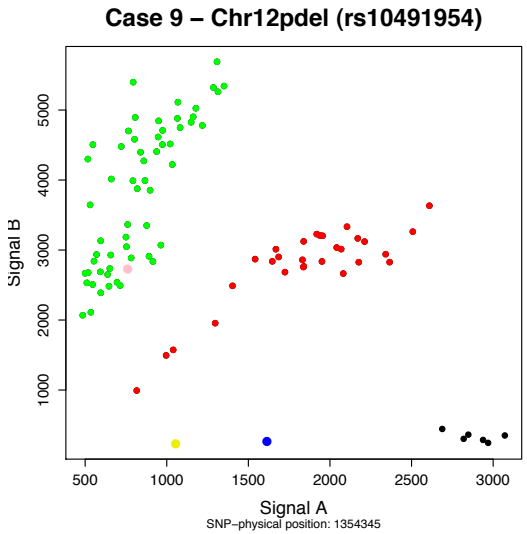

Case 8 – Chr8qdup (rs4270939)
Signal B
Signal A
SNP−physical position: 144093928

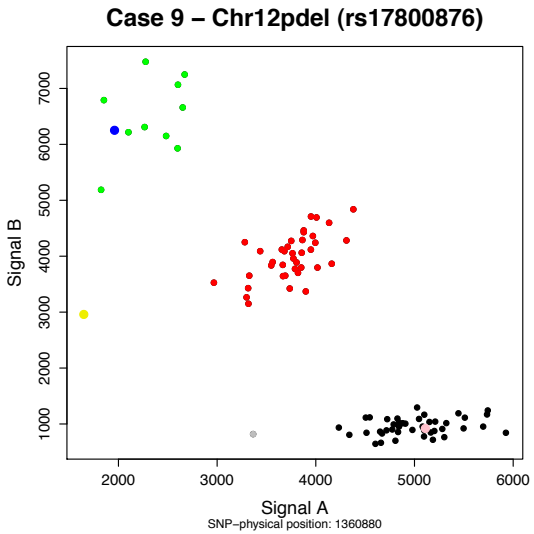

Case 8 – Chr8qdup (rs11984715)
Signal B
Signal A
SNP−physical position: 144114022

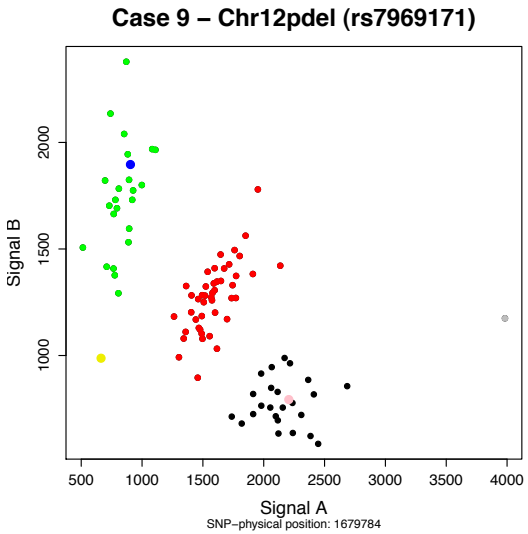

Case 8 – Chr8qdup (rs3757971)
Signal B
Signal A
SNP−physical position: 145545949

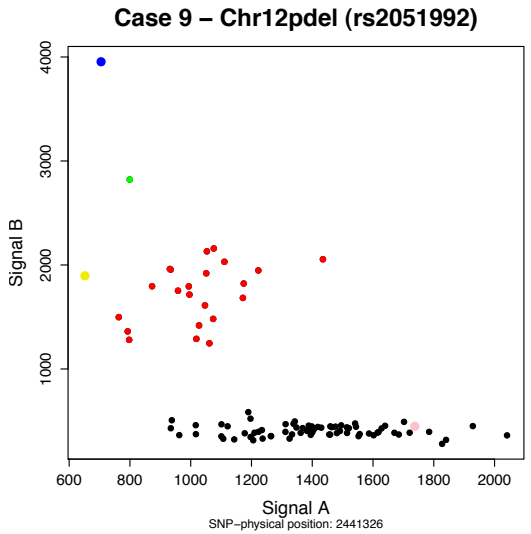

Case 8 – Chr8qdup (rs2979074)
Signal B
Signal A
SNP−physical position: 146135866

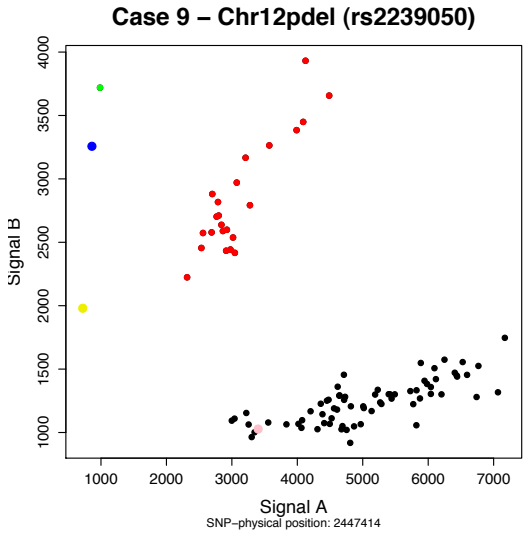
Case: 9
Chromosome: 12p
Abberation: del.

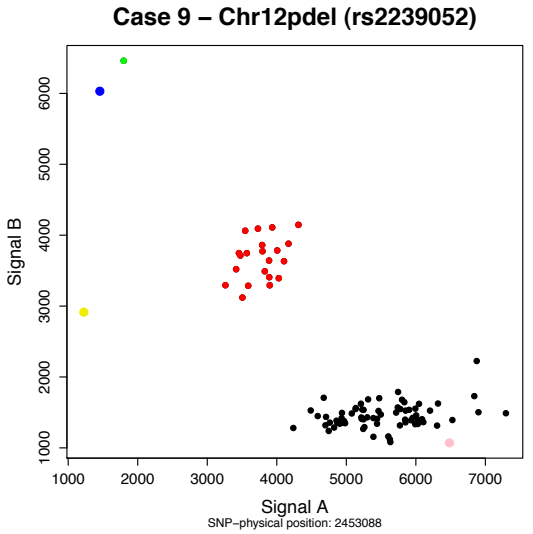

Case 9 – Chr12pdel (rs10491954)
Signal B
Signal A
SNP–physical position: 1354345

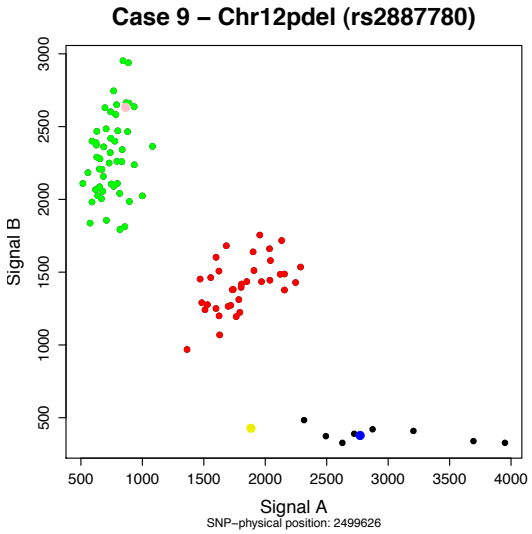

Case 9 – Chr12pdel (rs17800876)
Signal B
Signal A
SNP–physical position: 1360880

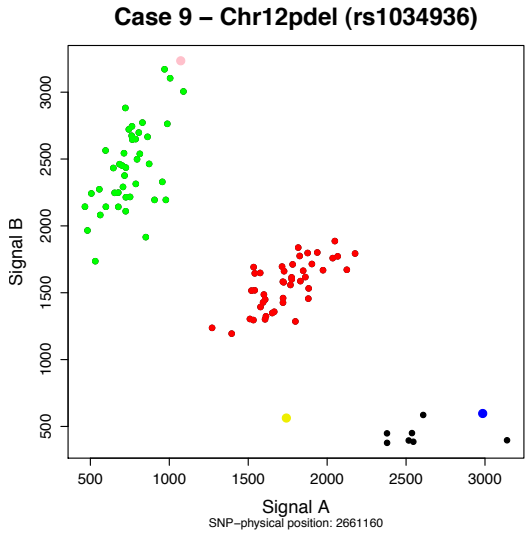

Case 9 – Chr12pdel (rs7969171)
Signal B
Signal A
SNP–physical position: 1679784

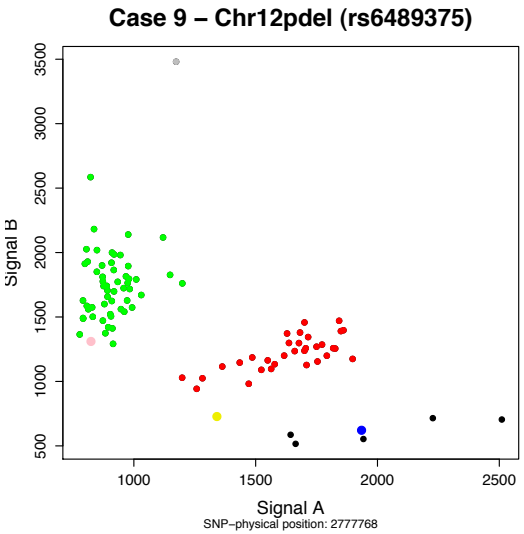

Case 9 – Chr12pdel (rs2051992)
Signal B
Signal A
SNP–physical position: 2441326

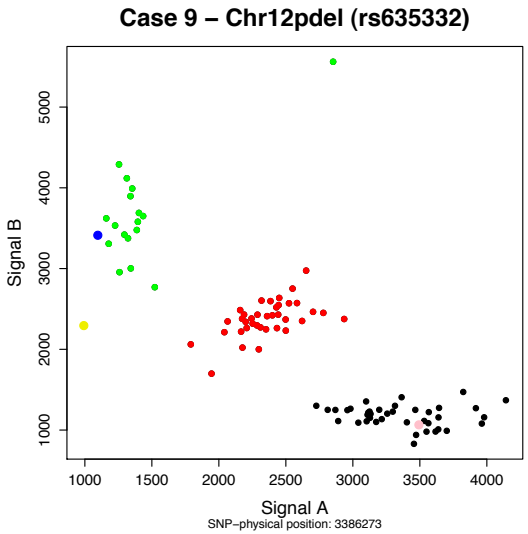

Case 9 – Chr12pdel (rs2239050)
Signal B
Signal A
SNP–physical position: 2447414

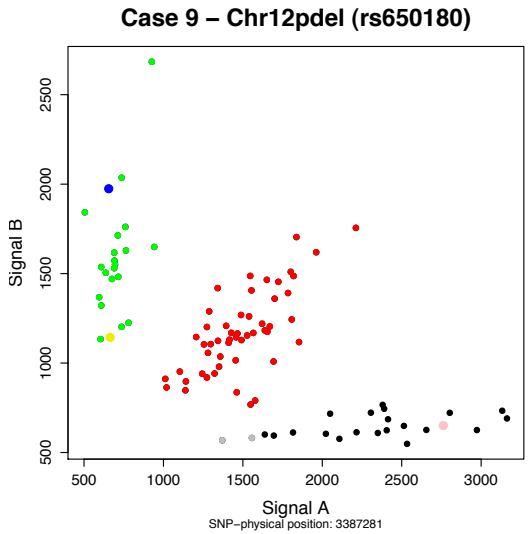

Case 9 – Chr12pdel (rs2239052)
Signal B
Signal A
SNP–physical position: 2453088

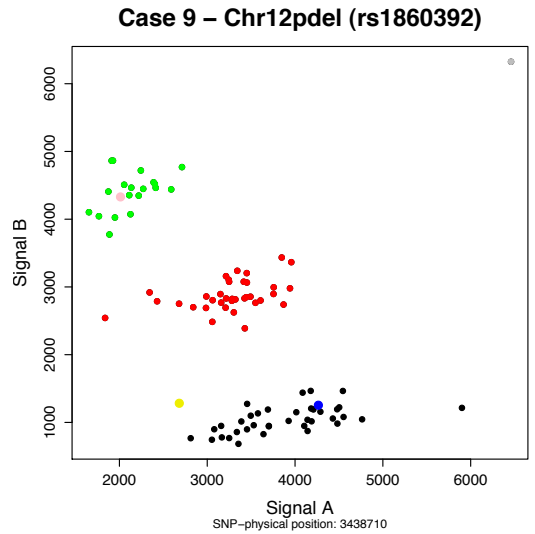

Case 9 – Chr12pdel (rs2887780)
Signal B
Signal A
SNP–physical position: 2499626

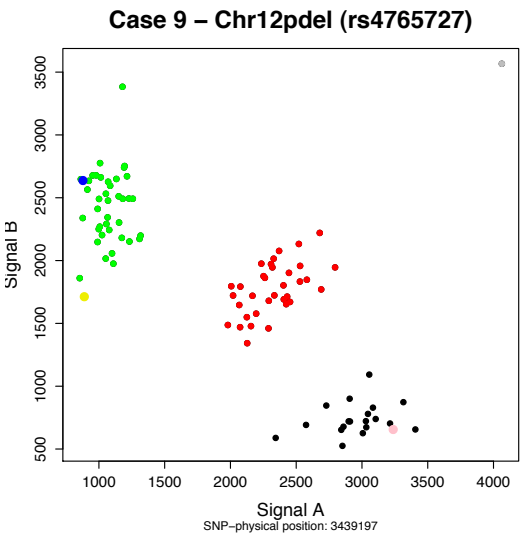

Case 9 – Chr12pdel (rs1034936)
Signal B
Signal A
SNP–physical position: 2661160

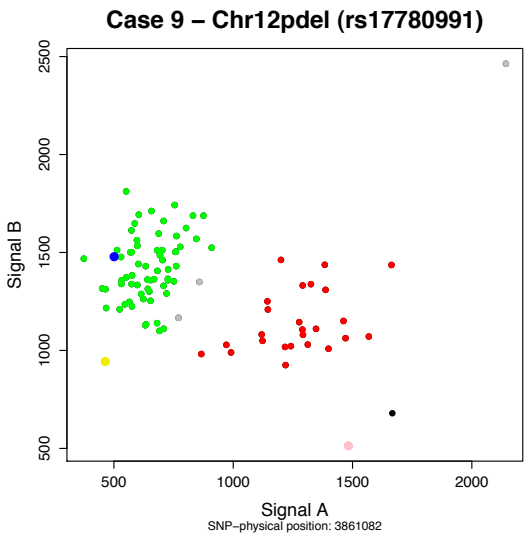

Case 9 – Chr12pdel (rs6489375)
Signal B
Signal A
SNP–physical position: 2777768

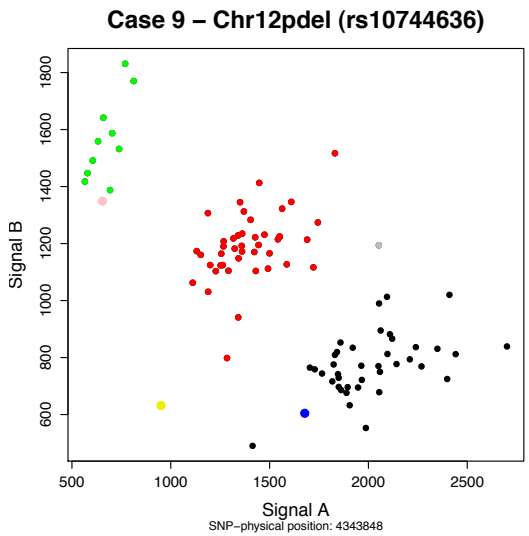

Case 9 – Chr12pdel (rs635332)
Signal B
Signal A
SNP–physical position: 3386273

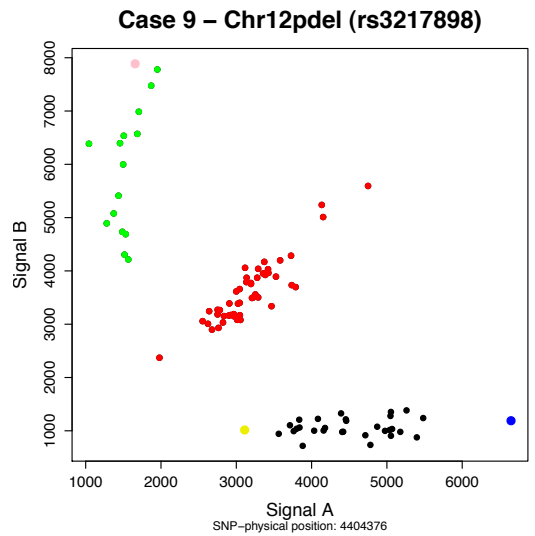

Case 9 – Chr12pdel (rs650180)
Signal B
Signal A
SNP–physical position: 3387281

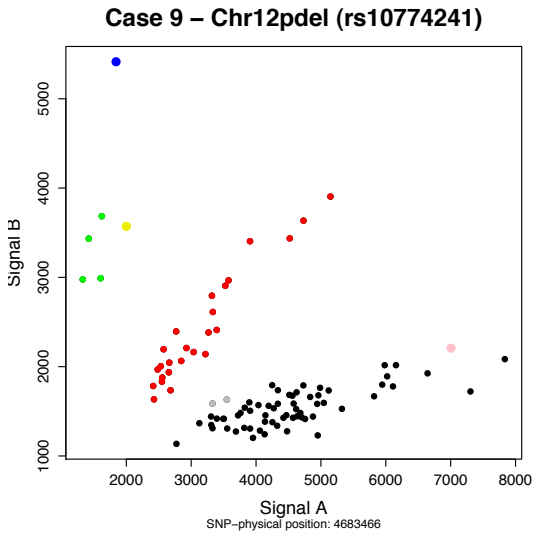

Case 9 – Chr12pdel (rs1860392)
Signal B
Signal A
SNP–physical position: 3438710

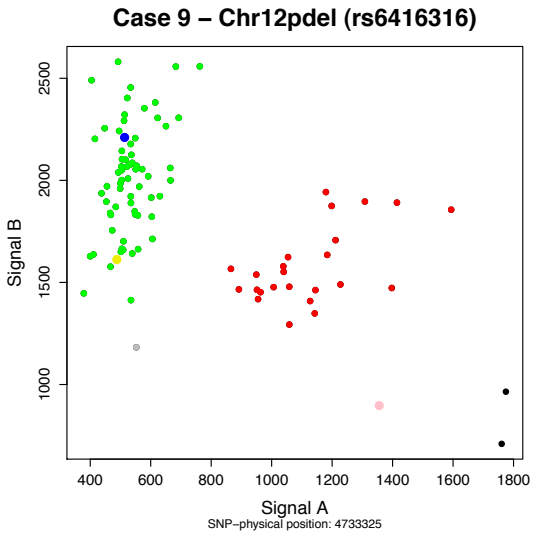

Case 9 – Chr12pdel (rs4765727)
Signal B
Signal A
SNP–physical position: 3439197

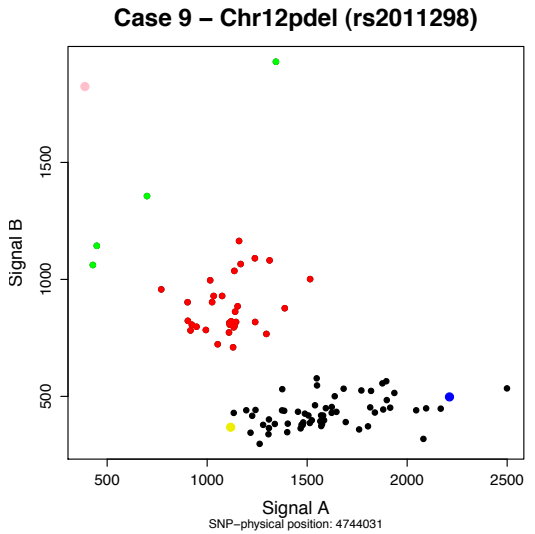

Case 9 – Chr12pdel (rs17780991)
Signal B
Signal A
SNP–physical position: 3861082

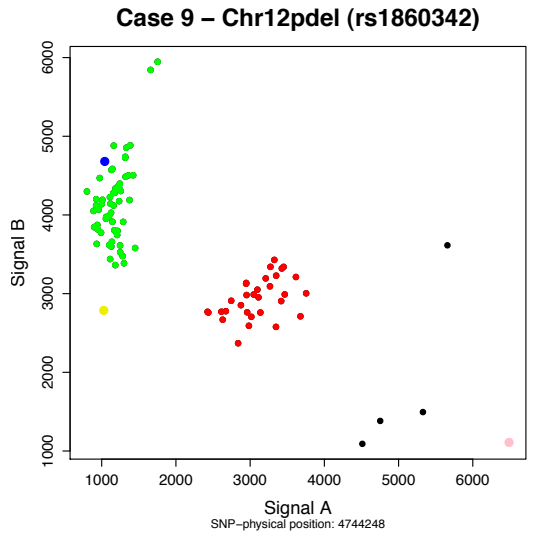

Case 9 – Chr12pdel (rs10744636)
Signal B
Signal A
SNP–physical position: 4343848

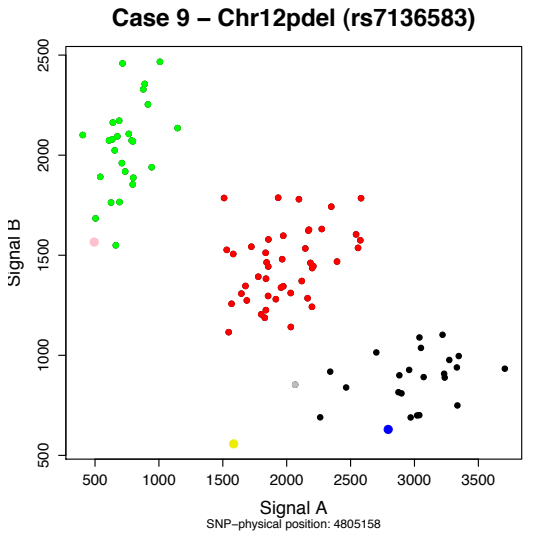

Case 9 – Chr12pdel (rs3217898)
Signal B
Signal A
SNP–physical position: 4404376

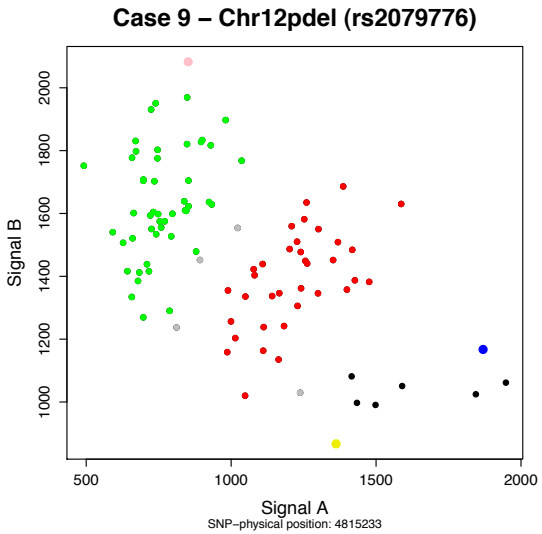

Case 9 – Chr12pdel (rs10774241)
Signal B
Signal A
SNP–physical position: 4683466

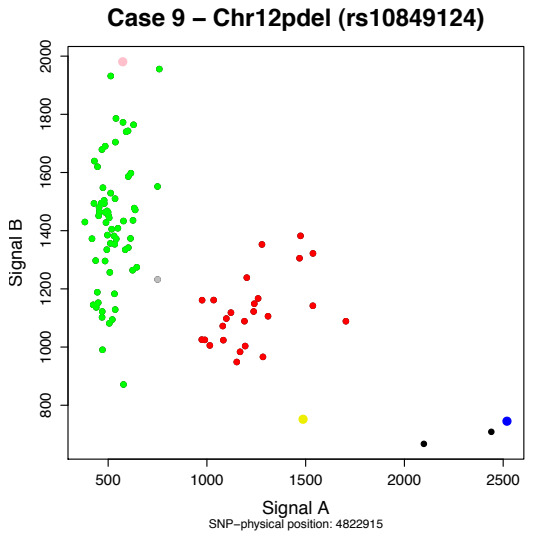

Case 9 – Chr12pdel (rs6416316)
Signal B
Signal A
SNP–physical position: 4733325

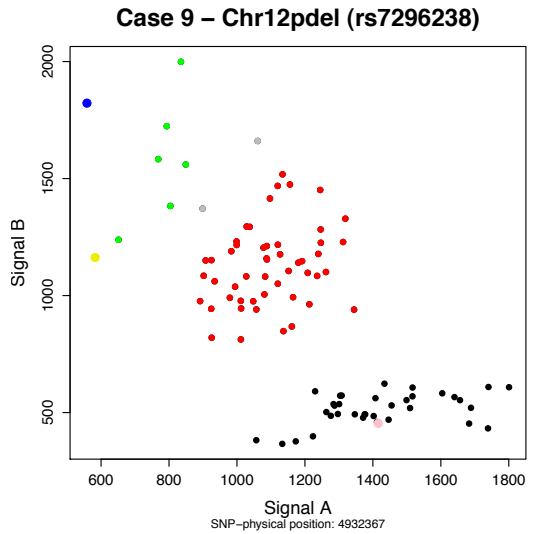

Case 9 – Chr12pdel (rs2011298)
Signal B
Signal A
SNP–physical position: 4744031

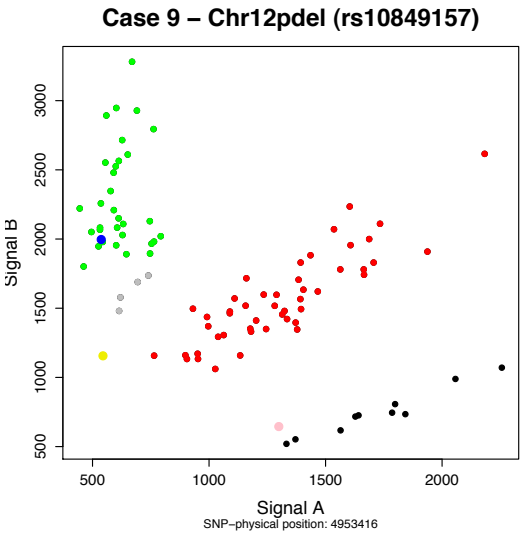

Case 9 – Chr12pdel (rs1860342)
Signal B
Signal A
SNP–physical position: 4744248

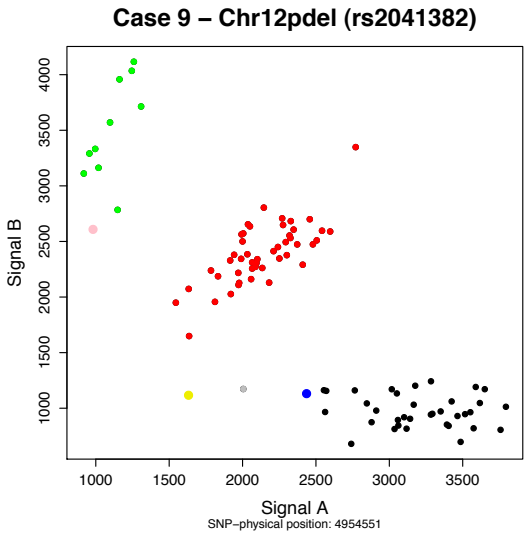

Case 9 – Chr12pdel (rs7136583)
Signal B
Signal A
SNP–physical position: 4805158

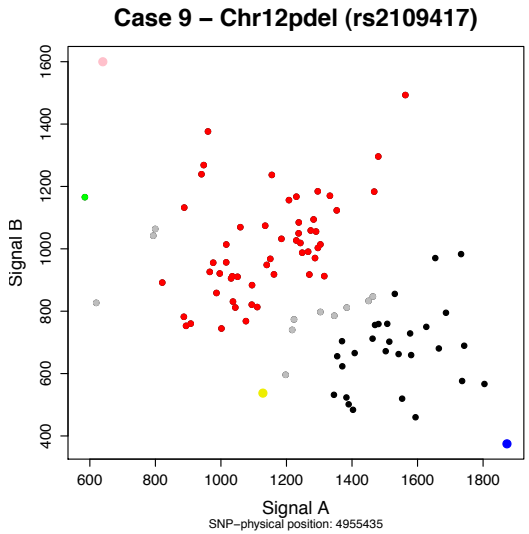

Case 9 – Chr12pdel (rs2079776)
Signal B
Signal A
SNP–physical position: 4815233

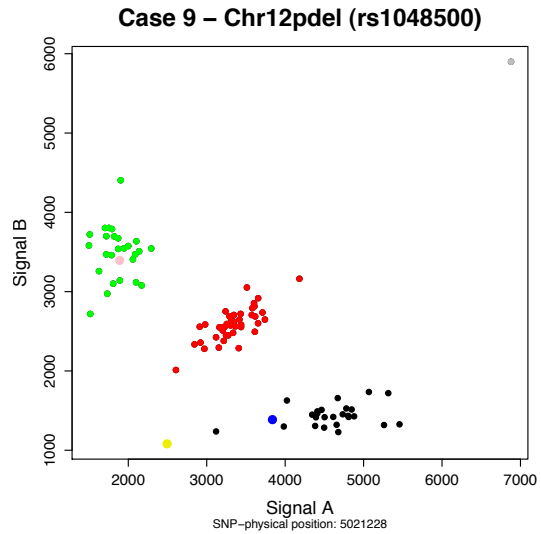

Case 9 – Chr12pdel (rs10849124)
Signal B
Signal A
SNP–physical position: 4822915

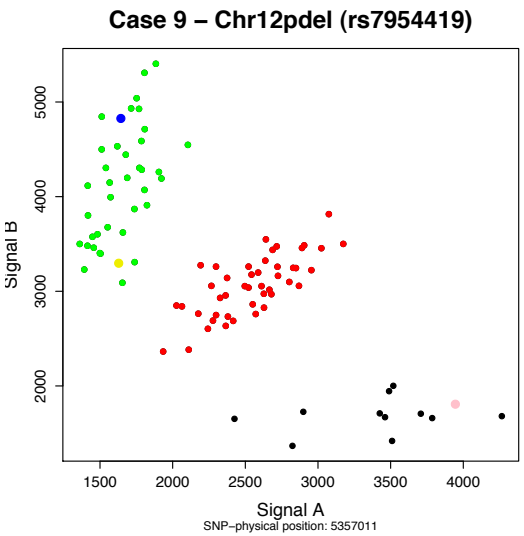

Case 9 – Chr12pdel (rs7296238)
Signal B
Signal A
SNP–physical position: 4932367

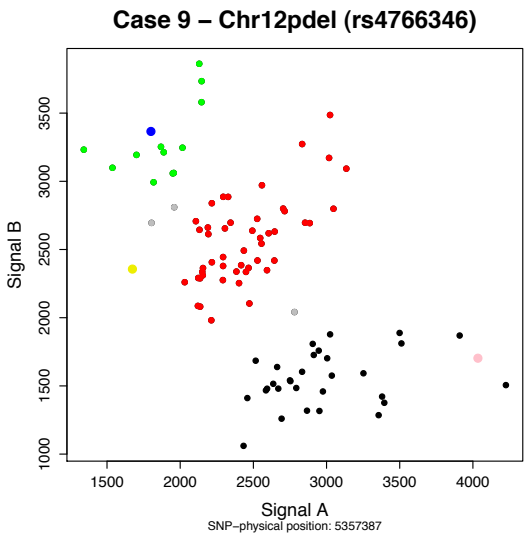

Case 9 – Chr12pdel (rs10849157)
Signal B
Signal A
SNP–physical position: 4953416

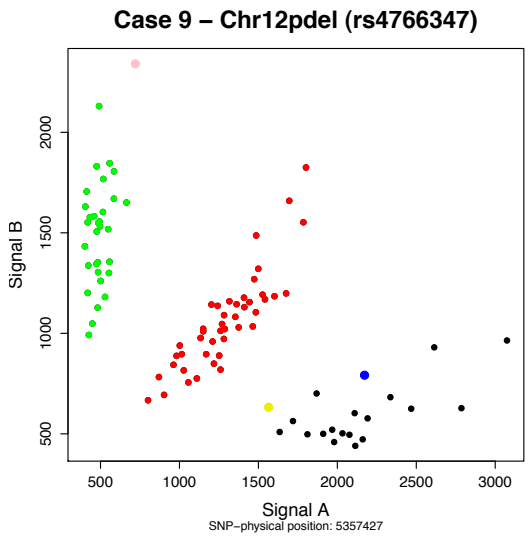

Case 9 – Chr12pdel (rs2041382)
Signal B
Signal A
SNP–physical position: 4954551

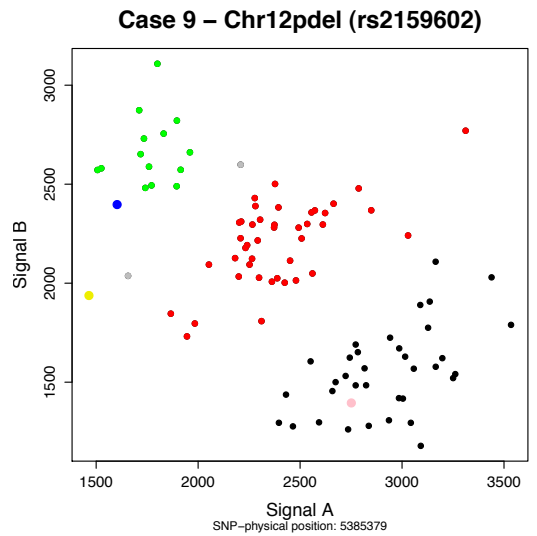

Case 9 – Chr12pdel (rs2109417)
Signal B
Signal A
SNP–physical position: 4955435


Case 9 – Chr12pdel (rs1048500)
Signal B
Signal A
SNP–physical position: 5021228

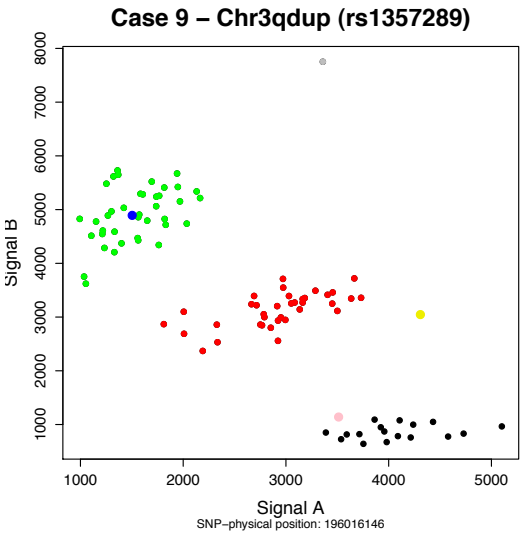

Case 9 – Chr12pdel (rs7954419)
Signal B
Signal A
SNP–physical position: 5357011

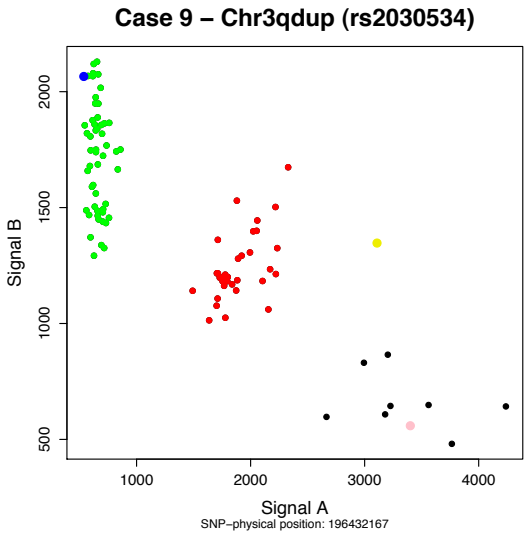

Case 9 – Chr12pdel (rs4766346)
Signal B
Signal A
SNP–physical position: 5357387

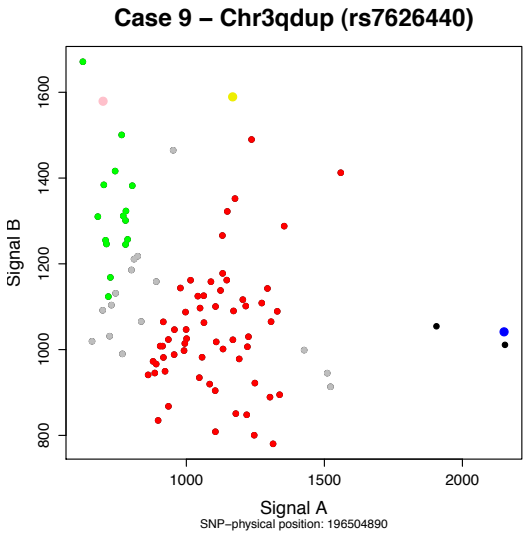

Case 9 – Chr12pdel (rs4766347)
Signal B
Signal A
SNP–physical position: 5357427

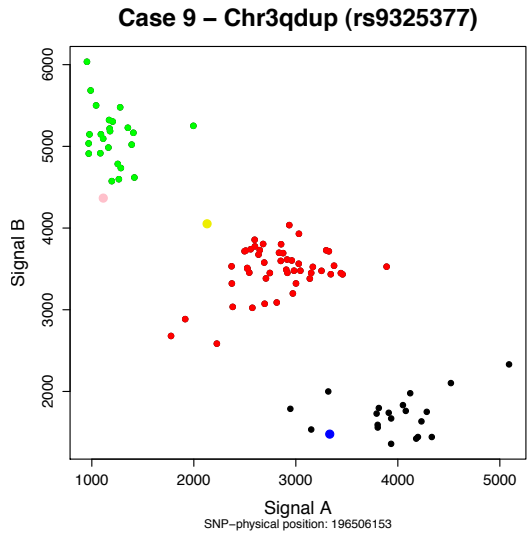

Case 9 – Chr12pdel (rs2159602)
Signal B
Signal A
SNP–physical position: 5385379

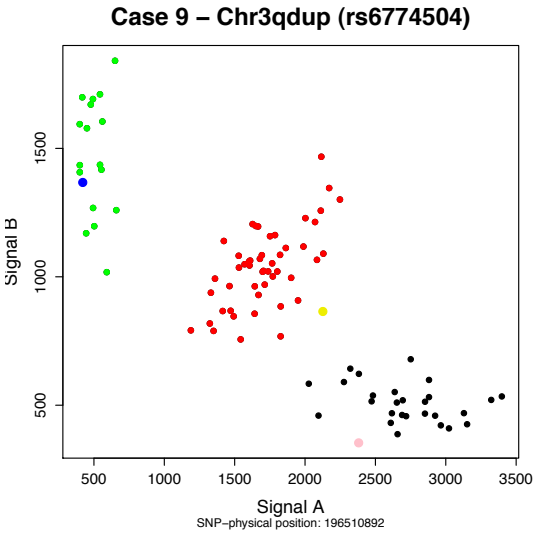
Case: 9
Chromosome: 3q
Abberation: dup.

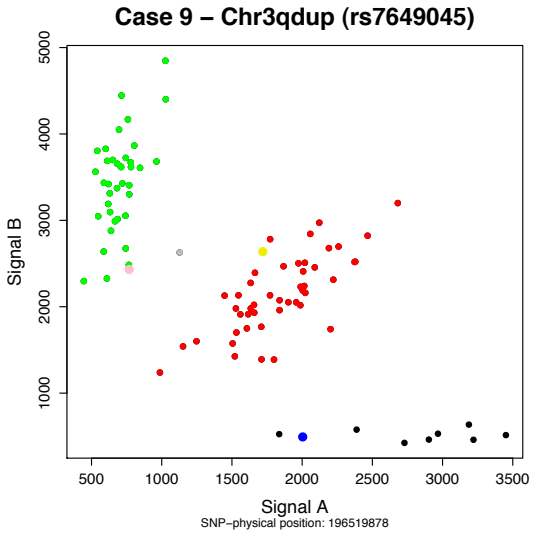

Case 9 – Chr3qdup (rs1357289)
Signal B
Signal A
SNP−physical position: 196016146


Case 9 – Chr3qdup (rs2030534)
Signal B
Signal A
SNP−physical position: 196432167

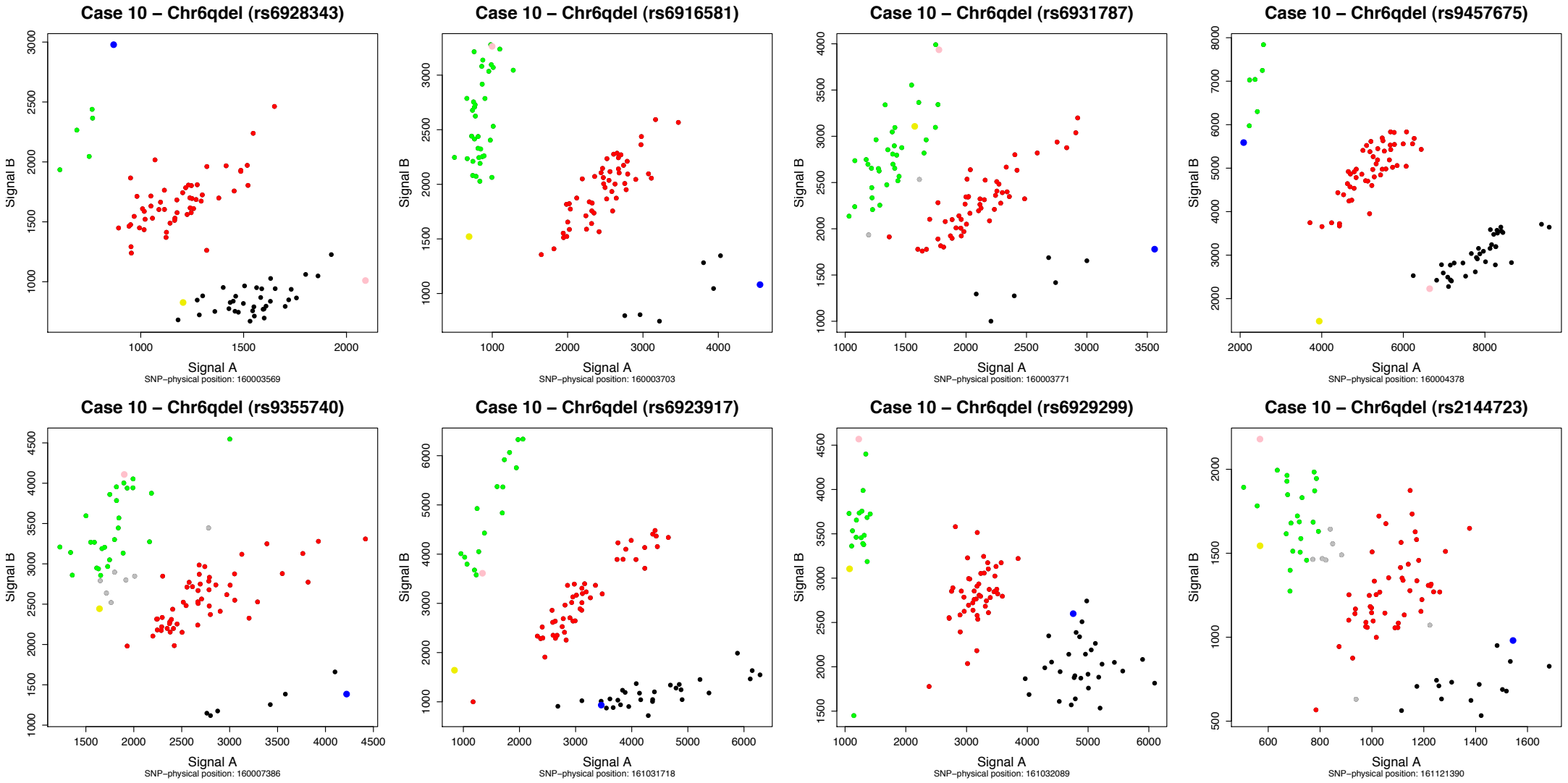

Case 9 – Chr3qdup (rs7626440)
Signal B
Signal A
SNP−physical position: 196504890

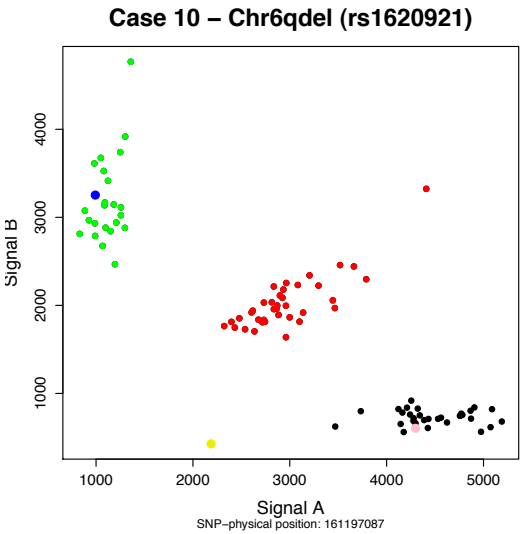

Case 9 – Chr3qdup (rs9325377)
Signal B
Signal A
SNP−physical position: 196506153

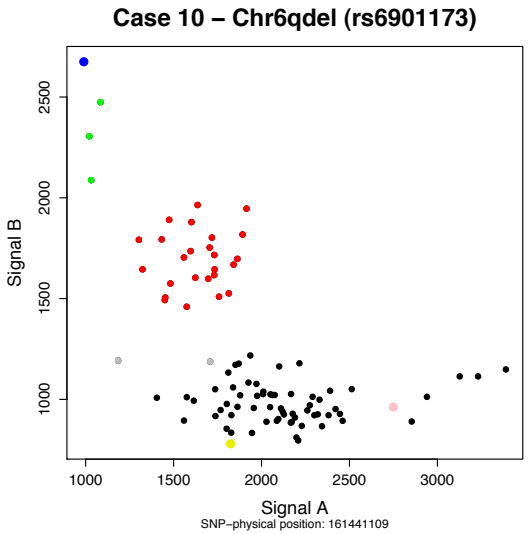

Case 9 – Chr3qdup (rs6774504)
Signal B
Signal A
SNP−physical position: 196510892

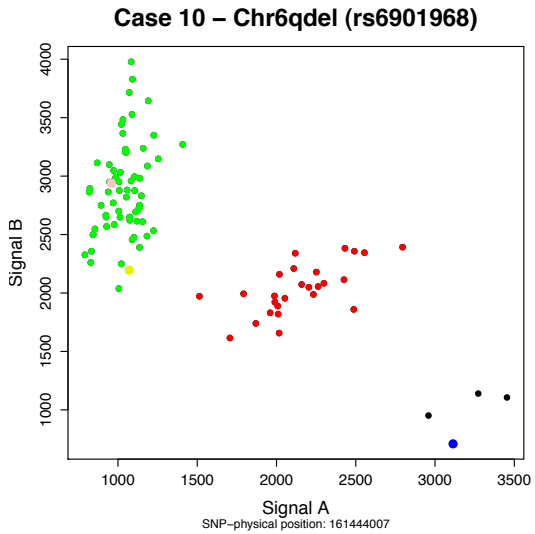

Case 9 – Chr3qdup (rs7649045)
Signal B
Signal A
SNP−physical position: 196519878

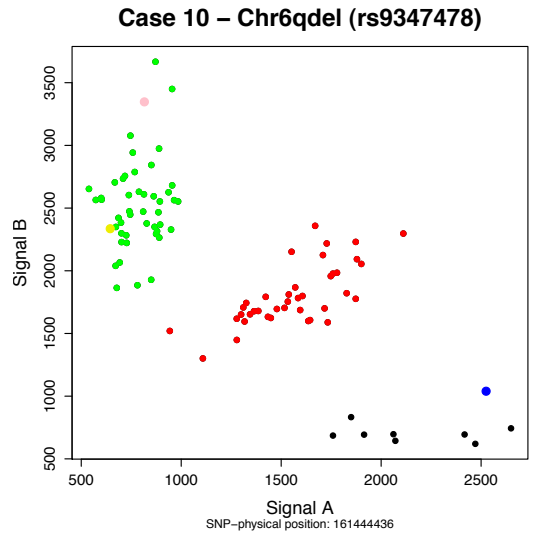
Case: 10
Chromosome: 6q
Abberation: del.

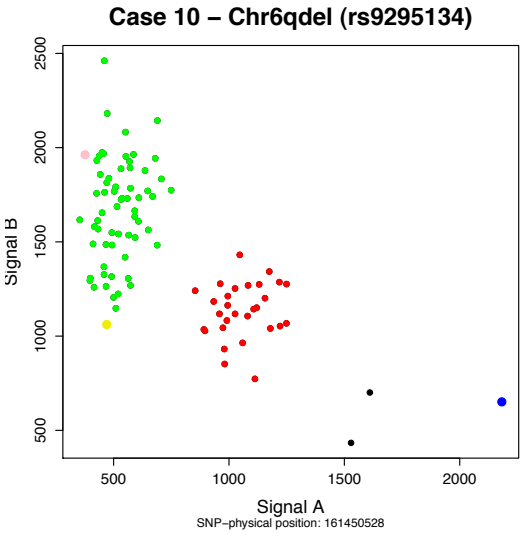

Case 10 – Chr6qdel (rs6928343)
Signal B
Signal A
SNP–physical position: 160003569
Case 10 – Chr6qdel (rs6916581)
Signal B
Signal A
SNP–physical position: 160003703
Case 10 – Chr6qdel (rs6931787)
Signal B
Signal A
SNP–physical position: 160003771
Case 10 – Chr6qdel (rs9457675)
Signal B
Signal A
SNP–physical position: 160004378
Case 10 – Chr6qdel (rs9355740)
Signal B
Signal A
SNP–physical position: 160007386
Case 10 – Chr6qdel (rs6923917)
Signal B
Signal A
SNP–physical position: 161031718
Case 10 – Chr6qdel (rs6929299)
Signal B
Signal A
SNP–physical position: 161032089
Case 10 – Chr6qdel (rs2144723)
Signal B
Signal A
SNP–physical position: 161121390

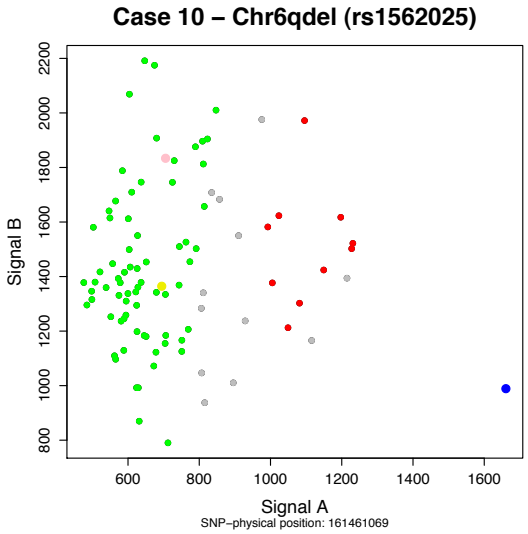

Case 10 – Chr6qdel (rs1620921)
Signal B
Signal A
SNP–physical position: 161197087

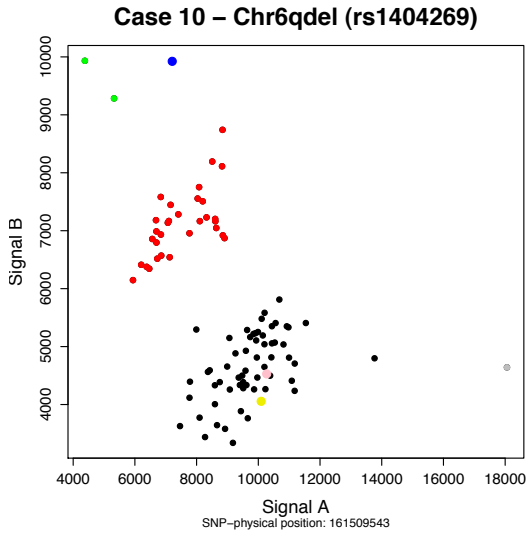

Case 10 – Chr6qdel (rs6901173)
Signal B
Signal A
SNP–physical position: 161441109

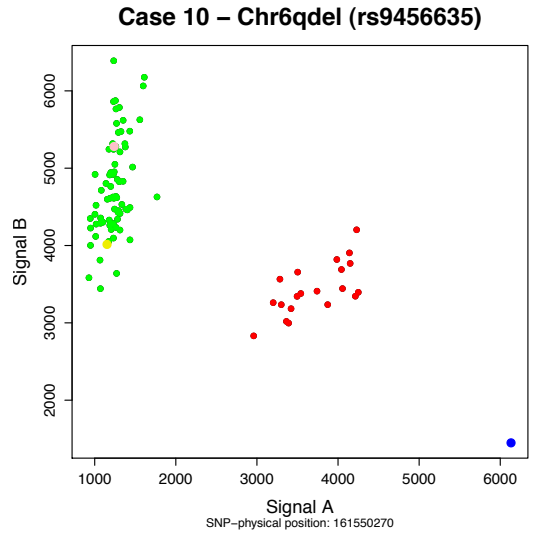

Case 10 – Chr6qdel (rs6901968)
Signal B
Signal A
SNP–physical position: 161444007

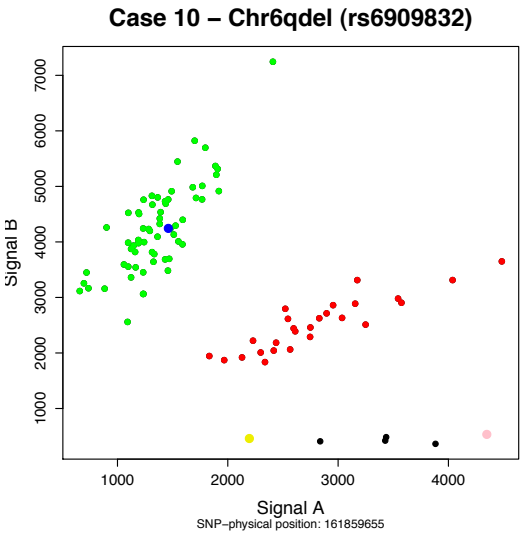

Case 10 – Chr6qdel (rs9347478)
Signal B
Signal A
SNP–physical position: 161444436

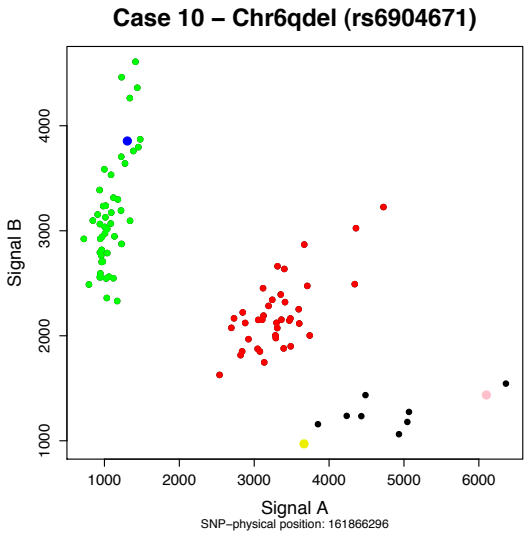

Case 10 – Chr6qdel (rs9295134)
Signal B
Signal A
SNP–physical position: 161450528

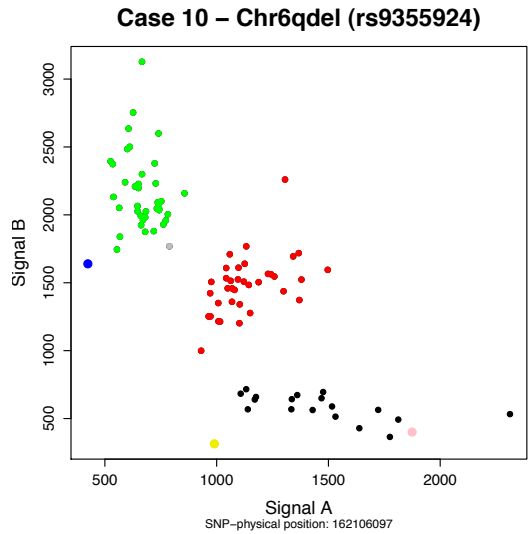

Case 10 – Chr6qdel (rs1562025)
Signal B
Signal A
SNP–physical position: 161461069

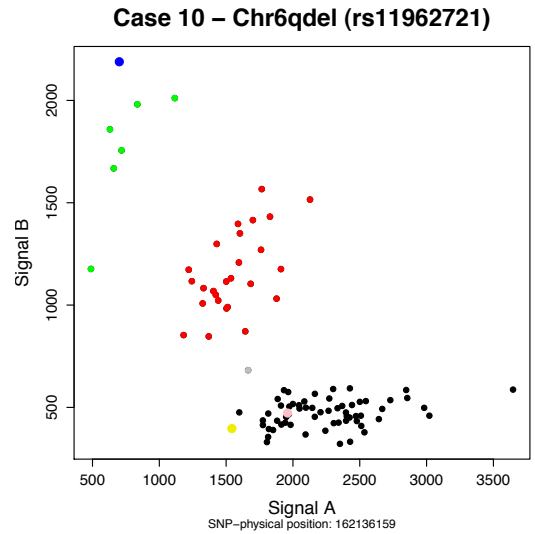

Case 10 – Chr6qdel (rs1404269)
Signal B
Signal A
SNP–physical position: 161509543

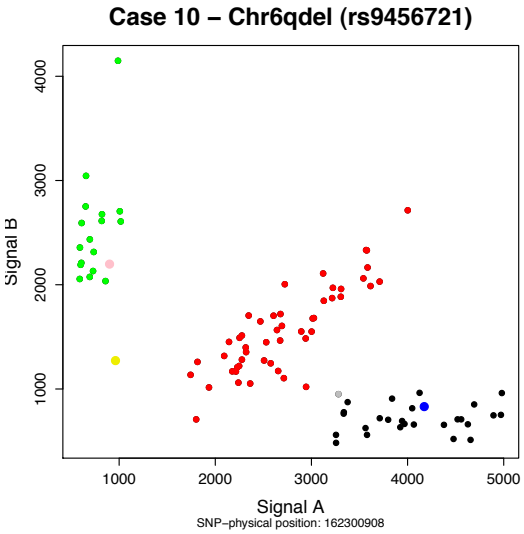

Case 10 – Chr6qdel (rs9456635)
Signal B
Signal A
SNP–physical position: 161550270

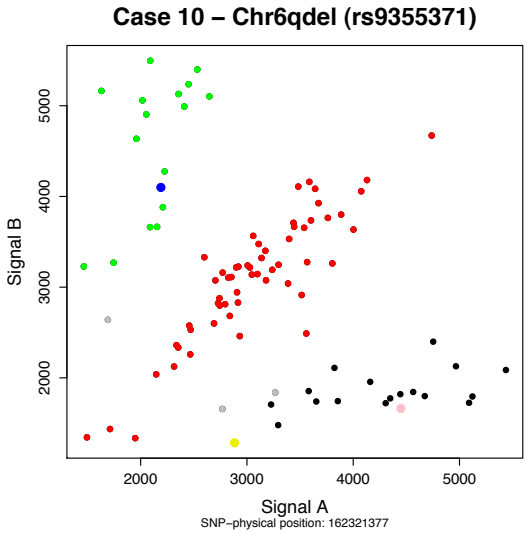

Case 10 – Chr6qdel (rs6909832)
Signal B
Signal A
SNP−physical position: 161859655

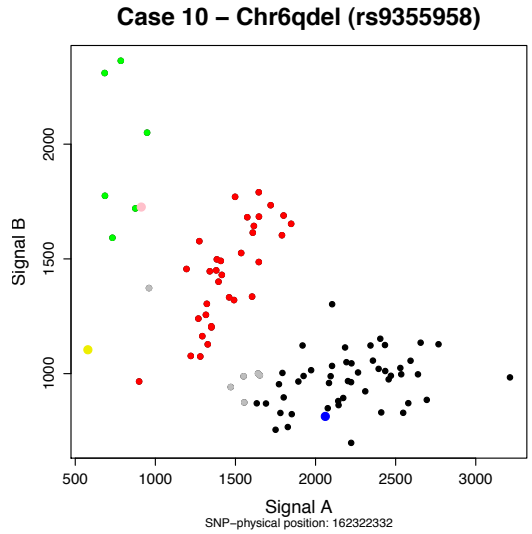

Case 10 – Chr6qdel (rs6904671)
Signal B
Signal A
SNP−physical position: 161866296

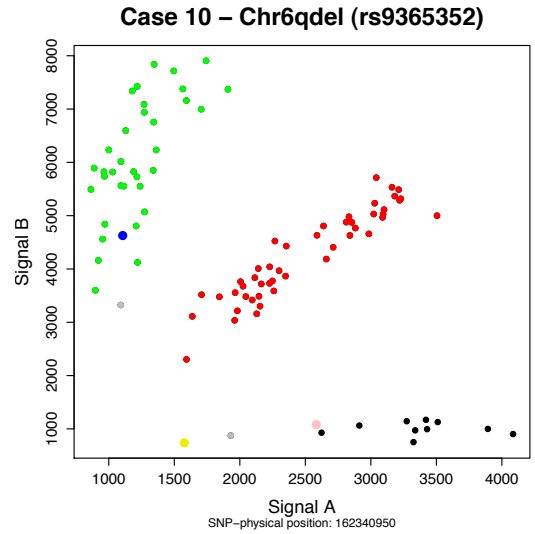

Case 10 – Chr6qdel (rs9355924)
Signal B
Signal A
SNP−physical position: 162106097

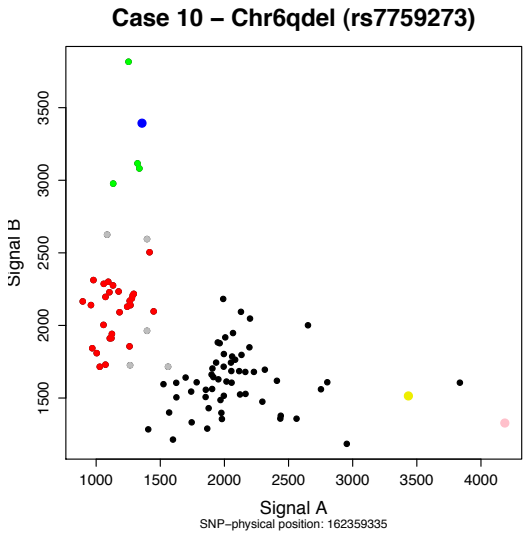

Case 10 – Chr6qdel (rs11962721)
Signal B
Signal A
SNP−physical position: 162136159

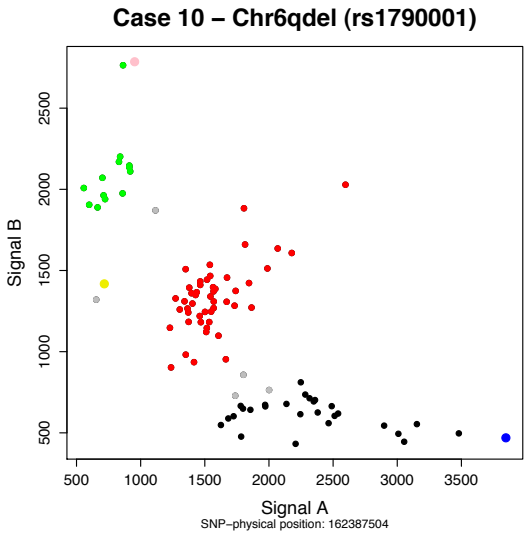

Case 10 – Chr6qdel (rs9456721)
Signal B
Signal A
SNP−physical position: 162300908

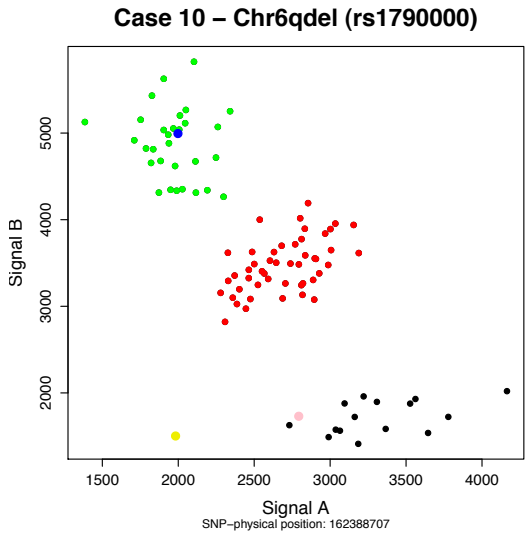

Case 10 – Chr6qdel (rs9355371)
Signal B
Signal A
SNP−physical position: 162321377

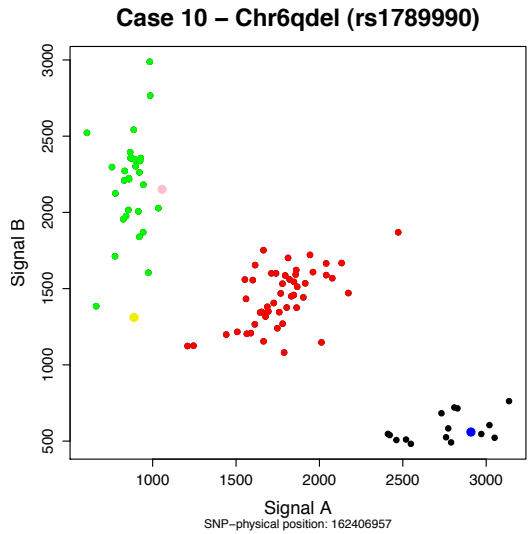

Case 10 – Chr6qdel (rs9355958)
Signal B
Signal A
SNP−physical position: 162322332

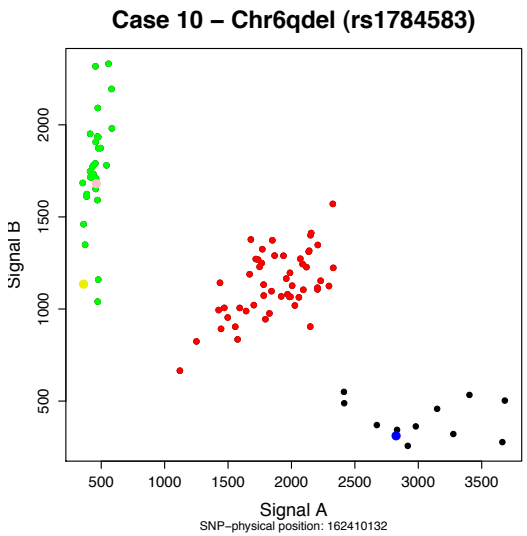

Case 10 – Chr6qdel (rs9365352)
Signal B
Signal A
SNP−physical position: 162340950

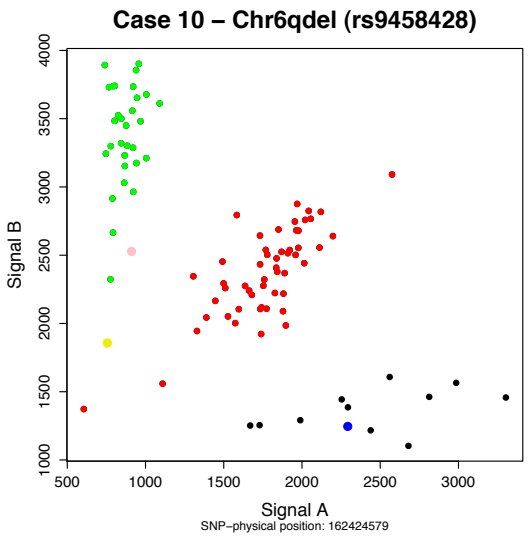

Case 10 – Chr6qdel (rs7759273)
Signal B
Signal A
SNP–physical position: 162359335

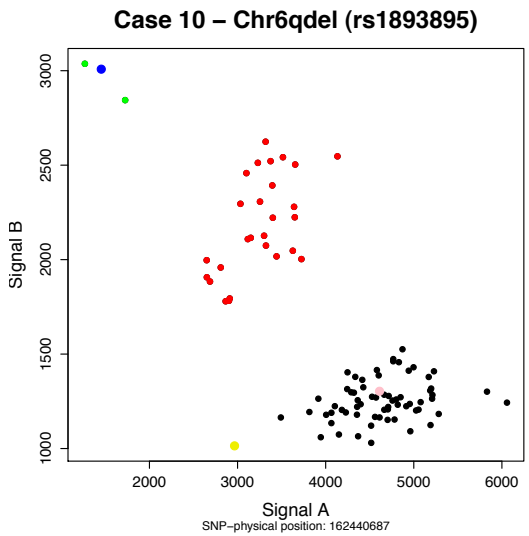

Case 10 – Chr6qdel (rs1790001)
Signal B
Signal A
SNP–physical position: 162387504

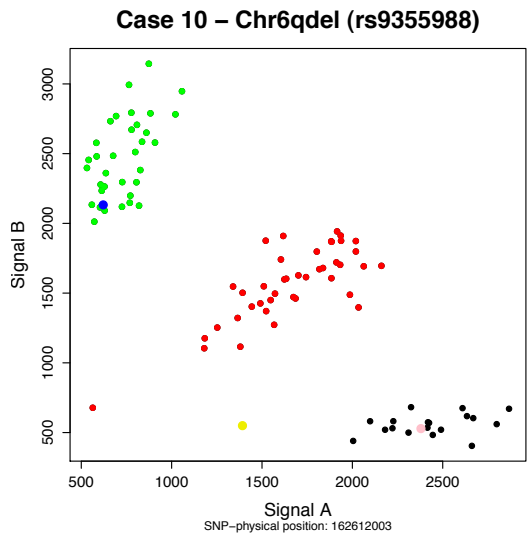

Case 10 – Chr6qdel (rs1790000)
Signal B
Signal A
SNP–physical position: 162388707

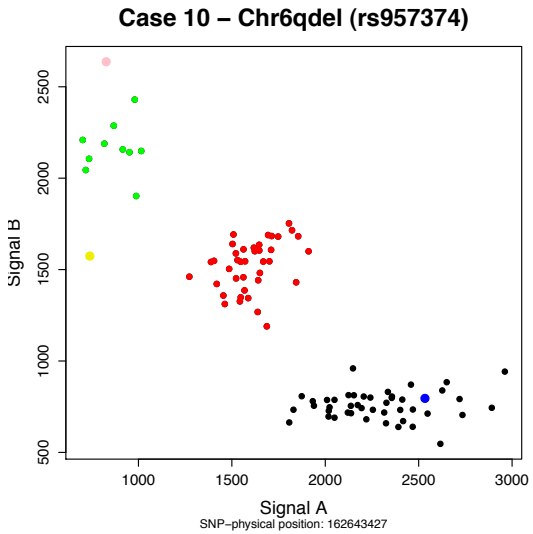

Case 10 – Chr6qdel (rs1789990)
Signal B
Signal A
SNP–physical position: 162406957

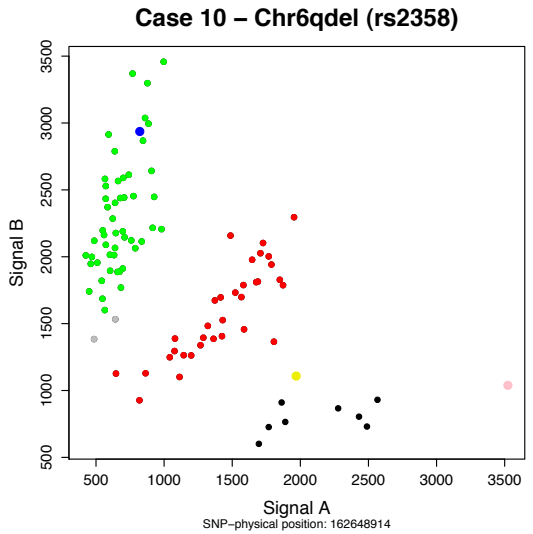

Case 10 – Chr6qdel (rs1784583)
Signal B
Signal A
SNP–physical position: 162410132

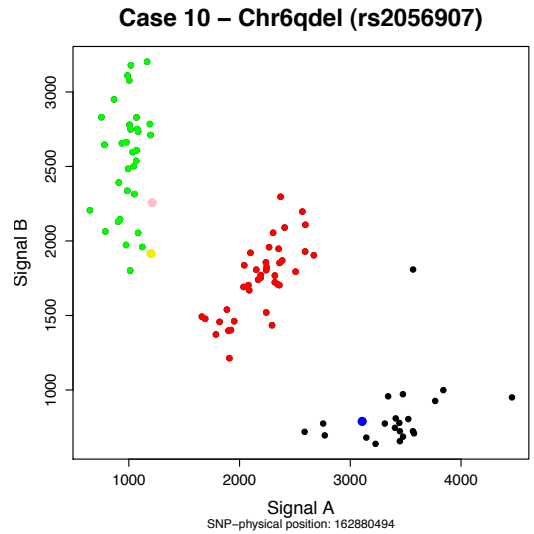

Case 10 – Chr6qdel (rs9458428)
Signal B
Signal A
SNP–physical position: 162424579

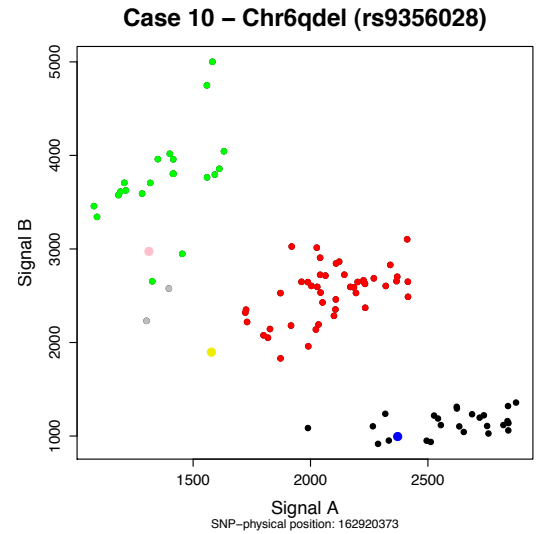

Case 10 – Chr6qdel (rs1893895)
Signal B
Signal A
SNP–physical position: 162440687

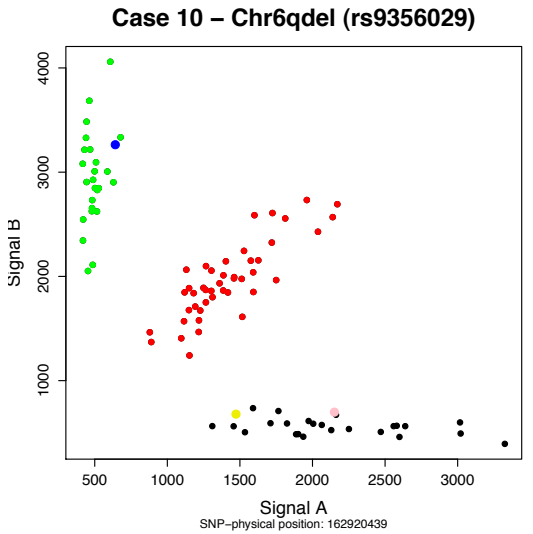

Case 10 – Chr6qdel (rs9355988)
Signal B
Signal A
SNP–physical position: 162612003

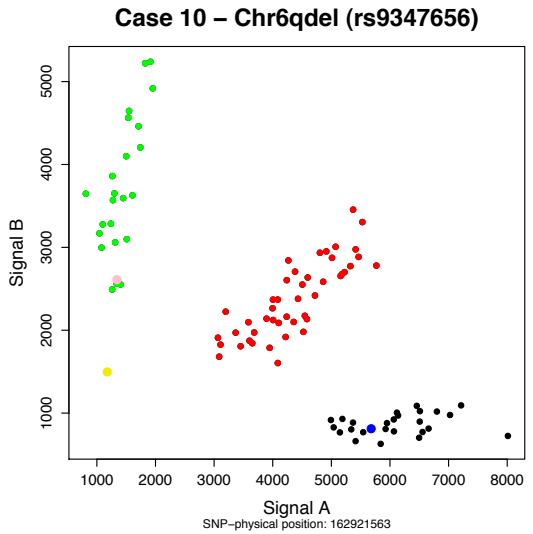

Case 10 – Chr6qdel (rs957374)
Signal B
Signal A
SNP−physical position: 162643427

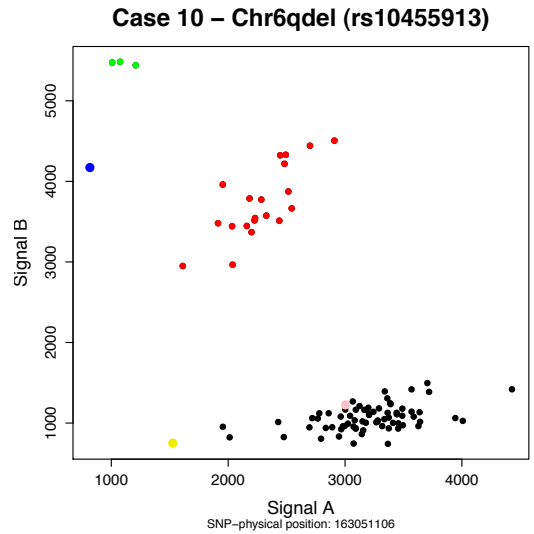

Case 10 – Chr6qdel (rs2358)
Signal B
Signal A
SNP−physical position: 162648914

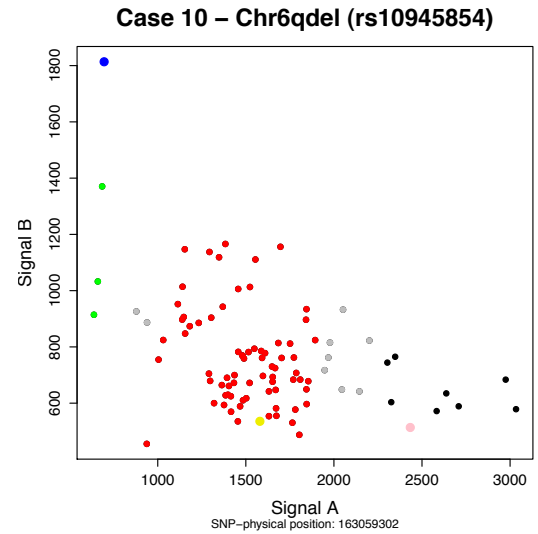

Case 10 – Chr6qdel (rs2056907)
Signal B
Signal A
SNP−physical position: 162880494

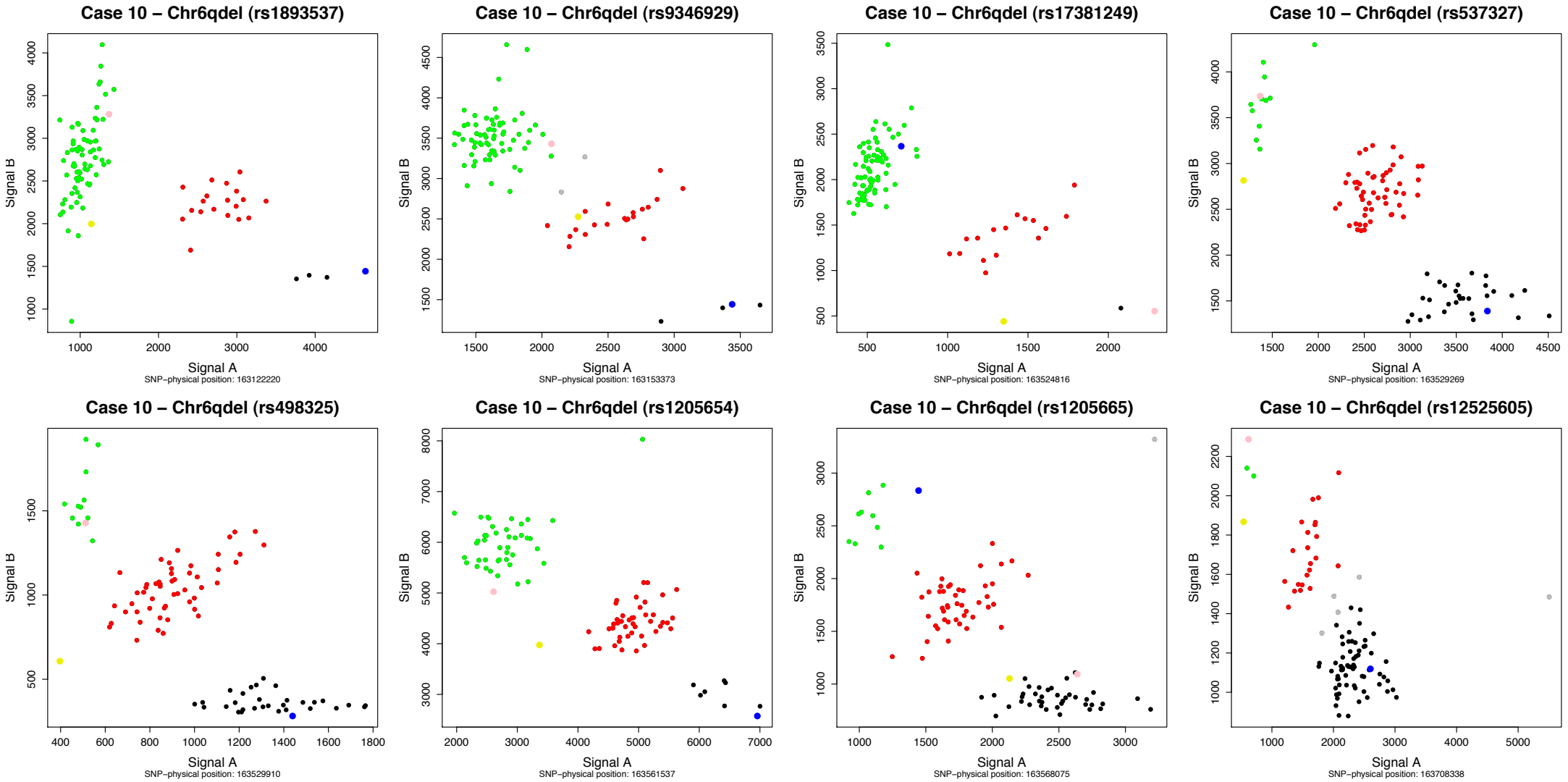

Case 10 – Chr6qdel (rs9356028)
Signal B
Signal A
SNP−physical position: 162920373

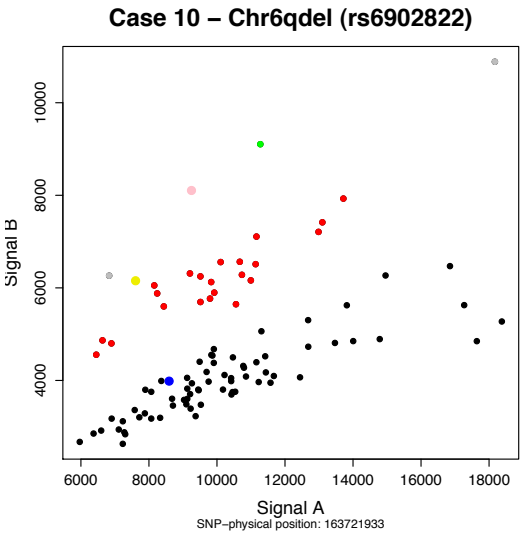

Case 10 – Chr6qdel (rs9356029)
Signal B
Signal A
SNP−physical position: 162920439

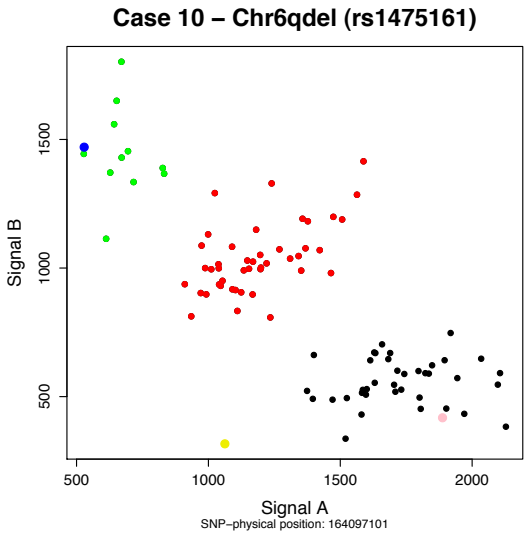

Case 10 – Chr6qdel (rs9347656)
Signal B
Signal A
SNP−physical position: 162921563

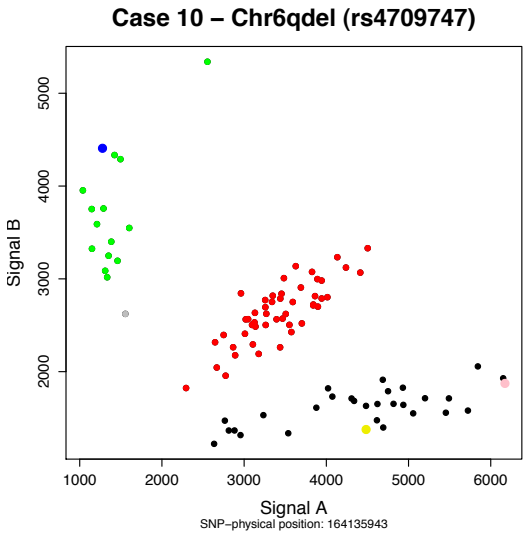

Case 10 – Chr6qdel (rs10455913)
Signal B
Signal A
SNP−physical position: 163051106

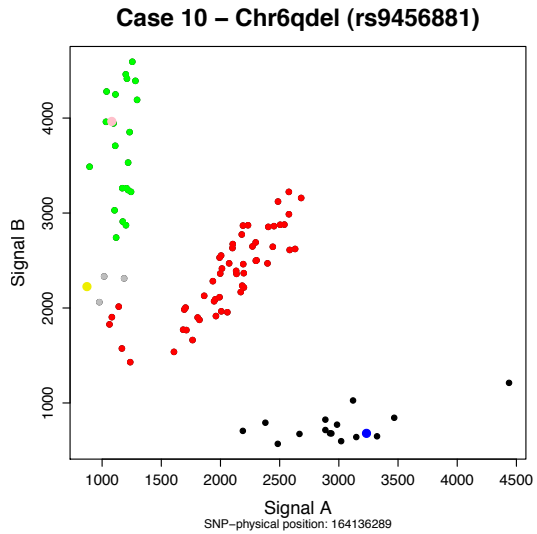

Case 10 – Chr6qdel (rs10945854)
Signal B
Signal A
SNP−physical position: 163059302

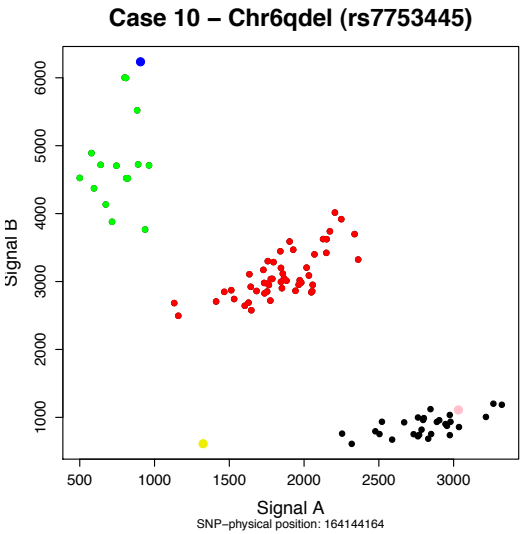

Case 10 – Chr6qdel (rs1893537)
Signal B
Signal A
SNP–physical position: 163122220
Case 10 – Chr6qdel (rs9346929)
Signal B
Signal A
SNP–physical position: 163153373
Case 10 – Chr6qdel (rs17381249)
Signal B
Signal A
SNP–physical position: 163524816
Case 10 – Chr6qdel (rs537327)
Signal B
Signal A
SNP–physical position: 163529269
Case 10 – Chr6qdel (rs498325)
Signal B
Signal A
SNP–physical position: 163529910
Case 10 – Chr6qdel (rs1205654)
Signal B
Signal A
SNP–physical position: 163561537
Case 10 – Chr6qdel (rs1205665)
Signal B
Signal A
SNP–physical position: 163568075
Case 10 – Chr6qdel (rs12525605)
Signal B
Signal A
SNP–physical position: 163708338

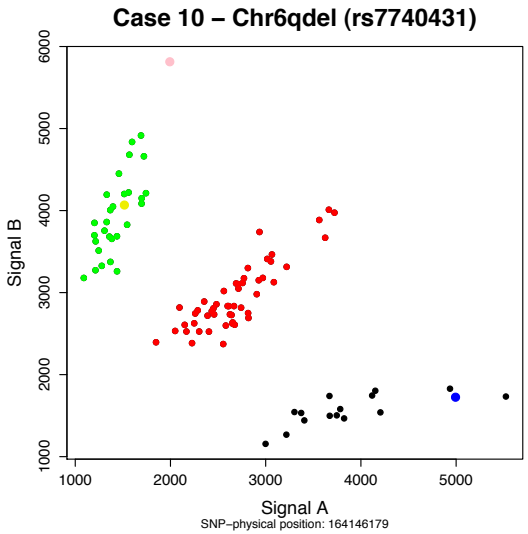

Case 10 – Chr6qdel (rs6902822)
Signal B
Signal A
SNP−physical position: 163721933

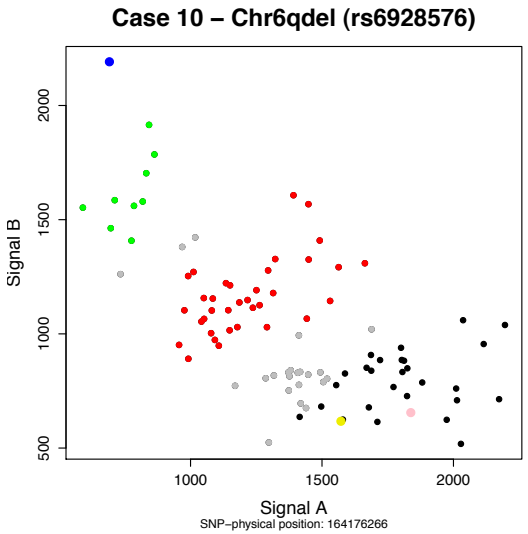

Case 10 – Chr6qdel (rs1475161)
Signal B
Signal A
SNP−physical position: 164097101

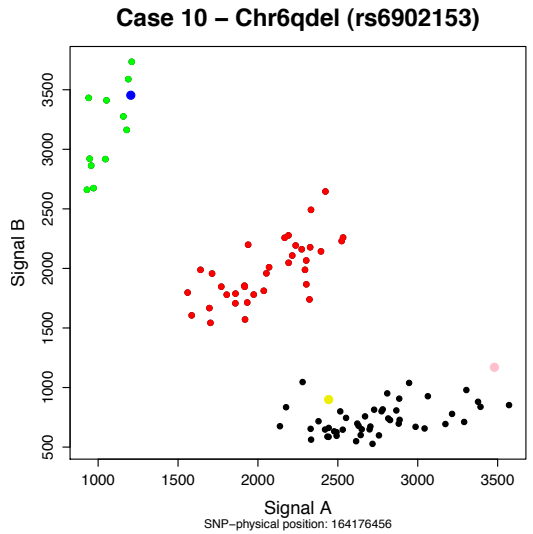

Case 10 – Chr6qdel (rs4709747)
Signal B
Signal A
SNP−physical position: 164135943

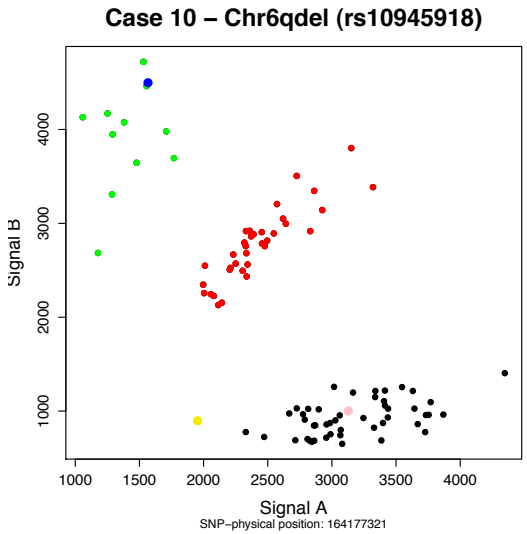

Case 10 – Chr6qdel (rs9456881)
Signal B
Signal A
SNP−physical position: 164136289

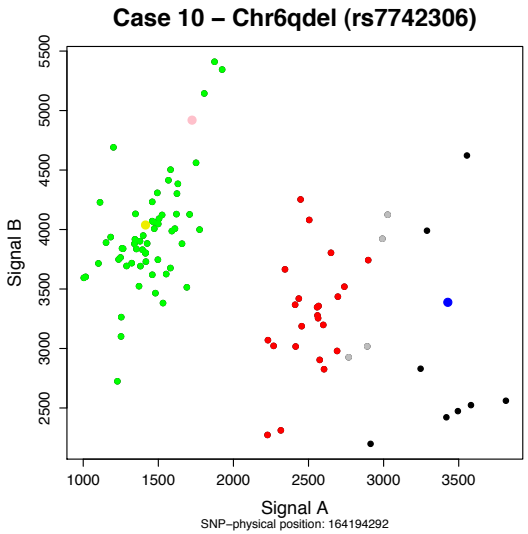

Case 10 – Chr6qdel (rs7753445)
Signal B
Signal A
SNP−physical position: 164144164

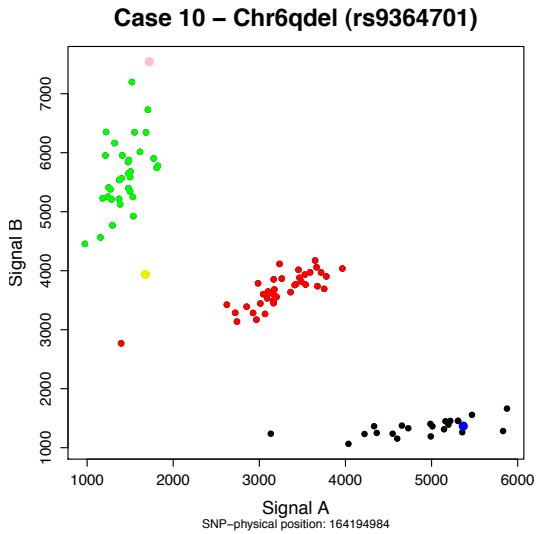

Case 10 – Chr6qdel (rs7740431)
Signal B
Signal A
SNP−physical position: 164146179

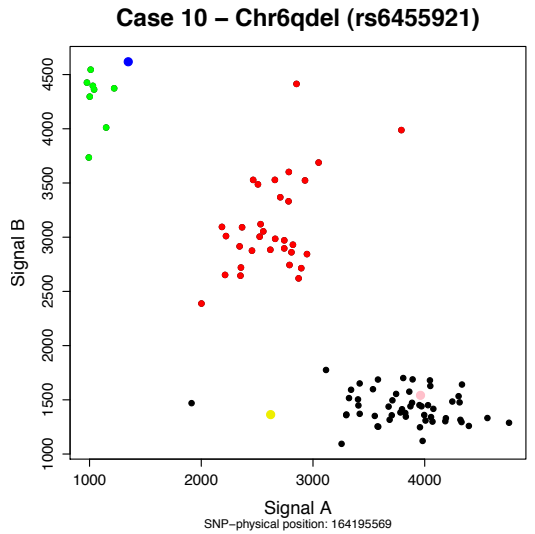

Case 10 – Chr6qdel (rs6928576)
Signal B
Signal A
SNP−physical position: 164176266

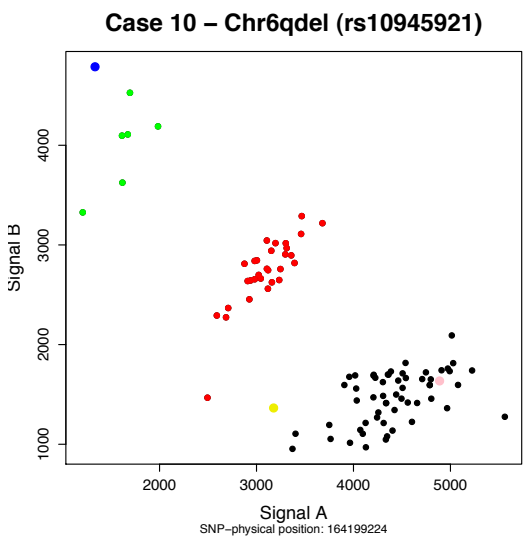

Case 10 – Chr6qdel (rs6902153)
Signal B
Signal A
SNP−physical position: 164176456

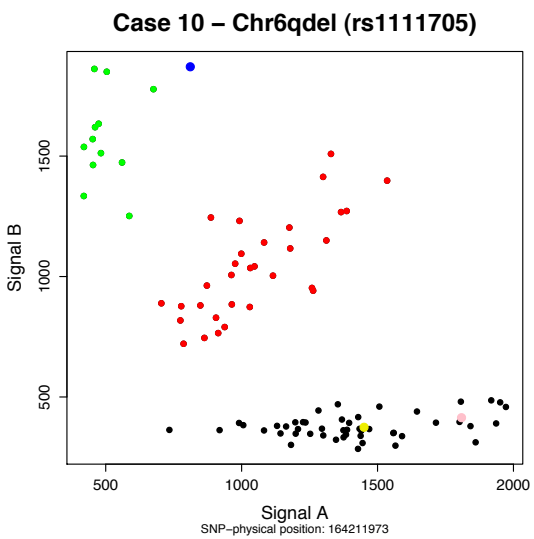

Case 10 – Chr6qdel (rs10945918)
Signal B
Signal A
SNP−physical position: 164177321

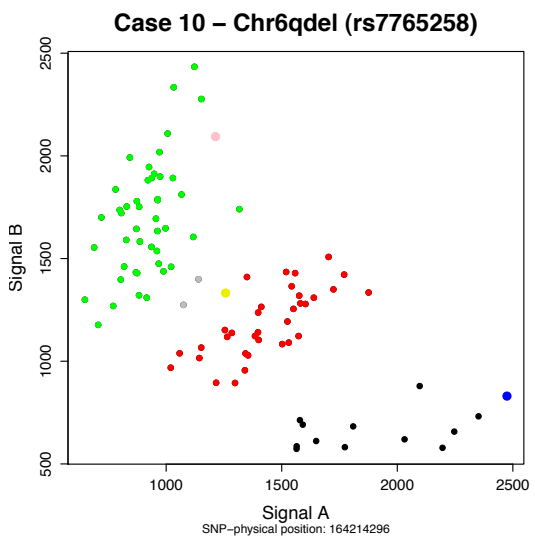

Case 10 – Chr6qdel (rs7742306)
Signal B
Signal A
SNP−physical position: 164194292

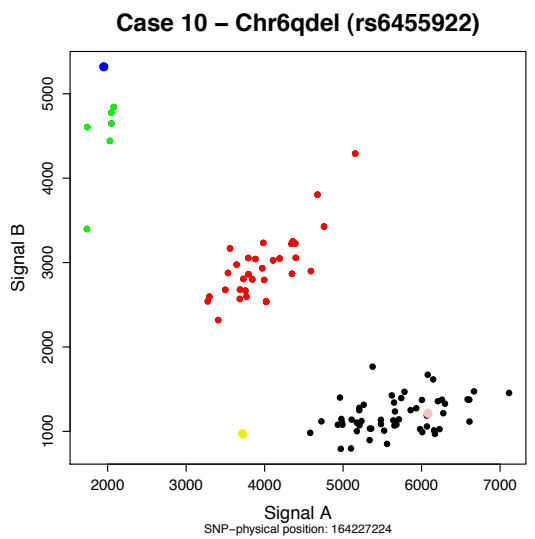

Case 10 – Chr6qdel (rs9364701)
Signal B
Signal A
SNP−physical position: 164194984

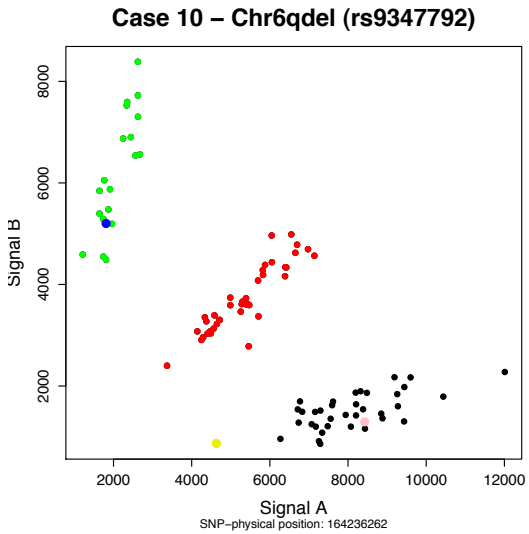

Case 10 – Chr6qdel (rs6455921)
Signal B
Signal A
SNP−physical position: 164195569

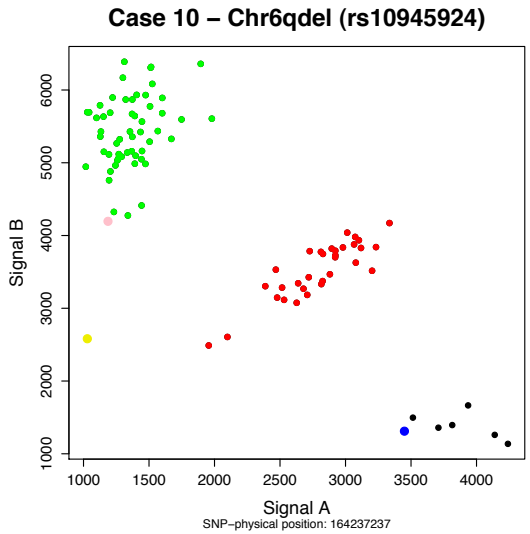

Case 10 – Chr6qdel (rs10945921)
Signal B
Signal A
SNP−physical position: 164199224

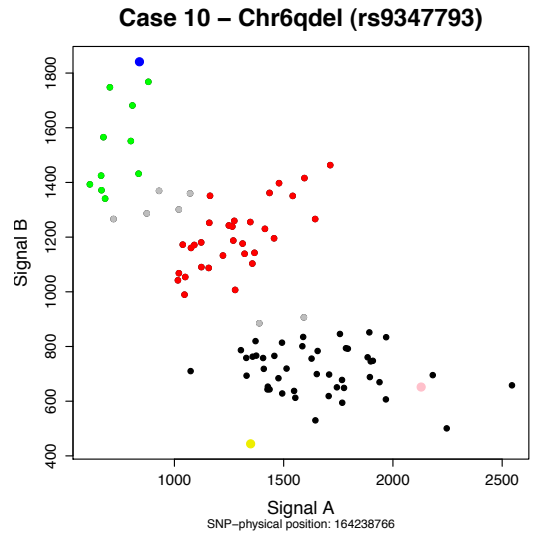

Case 10 – Chr6qdel (rs1111705)
Signal B
Signal A
SNP−physical position: 164211973

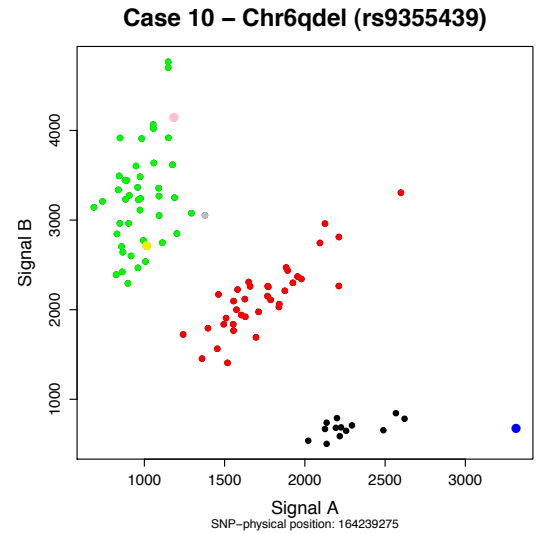

Case 10 – Chr6qdel (rs7765258)
Signal B
Signal A
SNP−physical position: 164214296

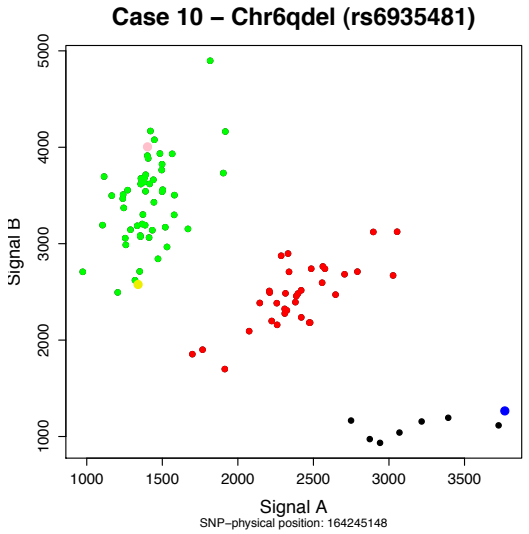

Case 10 – Chr6qdel (rs6455922)
Signal B
Signal A
SNP−physical position: 164227224

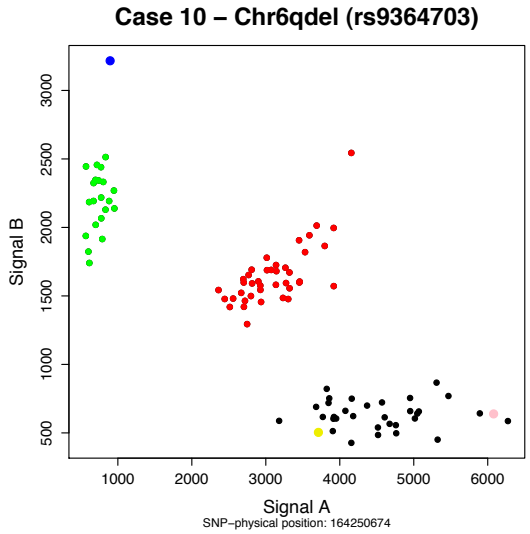

Case 10 – Chr6qdel (rs9347792)
Signal B
Signal A
SNP−physical position: 164236262

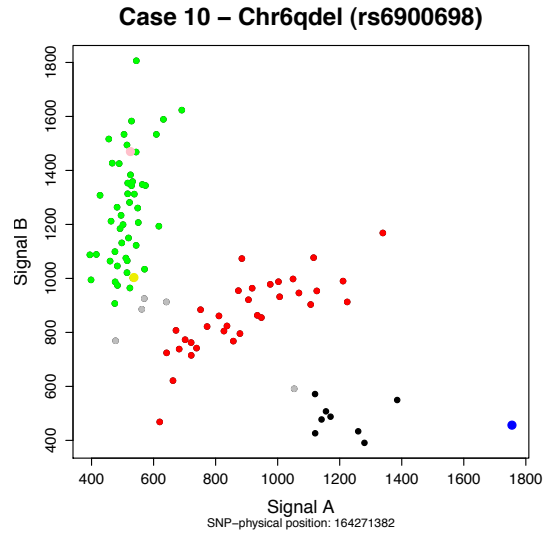

Case 10 – Chr6qdel (rs10945924)
Signal B
Signal A
SNP−physical position: 164237237

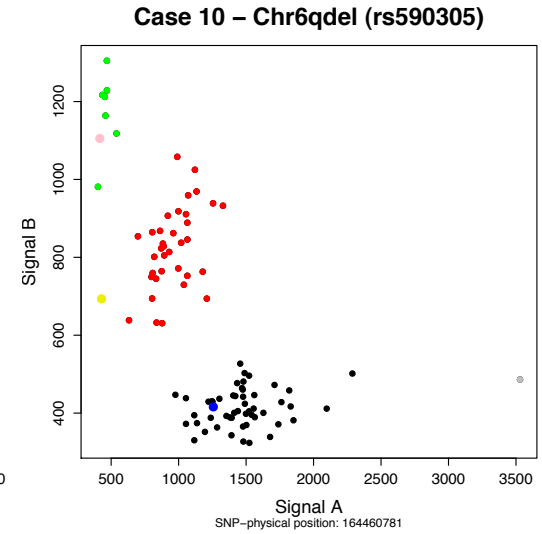

Case 10 – Chr6qdel (rs9347793)
Signal B
Signal A
SNP−physical position: 164238766

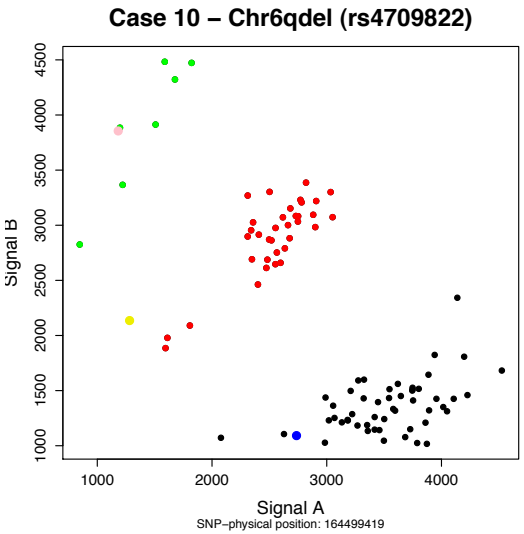

Case 10 – Chr6qdel (rs9355439)
Signal B
Signal A
SNP−physical position: 164239275

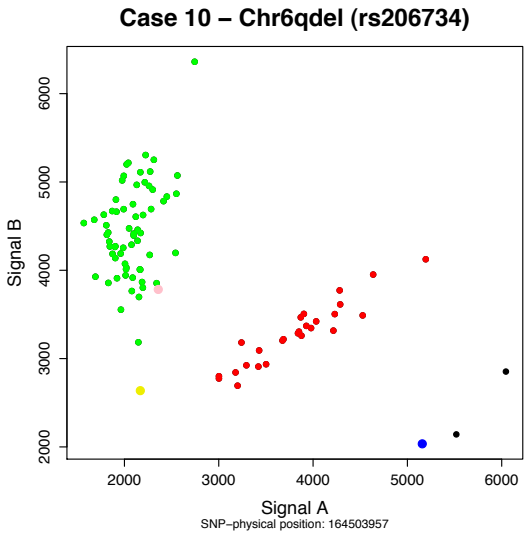

Case 10 – Chr6qdel (rs6935481)
Signal B
Signal A
SNP−physical position: 164245148

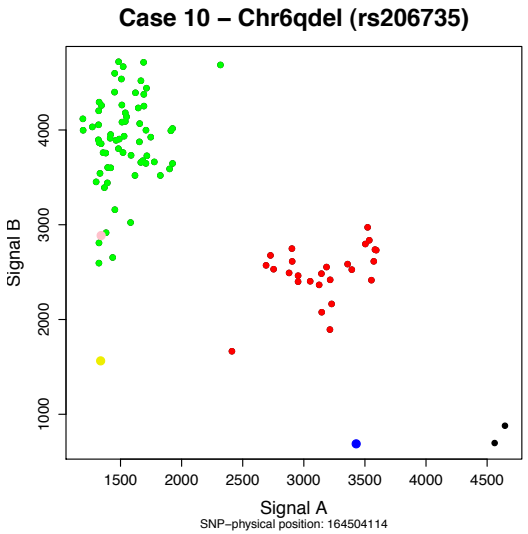

Case 10 – Chr6qdel (rs9364703)
Signal B
Signal A
SNP−physical position: 164250674

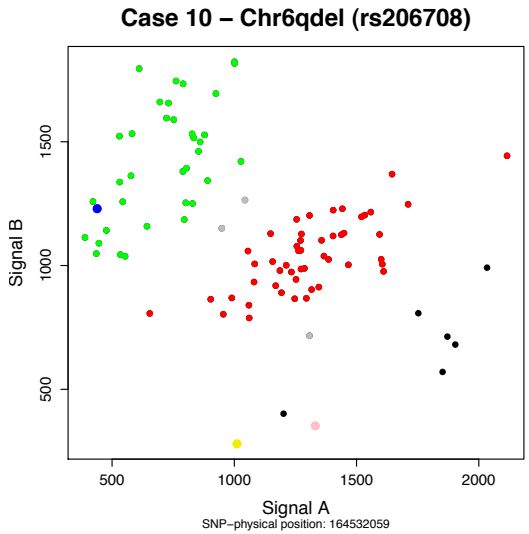

Case 10 – Chr6qdel (rs6900698)
Signal B
Signal A
SNP−physical position: 164271382

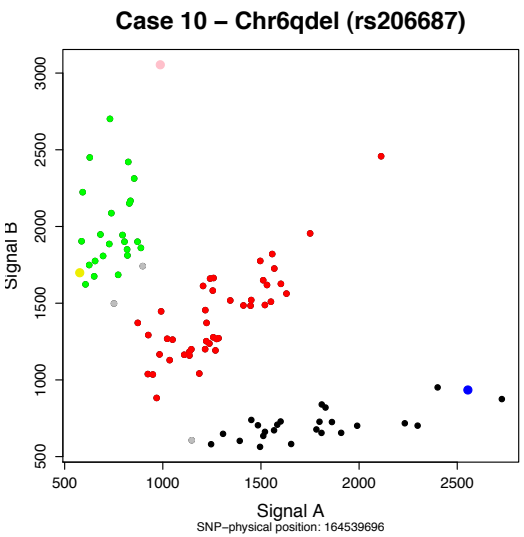

Case 10 – Chr6qdel (rs590305)
Signal B
Signal A
SNP−physical position: 164460781

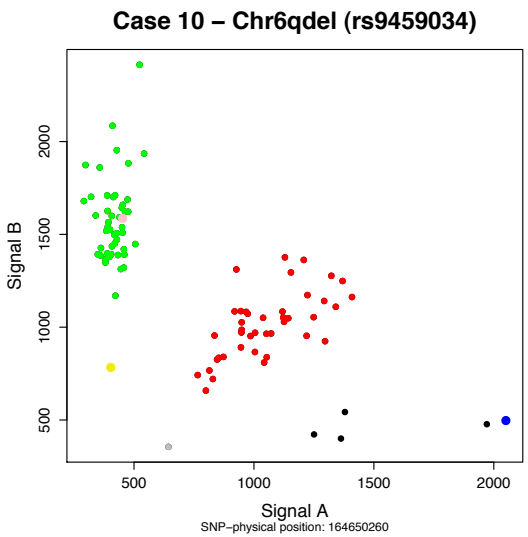

Case 10 – Chr6qdel (rs4709822)
Signal B
Signal A
SNP−physical position: 164499419

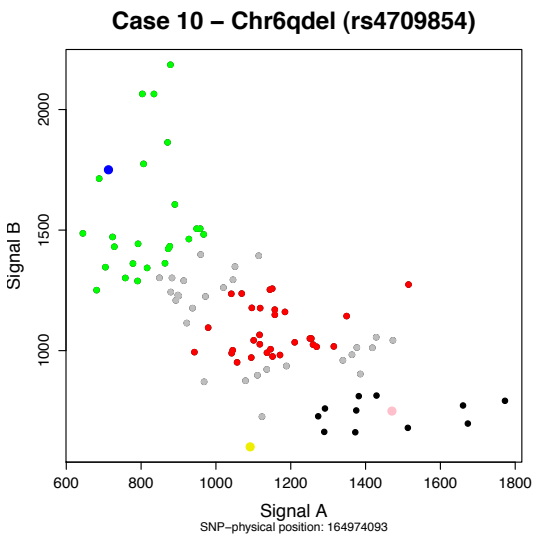

Case 10 – Chr6qdel (rs206734)
Signal B
Signal A
SNP−physical position: 164503957

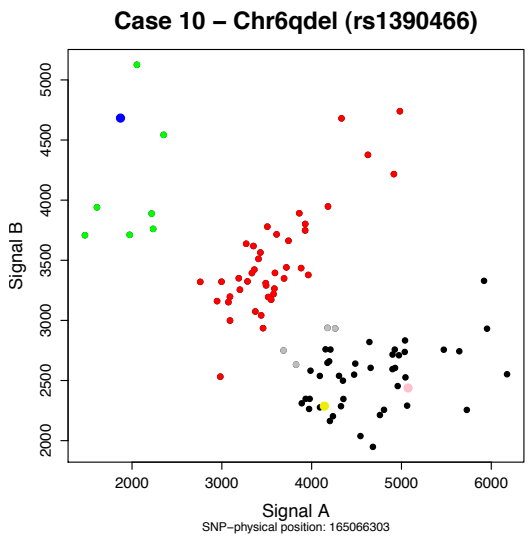

Case 10 – Chr6qdel (rs206735)
Signal B
Signal A
SNP−physical position: 164504114

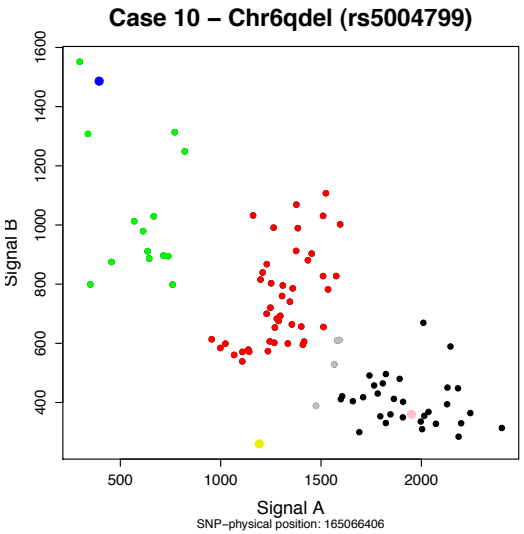

Case 10 – Chr6qdel (rs206708)
Signal B
Signal A
SNP−physical position: 164532059

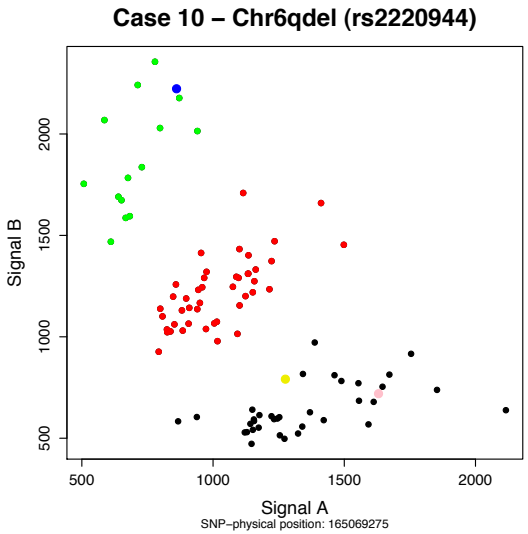

Case 10 – Chr6qdel (rs206687)
Signal B
Signal A
SNP−physical position: 164539696

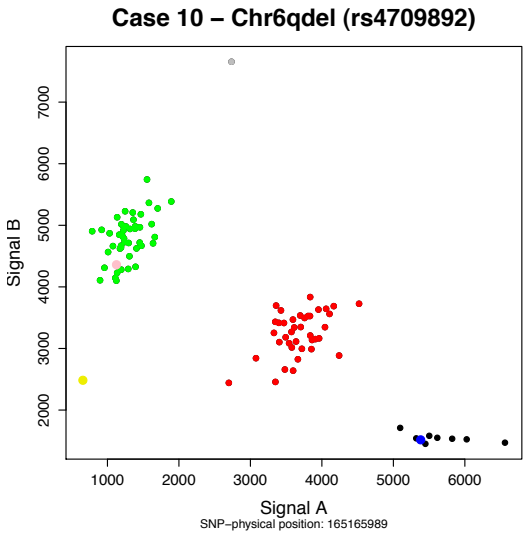

Case 10 – Chr6qdel (rs9459034)
Signal B
Signal A
SNP−physical position: 164650260

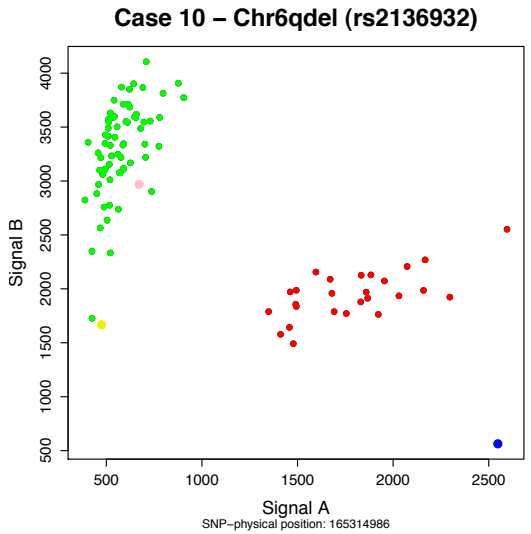

Case 10 – Chr6qdel (rs4709854)
Signal B
Signal A
SNP−physical position: 164974093

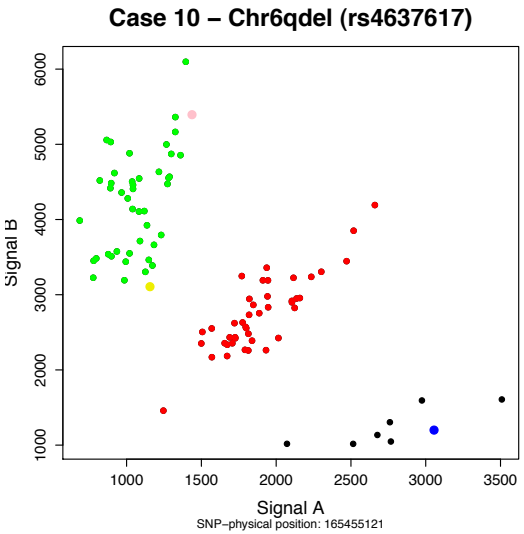

Case 10 – Chr6qdel (rs1390466)
Signal B
Signal A
SNP−physical position: 165066303

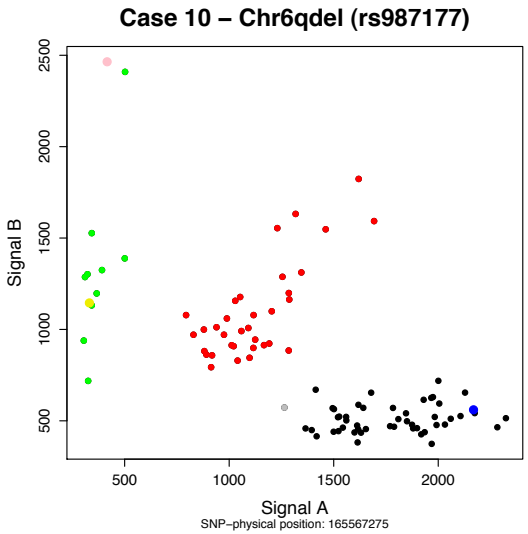

Case 10 – Chr6qdel (rs5004799)
Signal B
Signal A
SNP−physical position: 165066406

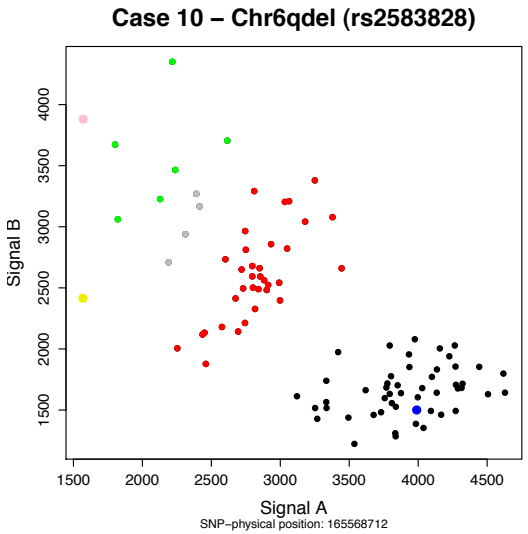

Case 10 – Chr6qdel (rs2220944)
Signal B
Signal A
SNP−physical position: 165069275

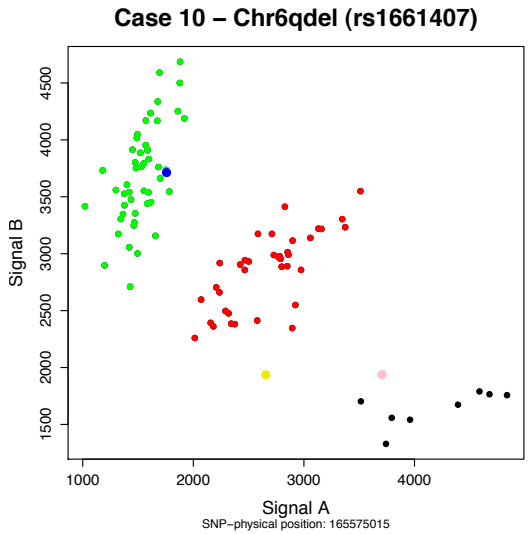

Case 10 – Chr6qdel (rs4709892)
Signal B
Signal A
SNP−physical position: 165165989

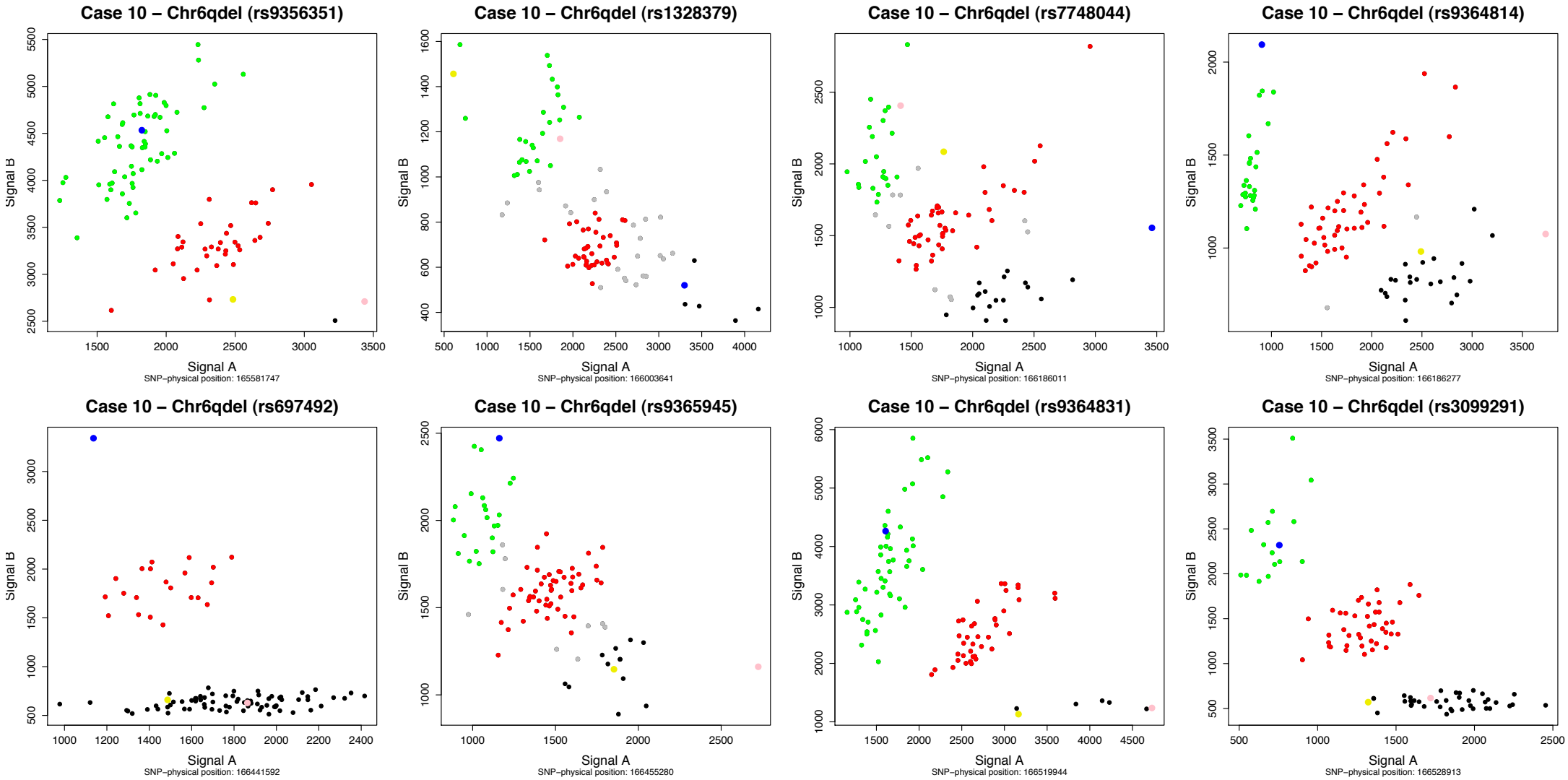

Case 10 – Chr6qdel (rs2136932)
Signal B
Signal A
SNP−physical position: 165314986

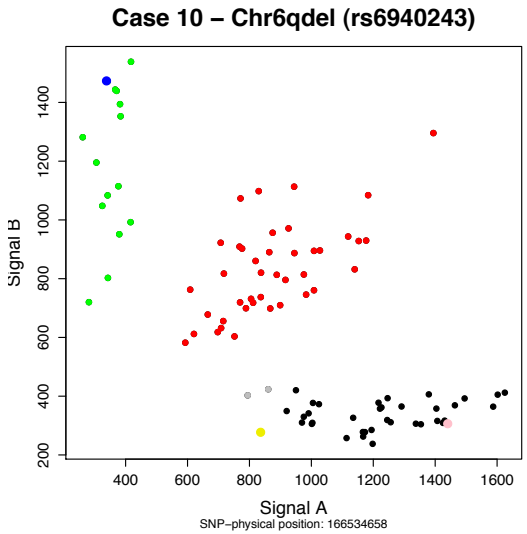

Case 10 – Chr6qdel (rs4637617)
Signal B
Signal A
SNP−physical position: 165455121

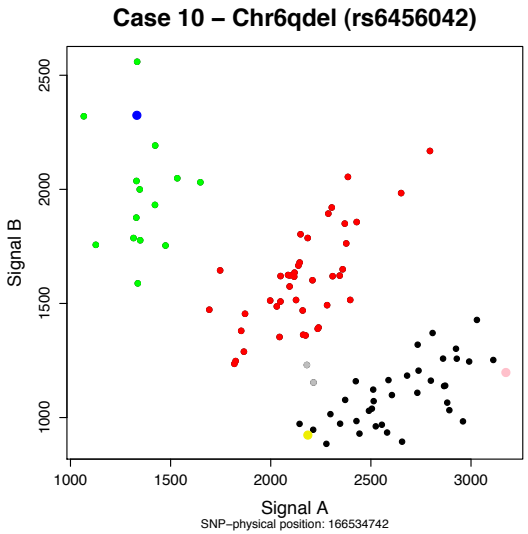

Case 10 – Chr6qdel (rs987177)
Signal B
Signal A
SNP−physical position: 165567275

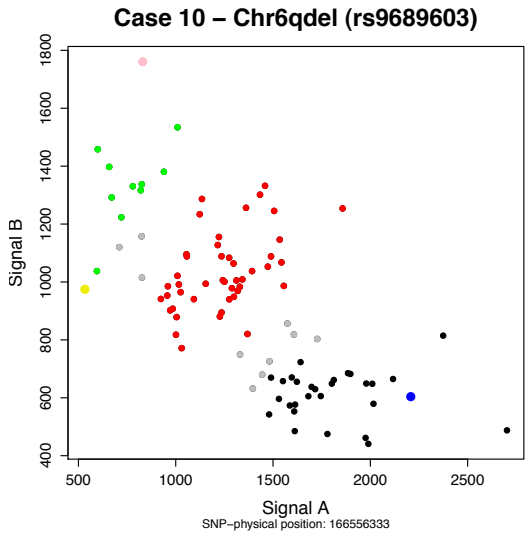

Case 10 – Chr6qdel (rs2583828)
Signal B
Signal A
SNP−physical position: 165568712

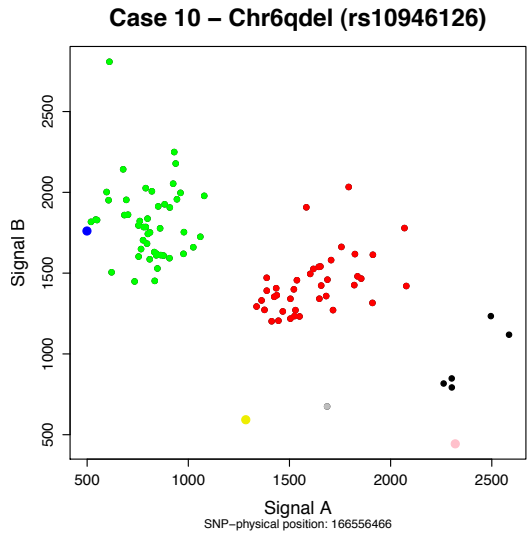

Case 10 – Chr6qdel (rs1661407)
Signal B
Signal A
SNP−physical position: 165575015

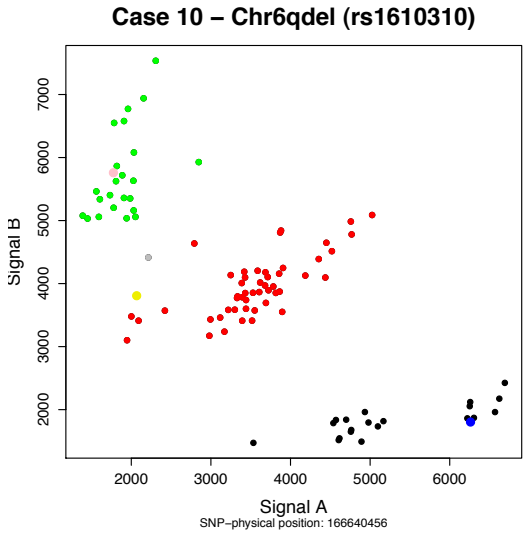

Case 10 – Chr6qdel (rs9356351)
Signal B
Signal A
SNP−physical position: 165581747
Case 10 – Chr6qdel (rs1328379)
Signal B
Signal A
SNP−physical position: 166003641
Case 10 – Chr6qdel (rs7748044)
Signal B
Signal A
SNP−physical position: 166186011
Case 10 – Chr6qdel (rs9364814)
Signal B
Signal A
SNP−physical position: 166186277
Case 10 – Chr6qdel (rs697492)
Signal B
Signal A
SNP−physical position: 166441592
Case 10 – Chr6qdel (rs9365945)
Signal B
Signal A
SNP−physical position: 166455280
Case 10 – Chr6qdel (rs9364831)
Signal B
Signal A
SNP−physical position: 166519944
Case 10 – Chr6qdel (rs3099291)
Signal B
Signal A
SNP−physical position: 166528913

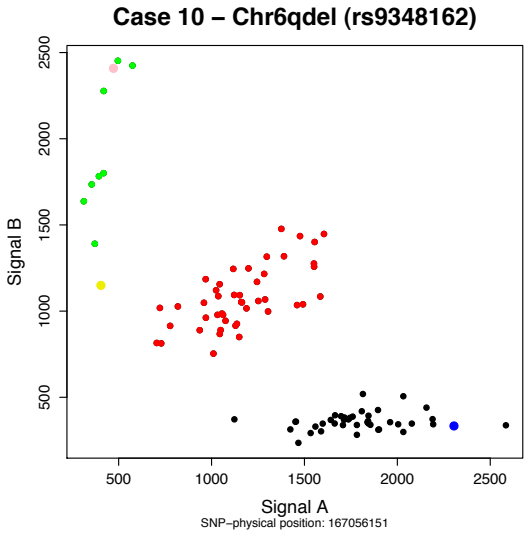

Case 10 – Chr6qdel (rs6940243)
Signal B
Signal A
SNP−physical position: 166534658

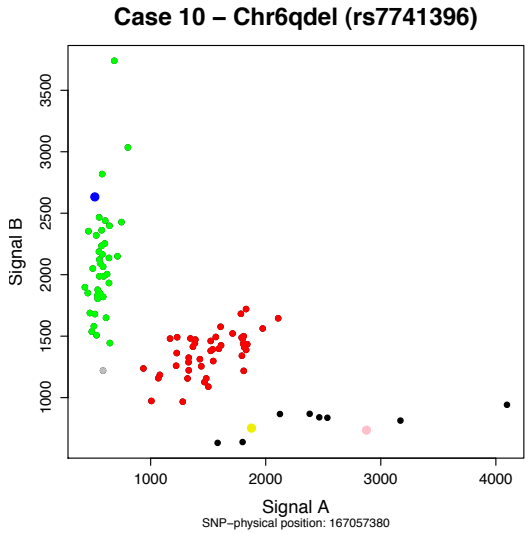

Case 10 – Chr6qdel (rs6456042)
Signal B
Signal A
SNP−physical position: 166534742

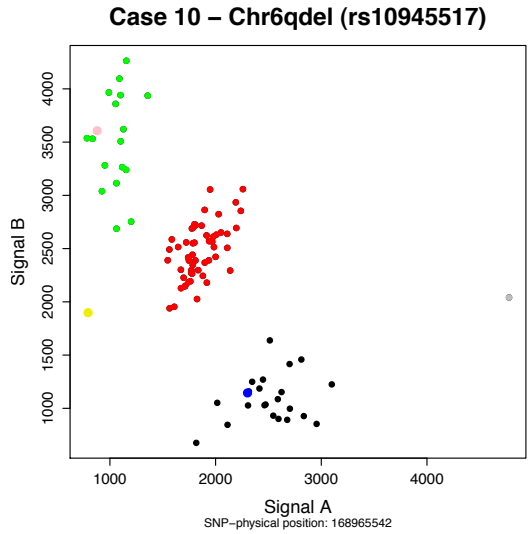

Case 10 – Chr6qdel (rs9689603)
Signal B
Signal A
SNP−physical position: 166556333

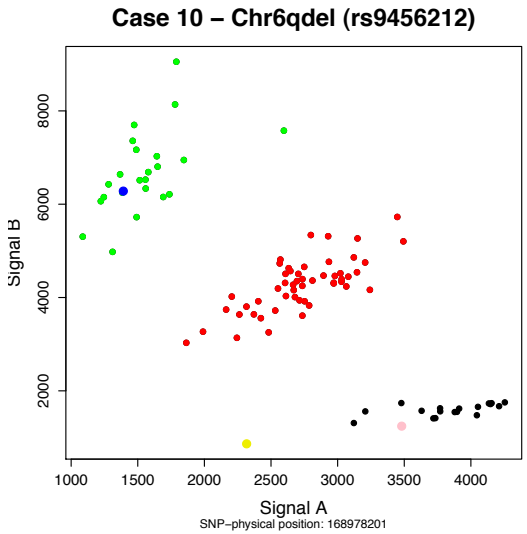

Case 10 – Chr6qdel (rs10946126)
Signal B
Signal A
SNP−physical position: 166556466

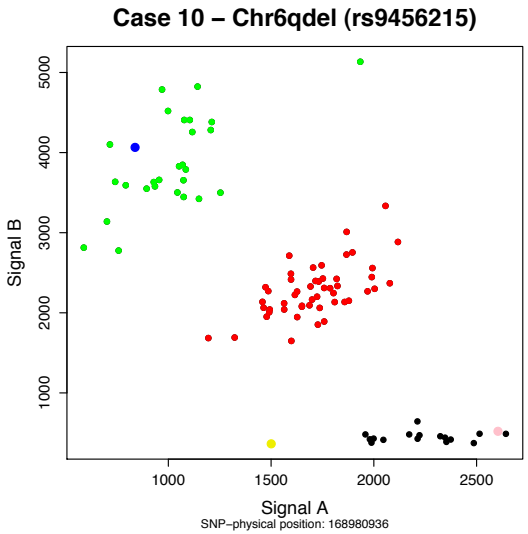

Case 10 – Chr6qdel (rs1610310)
Signal B
Signal A
SNP−physical position: 166640456

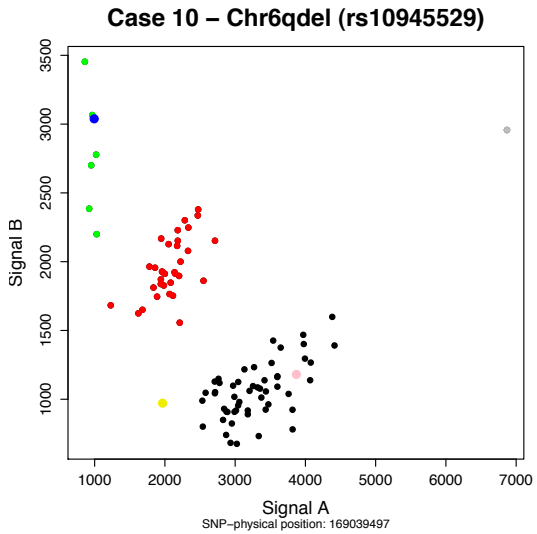

Case 10 – Chr6qdel (rs9348162)
Signal B
Signal A
SNP−physical position: 167056151

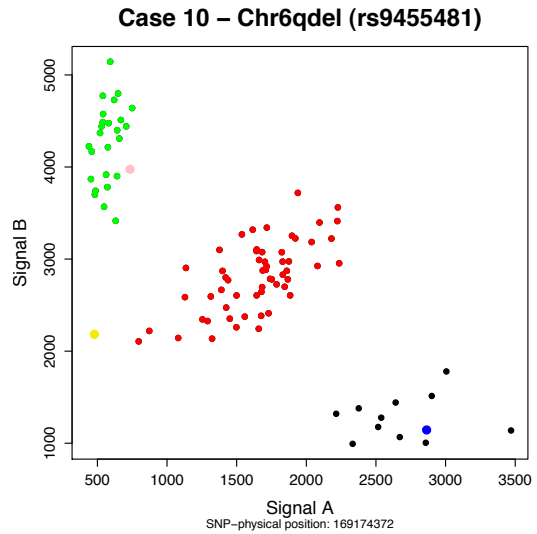

Case 10 – Chr6qdel (rs7741396)
Signal B
Signal A
SNP−physical position: 167057380

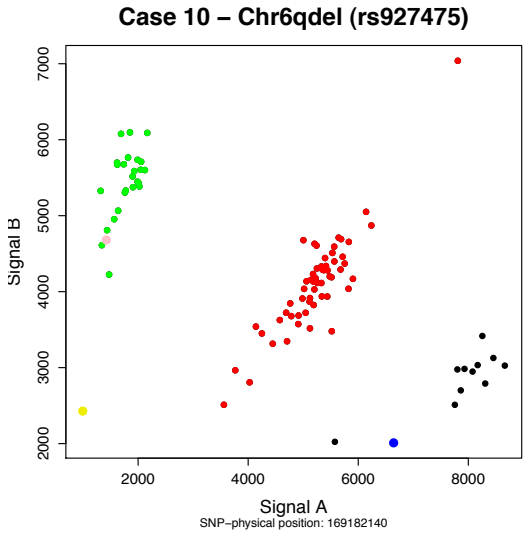

Case 10 – Chr6qdel (rs10945517)
Signal B
Signal A
SNP−physical position: 168965542

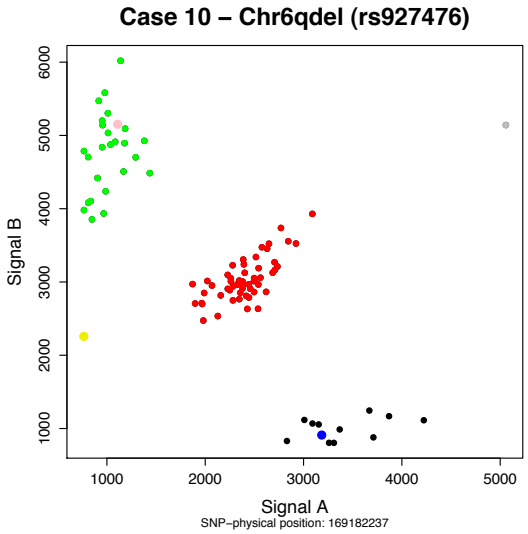

Case 10 – Chr6qdel (rs9456212)
Signal B
Signal A
SNP−physical position: 168978201

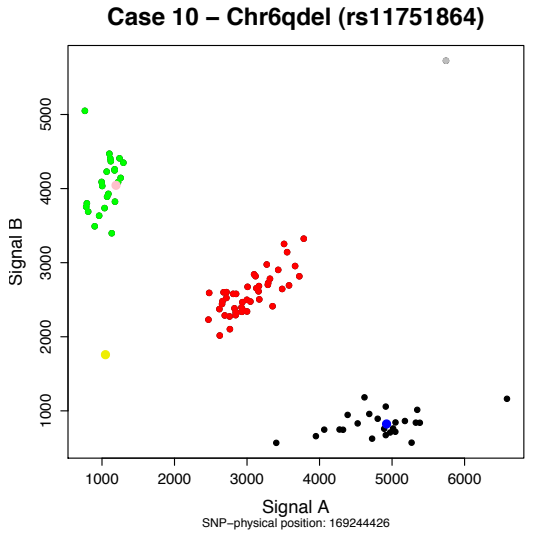

Case 10 – Chr6qdel (rs9456215)
Signal B
Signal A
SNP−physical position: 168980936

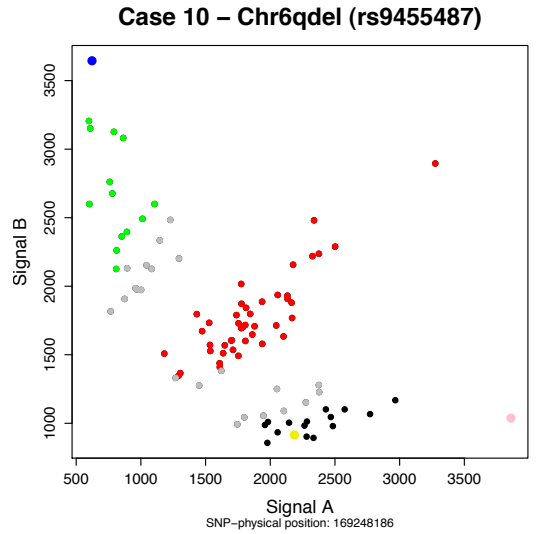

Case 10 – Chr6qdel (rs10945529)
Signal B
Signal A
SNP−physical position: 169039497

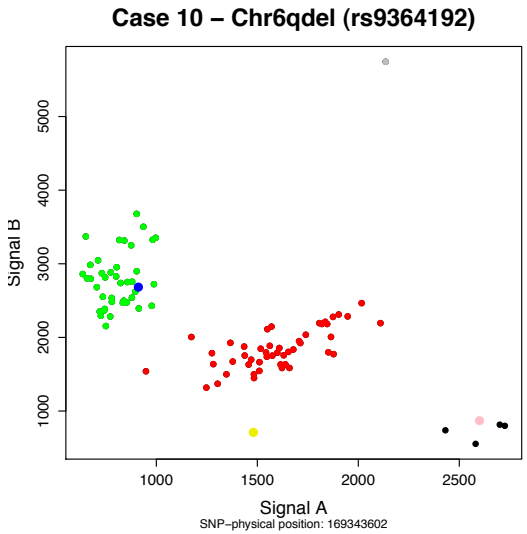

Case 10 – Chr6qdel (rs9455481)
Signal B
Signal A
SNP−physical position: 169174372

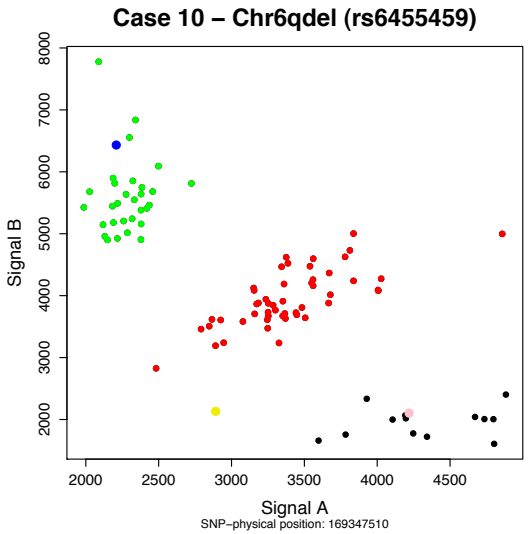

Case 10 – Chr6qdel (rs927475)
Signal B
Signal A
SNP−physical position: 169182140

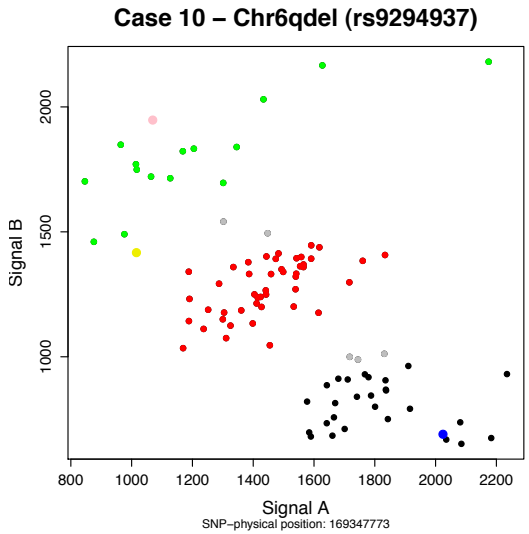

Case 10 – Chr6qdel (rs927476)
Signal B
Signal A
SNP−physical position: 169182237

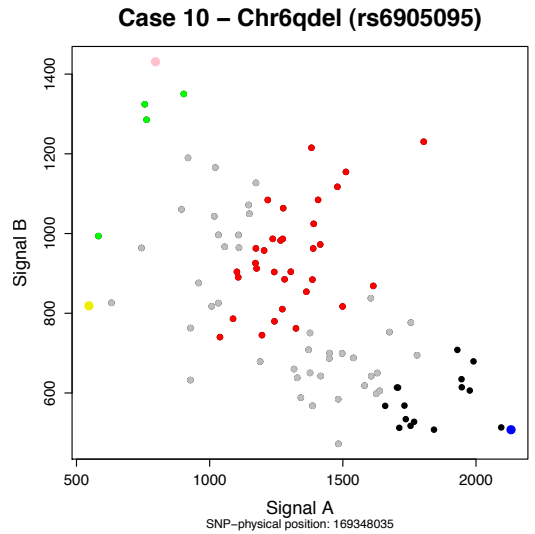

Case 10 – Chr6qdel (rs11751864)
Signal B
Signal A
SNP−physical position: 169244426

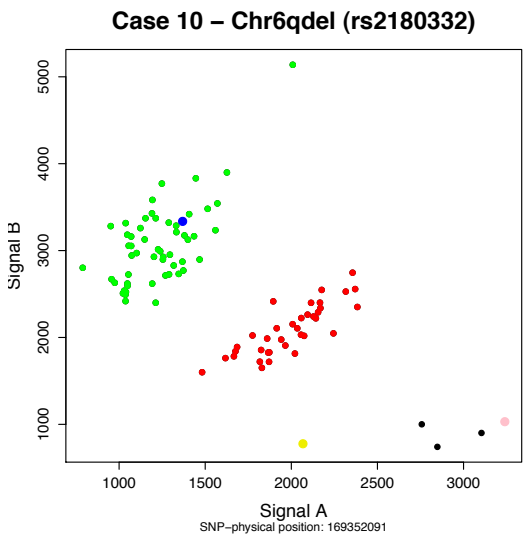

Case 10 – Chr6qdel (rs9455487)
Signal B
Signal A
SNP−physical position: 169248186

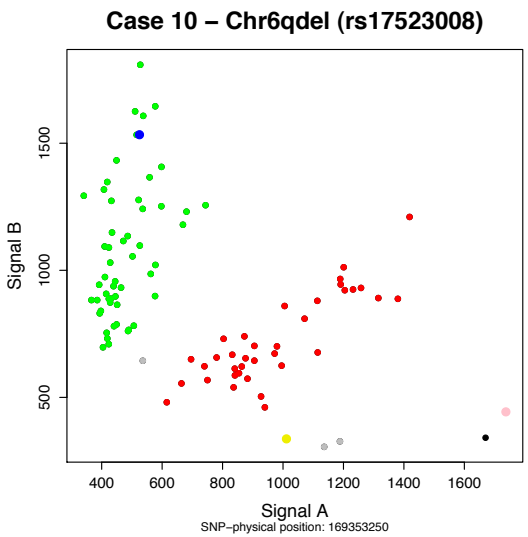

Case 10 – Chr6qdel (rs9364192)
Signal B
Signal A
SNP−physical position: 169343602

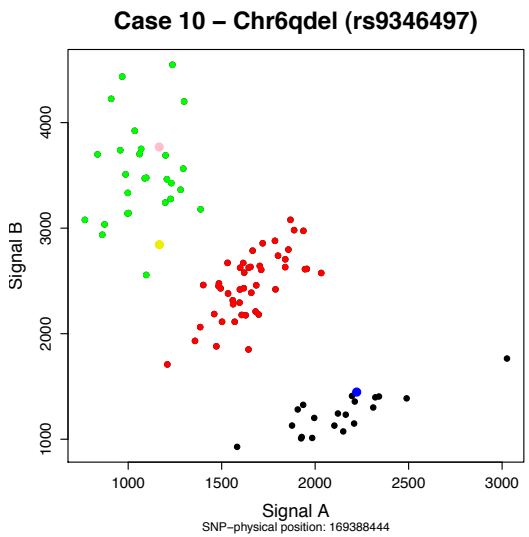

Case 10 – Chr6qdel (rs6455459)
Signal B
Signal A
SNP−physical position: 169347510

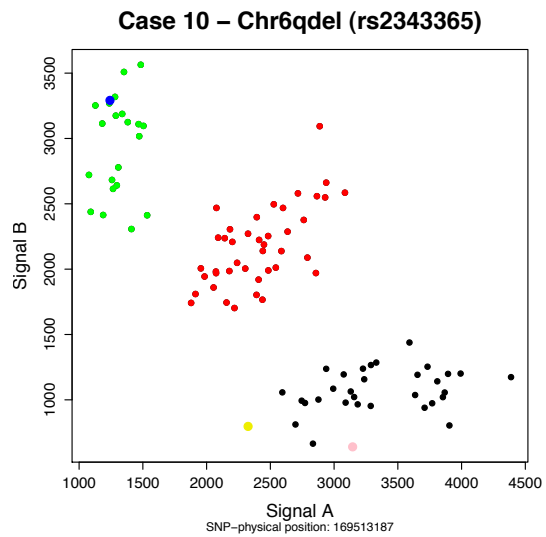

Case 10 – Chr6qdel (rs9294937)
Signal B
Signal A
SNP−physical position: 169347773

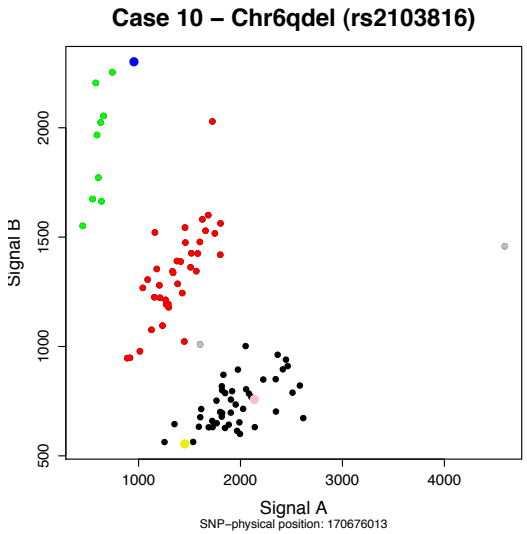

Case 10 – Chr6qdel (rs6905095)
Signal B
Signal A
SNP−physical position: 169348035

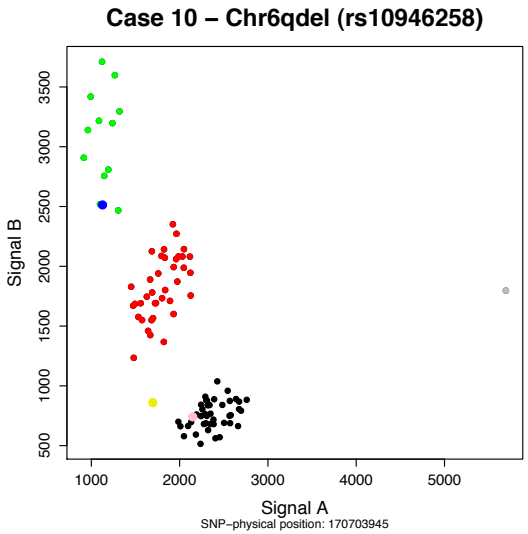

Case 10 – Chr6qdel (rs2180332)
Signal B
Signal A
SNP−physical position: 169352091

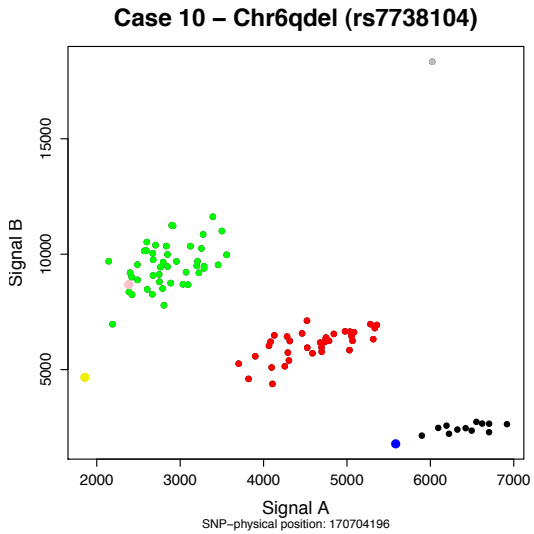

Case 10 – Chr6qdel (rs17523008)
Signal B
Signal A
SNP−physical position: 169353250

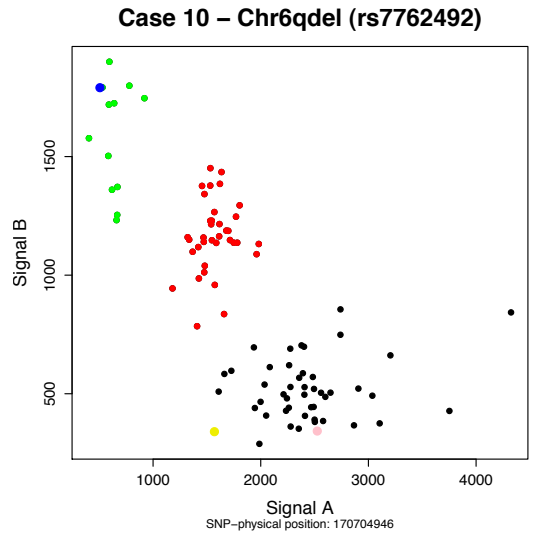

Case 10 – Chr6qdel (rs9346497)
Signal B
Signal A
SNP−physical position: 169388444

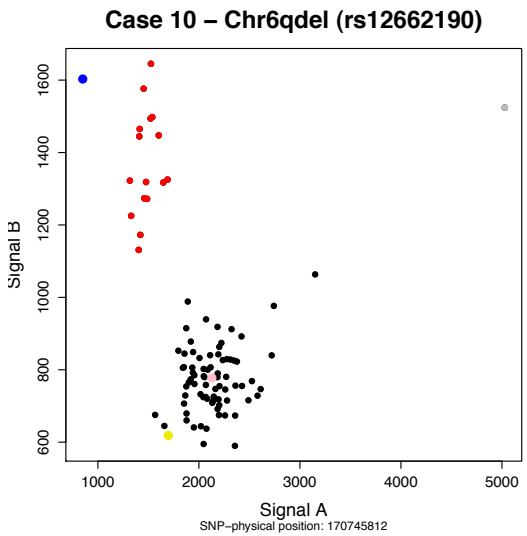

Case 10 – Chr6qdel (rs2343365)
Signal B
Signal A
SNP−physical position: 169513187


Case 10 – Chr6qdel (rs2103816)
Signal B
Signal A
SNP−physical position: 170676013

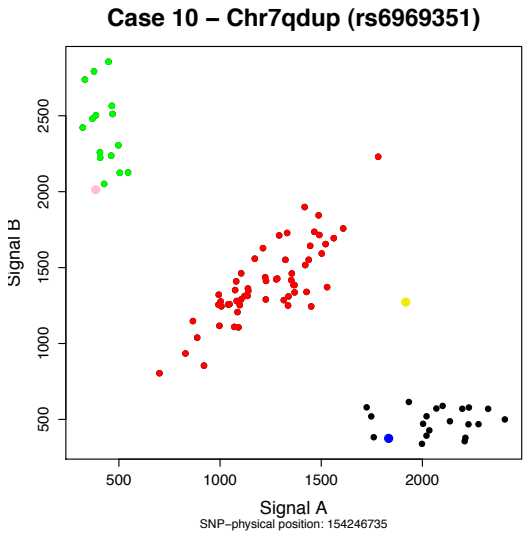

Case 10 – Chr6qdel (rs10946258)
Signal B
Signal A
SNP−physical position: 170703945

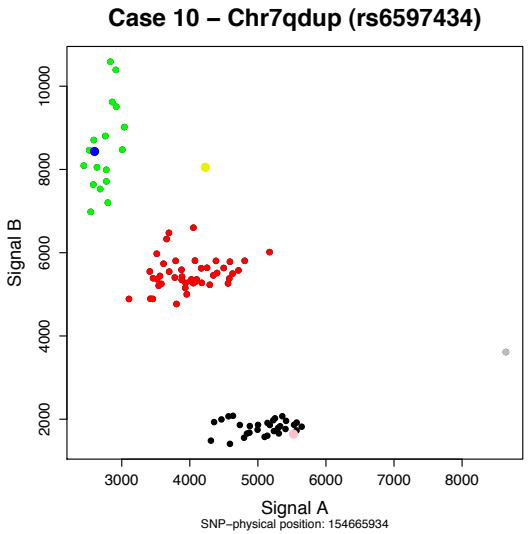

Case 10 – Chr6qdel (rs7738104)
Signal B
Signal A
SNP−physical position: 170704196

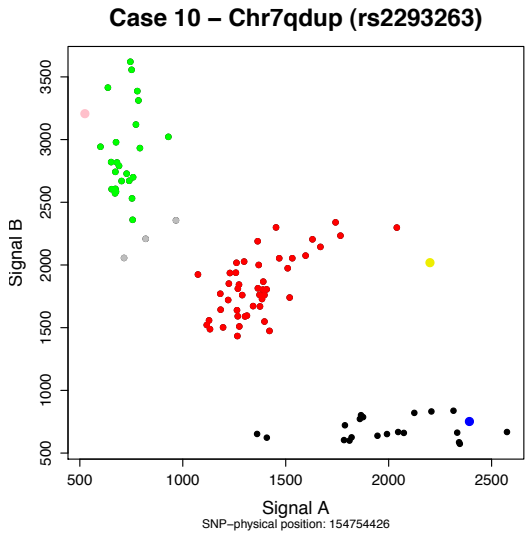

Case 10 – Chr6qdel (rs7762492)
Signal B
Signal A
SNP−physical position: 170704946

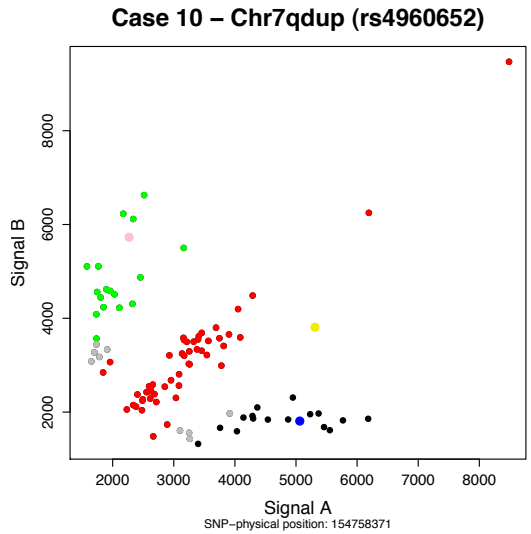

Case 10 – Chr6qdel (rs12662190)
Signal B
Signal A
SNP−physical position: 170745812

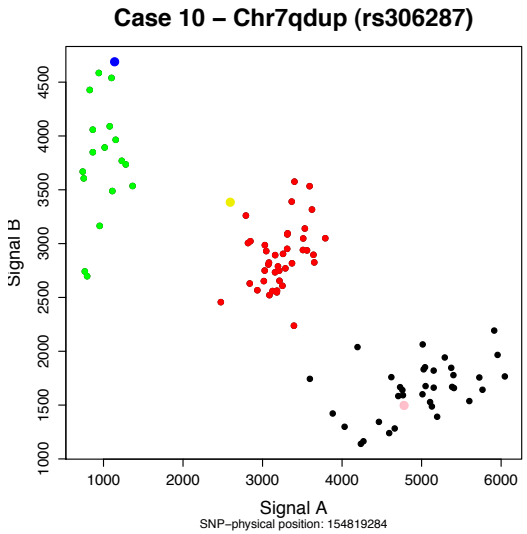
Case: 10
Chromosome: 7q
Abberation: dup.

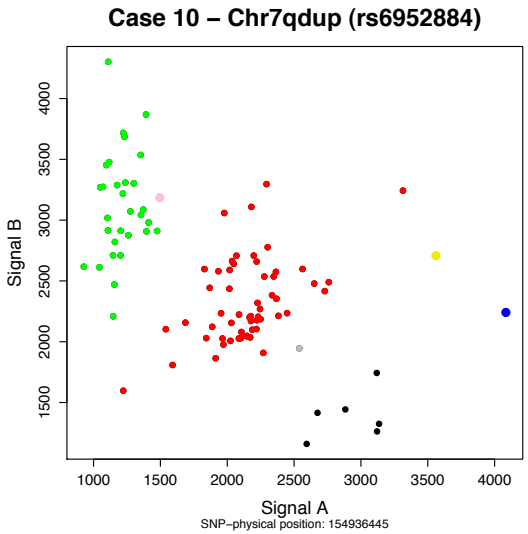

Case 10 – Chr7qdup (rs6969351)
Signal B
Signal A
SNP−physical position: 154246735

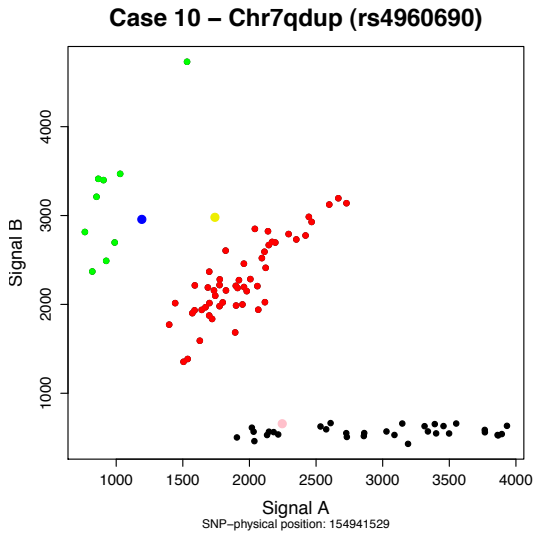

Case 10 – Chr7qdup (rs6597434)
Signal B
Signal A
SNP−physical position: 154665934

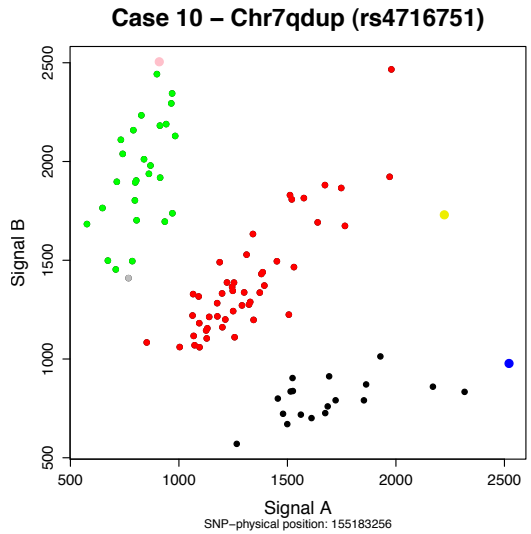

Case 10 – Chr7qdup (rs2293263)
Signal B
Signal A
SNP−physical position: 154754426

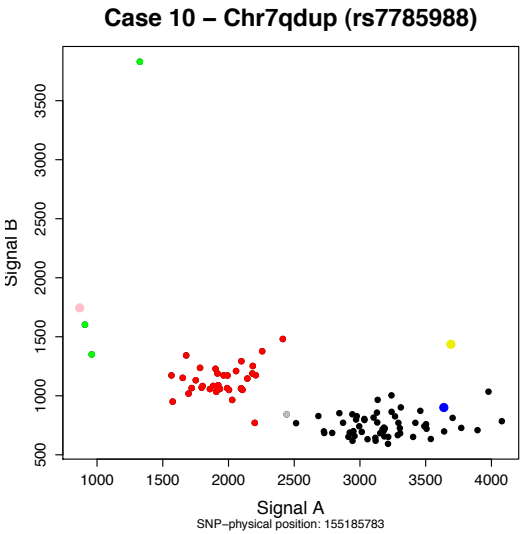

Case 10 – Chr7qdup (rs4960652)
Signal B
Signal A
SNP−physical position: 154758371

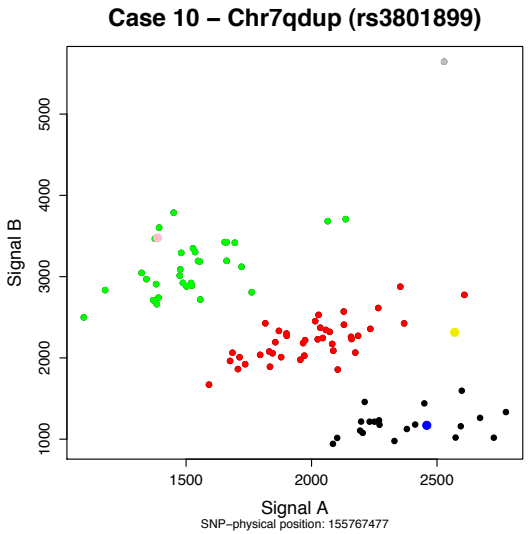

Case 10 – Chr7qdup (rs306287)
Signal B
Signal A
SNP−physical position: 154819284

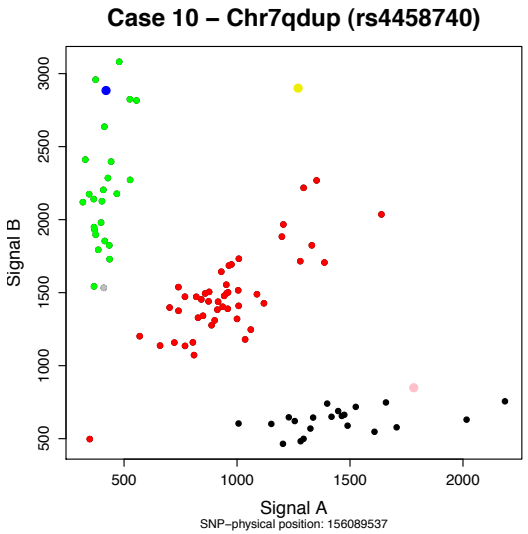

Case 10 – Chr7qdup (rs6952884)
Signal B
Signal A
SNP−physical position: 154936445

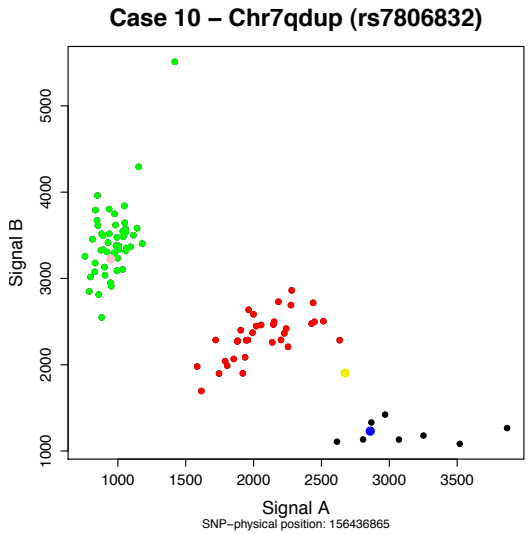

Case 10 – Chr7qdup (rs4960690)
Signal B
Signal A
SNP−physical position: 154941529

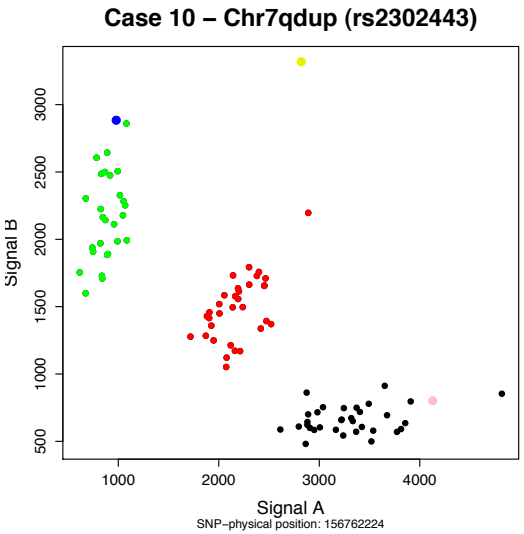

Case 10 – Chr7qdup (rs4716751)
Signal B
Signal A
SNP−physical position: 155183256

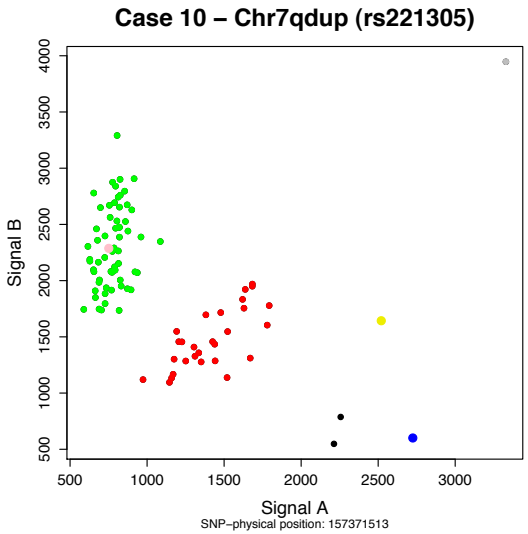

Case 10 – Chr7qdup (rs7785988)
Signal B
Signal A
SNP–physical position: 155185783

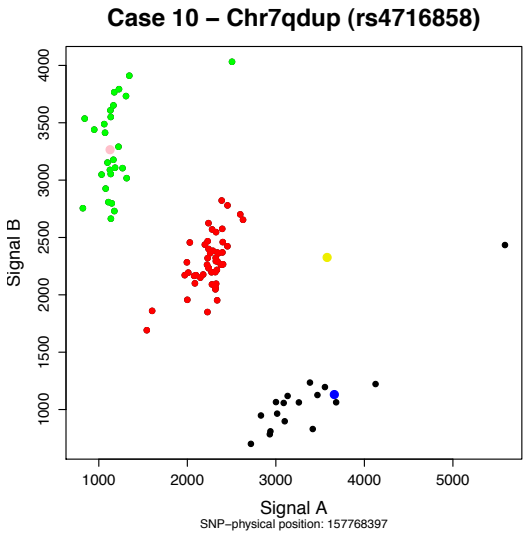

Case 10 – Chr7qdup (rs3801899)
Signal B
Signal A
SNP–physical position: 155767477

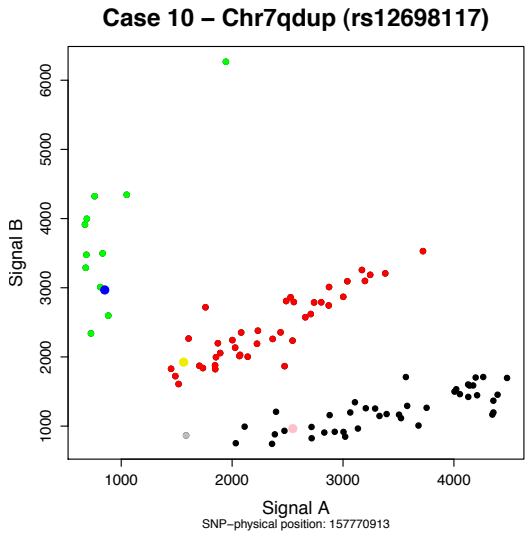

Case 10 – Chr7qdup (rs4458740)
Signal B
Signal A
SNP–physical position: 156089537

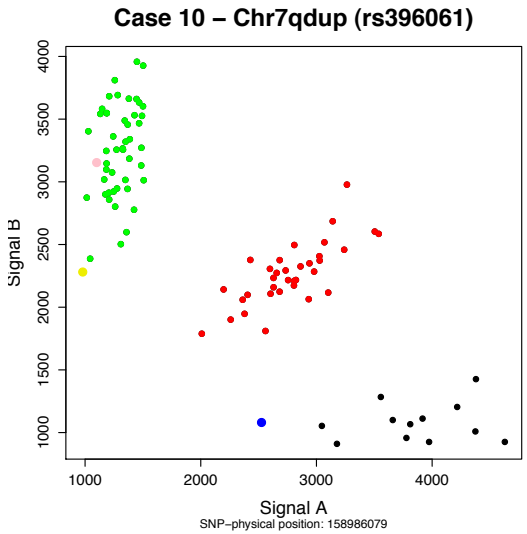

Case 10 – Chr7qdup (rs7806832)
Signal B
Signal A
SNP–physical position: 156436865


Case 10 – Chr7qdup (rs2302443)
Signal B
Signal A
SNP–physical position: 156762224

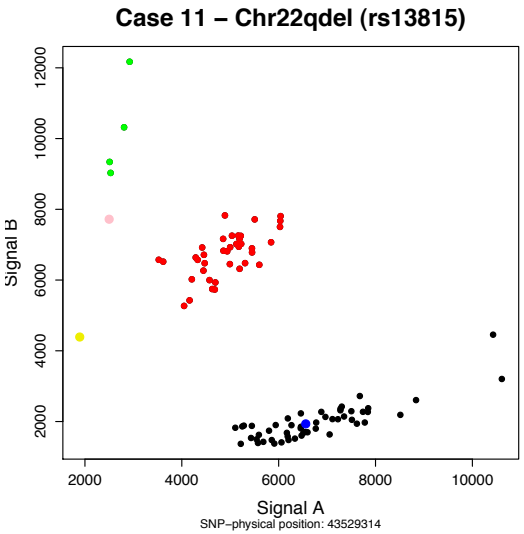

Case 10 – Chr7qdup (rs221305)
Signal B
Signal A
SNP–physical position: 157371513

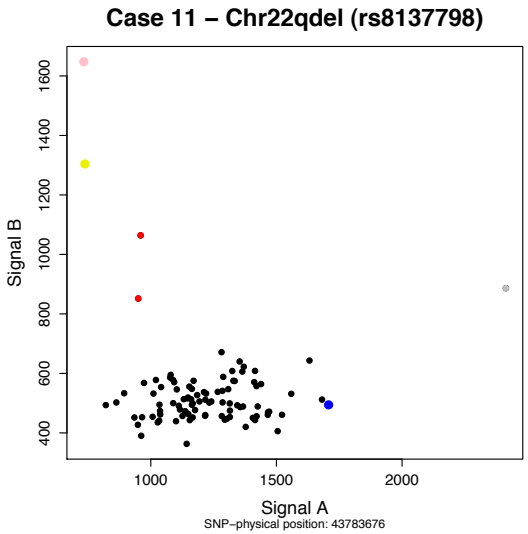

Case 10 – Chr7qdup (rs4716858)
Signal B
Signal A
SNP–physical position: 157768397

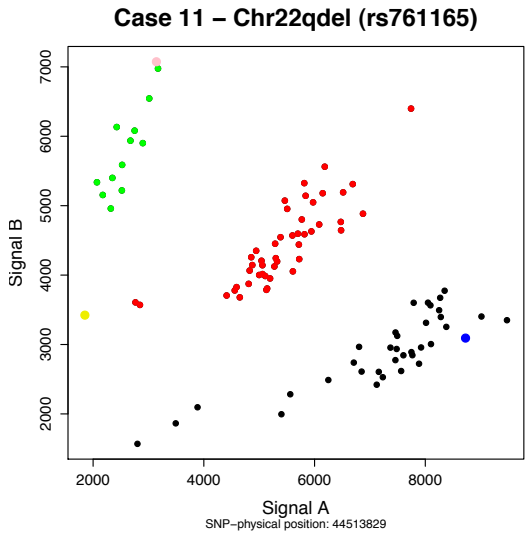

Case 10 – Chr7qdup (rs12698117)
Signal B
Signal A
SNP–physical position: 157770913

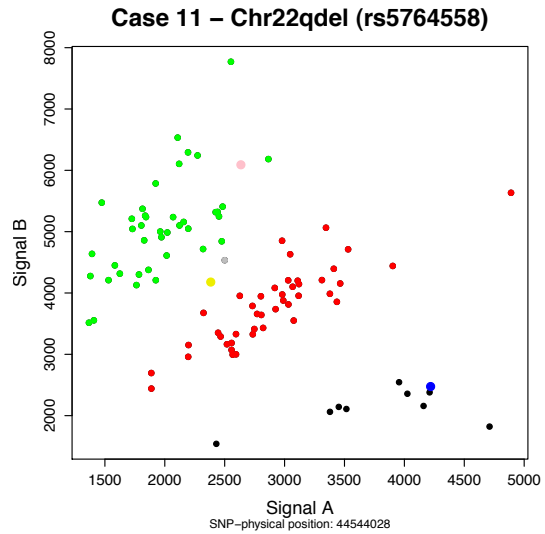

Case 10 – Chr7qdup (rs396061)
Signal B
1000
1500
2000
2500
3000
3500
4000
1000
2000
3000
4000
Signal A
SNP–physical position: 158986079

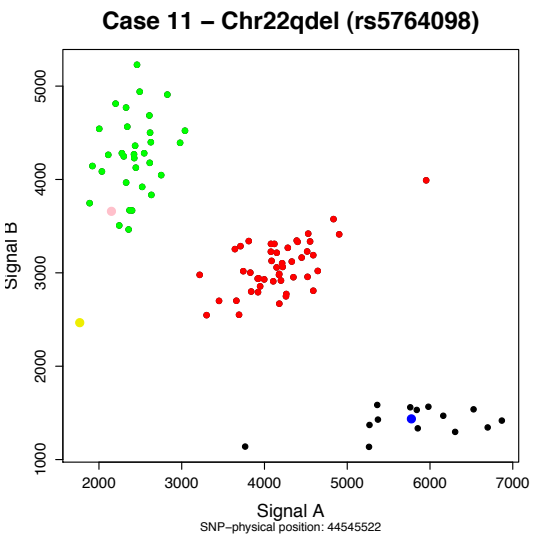
Case: 11
Chromosome: 22q
Abberation: del.

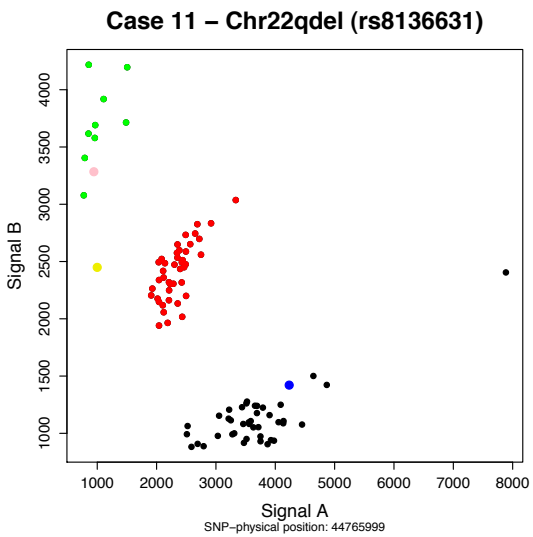

Case 11 – Chr22qdel (rs13815)
Signal B
Signal A
SNP–physical position: 43529314

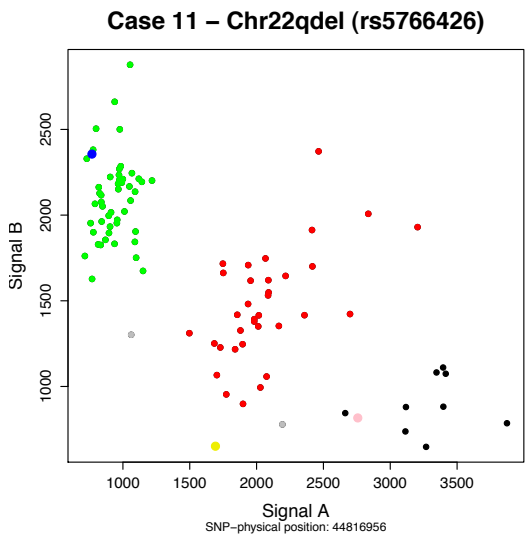

Case 11 – Chr22qdel (rs8137798)
Signal B
Signal A
SNP–physical position: 43783676

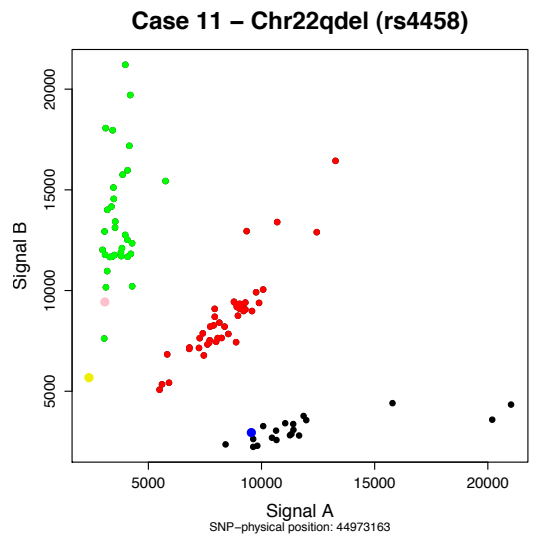

Case 11 – Chr22qdel (rs761165)
Signal B
Signal A
SNP–physical position: 44513829

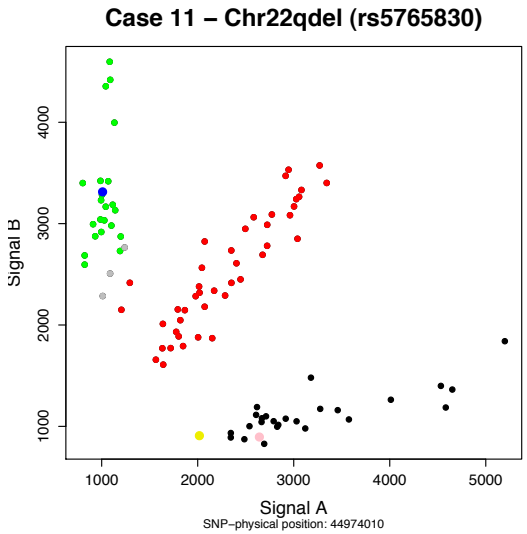

Case 11 – Chr22qdel (rs5764558)
Signal B
Signal A
SNP–physical position: 44544028

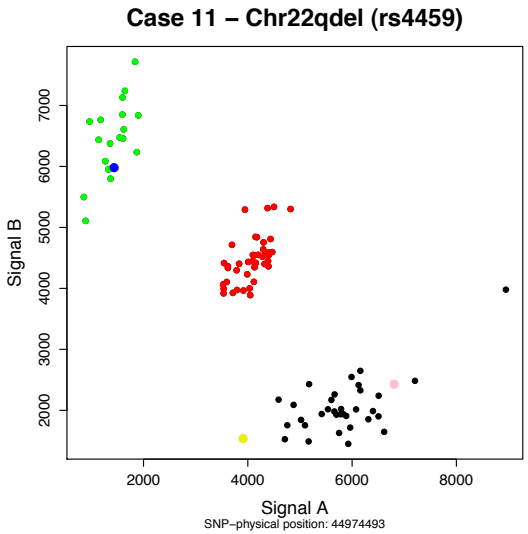

Case 11 – Chr22qdel (rs5764098)
Signal B
Signal A
SNP–physical position: 44545522

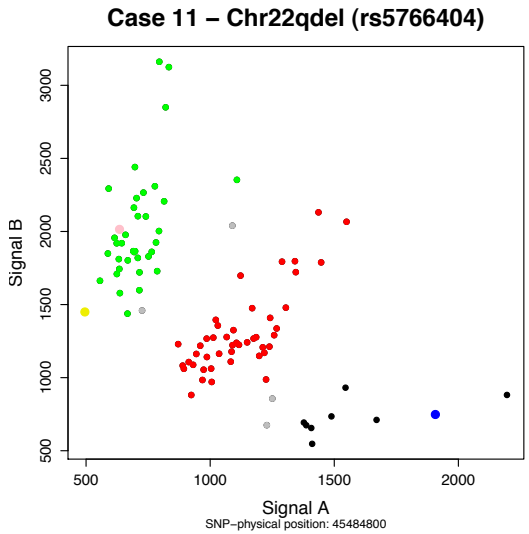

Case 11 – Chr22qdel (rs8136631)
Signal B
Signal A
SNP–physical position: 44765999

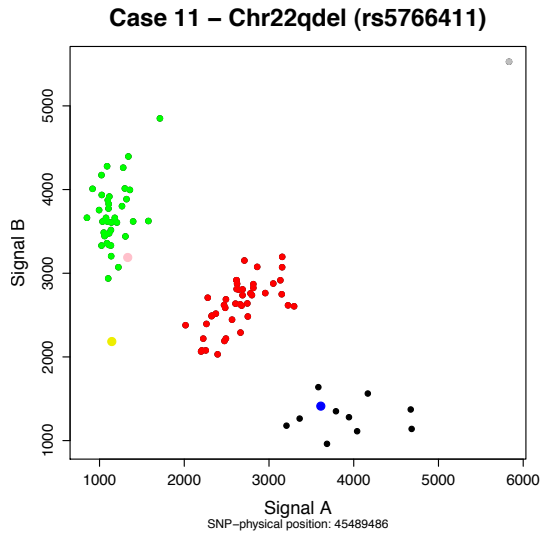

Case 11 – Chr22qdel (rs5766426)
Signal B
Signal A
SNP–physical position: 44816956

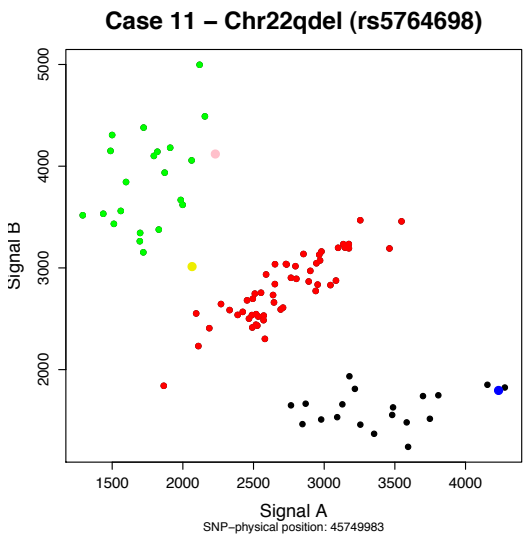

Case 11 – Chr22qdel (rs4458)
Signal B
Signal A
SNP–physical position: 44973163

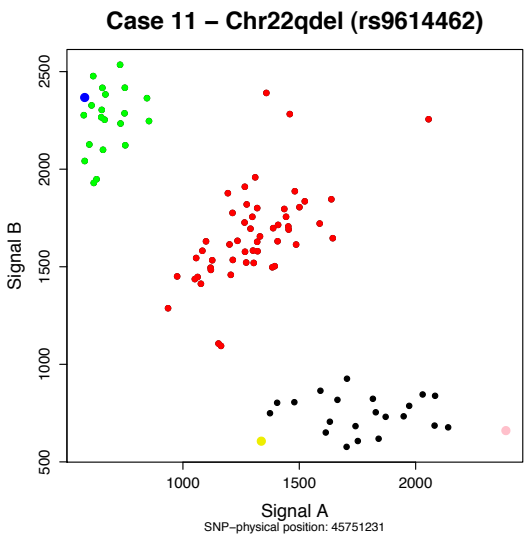

Case 11 – Chr22qdel (rs5765830)
Signal B
Signal A
SNP−physical position: 44974010

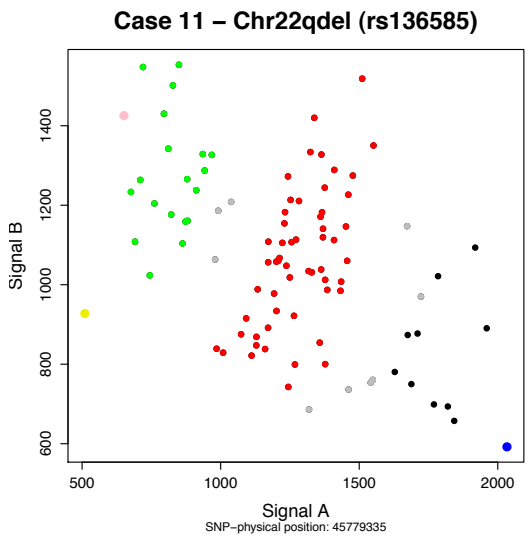

Case 11 – Chr22qdel (rs4459)
Signal B
Signal A
SNP−physical position: 44974493

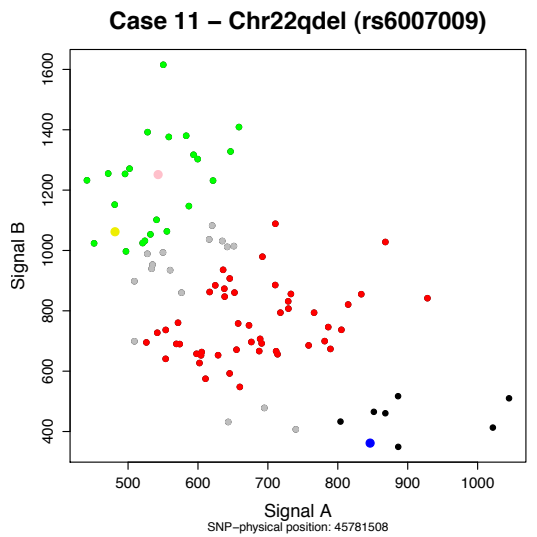

Case 11 – Chr22qdel (rs5766404)
Signal B
Signal A
SNP−physical position: 45484800

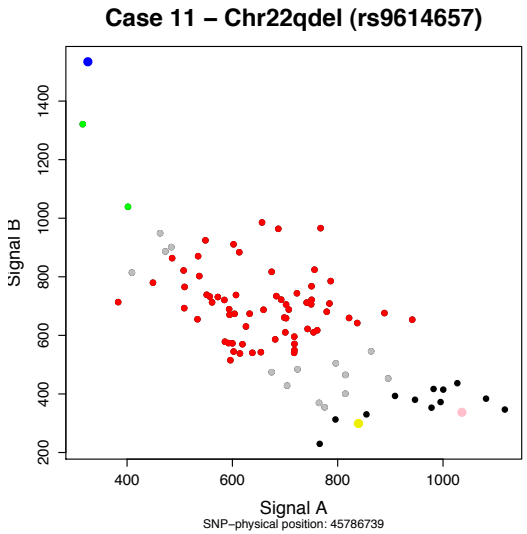

Case 11 – Chr22qdel (rs5766411)
Signal B
Signal A
SNP−physical position: 45489486

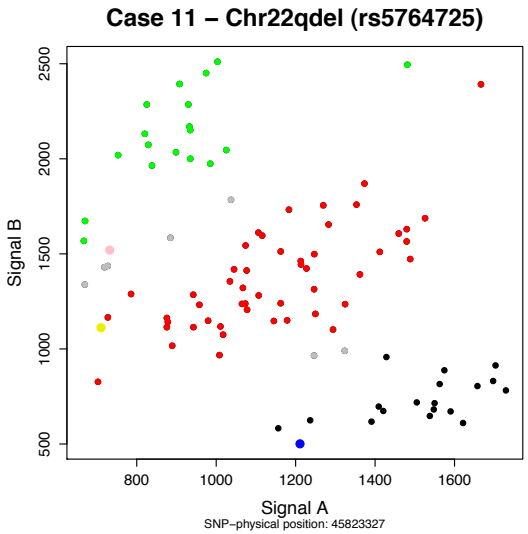

Case 11 – Chr22qdel (rs5764698)
Signal B
Signal A
SNP−physical position: 45749983

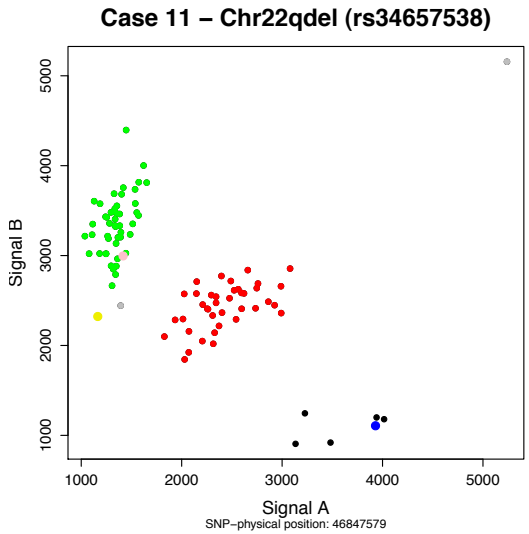

Case 11 – Chr22qdel (rs9614462)
Signal B
Signal A
SNP−physical position: 45751231

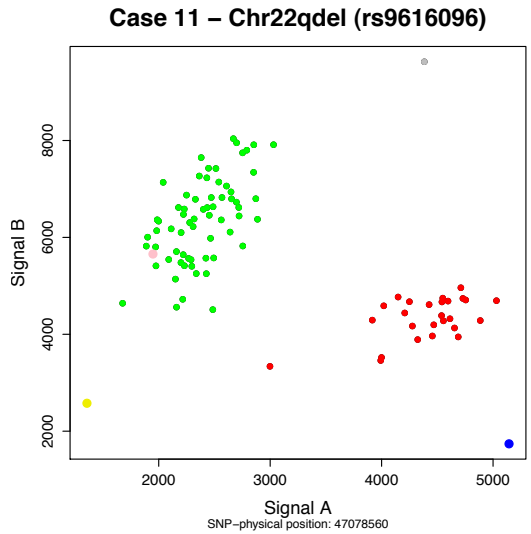

Case 11 – Chr22qdel (rs136585)
Signal B
Signal A
SNP−physical position: 45779335

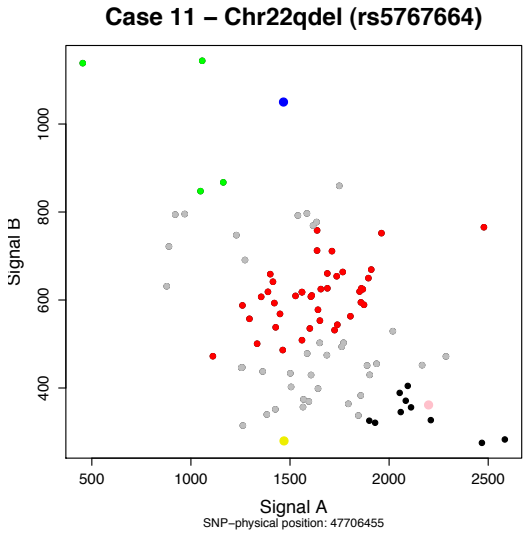

Case 11 – Chr22qdel (rs6007009)
Signal B
Signal A
SNP−physical position: 45781508

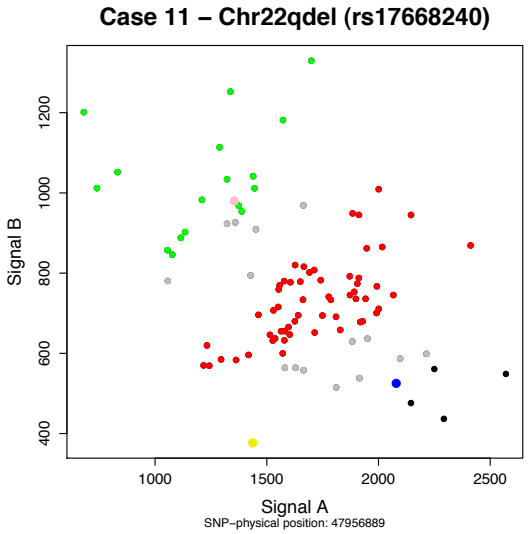

Case 11 – Chr22qdel (rs9614657)
Signal B
Signal A
SNP–physical position: 45786739

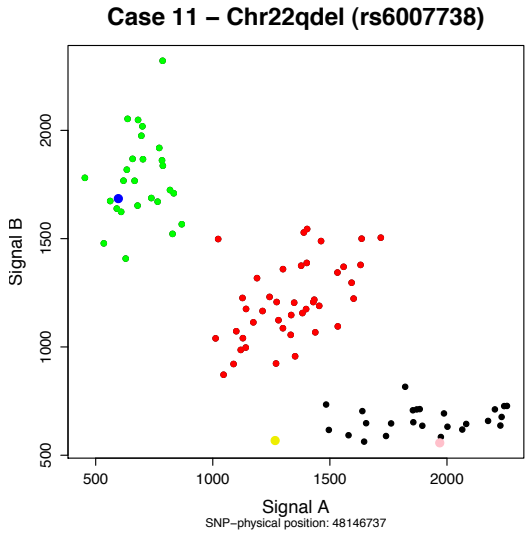

Case 11 – Chr22qdel (rs5764725)
Signal B
Signal A
SNP–physical position: 45823327

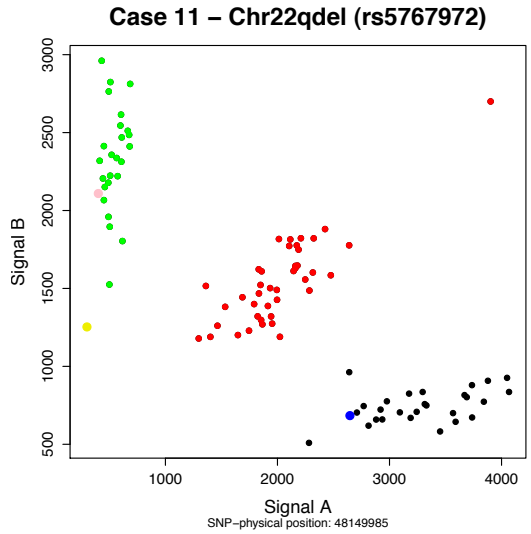

Case 11 – Chr22qdel (rs34657538)
Signal B
Signal A
SNP–physical position: 46847579

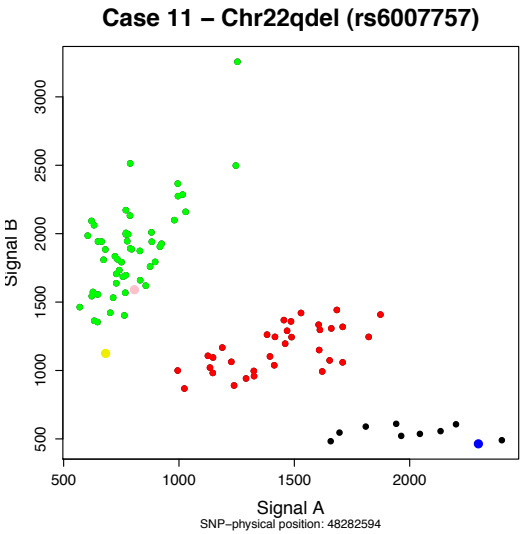

Case 11 – Chr22qdel (rs9616096)
Signal B
Signal A
SNP–physical position: 47078560

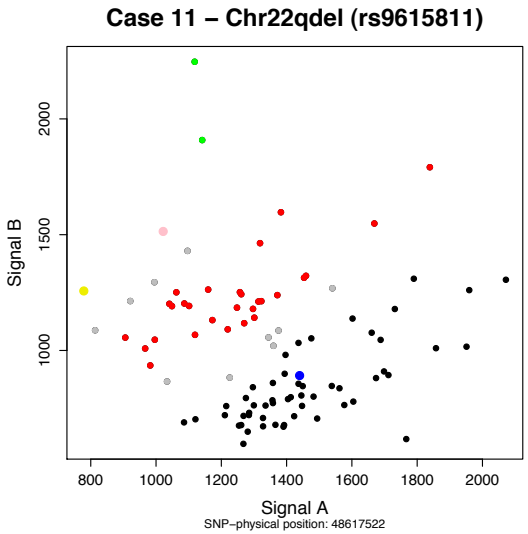

Case 11 – Chr22qdel (rs5767664)
Signal B
Signal A
SNP–physical position: 47706455

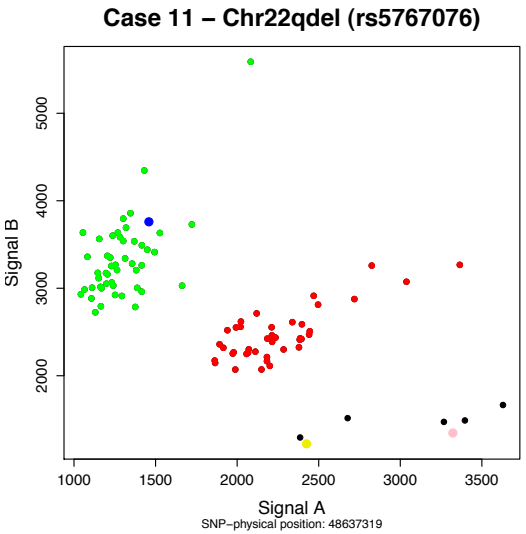

Case 11 – Chr22qdel (rs17668240)
Signal B
Signal A
SNP–physical position: 47956889

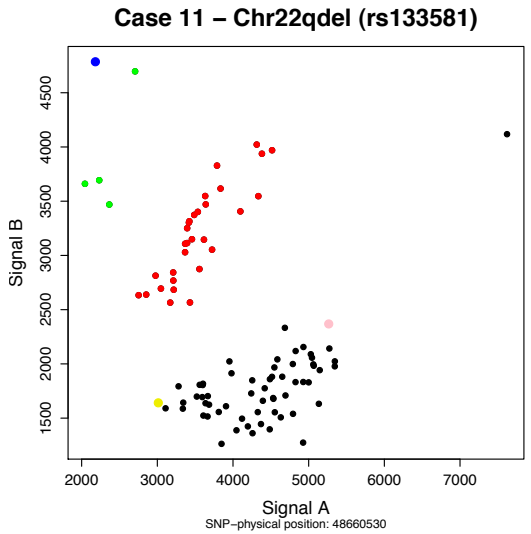

Case 11 – Chr22qdel (rs6007738)
Signal B
Signal A
SNP–physical position: 48146737

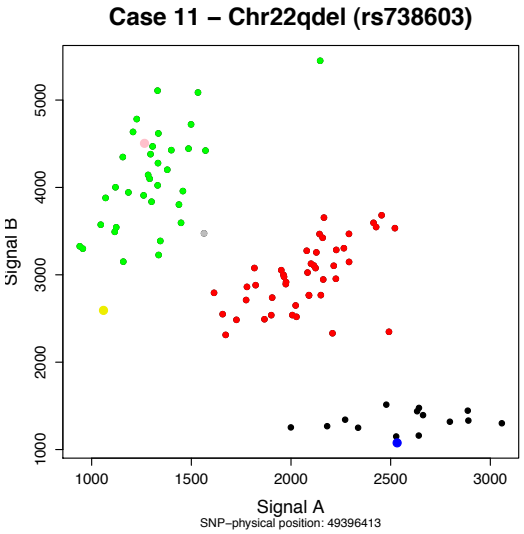

Case 11 – Chr22qdel (rs5767972)
Signal B
Signal A
SNP–physical position: 48149985

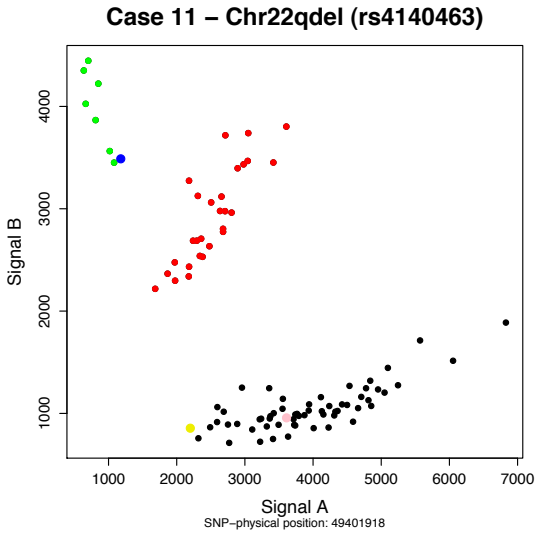

Case 11 – Chr22qdel (rs6007757)
Signal B
Signal A
SNP−physical position: 48282594

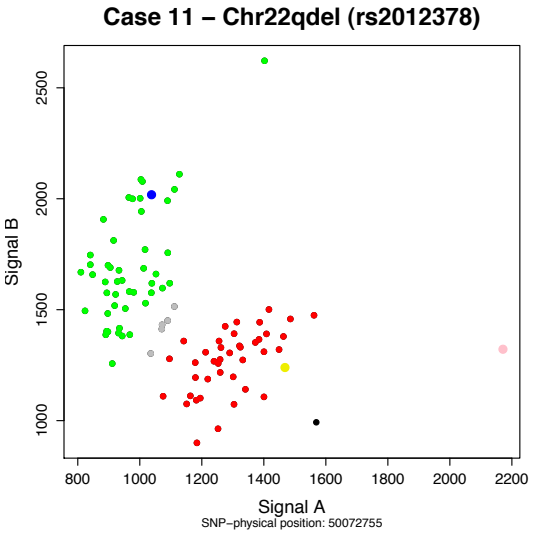

Case 11 – Chr22qdel (rs9615811)
Signal B
Signal A
SNP−physical position: 48617522


Case 11 – Chr22qdel (rs5767076)
Signal B
Signal A
SNP−physical position: 48637319

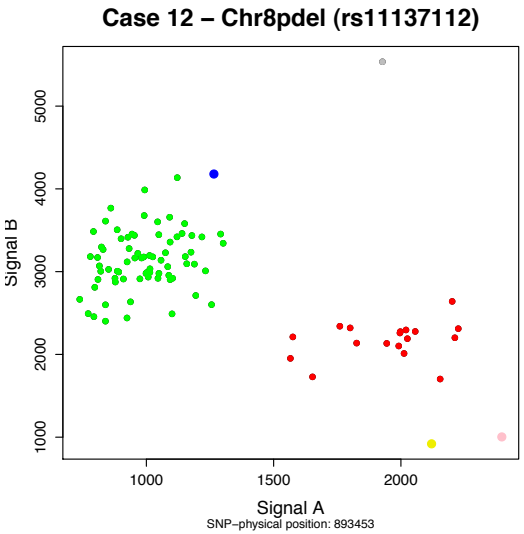

Case 11 – Chr22qdel (rs133581)
Signal B
Signal A
SNP−physical position: 48660530

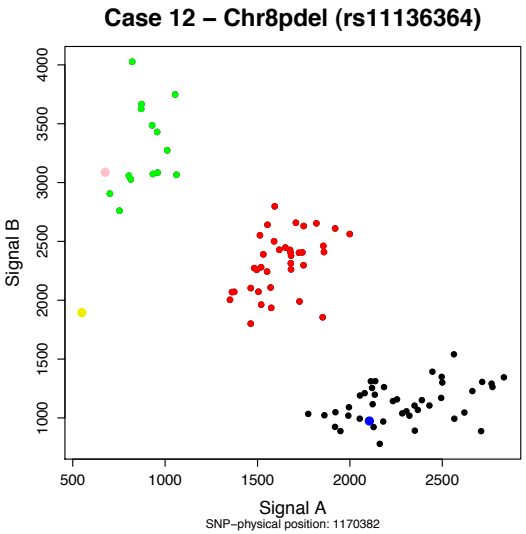

Case 11 – Chr22qdel (rs738603)
Signal B
Signal A
SNP−physical position: 49396413

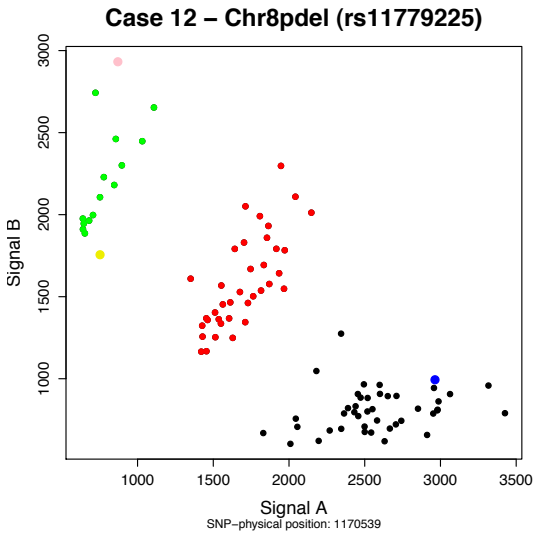

Case 11 – Chr22qdel (rs4140463)
Signal B
Signal A
SNP−physical position: 49401918

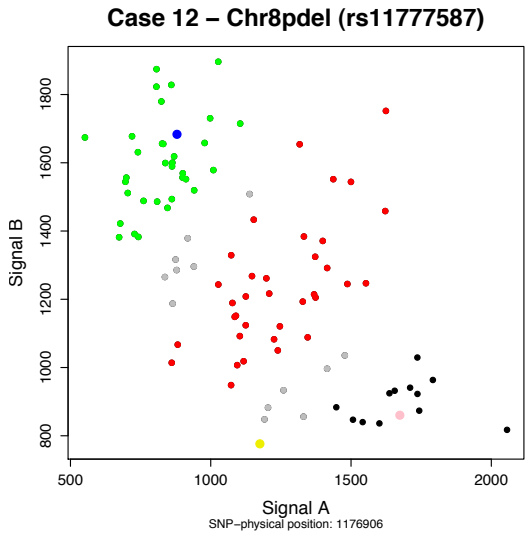

Case 11 – Chr22qdel (rs2012378)
Signal B
Signal A
SNP−physical position: 50072755

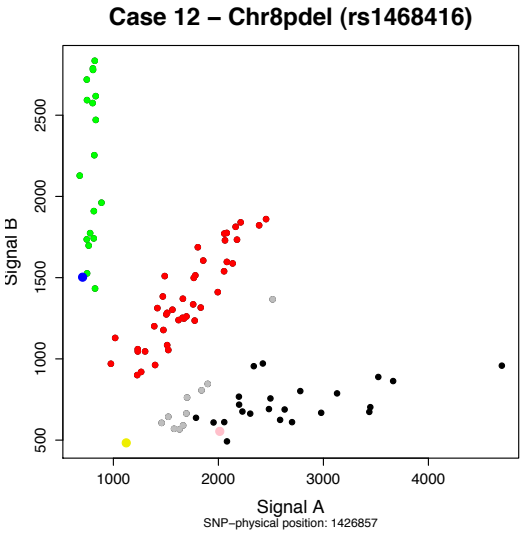
Case: 12
Chromosome: 8p
Abberation: del.

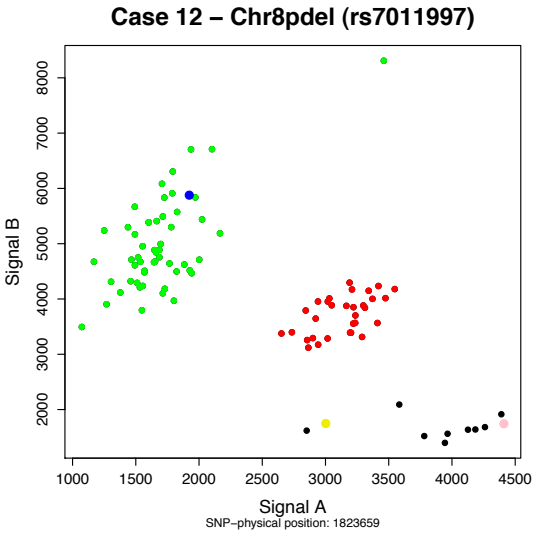

Case 12 – Chr8pdel (rs11137112)
Signal B
Signal A
SNP–physical position: 893453

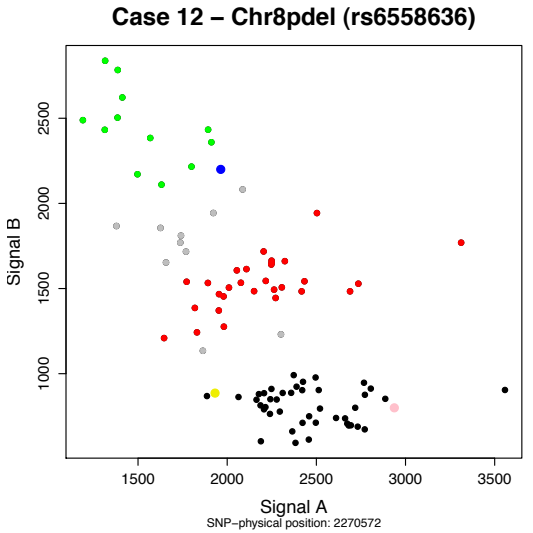

Case 12 – Chr8pdel (rs11136364)
Signal B
Signal A
SNP–physical position: 1170382

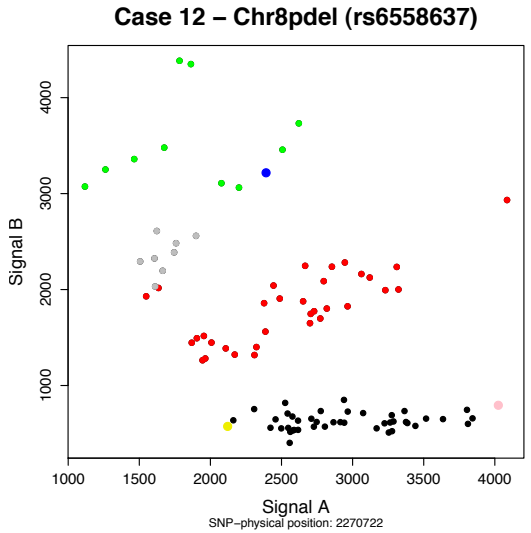

Case 12 – Chr8pdel (rs11779225)
Signal B
Signal A
SNP–physical position: 1170539

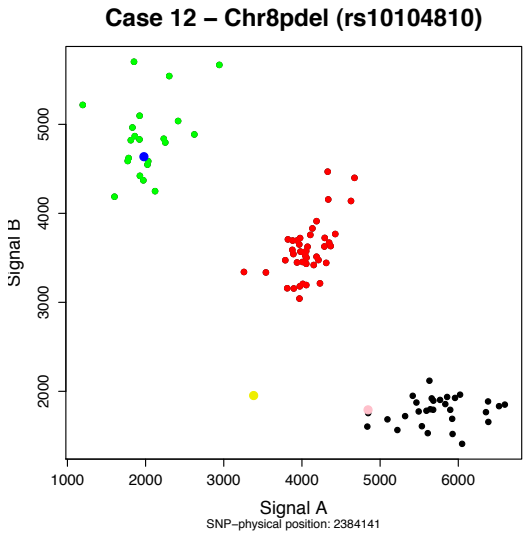

Case 12 – Chr8pdel (rs11777587)
Signal B
Signal A
SNP–physical position: 1176906

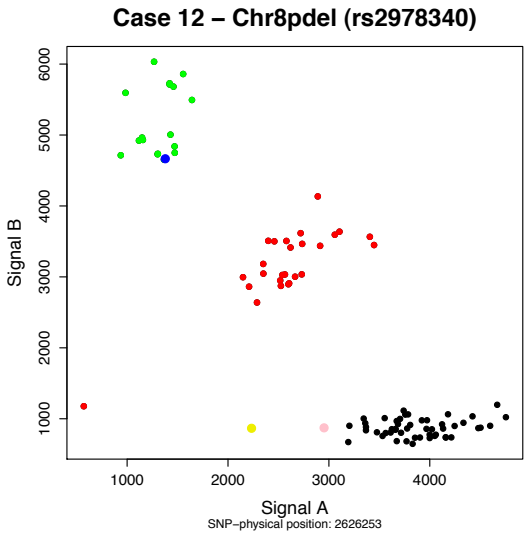

Case 12 – Chr8pdel (rs1468416)
Signal B
Signal A
SNP–physical position: 1426857

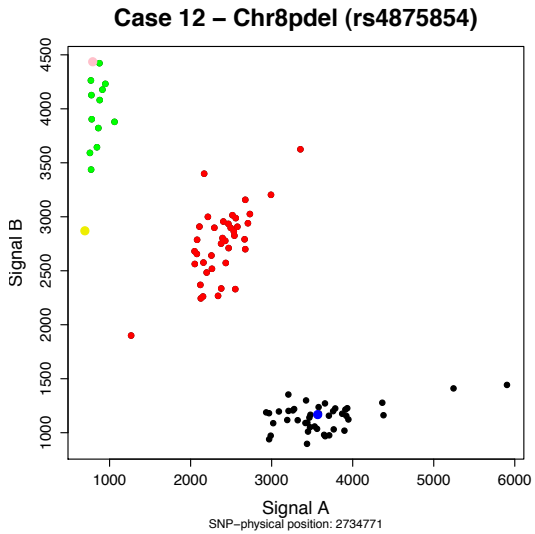

Case 12 – Chr8pdel (rs7011997)
Signal B
Signal A
SNP–physical position: 1823659

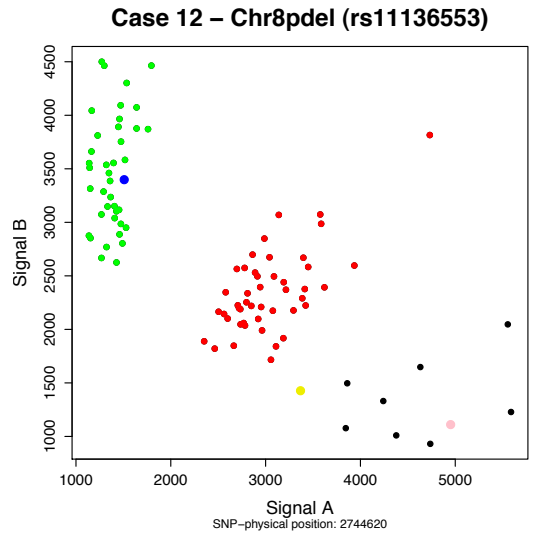

Case 12 – Chr8pdel (rs6558636)
Signal B
Signal A
SNP–physical position: 2270572

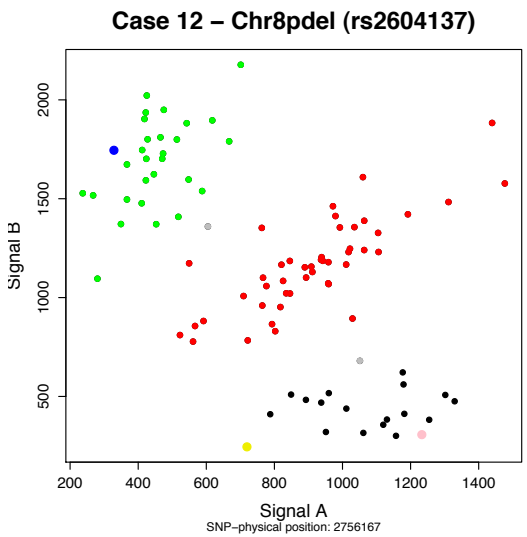

Case 12 – Chr8pdel (rs6558637)
Signal B
Signal A
SNP–physical position: 2270722

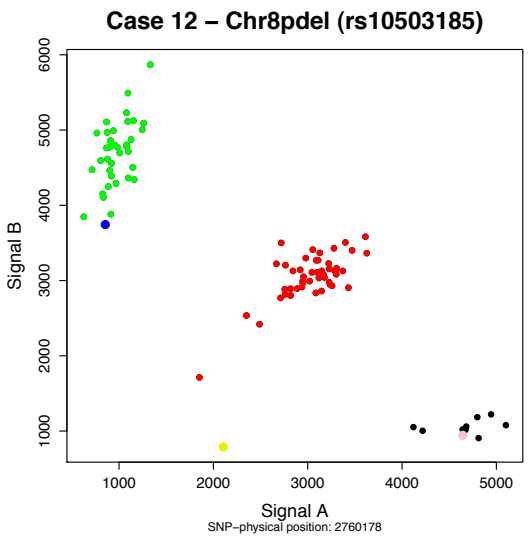

Case 12 – Chr8pdel (rs10104810)
Signal B
Signal A
SNP–physical position: 2384141

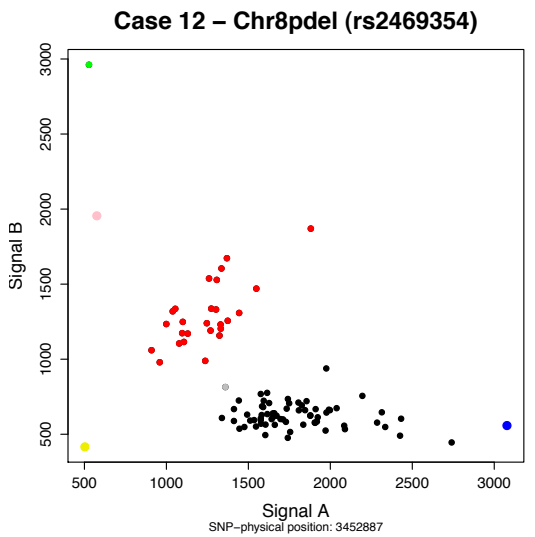

Case 12 – Chr8pdel (rs2978340)
Signal B
Signal A
SNP–physical position: 2626253

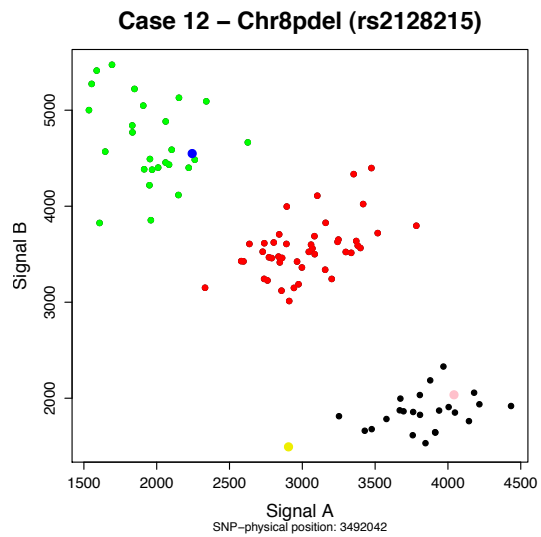

Case 12 – Chr8pdel (rs4875854)
Signal B
Signal A
SNP–physical position: 2734771

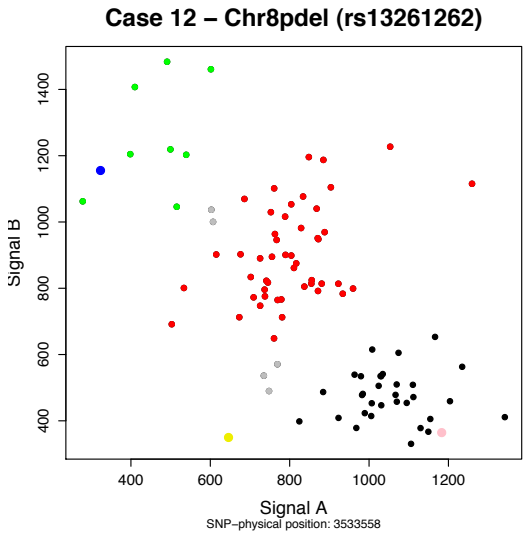

Case 12 – Chr8pdel (rs11136553)
Signal B
Signal A
SNP–physical position: 2744620

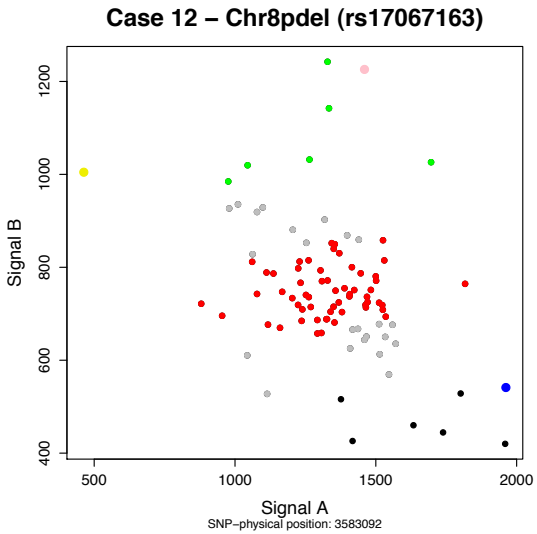

Case 12 – Chr8pdel (rs2604137)
Signal B
Signal A
SNP–physical position: 2756167

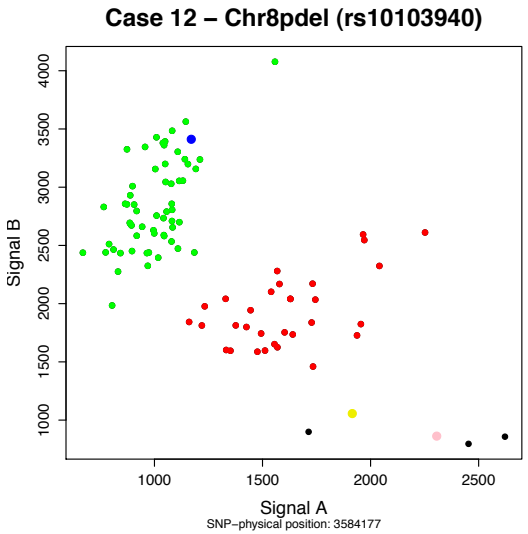

Case 12 – Chr8pdel (rs10503185)
Signal B
Signal A
SNP–physical position: 2760178

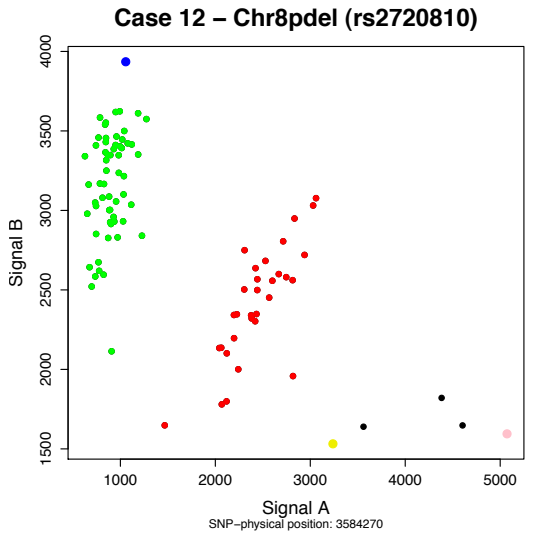

Case 12 – Chr8pdel (rs2469354)
Signal B
Signal A
SNP–physical position: 3452887

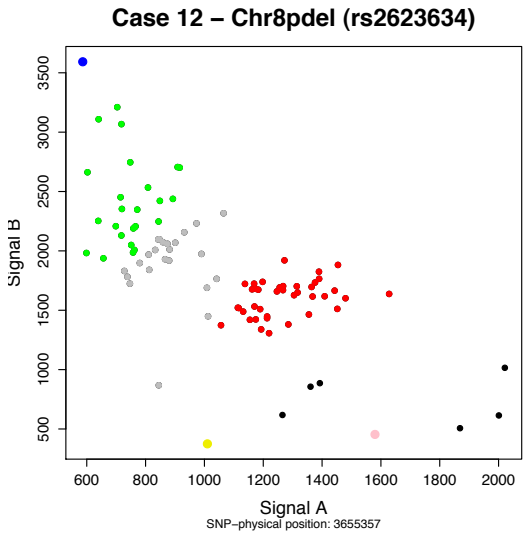

Case 12 – Chr8pdel (rs2128215)
Signal B
Signal A
SNP–physical position: 3492042

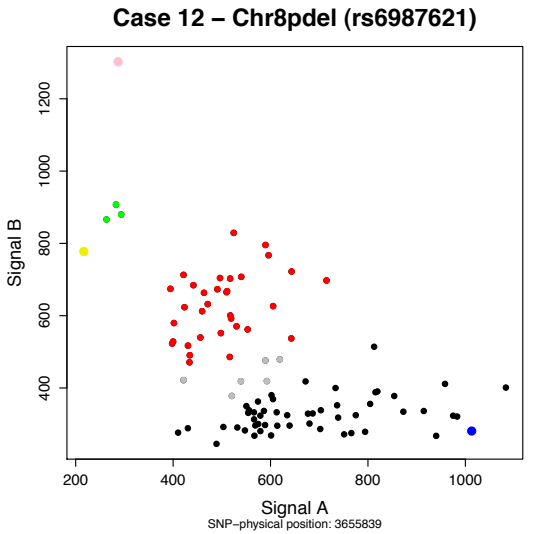

Case 12 – Chr8pdel (rs13261262)
Signal B
Signal A
SNP–physical position: 3533558

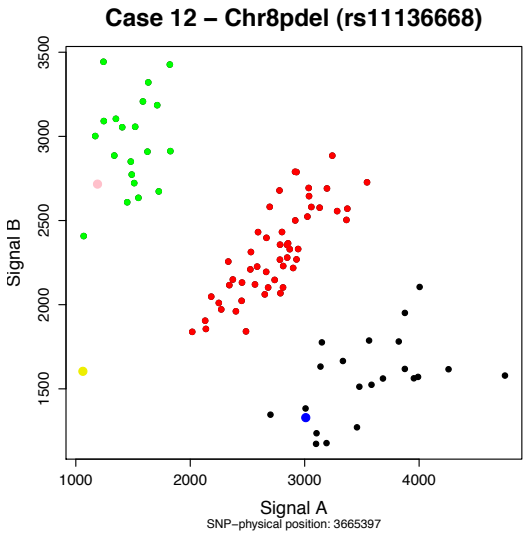

Case 12 – Chr8pdel (rs17067163)
Signal B
Signal A
SNP–physical position: 3583092

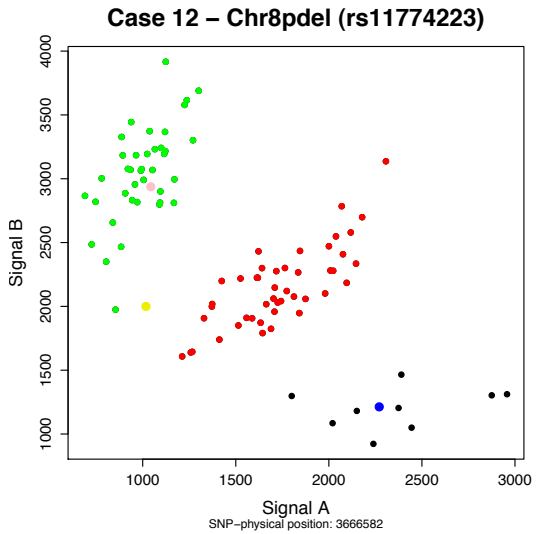

Case 12 – Chr8pdel (rs10103940)
Signal B
Signal A
SNP–physical position: 3584177

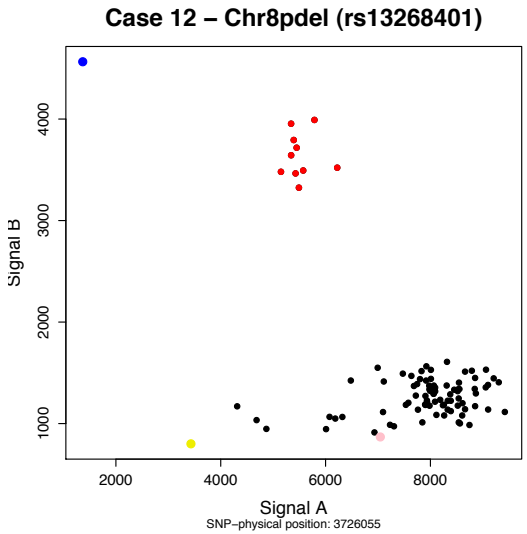

Case 12 – Chr8pdel (rs2720810)
Signal B
Signal A
SNP–physical position: 3584270

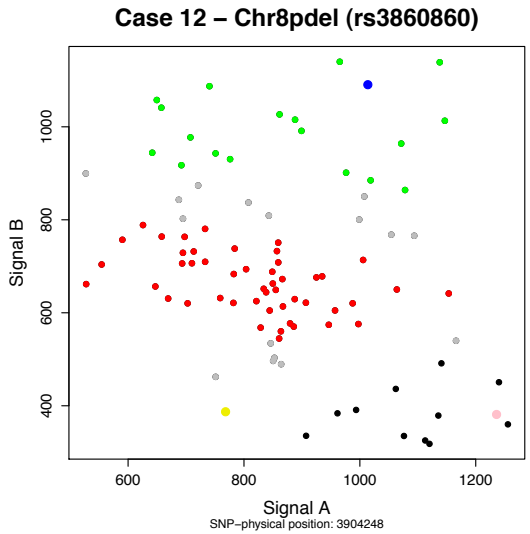

Case 12 – Chr8pdel (rs2623634)
Signal B
Signal A
SNP–physical position: 3655357

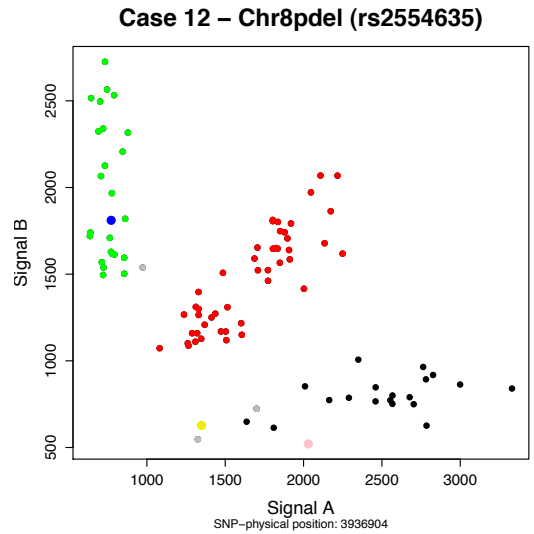

Case 12 – Chr8pdel (rs6987621)
Signal B
Signal A
SNP–physical position: 3655839

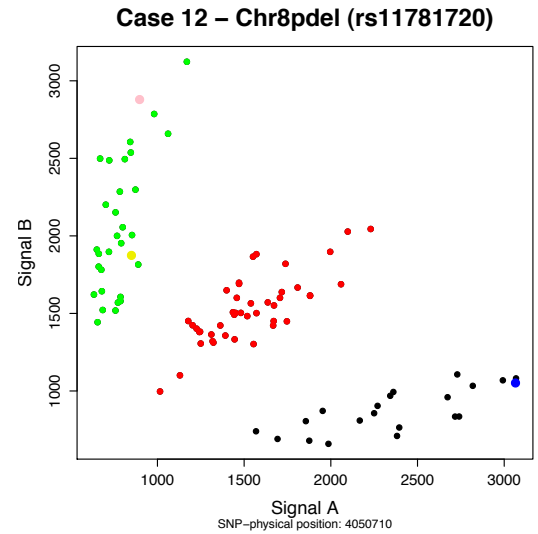

Case 12 – Chr8pdel (rs11136668)
Signal B
Signal A
SNP–physical position: 3665397

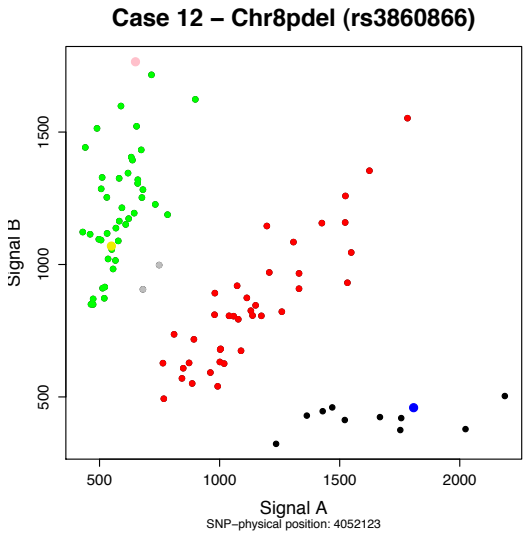

Case 12 – Chr8pdel (rs11774223)
Signal B
Signal A
SNP–physical position: 3666582

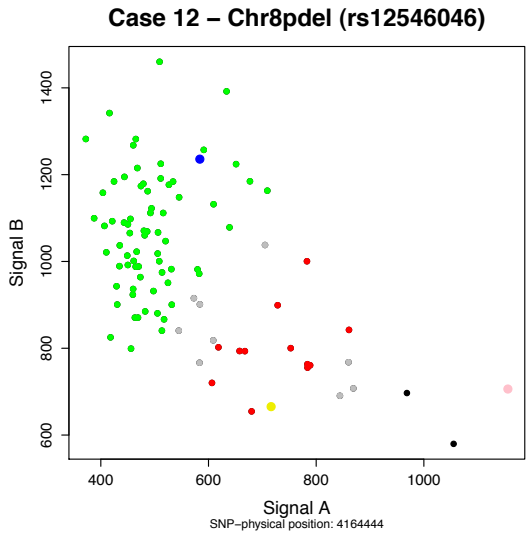

Case 12 – Chr8pdel (rs13268401)
Signal B
Signal A
SNP–physical position: 3726055

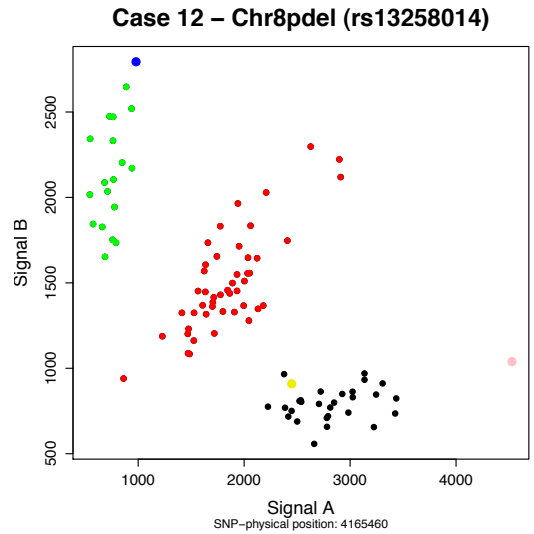

Case 12 – Chr8pdel (rs3860860)
Signal B
Signal A
SNP–physical position: 3904248

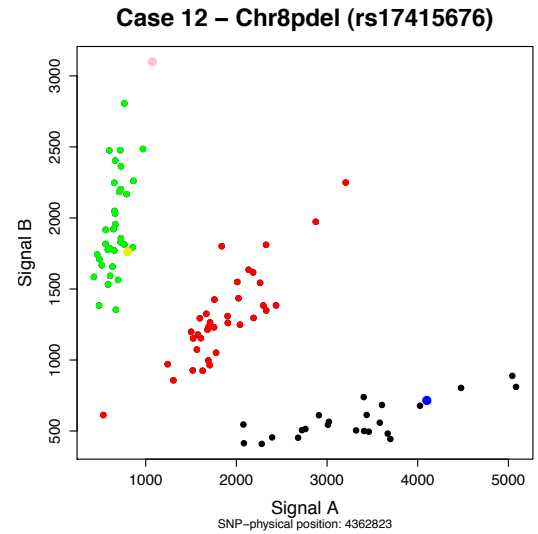

Case 12 – Chr8pdel (rs2554635)
Signal B
Signal A
SNP–physical position: 3936904

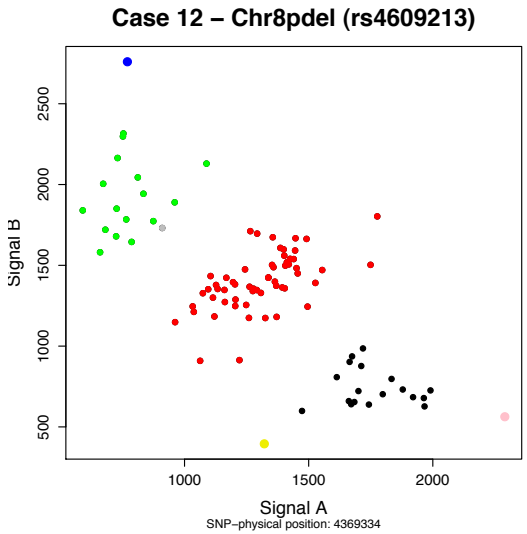

Case 12 – Chr8pdel (rs11781720)
Signal B
Signal A
SNP–physical position: 4050710

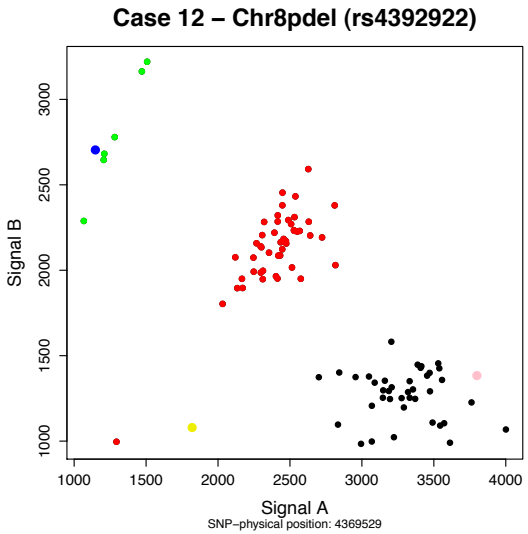

Case 12 – Chr8pdel (rs3860866)
Signal B
Signal A
SNP–physical position: 4052123

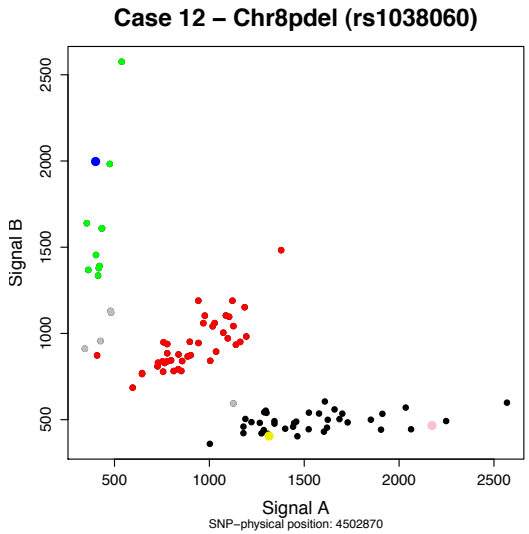

Case 12 – Chr8pdel (rs12546046)
Signal B
Signal A
SNP–physical position: 4164444

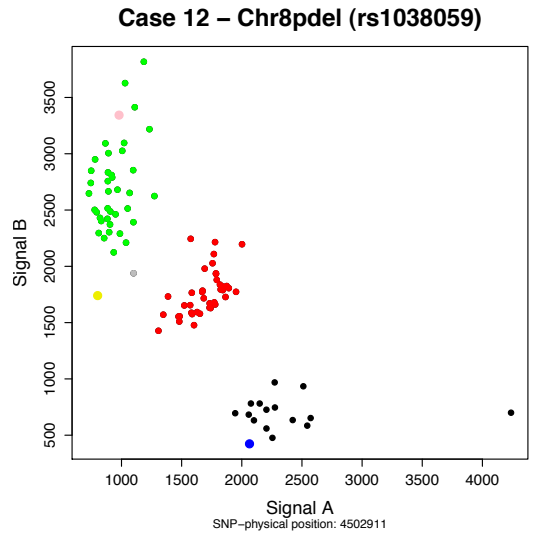

Case 12 – Chr8pdel (rs13258014)
Signal B
Signal A
SNP–physical position: 4165460

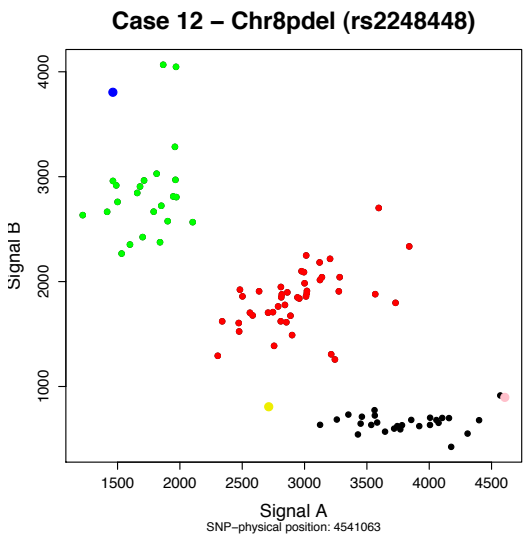

Case 12 – Chr8pdel (rs17415676)
Signal B
Signal A
SNP–physical position: 4362823

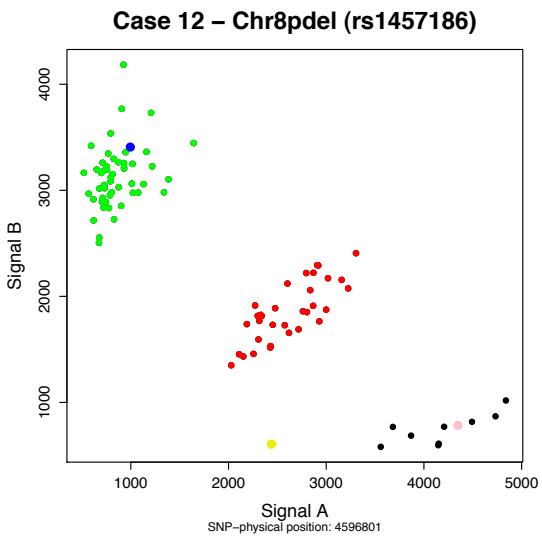

Case 12 – Chr8pdel (rs4609213)
Signal B
Signal A
SNP–physical position: 4369334

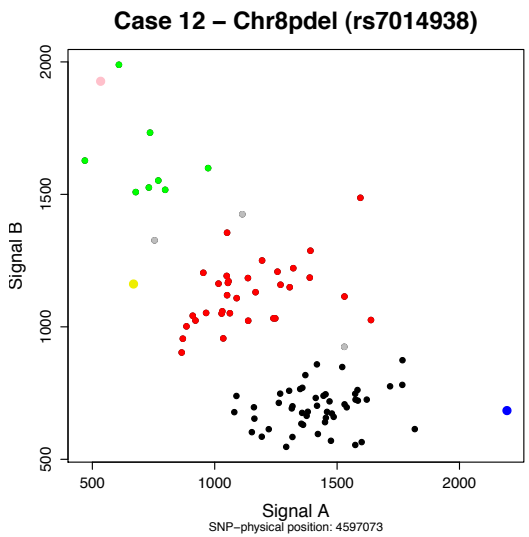

Case 12 – Chr8pdel (rs4392922)
Signal B
Signal A
SNP–physical position: 4369529

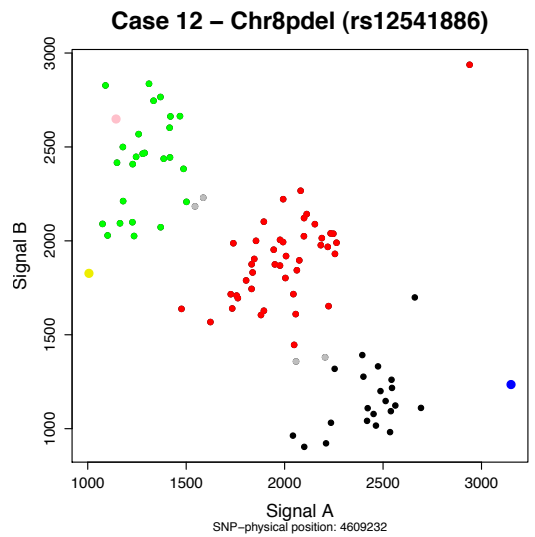

Case 12 – Chr8pdel (rs1038060)
Signal B
Signal A
SNP–physical position: 4502870

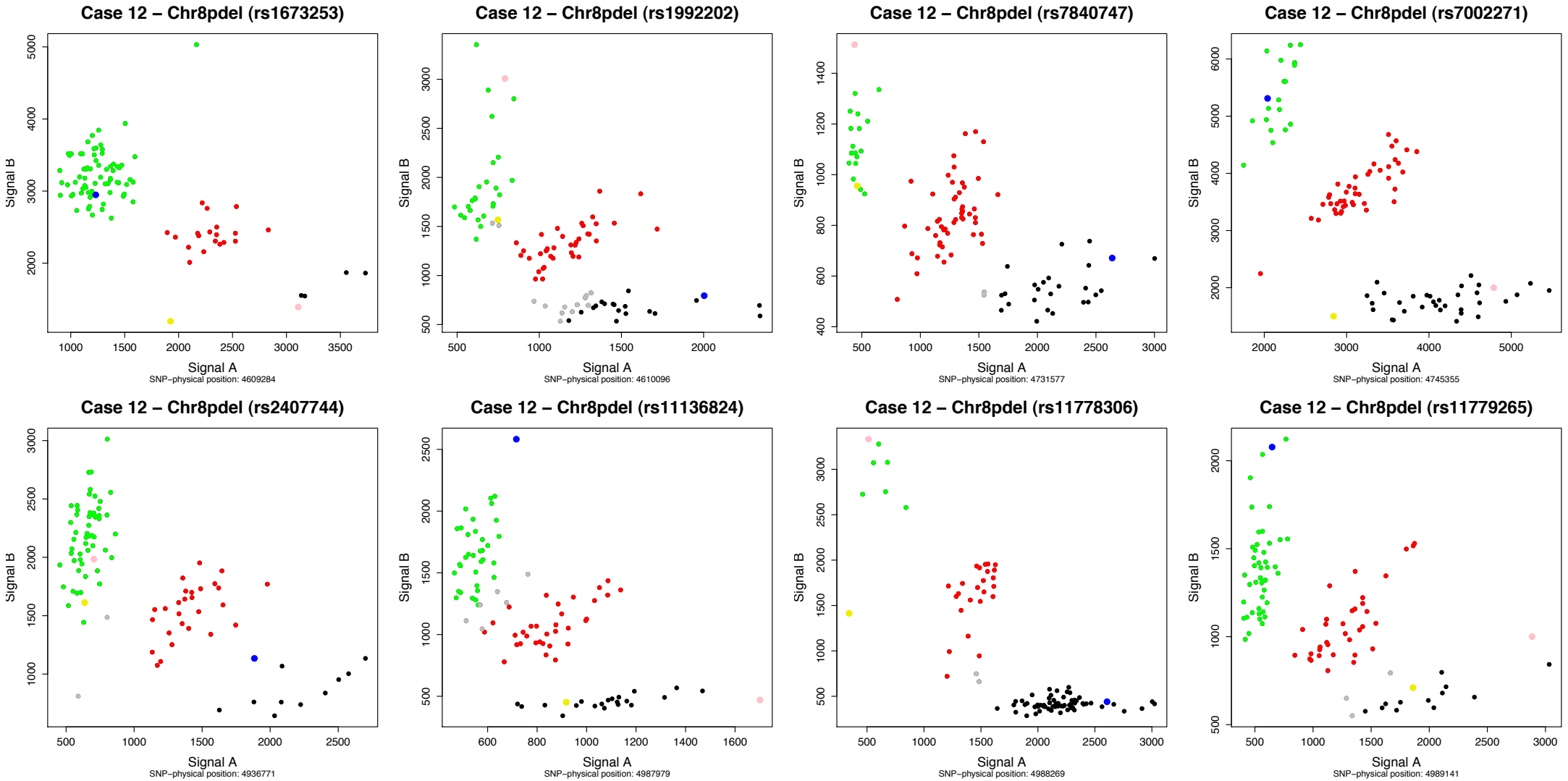

Case 12 – Chr8pdel (rs1038059)
Signal B
Signal A
SNP–physical position: 4502911

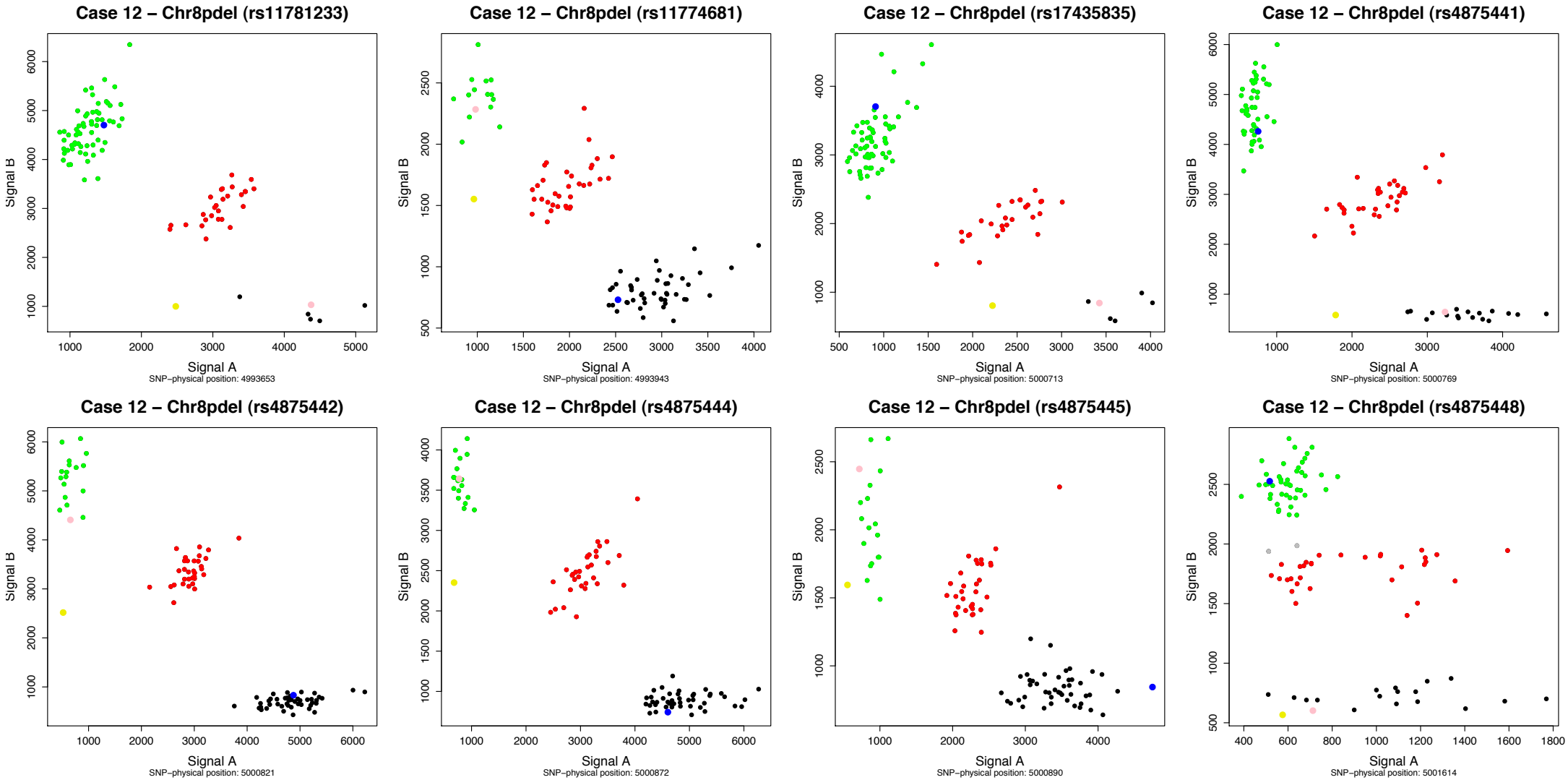

Case 12 – Chr8pdel (rs2248448)
Signal B
Signal A
SNP–physical position: 4541063

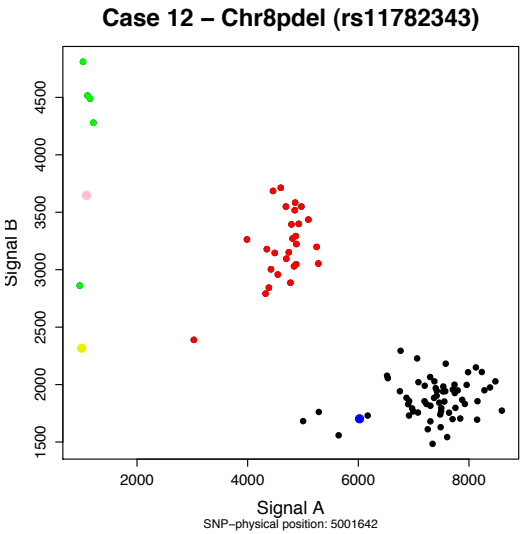

Case 12 – Chr8pdel (rs1457186)
Signal B
Signal A
SNP–physical position: 4596801


Case 12 – Chr8pdel (rs7014938)
Signal B
Signal A
SNP–physical position: 4597073

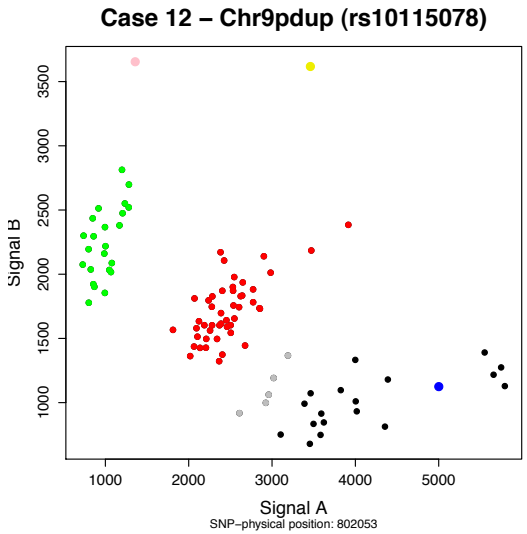

Case 12 – Chr8pdel (rs12541886)
Signal B
Signal A
SNP–physical position: 4609232

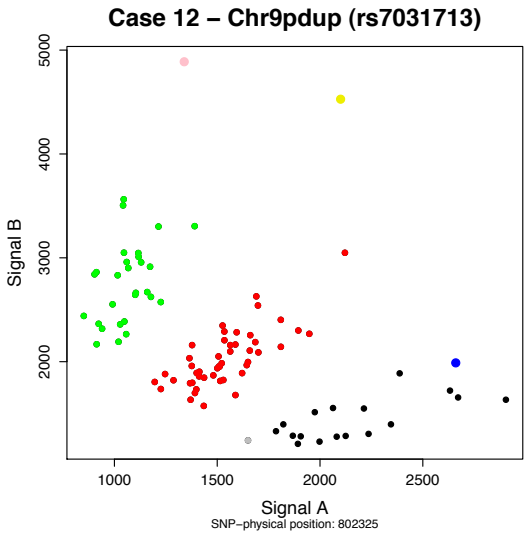

Case 12 – Chr8pdel (rs1673253)
Signal B
Signal A
SNP–physical position: 4609284
Case 12 – Chr8pdel (rs1992202)
Signal B
Signal A
SNP–physical position: 4610096
Case 12 – Chr8pdel (rs7840747)
Signal B
Signal A
SNP–physical position: 4731577
Case 12 – Chr8pdel (rs7002271)
Signal B
Signal A
SNP–physical position: 4745355
Case 12 – Chr8pdel (rs2407744)
Signal B
Signal A
SNP–physical position: 4936771
Case 12 – Chr8pdel (rs11136824)
Signal B
Signal A
SNP–physical position: 4987979
Case 12 – Chr8pdel (rs11778306)
Signal B
Signal A
SNP–physical position: 4988269
Case 12 – Chr8pdel (rs11779265)
Signal B
Signal A
SNP–physical position: 4989141

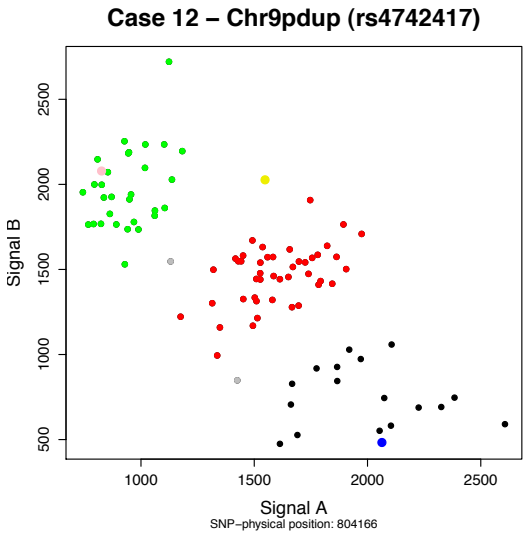

Case 12 – Chr8pdel (rs11781233)
Signal B
Signal A
SNP–physical position: 4993653
Case 12 – Chr8pdel (rs11774681)
Signal B
Signal A
SNP–physical position: 4993943
Case 12 – Chr8pdel (rs17435835)
Signal B
Signal A
SNP–physical position: 5000713
Case 12 – Chr8pdel (rs4875441)
Signal B
Signal A
SNP–physical position: 5000769
Case 12 – Chr8pdel (rs4875442)
Signal B
Signal A
SNP–physical position: 5000821
Case 12 – Chr8pdel (rs4875444)
Signal B
Signal A
SNP–physical position: 5000872
Case 12 – Chr8pdel (rs4875445)
Signal B
Signal A
SNP–physical position: 5000890
Case 12 – Chr8pdel (rs4875448)
Signal B
Signal A
SNP–physical position: 5001614

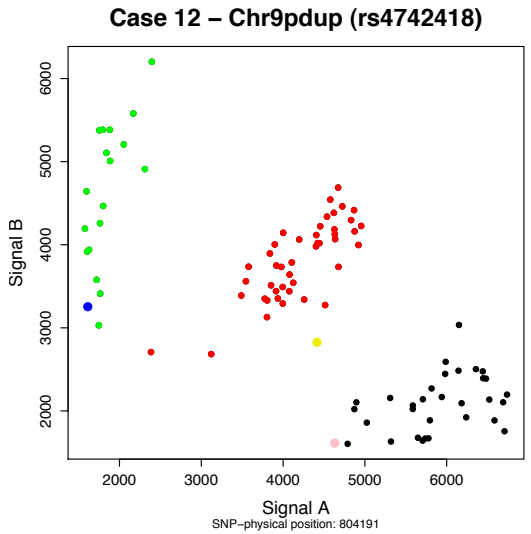

Case 12 – Chr8pdel (rs11782343)
Signal B
1500
2000
2500
3000
3500
4000
4500
2000
4000
6000
8000
Signal A
SNP–physical position: 5001642

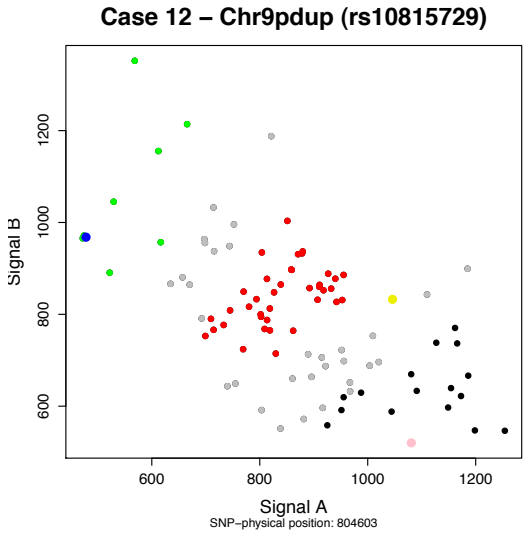
Case: 12
Chromosome: 9p
Abberation: dup.

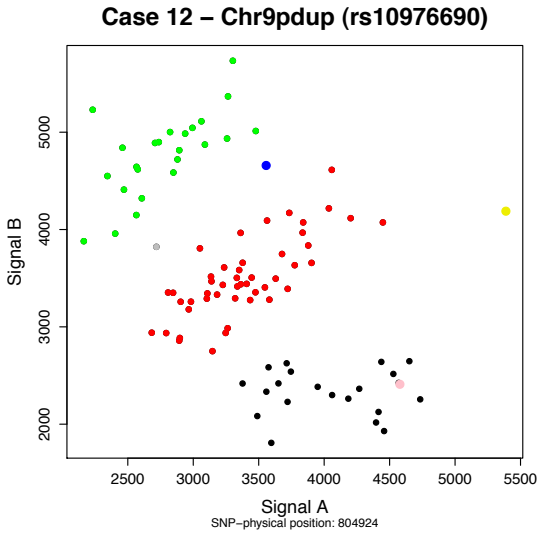

Case 12 – Chr9pdup (rs10115078)
Signal B
Signal A
SNP–physical position: 802053

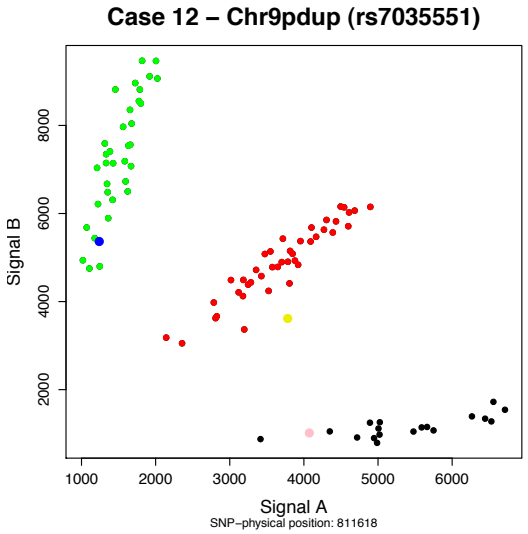

Case 12 – Chr9pdup (rs7031713)
Signal B
Signal A
SNP–physical position: 802325

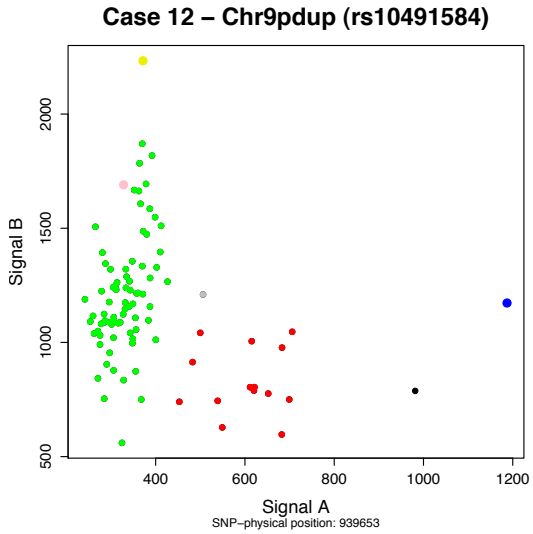

Case 12 – Chr9pdup (rs4742417)
Signal B
Signal A
SNP–physical position: 804166

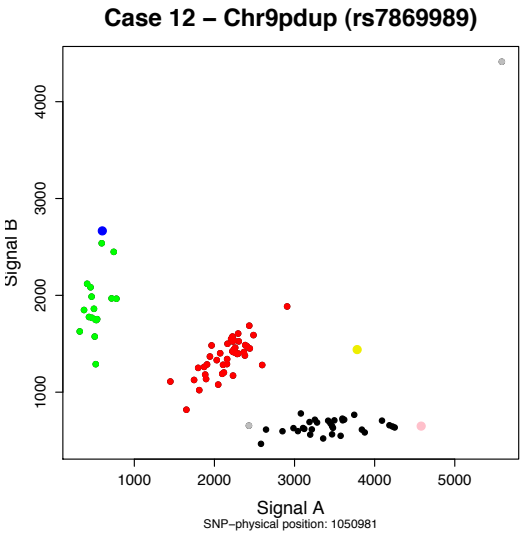

Case 12 – Chr9pdup (rs4742418)
Signal B
Signal A
SNP–physical position: 804191

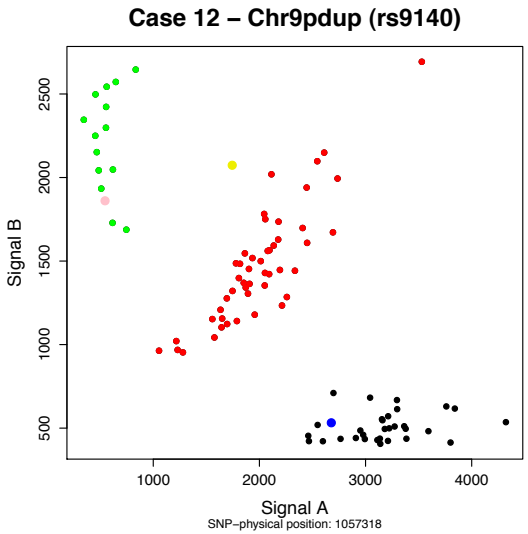

Case 12 – Chr9pdup (rs10815729)
Signal B
Signal A
SNP–physical position: 804603

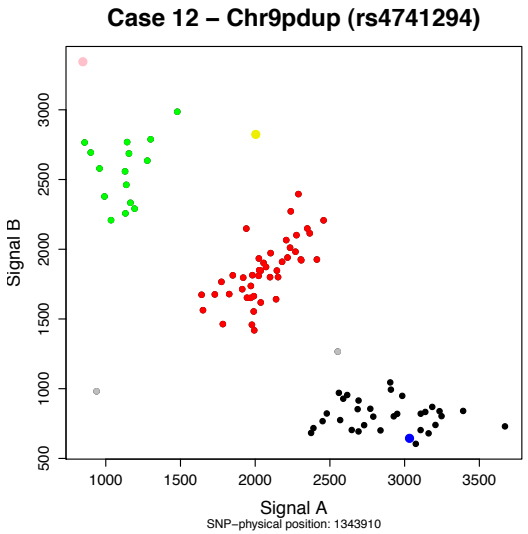

Case 12 – Chr9pdup (rs10976690)
Signal B
Signal A
SNP–physical position: 804924

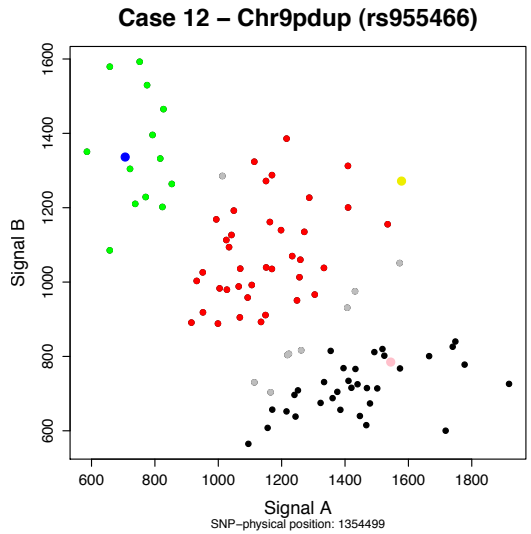

Case 12 – Chr9pdup (rs7035551)
Signal B
Signal A
SNP–physical position: 811618

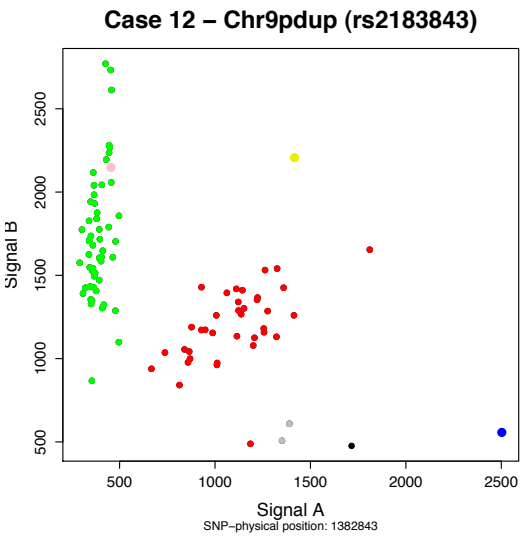

Case 12 – Chr9pdup (rs10491584)
Signal B
Signal A
SNP–physical position: 939653

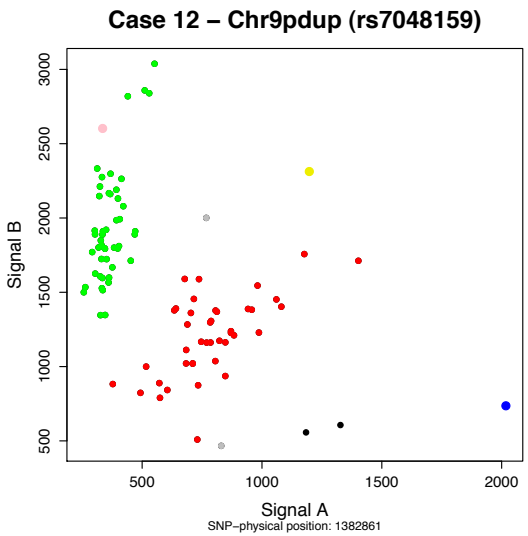

Case 12 – Chr9pdup (rs7869989)
Signal B
Signal A
SNP–physical position: 1050981

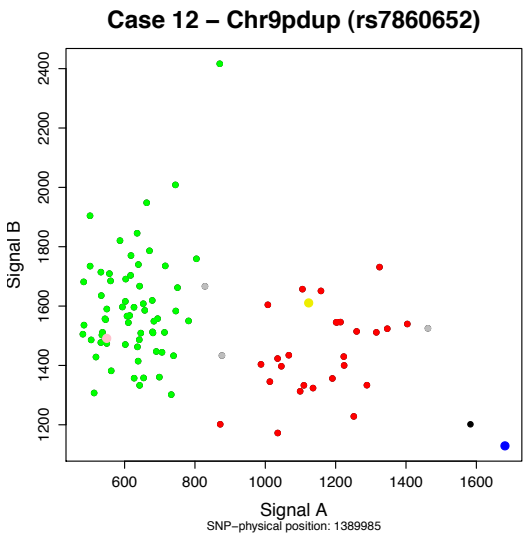

Case 12 – Chr9pdup (rs9140)
Signal B
Signal A
SNP–physical position: 1057318

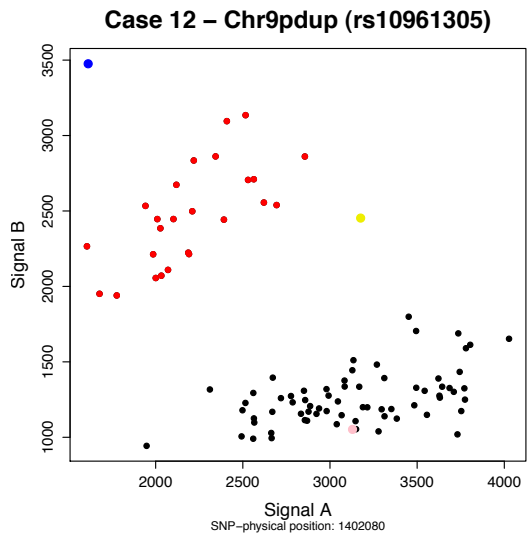

Case 12 – Chr9pdup (rs4741294)
Signal B
Signal A
SNP–physical position: 1343910

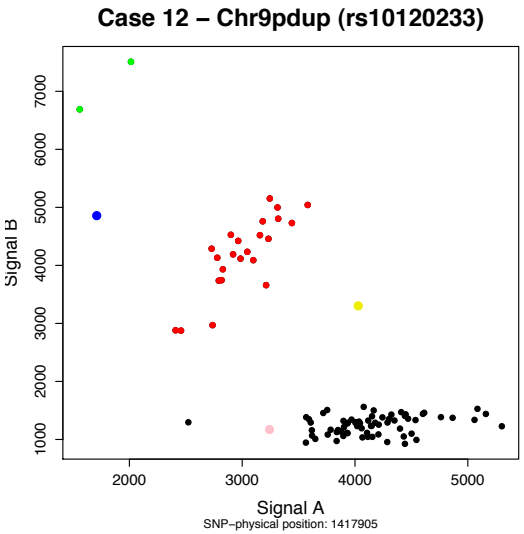

Case 12 – Chr9pdup (rs955466)
Signal B
Signal A
SNP–physical position: 1354499

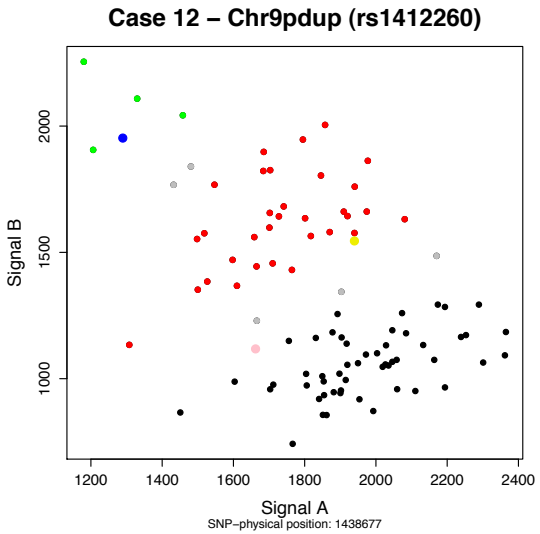

Case 12 – Chr9pdup (rs2183843)
Signal B
Signal A
SNP–physical position: 1382843

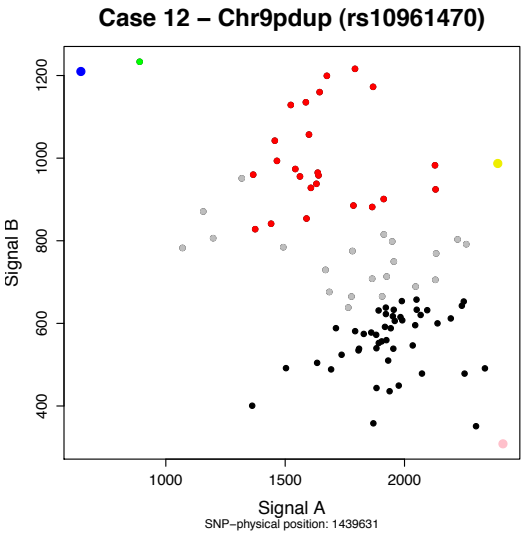

Case 12 – Chr9pdup (rs7048159)
Signal B
Signal A
SNP–physical position: 1382861

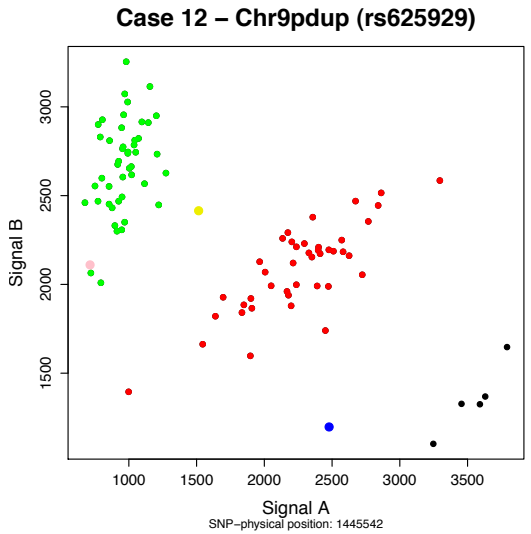

Case 12 – Chr9pdup (rs7860652)
Signal B
Signal A
SNP–physical position: 1389985

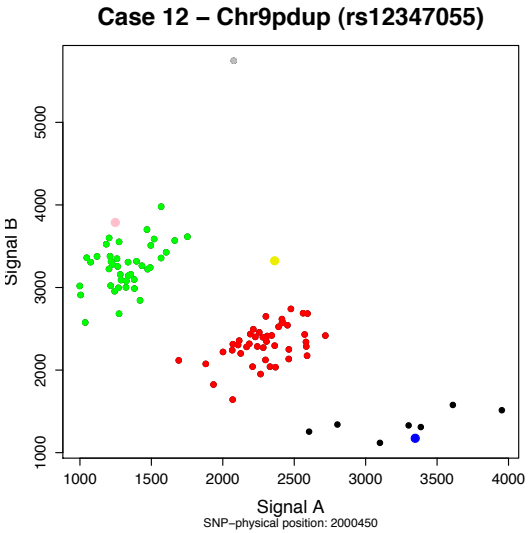

Case 12 – Chr9pdup (rs10961305)
Signal B
Signal A
SNP–physical position: 1402080

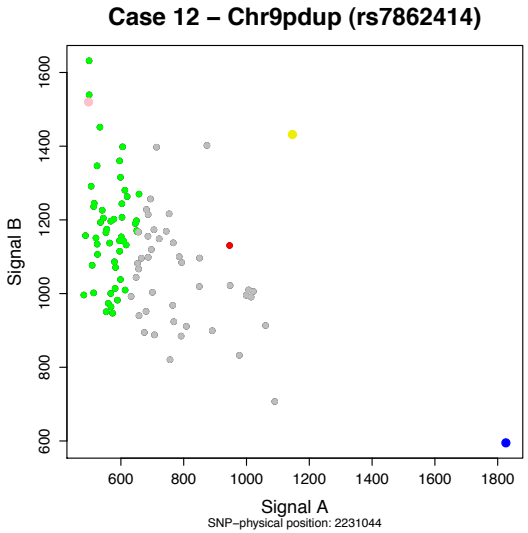

Case 12 – Chr9pdup (rs10120233)
Signal B
Signal A
SNP–physical position: 1417905

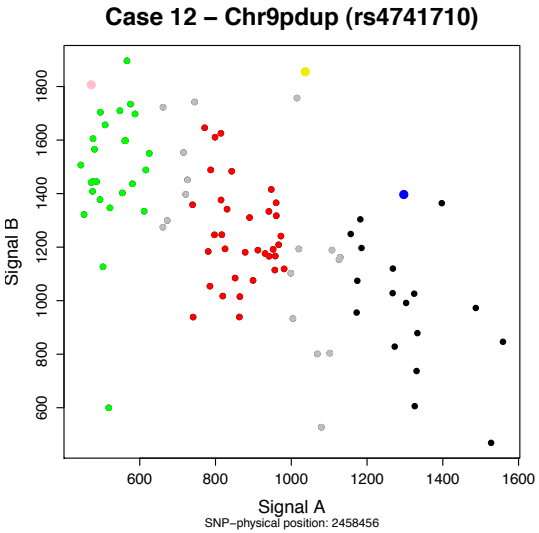

Case 12 – Chr9pdup (rs1412260)
Signal B
Signal A
SNP–physical position: 1438677

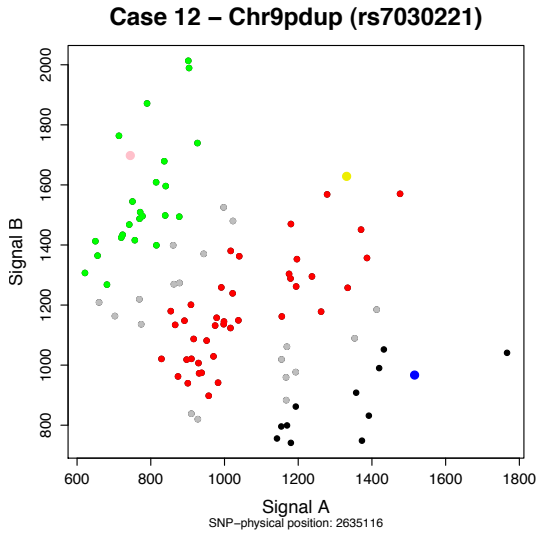

Case 12 – Chr9pdup (rs10961470)
Signal B
Signal A
SNP–physical position: 1439631

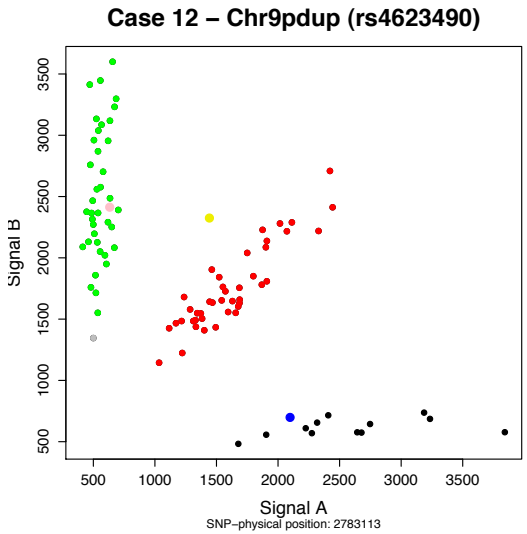

Case 12 – Chr9pdup (rs625929)
Signal B
Signal A
SNP–physical position: 1445542

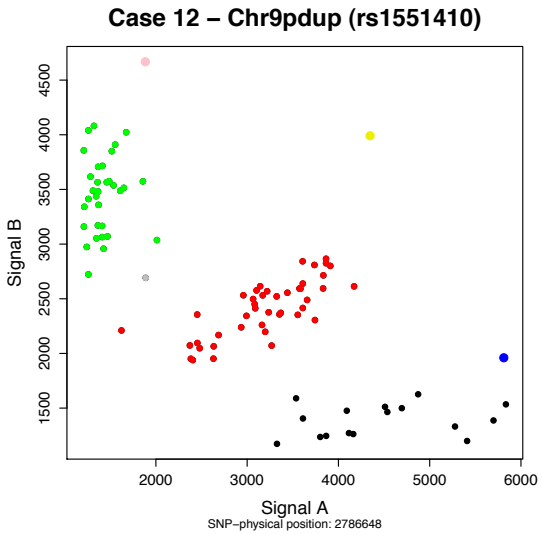

Case 12 – Chr9pdup (rs12347055)
Signal B
Signal A
SNP–physical position: 2000450

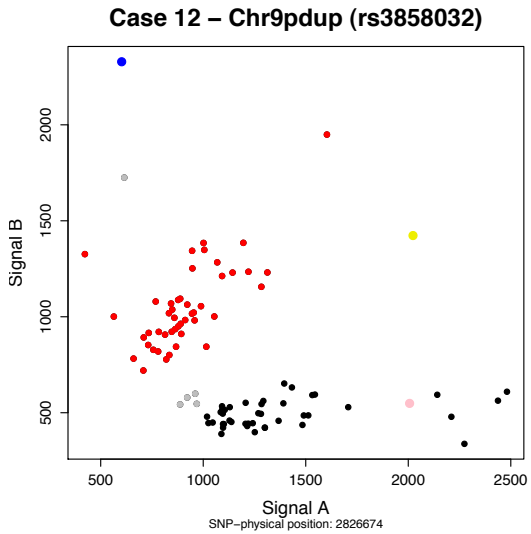

Case 12 – Chr9pdup (rs7862414)
Signal B
Signal A
SNP–physical position: 2231044

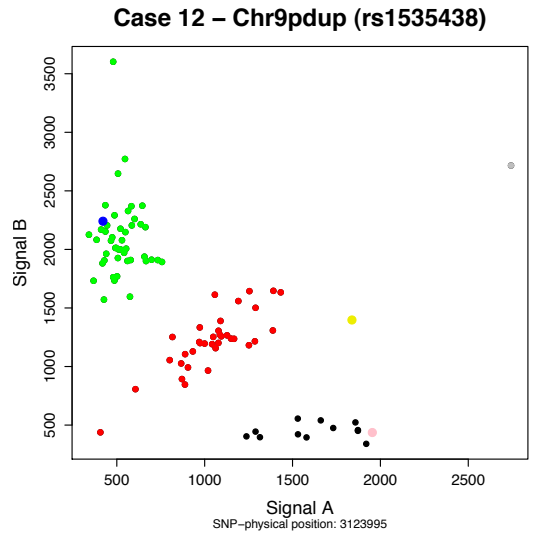

Case 12 – Chr9pdup (rs4741710)
Signal B
Signal A
SNP–physical position: 2458456

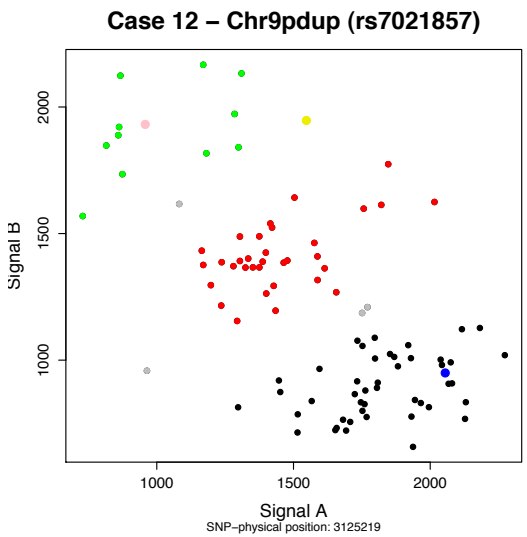

Case 12 – Chr9pdup (rs7030221)
Signal B
Signal A
SNP–physical position: 2635116

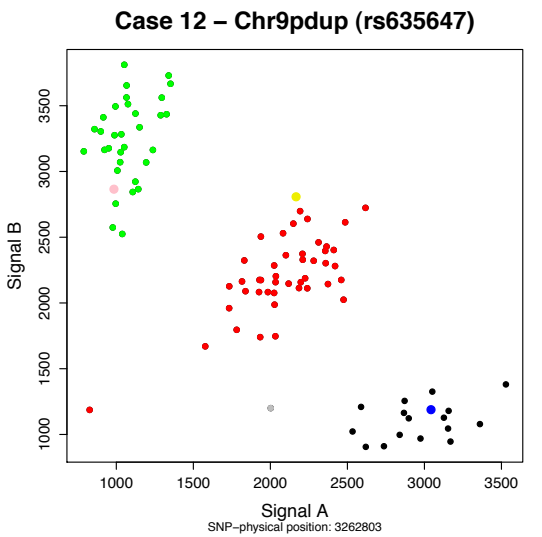

Case 12 – Chr9pdup (rs4623490)
Signal B
Signal A
SNP–physical position: 2783113

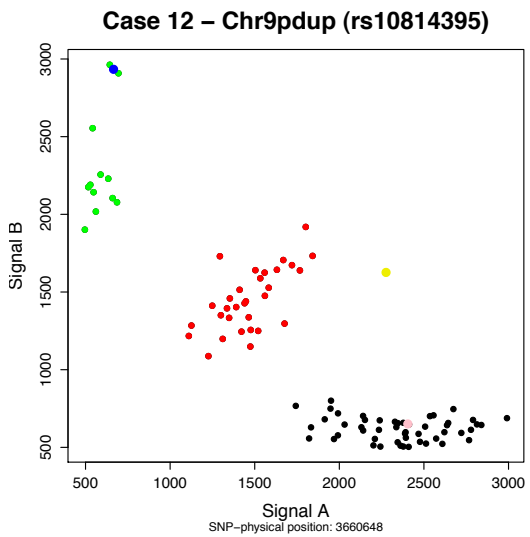

Case 12 – Chr9pdup (rs1551410)
Signal B
Signal A
SNP–physical position: 2786648

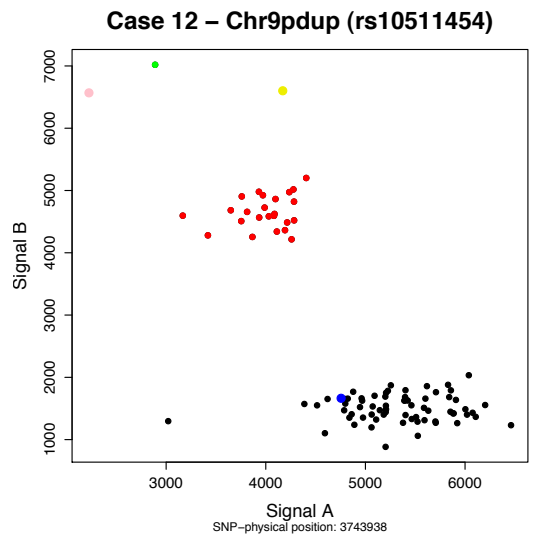

Case 12 – Chr9pdup (rs3858032)
Signal B
Signal A
SNP–physical position: 2826674

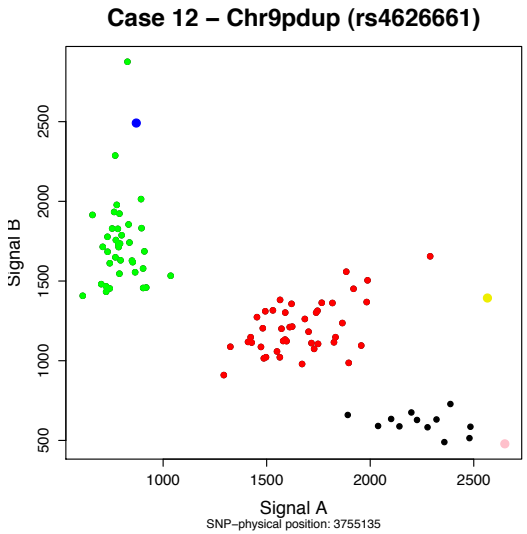

Case 12 – Chr9pdup (rs1535438)
Signal B
Signal A
SNP–physical position: 3123995

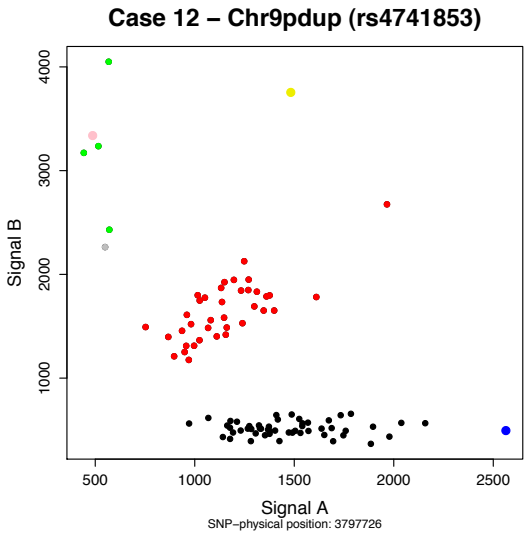

Case 12 – Chr9pdup (rs7021857)
Signal B
Signal A
SNP–physical position: 3125219

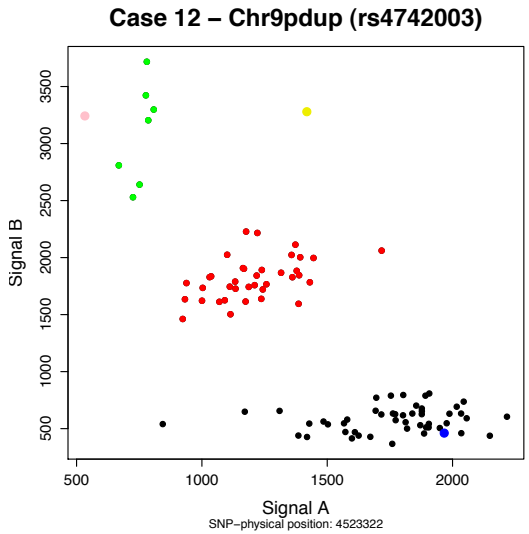

Case 12 – Chr9pdup (rs635647)
Signal B
Signal A
SNP–physical position: 3262803

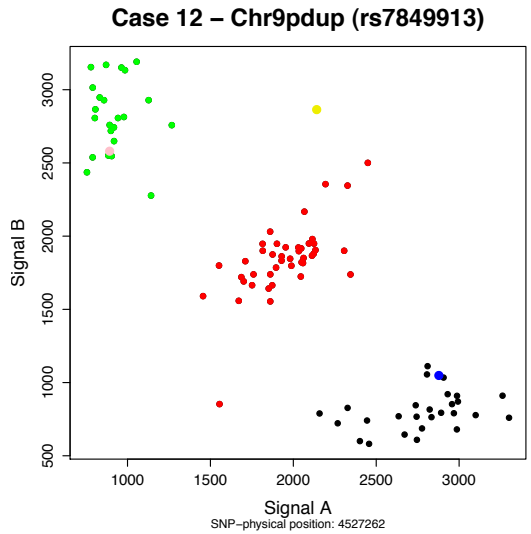

Case 12 – Chr9pdup (rs10814395)
Signal B
Signal A
SNP–physical position: 3660648

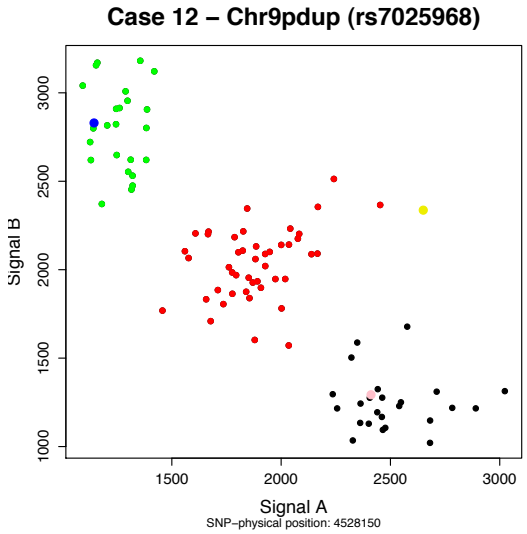

Case 12 – Chr9pdup (rs10511454)
Signal B
Signal A
SNP–physical position: 3743938

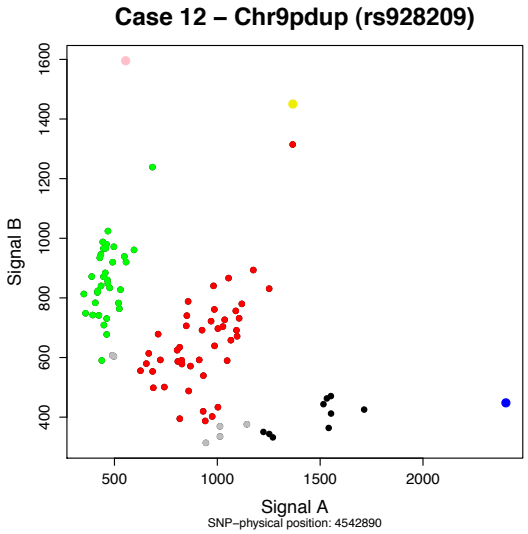

Case 12 – Chr9pdup (rs4626661)
Signal B
Signal A
SNP–physical position: 3755135

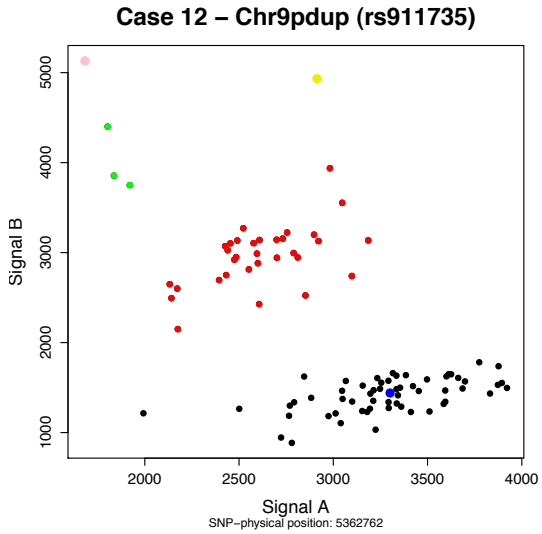

Case 12 – Chr9pdup (rs4741853)
Signal B
Signal A
SNP–physical position: 3797726

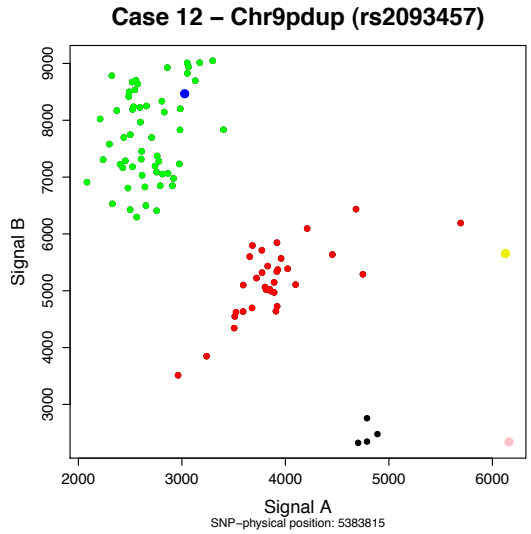

Case 12 – Chr9pdup (rs4742003)
Signal B
Signal A
SNP–physical position: 4523322

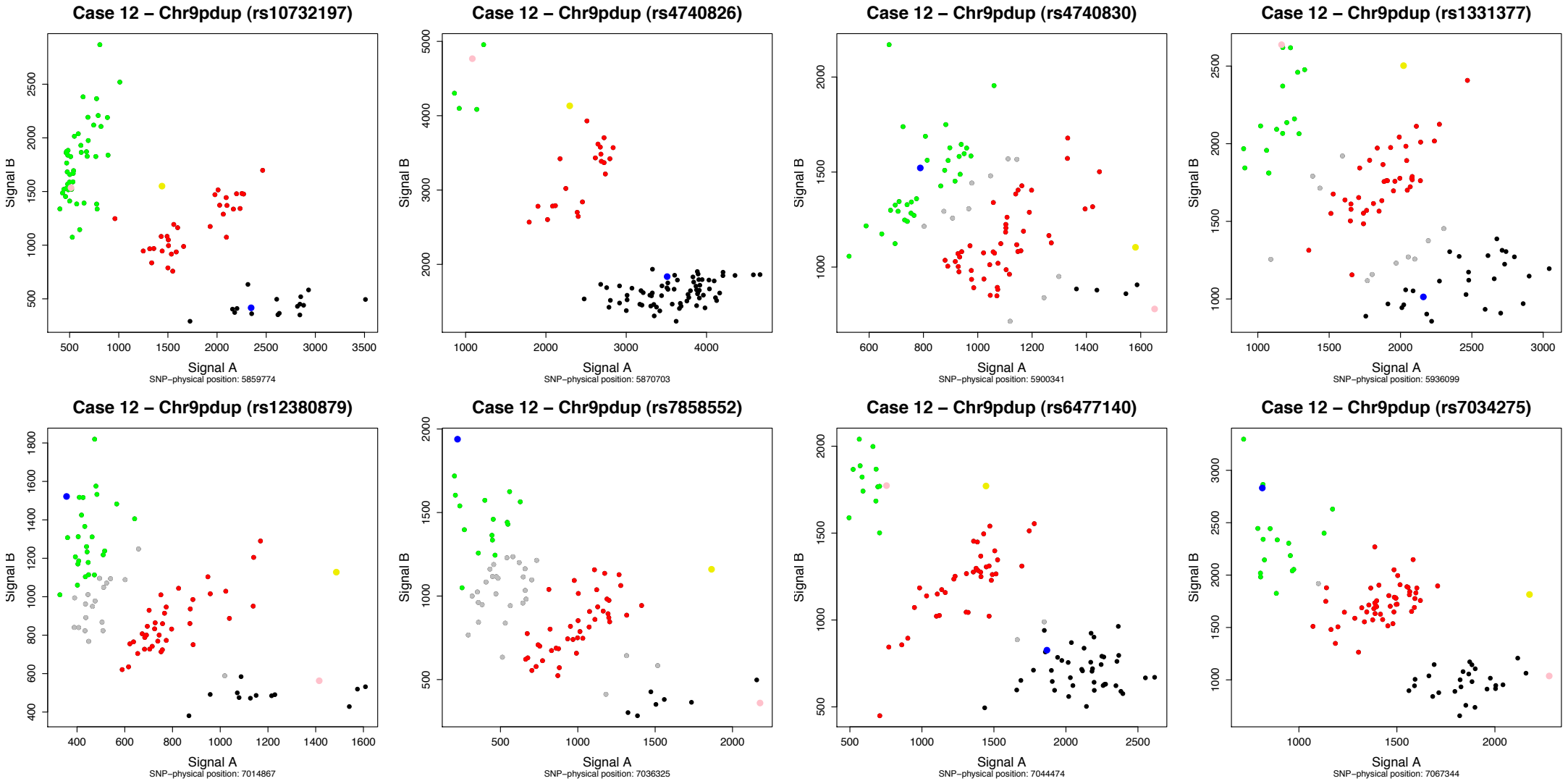

Case 12 – Chr9pdup (rs7849913)
Signal B
Signal A
SNP–physical position: 4527262

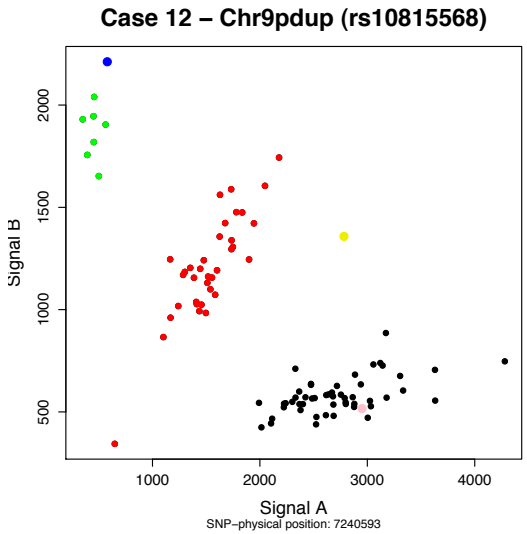

Case 12 – Chr9pdup (rs7025968)
Signal B
Signal A
SNP–physical position: 4528150

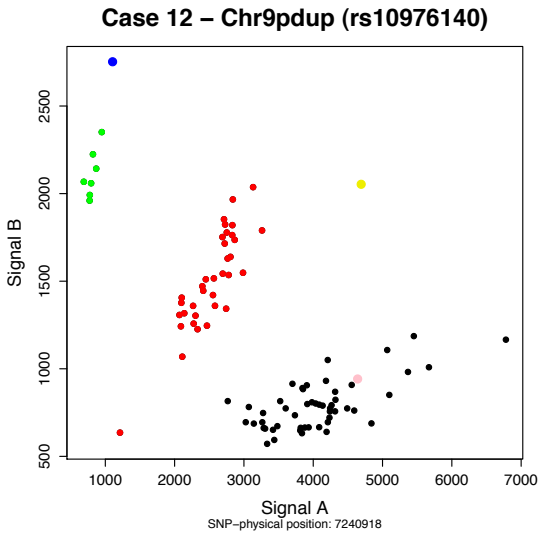

Case 12 – Chr9pdup (rs928209)
Signal B
Signal A
SNP–physical position: 4542890

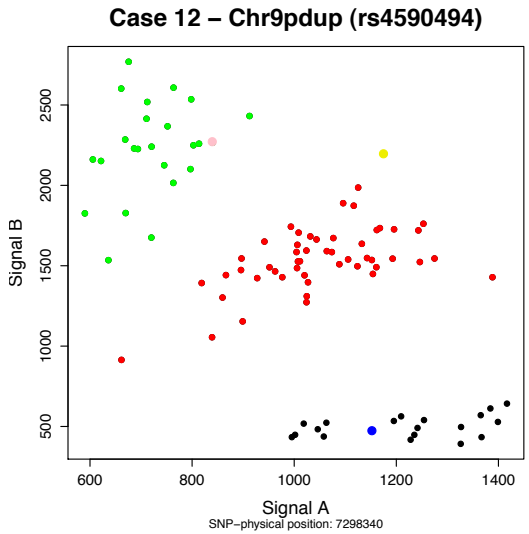

Case 12 – Chr9pdup (rs911735)
Signal B
Signal A
SNP–physical position: 5362762

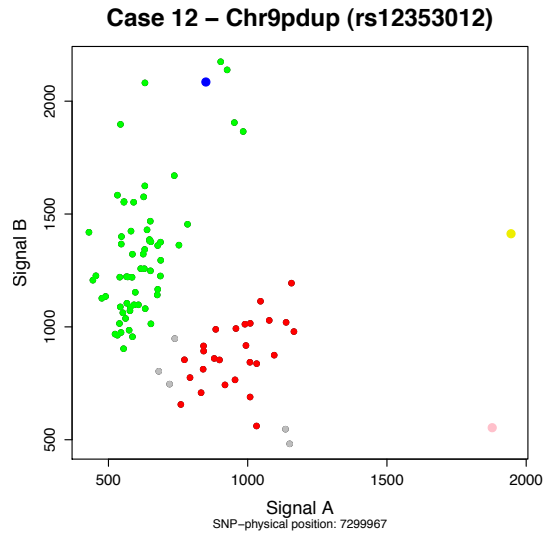

Case 12 – Chr9pdup (rs2093457)
Signal B
Signal A
SNP–physical position: 5383815

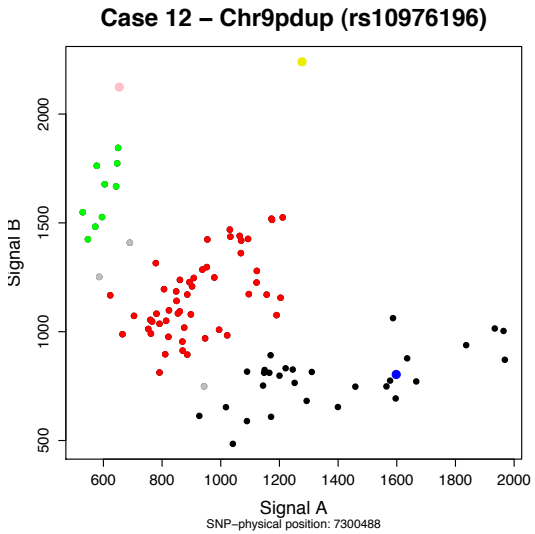

Case 12 – Chr9pdup (rs10732197)
Signal B
Signal A
SNP–physical position: 5859774
Case 12 – Chr9pdup (rs4740826)
Signal B
Signal A
SNP–physical position: 5870703
Case 12 – Chr9pdup (rs4740830)
Signal B
Signal A
SNP–physical position: 5900341
Case 12 – Chr9pdup (rs1331377)
Signal B
Signal A
SNP–physical position: 5936099
Case 12 – Chr9pdup (rs12380879)
Signal B
Signal A
SNP–physical position: 7014867
Case 12 – Chr9pdup (rs7858552)
Signal B
Signal A
SNP–physical position: 7036325
Case 12 – Chr9pdup (rs6477140)
Signal B
Signal A
SNP–physical position: 7044474
Case 12 – Chr9pdup (rs7034275)
Signal B
Signal A
SNP–physical position: 7067344

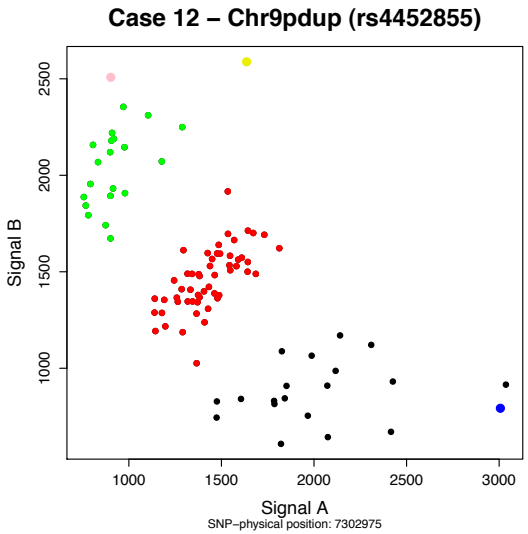

Case 12 – Chr9pdup (rs10815568)
Signal B
Signal A
SNP–physical position: 7240593

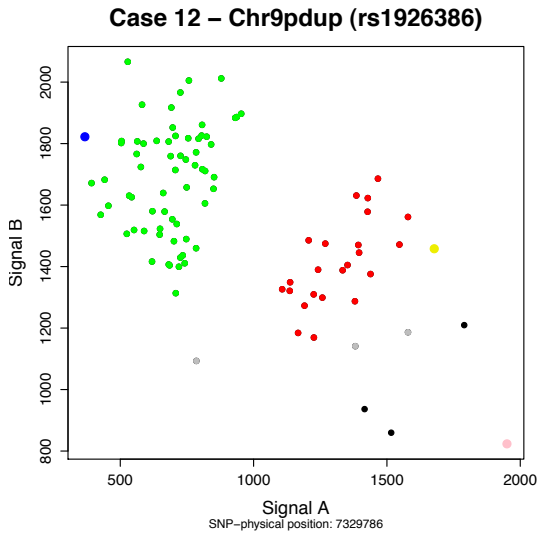

Case 12 – Chr9pdup (rs10976140)
Signal B
Signal A
SNP–physical position: 7240918

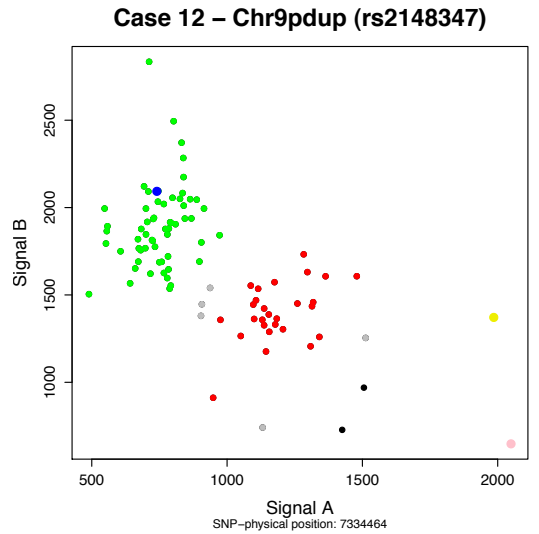

Case 12 – Chr9pdup (rs4590494)
Signal B
Signal A
SNP–physical position: 7298340

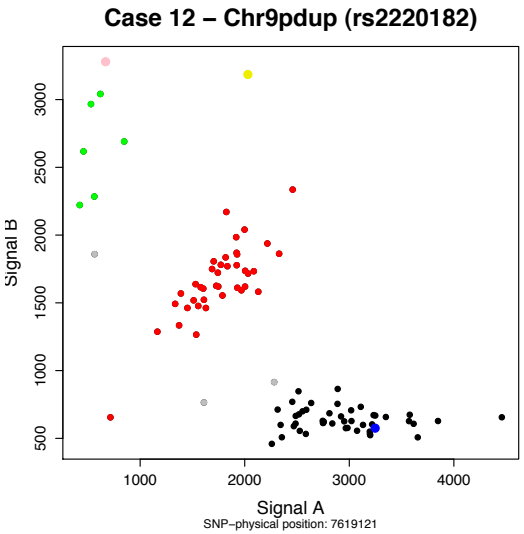

Case 12 – Chr9pdup (rs12353012)
Signal B
Signal A
SNP–physical position: 7299967

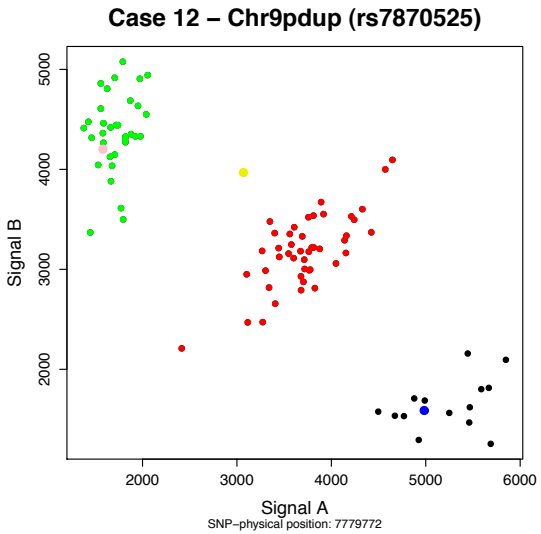

Case 12 – Chr9pdup (rs10976196)
Signal B
Signal A
SNP–physical position: 7300488

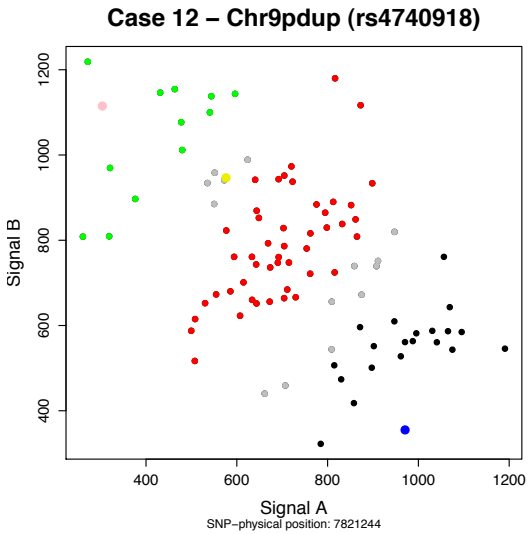

Case 12 – Chr9pdup (rs4452855)
Signal B
Signal A
SNP–physical position: 7302975

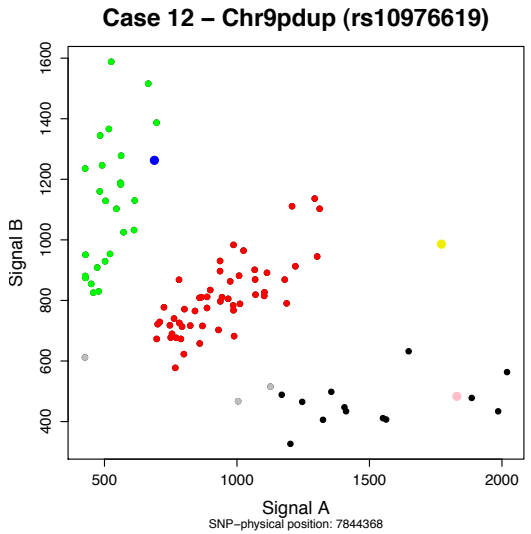

Case 12 – Chr9pdup (rs1926386)
Signal B
Signal A
SNP–physical position: 7329786

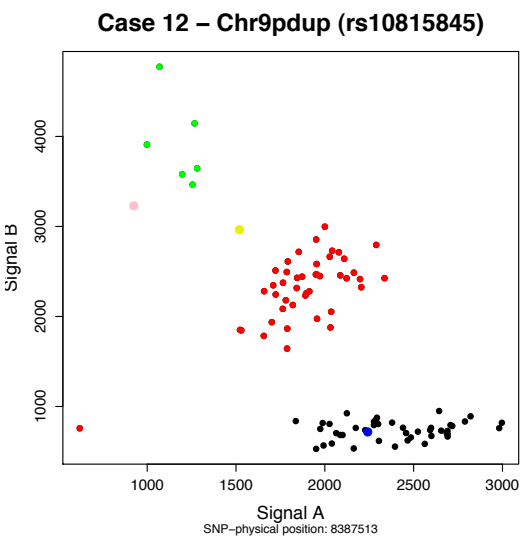

Case 12 – Chr9pdup (rs2148347)
Signal B
Signal A
SNP–physical position: 7334464

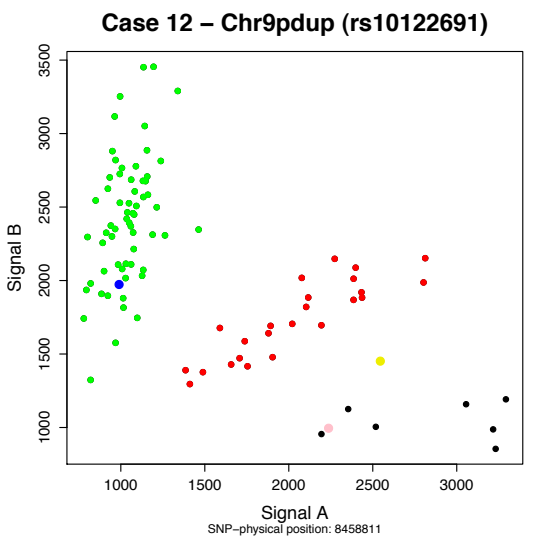

Case 12 – Chr9pdup (rs2220182)
Signal B
Signal A
SNP–physical position: 7619121

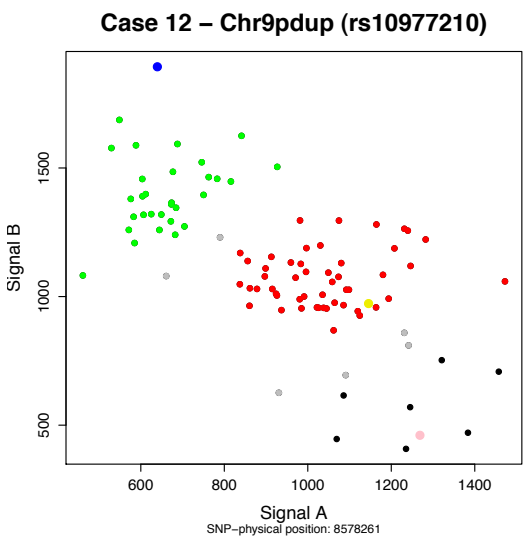

Case 12 – Chr9pdup (rs7870525)
Signal B
Signal A
SNP–physical position: 7779772

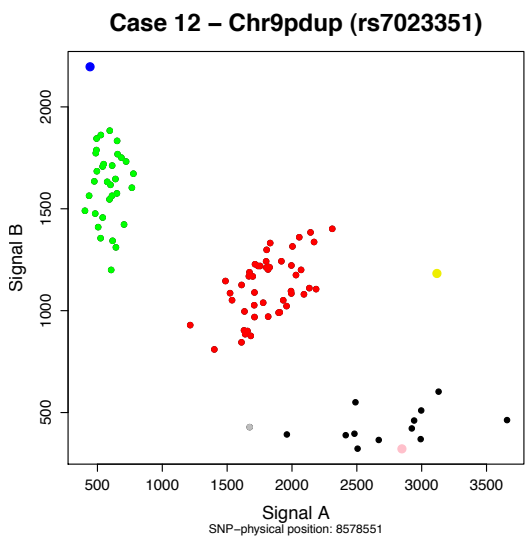

Case 12 – Chr9pdup (rs4740918)
Signal B
Signal A
SNP–physical position: 7821244

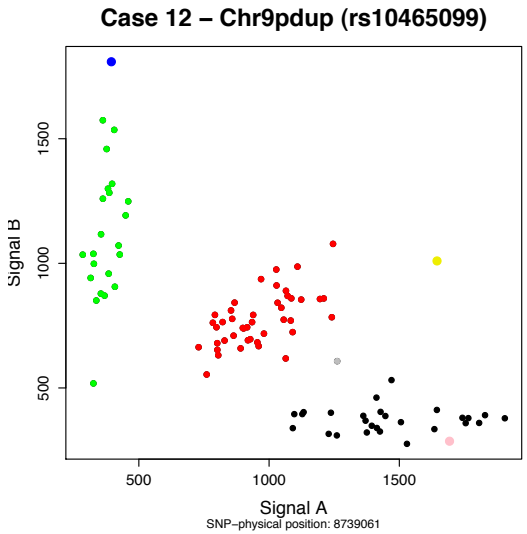

Case 12 – Chr9pdup (rs10976619)
Signal B
Signal A
SNP–physical position: 7844368

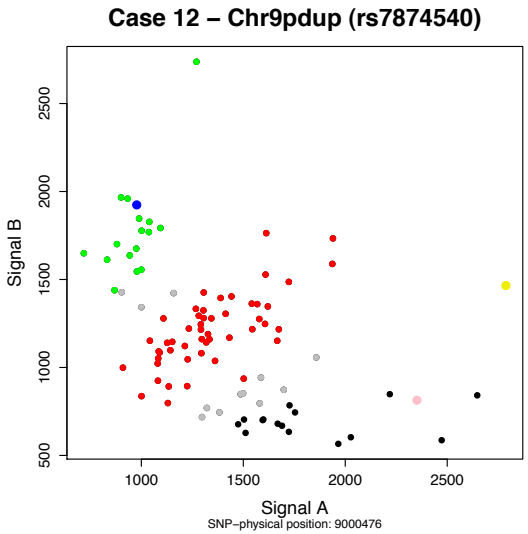

Case 12 – Chr9pdup (rs10815845)
Signal B
Signal A
SNP–physical position: 8387513

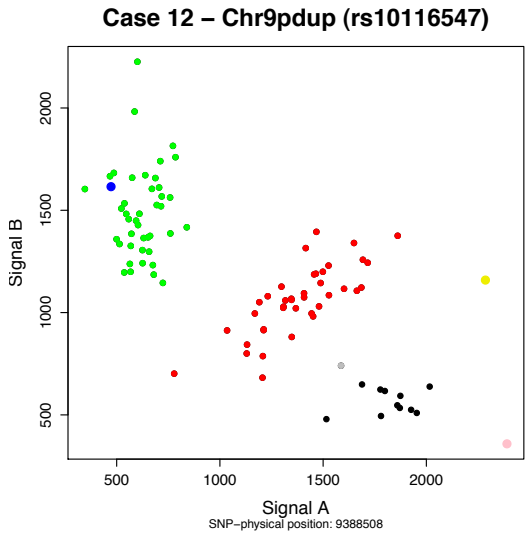

Case 12 – Chr9pdup (rs10122691)
Signal B
Signal A
SNP–physical position: 8458811

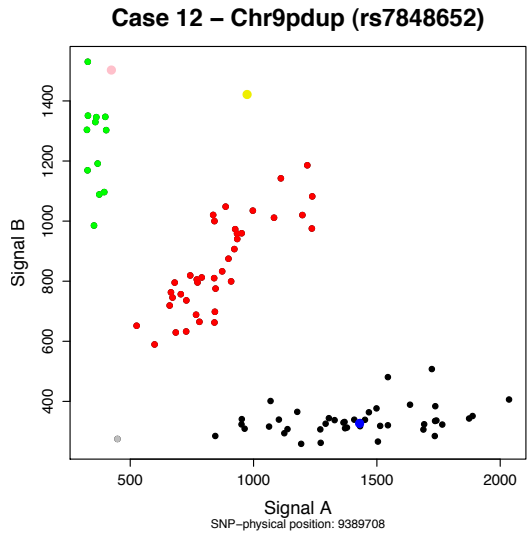

Case 12 – Chr9pdup (rs10977210)
Signal B
Signal A
SNP–physical position: 8578261

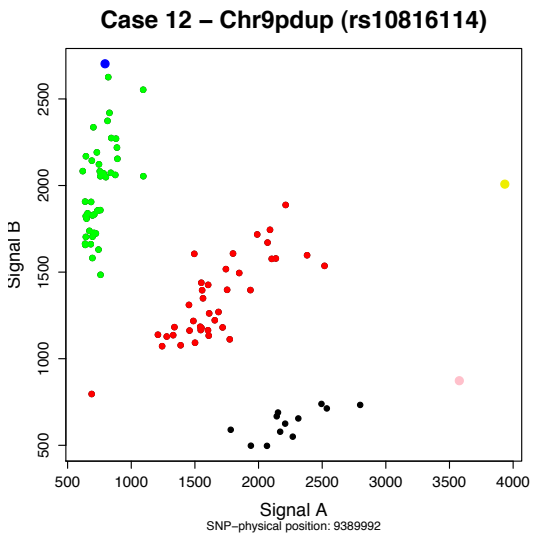

Case 12 – Chr9pdup (rs7023351)
Signal B
Signal A
SNP–physical position: 8578551

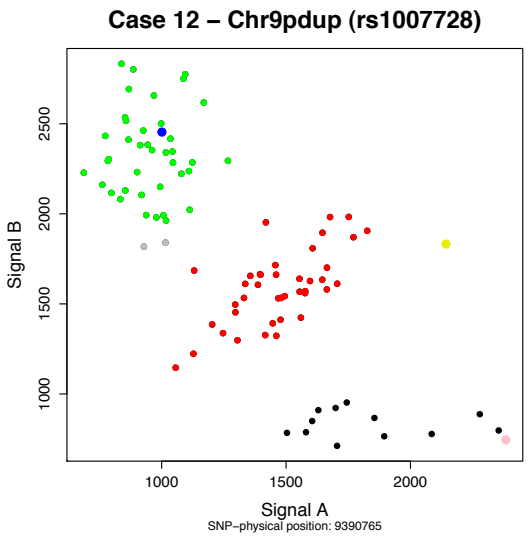

Case 12 – Chr9pdup (rs10465099)
Signal B
Signal A
SNP–physical position: 8739061

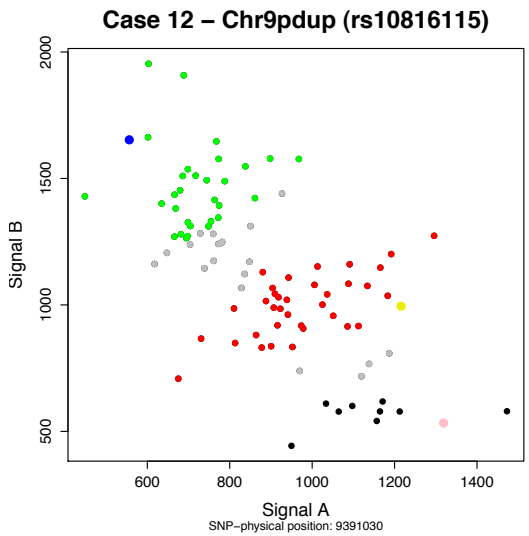

Case 12 – Chr9pdup (rs7874540)
Signal B
Signal A
SNP–physical position: 9000476

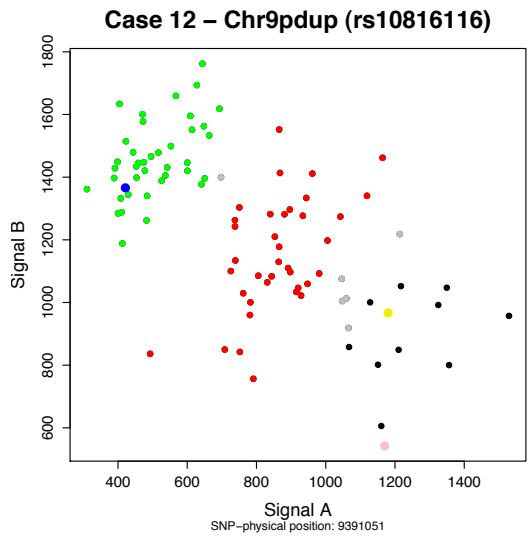

Case 12 – Chr9pdup (rs10116547)
Signal B
Signal A
SNP–physical position: 9388508

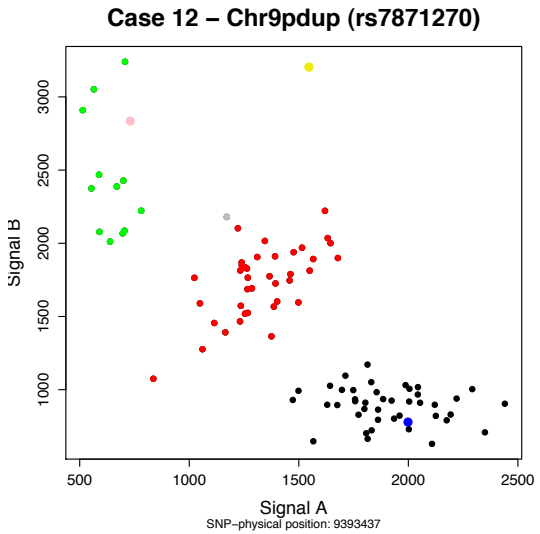

Case 12 – Chr9pdup (rs7848652)
Signal B
Signal A
SNP–physical position: 9389708

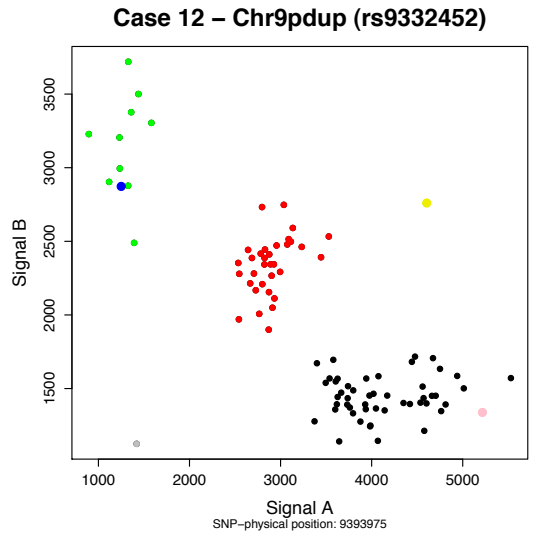

Case 12 – Chr9pdup (rs10816114)
Signal B
Signal A
SNP–physical position: 9389992

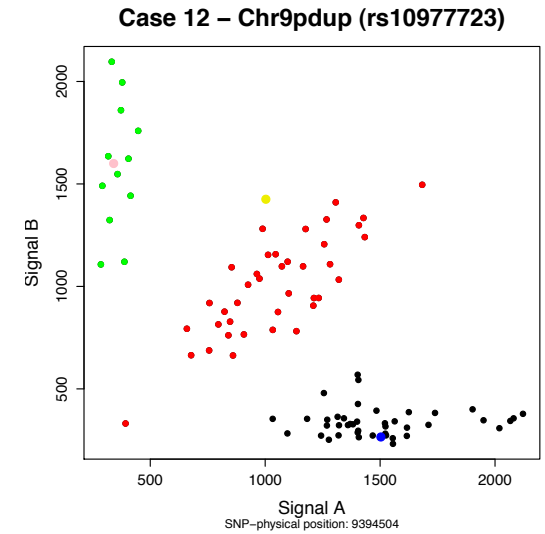

Case 12 – Chr9pdup (rs1007728)
Signal B
Signal A
SNP–physical position: 9390765

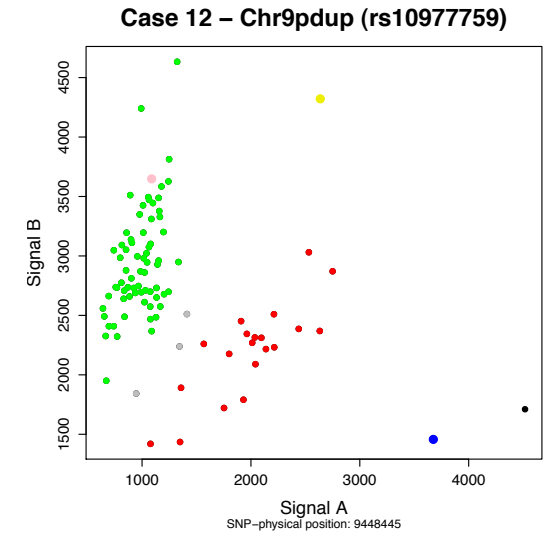

Case 12 – Chr9pdup (rs10816115)
Signal B
Signal A
SNP–physical position: 9391030

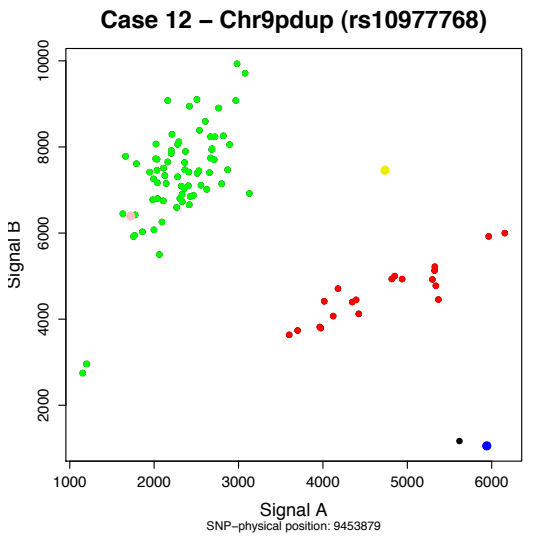

Case 12 – Chr9pdup (rs10816116)
Signal B
Signal A
SNP–physical position: 9391051

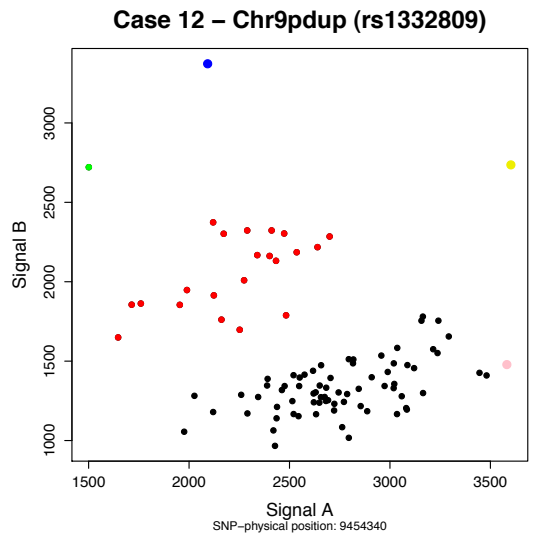

Case 12 – Chr9pdup (rs7871270)
Signal B
Signal A
SNP–physical position: 9393437

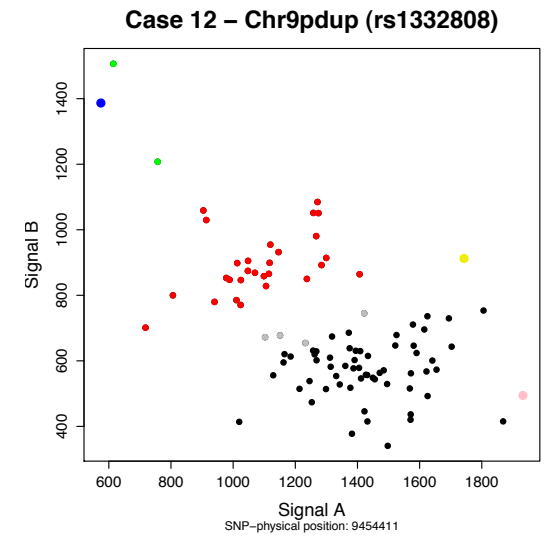

Case 12 – Chr9pdup (rs9332452)
Signal B
Signal A
SNP–physical position: 9393975

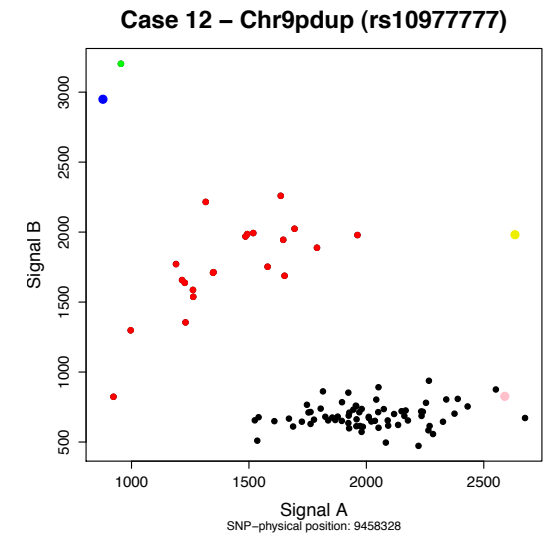

Case 12 – Chr9pdup (rs10977723)
Signal B
Signal A
SNP–physical position: 9394504

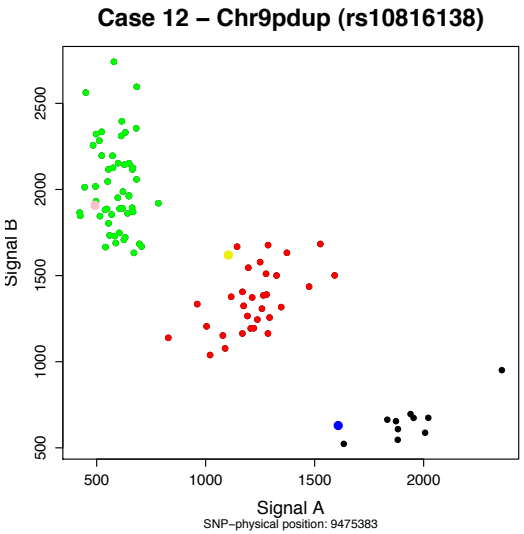

Case 12 – Chr9pdup (rs10977759)
Signal B
Signal A
SNP–physical position: 9448445

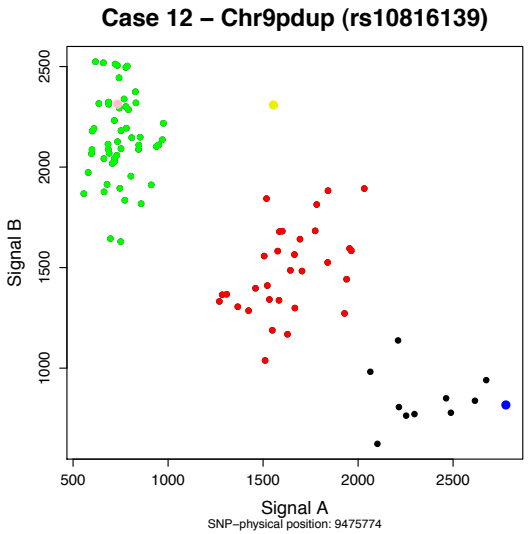

Case 12 – Chr9pdup (rs10977768)
Signal B
Signal A
SNP–physical position: 9453879

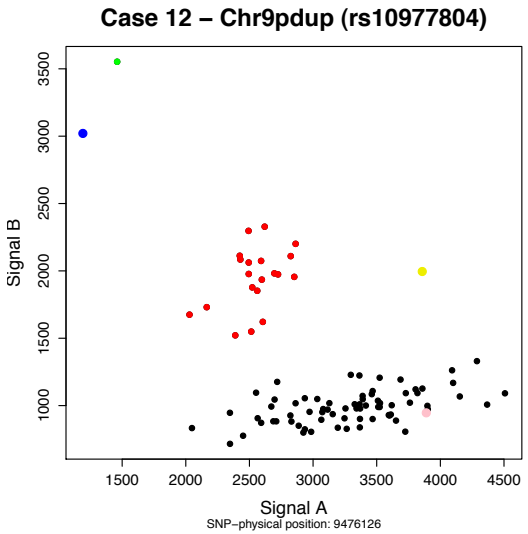

Case 12 – Chr9pdup (rs1332809)
Signal B
Signal A
SNP–physical position: 9454340

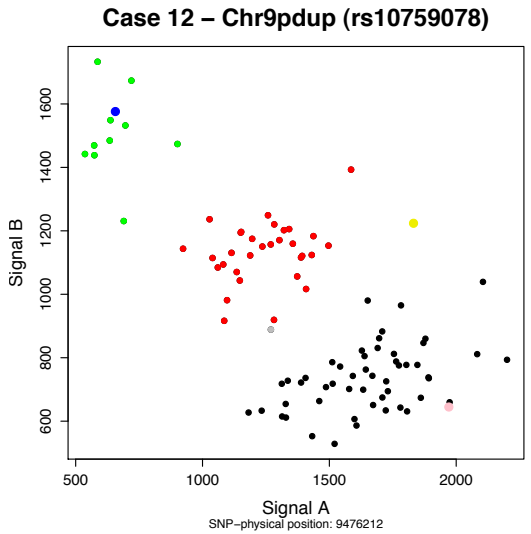

Case 12 – Chr9pdup (rs1332808)
Signal B
Signal A
SNP–physical position: 9454411

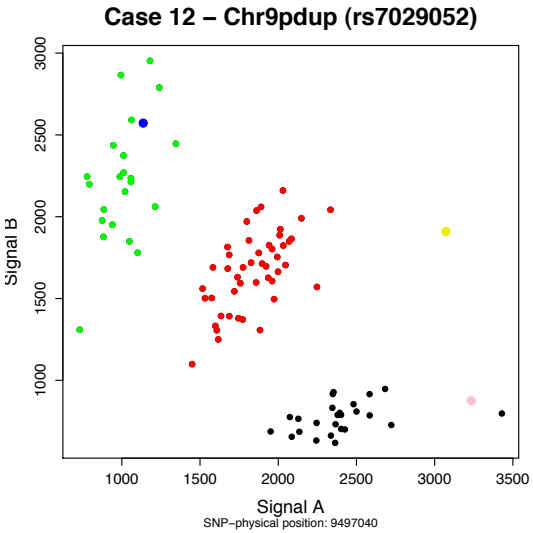

Case 12 – Chr9pdup (rs10977777)
Signal B
Signal A
SNP–physical position: 9458328

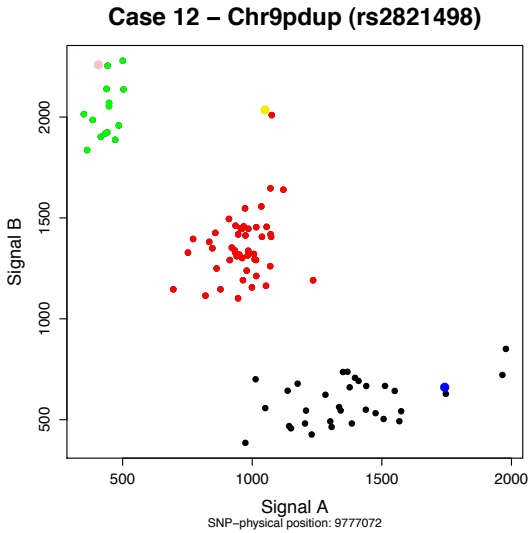

Case 12 – Chr9pdup (rs10816138)
Signal B
Signal A
SNP–physical position: 9475383

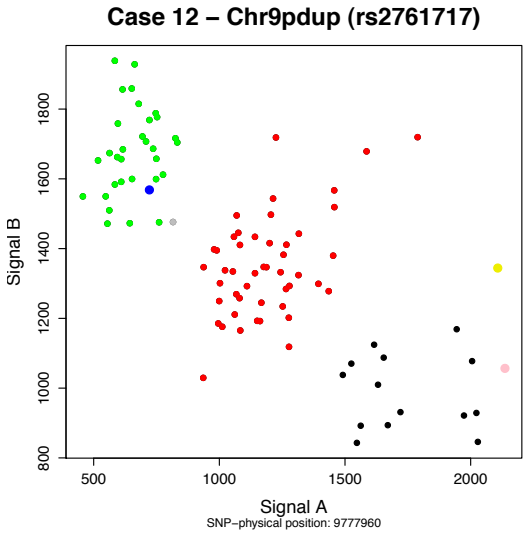

Case 12 – Chr9pdup (rs10816139)
Signal B
Signal A
SNP–physical position: 9475774

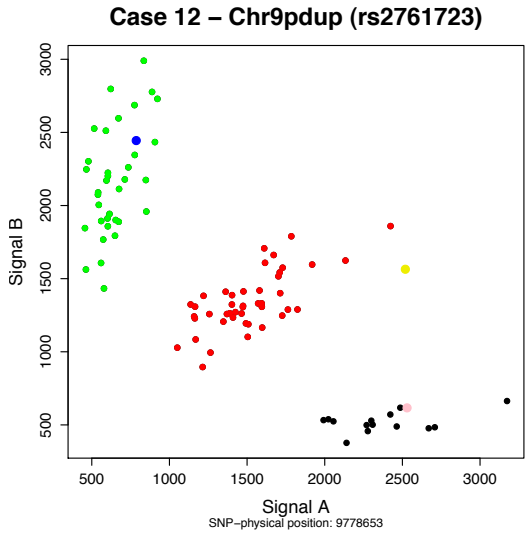

Case 12 – Chr9pdup (rs10977804)
Signal B
Signal A
SNP–physical position: 9476126

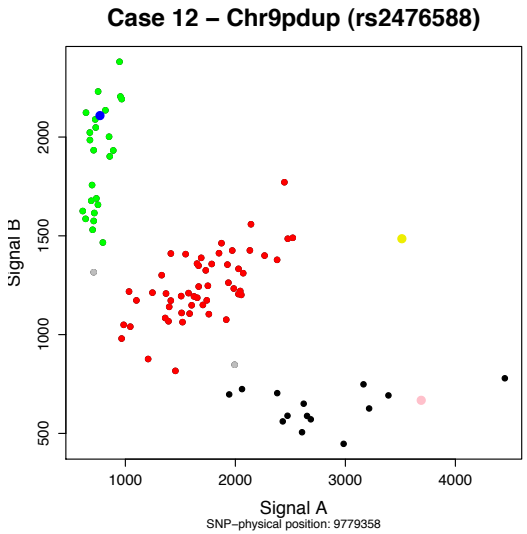

Case 12 – Chr9pdup (rs10759078)
Signal B
Signal A
SNP–physical position: 9476212

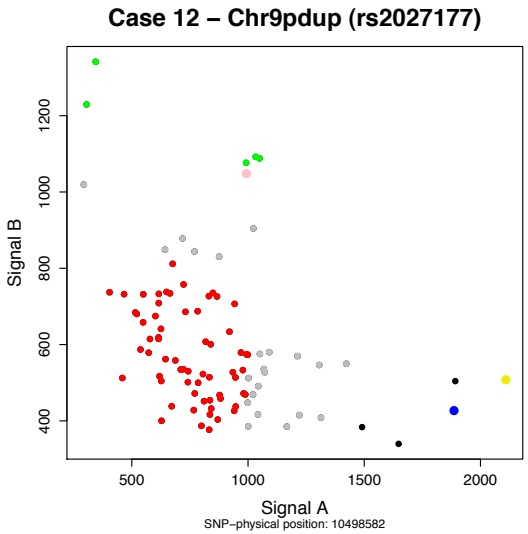

Case 12 – Chr9pdup (rs7029052)
Signal B
Signal A
SNP–physical position: 9497040

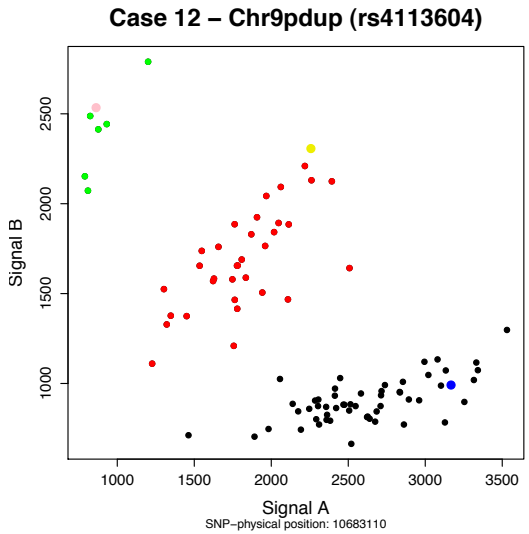

Case 12 – Chr9pdup (rs2821498)
Signal B
Signal A
SNP–physical position: 9777072

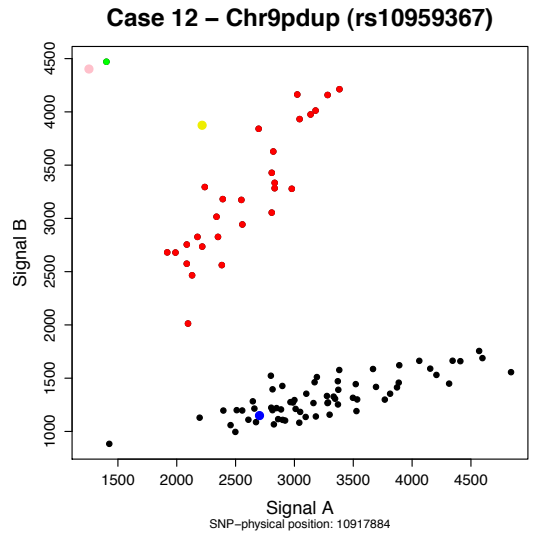

Case 12 – Chr9pdup (rs2761717)
Signal B
Signal A
SNP–physical position: 9777960

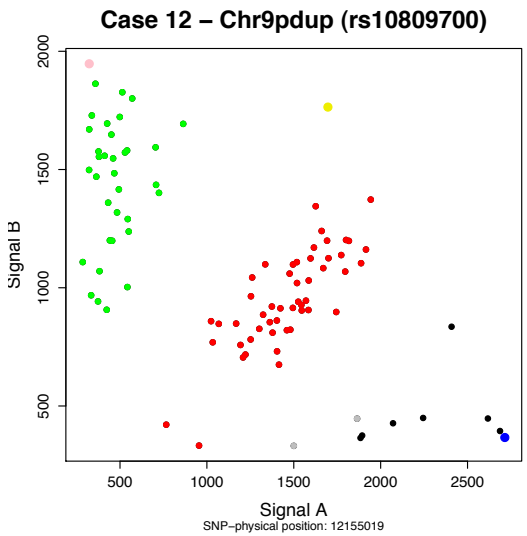

Case 12 – Chr9pdup (rs2761723)
Signal B
Signal A
SNP–physical position: 9778653

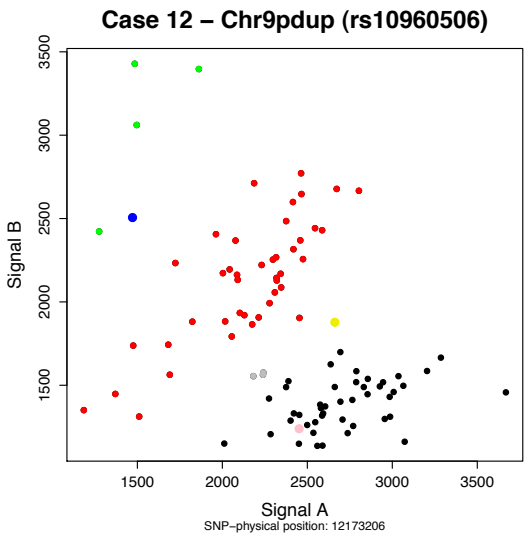

Case 12 – Chr9pdup (rs2476588)
Signal B
Signal A
SNP–physical position: 9779358

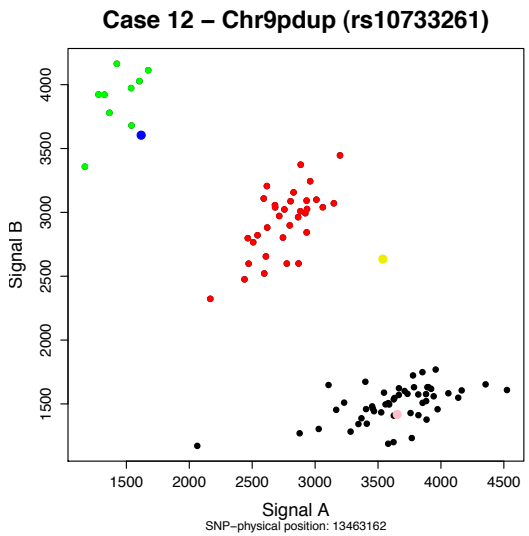

Case 12 – Chr9pdup (rs2027177)
Signal B
Signal A
SNP–physical position: 10498582

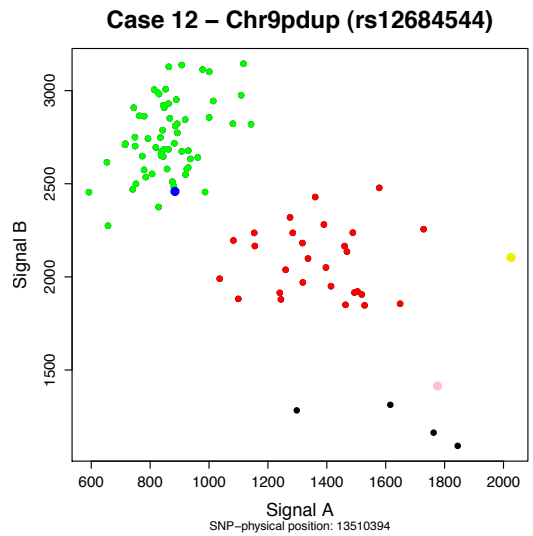

Case 12 – Chr9pdup (rs4113604)
Signal B
Signal A
SNP–physical position: 10683110

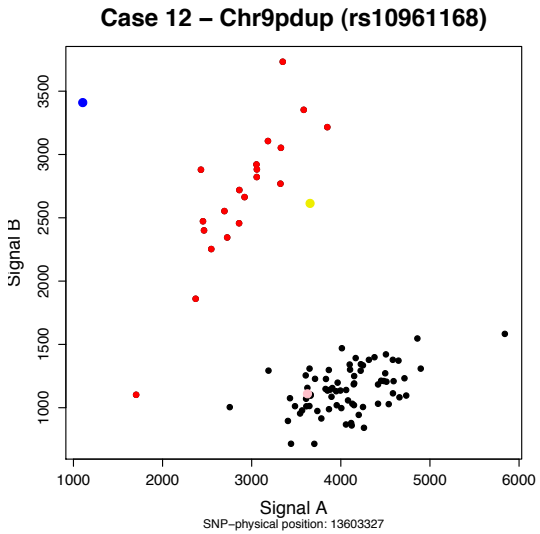

Case 12 – Chr9pdup (rs10959367)
Signal B
Signal A
SNP–physical position: 10917884

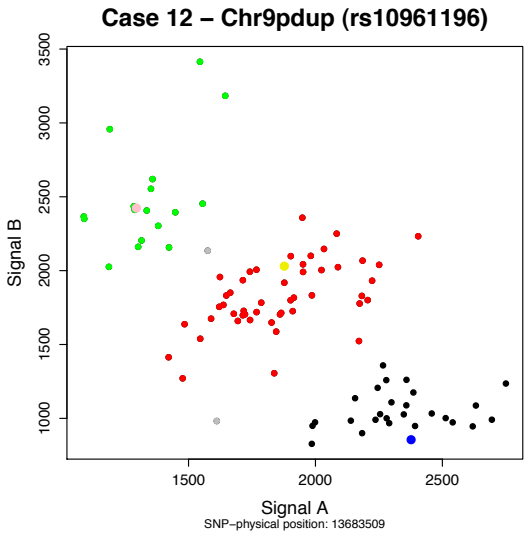

Case 12 – Chr9pdup (rs10809700)
Signal B
Signal A
SNP–physical position: 12155019

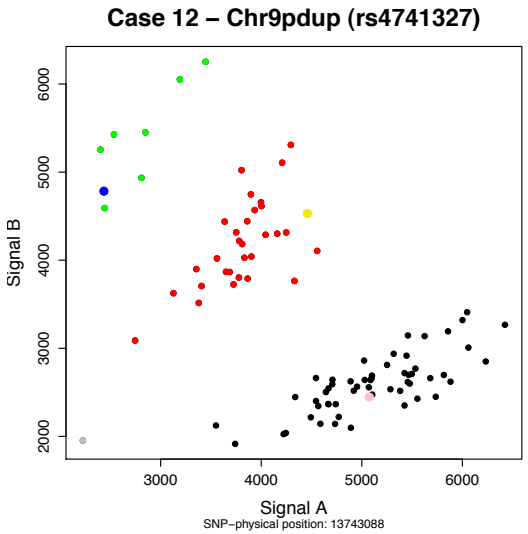

Case 12 – Chr9pdup (rs10960506)
Signal B
Signal A
SNP–physical position: 12173206

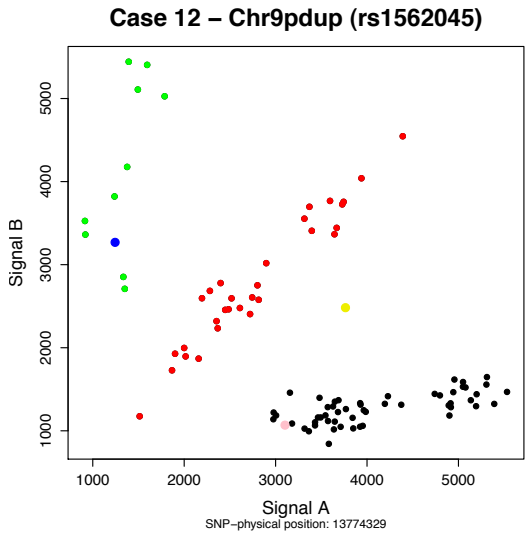

Case 12 – Chr9pdup (rs10733261)
Signal B
Signal A
SNP–physical position: 13463162

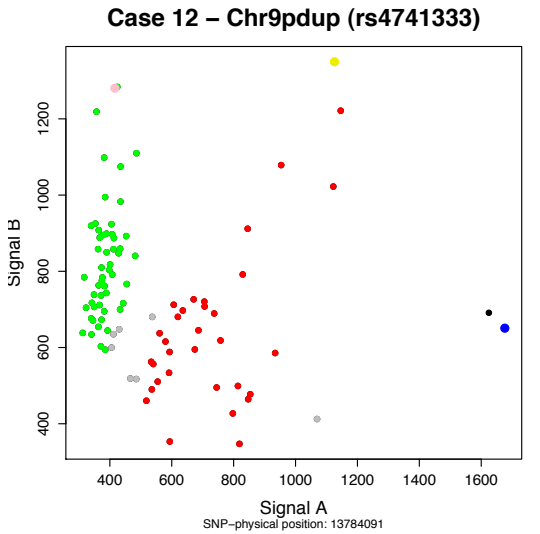

Case 12 – Chr9pdup (rs12684544)
Signal B
Signal A
SNP–physical position: 13510394

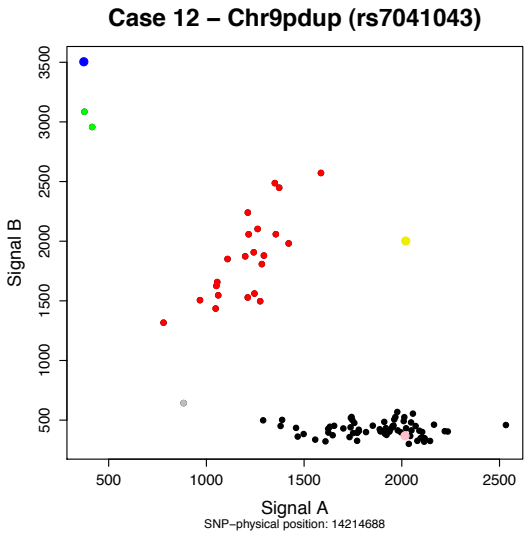

Case 12 – Chr9pdup (rs10961168)
Signal B
Signal A
SNP−physical position: 13603327

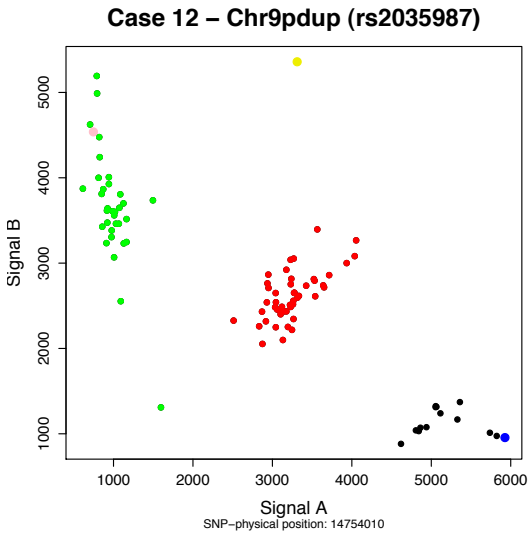

Case 12 – Chr9pdup (rs10961196)
Signal B
Signal A
SNP−physical position: 13683509

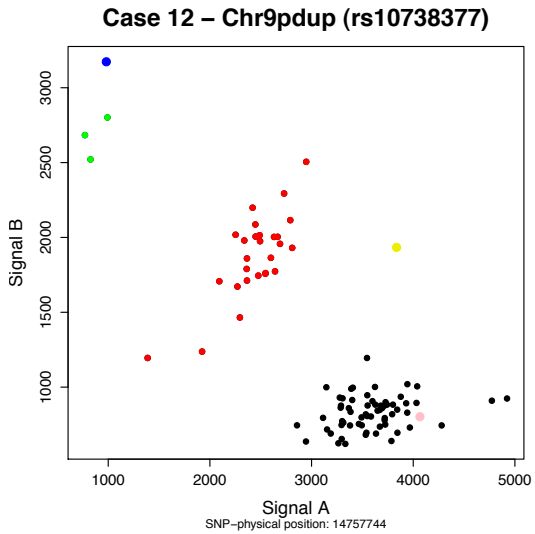

Case 12 – Chr9pdup (rs4741327)
Signal B
Signal A
SNP−physical position: 13743088

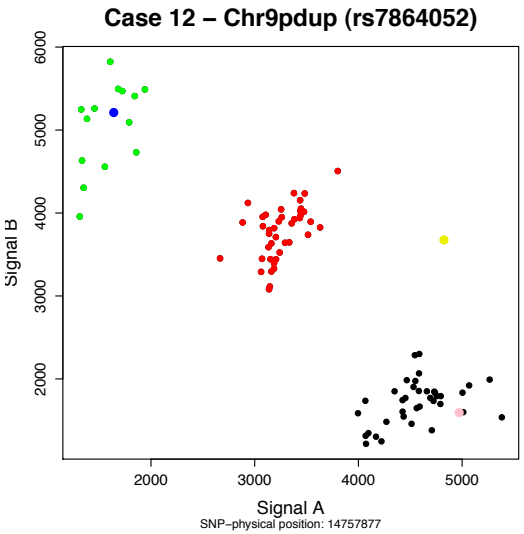

Case 12 – Chr9pdup (rs1562045)
Signal B
Signal A
SNP−physical position: 13774329


Case 12 – Chr9pdup (rs4741333)
Signal B
Signal A
SNP−physical position: 13784091

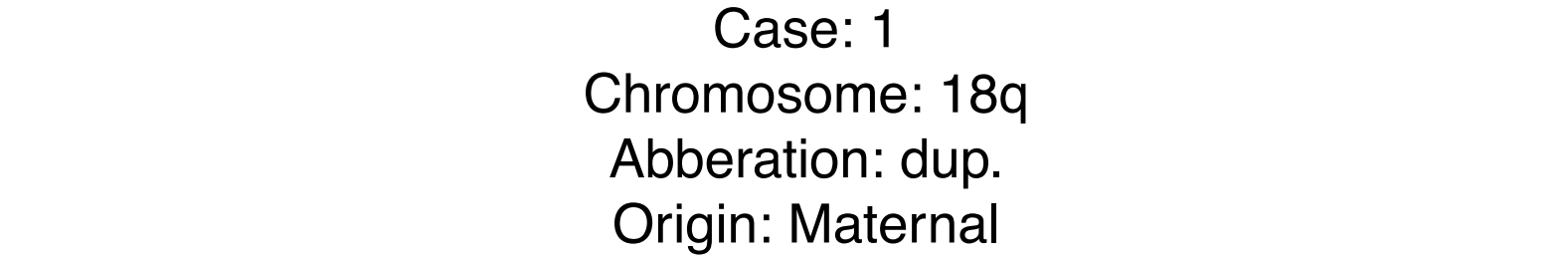

Case 12 – Chr9pdup (rs7041043)
Signal B
Signal A
SNP−physical position: 14214688

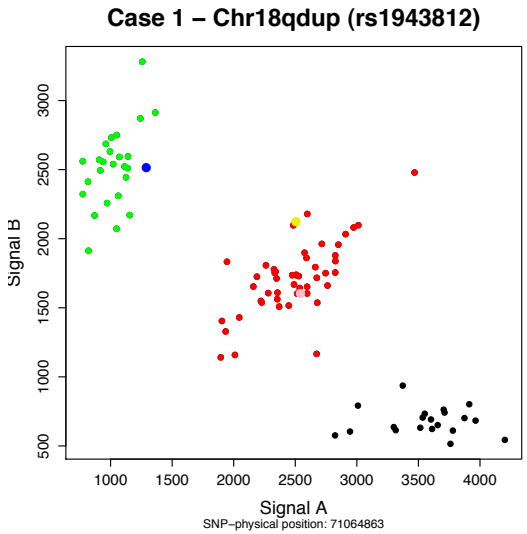

Case 12 – Chr9pdup (rs2035987)
Signal B
Signal A
SNP−physical position: 14754010

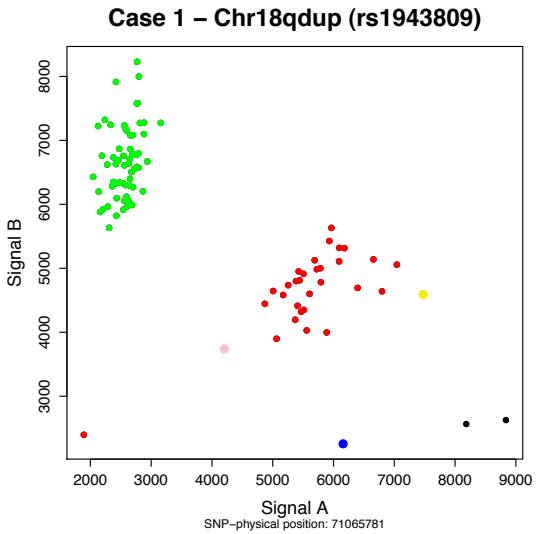

Case 12 – Chr9pdup (rs10738377)
Signal B
Signal A
SNP−physical position: 14757744

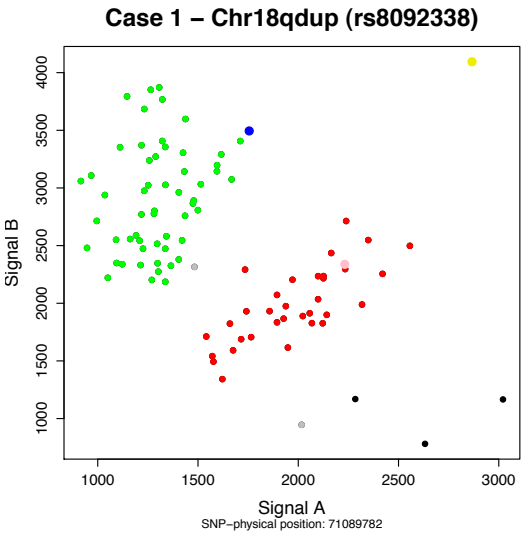

Case 12 – Chr9pdup (rs7864052)
Signal B
6000
5000
4000
3000
2000
2000
3000
4000
5000
Signal A
SNP–physical position: 14757877

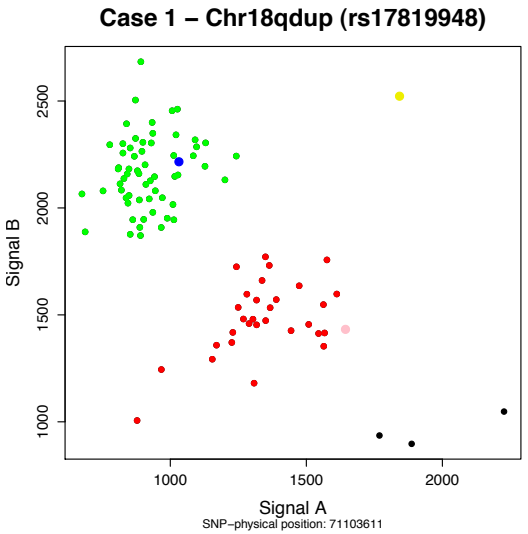
Supplementary figure 4. SNP cluster plots showing all informative SNPs to determine meiosis I origin. The SNP plots of homozygous SNPs in the parent providing the normal chromosomes and heterozygosity in the parent donating the derivative chromosome. The plots are arranged per case. Green, red and black dots represent controls with a BB, AB and AA genotype respectively. The pink and blue dots represent the genotypes of the mother and father respectively. The yellow dots indicate the genotype call of the index patient.

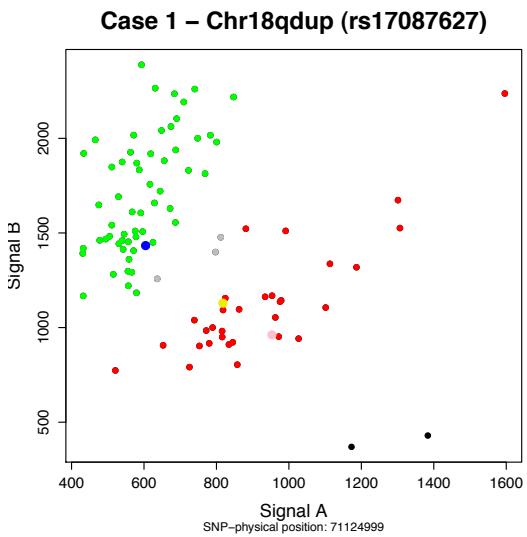


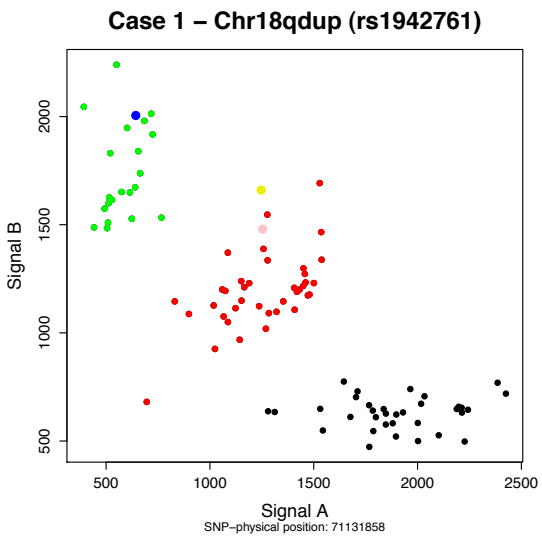

Case 1 – Chr18qdup (rs1943812)
Signal B
Signal A
SNP–physical position: 71064863

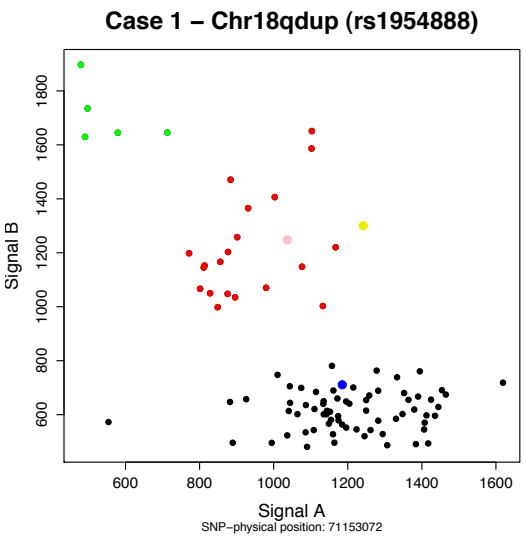

Case 1 – Chr18qdup (rs1943809)
Signal B
Signal A
SNP–physical position: 71065781

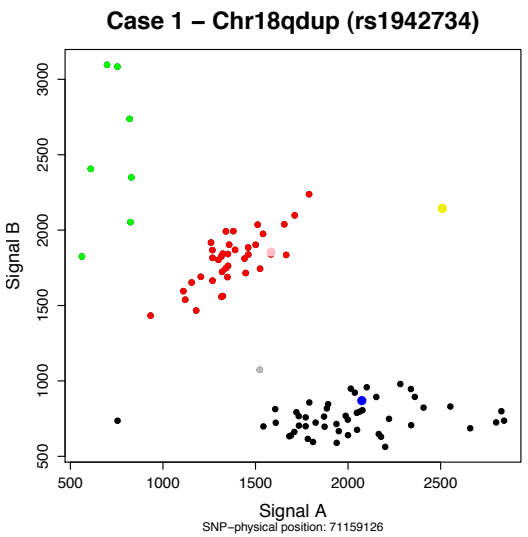

Case 1 – Chr18qdup (rs8092338)
Signal B
Signal A
SNP–physical position: 71089782

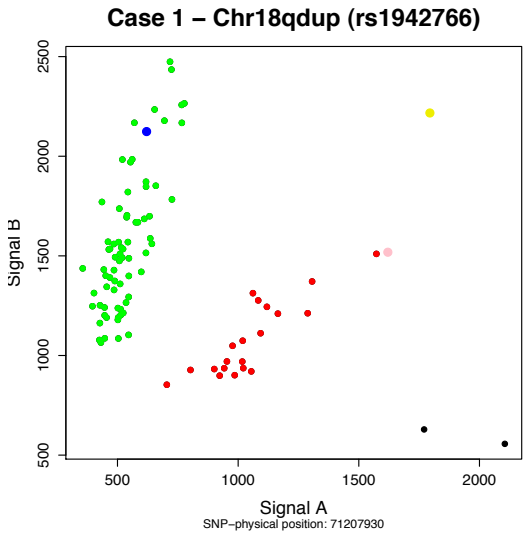

Case 1 – Chr18qdup (rs17819948)
Signal B
Signal A
SNP–physical position: 71103611

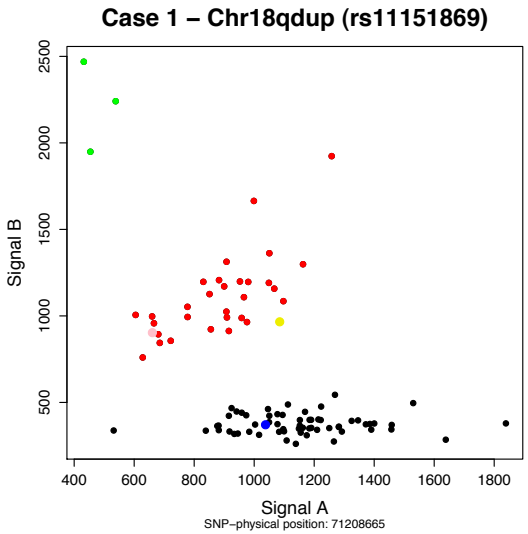

Case 1 – Chr18qdup (rs17087627)
Signal B
Signal A
SNP–physical position: 71124999

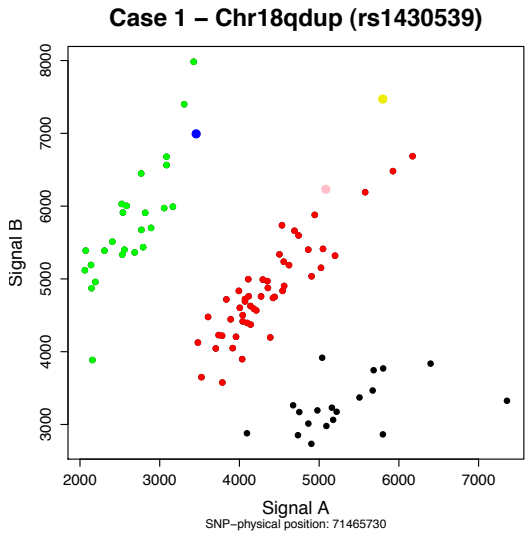

Case 1 – Chr18qdup (rs1942761)
Signal B
Signal A
SNP–physical position: 71131858

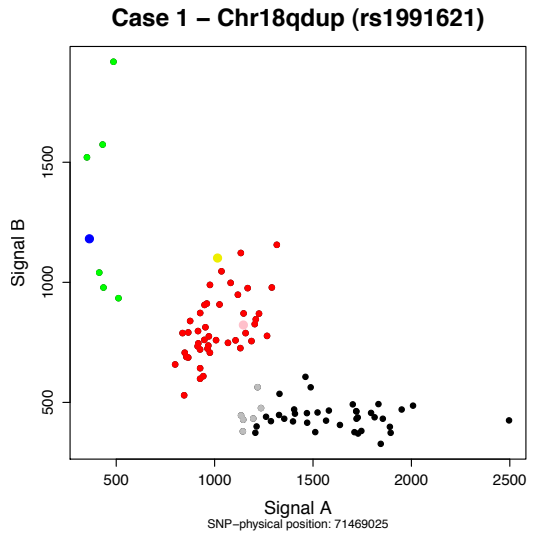

Case 1 – Chr18qdup (rs1954888)
Signal B
Signal A
SNP–physical position: 71153072

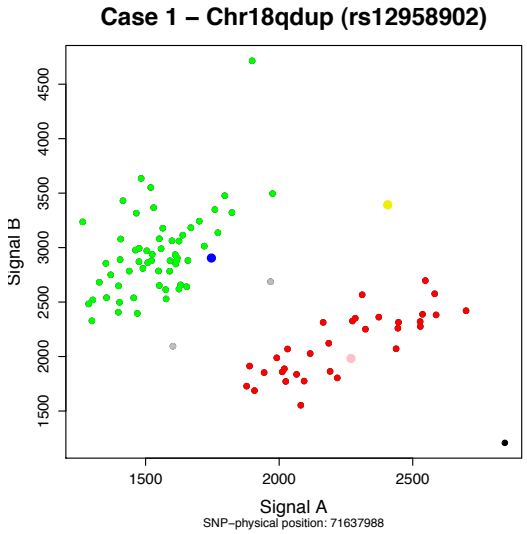

Case 1 – Chr18qdup (rs1942734)
Signal B
Signal A
SNP–physical position: 71159126

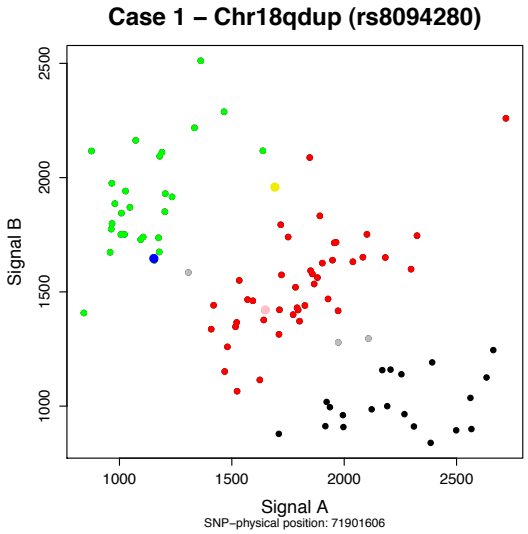

Case 1 – Chr18qdup (rs1942766)
Signal B
Signal A
SNP–physical position: 71207930

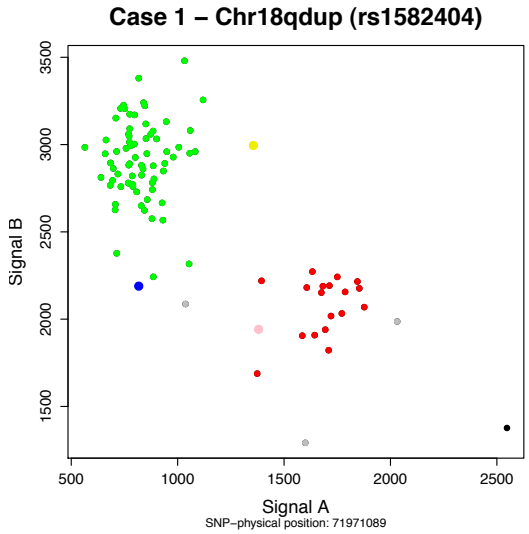

Case 1 – Chr18qdup (rs11151869)
Signal B
Signal A
SNP–physical position: 71208665

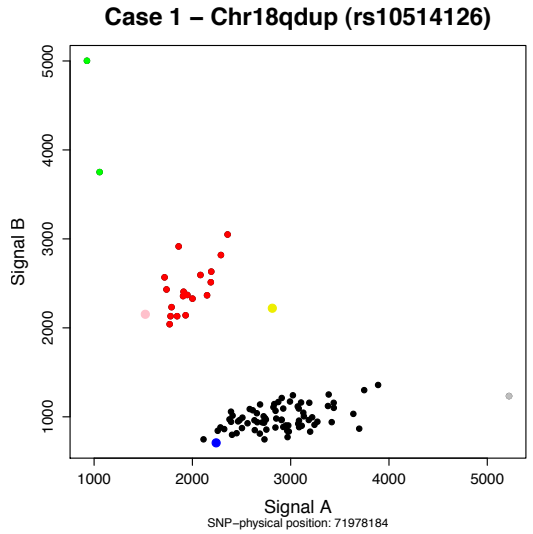

Case 1 – Chr18qdup (rs1430539)
Signal B
Signal A
SNP–physical position: 71465730

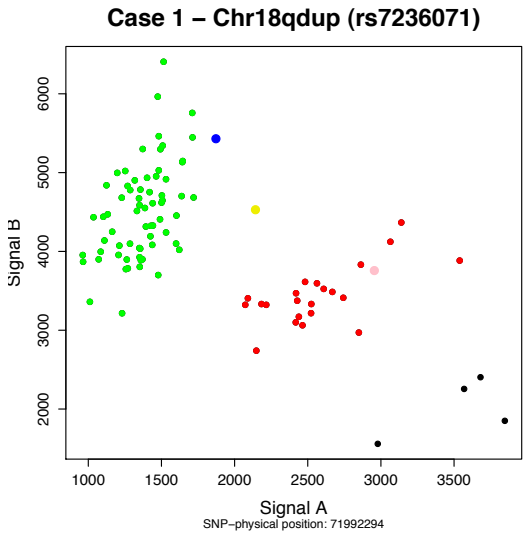

Case 1 – Chr18qdup (rs1991621)
Signal B
Signal A
SNP–physical position: 71469025

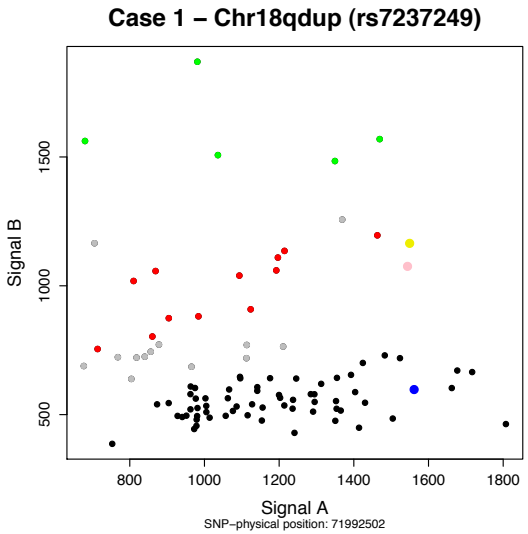

Case 1 – Chr18qdup (rs12958902)
Signal B
Signal A
SNP–physical position: 71637988

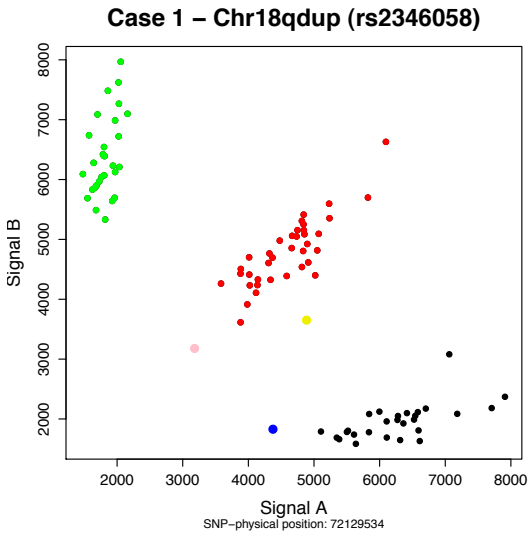

Case 1 – Chr18qdup (rs8094280)
Signal B
Signal A
SNP–physical position: 71901606

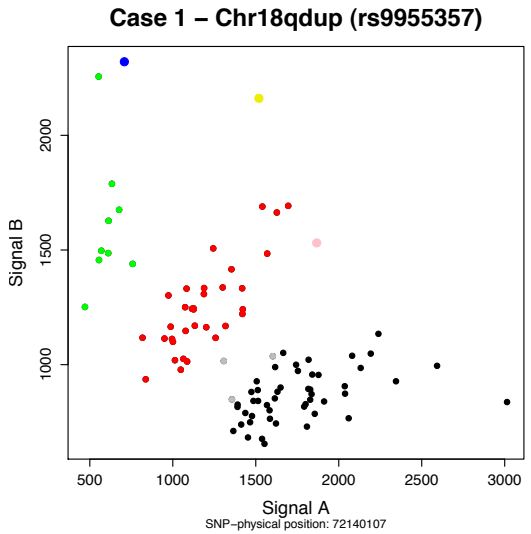

Case 1 – Chr18qdup (rs1582404)
Signal B
Signal A
SNP–physical position: 71971089

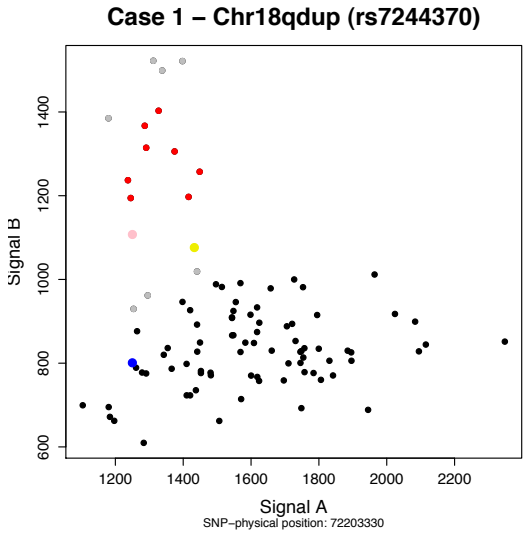

Case 1 – Chr18qdup (rs10514126)
Signal B
Signal A
SNP–physical position: 71978184

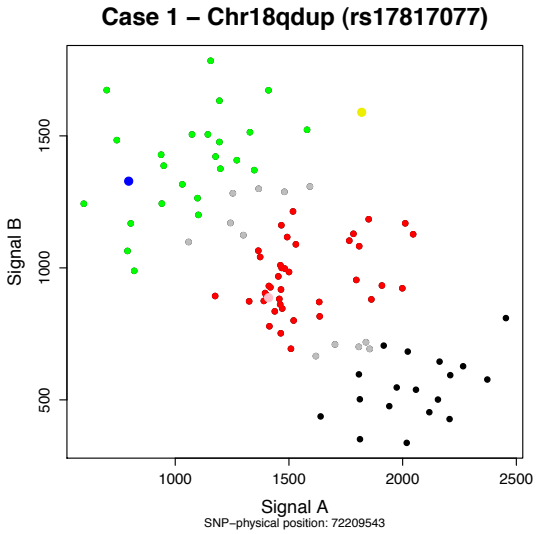

Case 1 – Chr18qdup (rs7236071)
Signal B
Signal A
SNP–physical position: 71992294

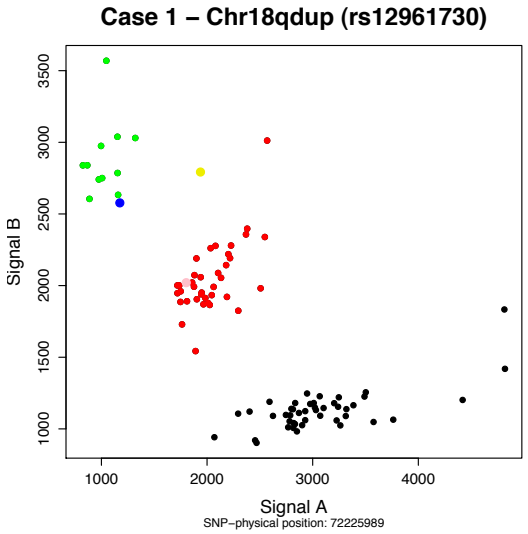

Case 1 – Chr18qdup (rs7237249)
Signal B
Signal A
SNP–physical position: 71992502

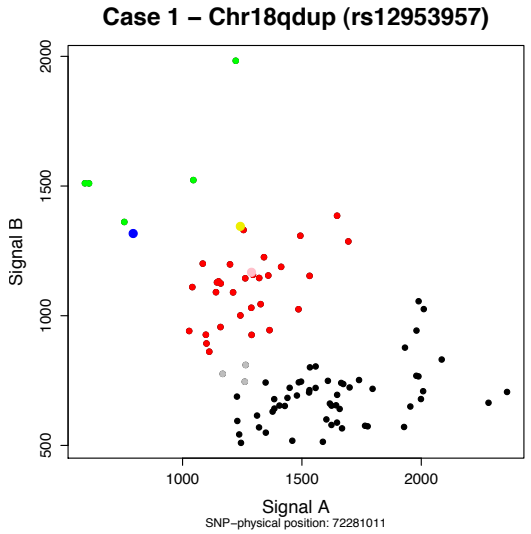

Case 1 – Chr18qdup (rs2346058)
Signal B
Signal A
SNP–physical position: 72129534

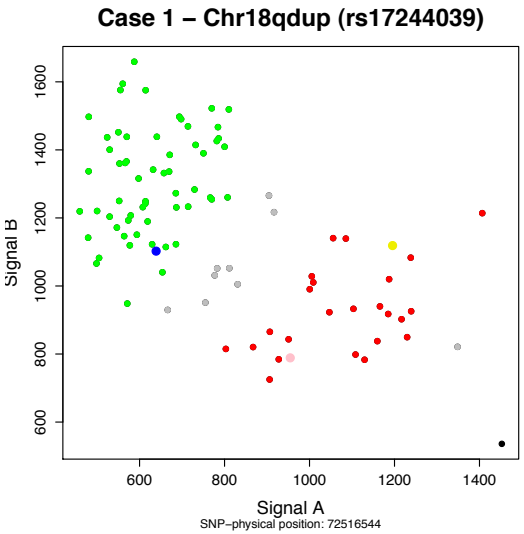

Case 1 – Chr18qdup (rs9955357)
Signal B
Signal A
SNP–physical position: 72140107

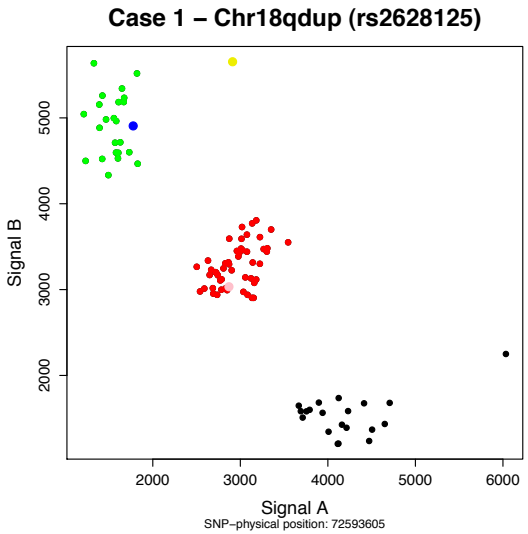

Case 1 – Chr18qdup (rs7244370)
Signal B
Signal A
SNP–physical position: 72203330

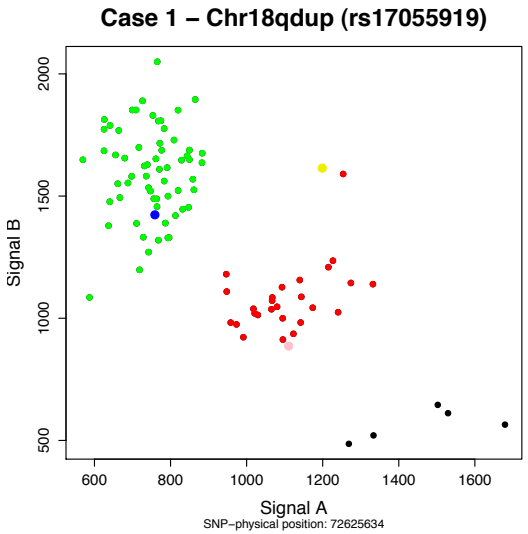

Case 1 – Chr18qdup (rs17817077)
Signal B
Signal A
SNP–physical position: 72209543

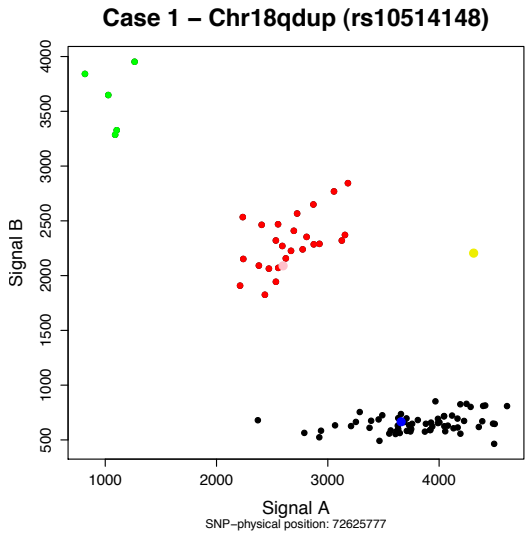

Case 1 – Chr18qdup (rs12961730)
Signal B
Signal A
SNP–physical position: 72225989

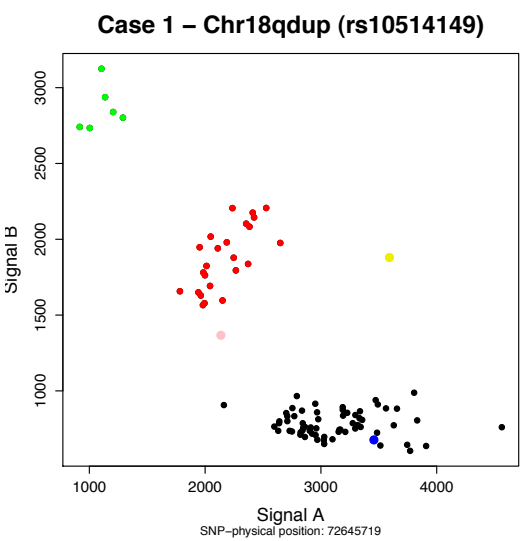

Case 1 – Chr18qdup (rs12953957)
Signal B
Signal A
SNP–physical position: 72281011

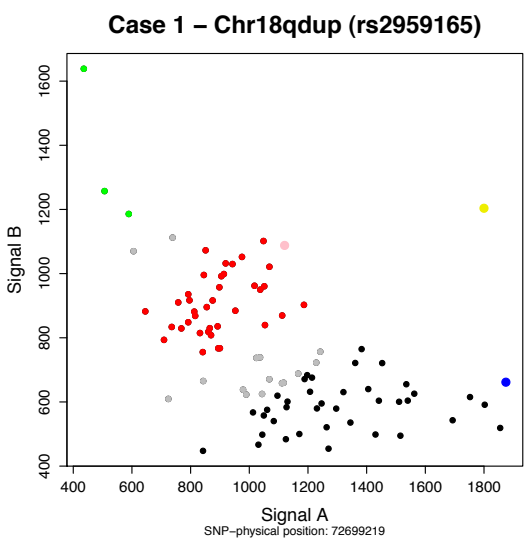

Case 1 – Chr18qdup (rs17244039)
Signal B
Signal A
SNP–physical position: 72516544

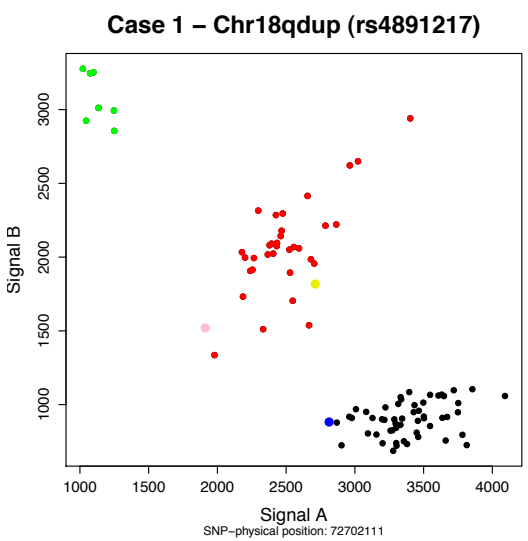

Case 1 – Chr18qdup (rs2628125)
Signal B
Signal A
SNP–physical position: 72593605

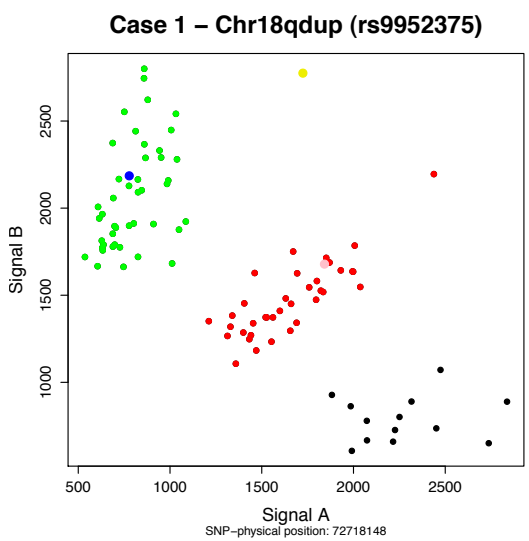

Case 1 – Chr18qdup (rs17055919)
Signal B
Signal A
SNP–physical position: 72625634

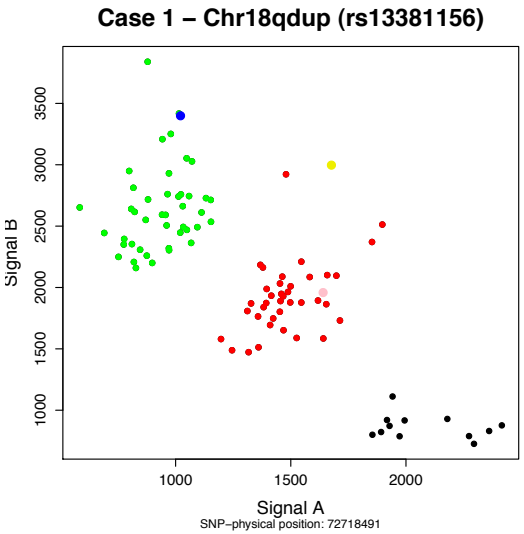

Case 1 – Chr18qdup (rs10514148)
Signal B
Signal A
SNP–physical position: 72625777

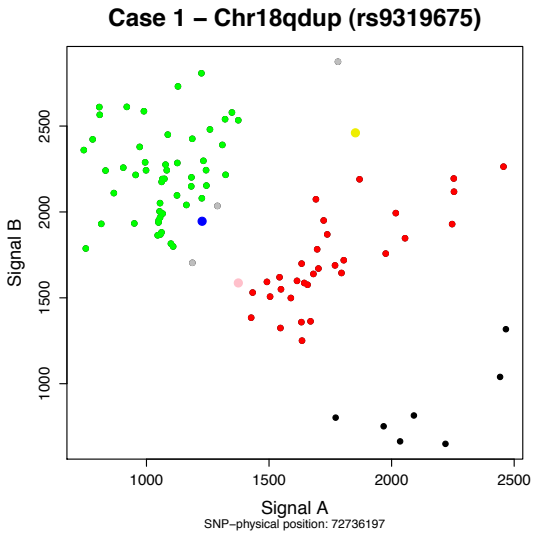

Case 1 – Chr18qdup (rs10514149)
Signal B
Signal A
SNP–physical position: 72645719

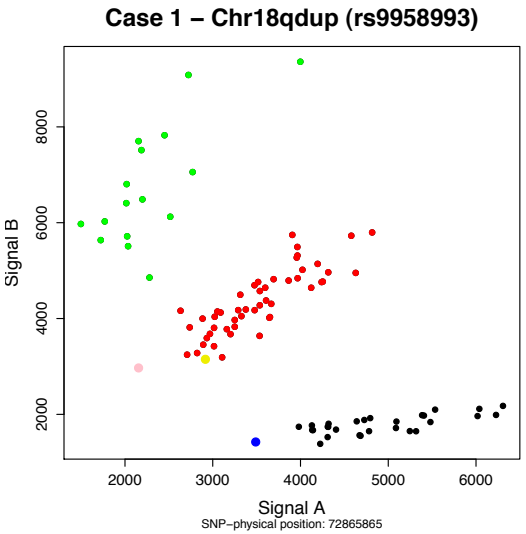

Case 1 – Chr18qdup (rs2959165)
Signal B
Signal A
SNP–physical position: 72699219

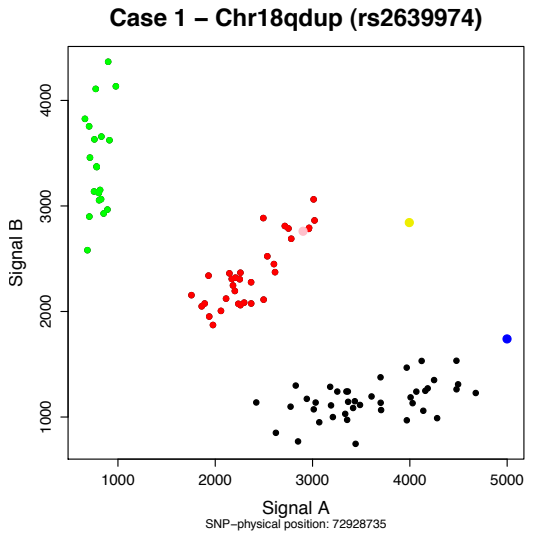

Case 1 – Chr18qdup (rs4891217)
Signal B
Signal A
SNP–physical position: 72702111

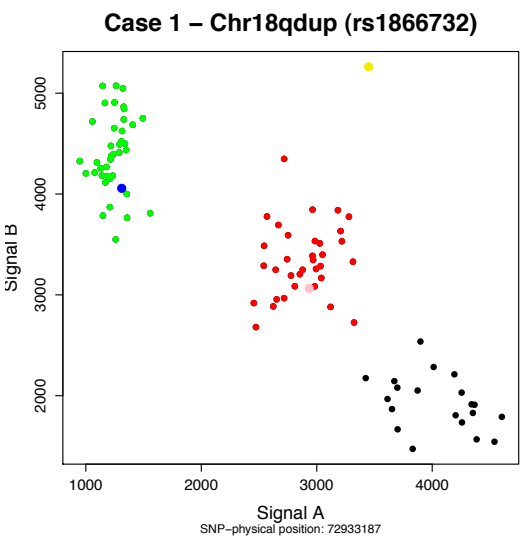

Case 1 – Chr18qdup (rs9952375)
Signal B
Signal A
SNP–physical position: 72718148

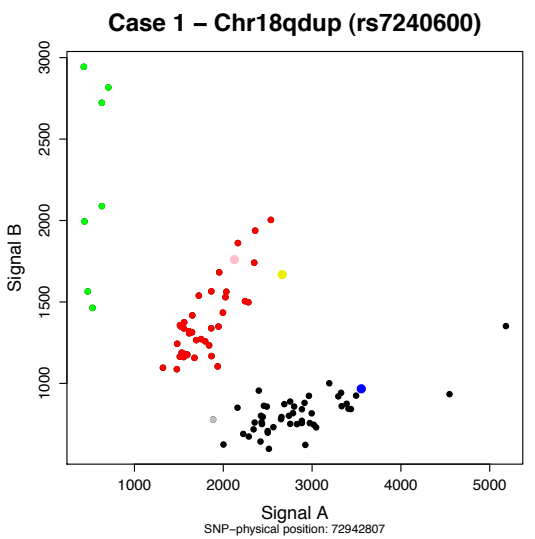

Case 1 – Chr18qdup (rs13381156)
Signal B
Signal A
SNP−physical position: 72718491

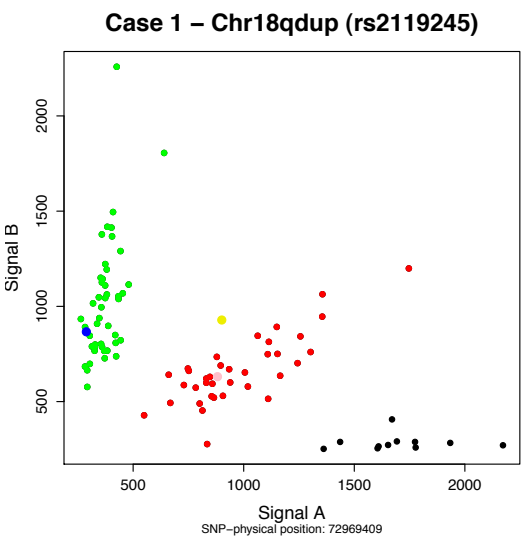

Case 1 – Chr18qdup (rs9319675)
Signal B
Signal A
SNP−physical position: 72736197

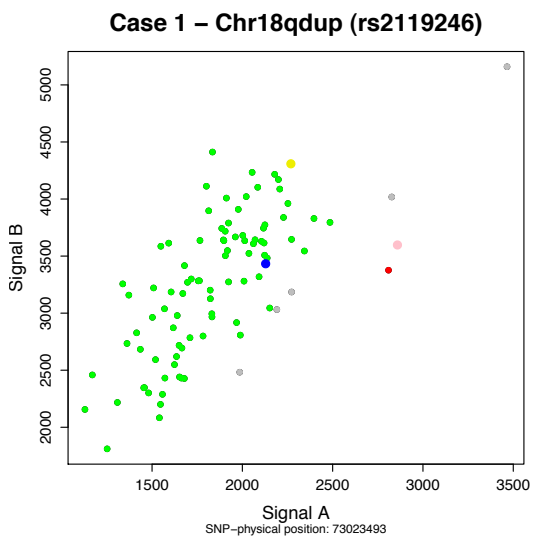

Case 1 – Chr18qdup (rs9958993)
Signal B
Signal A
SNP−physical position: 72865865

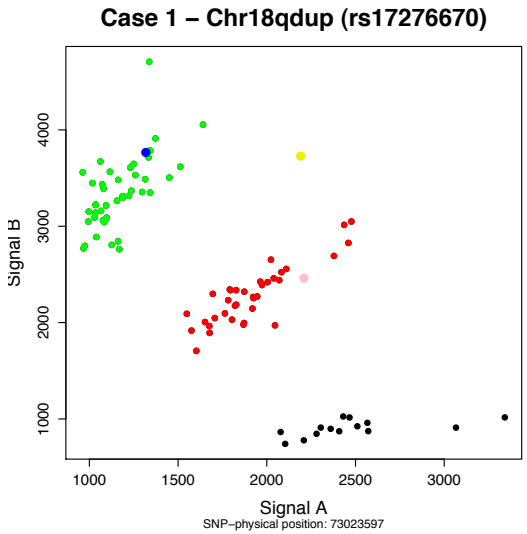

Case 1 – Chr18qdup (rs2639974)
Signal B
Signal A
SNP−physical position: 72928735

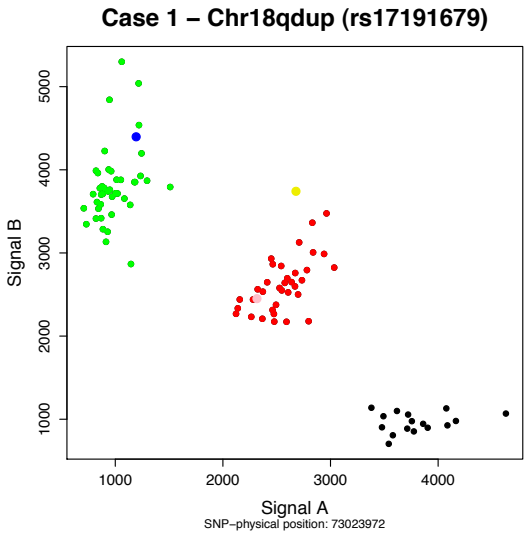

Case 1 – Chr18qdup (rs1866732)
Signal B
Signal A
SNP−physical position: 72933187

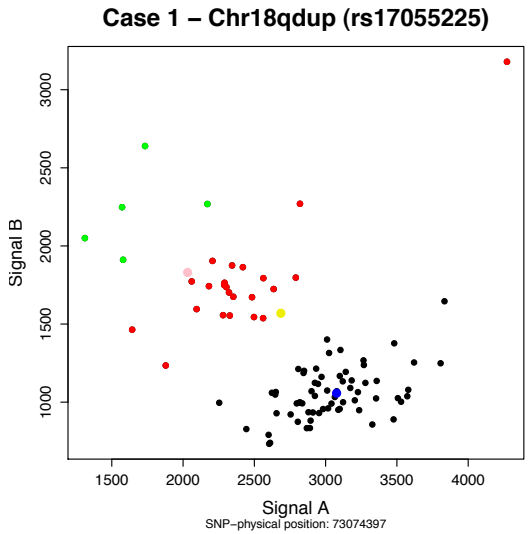

Case 1 – Chr18qdup (rs7240600)
Signal B
Signal A
SNP−physical position: 72942807

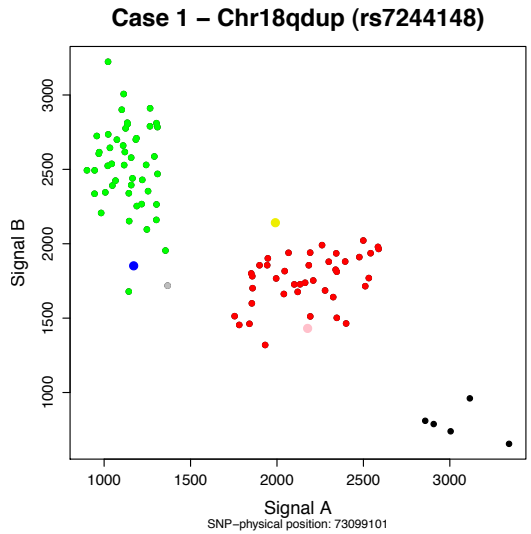

Case 1 – Chr18qdup (rs2119245)
Signal B
Signal A
SNP−physical position: 72969409

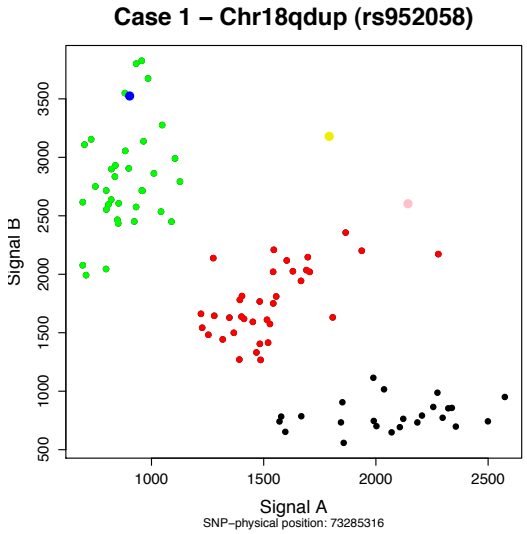

Case 1 – Chr18qdup (rs2119246)
Signal B
Signal A
SNP−physical position: 73023493

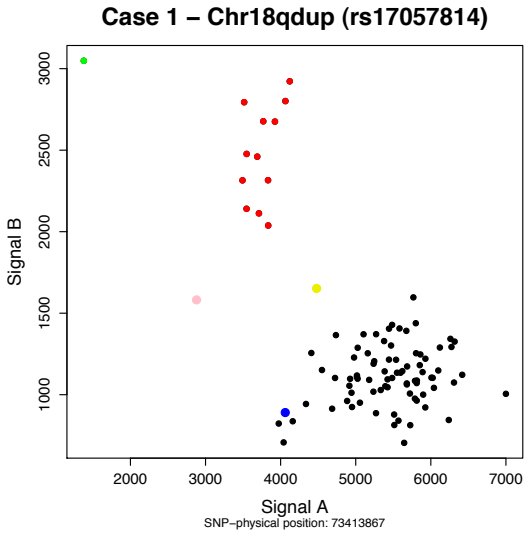

Case 1 – Chr18qdup (rs17276670)
Signal B
Signal A
SNP–physical position: 73023597

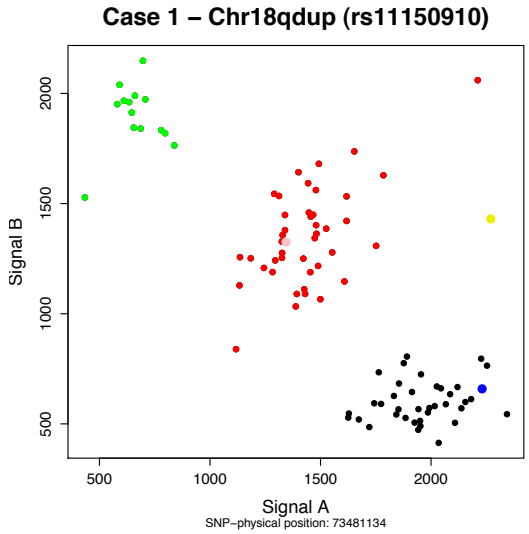

Case 1 – Chr18qdup (rs17191679)
Signal B
Signal A
SNP–physical position: 73023972

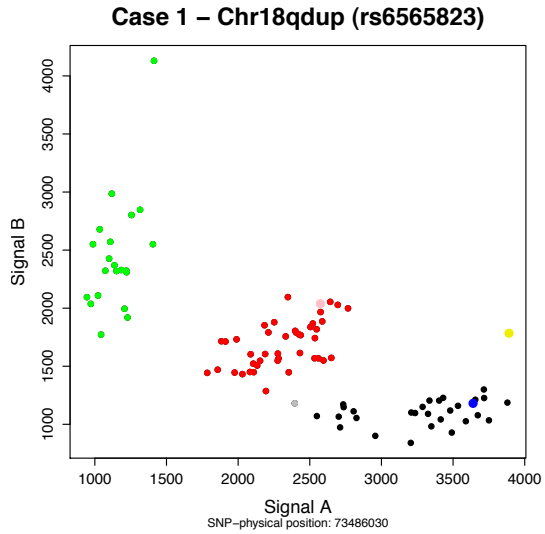

Case 1 – Chr18qdup (rs17055225)
Signal B
Signal A
SNP–physical position: 73074397

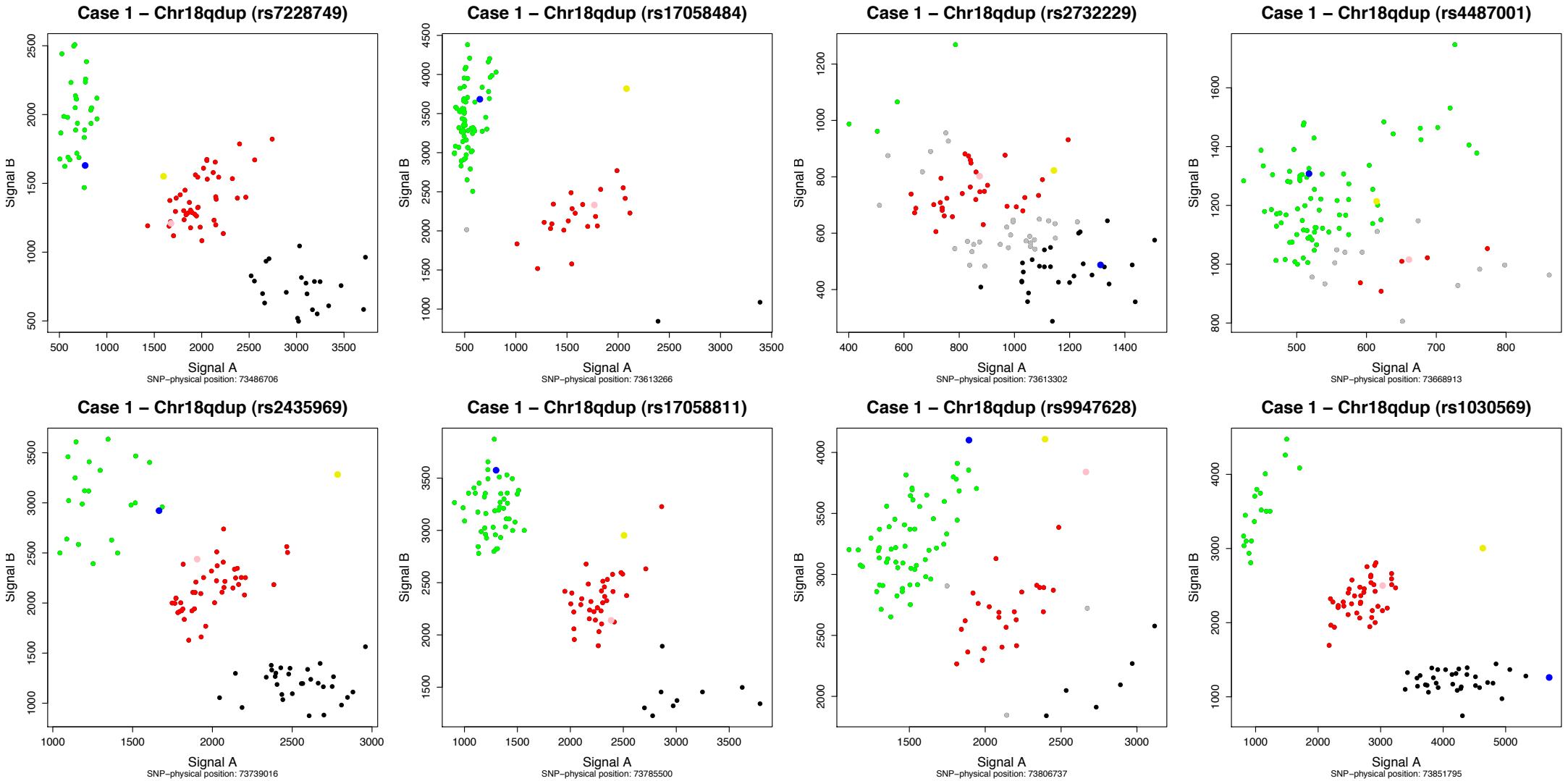

Case 1 – Chr18qdup (rs7244148)
Signal B
Signal A
SNP–physical position: 73099101

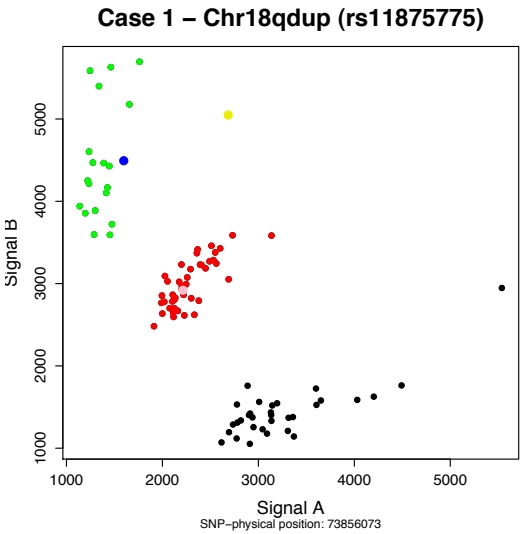

Case 1 – Chr18qdup (rs952058)
Signal B
Signal A
SNP–physical position: 73285316

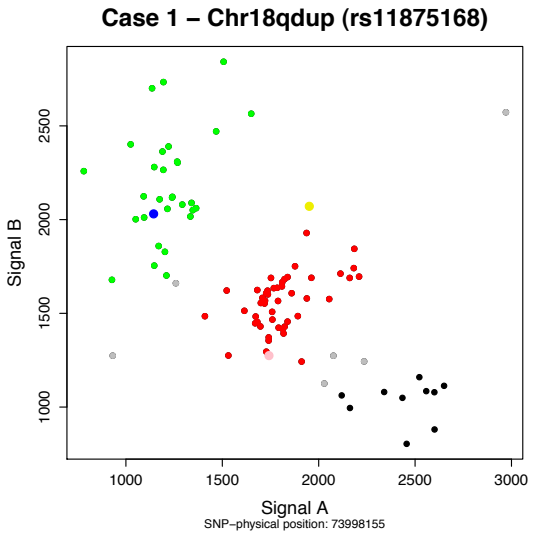

Case 1 – Chr18qdup (rs17057814)
Signal B
Signal A
SNP–physical position: 73413867

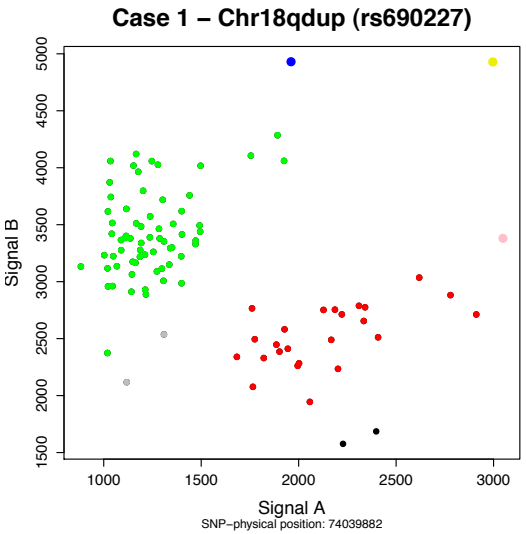

Case 1 – Chr18qdup (rs11150910)
Signal B
Signal A
SNP–physical position: 73481134

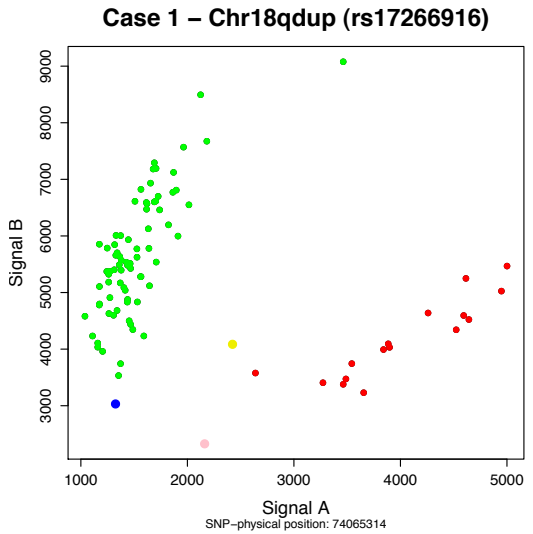

Case 1 – Chr18qdup (rs6565823)
Signal B
Signal A
SNP–physical position: 73486030

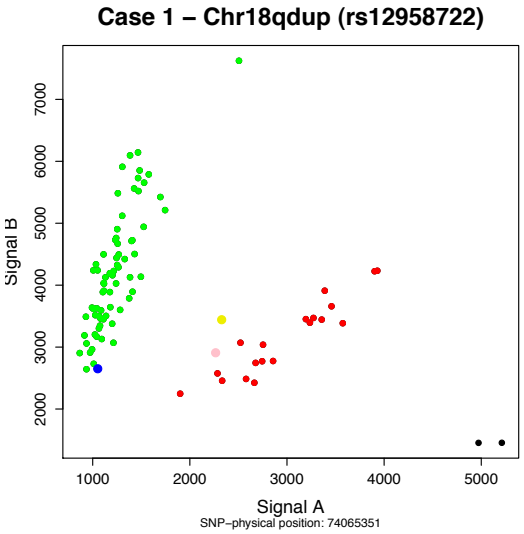

Case 1 – Chr18qdup (rs7228749)
Signal B
Signal A
SNP–physical position: 73486706
Case 1 – Chr18qdup (rs17058484)
Signal B
Signal A
SNP–physical position: 73613266
Case 1 – Chr18qdup (rs2732229)
Signal B
Signal A
SNP–physical position: 73613302
Case 1 – Chr18qdup (rs4487001)
Signal B
Signal A
SNP–physical position: 73668913
Case 1 – Chr18qdup (rs2435969)
Signal B
Signal A
SNP–physical position: 73739016
Case 1 – Chr18qdup (rs17058811)
Signal B
Signal A
SNP–physical position: 73785500
Case 1 – Chr18qdup (rs9947628)
Signal B
Signal A
SNP–physical position: 73806737
Case 1 – Chr18qdup (rs1030569)
Signal B
Signal A
SNP–physical position: 73851795

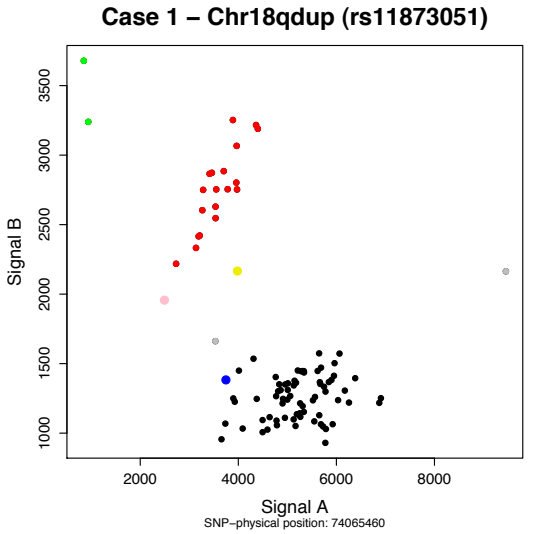

Case 1 – Chr18qdup (rs11875775)
Signal B
Signal A
SNP–physical position: 73856073

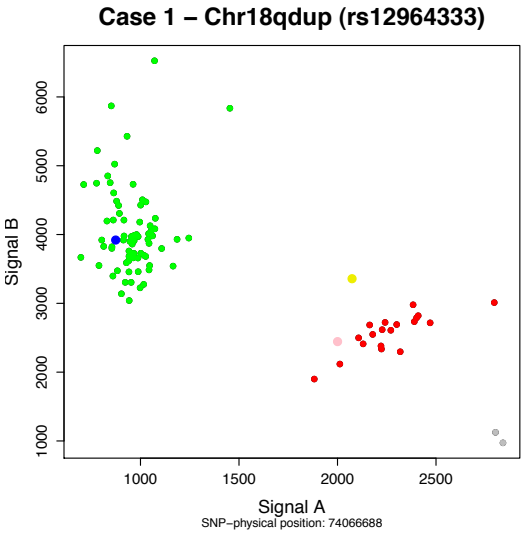

Case 1 – Chr18qdup (rs11875168)
Signal B
Signal A
SNP–physical position: 73998155

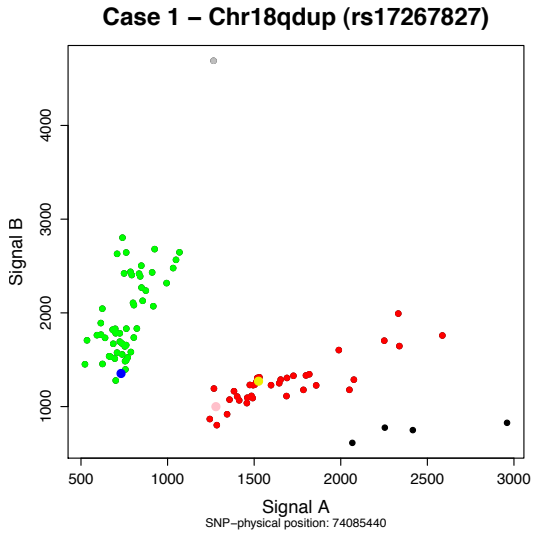

Case 1 – Chr18qdup (rs690227)
Signal B
Signal A
SNP–physical position: 74039882

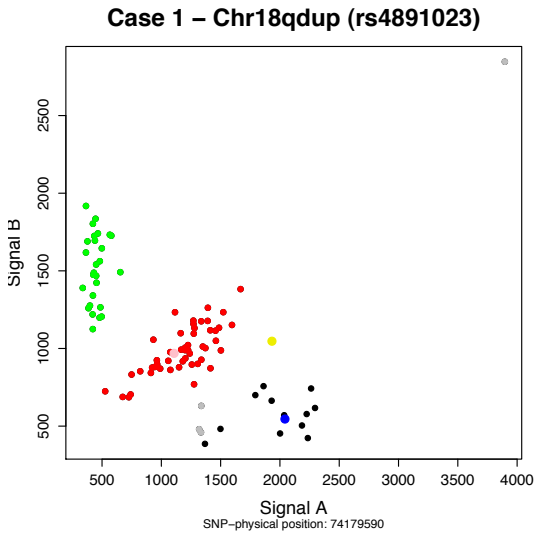

Case 1 – Chr18qdup (rs17266916)
Signal B
Signal A
SNP–physical position: 74065314

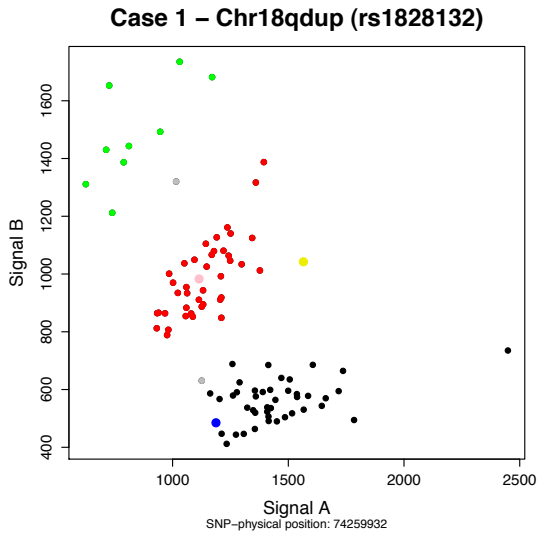

Case 1 – Chr18qdup (rs12958722)
Signal B
Signal A
SNP–physical position: 74065351

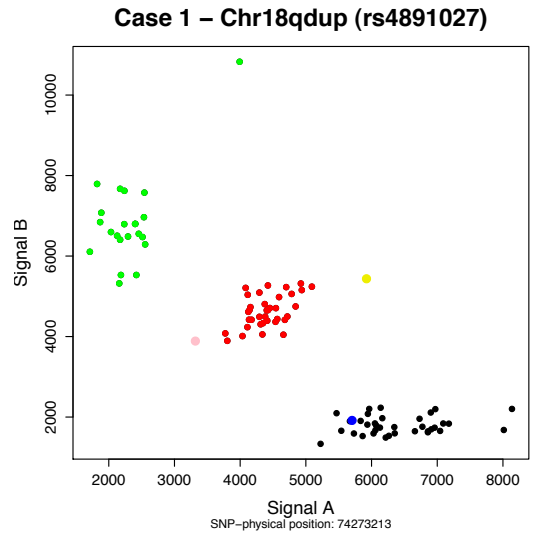

Case 1 – Chr18qdup (rs11873051)
Signal B
Signal A
SNP–physical position: 74065460

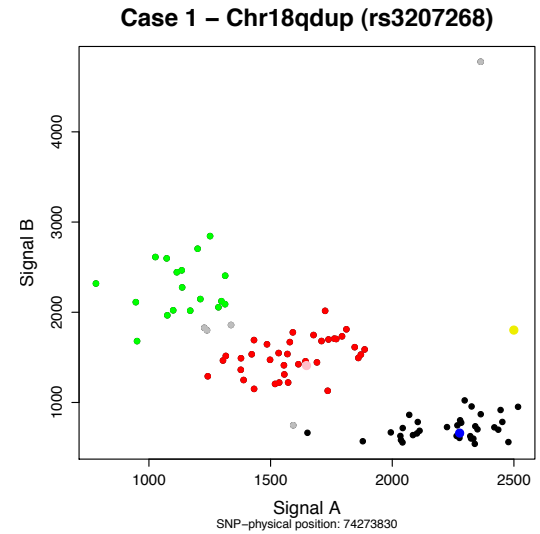

Case 1 – Chr18qdup (rs12964333)
Signal B
Signal A
SNP–physical position: 74066688

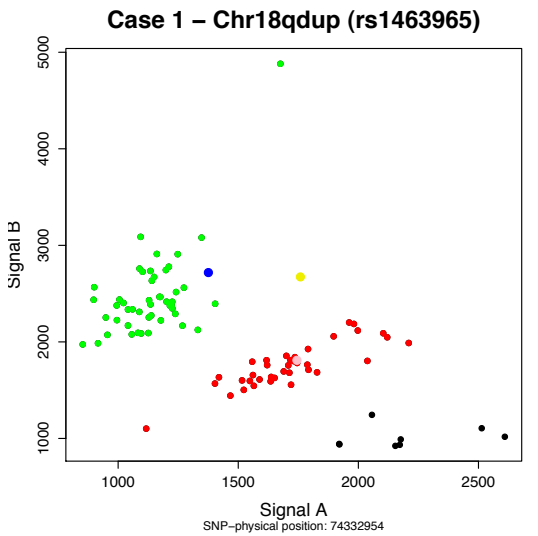

Case 1 – Chr18qdup (rs17267827)
Signal B
Signal A
SNP–physical position: 74085440

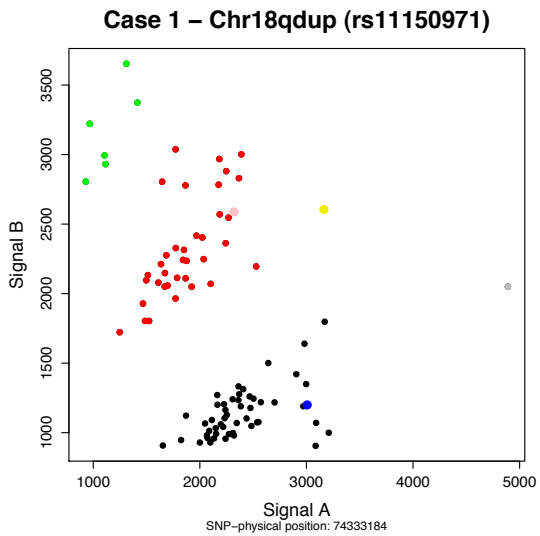

Case 1 – Chr18qdup (rs4891023)
Signal B
Signal A
SNP–physical position: 74179590

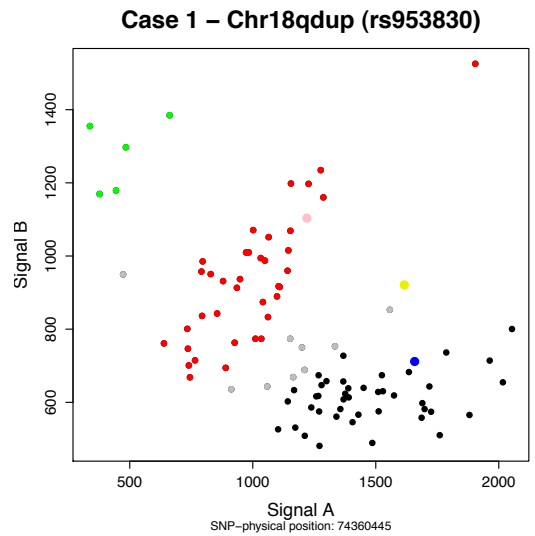

Case 1 – Chr18qdup (rs1828132)
Signal B
Signal A
SNP–physical position: 74259932

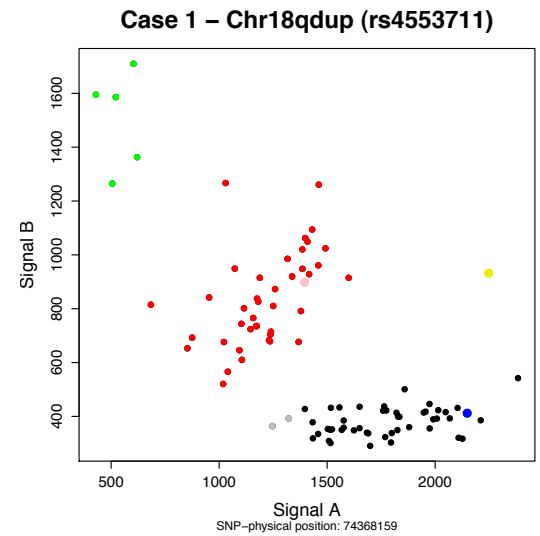

Case 1 – Chr18qdup (rs4891027)
Signal B
Signal A
SNP–physical position: 74273213

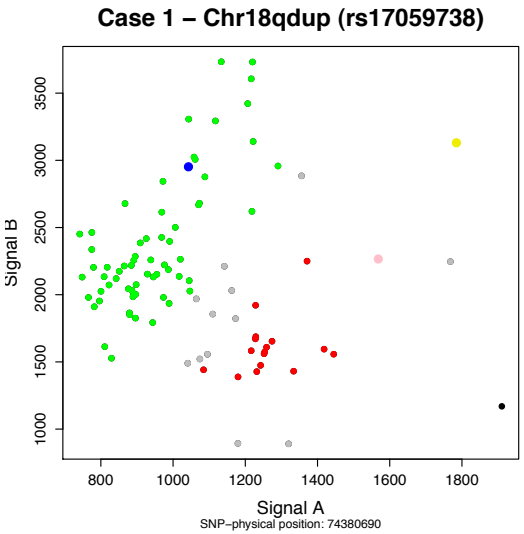

Case 1 – Chr18qdup (rs3207268)
Signal B
Signal A
SNP–physical position: 74273830

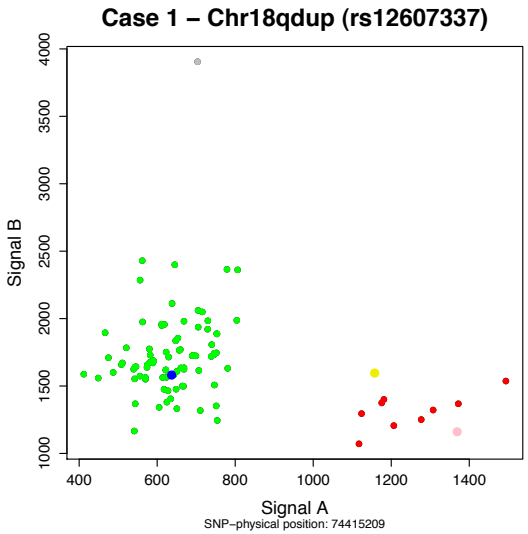

Case 1 – Chr18qdup (rs1463965)
Signal B
Signal A
SNP–physical position: 74332954

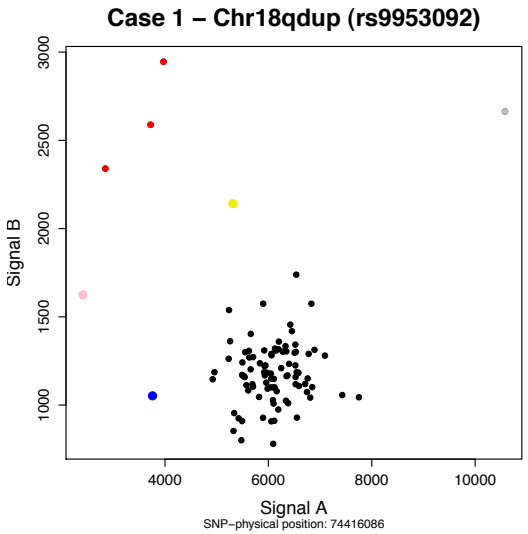

Case 1 – Chr18qdup (rs11150971)
Signal B
Signal A
SNP–physical position: 74333184

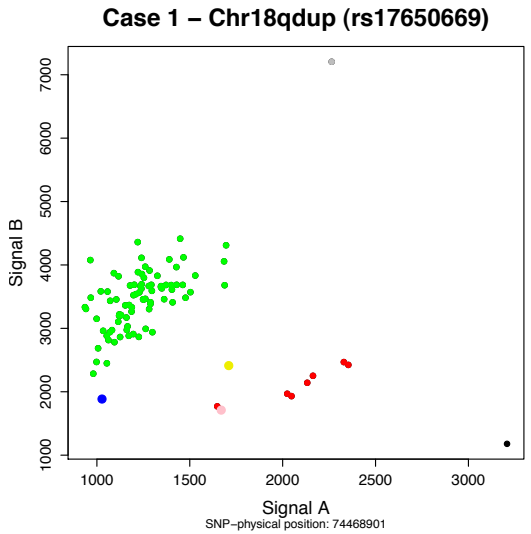

Case 1 – Chr18qdup (rs953830)
Signal B
Signal A
SNP–physical position: 74360445

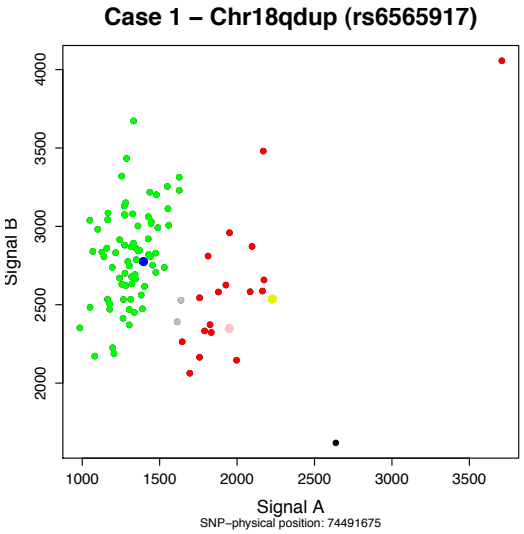

Case 1 – Chr18qdup (rs4553711)
Signal B
Signal A
SNP–physical position: 74368159

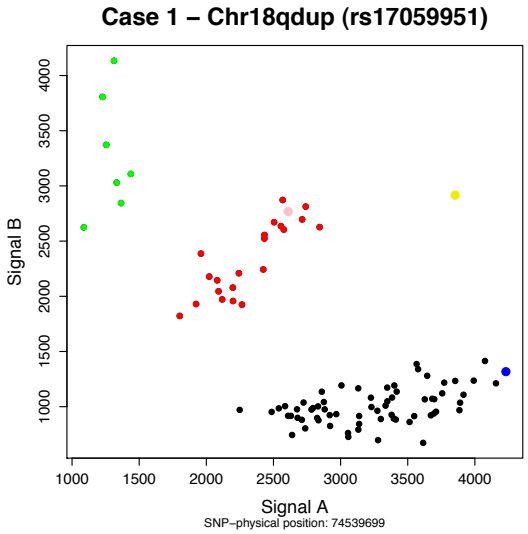

Case 1 – Chr18qdup (rs17059738)
Signal B
Signal A
SNP–physical position: 74380690

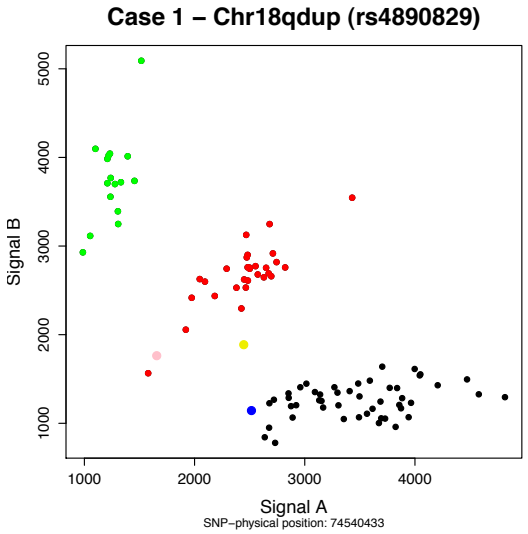

Case 1 – Chr18qdup (rs12607337)
Signal B
Signal A
SNP–physical position: 74415209

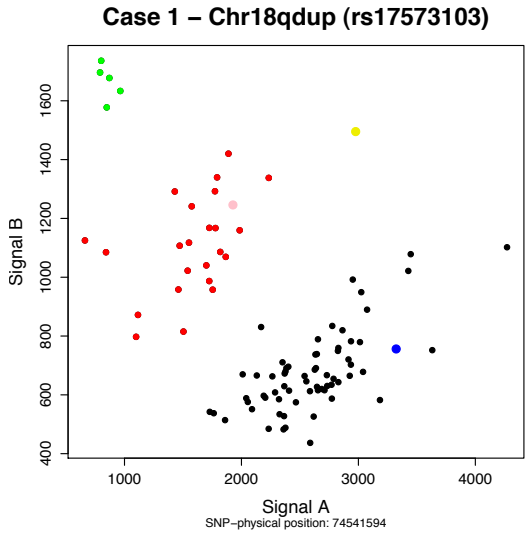

Case 1 – Chr18qdup (rs9953092)
Signal B
Signal A
SNP–physical position: 74416086

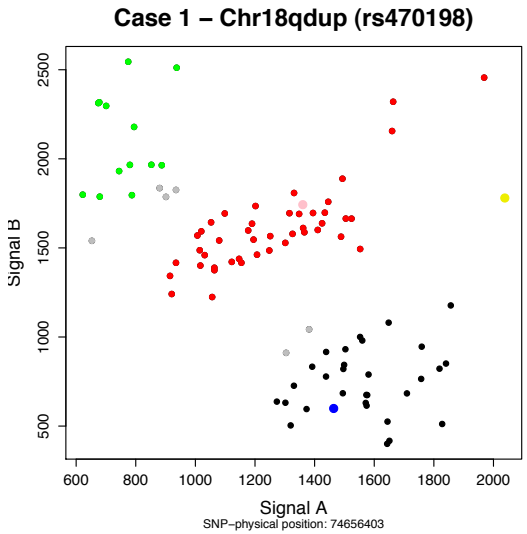

Case 1 – Chr18qdup (rs17650669)
Signal B
Signal A
SNP–physical position: 74468901

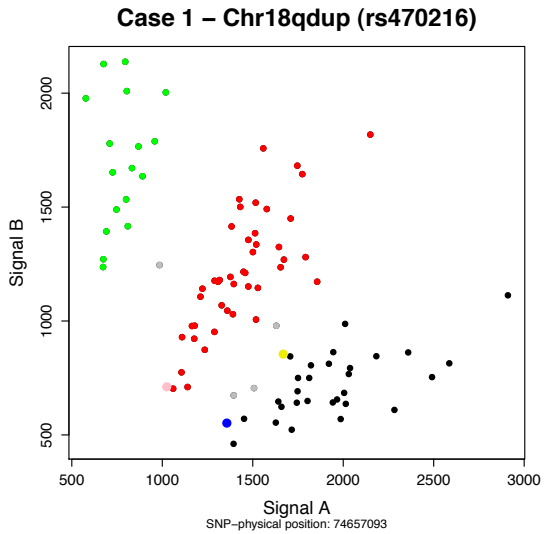

Case 1 – Chr18qdup (rs6565917)
Signal B
Signal A
SNP–physical position: 74491675

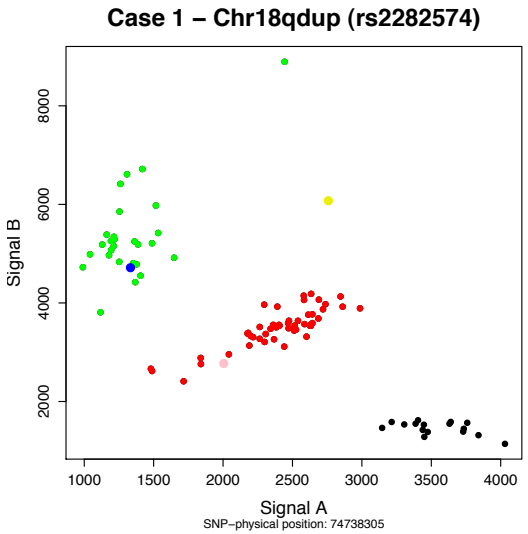

Case 1 – Chr18qdup (rs17059951)
Signal B
Signal A
SNP–physical position: 74539699

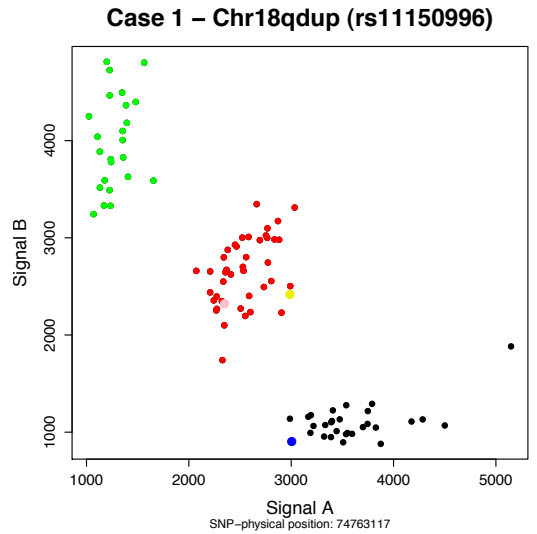

Case 1 – Chr18qdup (rs4890829)
Signal B
Signal A
SNP–physical position: 74540433

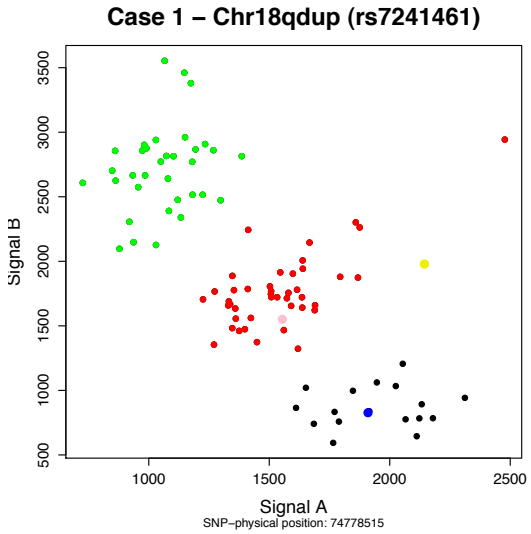

Case 1 – Chr18qdup (rs17573103)
Signal B
Signal A
SNP–physical position: 74541594

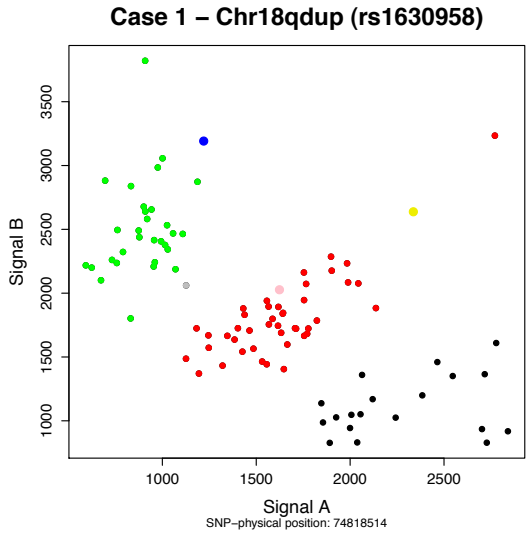

Case 1 – Chr18qdup (rs470198)
Signal B
Signal A
SNP–physical position: 74656403

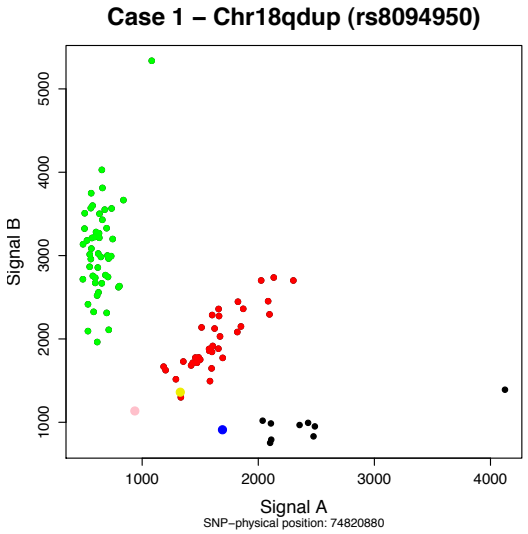

Case 1 – Chr18qdup (rs470216)
Signal B
Signal A
SNP–physical position: 74657093

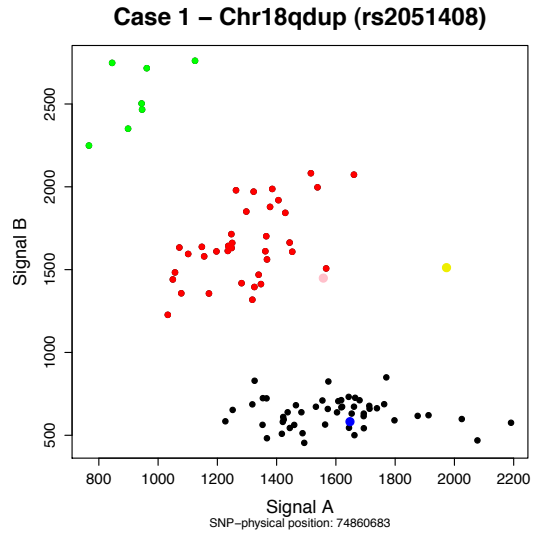

Case 1 – Chr18qdup (rs2282574)
Signal B
Signal A
SNP–physical position: 74738305

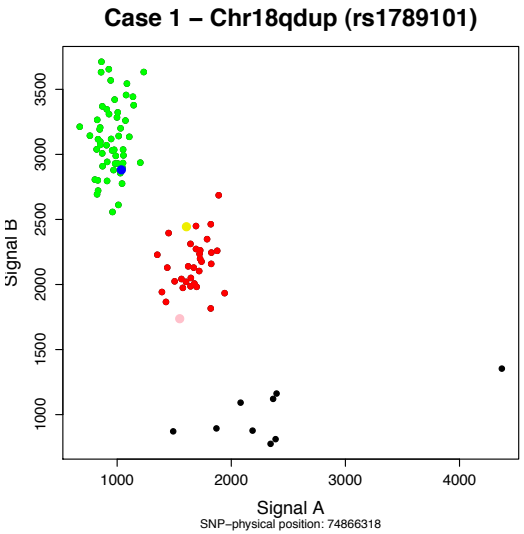

Case 1 – Chr18qdup (rs11150996)
Signal B
Signal A
SNP–physical position: 74763117

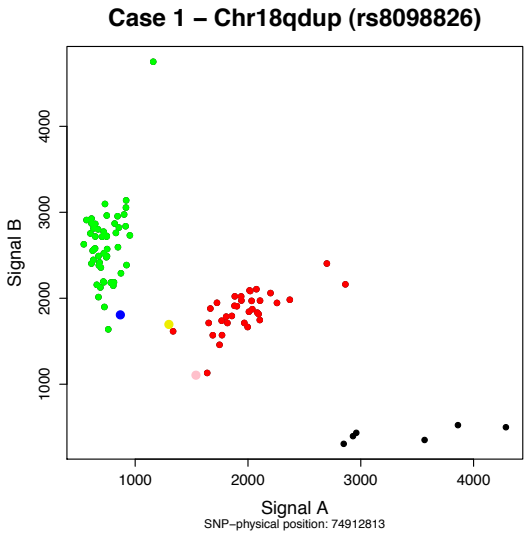

Case 1 – Chr18qdup (rs7241461)
Signal B
Signal A
SNP–physical position: 74778515

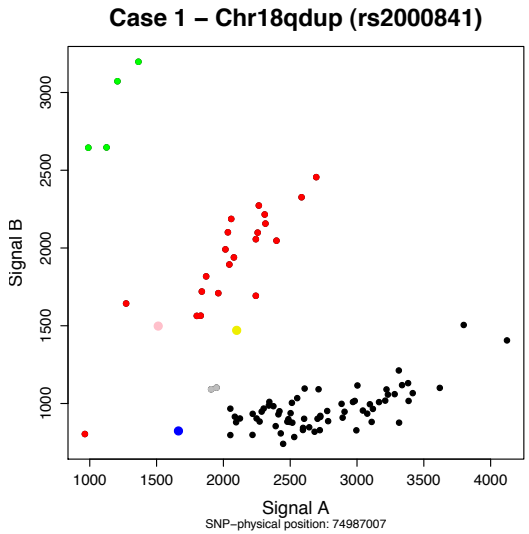

Case 1 – Chr18qdup (rs1630958)
Signal B
Signal A
SNP–physical position: 74818514

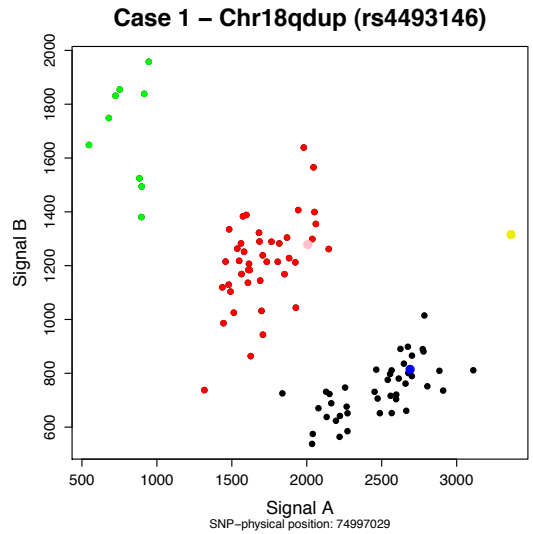

Case 1 – Chr18qdup (rs8094950)
Signal B
Signal A
SNP–physical position: 74820880

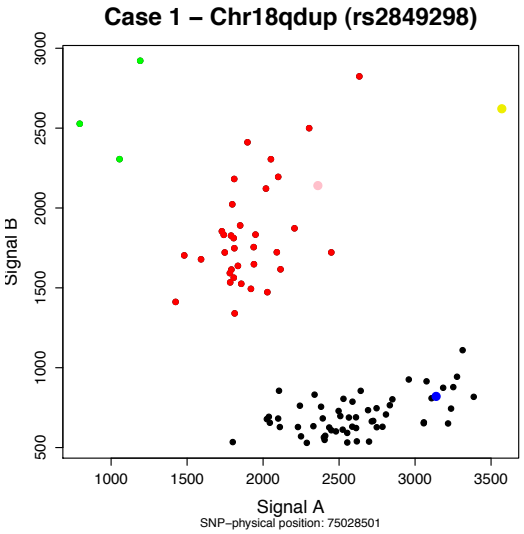

Case 1 – Chr18qdup (rs2051408)
Signal B
Signal A
SNP–physical position: 74860683

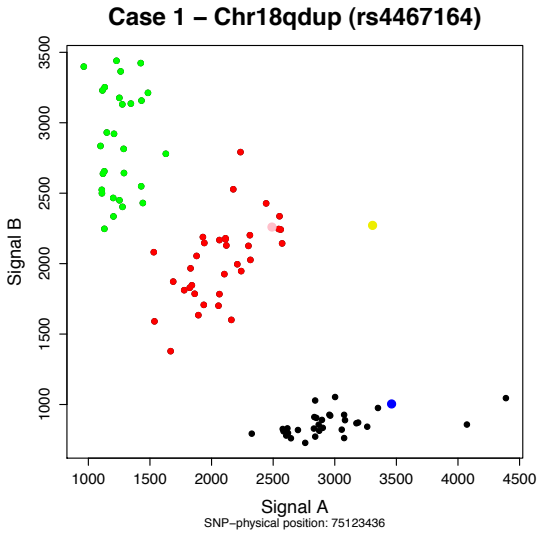

Case 1 – Chr18qdup (rs1789101)
Signal B
Signal A
SNP–physical position: 74866318

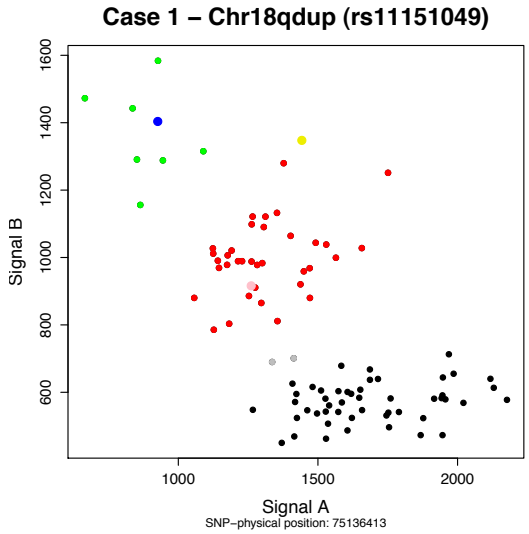

Case 1 – Chr18qdup (rs8098826)
Signal B
Signal A
SNP–physical position: 74912813

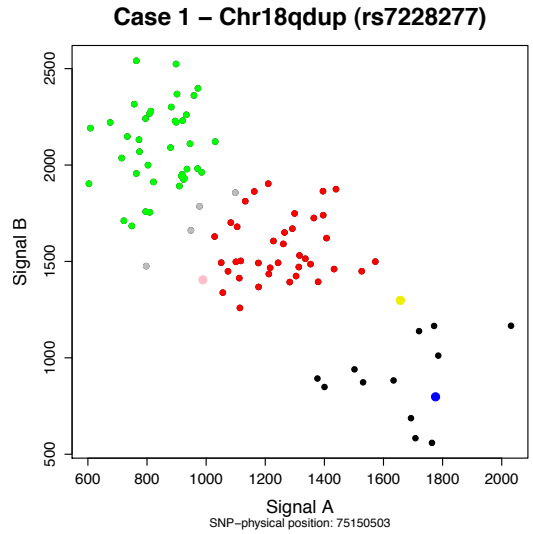

Case 1 – Chr18qdup (rs2000841)
Signal B
Signal A
SNP–physical position: 74987007

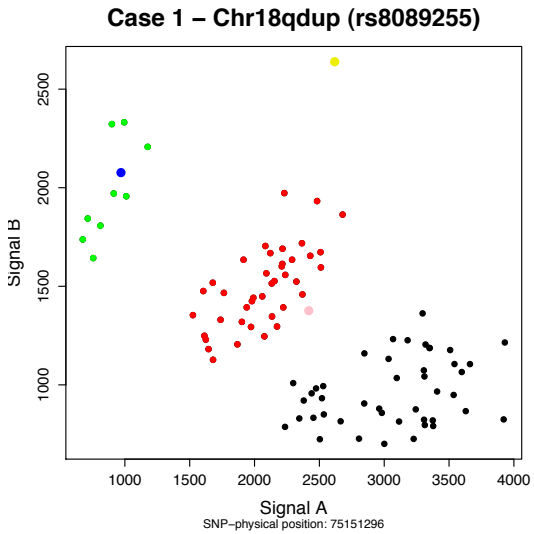

Case 1 – Chr18qdup (rs4493146)
Signal B
Signal A
SNP–physical position: 74997029

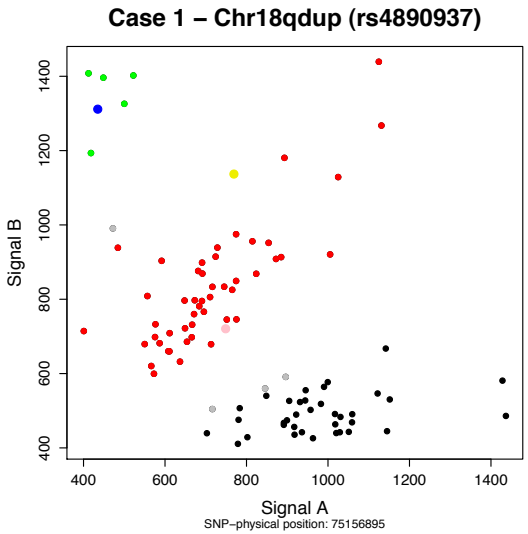

Case 1 – Chr18qdup (rs2849298)
Signal B
Signal A
SNP–physical position: 75028501

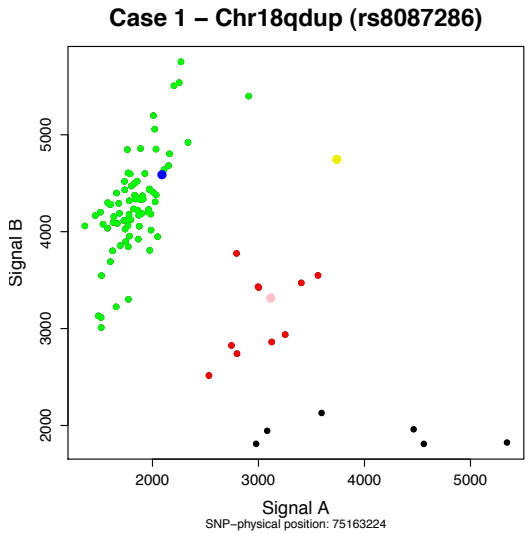

Case 1 – Chr18qdup (rs4467164)
Signal B
Signal A
SNP–physical position: 75123436

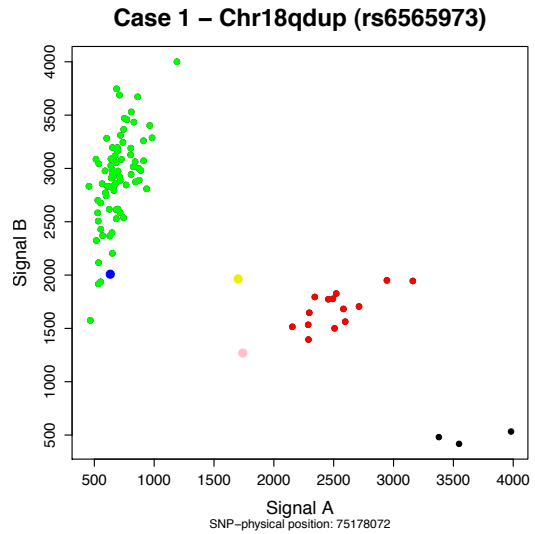

Case 1 – Chr18qdup (rs11151049)
Signal B
Signal A
SNP–physical position: 75136413

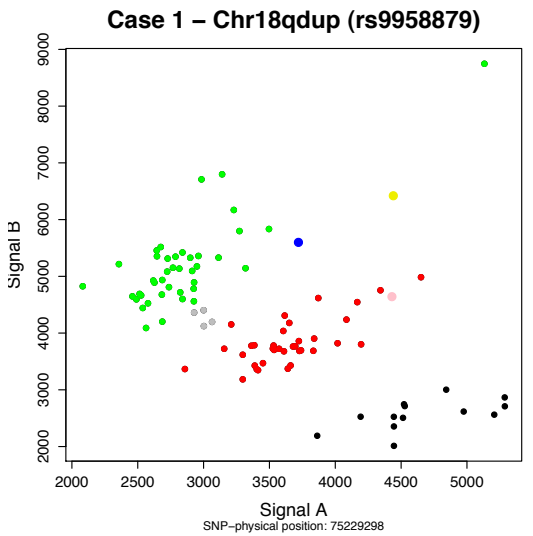

Case 1 – Chr18qdup (rs7228277)
Signal B
Signal A
SNP–physical position: 75150503

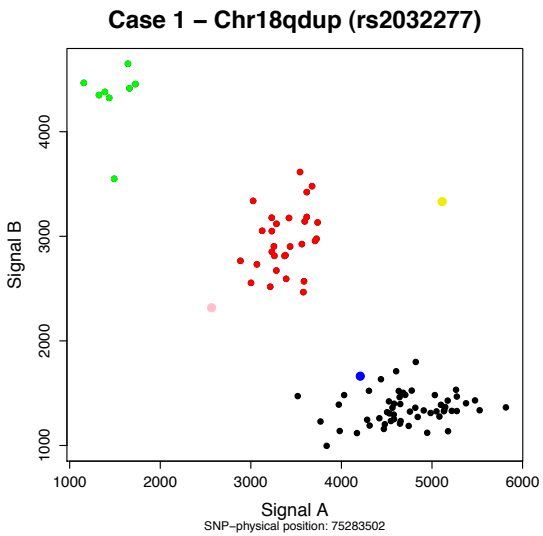

Case 1 – Chr18qdup (rs8089255)
Signal B
Signal A
SNP–physical position: 75151296

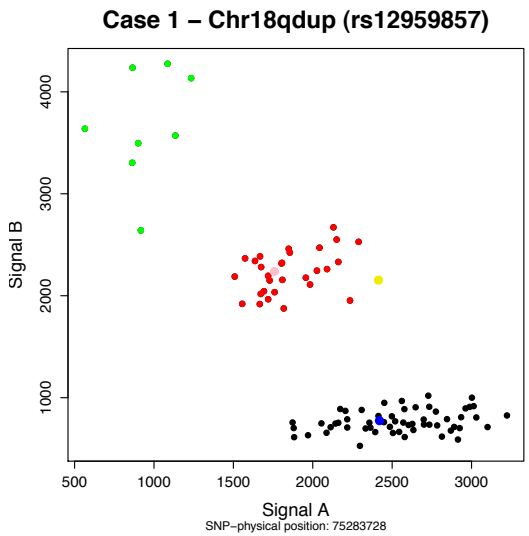

Case 1 – Chr18qdup (rs4890937)
Signal B
Signal A
SNP–physical position: 75156895

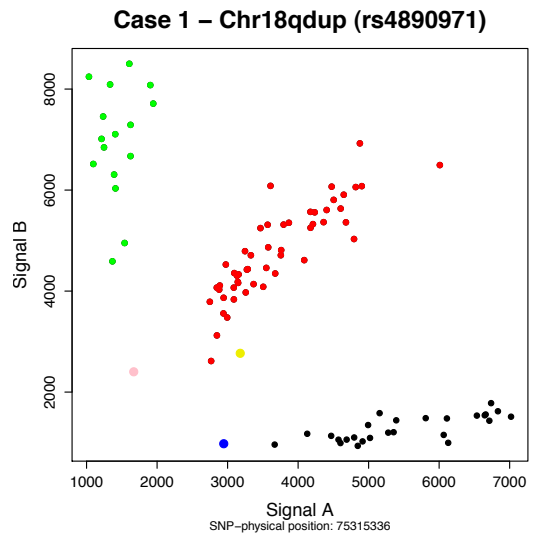

Case 1 – Chr18qdup (rs8087286)
Signal B
Signal A
SNP–physical position: 75163224

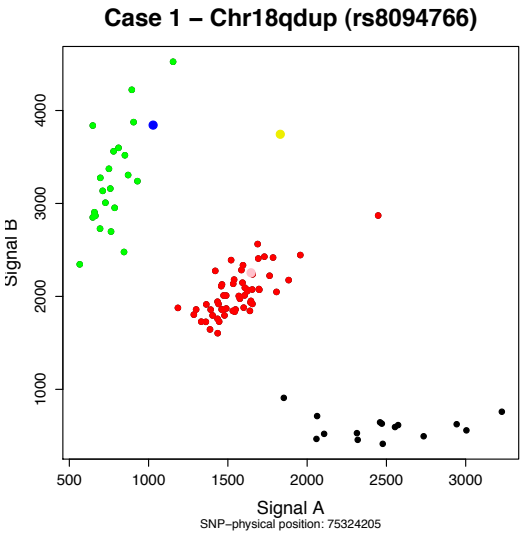

Case 1 – Chr18qdup (rs6565973)
Signal B
Signal A
SNP–physical position: 75178072

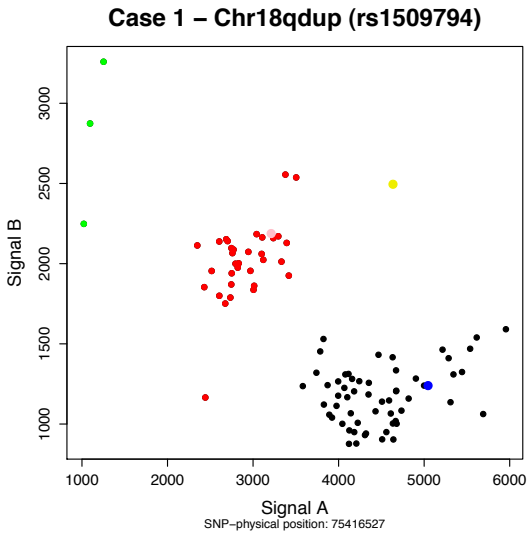

Case 1 – Chr18qdup (rs9958879)
Signal B
Signal A
SNP–physical position: 75229298

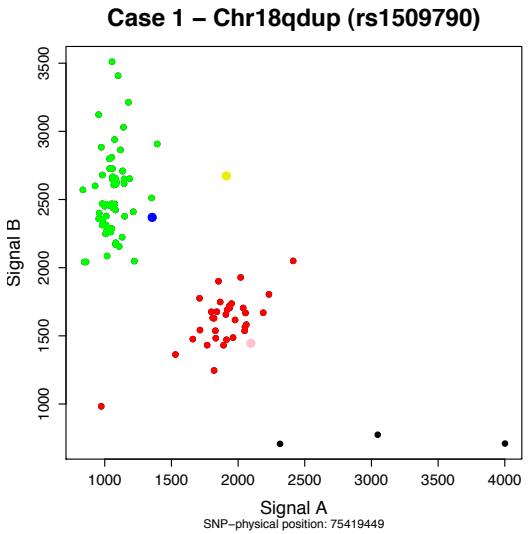

Case 1 – Chr18qdup (rs2032277)
Signal B
Signal A
SNP–physical position: 75283502

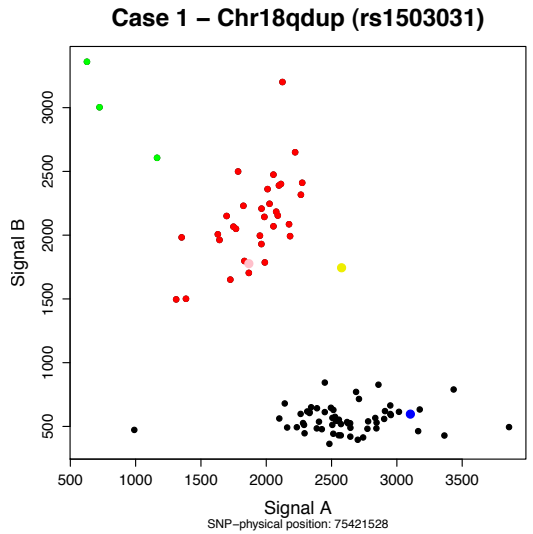

Case 1 – Chr18qdup (rs12959857)
Signal B
Signal A
SNP–physical position: 75283728

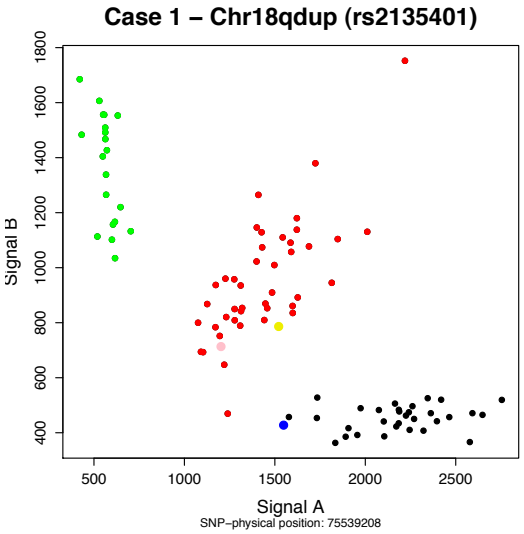

Case 1 – Chr18qdup (rs4890971)
Signal B
Signal A
SNP–physical position: 75315336

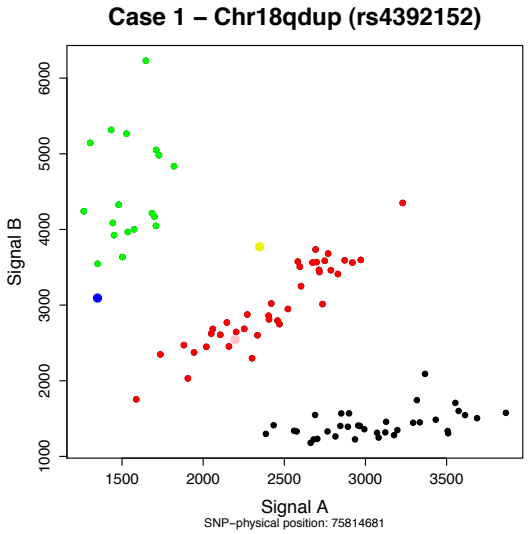

Case 1 – Chr18qdup (rs8094766)
Signal B
Signal A
SNP–physical position: 75324205

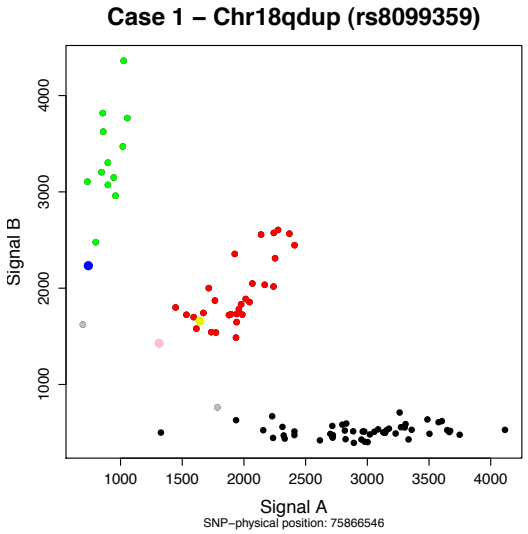

Case 1 – Chr18qdup (rs1509794)
Signal B
Signal A
SNP–physical position: 75416527

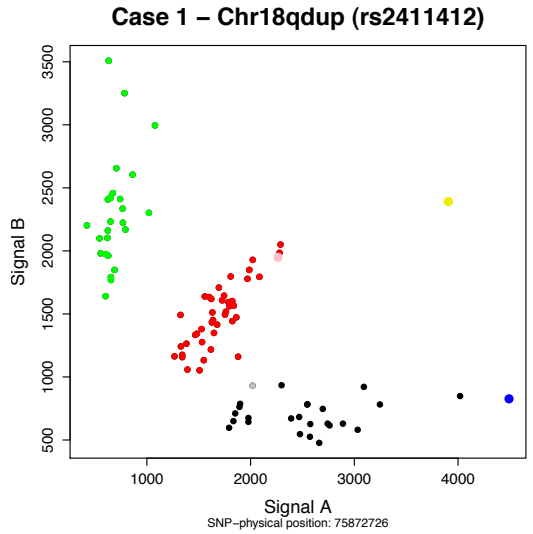

Case 1 – Chr18qdup (rs1509790)
Signal B
Signal A
SNP–physical position: 75419449

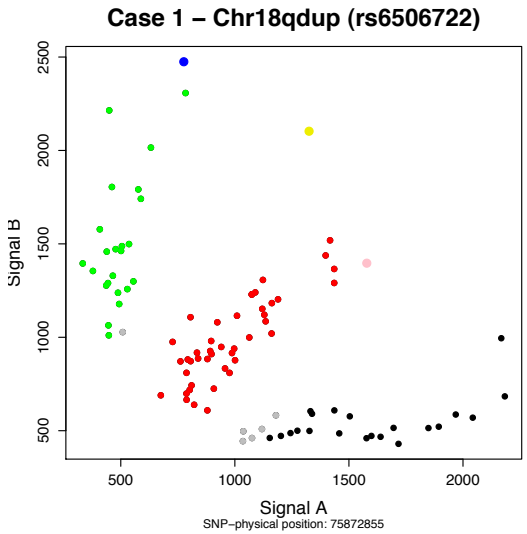

Case 1 – Chr18qdup (rs1503031)
Signal B
Signal A
SNP–physical position: 75421528

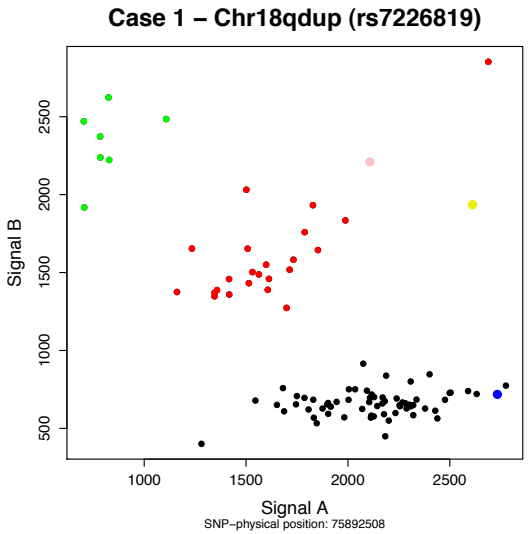

Case 1 – Chr18qdup (rs2135401)
Signal B
Signal A
SNP–physical position: 75539208

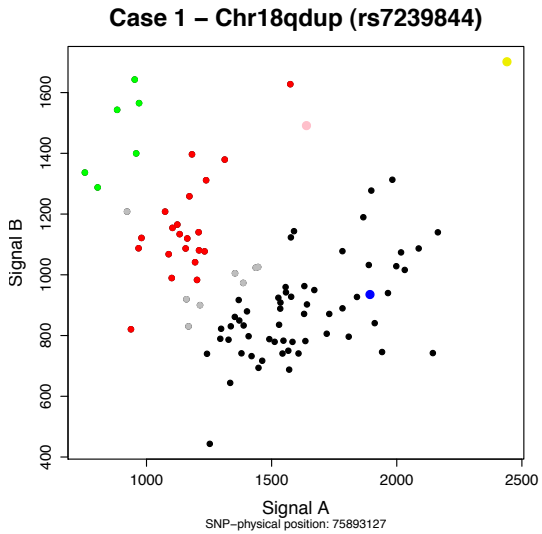

Case 1 – Chr18qdup (rs4392152)
Signal B
Signal A
SNP–physical position: 75814681

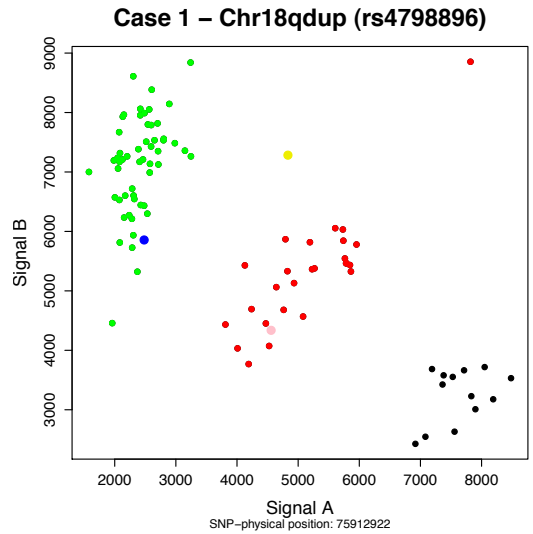

Case 1 – Chr18qdup (rs8099359)
Signal B
Signal A
SNP–physical position: 75866546

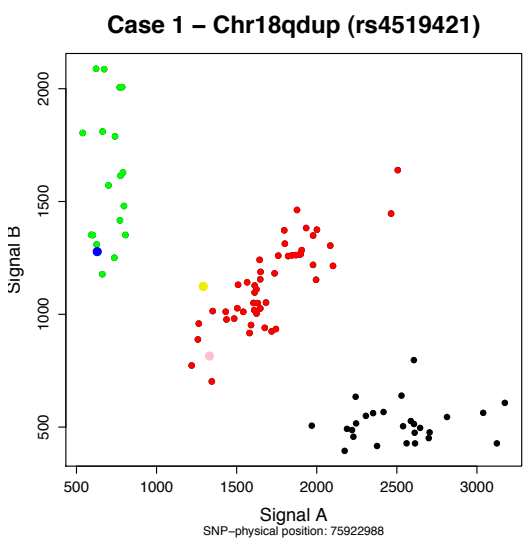

Case 1 – Chr18qdup (rs2411412)
Signal B
Signal A
SNP–physical position: 75872726

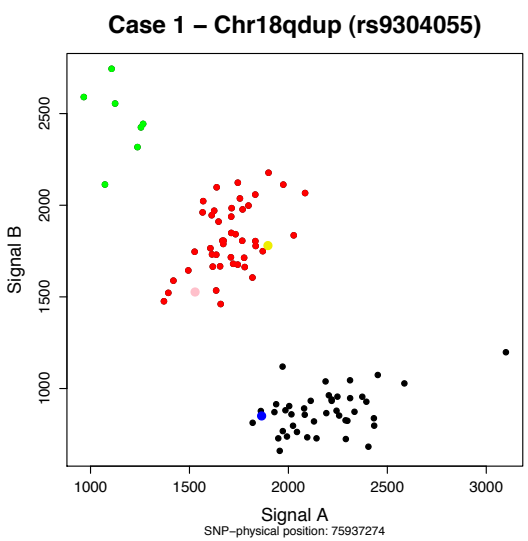

Case 1 – Chr18qdup (rs6506722)
Signal B
Signal A
SNP–physical position: 75872855

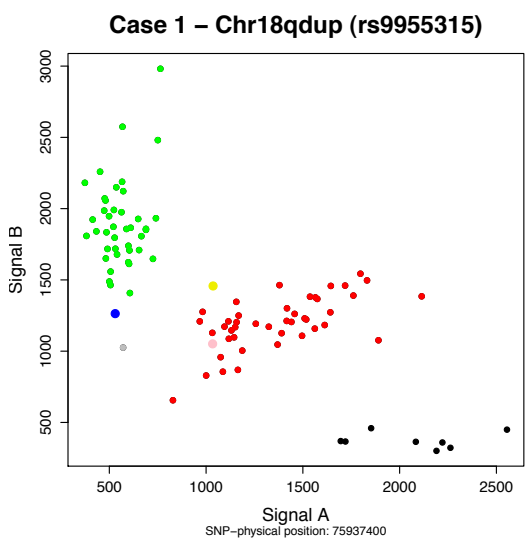

Case 1 – Chr18qdup (rs7226819)
Signal B
Signal A
SNP–physical position: 75892508

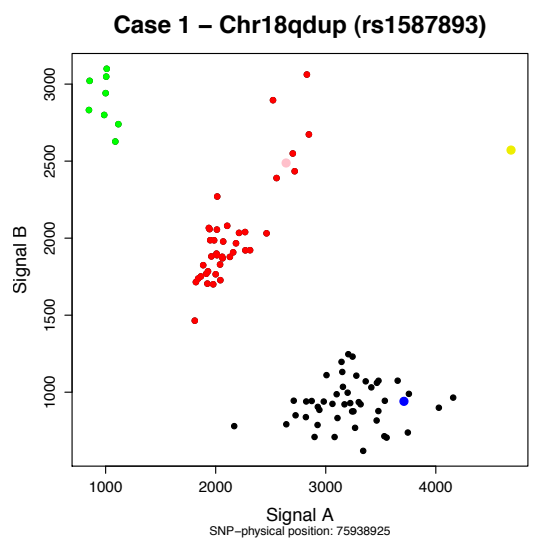

Case 1 – Chr18qdup (rs7239844)
Signal B
Signal A
SNP–physical position: 75893127

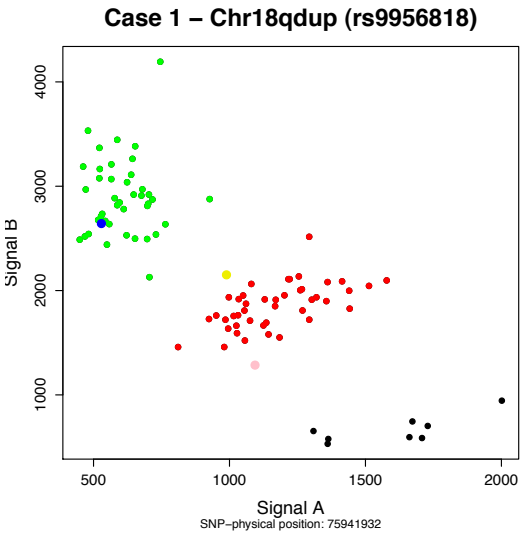

Case 1 – Chr18qdup (rs4798896)
Signal B
Signal A
SNP–physical position: 75912922

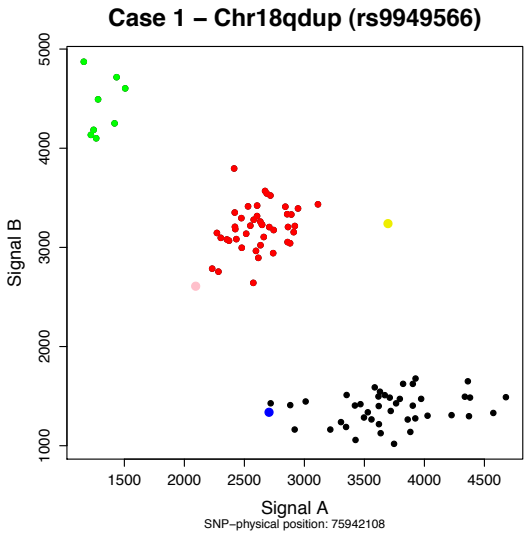

Case 1 – Chr18qdup (rs4519421)
Signal B
Signal A
SNP–physical position: 75922988

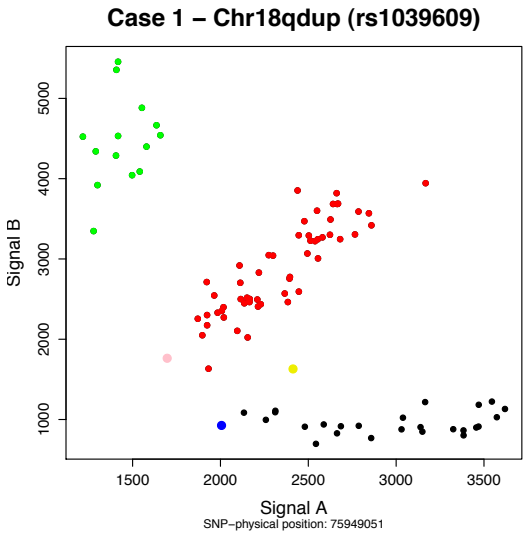

Case 1 – Chr18qdup (rs9304055)
Signal B
Signal A
SNP–physical position: 75937274

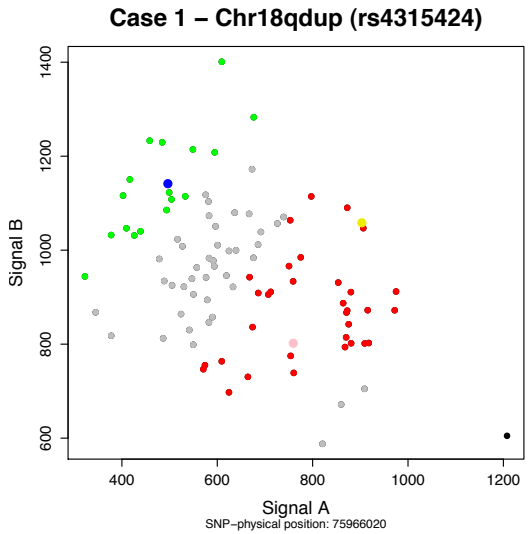

Case 1 – Chr18qdup (rs9955315)
Signal B
Signal A
SNP–physical position: 75937400

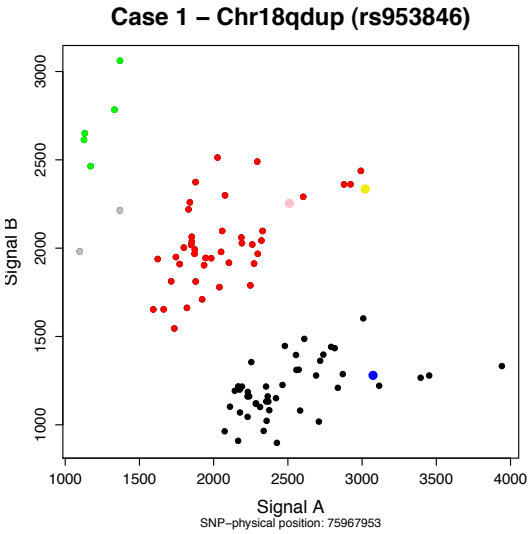

Case 1 – Chr18qdup (rs1587893)
Signal B
Signal A
SNP–physical position: 75938925

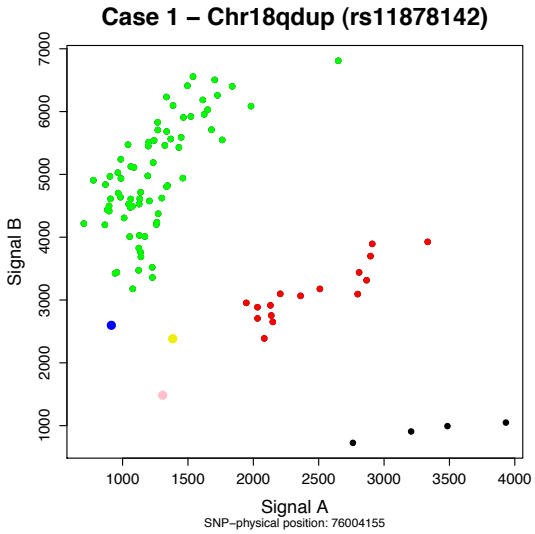

Case 1 – Chr18qdup (rs9956818)
Signal B
Signal A
SNP–physical position: 75941932

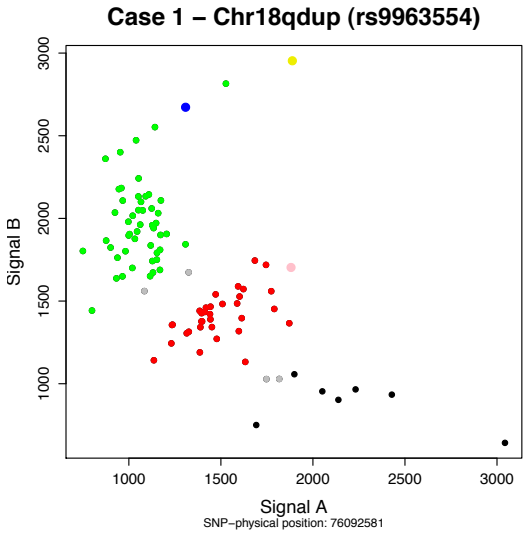

Case 1 – Chr18qdup (rs9949566)
Signal B
Signal A
SNP–physical position: 75942108

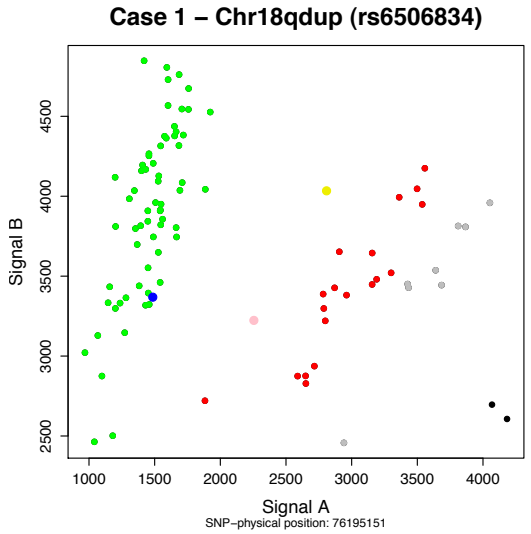

Case 1 – Chr18qdup (rs1039609)
Signal B
Signal A
SNP–physical position: 75949051

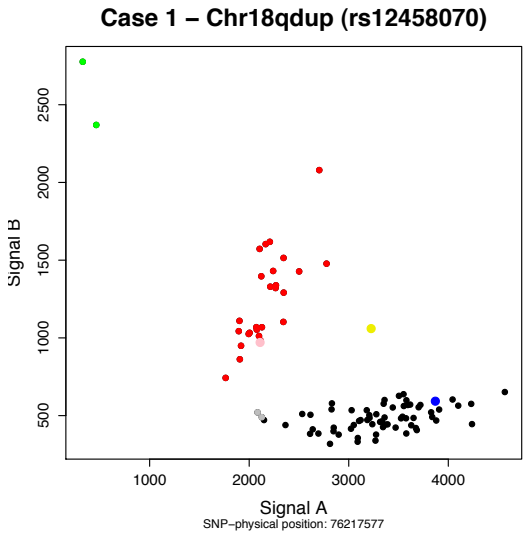

Case 1 – Chr18qdup (rs4315424)
Signal B
Signal A
SNP–physical position: 75966020

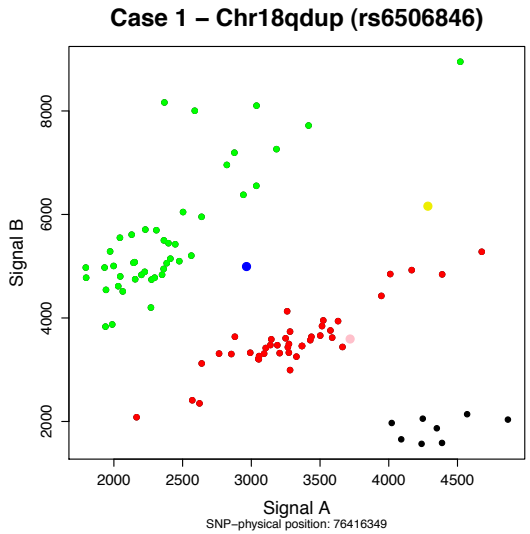

Case 1 – Chr18qdup (rs953846)
Signal B
Signal A
SNP–physical position: 75967953

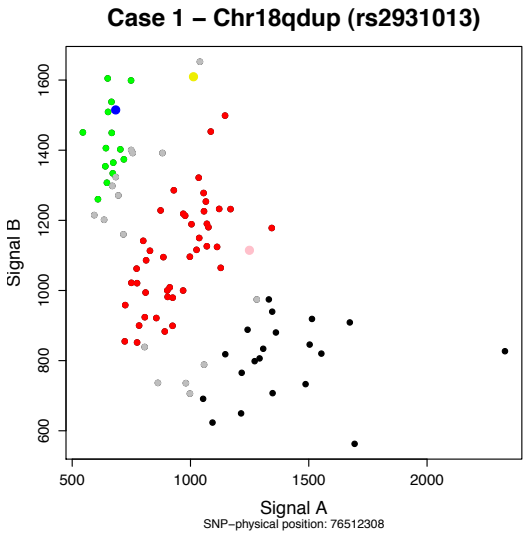

Case 1 – Chr18qdup (rs11878142)
Signal B
Signal A
SNP–physical position: 76004155

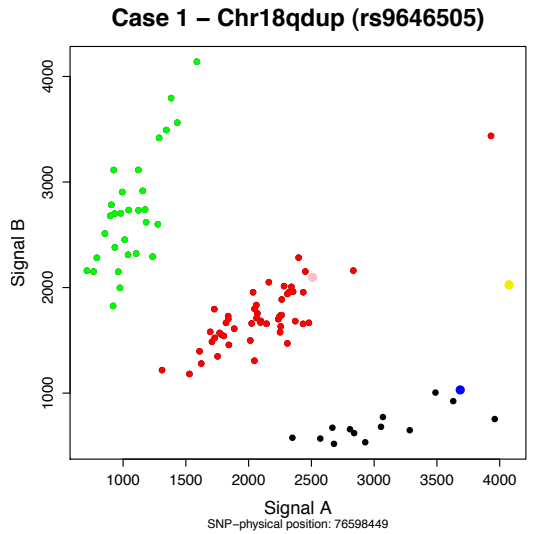

Case 1 – Chr18qdup (rs9963554)
Signal B
Signal A
SNP–physical position: 76092581

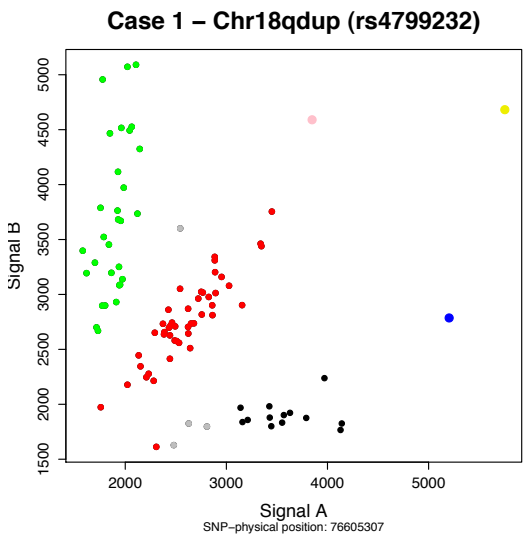

Case 1 – Chr18qdup (rs6506834)
Signal B
Signal A
SNP–physical position: 76195151

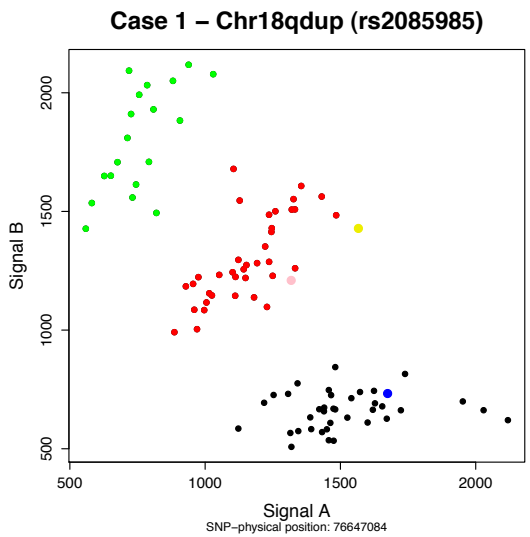

Case 1 – Chr18qdup (rs12458070)
Signal B
Signal A
SNP–physical position: 76217577

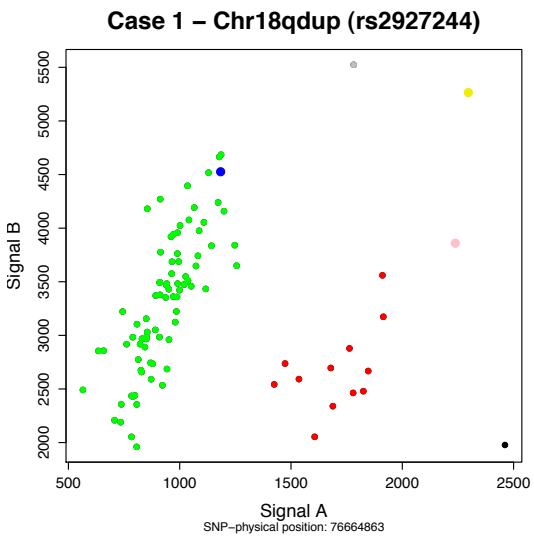

Case 1 – Chr18qdup (rs6506846)
Signal B
Signal A
SNP–physical position: 76416349

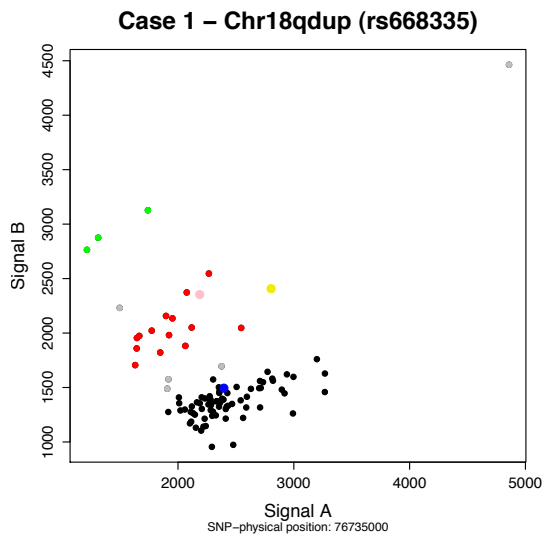

Case 1 – Chr18qdup (rs2931013)
Signal B
Signal A
SNP–physical position: 76512308

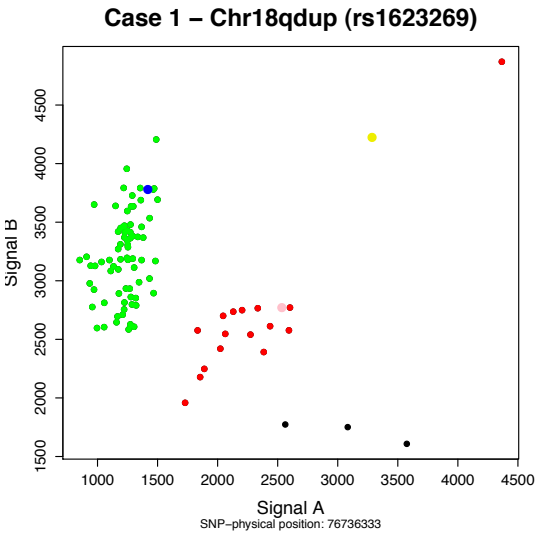

Case 1 – Chr18qdup (rs9646505)
Signal B
Signal A
SNP–physical position: 76598449

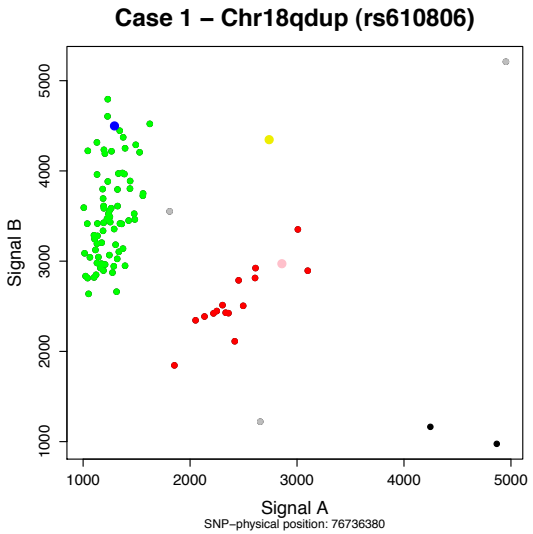

Case 1 – Chr18qdup (rs4799232)
Signal B
Signal A
SNP–physical position: 76605307

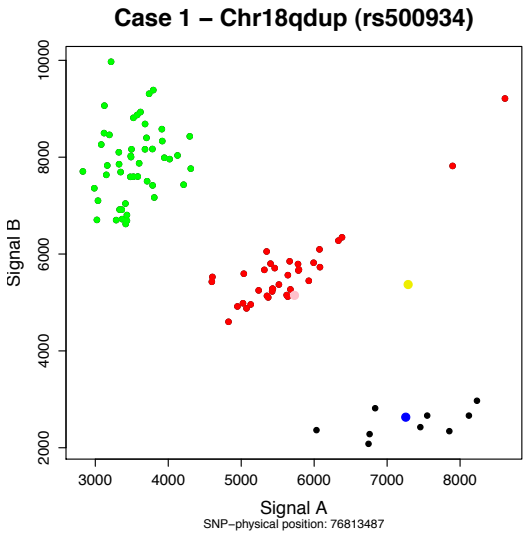

Case 1 – Chr18qdup (rs2085985)
Signal B
Signal A
SNP–physical position: 76647084

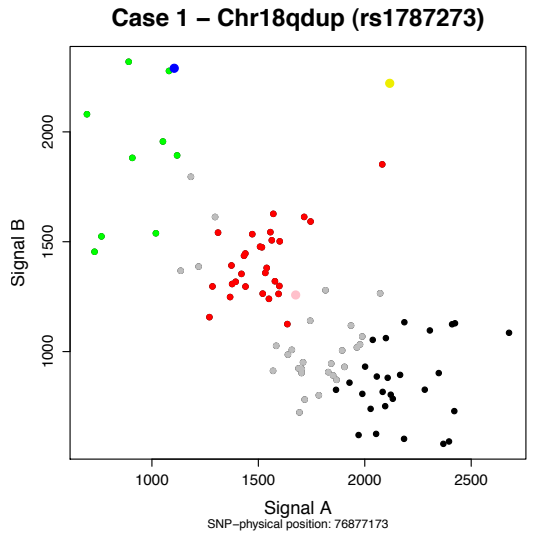

Case 1 – Chr18qdup (rs2927244)
Signal B
Signal A
SNP–physical position: 76664863

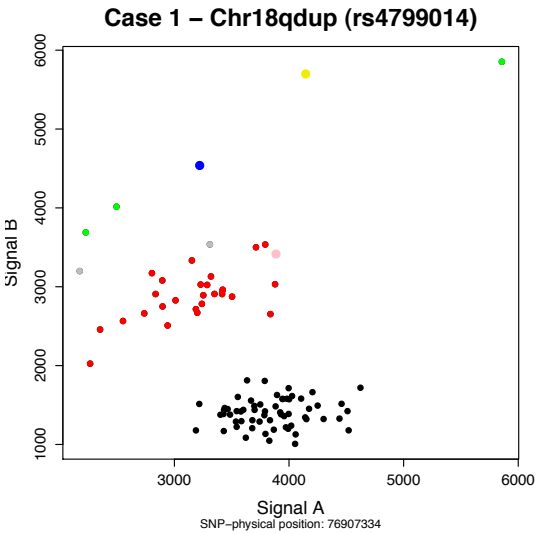

Case 1 – Chr18qdup (rs668335)
Signal B
Signal A
SNP–physical position: 76735000

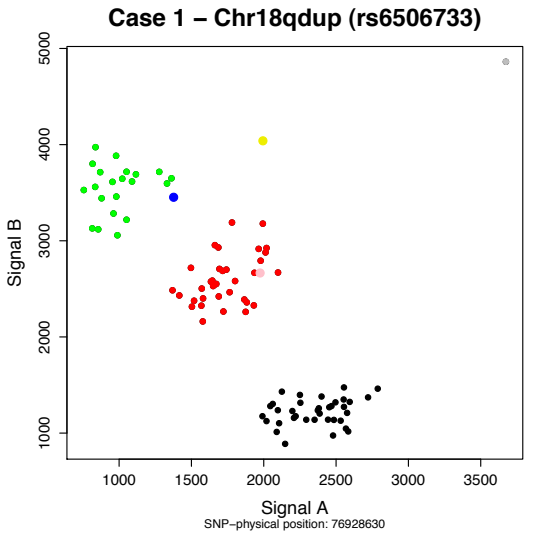

Case 1 – Chr18qdup (rs1623269)
Signal B
Signal A
SNP–physical position: 76736333

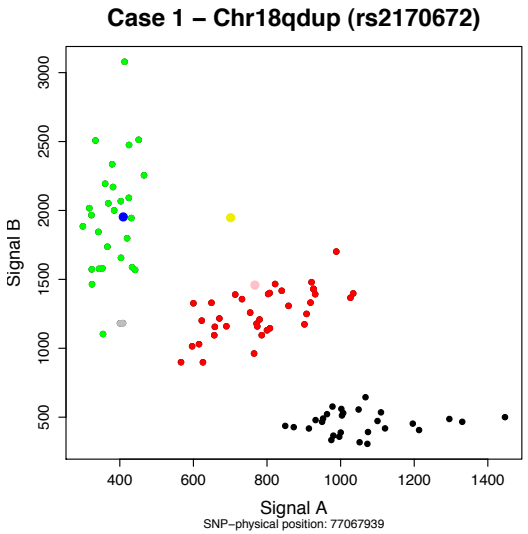

Case 1 – Chr18qdup (rs610806)
Signal B
Signal A
SNP–physical position: 76736380

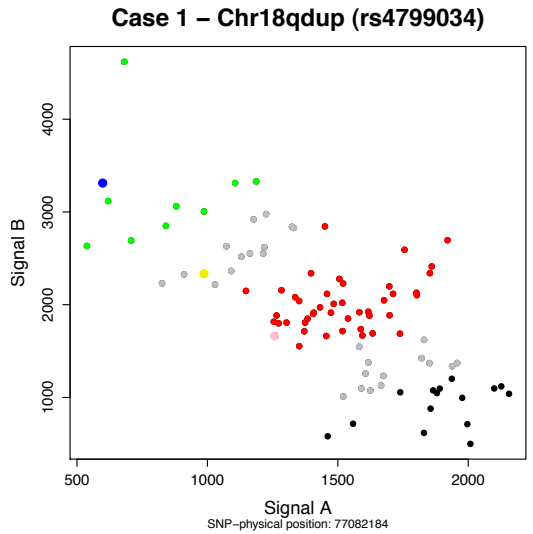

Case 1 – Chr18qdup (rs500934)
Signal B
Signal A
SNP–physical position: 76813487

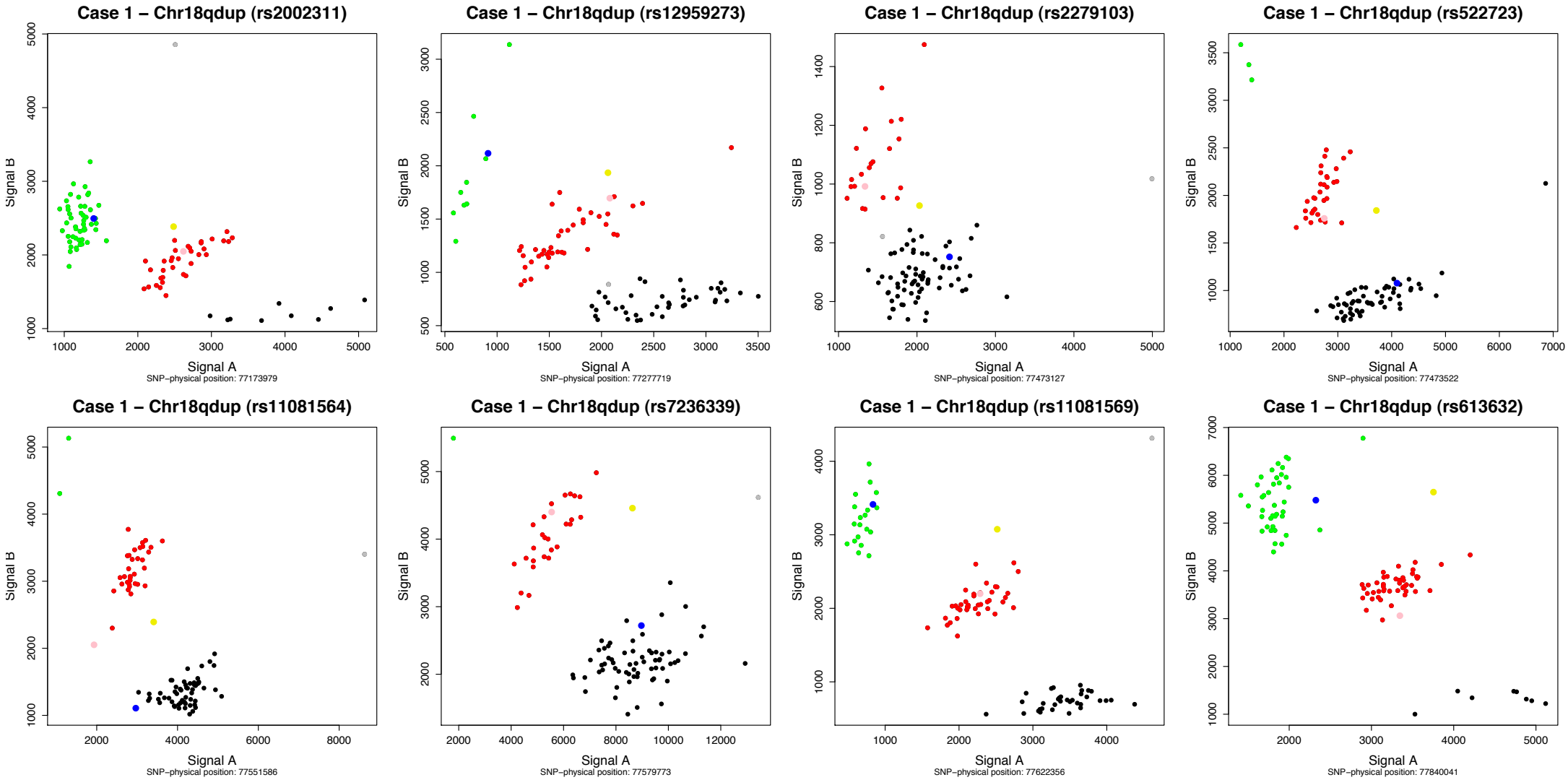

Case 1 – Chr18qdup (rs1787273)
Signal B
Signal A
SNP–physical position: 76877173

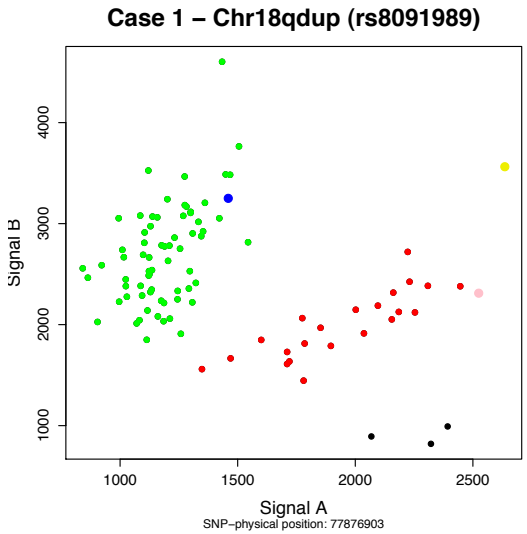

Case 1 – Chr18qdup (rs4799014)
Signal B
Signal A
SNP–physical position: 76907334

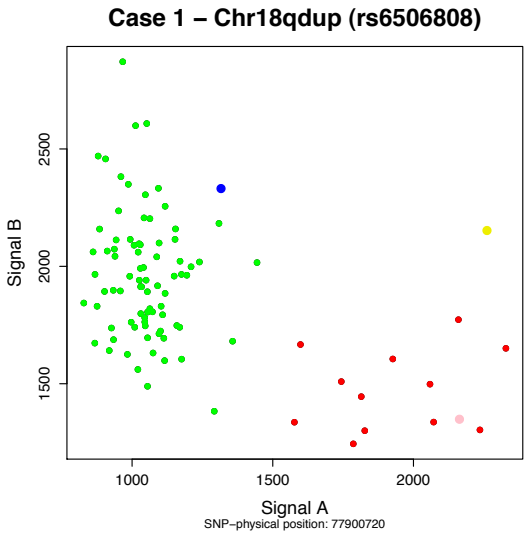

Case 1 – Chr18qdup (rs6506733)
Signal B
Signal A
SNP–physical position: 76928630

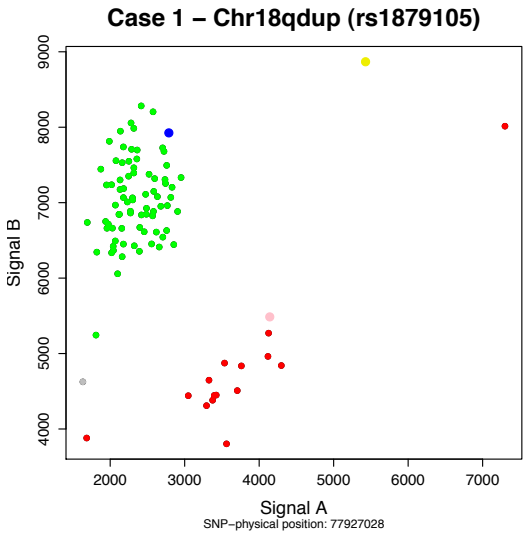

Case 1 – Chr18qdup (rs2170672)
Signal B
Signal A
SNP–physical position: 77067939

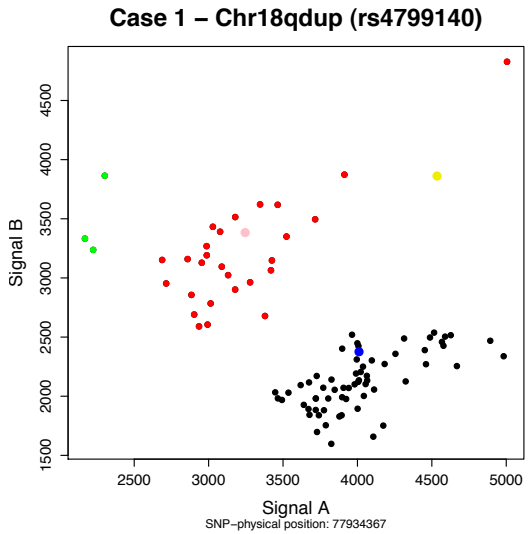

Case 1 – Chr18qdup (rs4799034)
Signal B
Signal A
SNP–physical position: 77082184

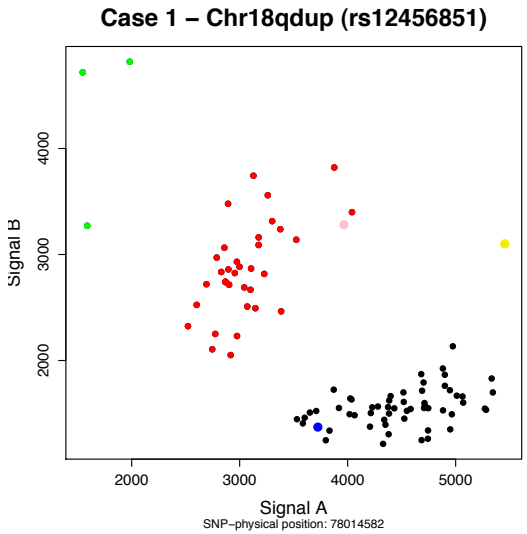

Case 1 – Chr18qdup (rs2002311)
Signal B
Signal A
SNP–physical position: 77173979
Case 1 – Chr18qdup (rs12959273)
Signal B
Signal A
SNP–physical position: 77277719
Case 1 – Chr18qdup (rs2279103)
Signal B
Signal A
SNP–physical position: 77473127
Case 1 – Chr18qdup (rs522723)
Signal B
Signal A
SNP–physical position: 77473522
Case 1 – Chr18qdup (rs11081564)
Signal B
Signal A
SNP–physical position: 77551586
Case 1 – Chr18qdup (rs7236339)
Signal B
Signal A
SNP–physical position: 77579773
Case 1 – Chr18qdup (rs11081569)
Signal B
Signal A
SNP–physical position: 77622356
Case 1 – Chr18qdup (rs613632)
Signal B
Signal A
SNP–physical position: 77840041


Case 1 – Chr18qdup (rs8091989)
Signal B
Signal A
SNP−physical position: 77876903

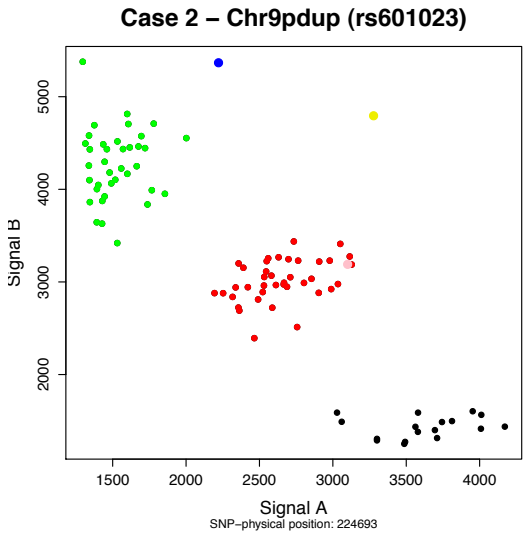

Case 1 – Chr18qdup (rs6506808)
Signal B
Signal A
SNP−physical position: 77900720

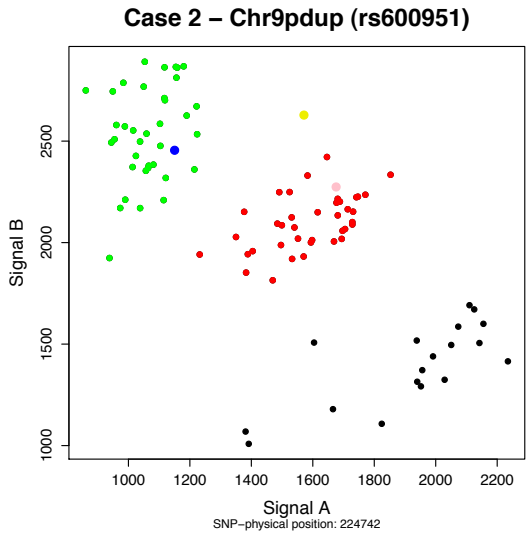

Case 1 – Chr18qdup (rs1879105)
Signal B
Signal A
SNP−physical position: 77927028

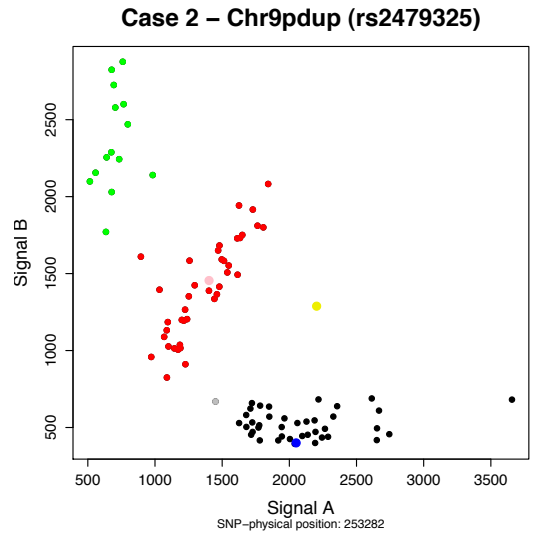

Case 1 – Chr18qdup (rs4799140)
Signal B
Signal A
SNP−physical position: 77934367

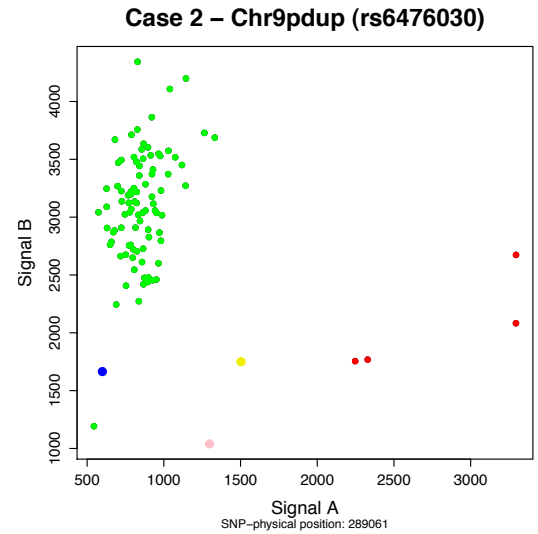

Case 1 – Chr18qdup (rs12456851)
Signal B
Signal A
SNP−physical position: 78014582

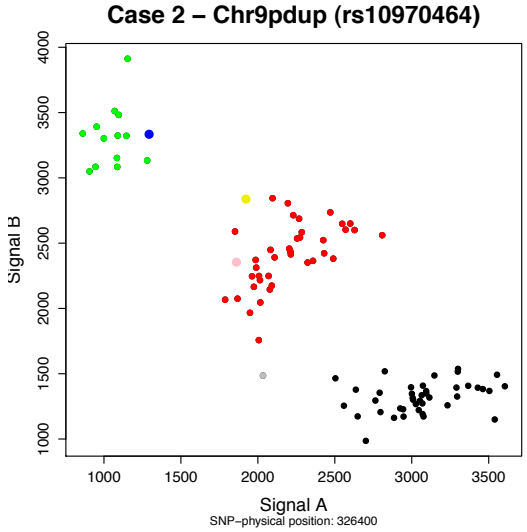
Case: 2
Chromosome: 9p
Abberation: dup.
Origin: Maternal

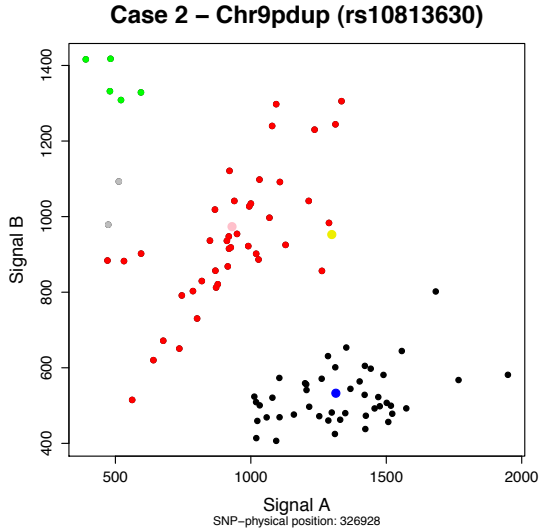

Case 2 – Chr9pdup (rs601023)
Signal B
Signal A
SNP–physical position: 224693

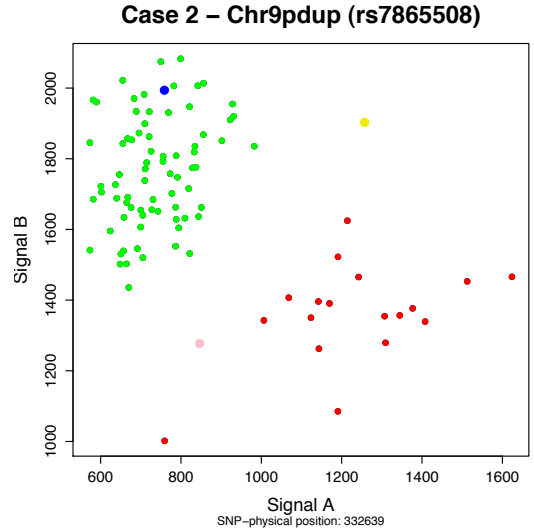

Case 2 – Chr9pdup (rs600951)
Signal B
Signal A
SNP–physical position: 224742

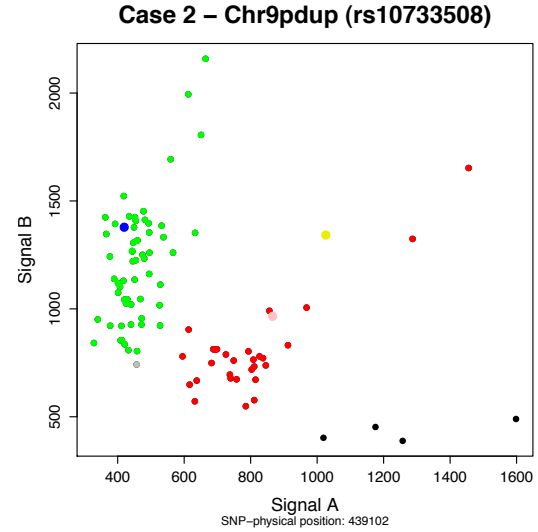

Case 2 – Chr9pdup (rs2479325)
Signal B
Signal A
SNP–physical position: 253282

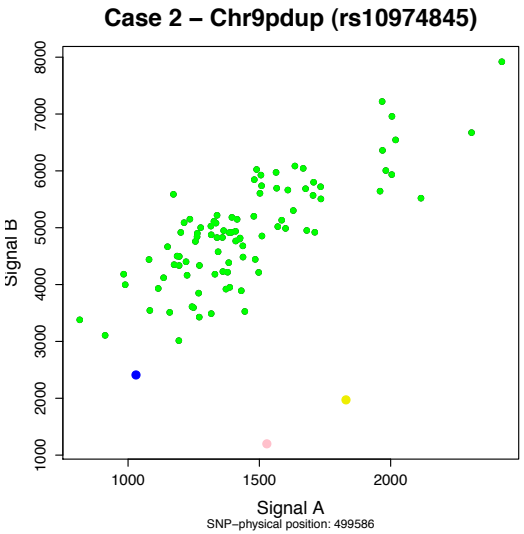

Case 2 – Chr9pdup (rs6476030)
Signal B
Signal A
SNP–physical position: 289061

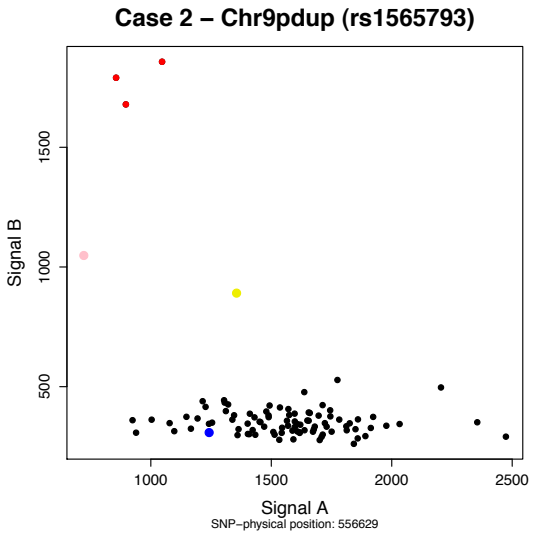

Case 2 – Chr9pdup (rs10970464)
Signal B
Signal A
SNP–physical position: 326400

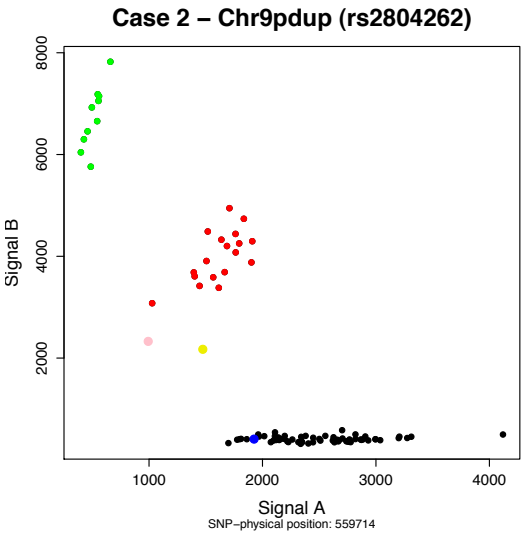

Case 2 – Chr9pdup (rs10813630)
Signal B
Signal A
SNP–physical position: 326928

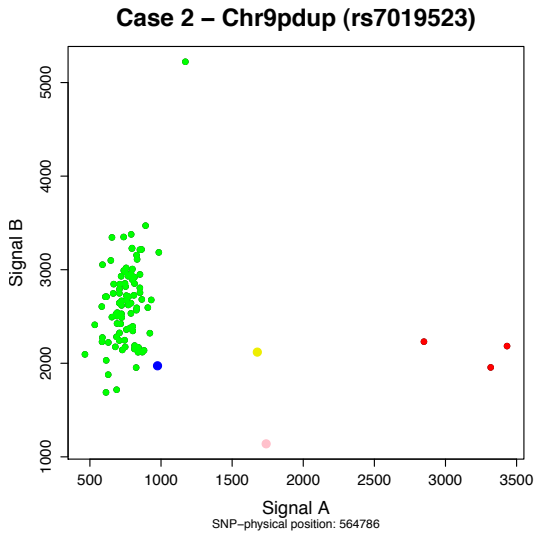

Case 2 – Chr9pdup (rs7865508)
Signal B
Signal A
SNP–physical position: 332639

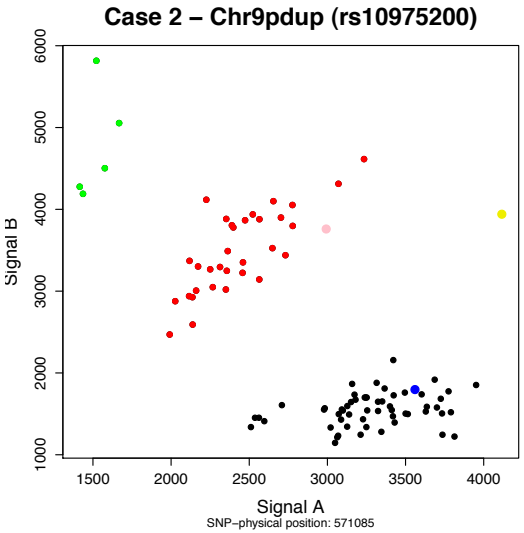

Case 2 – Chr9pdup (rs10733508)
Signal B
Signal A
SNP–physical position: 439102

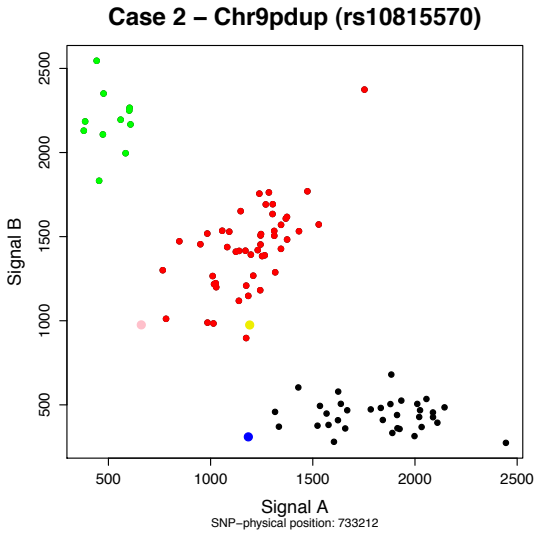

Case 2 – Chr9pdup (rs10974845)
Signal B
Signal A
SNP–physical position: 499586

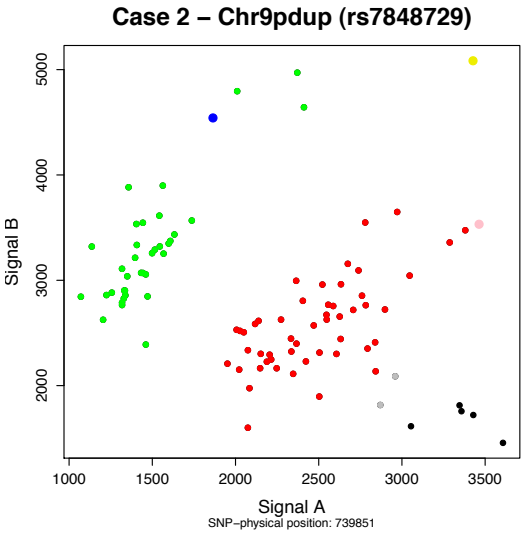

Case 2 – Chr9pdup (rs1565793)
Signal B
Signal A
SNP–physical position: 556629

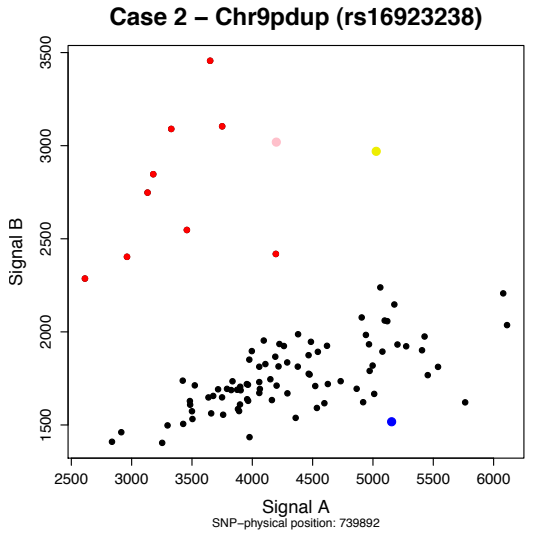

Case 2 – Chr9pdup (rs2804262)
Signal B
Signal A
SNP–physical position: 559714

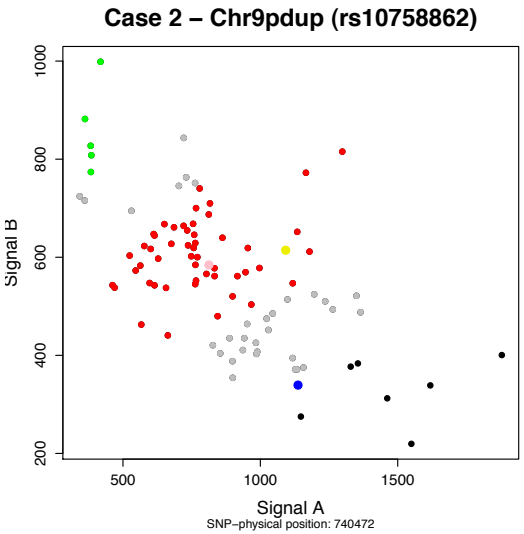

Case 2 – Chr9pdup (rs7019523)
Signal B
Signal A
SNP–physical position: 564786

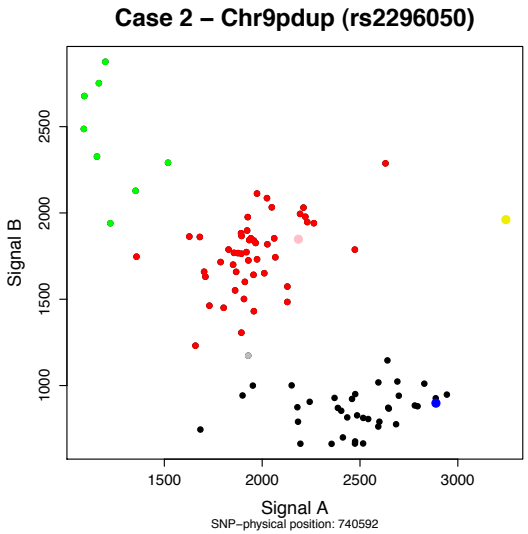

Case 2 – Chr9pdup (rs10975200)
Signal B
Signal A
SNP–physical position: 571085

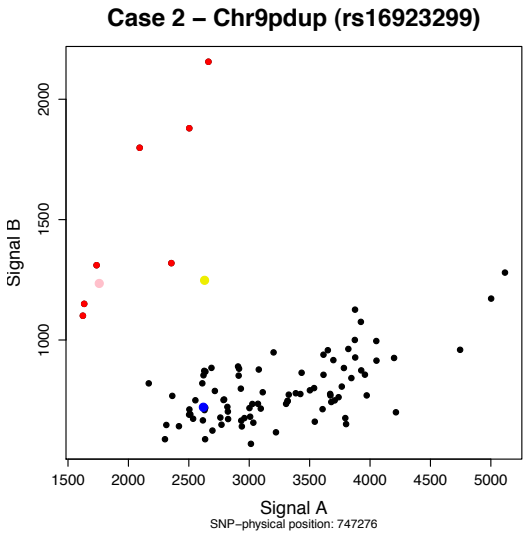

Case 2 – Chr9pdup (rs10815570)
Signal B
Signal A
SNP–physical position: 733212

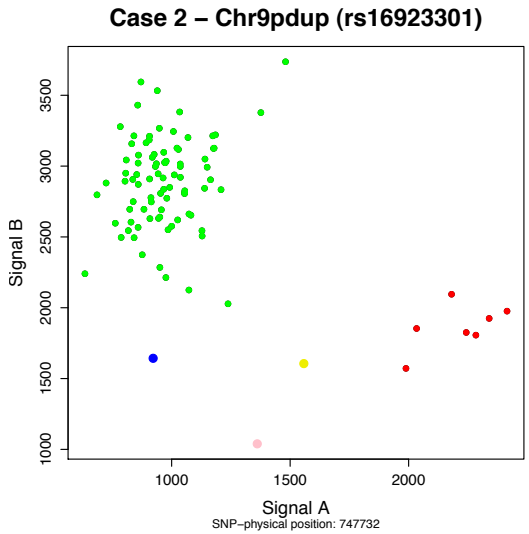

Case 2 – Chr9pdup (rs7848729)
Signal B
Signal A
SNP–physical position: 739851

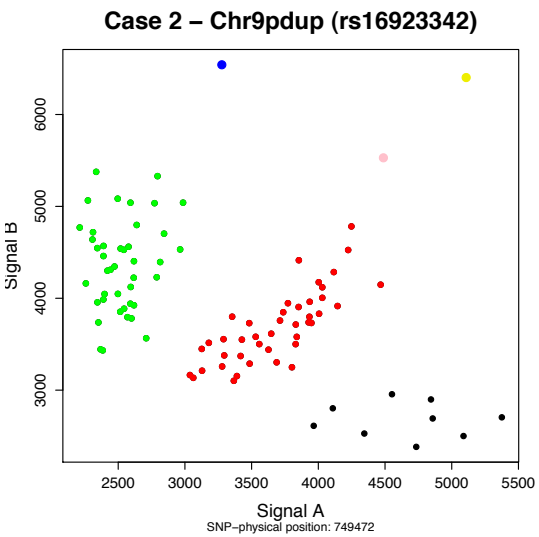

Case 2 – Chr9pdup (rs16923238)
Signal B
Signal A
SNP–physical position: 739892

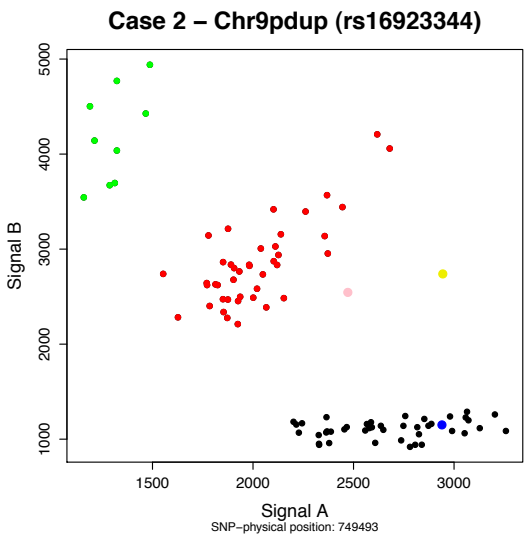

Case 2 – Chr9pdup (rs10758862)
Signal B
Signal A
SNP–physical position: 740472

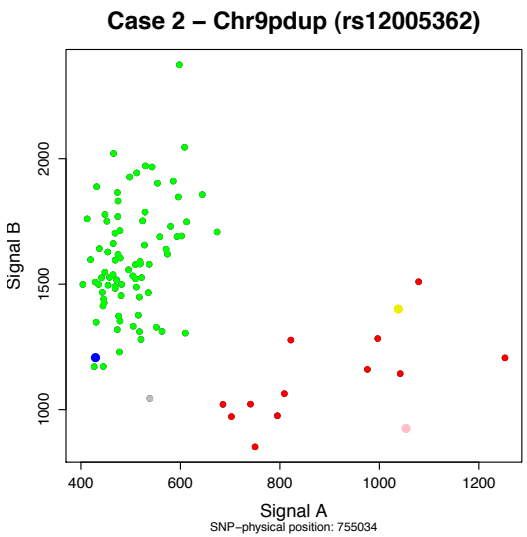

Case 2 – Chr9pdup (rs2296050)
Signal B
Signal A
SNP–physical position: 740592

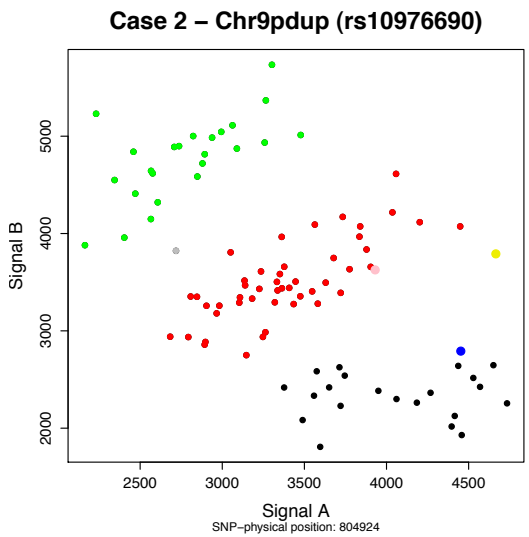

Case 2 – Chr9pdup (rs16923299)
Signal B
Signal A
SNP–physical position: 747276

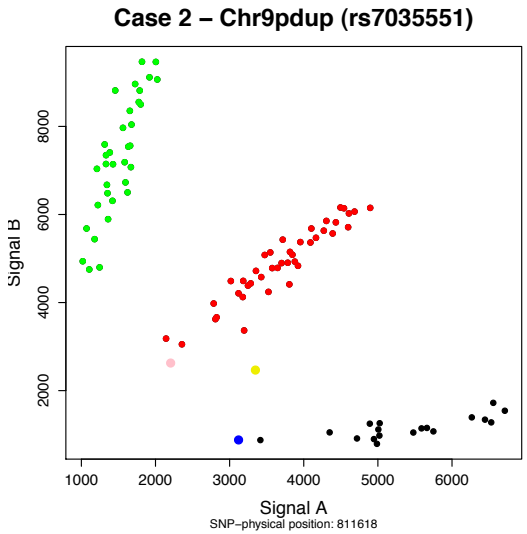

Case 2 – Chr9pdup (rs16923301)
Signal B
Signal A
SNP–physical position: 747732

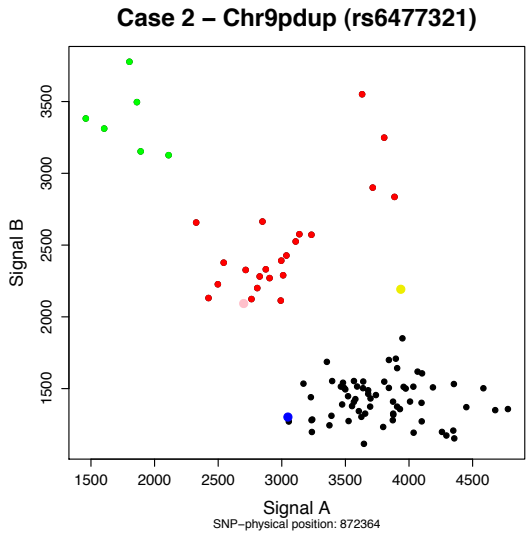

Case 2 – Chr9pdup (rs16923342)
Signal B
Signal A
SNP–physical position: 749472

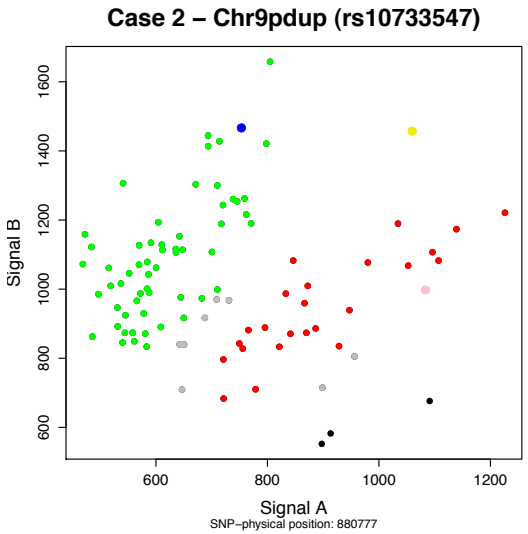

Case 2 – Chr9pdup (rs16923344)
Signal B
Signal A
SNP–physical position: 749493

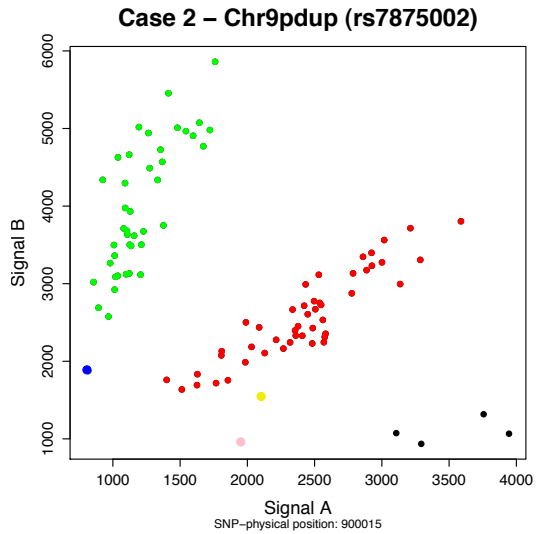

Case 2 – Chr9pdup (rs12005362)
Signal B
Signal A
SNP–physical position: 755034

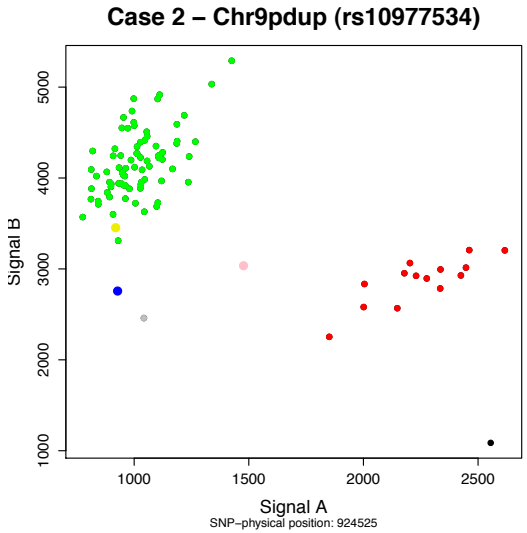

Case 2 – Chr9pdup (rs10976690)
Signal B
Signal A
SNP–physical position: 804924

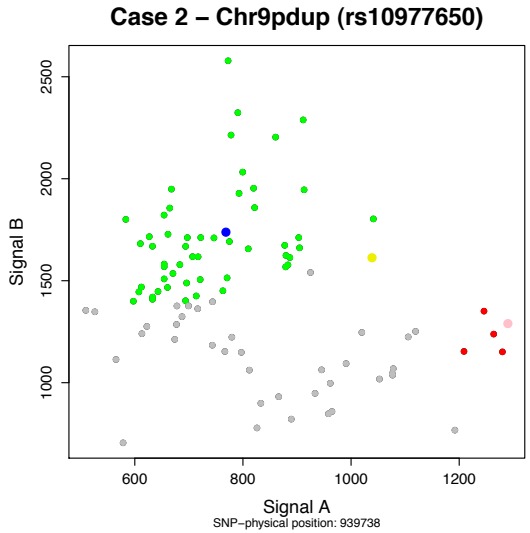

Case 2 – Chr9pdup (rs7035551)
Signal B
Signal A
SNP–physical position: 811618

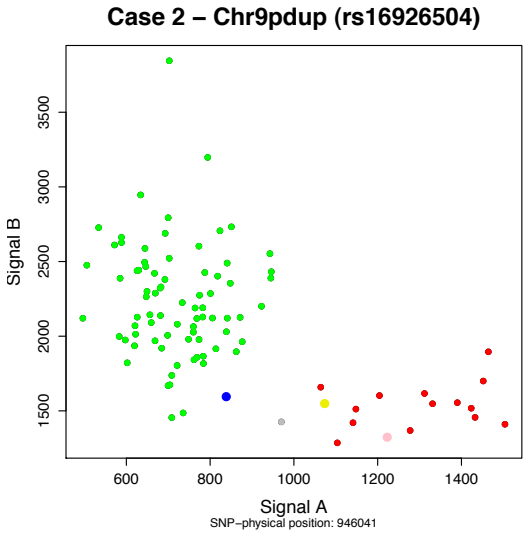

Case 2 – Chr9pdup (rs6477321)
Signal B
Signal A
SNP–physical position: 872364

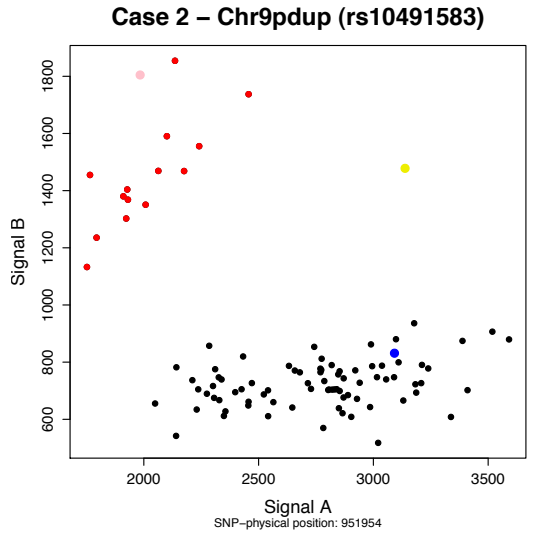

Case 2 – Chr9pdup (rs10733547)
Signal B
Signal A
SNP–physical position: 880777

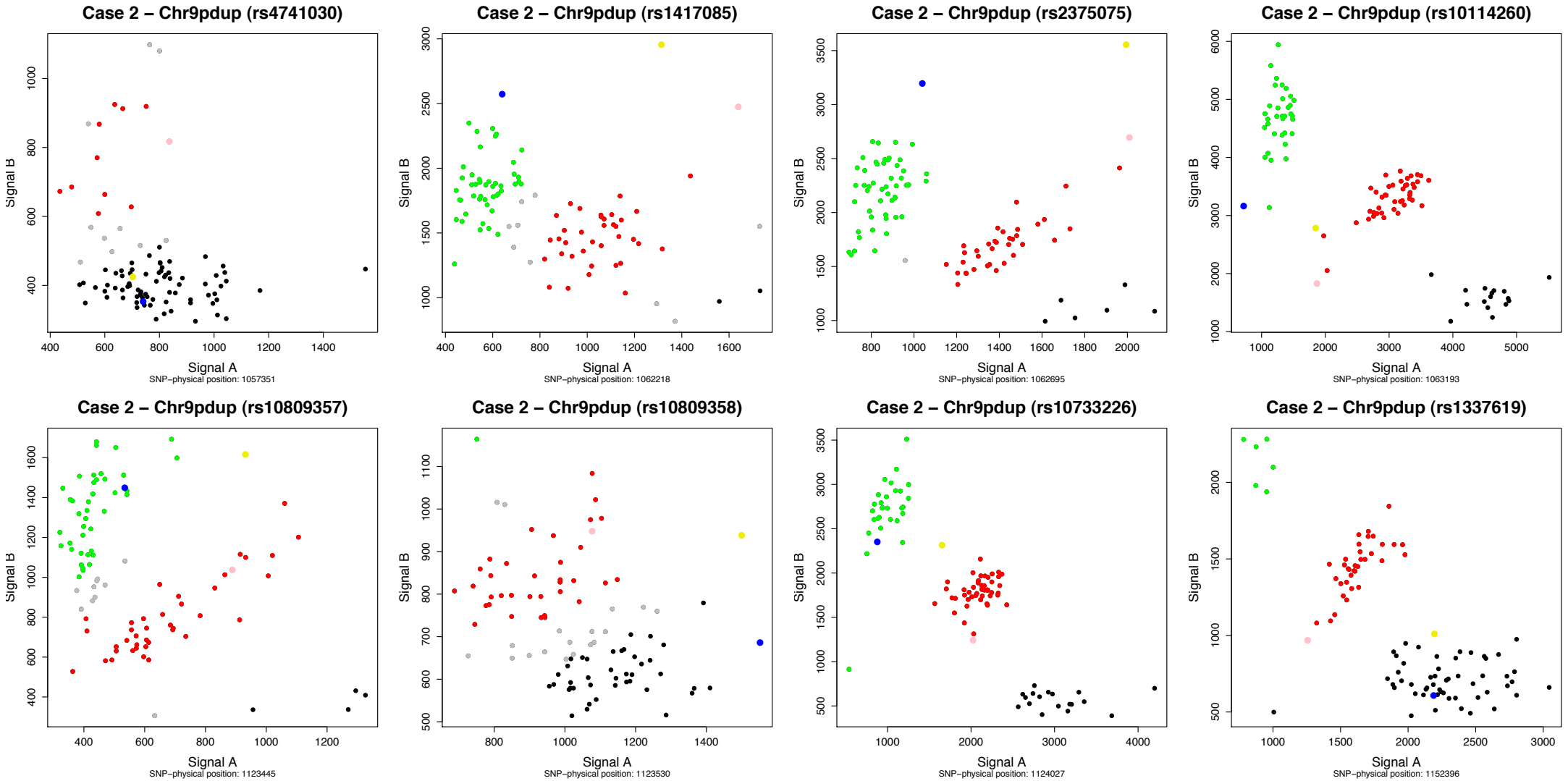

Case 2 – Chr9pdup (rs7875002)
Signal B
Signal A
SNP–physical position: 900015

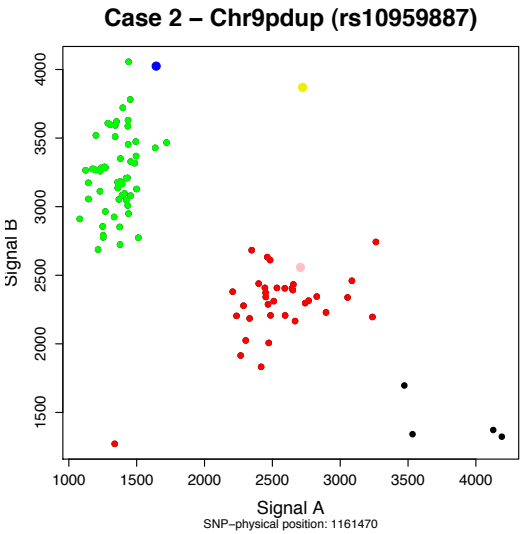

Case 2 – Chr9pdup (rs10977534)
Signal B
Signal A
SNP–physical position: 924525

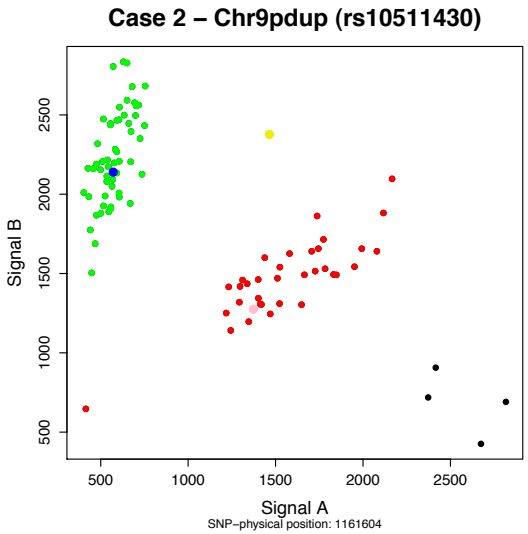

Case 2 – Chr9pdup (rs10977650)
Signal B
Signal A
SNP–physical position: 939738

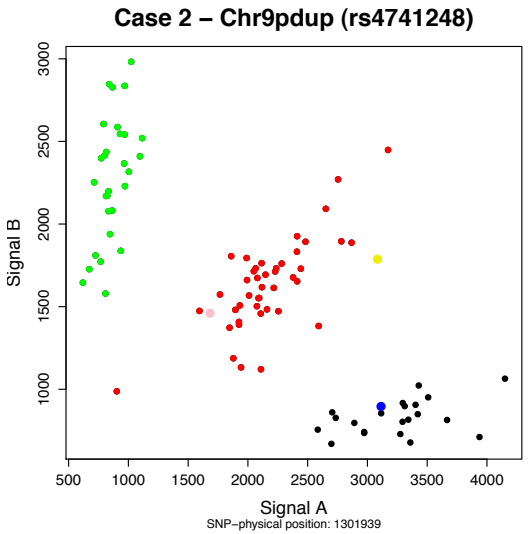

Case 2 – Chr9pdup (rs16926504)
Signal B
Signal A
SNP–physical position: 946041

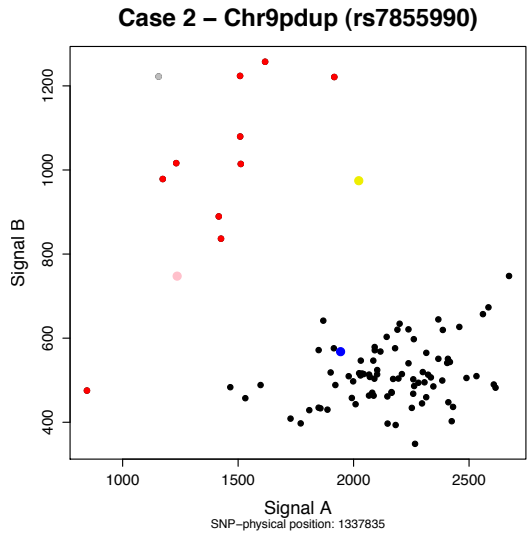

Case 2 – Chr9pdup (rs10491583)
Signal B
Signal A
SNP–physical position: 951954

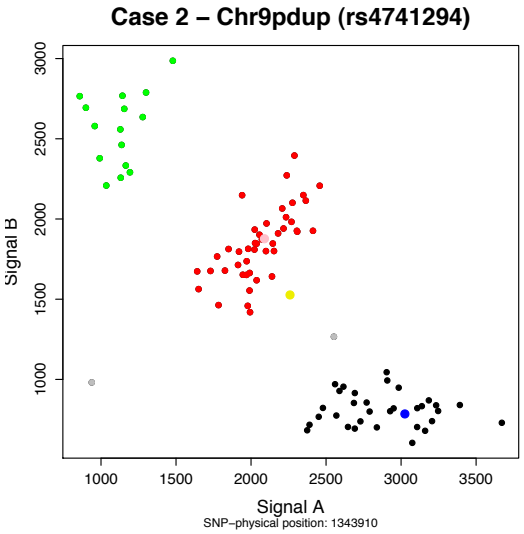

Case 2 – Chr9pdup (rs4741030)
Signal B
Signal A
SNP–physical position: 1057351
Case 2 – Chr9pdup (rs1417085)
Signal B
Signal A
SNP–physical position: 1062218
Case 2 – Chr9pdup (rs2375075)
Signal B
Signal A
SNP–physical position: 1062695
Case 2 – Chr9pdup (rs10114260)
Signal B
Signal A
SNP–physical position: 1063193
Case 2 – Chr9pdup (rs10809357)
Signal B
Signal A
SNP–physical position: 1123445
Case 2 – Chr9pdup (rs10809358)
Signal B
Signal A
SNP–physical position: 1123530
Case 2 – Chr9pdup (rs10733226)
Signal B
Signal A
SNP–physical position: 1124027
Case 2 – Chr9pdup (rs1337619)
Signal B
Signal A
SNP–physical position: 1152396

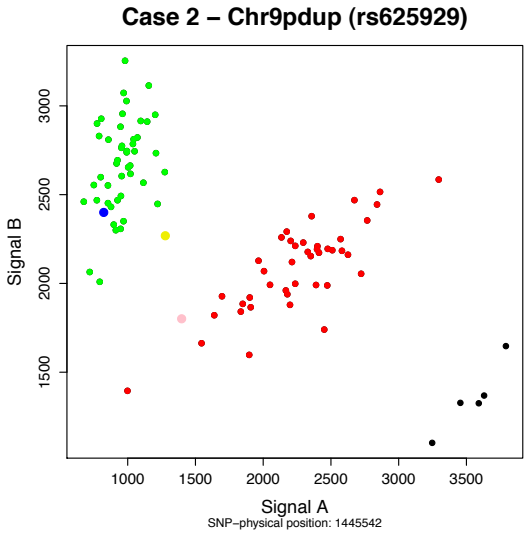

Case 2 – Chr9pdup (rs10959887)
Signal B
Signal A
SNP–physical position: 1161470

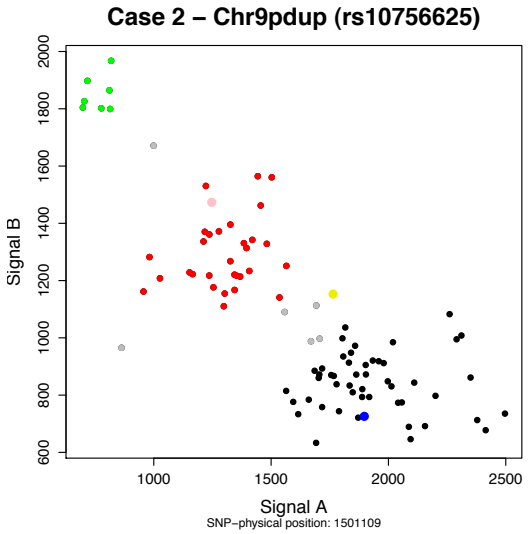

Case 2 – Chr9pdup (rs10511430)
Signal B
Signal A
SNP–physical position: 1161604

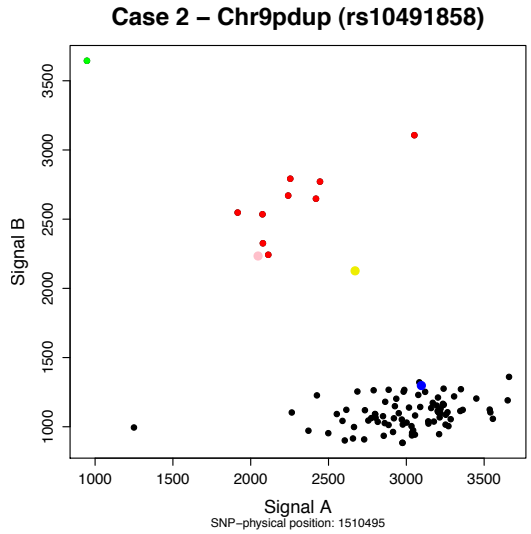

Case 2 – Chr9pdup (rs4741248)
Signal B
Signal A
SNP–physical position: 1301939

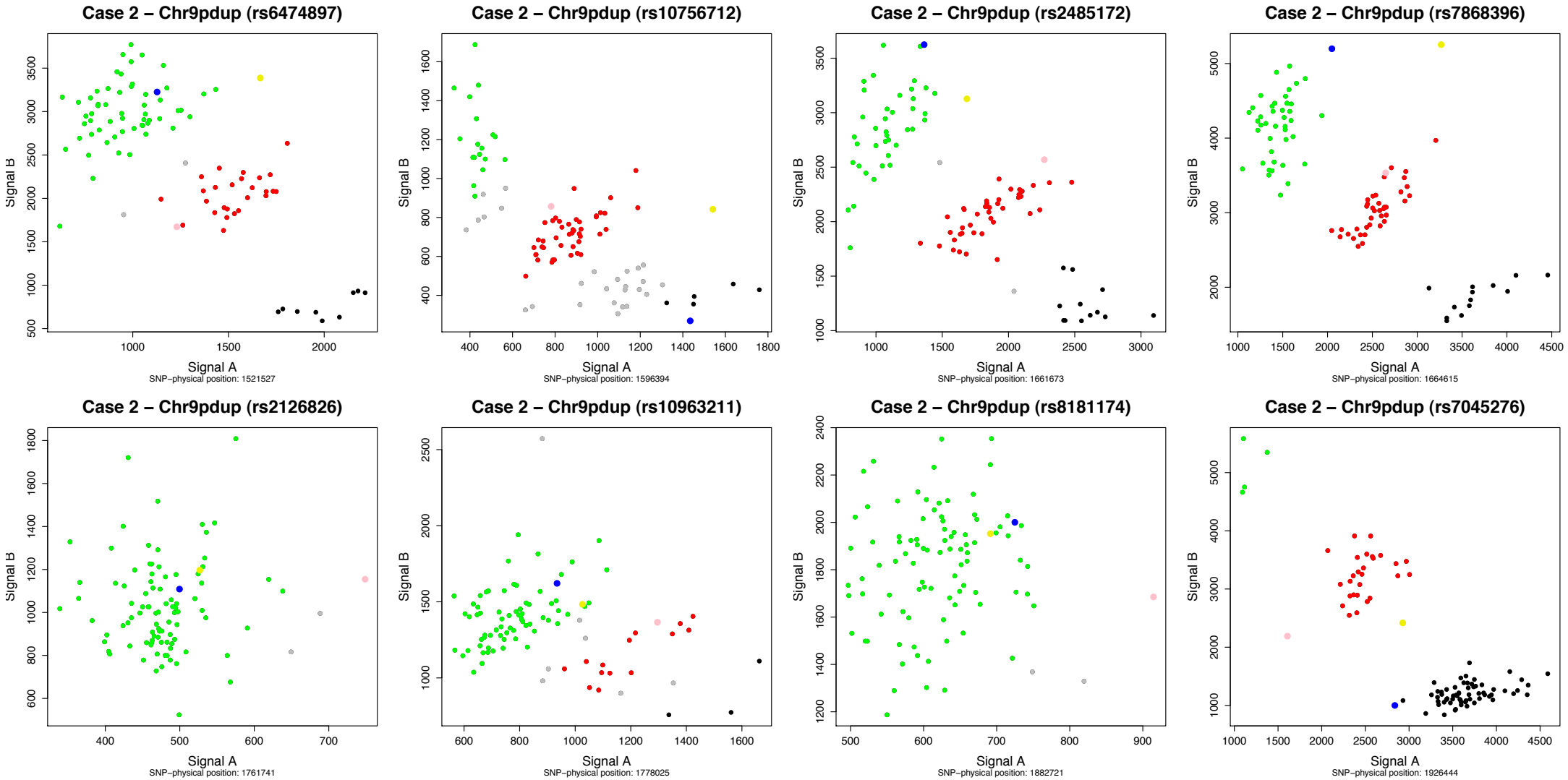

Case 2 – Chr9pdup (rs7855990)
Signal B
Signal A
SNP–physical position: 1337835

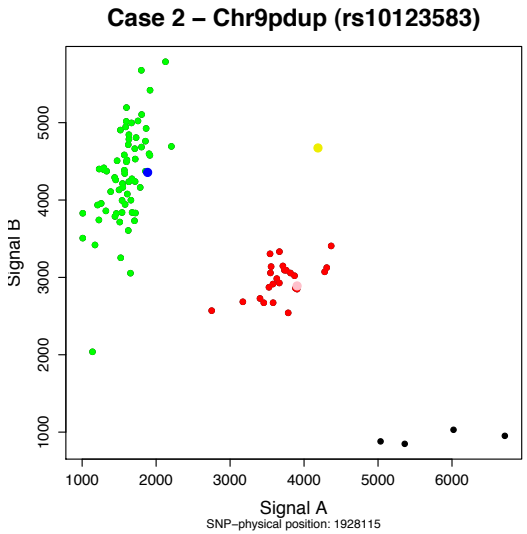

Case 2 – Chr9pdup (rs4741294)
Signal B
Signal A
SNP–physical position: 1343910

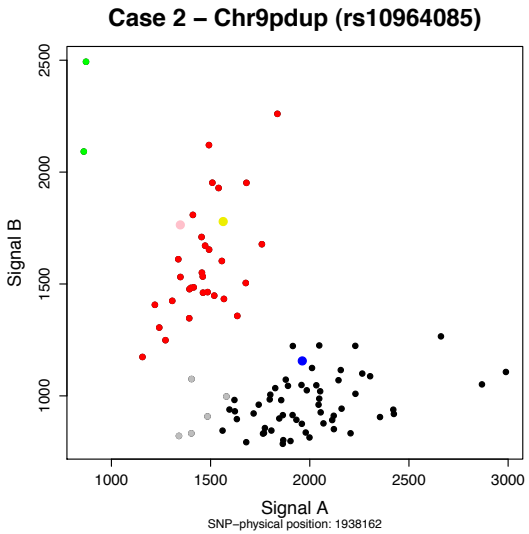

Case 2 – Chr9pdup (rs625929)
Signal B
Signal A
SNP–physical position: 1445542

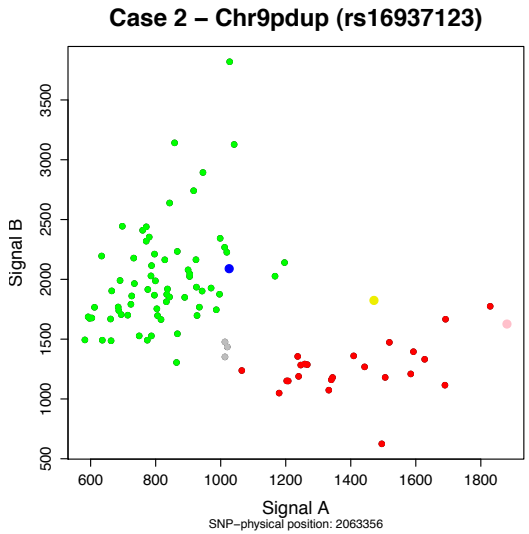

Case 2 – Chr9pdup (rs10756625)
Signal B
Signal A
SNP–physical position: 1501109

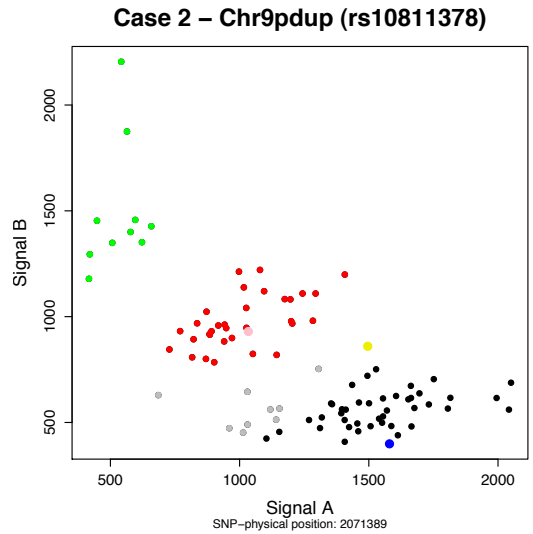

Case 2 – Chr9pdup (rs10491858)
Signal B
Signal A
SNP–physical position: 1510495

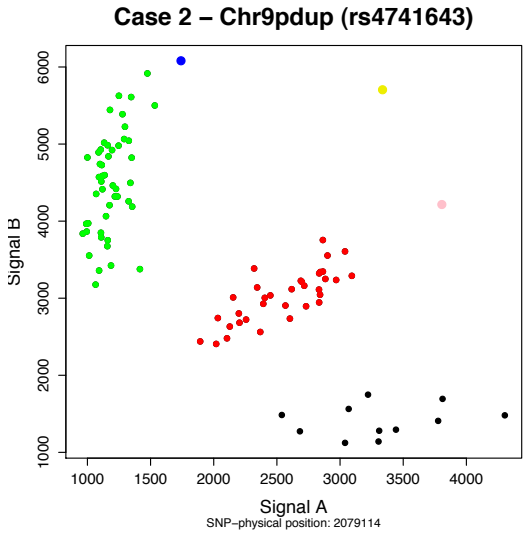

Case 2 – Chr9pdup (rs6474897)
Signal B
Signal A
SNP–physical position: 1521527
Case 2 – Chr9pdup (rs10756712)
Signal B
Signal A
SNP–physical position: 1596394
Case 2 – Chr9pdup (rs2485172)
Signal B
Signal A
SNP–physical position: 1661673
Case 2 – Chr9pdup (rs7868396)
Signal B
Signal A
SNP–physical position: 1664615
Case 2 – Chr9pdup (rs2126826)
Signal B
Signal A
SNP–physical position: 1761741
Case 2 – Chr9pdup (rs10963211)
Signal B
Signal A
SNP–physical position: 1778025
Case 2 – Chr9pdup (rs8181174)
Signal B
Signal A
SNP–physical position: 1882721
Case 2 – Chr9pdup (rs7045276)
Signal B
Signal A
SNP–physical position: 1926444

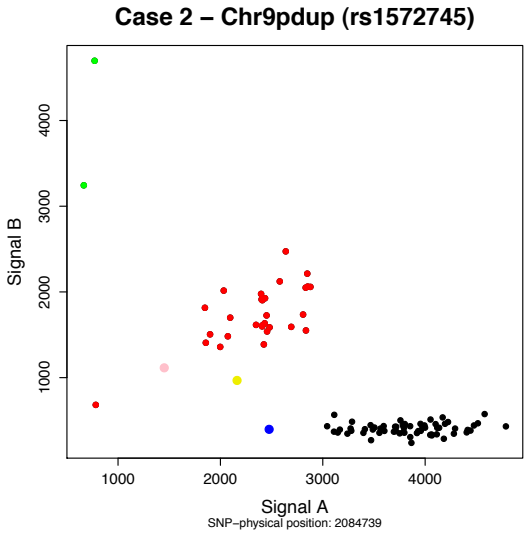

Case 2 – Chr9pdup (rs10123583)
Signal B
Signal A
SNP–physical position: 1928115

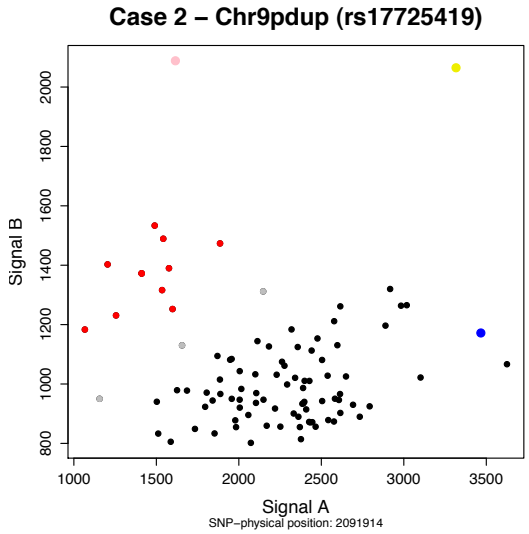

Case 2 – Chr9pdup (rs10964085)
Signal B
Signal A
SNP–physical position: 1938162

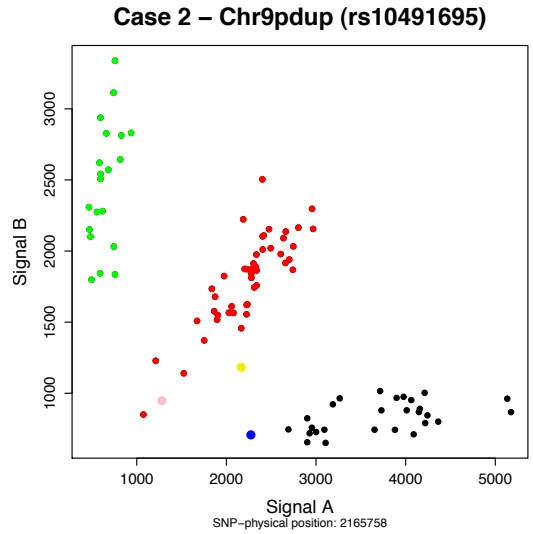

Case 2 – Chr9pdup (rs16937123)
Signal B
Signal A
SNP–physical position: 2063356

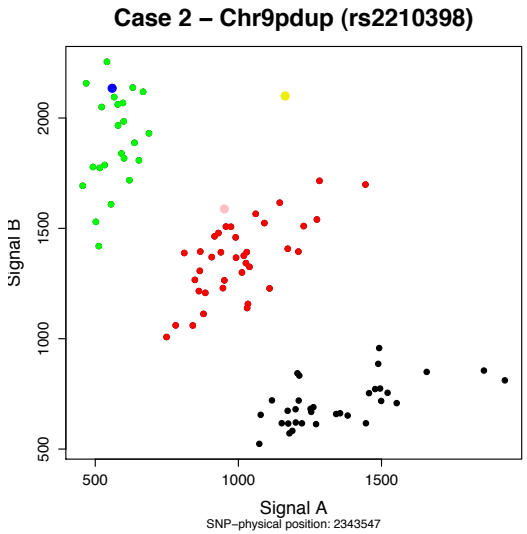

Case 2 – Chr9pdup (rs10811378)
Signal B
Signal A
SNP–physical position: 2071389

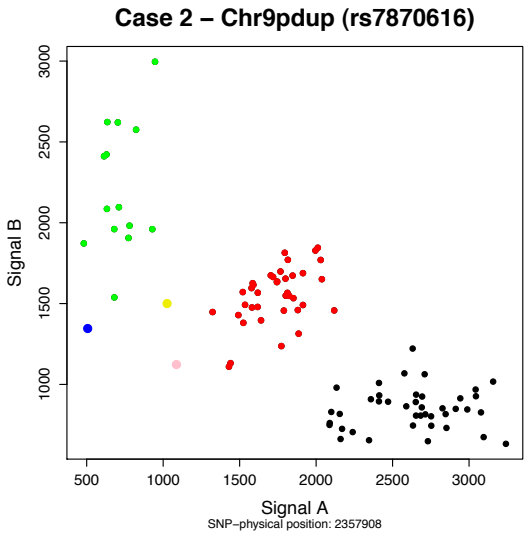

Case 2 – Chr9pdup (rs4741643)
Signal B
Signal A
SNP–physical position: 2079114

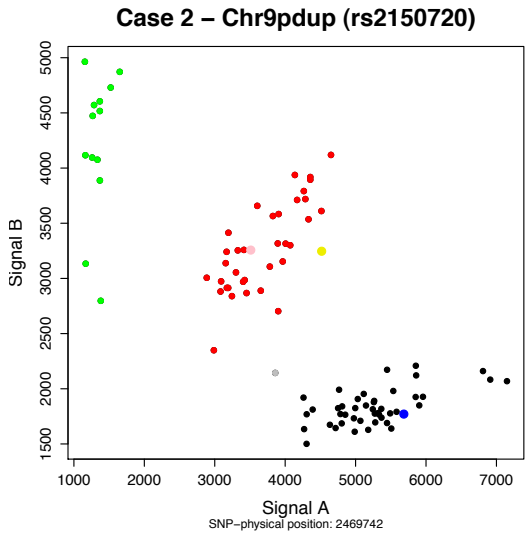

Case 2 – Chr9pdup (rs1572745)
Signal B
Signal A
SNP–physical position: 2084739

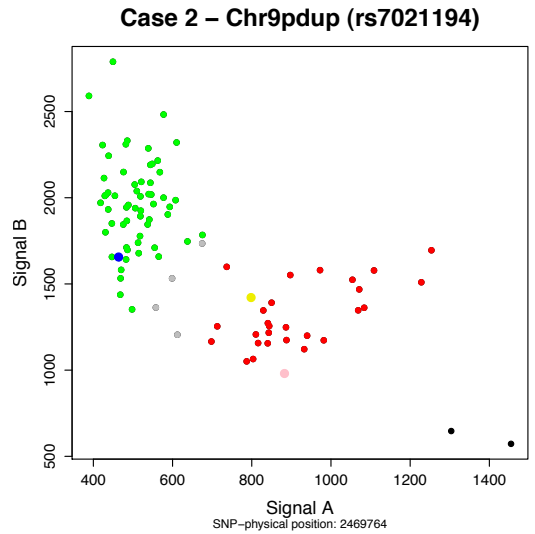

Case 2 – Chr9pdup (rs17725419)
Signal B
Signal A
SNP–physical position: 2091914

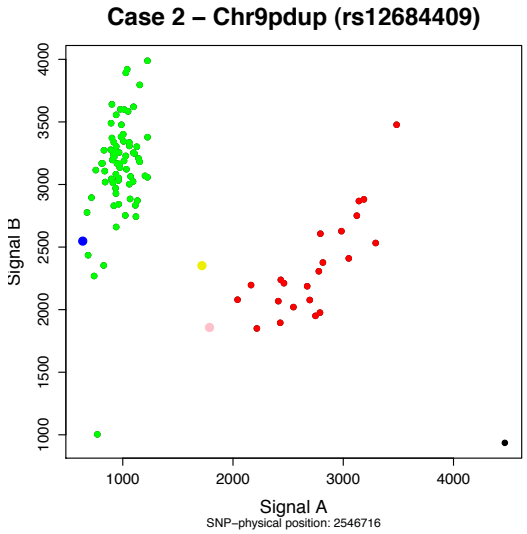

Case 2 – Chr9pdup (rs10491695)
Signal B
Signal A
SNP–physical position: 2165758

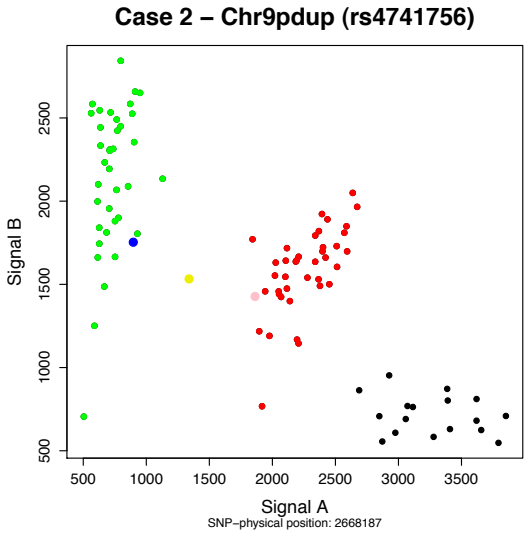

Case 2 – Chr9pdup (rs2210398)
Signal B
Signal A
SNP–physical position: 2343547

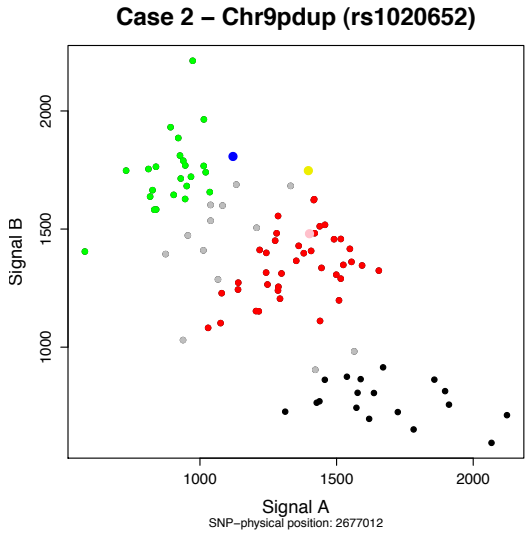

Case 2 – Chr9pdup (rs7870616)
Signal B
Signal A
SNP–physical position: 2357908

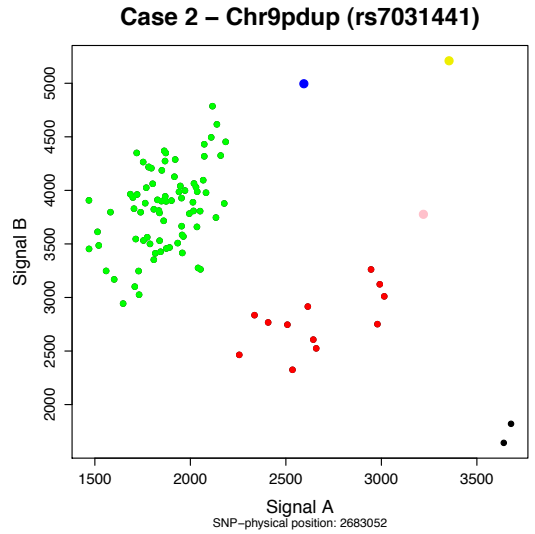

Case 2 – Chr9pdup (rs2150720)
Signal B
Signal A
SNP–physical position: 2469742

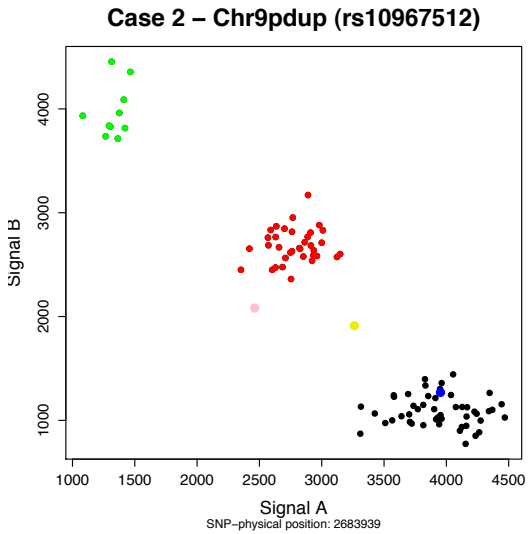

Case 2 – Chr9pdup (rs7021194)
Signal B
Signal A
SNP–physical position: 2469764

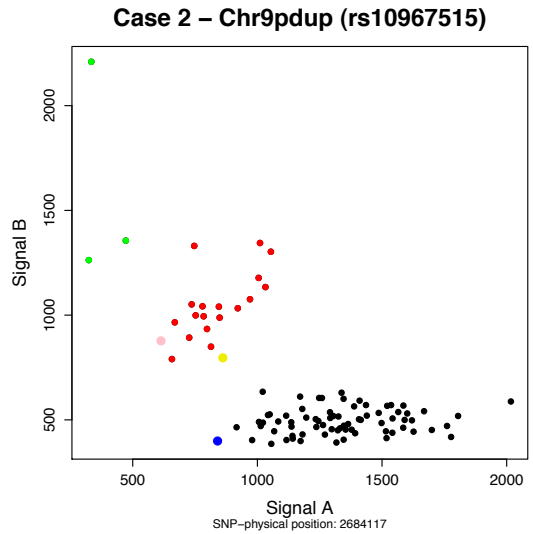

Case 2 – Chr9pdup (rs12684409)
Signal B
Signal A
SNP–physical position: 2546716

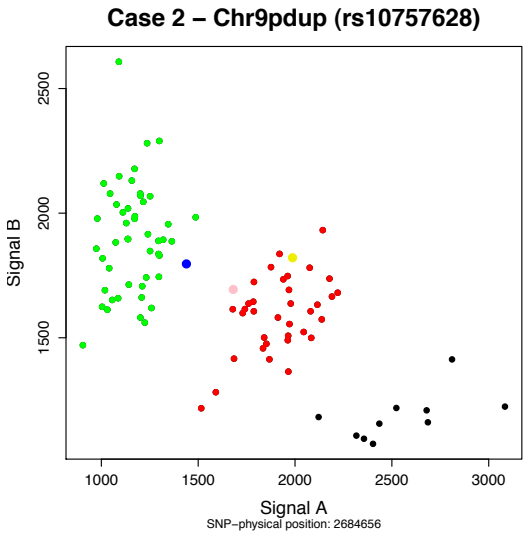

Case 2 – Chr9pdup (rs4741756)
Signal B
Signal A
SNP–physical position: 2668187

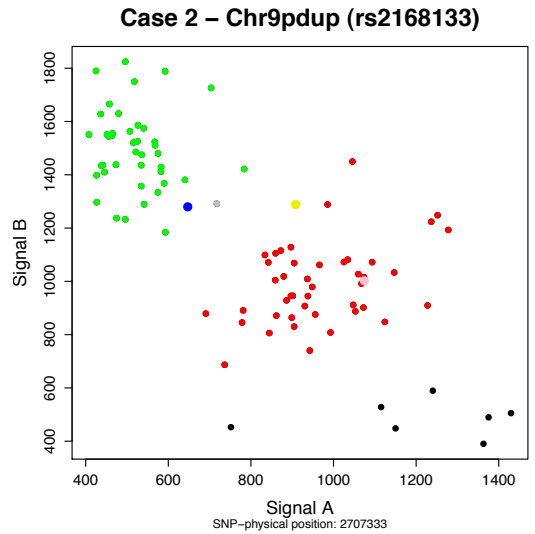

Case 2 – Chr9pdup (rs1020652)
Signal B
Signal A
SNP–physical position: 2677012

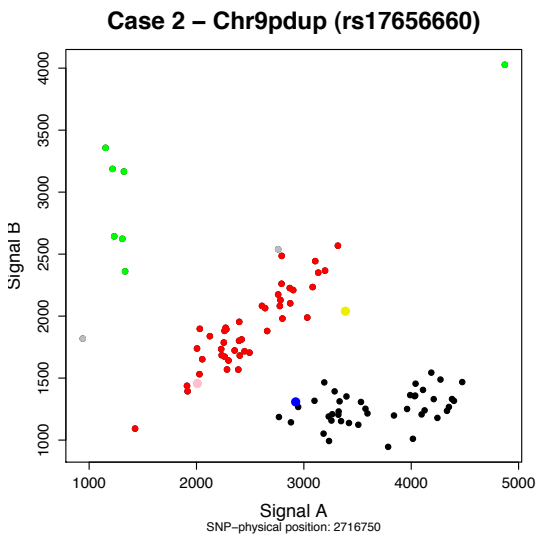

Case 2 – Chr9pdup (rs7031441)
Signal B
Signal A
SNP–physical position: 2683052

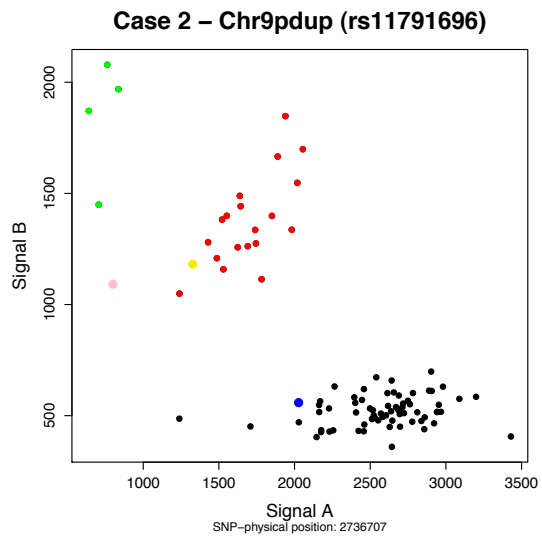

Case 2 – Chr9pdup (rs10967512)
Signal B
Signal A
SNP–physical position: 2683939

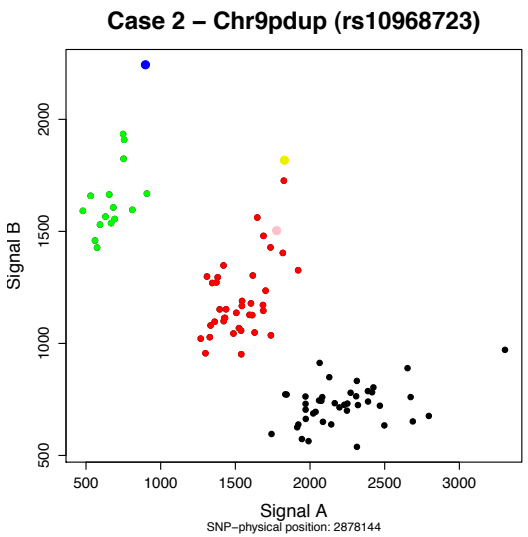

Case 2 – Chr9pdup (rs10967515)
Signal B
Signal A
SNP–physical position: 2684117

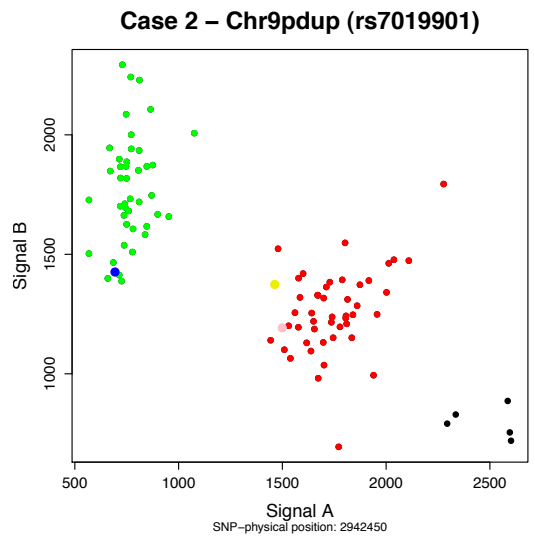

Case 2 – Chr9pdup (rs10757628)
Signal B
Signal A
SNP–physical position: 2684656

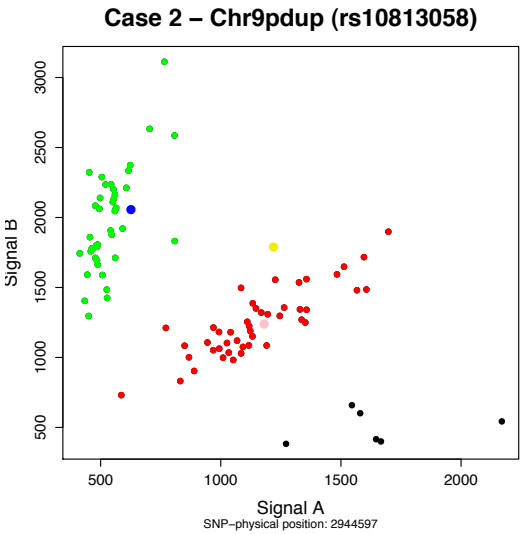

Case 2 – Chr9pdup (rs2168133)
Signal B
Signal A
SNP–physical position: 2707333

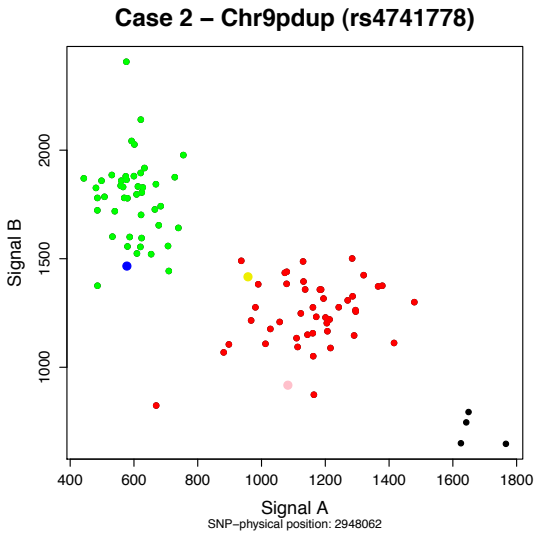

Case 2 – Chr9pdup (rs17656660)
Signal B
Signal A
SNP–physical position: 2716750

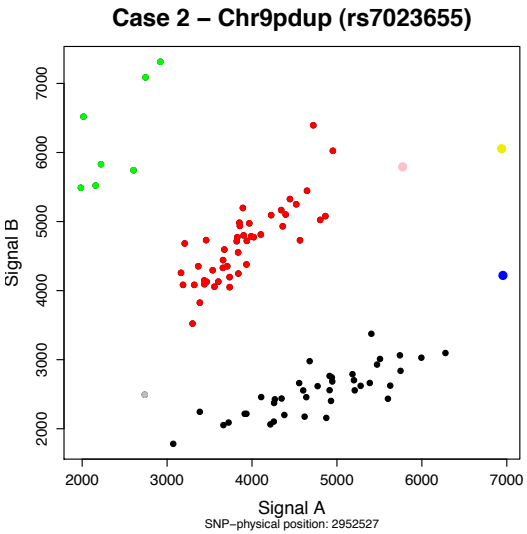

Case 2 – Chr9pdup (rs11791696)
Signal B
Signal A
SNP–physical position: 2736707

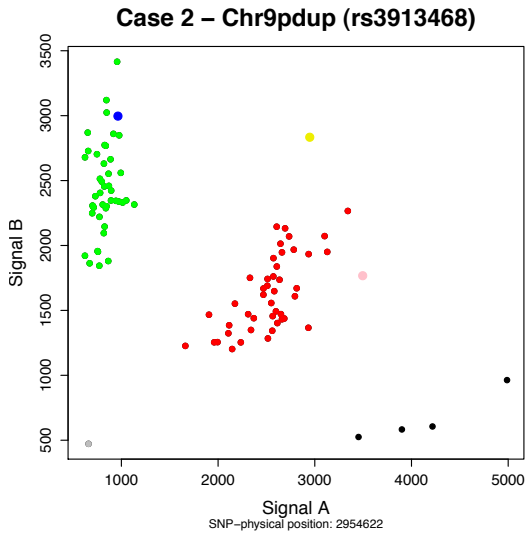

Case 2 – Chr9pdup (rs10968723)
Signal B
Signal A
SNP–physical position: 2878144

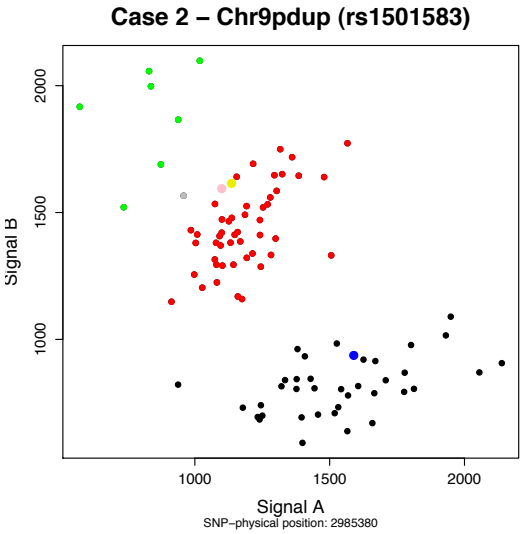

Case 2 – Chr9pdup (rs7019901)
Signal B
Signal A
SNP–physical position: 2942450

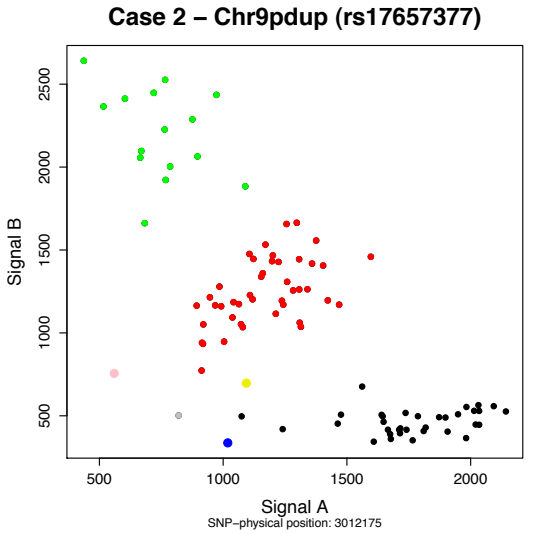

Case 2 – Chr9pdup (rs10813058)
Signal B
Signal A
SNP–physical position: 2944597

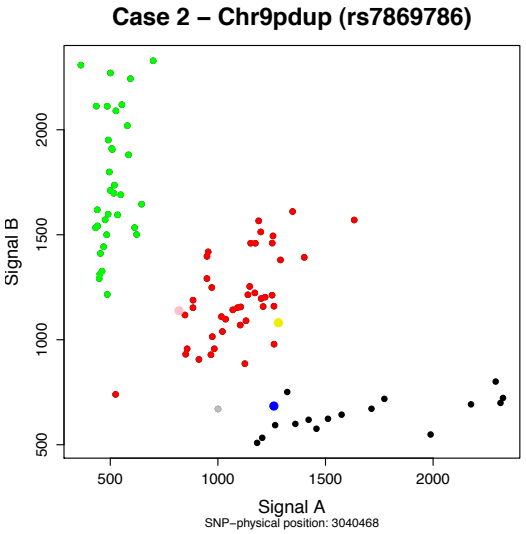

Case 2 – Chr9pdup (rs4741778)
Signal B
Signal A
SNP–physical position: 2948062

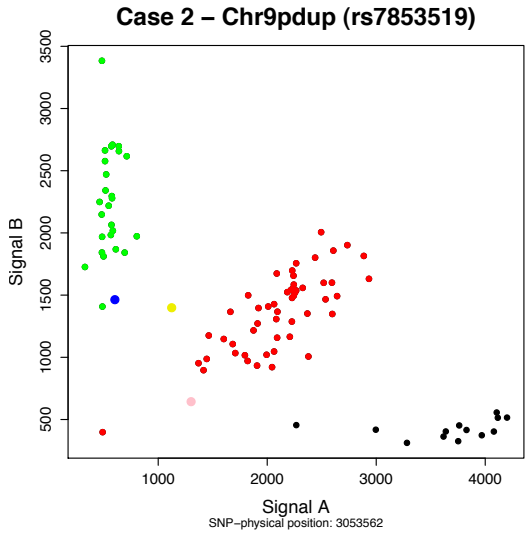

Case 2 – Chr9pdup (rs7023655)
Signal B
Signal A
SNP–physical position: 2952527

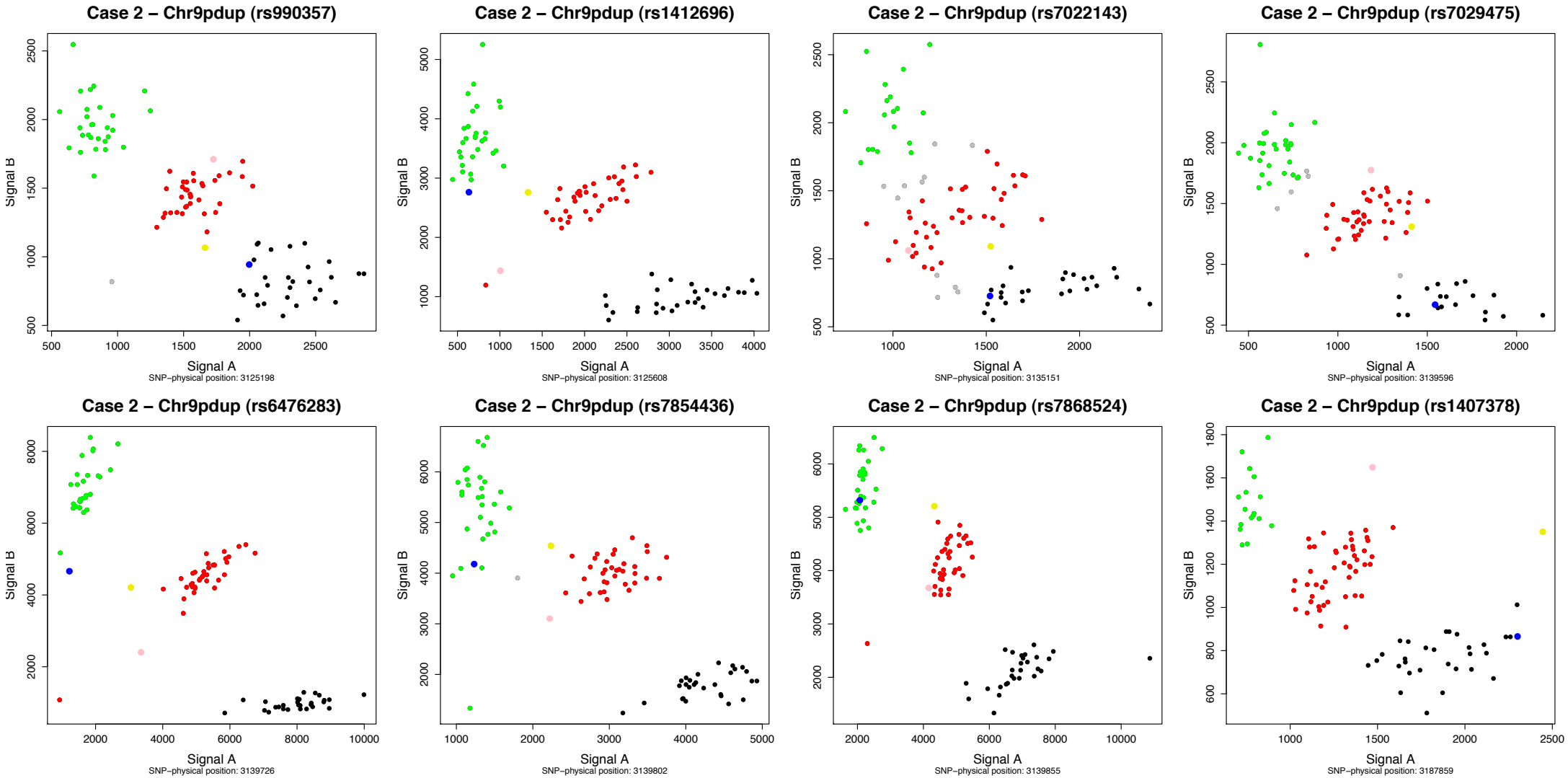

Case 2 – Chr9pdup (rs3913468)
Signal B
Signal A
SNP–physical position: 2954622

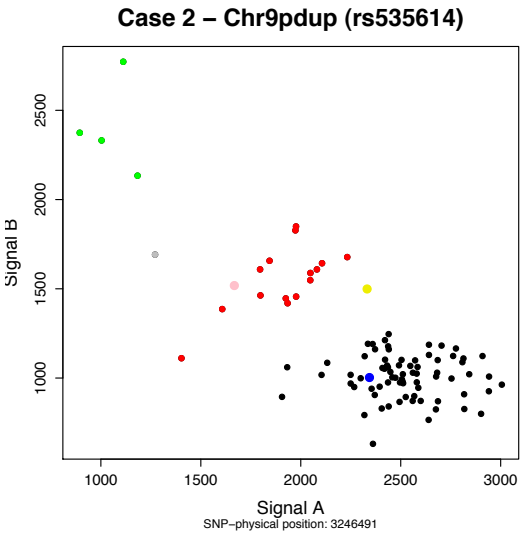

Case 2 – Chr9pdup (rs1501583)
Signal B
Signal A
SNP–physical position: 2985380

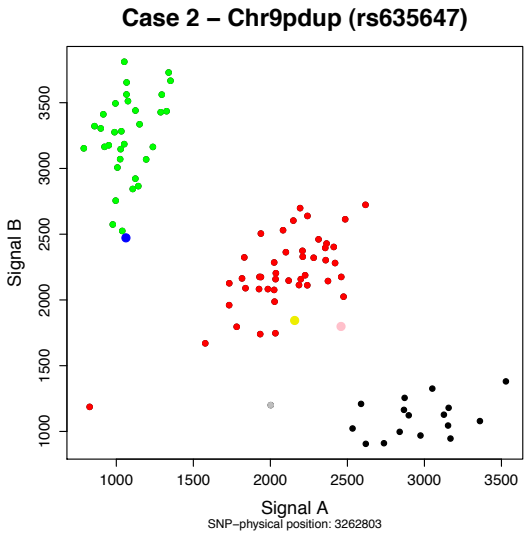

Case 2 – Chr9pdup (rs17657377)
Signal B
Signal A
SNP–physical position: 3012175

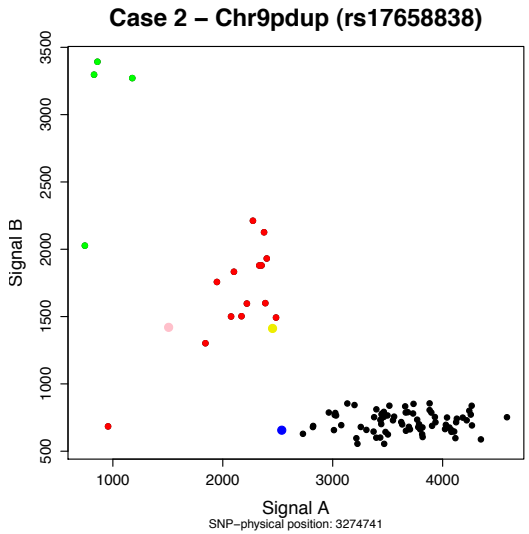

Case 2 – Chr9pdup (rs7869786)
Signal B
Signal A
SNP–physical position: 3040468

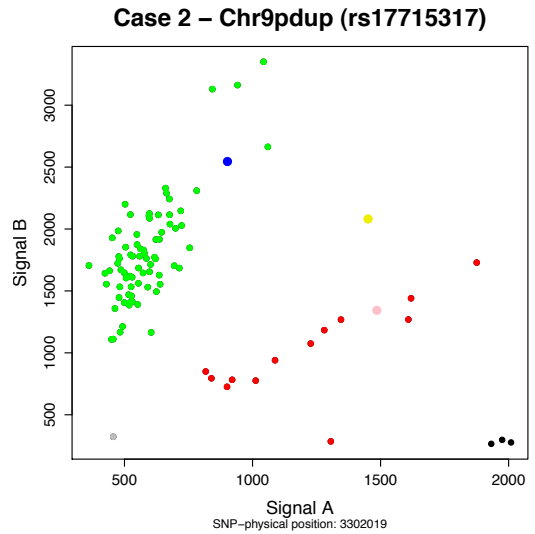

Case 2 – Chr9pdup (rs7853519)
Signal B
Signal A
SNP–physical position: 3053562

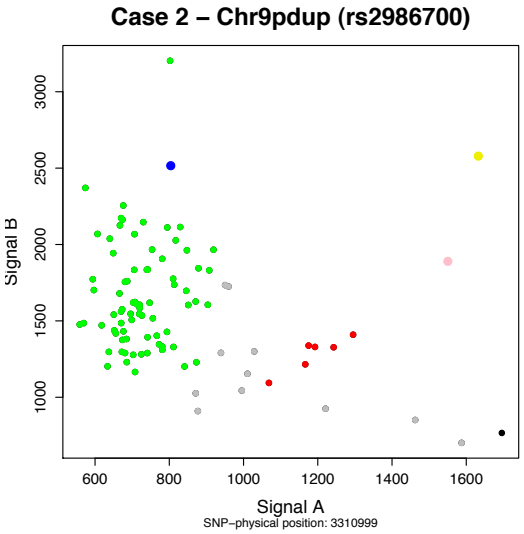

Case 2 – Chr9pdup (rs990357)
Signal B
Signal A
SNP–physical position: 3125198
Case 2 – Chr9pdup (rs1412696)
Signal B
Signal A
SNP–physical position: 3125608
Case 2 – Chr9pdup (rs7022143)
Signal B
Signal A
SNP–physical position: 3135151
Case 2 – Chr9pdup (rs7029475)
Signal B
Signal A
SNP–physical position: 3139596
Case 2 – Chr9pdup (rs6476283)
Signal B
Signal A
SNP–physical position: 3139726
Case 2 – Chr9pdup (rs7854436)
Signal B
Signal A
SNP–physical position: 3139802
Case 2 – Chr9pdup (rs7868524)
Signal B
Signal A
SNP–physical position: 3139855
Case 2 – Chr9pdup (rs1407378)
Signal B
Signal A
SNP–physical position: 3187859

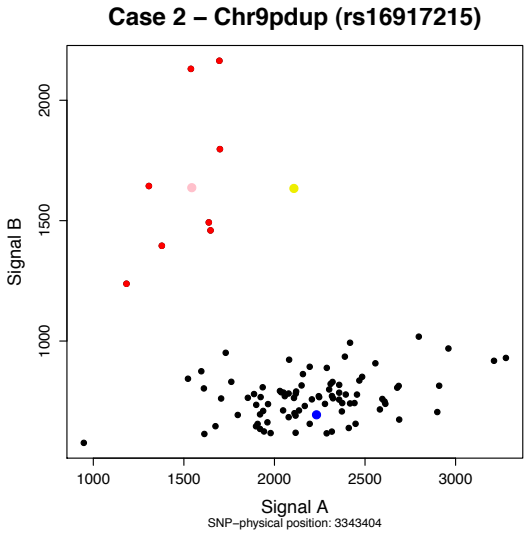

Case 2 – Chr9pdup (rs535614)
Signal B
Signal A
SNP–physical position: 3246491

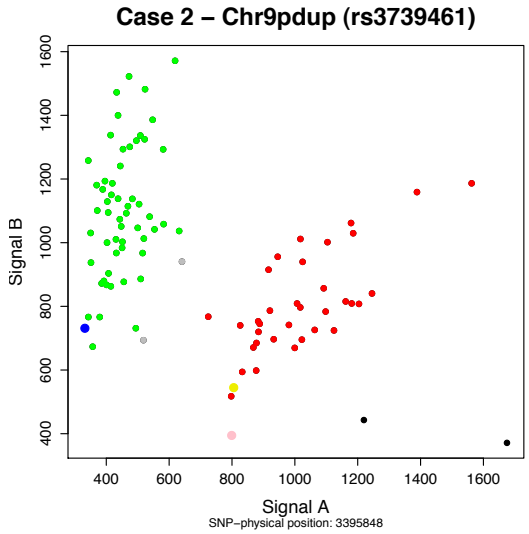

Case 2 – Chr9pdup (rs635647)
Signal B
Signal A
SNP–physical position: 3262803

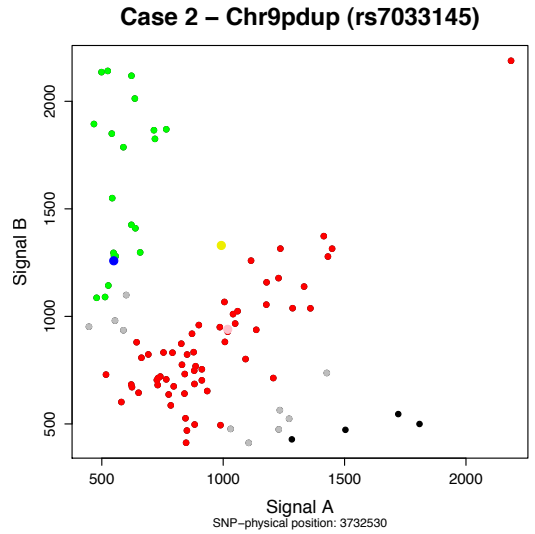

Case 2 – Chr9pdup (rs17658838)
Signal B
Signal A
SNP–physical position: 3274741

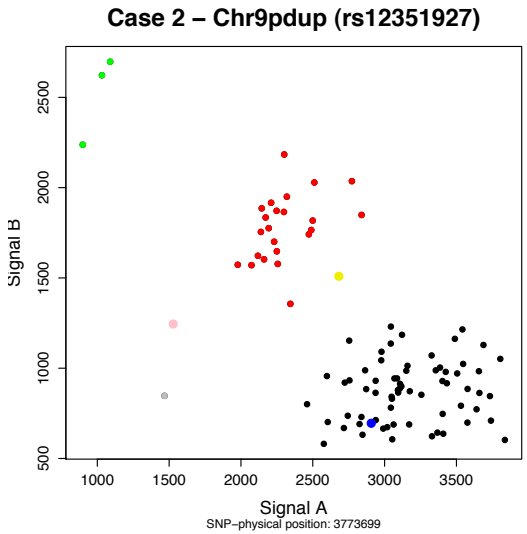

Case 2 – Chr9pdup (rs17715317)
Signal B
Signal A
SNP–physical position: 3302019

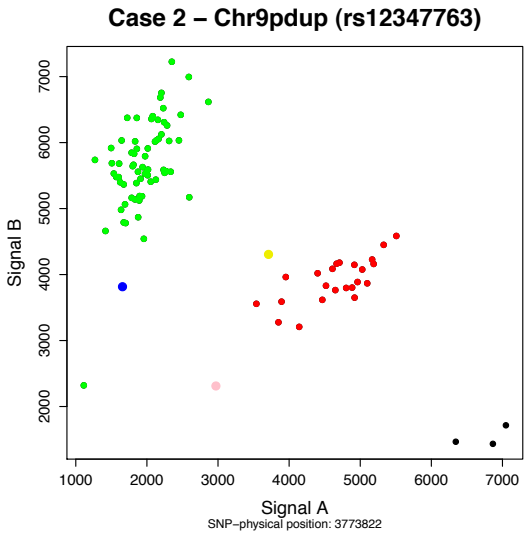

Case 2 – Chr9pdup (rs2986700)
Signal B
Signal A
SNP–physical position: 3310999

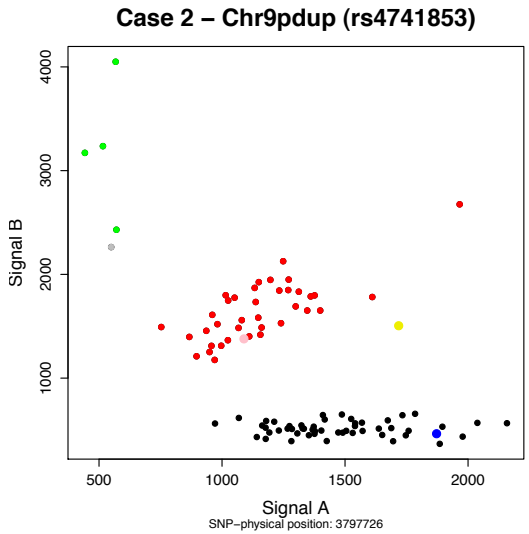

Case 2 – Chr9pdup (rs16917215)
Signal B
Signal A
SNP–physical position: 3343404

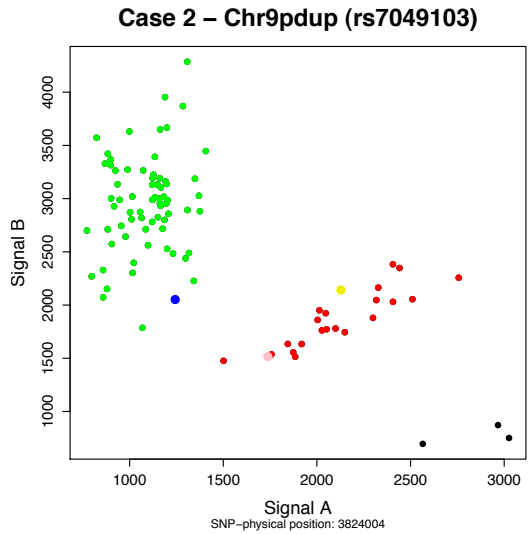

Case 2 – Chr9pdup (rs3739461)
Signal B
Signal A
SNP–physical position: 3395848

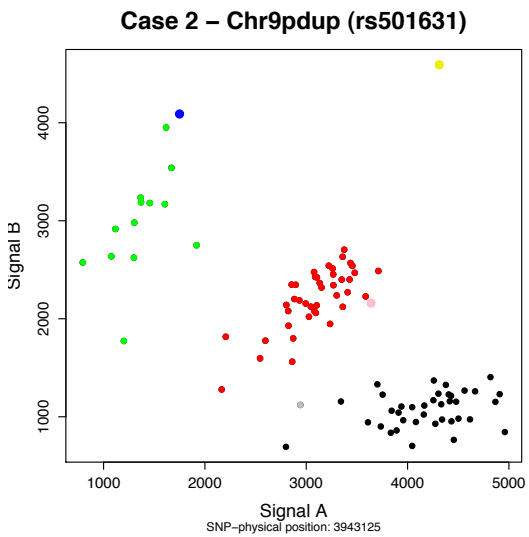

Case 2 – Chr9pdup (rs7033145)
Signal B
Signal A
SNP–physical position: 3732530

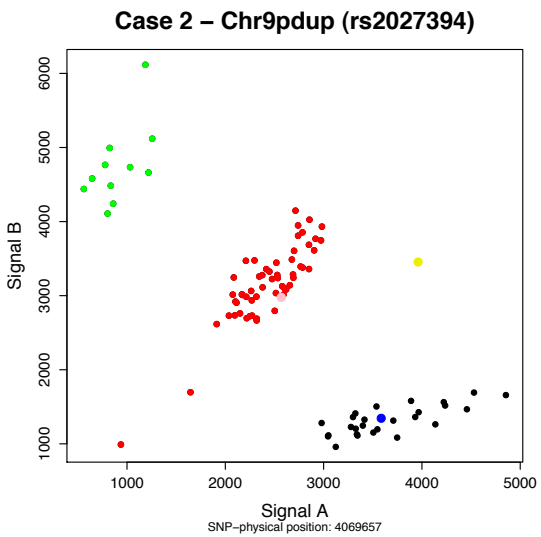

Case 2 – Chr9pdup (rs12351927)
Signal B
Signal A
SNP–physical position: 3773699

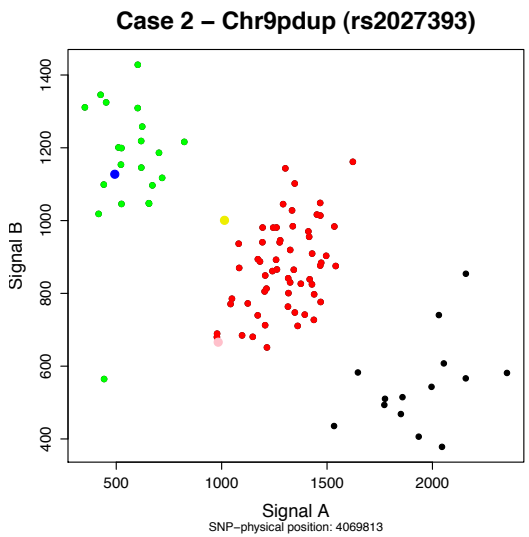

Case 2 – Chr9pdup (rs12347763)
Signal B
Signal A
SNP–physical position: 3773822

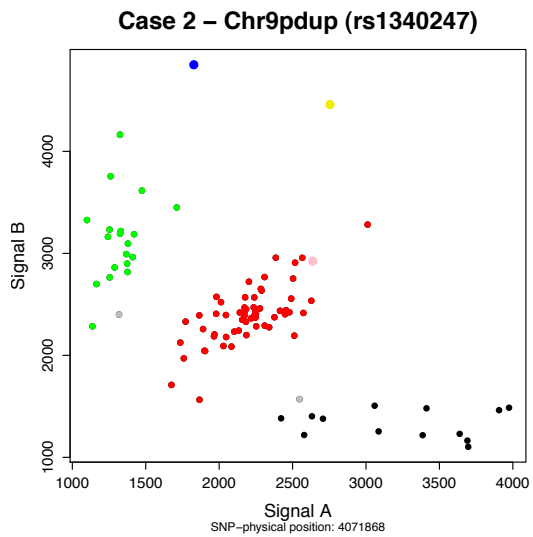

Case 2 – Chr9pdup (rs4741853)
Signal B
Signal A
SNP–physical position: 3797726

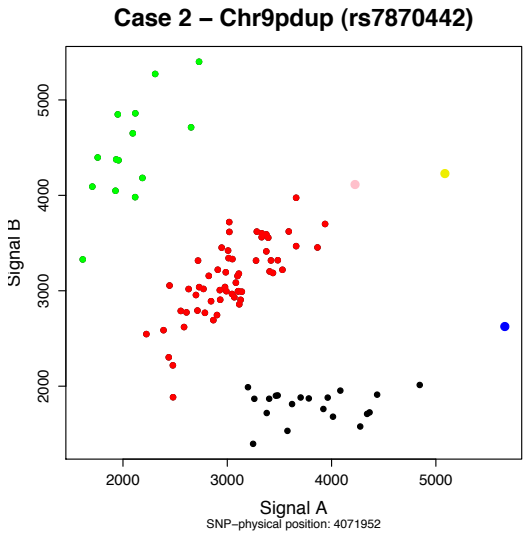

Case 2 – Chr9pdup (rs7049103)
Signal B
Signal A
SNP–physical position: 3824004

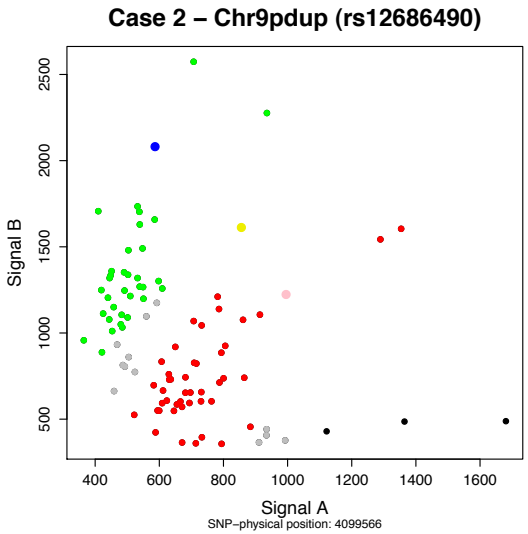

Case 2 – Chr9pdup (rs501631)
Signal B
Signal A
SNP–physical position: 3943125

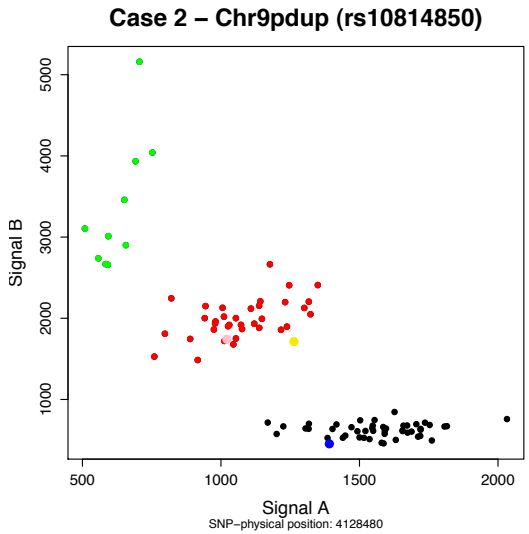

Case 2 – Chr9pdup (rs2027394)
Signal B
Signal A
SNP–physical position: 4069657

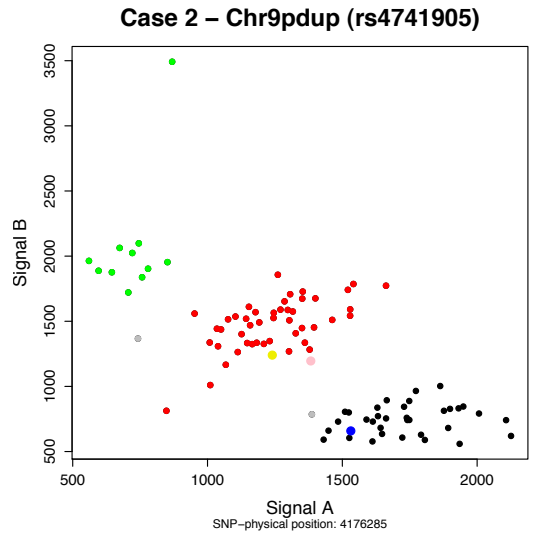

Case 2 – Chr9pdup (rs2027393)
Signal B
Signal A
SNP–physical position: 4069813

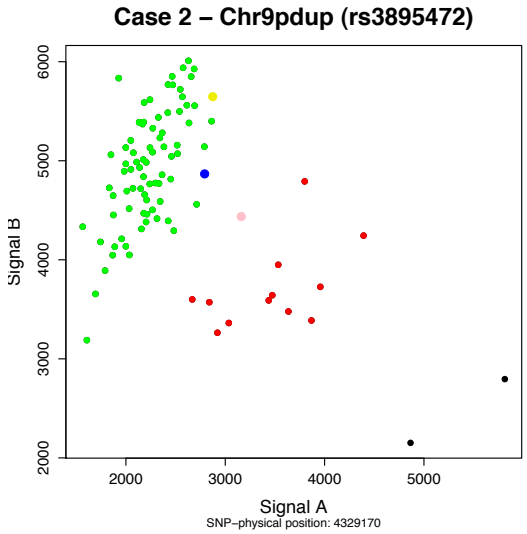

Case 2 – Chr9pdup (rs1340247)
Signal B
Signal A
SNP–physical position: 4071868

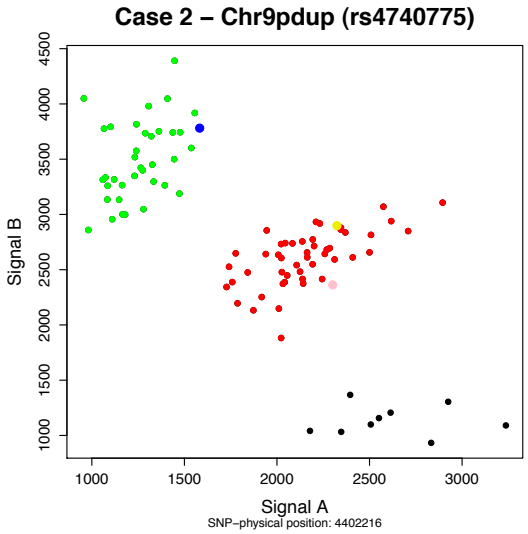

Case 2 – Chr9pdup (rs7870442)
Signal B
Signal A
SNP–physical position: 4071952

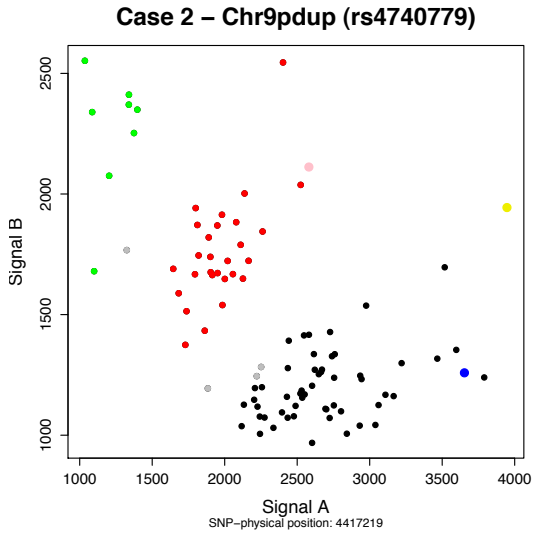

Case 2 – Chr9pdup (rs12686490)
Signal B
Signal A
SNP–physical position: 4099566

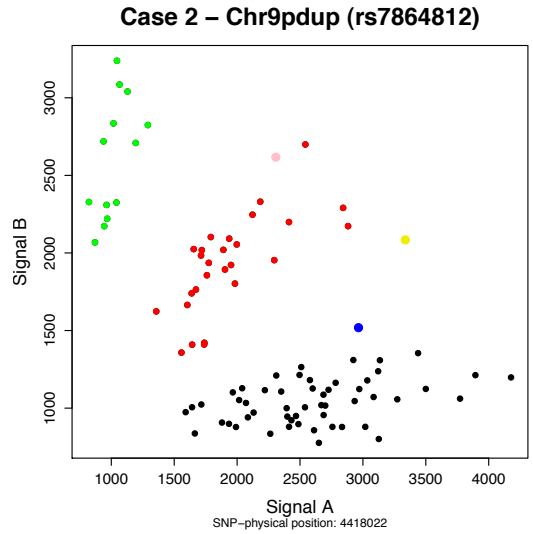

Case 2 – Chr9pdup (rs10814850)
Signal B
Signal A
SNP–physical position: 4128480

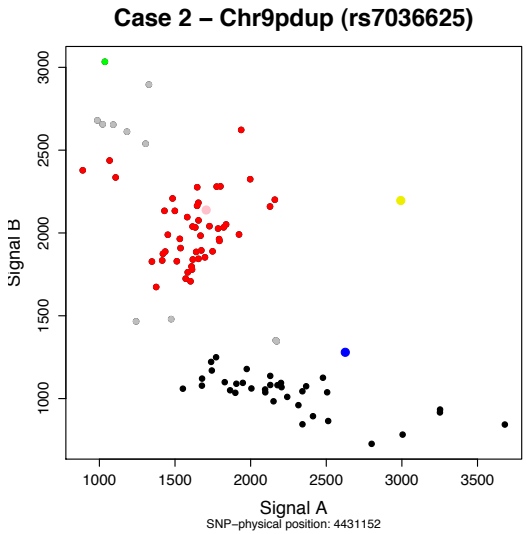

Case 2 – Chr9pdup (rs4741905)
Signal B
Signal A
SNP–physical position: 4176285

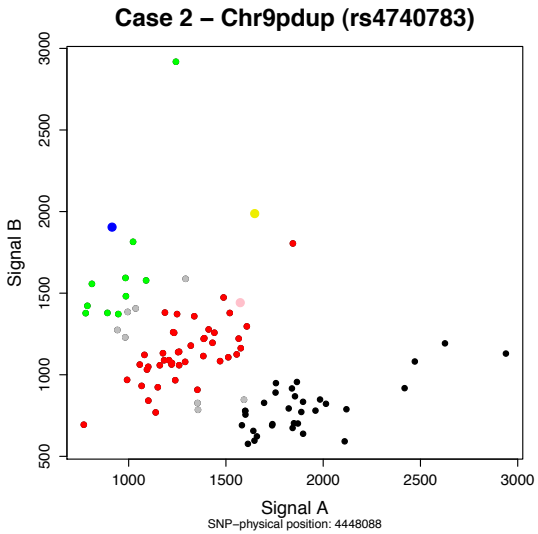

Case 2 – Chr9pdup (rs3895472)
Signal B
Signal A
SNP–physical position: 4329170

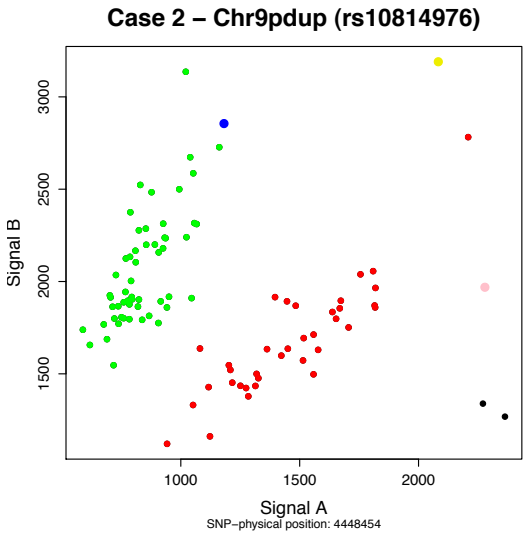

Case 2 – Chr9pdup (rs4740775)
Signal B
Signal A
SNP–physical position: 4402216

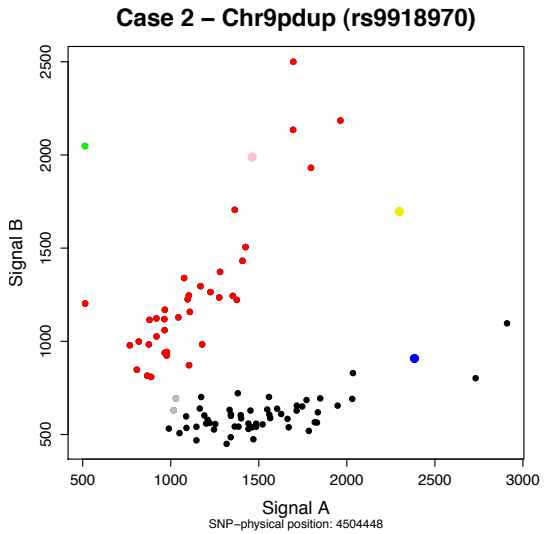

Case 2 – Chr9pdup (rs4740779)
Signal B
Signal A
SNP–physical position: 4417219

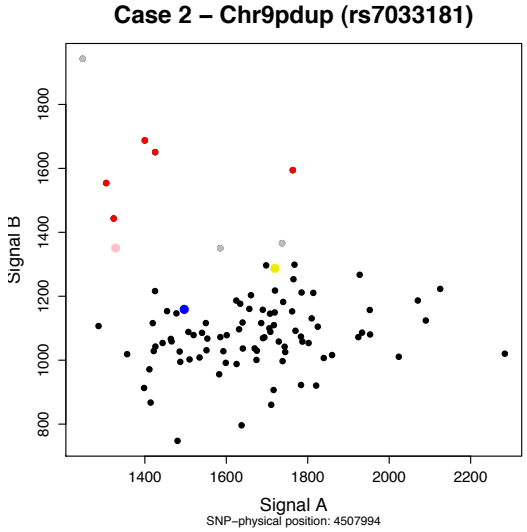

Case 2 – Chr9pdup (rs7864812)
Signal B
Signal A
SNP–physical position: 4418022

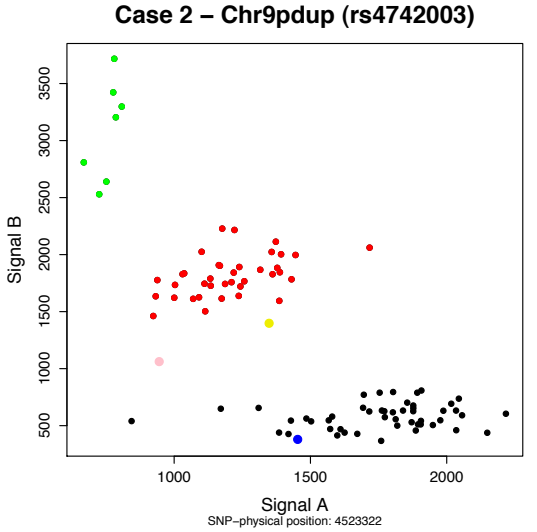

Case 2 – Chr9pdup (rs7036625)
Signal B
Signal A
SNP–physical position: 4431152

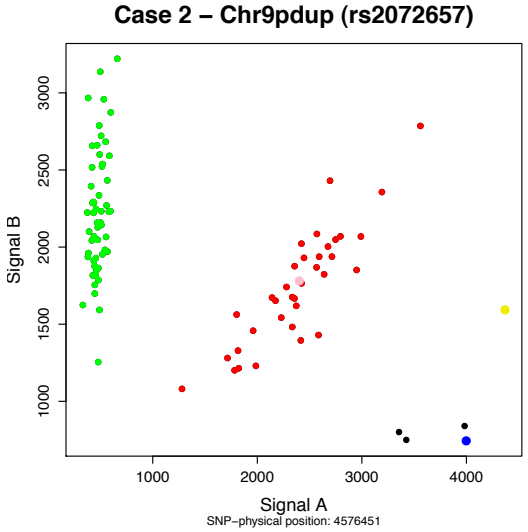

Case 2 – Chr9pdup (rs4740783)
Signal B
Signal A
SNP–physical position: 4448088

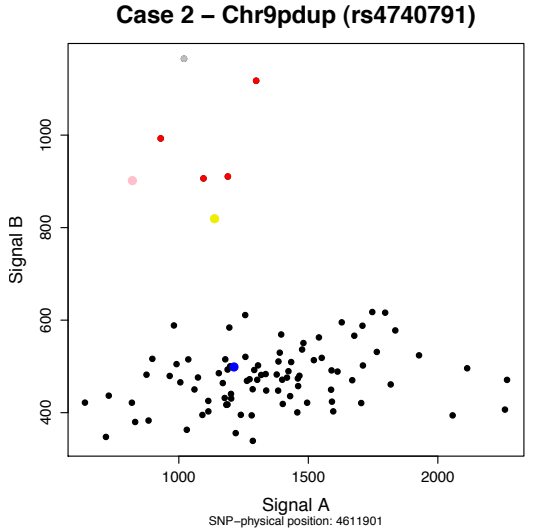

Case 2 – Chr9pdup (rs10814976)
Signal B
Signal A
SNP–physical position: 4448454

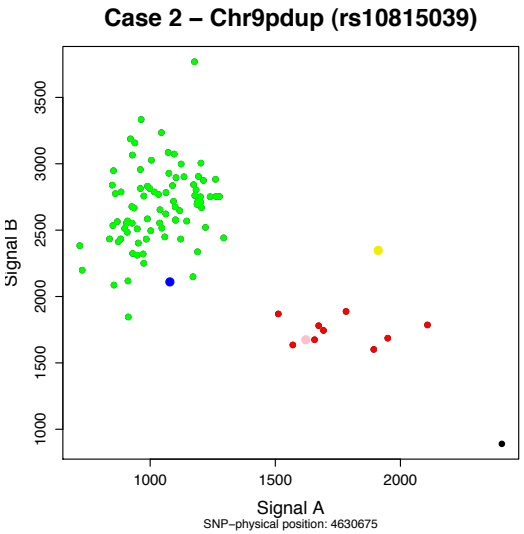

Case 2 – Chr9pdup (rs9918970)
Signal B
Signal A
SNP–physical position: 4504448

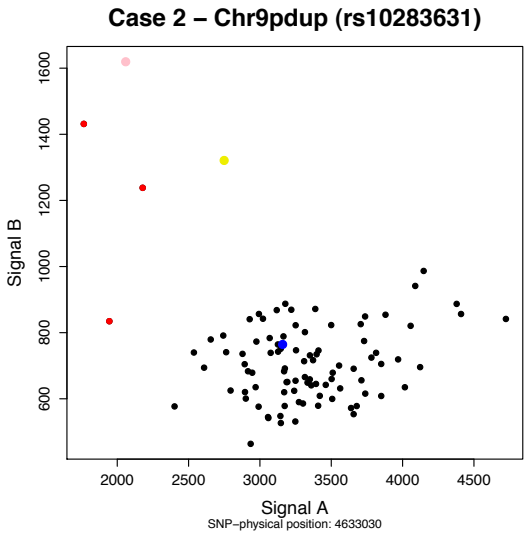

Case 2 – Chr9pdup (rs7033181)
Signal B
Signal A
SNP–physical position: 4507994

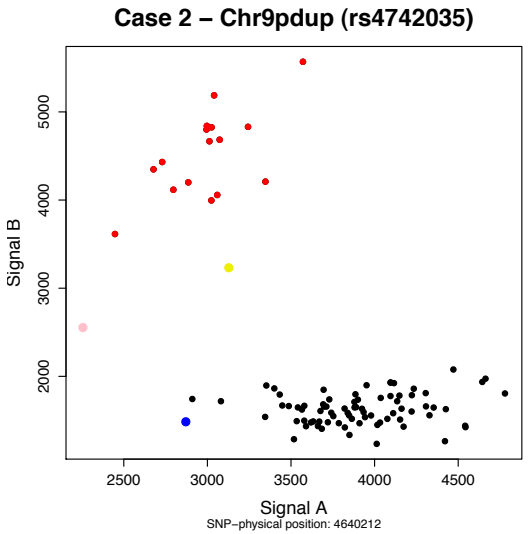

Case 2 – Chr9pdup (rs4742003)
Signal B
Signal A
SNP–physical position: 4523322

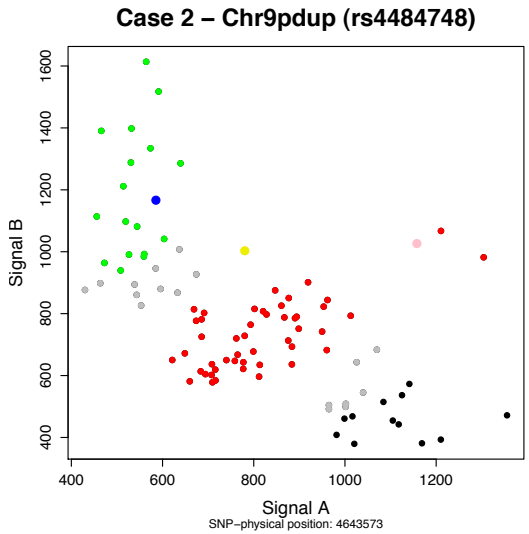

Case 2 – Chr9pdup (rs2072657)
Signal B
Signal A
SNP–physical position: 4576451

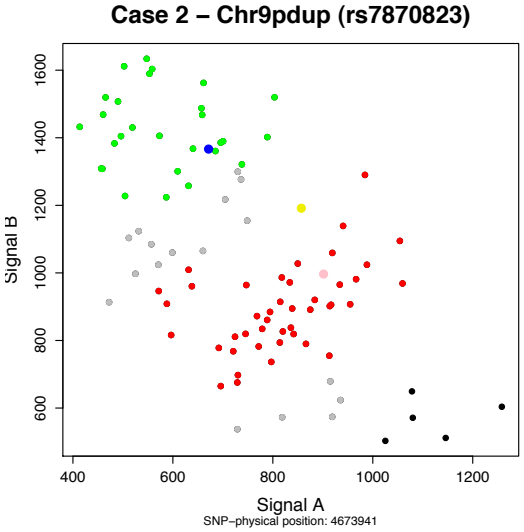

Case 2 – Chr9pdup (rs4740791)
Signal B
Signal A
SNP–physical position: 4611901

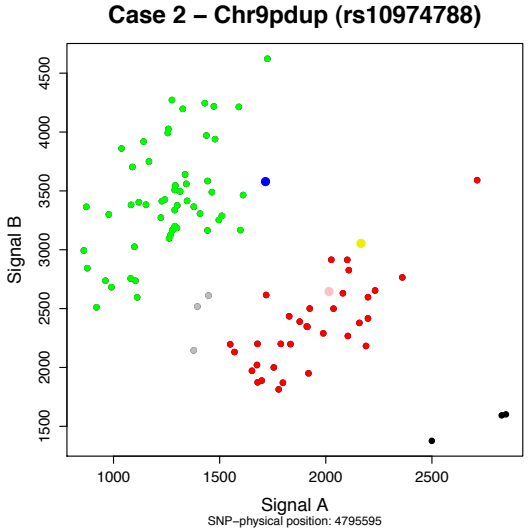

Case 2 – Chr9pdup (rs10815039)
Signal B
Signal A
SNP–physical position: 4630675


Case 2 – Chr9pdup (rs10283631)
Signal B
Signal A
SNP–physical position: 4633030

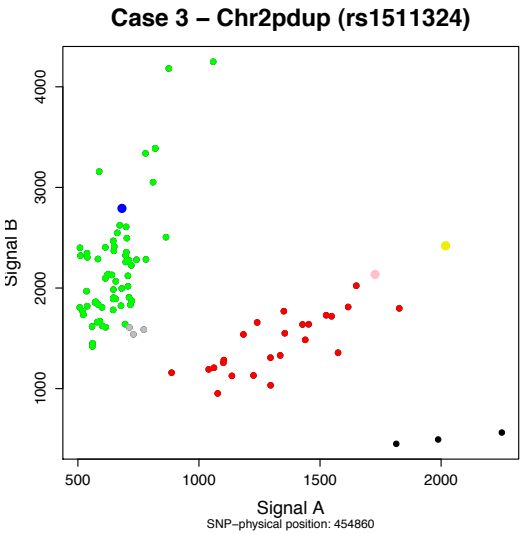

Case 2 – Chr9pdup (rs4742035)
Signal B
Signal A
SNP–physical position: 4640212

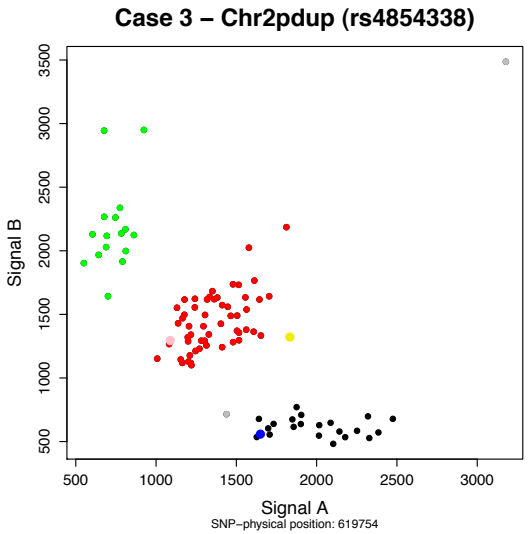

Case 2 – Chr9pdup (rs4484748)
Signal B
Signal A
SNP–physical position: 4643573

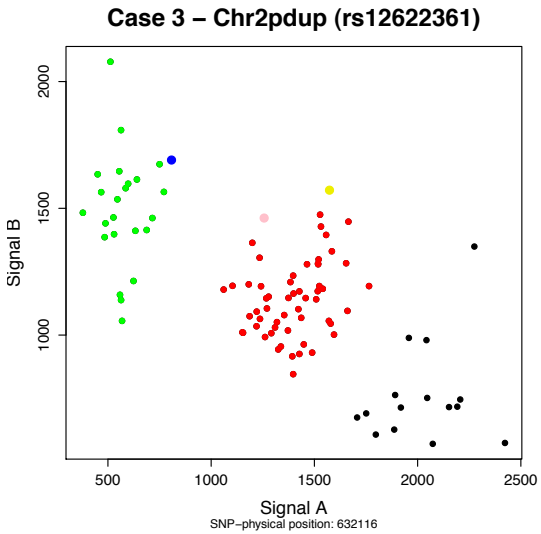

Case 2 – Chr9pdup (rs7870823)
Signal B
Signal A
SNP–physical position: 4673941

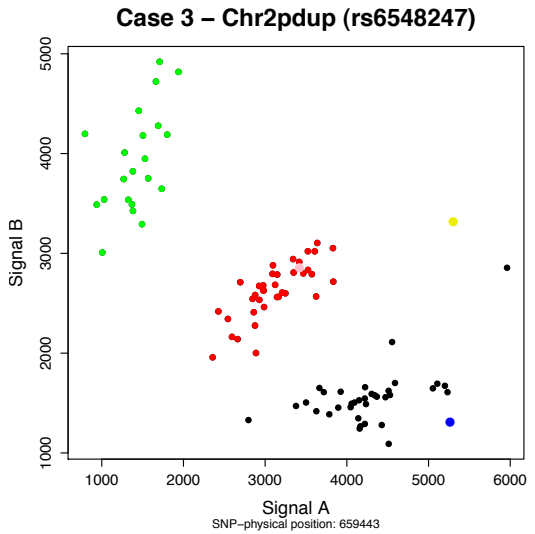

Case 2 – Chr9pdup (rs10974788)
Signal B
Signal A
SNP–physical position: 4795595

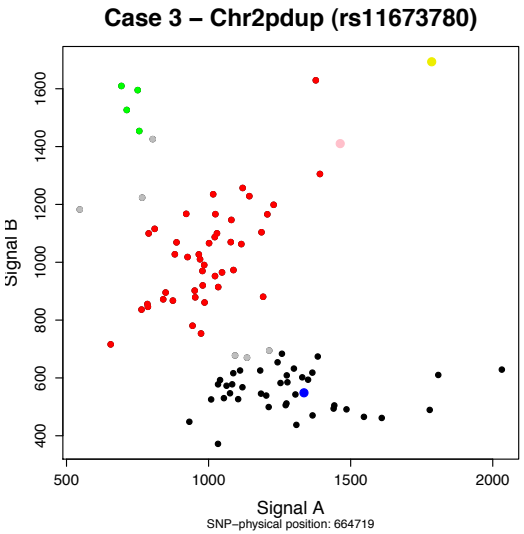
Case: 3
Chromosome: 2p
Abberation: dup.
Origin: Maternal

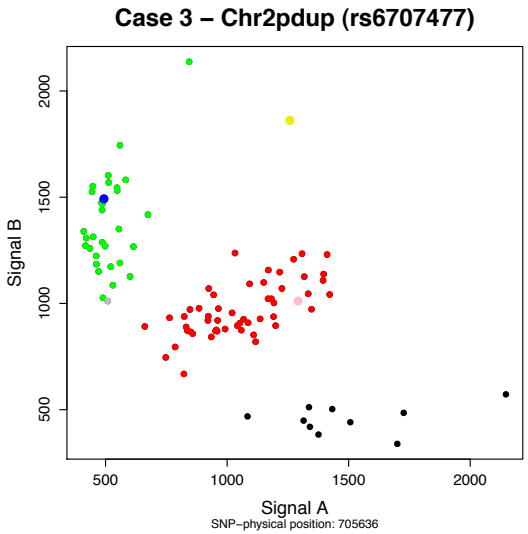

Case 3 – Chr2pdup (rs1511324)
Signal B
Signal A
SNP–physical position: 454860

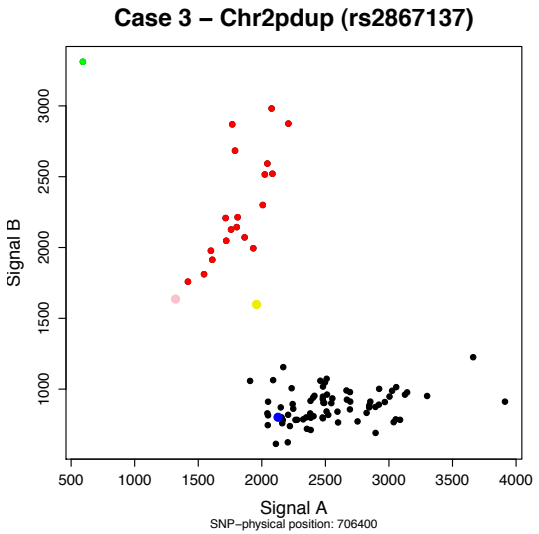

Case 3 – Chr2pdup (rs4854338)
Signal B
Signal A
SNP–physical position: 619754

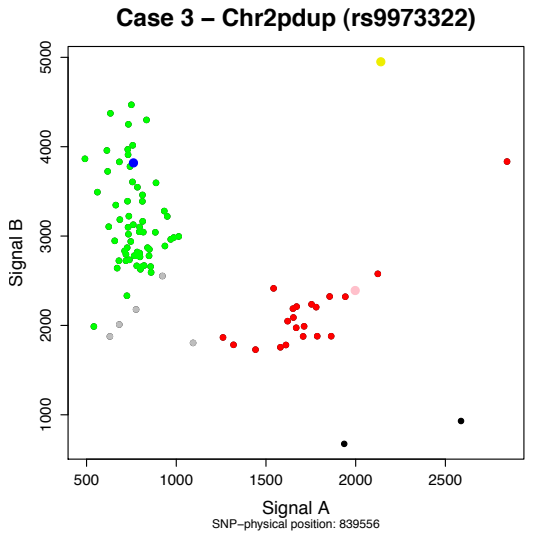

Case 3 – Chr2pdup (rs12622361)
Signal B
Signal A
SNP–physical position: 632116

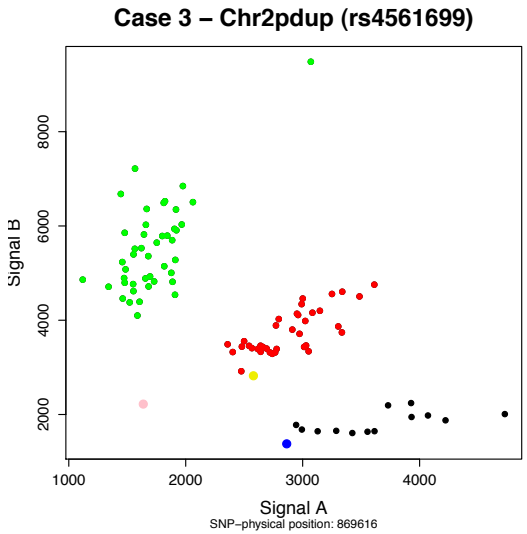

Case 3 – Chr2pdup (rs6548247)
Signal B
Signal A
SNP–physical position: 659443

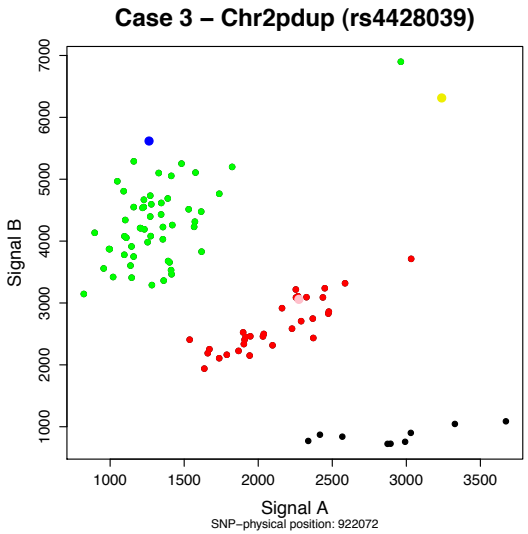

Case 3 – Chr2pdup (rs11673780)
Signal B
Signal A
SNP–physical position: 664719

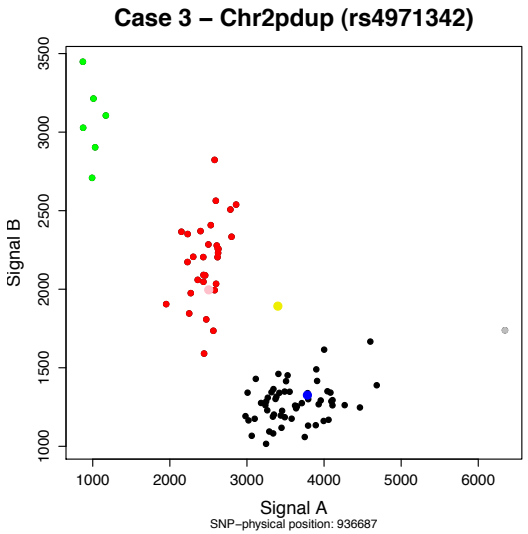

Case 3 – Chr2pdup (rs6707477)
Signal B
Signal A
SNP–physical position: 705636

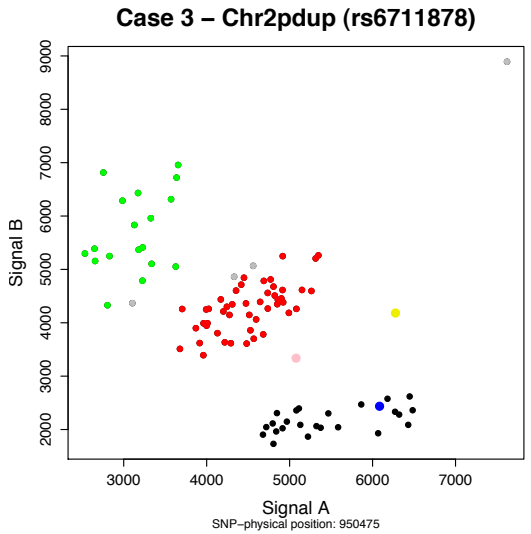

Case 3 – Chr2pdup (rs2867137)
Signal B
Signal A
SNP–physical position: 706400

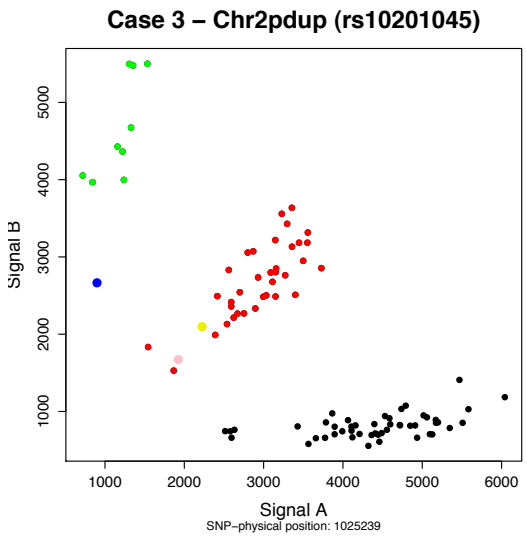

Case 3 – Chr2pdup (rs9973322)
Signal B
Signal A
SNP–physical position: 839556

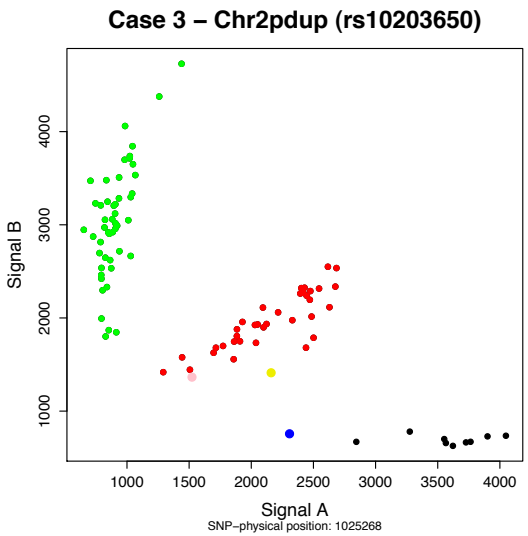

Case 3 – Chr2pdup (rs4561699)
Signal B
Signal A
SNP–physical position: 869616

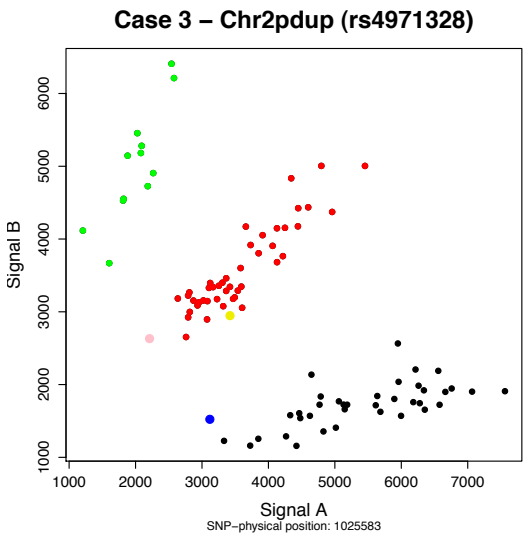

Case 3 – Chr2pdup (rs4428039)
Signal B
Signal A
SNP–physical position: 922072

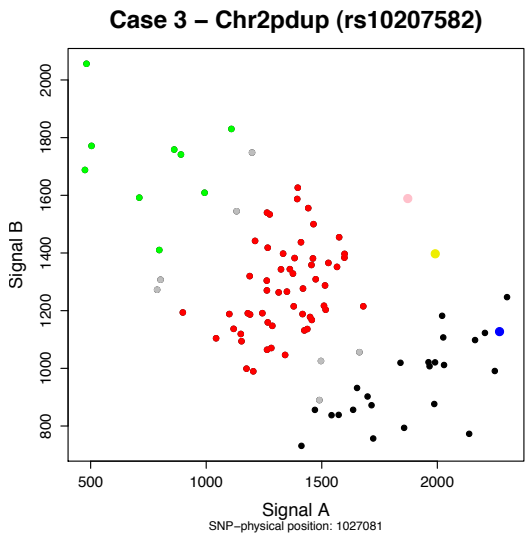

Case 3 – Chr2pdup (rs4971342)
Signal B
Signal A
SNP–physical position: 936687

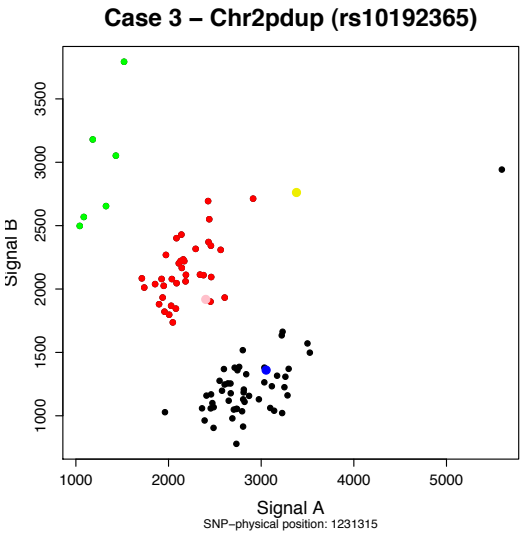

Case 3 – Chr2pdup (rs6711878)
Signal B
Signal A
SNP–physical position: 950475

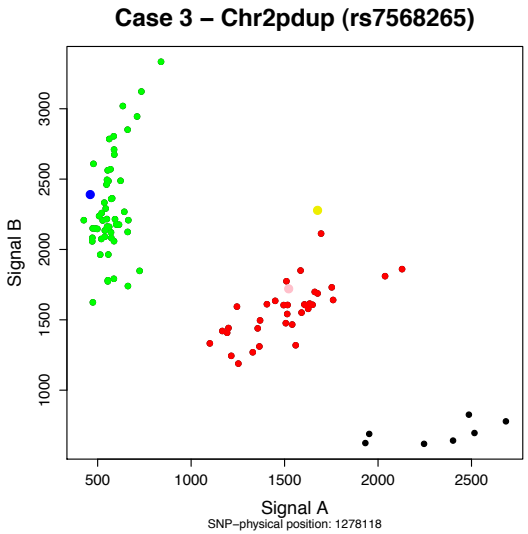

Case 3 – Chr2pdup (rs10201045)
Signal B
Signal A
SNP–physical position: 1025239

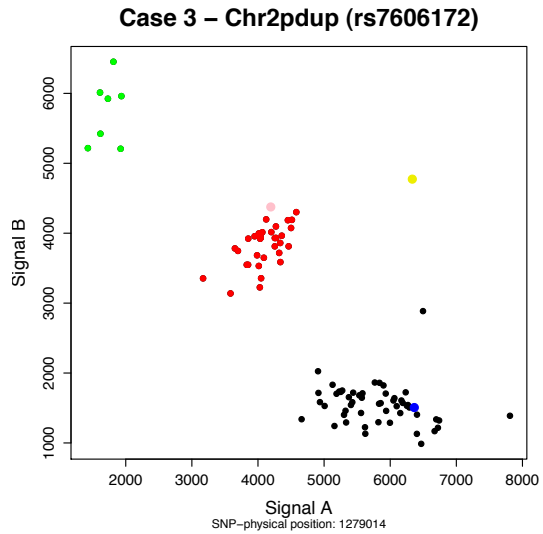

Case 3 – Chr2pdup (rs10203650)
Signal B
Signal A
SNP–physical position: 1025268

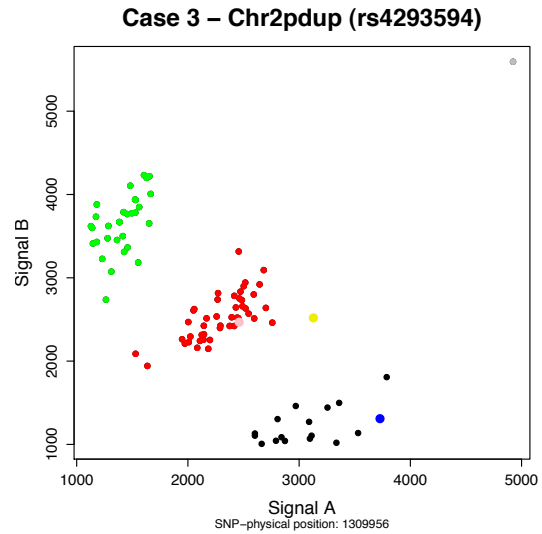

Case 3 – Chr2pdup (rs4971328)
Signal B
Signal A
SNP–physical position: 1025583

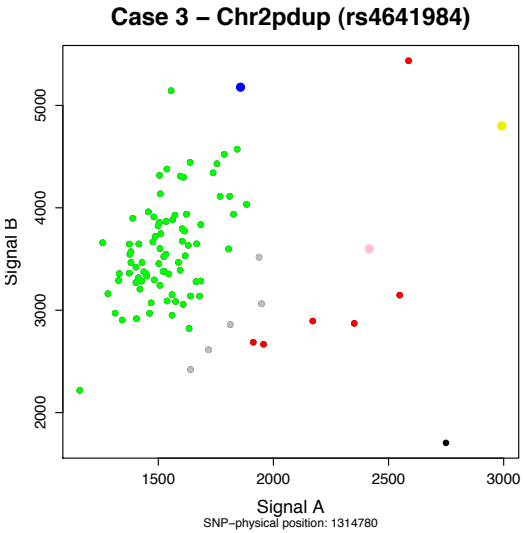

Case 3 – Chr2pdup (rs10207582)
Signal B
Signal A
SNP–physical position: 1027081

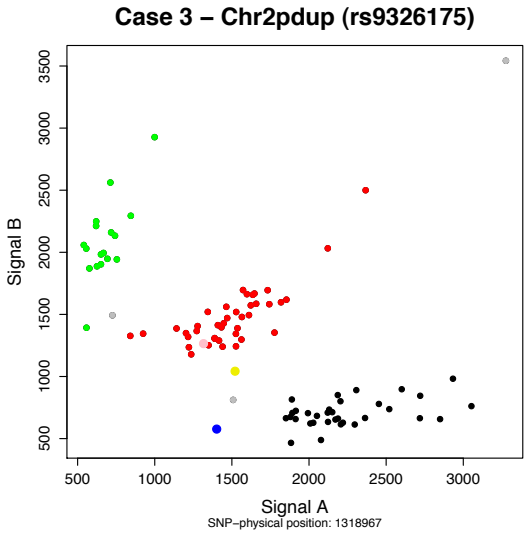

Case 3 – Chr2pdup (rs10192365)
Signal B
Signal A
SNP–physical position: 1231315

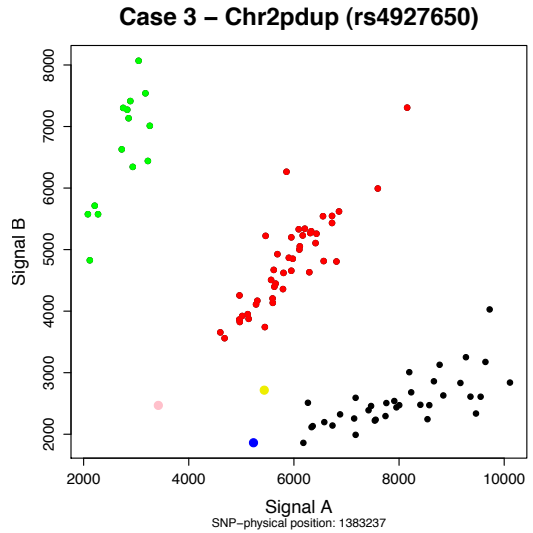

Case 3 – Chr2pdup (rs7568265)
Signal B
Signal A
SNP–physical position: 1278118

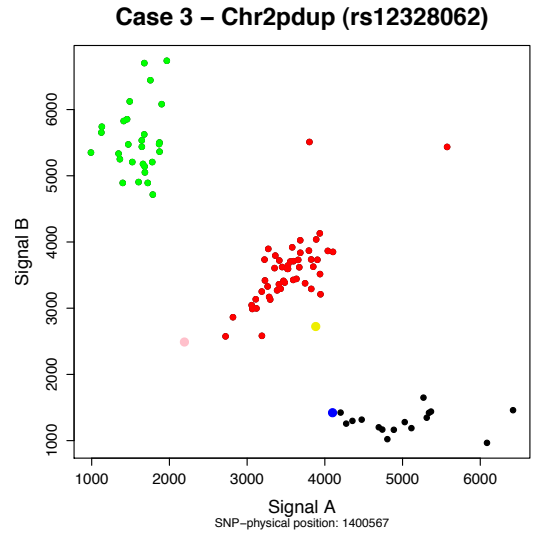

Case 3 – Chr2pdup (rs7606172)
Signal B
Signal A
SNP–physical position: 1279014

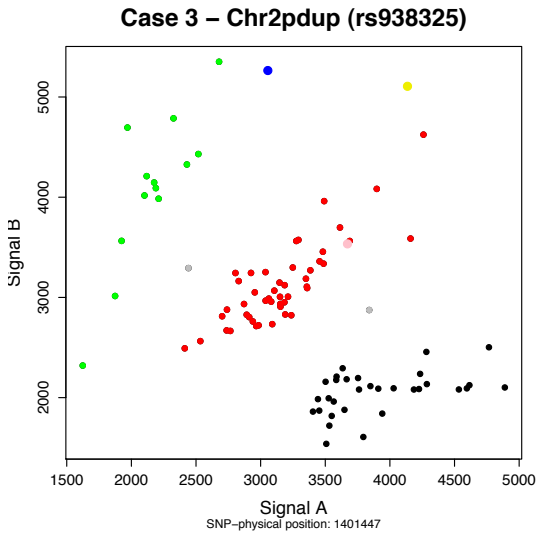

Case 3 – Chr2pdup (rs4293594)
Signal B
Signal A
SNP–physical position: 1309956

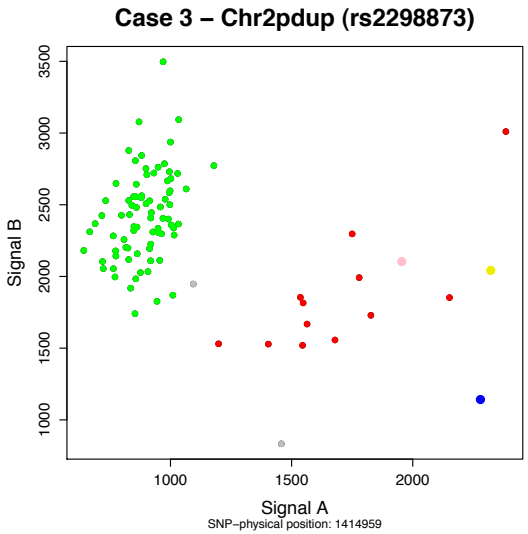

Case 3 – Chr2pdup (rs4641984)
Signal B
Signal A
SNP–physical position: 1314780

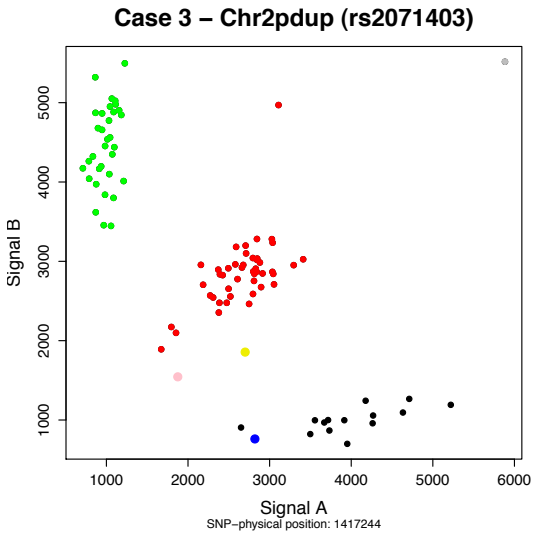

Case 3 – Chr2pdup (rs9326175)
Signal B
Signal A
SNP–physical position: 1318967

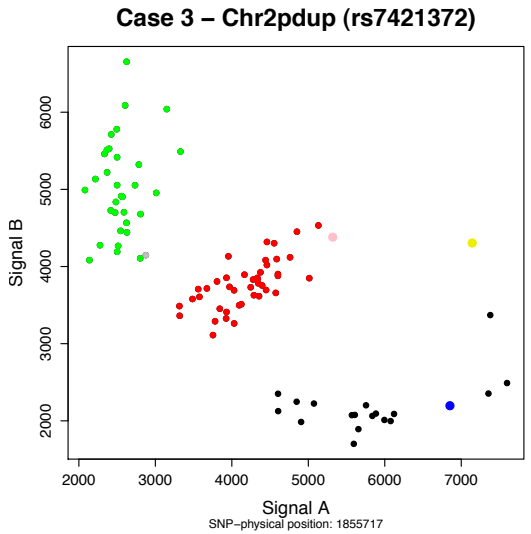

Case 3 – Chr2pdup (rs4927650)
Signal B
Signal A
SNP–physical position: 1383237

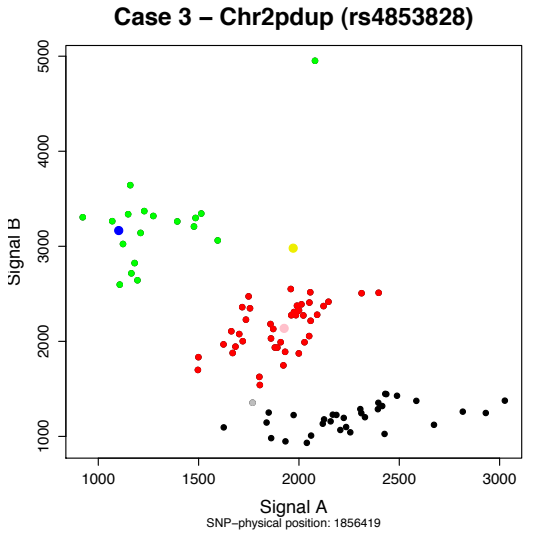

Case 3 – Chr2pdup (rs12328062)
Signal B
Signal A
SNP–physical position: 1400567

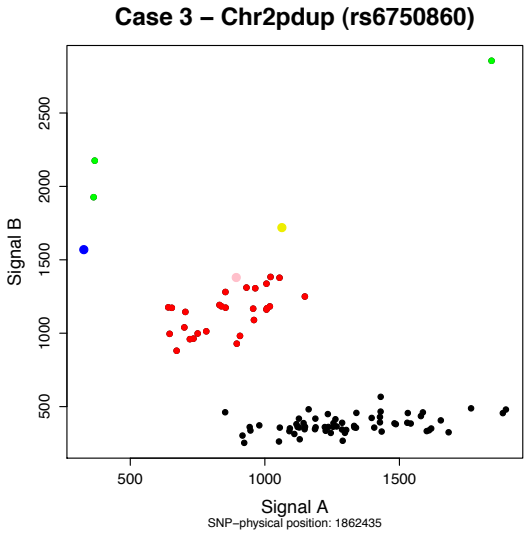

Case 3 – Chr2pdup (rs938325)
Signal B
Signal A
SNP–physical position: 1401447

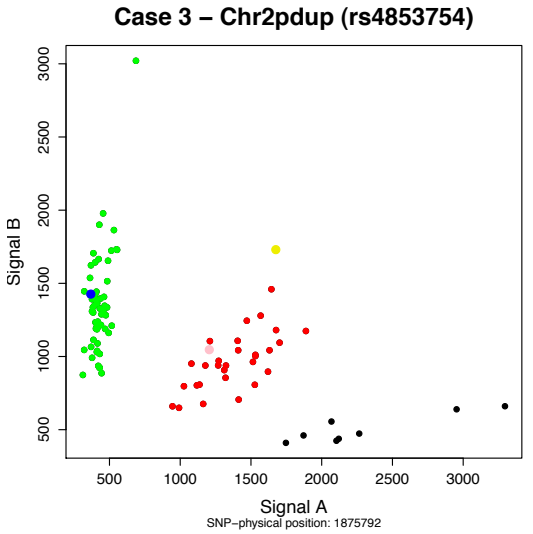

Case 3 – Chr2pdup (rs2298873)
Signal B
Signal A
SNP–physical position: 1414959

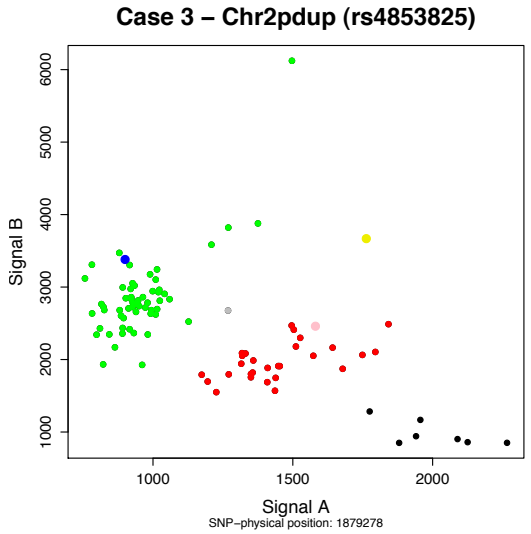

Case 3 – Chr2pdup (rs2071403)
Signal B
Signal A
SNP–physical position: 1417244

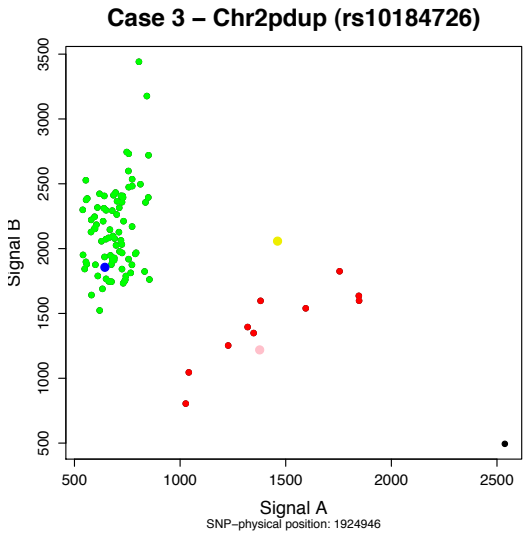

Case 3 – Chr2pdup (rs7421372)
Signal B
Signal A
SNP–physical position: 1855717

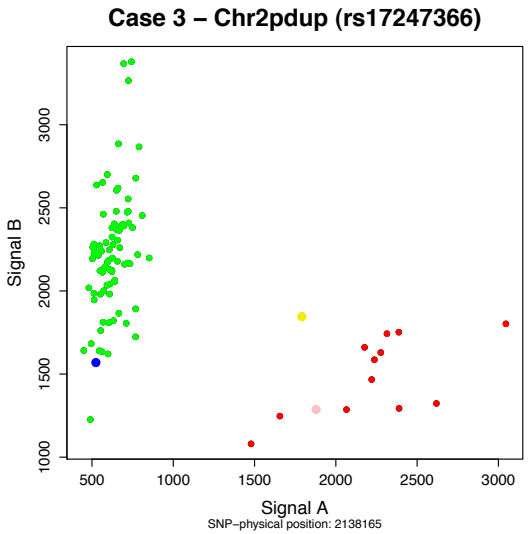

Case 3 – Chr2pdup (rs4853828)
Signal B
Signal A
SNP–physical position: 1856419

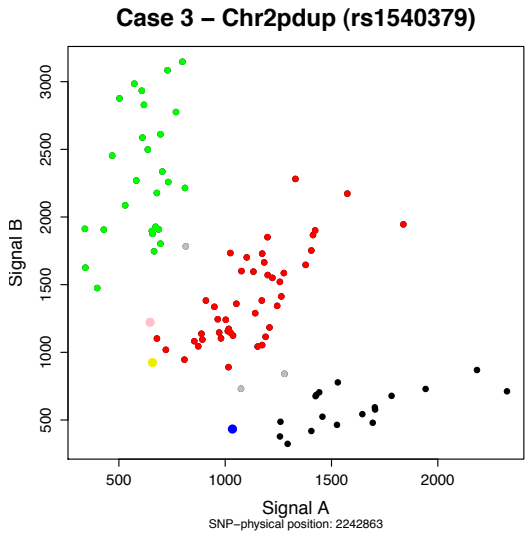

Case 3 – Chr2pdup (rs6750860)
Signal B
Signal A
SNP–physical position: 1862435

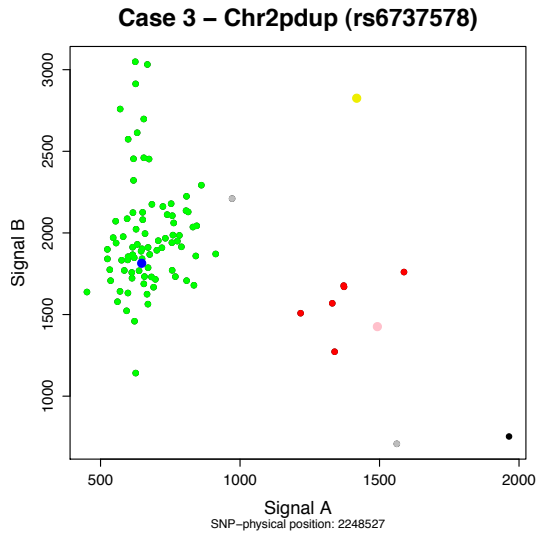

Case 3 – Chr2pdup (rs4853754)
Signal B
Signal A
SNP–physical position: 1875792

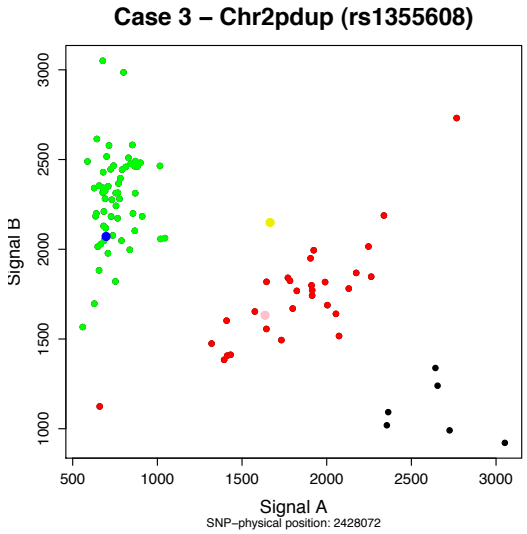

Case 3 – Chr2pdup (rs4853825)
Signal B
Signal A
SNP–physical position: 1879278

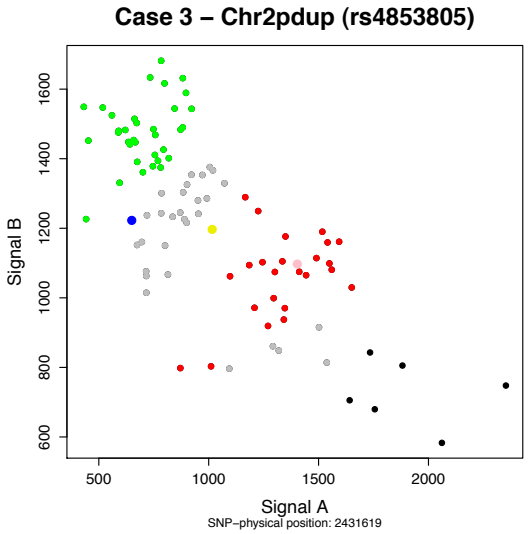

Case 3 – Chr2pdup (rs10184726)
Signal B
Signal A
SNP–physical position: 1924946

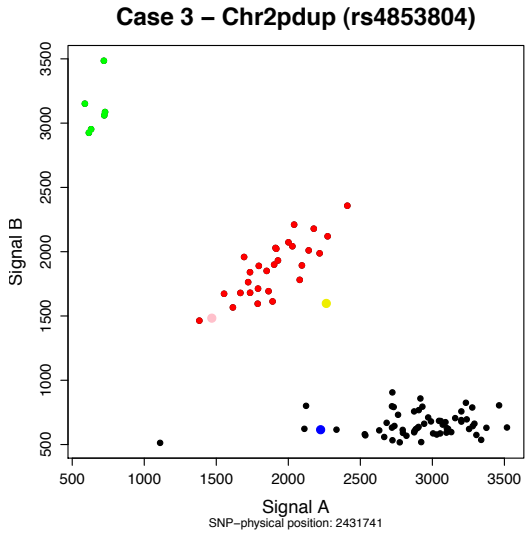

Case 3 – Chr2pdup (rs17247366)
Signal B
Signal A
SNP–physical position: 2138165

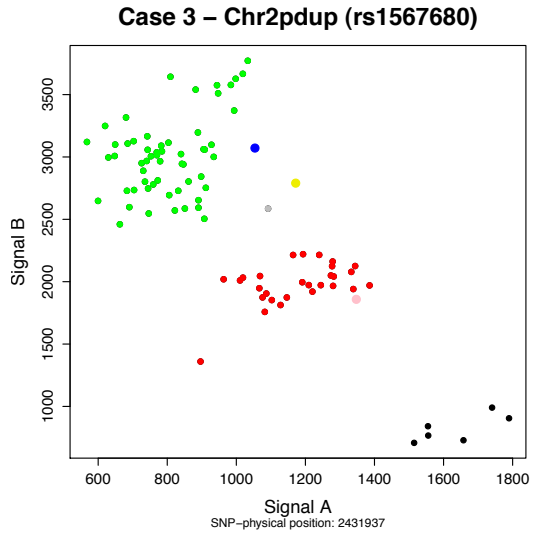

Case 3 – Chr2pdup (rs1540379)
Signal B
Signal A
SNP–physical position: 2242863

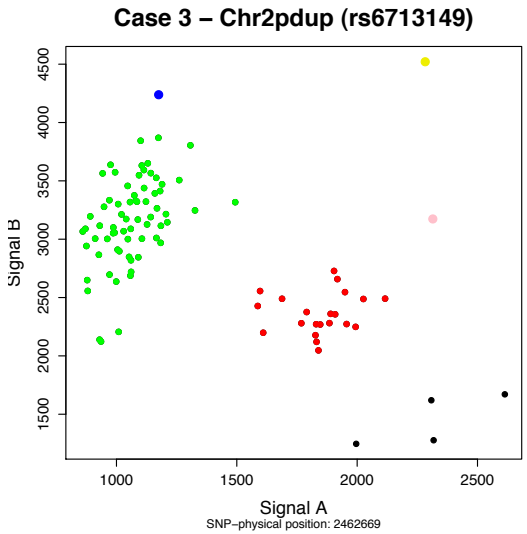

Case 3 – Chr2pdup (rs6737578)
Signal B
Signal A
SNP–physical position: 2248527

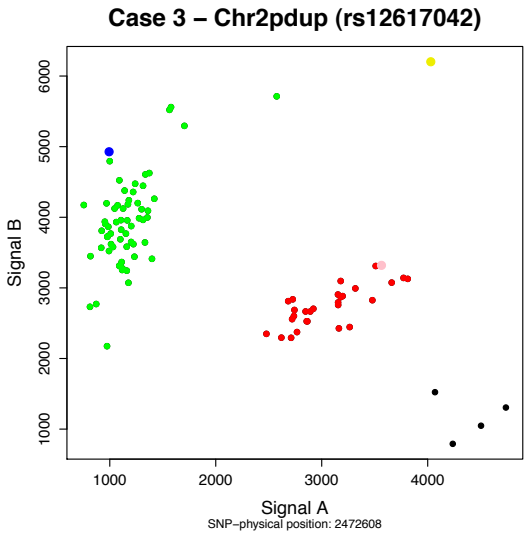

Case 3 – Chr2pdup (rs1355608)
Signal B
Signal A
SNP–physical position: 2428072

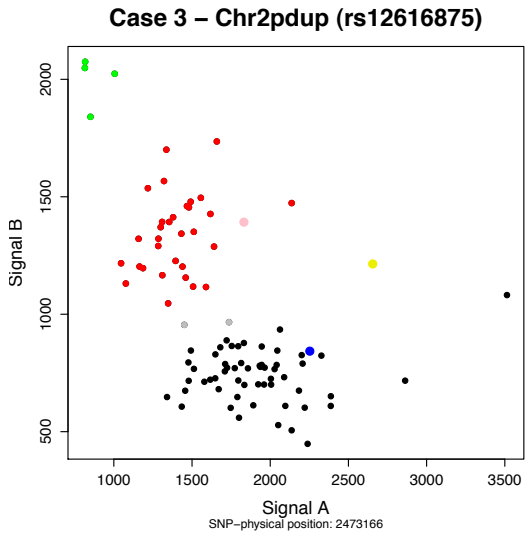

Case 3 – Chr2pdup (rs4853805)
Signal B
Signal A
SNP–physical position: 2431619

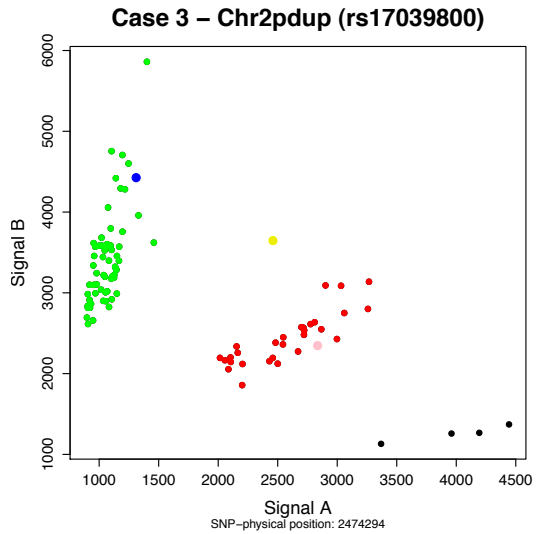

Case 3 – Chr2pdup (rs4853804)
Signal B
Signal A
SNP–physical position: 2431741

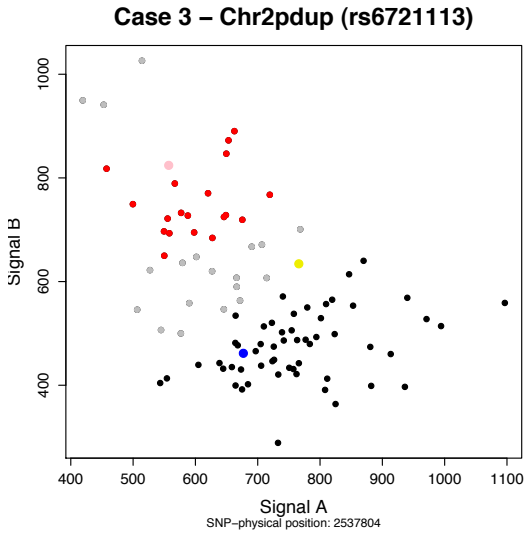

Case 3 – Chr2pdup (rs1567680)
Signal B
Signal A
SNP–physical position: 2431937

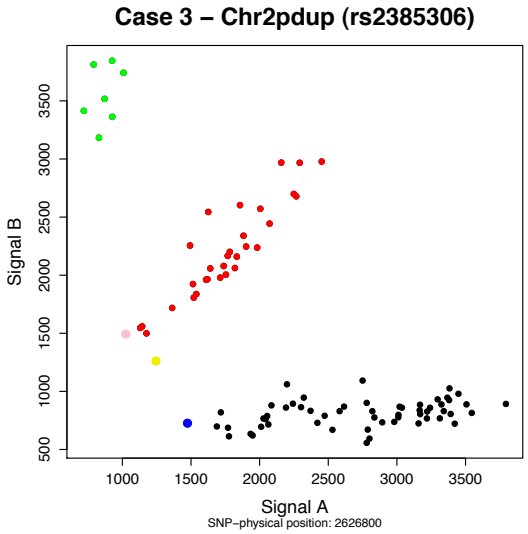

Case 3 – Chr2pdup (rs6713149)
Signal B
Signal A
SNP–physical position: 2462669

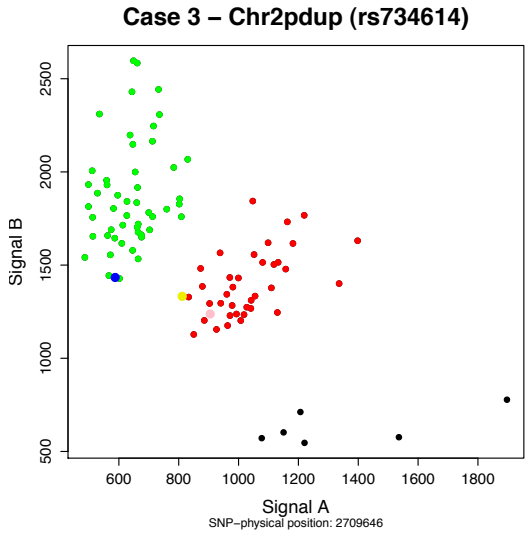

Case 3 – Chr2pdup (rs12617042)
Signal B
Signal A
SNP–physical position: 2472608

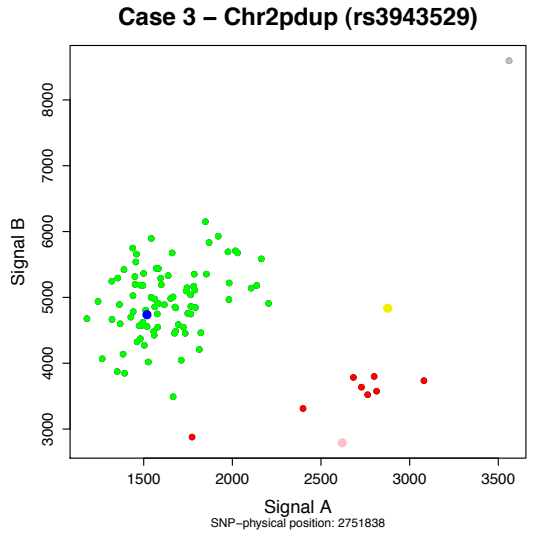

Case 3 – Chr2pdup (rs12616875)
Signal B
Signal A
SNP–physical position: 2473166

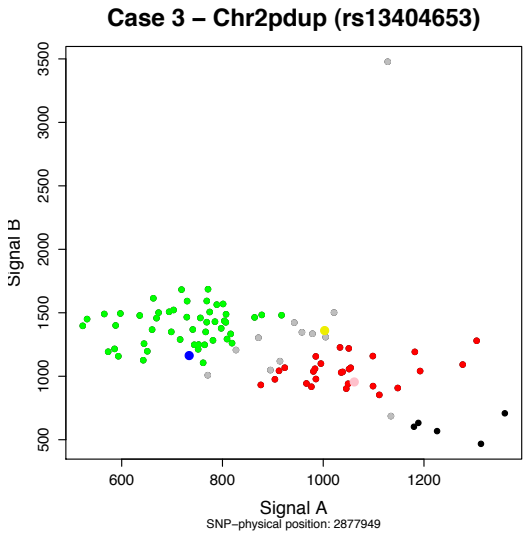

Case 3 – Chr2pdup (rs17039800)
Signal B
Signal A
SNP–physical position: 2474294

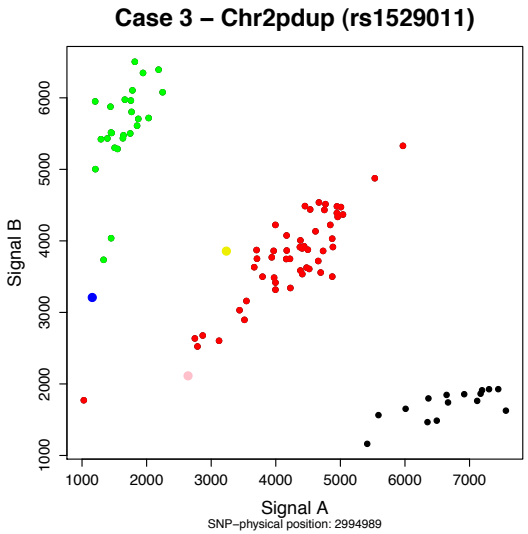

Case 3 – Chr2pdup (rs6721113)
Signal B
Signal A
SNP–physical position: 2537804

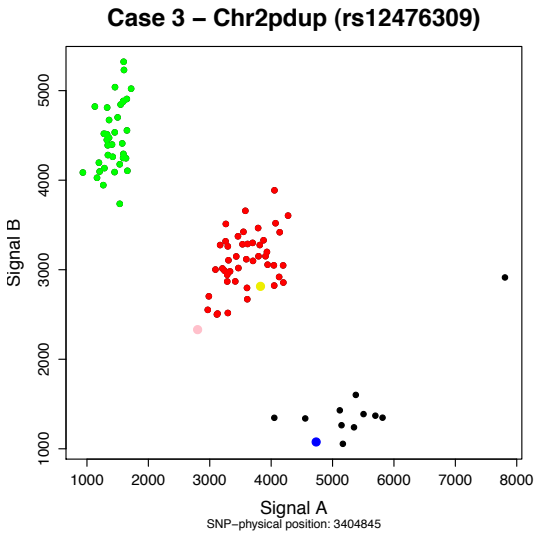

Case 3 – Chr2pdup (rs2385306)
Signal B
Signal A
SNP–physical position: 2626800

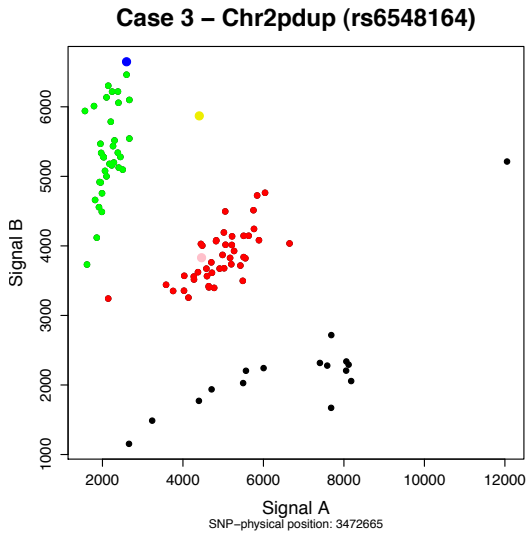

Case 3 – Chr2pdup (rs734614)
Signal B
Signal A
SNP–physical position: 2709646

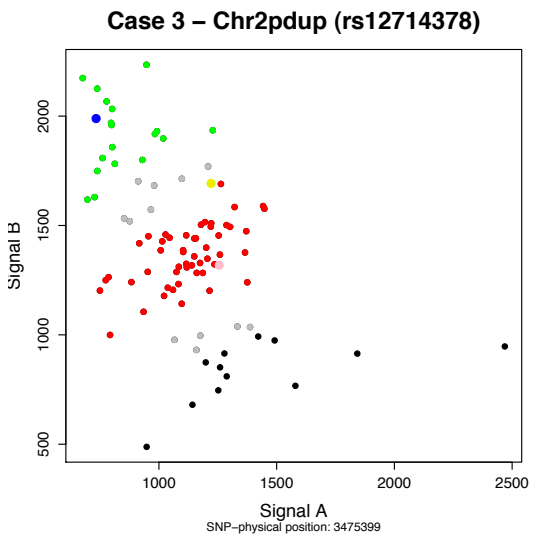

Case 3 – Chr2pdup (rs3943529)
Signal B
Signal A
SNP–physical position: 2751838

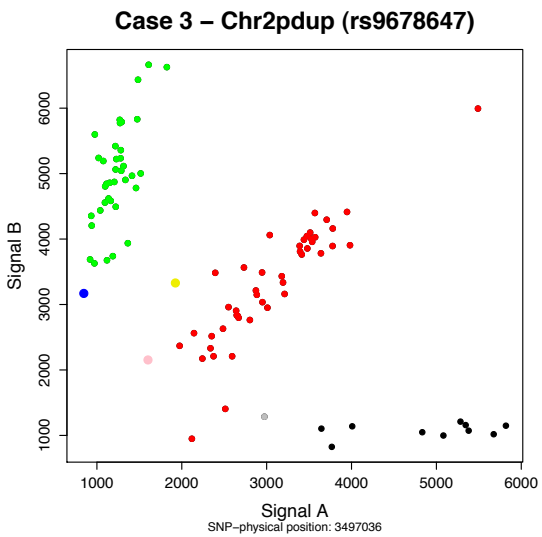

Case 3 – Chr2pdup (rs13404653)
Signal B
Signal A
SNP–physical position: 2877949

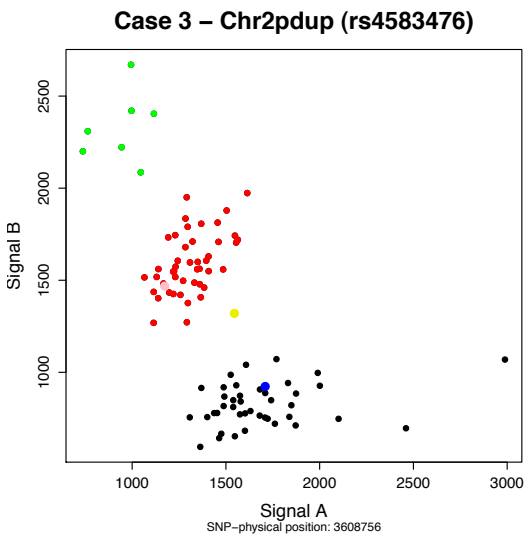

Case 3 – Chr2pdup (rs1529011)
Signal B
Signal A
SNP–physical position: 2994989

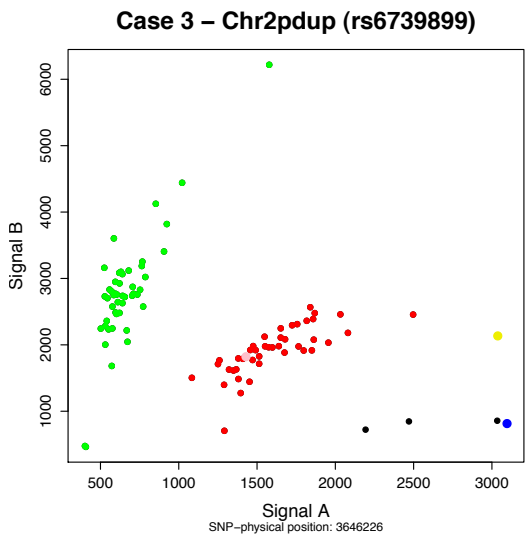

Case 3 – Chr2pdup (rs12476309)
Signal B
Signal A
SNP–physical position: 3404845

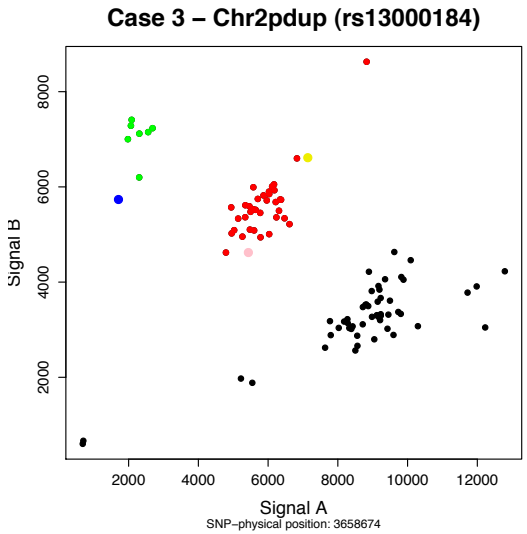

Case 3 – Chr2pdup (rs6548164)
Signal B
Signal A
SNP–physical position: 3472665

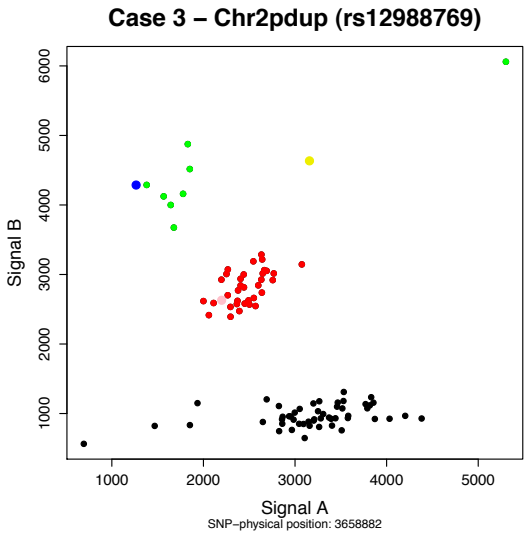

Case 3 – Chr2pdup (rs12714378)
Signal B
Signal A
SNP–physical position: 3475399

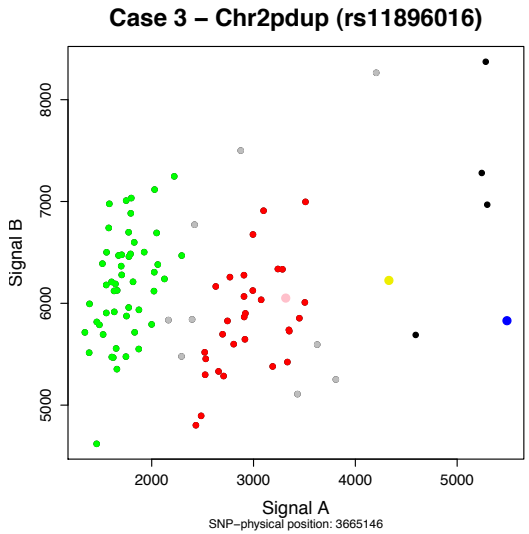

Case 3 – Chr2pdup (rs9678647)
Signal B
Signal A
SNP–physical position: 3497036

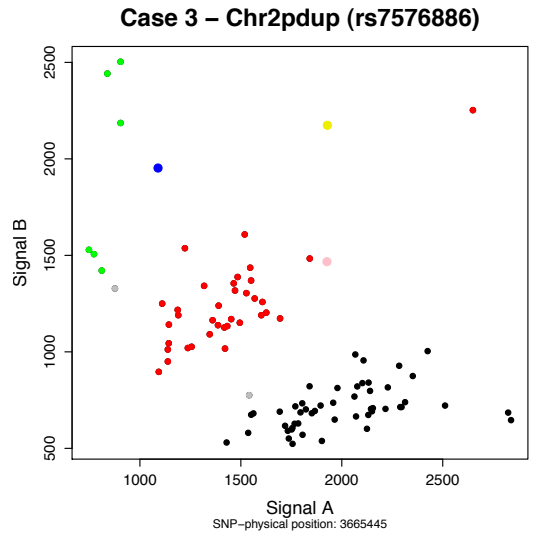

Case 3 – Chr2pdup (rs4583476)
Signal B
Signal A
SNP–physical position: 3608756

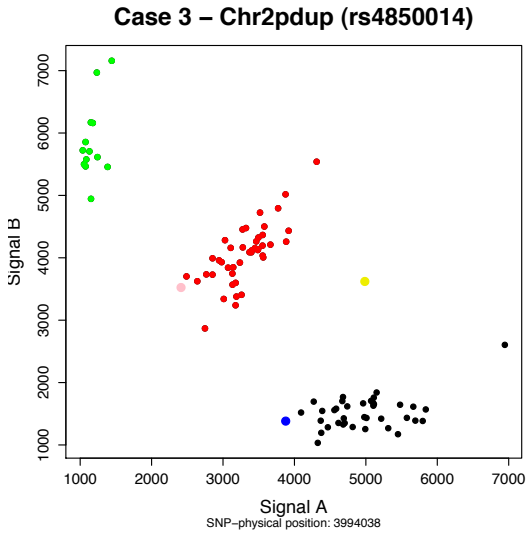

Case 3 – Chr2pdup (rs6739899)
Signal B
Signal A
SNP–physical position: 3646226

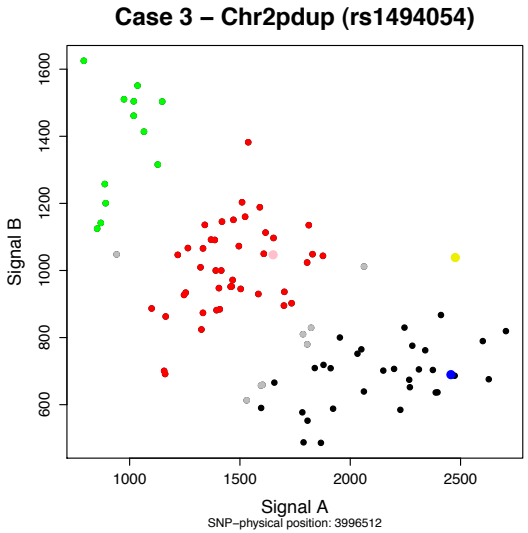

Case 3 – Chr2pdup (rs13000184)
Signal B
Signal A
SNP–physical position: 3658674

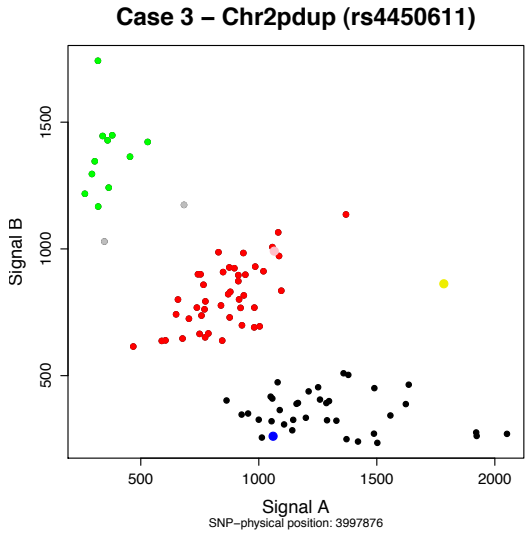

Case 3 – Chr2pdup (rs12988769)
Signal B
Signal A
SNP–physical position: 3658882

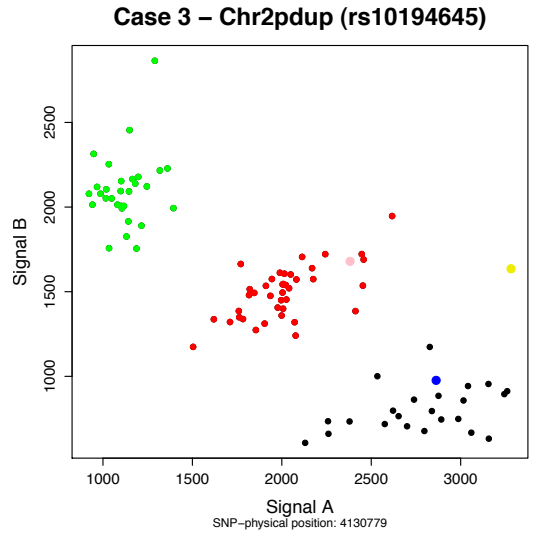

Case 3 – Chr2pdup (rs11896016)
Signal B
Signal A
SNP–physical position: 3665146

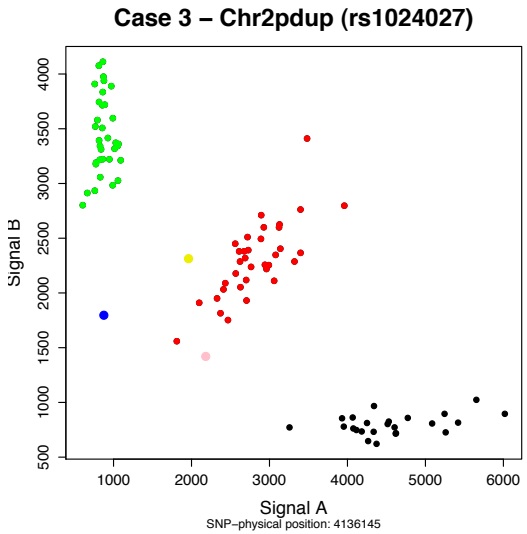

Case 3 – Chr2pdup (rs7576886)
Signal B
Signal A
SNP–physical position: 3665445

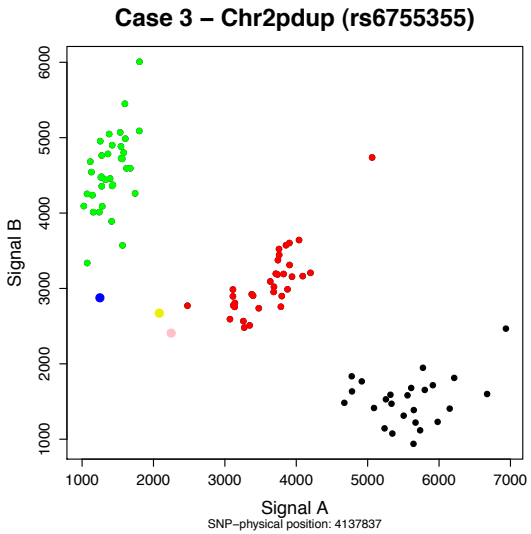

Case 3 – Chr2pdup (rs4850014)
Signal B
Signal A
SNP–physical position: 3994038

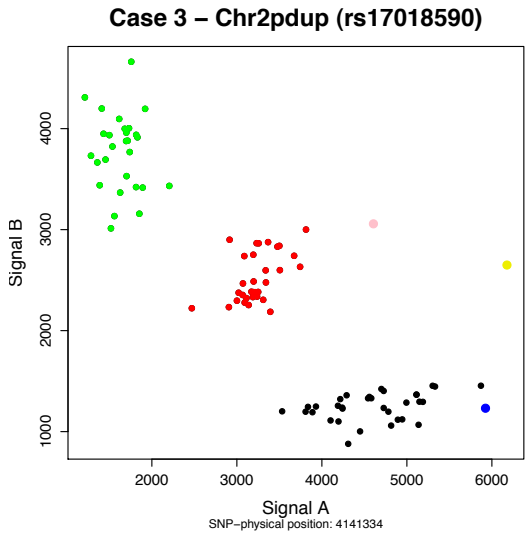

Case 3 – Chr2pdup (rs1494054)
Signal B
Signal A
SNP–physical position: 3996512

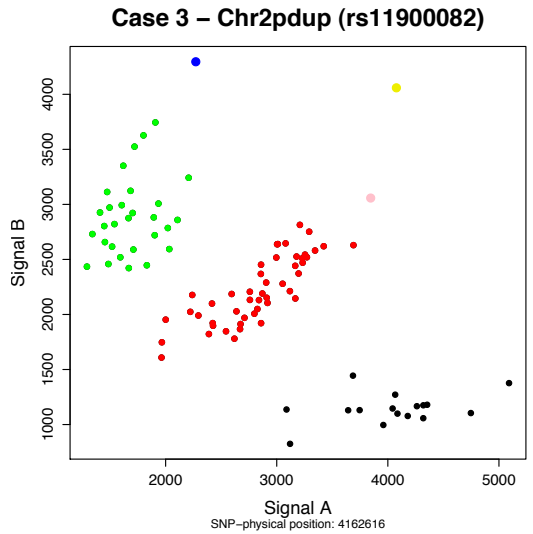

Case 3 – Chr2pdup (rs4450611)
Signal B
Signal A
SNP–physical position: 3997876

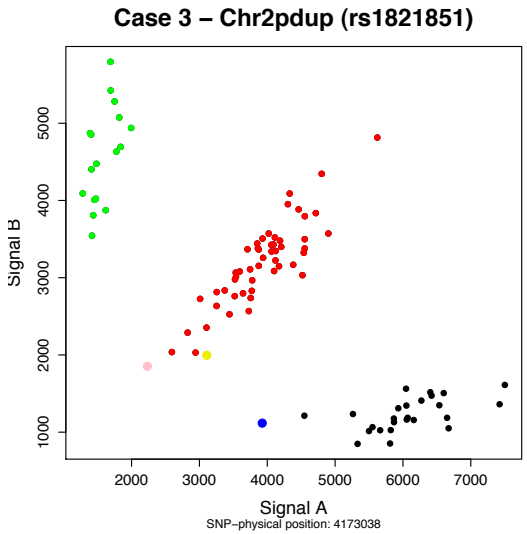

Case 3 – Chr2pdup (rs10194645)
Signal B
Signal A
SNP–physical position: 4130779

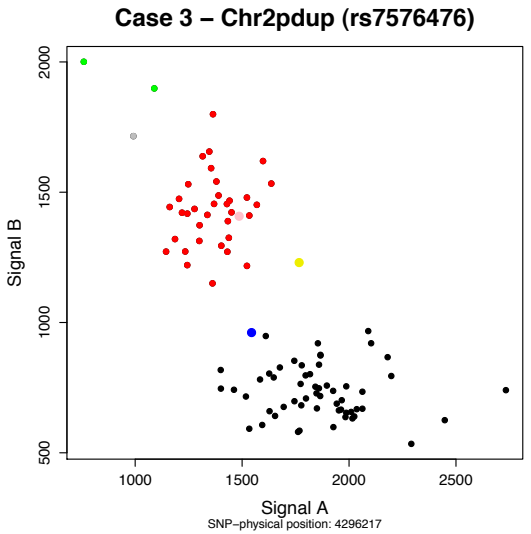

Case 3 – Chr2pdup (rs1024027)
Signal B
Signal A
SNP–physical position: 4136145

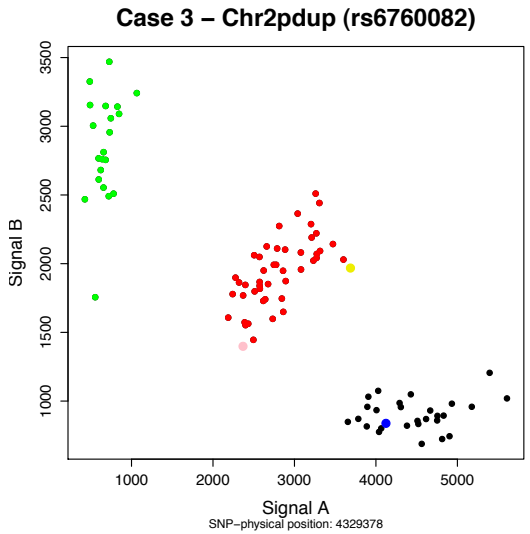

Case 3 – Chr2pdup (rs6755355)
Signal B
Signal A
SNP–physical position: 4137837

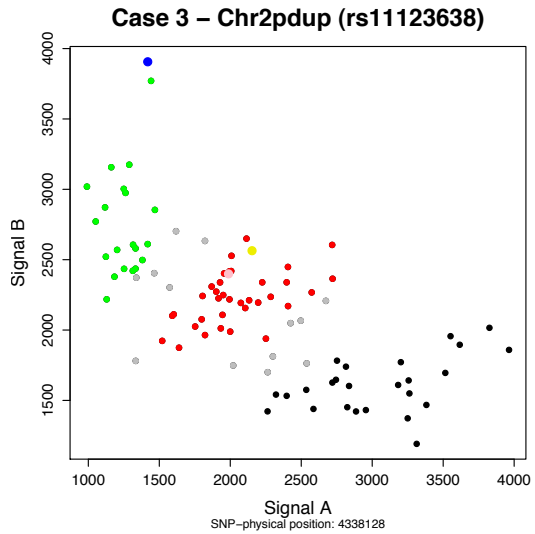

Case 3 – Chr2pdup (rs17018590)
Signal B
Signal A
SNP–physical position: 4141334

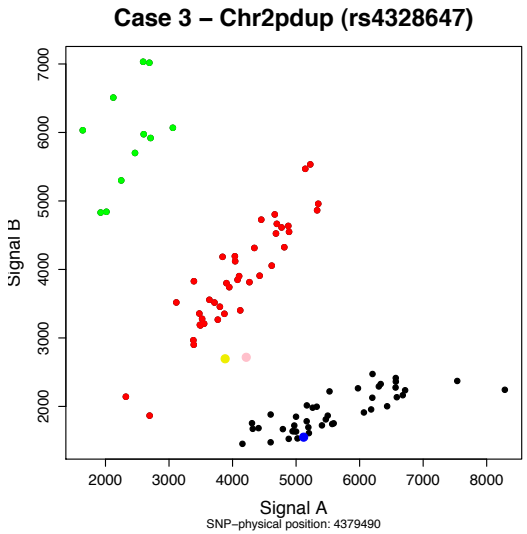

Case 3 – Chr2pdup (rs11900082)
Signal B
Signal A
SNP–physical position: 4162616

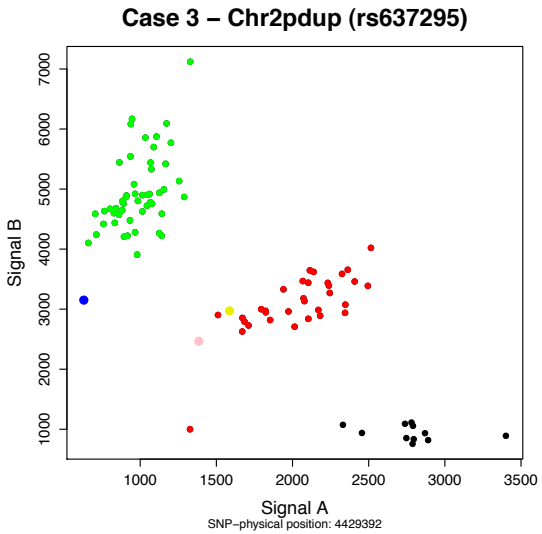

Case 3 – Chr2pdup (rs1821851)
Signal B
Signal A
SNP–physical position: 4173038

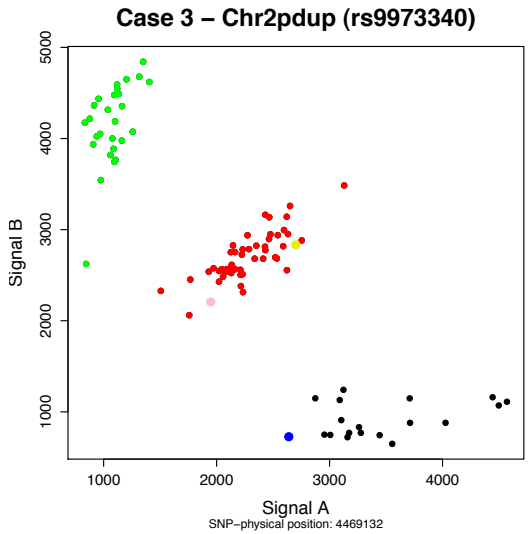

Case 3 – Chr2pdup (rs7576476)
Signal B
Signal A
SNP–physical position: 4296217

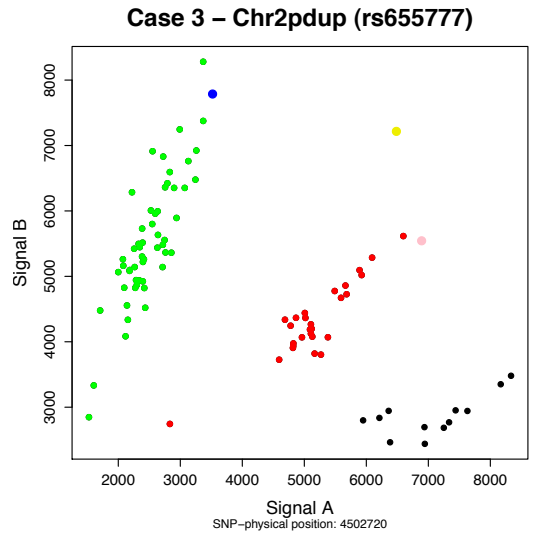

Case 3 – Chr2pdup (rs6760082)
Signal B
Signal A
SNP–physical position: 4329378

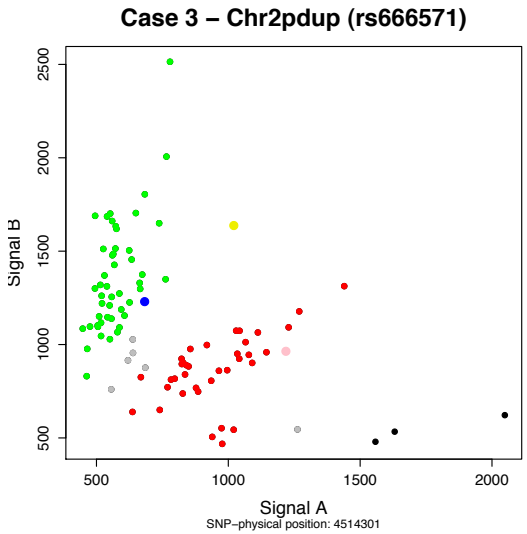

Case 3 – Chr2pdup (rs11123638)
Signal B
Signal A
SNP–physical position: 4338128

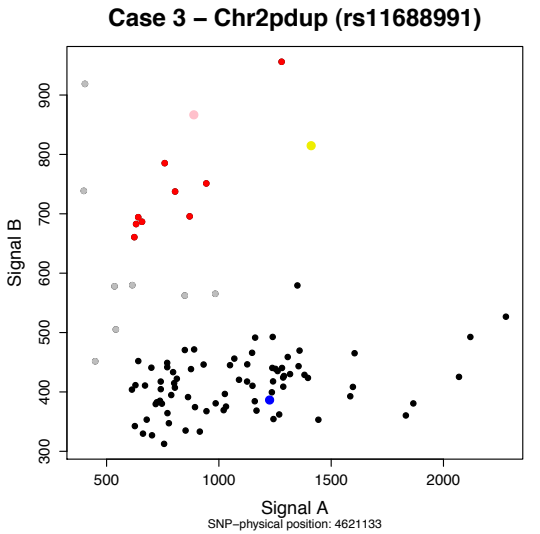

Case 3 – Chr2pdup (rs4328647)
Signal B
Signal A
SNP–physical position: 4379490

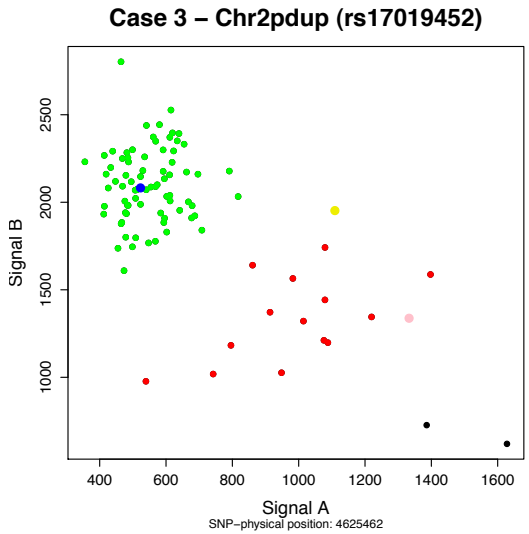

Case 3 – Chr2pdup (rs637295)
Signal B
Signal A
SNP–physical position: 4429392

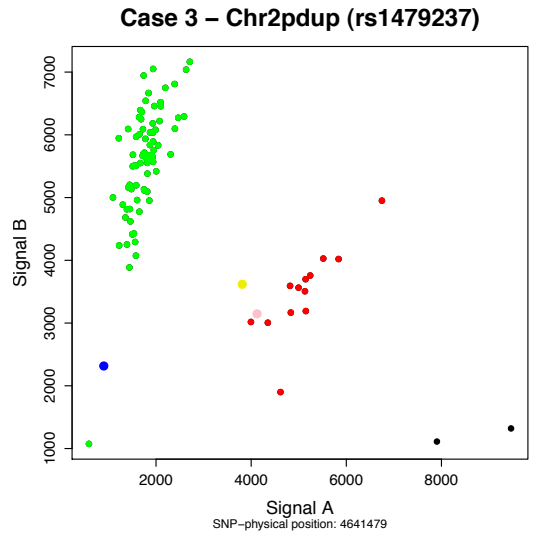

Case 3 – Chr2pdup (rs9973340)
Signal B
Signal A
SNP–physical position: 4469132

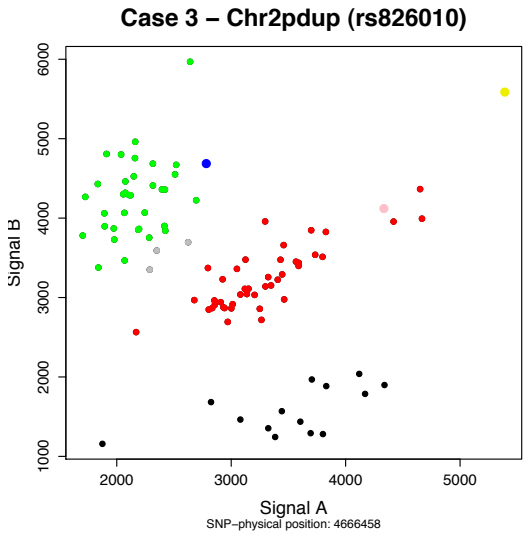

Case 3 – Chr2pdup (rs655777)
Signal B
Signal A
SNP–physical position: 4502720

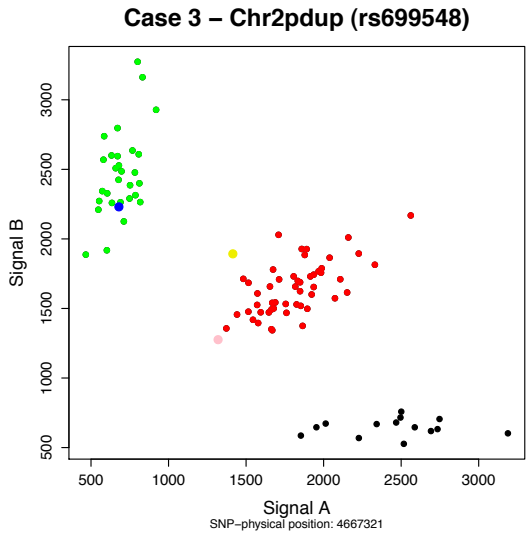

Case 3 – Chr2pdup (rs666571)
Signal B
Signal A
SNP–physical position: 4514301

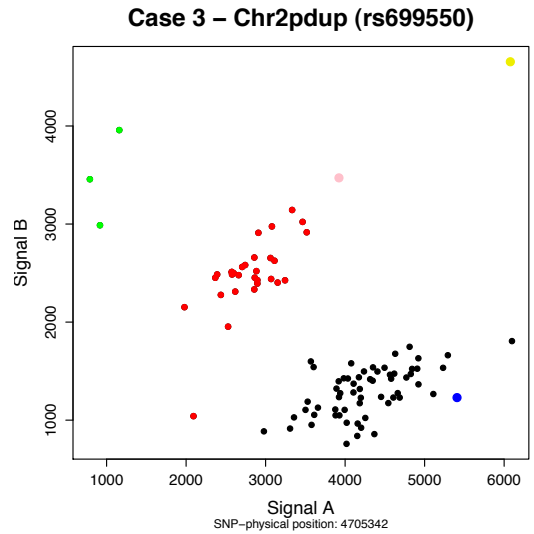

Case 3 – Chr2pdup (rs11688991)
Signal B
Signal A
SNP–physical position: 4621133

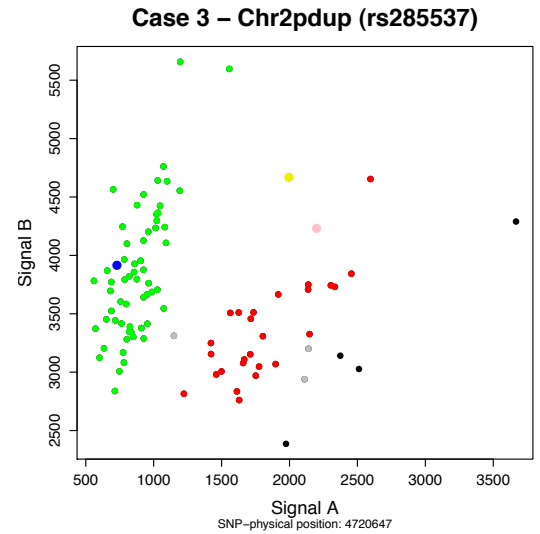

Case 3 – Chr2pdup (rs17019452)
Signal B
Signal A
SNP–physical position: 4625462

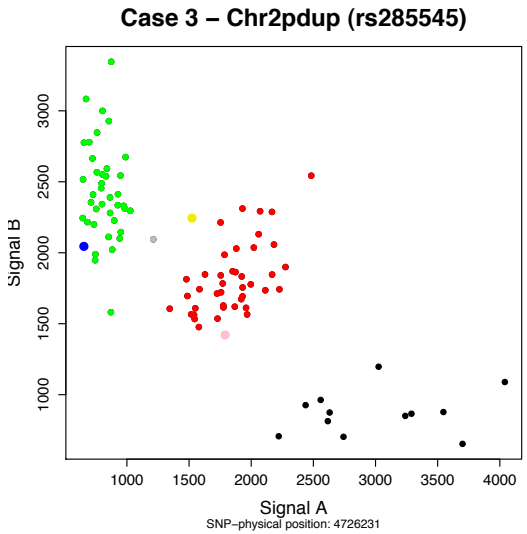

Case 3 – Chr2pdup (rs1479237)
Signal B
Signal A
SNP–physical position: 4641479

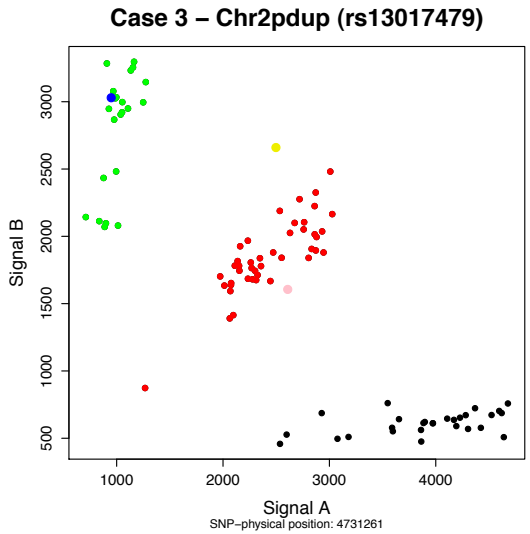

Case 3 – Chr2pdup (rs826010)
Signal B
Signal A
SNP–physical position: 4666458

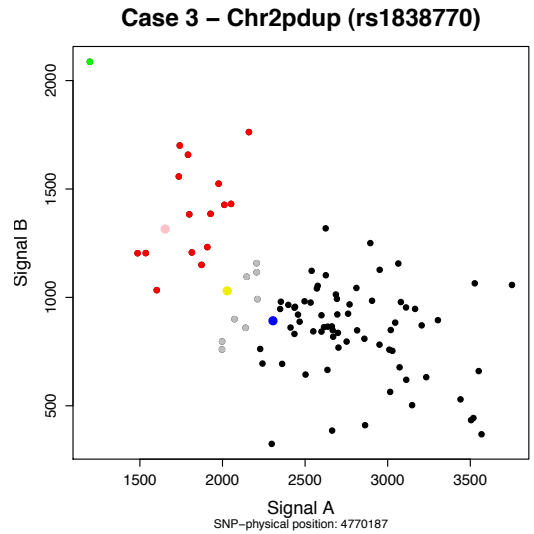

Case 3 – Chr2pdup (rs699548)
Signal B
Signal A
SNP–physical position: 4667321

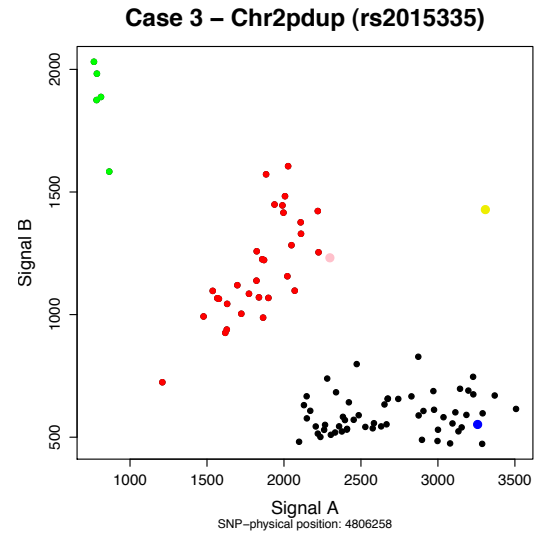

Case 3 – Chr2pdup (rs699550)
Signal B
Signal A
SNP–physical position: 4705342

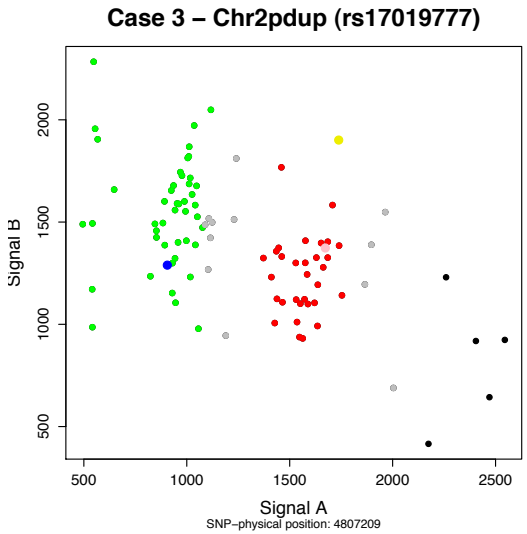

Case 3 – Chr2pdup (rs285537)
Signal B
Signal A
SNP–physical position: 4720647

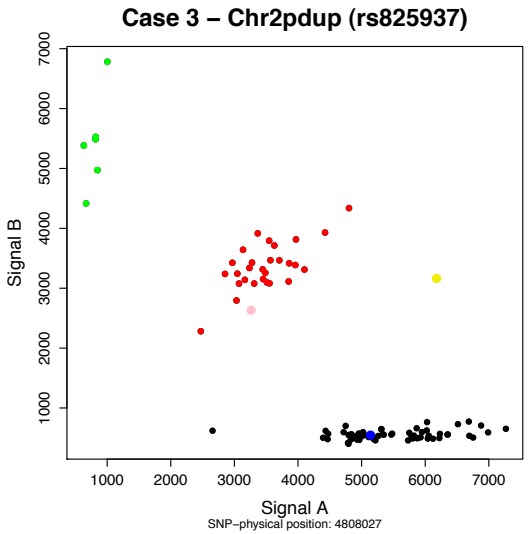

Case 3 – Chr2pdup (rs285545)
Signal B
Signal A
SNP–physical position: 4726231

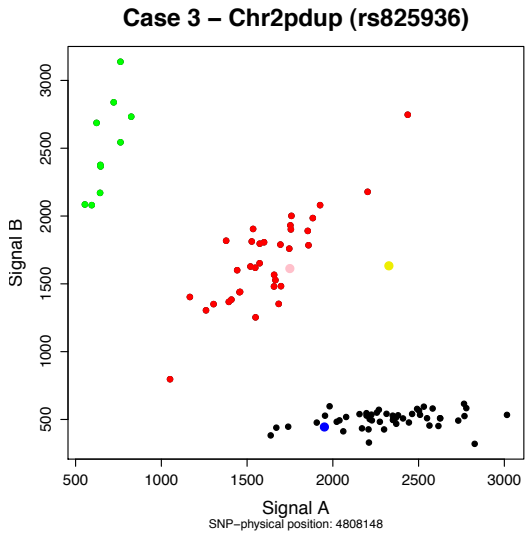

Case 3 – Chr2pdup (rs13017479)
Signal B
Signal A
SNP–physical position: 4731261

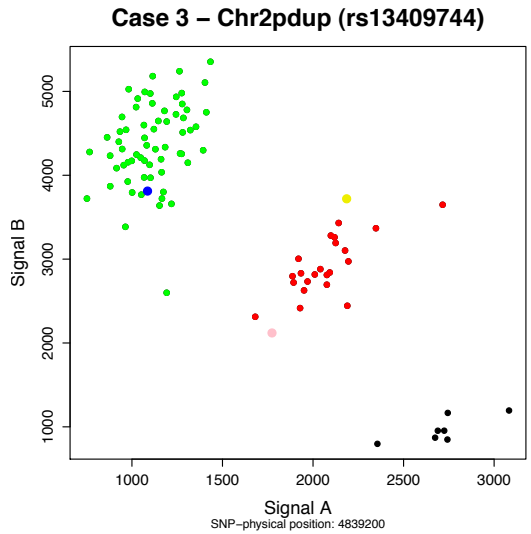

Case 3 – Chr2pdup (rs1838770)
Signal B
Signal A
SNP–physical position: 4770187

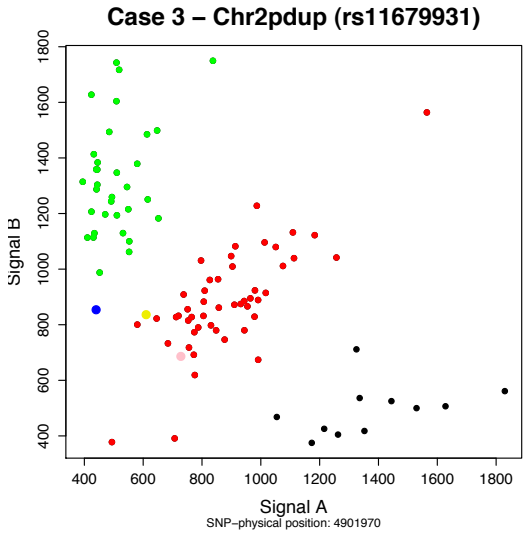

Case 3 – Chr2pdup (rs2015335)
Signal B
Signal A
SNP–physical position: 4806258

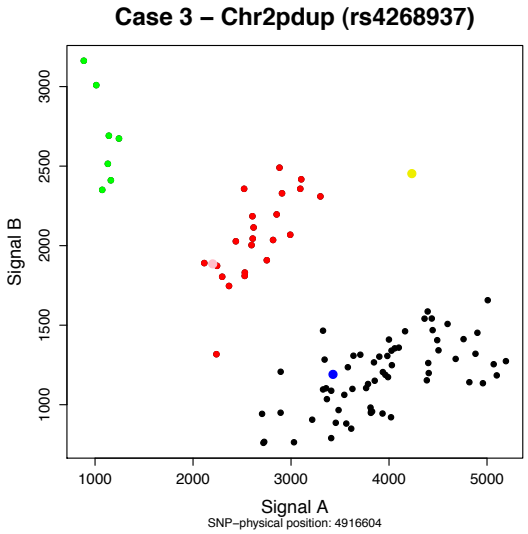

Case 3 – Chr2pdup (rs17019777)
Signal B
Signal A
SNP–physical position: 4807209

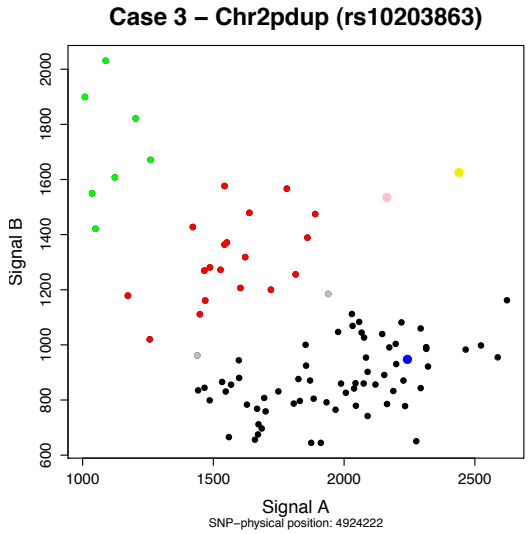

Case 3 – Chr2pdup (rs825937)
Signal B
Signal A
SNP–physical position: 4808027

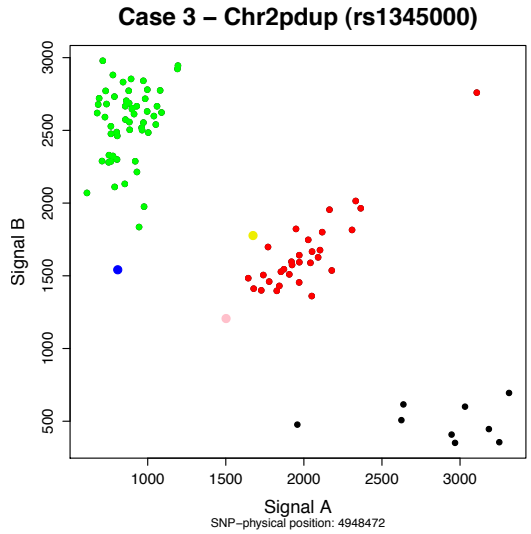

Case 3 – Chr2pdup (rs825936)
Signal B
Signal A
SNP–physical position: 4808148

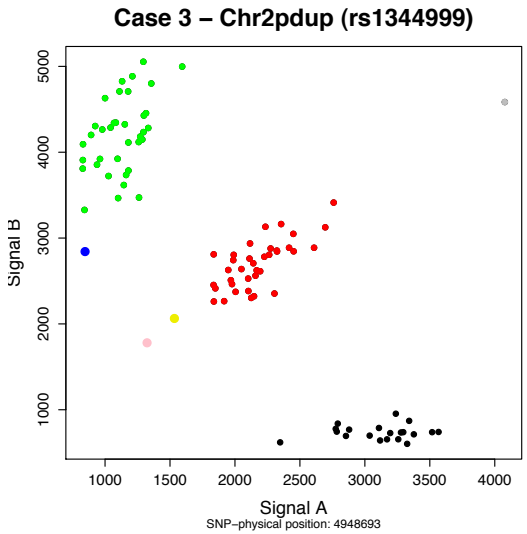

Case 3 – Chr2pdup (rs13409744)
Signal B
Signal A
SNP–physical position: 4839200


Case 3 – Chr2pdup (rs11679931)
Signal B
Signal A
SNP–physical position: 4901970

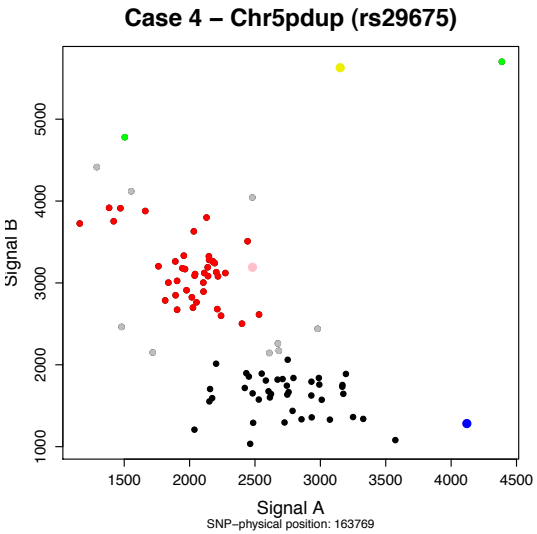

Case 3 – Chr2pdup (rs4268937)
Signal B
Signal A
SNP–physical position: 4916604

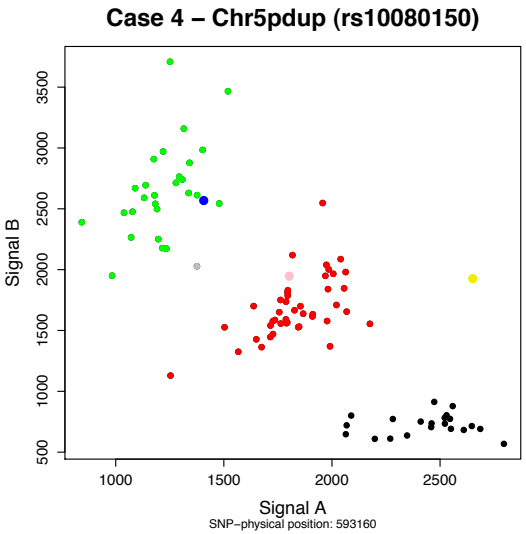

Case 3 – Chr2pdup (rs10203863)
Signal B
Signal A
SNP–physical position: 4924222

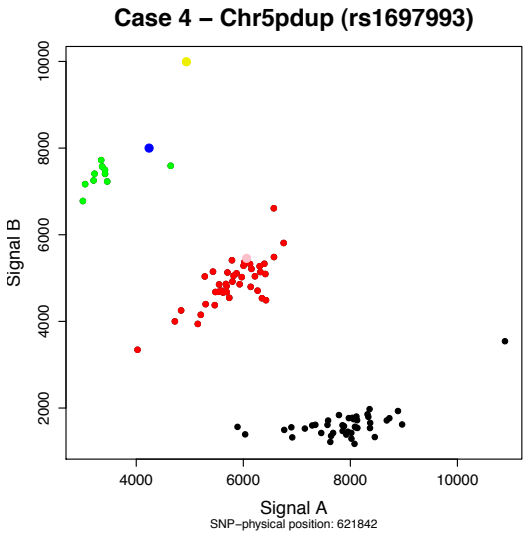

Case 3 – Chr2pdup (rs1345000)
Signal B
Signal A
SNP–physical position: 4948472

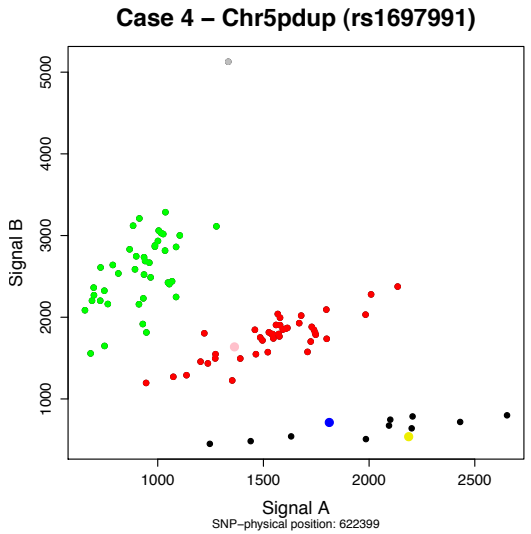

Case 3 – Chr2pdup (rs1344999)
Signal B
5000
4000
3000
2000
1000
1000
1500
2000
2500
3000
3500
4000
Signal A
SNP–physical position: 4948693

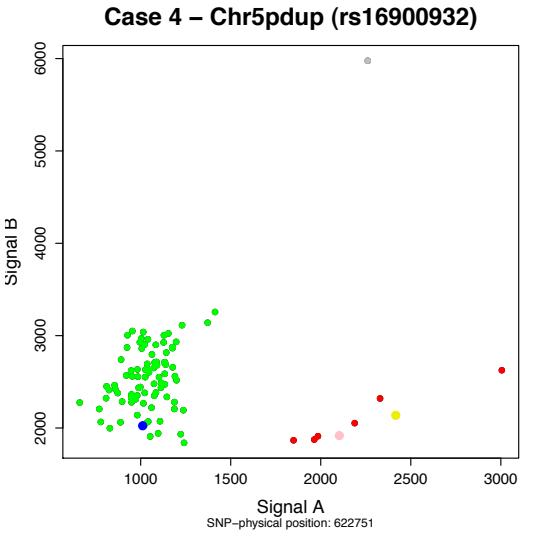
Case: 4
Chromosome: 5p
Abberation: dup.
Origin: Maternal

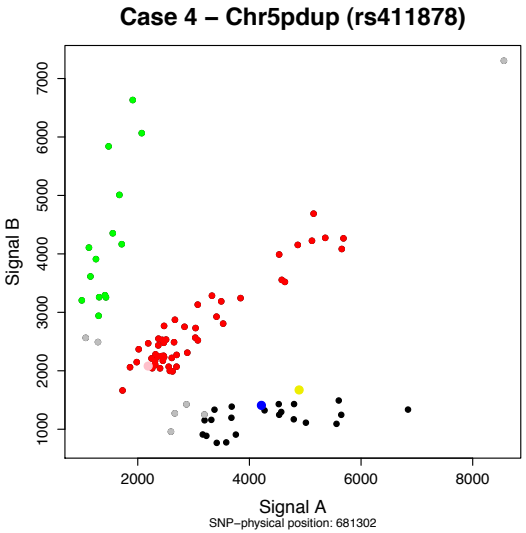

Case 4 – Chr5pdup (rs29675)
Signal B
Signal A
SNP–physical position: 163769

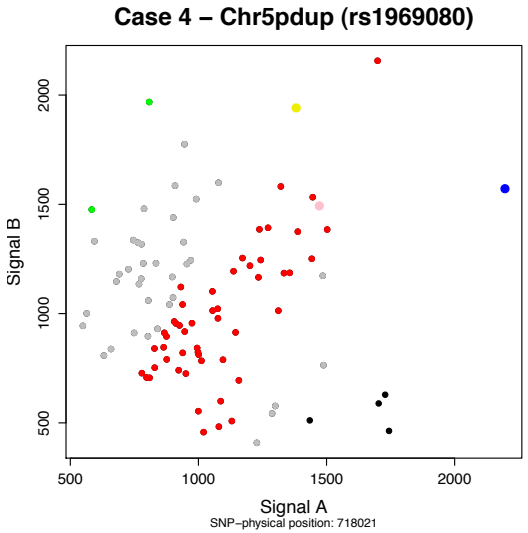

Case 4 – Chr5pdup (rs10080150)
Signal B
Signal A
SNP–physical position: 593160

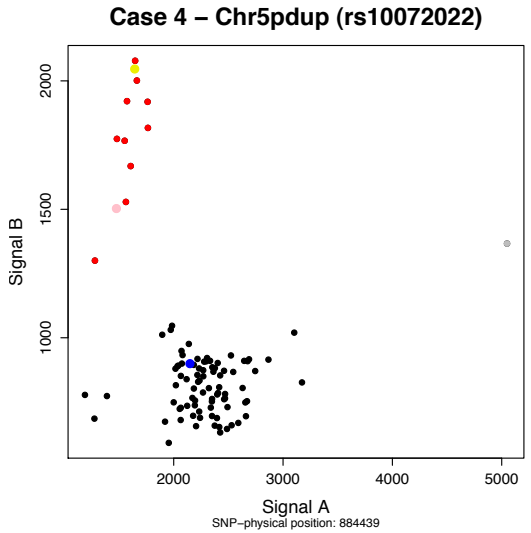

Case 4 – Chr5pdup (rs1697993)
Signal B
Signal A
SNP–physical position: 621842

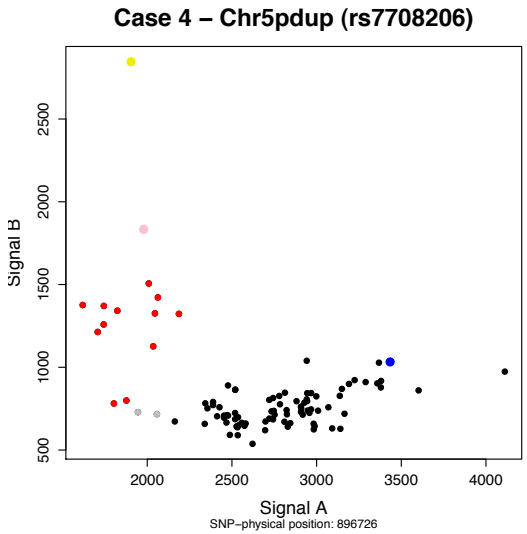

Case 4 – Chr5pdup (rs1697991)
Signal B
Signal A
SNP–physical position: 622399

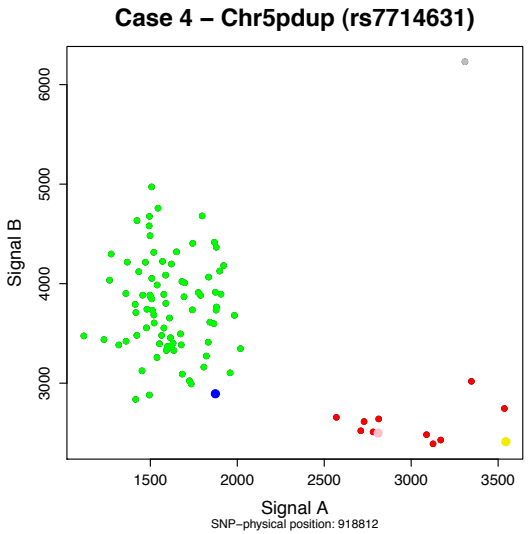

Case 4 – Chr5pdup (rs16900932)
Signal B
Signal A
SNP–physical position: 622751

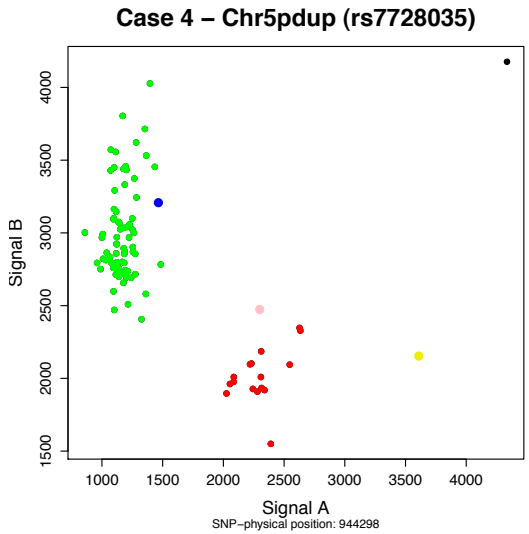

Case 4 – Chr5pdup (rs411878)
Signal B
Signal A
SNP–physical position: 681302

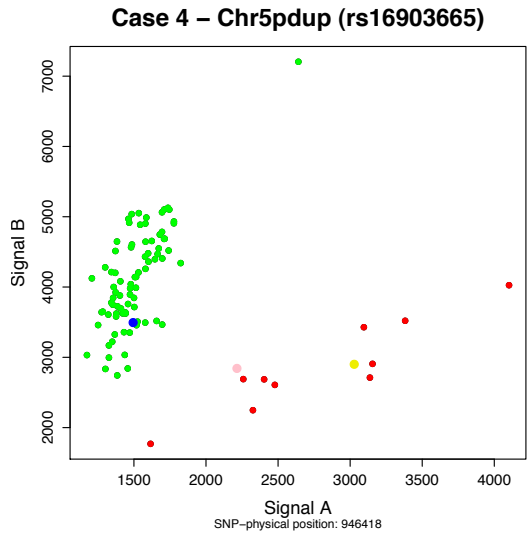

Case 4 – Chr5pdup (rs1969080)
Signal B
Signal A
SNP–physical position: 718021

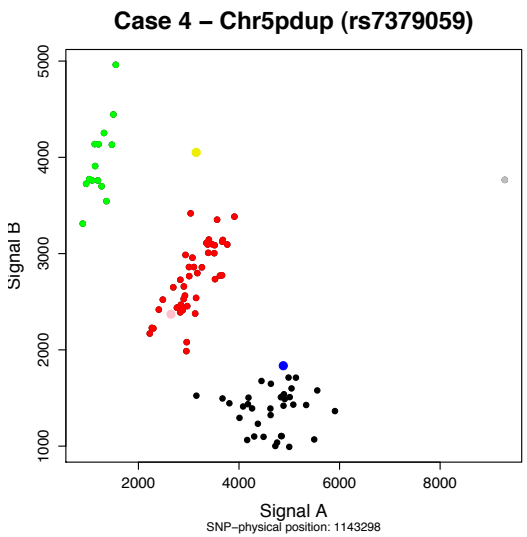

Case 4 – Chr5pdup (rs10072022)
Signal B
Signal A
SNP–physical position: 884439

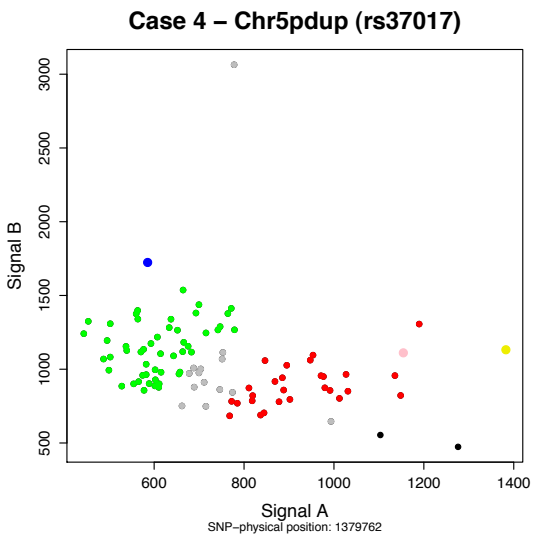

Case 4 – Chr5pdup (rs7708206)
Signal B
Signal A
SNP–physical position: 896726

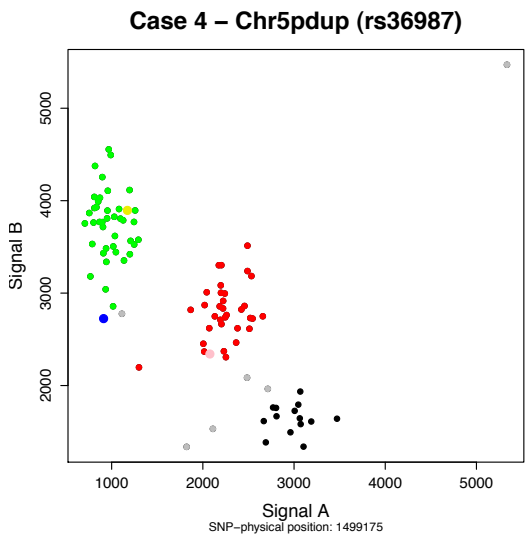

Case 4 – Chr5pdup (rs7714631)
Signal B
Signal A
SNP–physical position: 918812

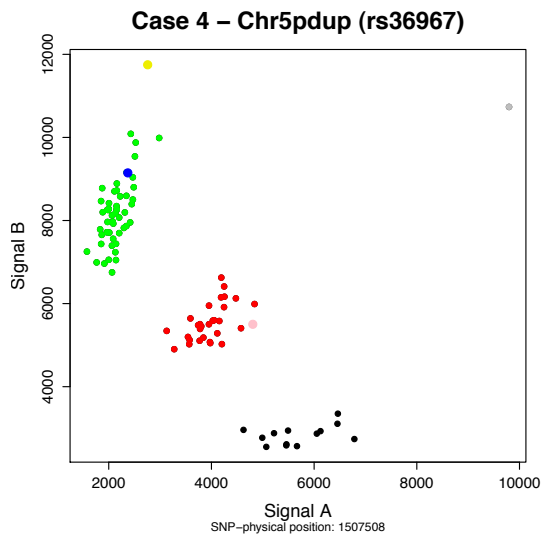

Case 4 – Chr5pdup (rs7728035)
Signal B
Signal A
SNP–physical position: 944298

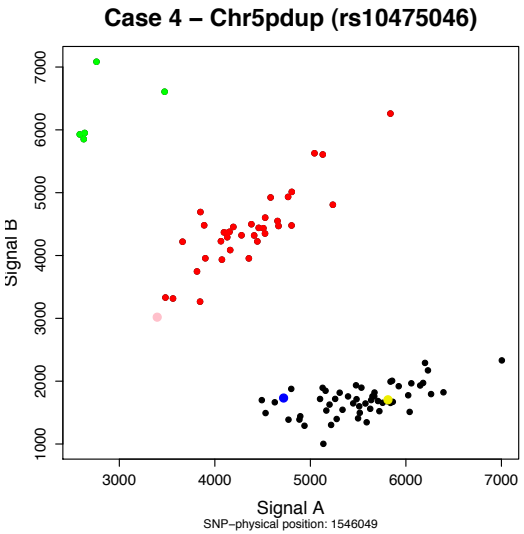

Case 4 – Chr5pdup (rs16903665)
Signal B
Signal A
SNP–physical position: 946418

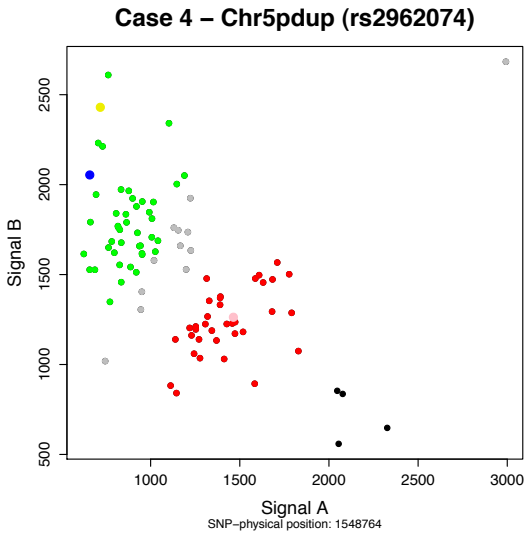

Case 4 – Chr5pdup (rs7379059)
Signal B
Signal A
SNP–physical position: 1143298

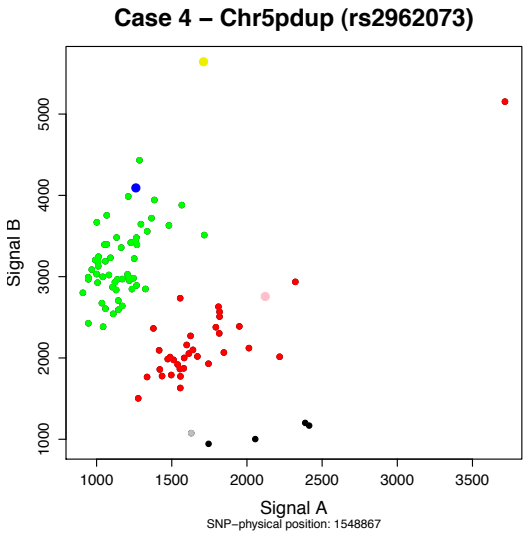

Case 4 – Chr5pdup (rs37017)
Signal B
Signal A
SNP–physical position: 1379762

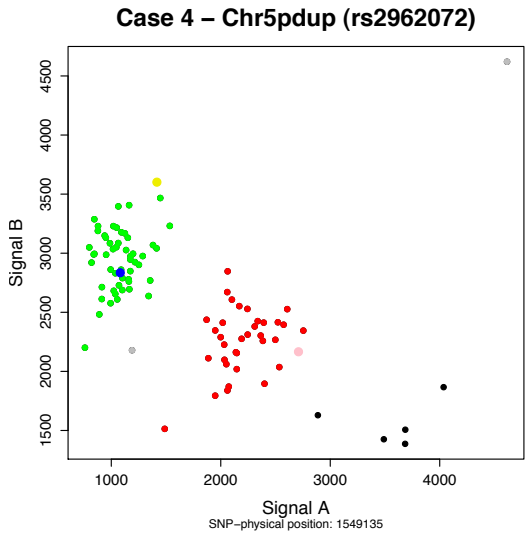

Case 4 – Chr5pdup (rs36987)
Signal B
Signal A
SNP–physical position: 1499175

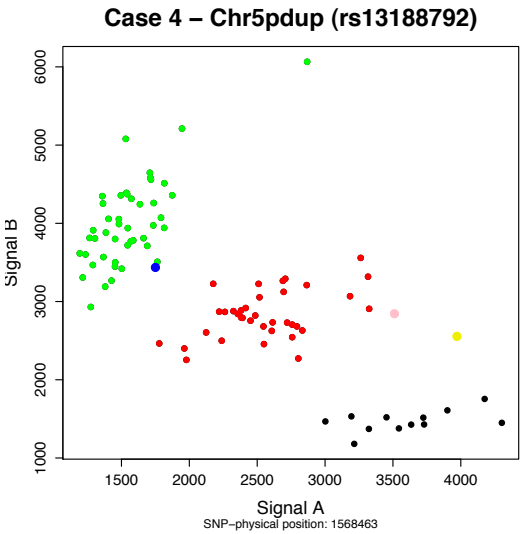

Case 4 – Chr5pdup (rs36967)
Signal B
Signal A
SNP–physical position: 1507508


Case 4 – Chr5pdup (rs10475046)
Signal B
Signal A
SNP–physical position: 1546049

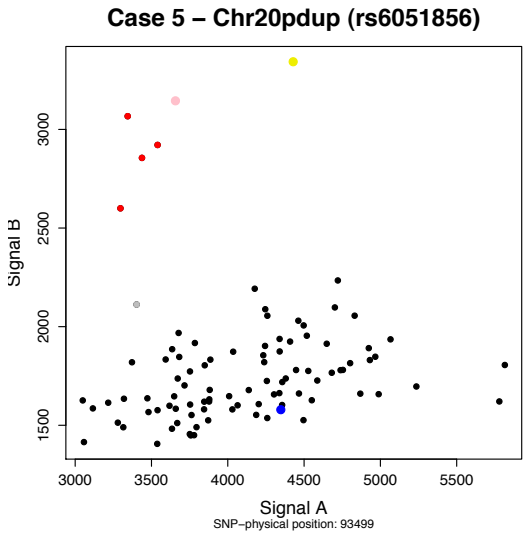

Case 4 – Chr5pdup (rs2962074)
Signal B
Signal A
SNP–physical position: 1548764

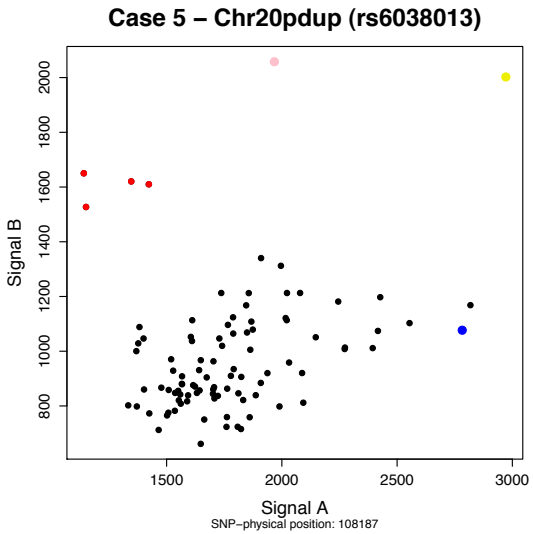

Case 4 – Chr5pdup (rs2962073)
Signal B
Signal A
SNP–physical position: 1548867

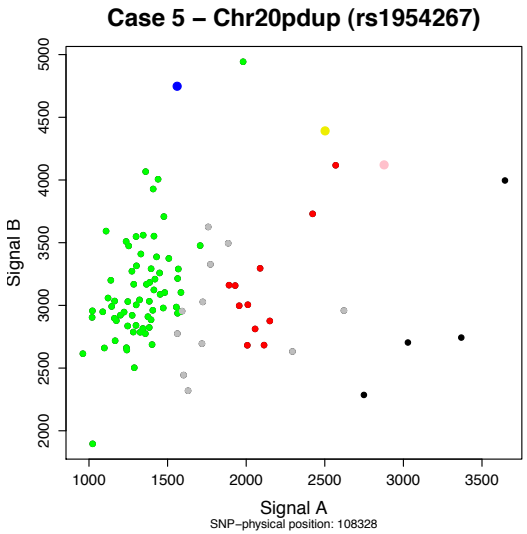

Case 4 – Chr5pdup (rs2962072)
Signal B
Signal A
SNP–physical position: 1549135

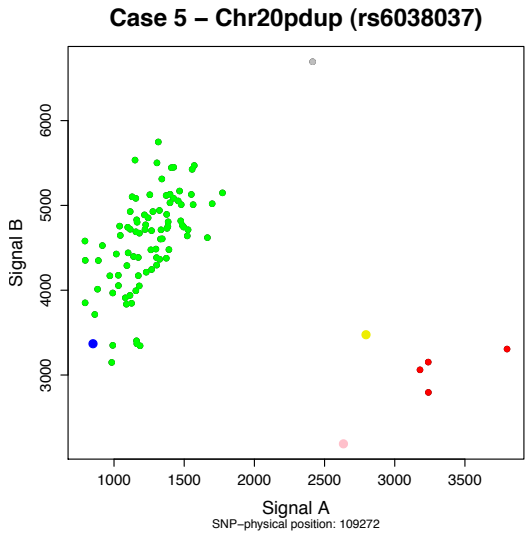

Case 4 – Chr5pdup (rs13188792)
Signal B
Signal A
SNP–physical position: 1568463

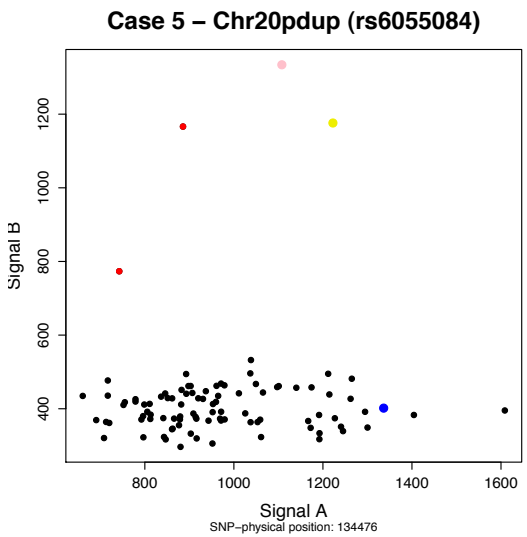
Case: 5
Chromosome: 20p
Abberation: dup.
Origin: Maternal

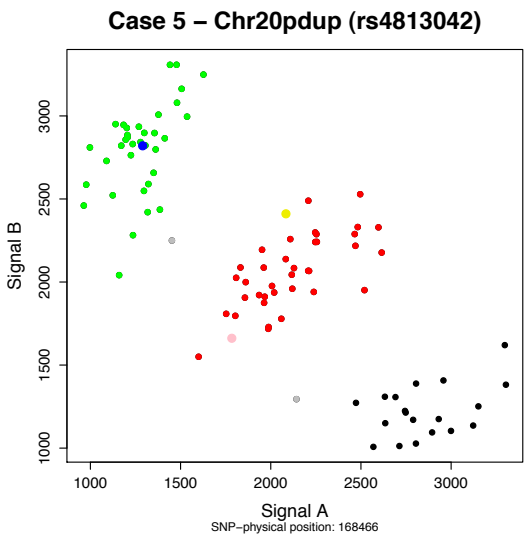

Case 5 – Chr20pdup (rs6051856)
Signal B
Signal A
SNP–physical position: 93499

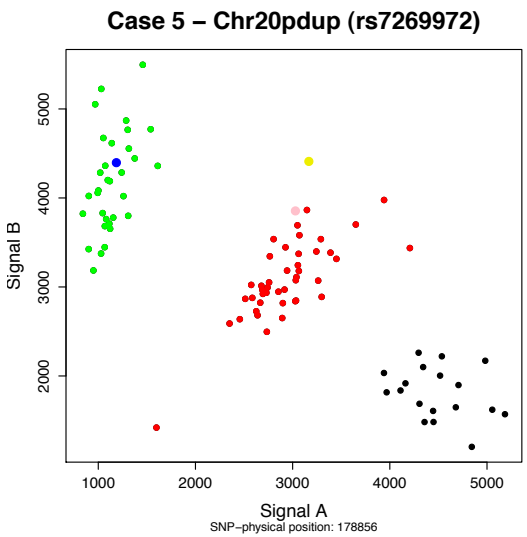

Case 5 – Chr20pdup (rs6038013)
Signal B
Signal A
SNP–physical position: 108187

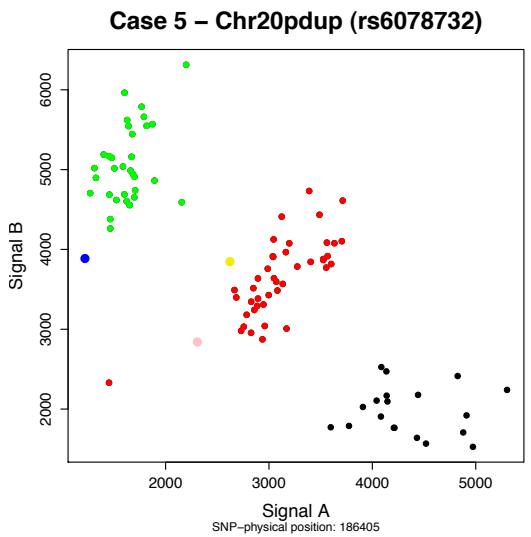

Case 5 – Chr20pdup (rs1954267)
Signal B
Signal A
SNP–physical position: 108328

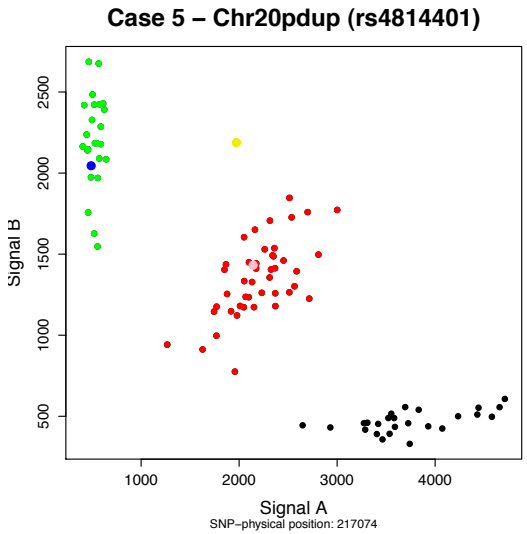

Case 5 – Chr20pdup (rs6038037)
Signal B
Signal A
SNP–physical position: 109272

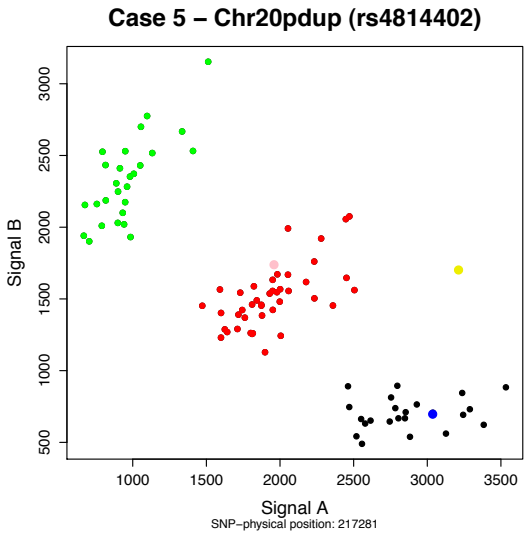

Case 5 – Chr20pdup (rs6055084)
Signal B
Signal A
SNP–physical position: 134476

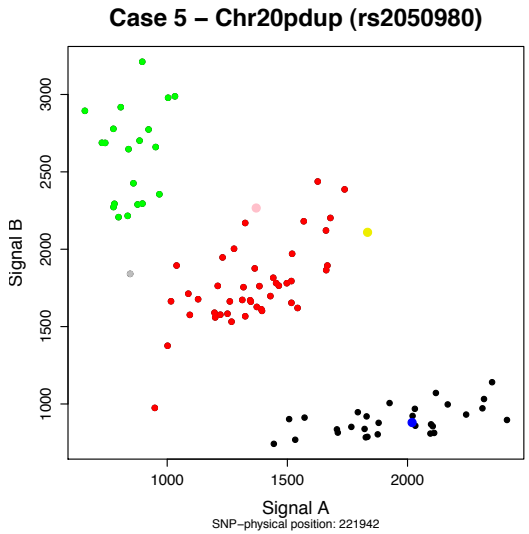

Case 5 – Chr20pdup (rs4813042)
Signal B
Signal A
SNP–physical position: 168466

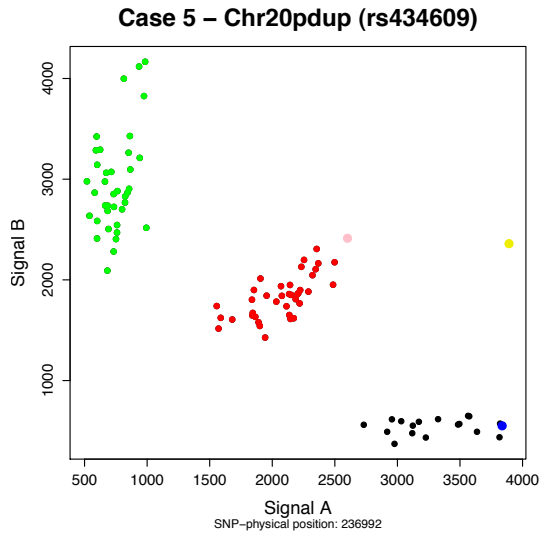

Case 5 – Chr20pdup (rs7269972)
Signal B
Signal A
SNP–physical position: 178856

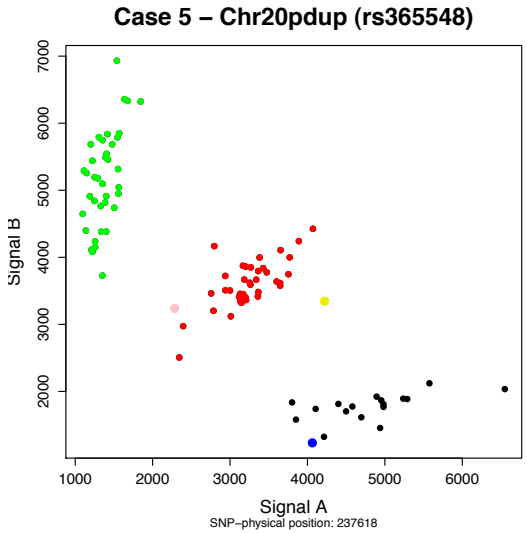

Case 5 – Chr20pdup (rs6078732)
Signal B
Signal A
SNP–physical position: 186405

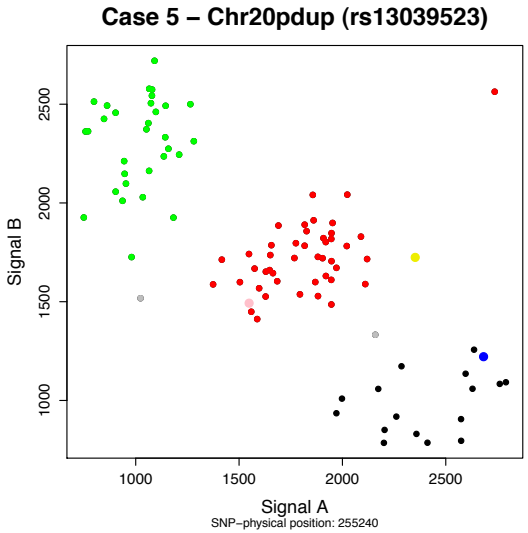

Case 5 – Chr20pdup (rs4814401)
Signal B
Signal A
SNP–physical position: 217074

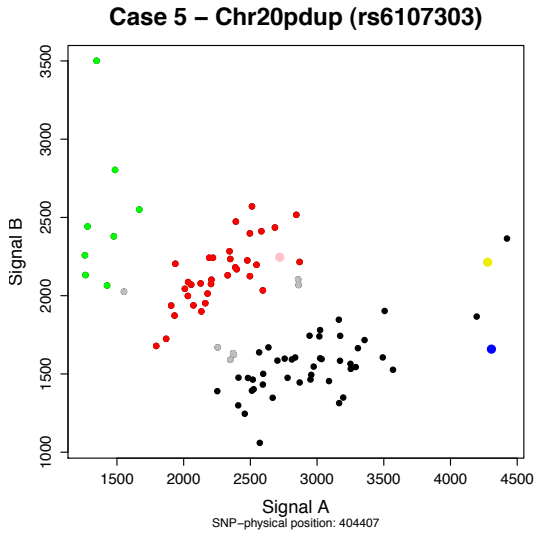

Case 5 – Chr20pdup (rs4814402)
Signal B
Signal A
SNP–physical position: 217281

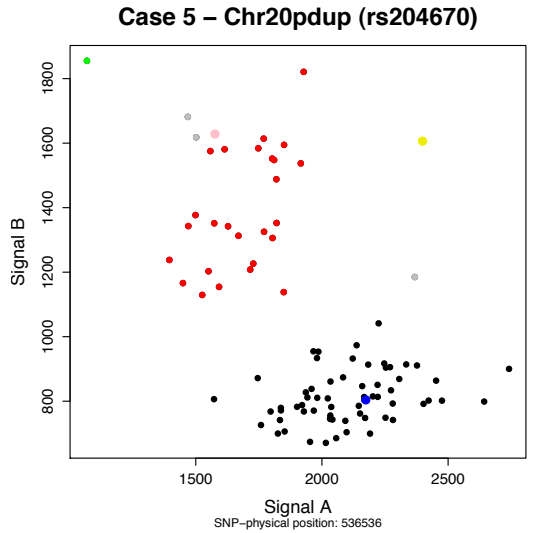

Case 5 – Chr20pdup (rs2050980)
Signal B
Signal A
SNP–physical position: 221942

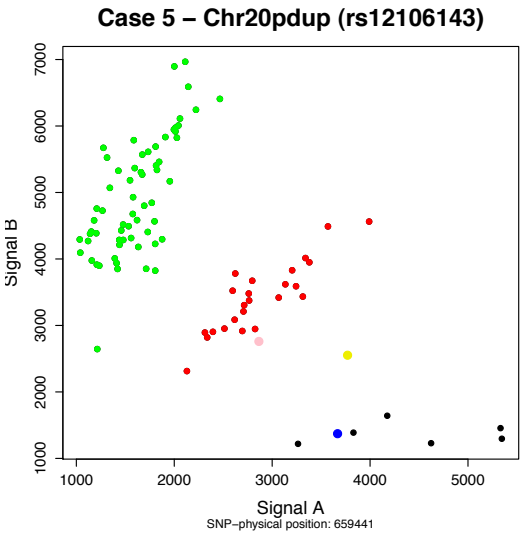

Case 5 – Chr20pdup (rs434609)
Signal B
Signal A
SNP–physical position: 236992

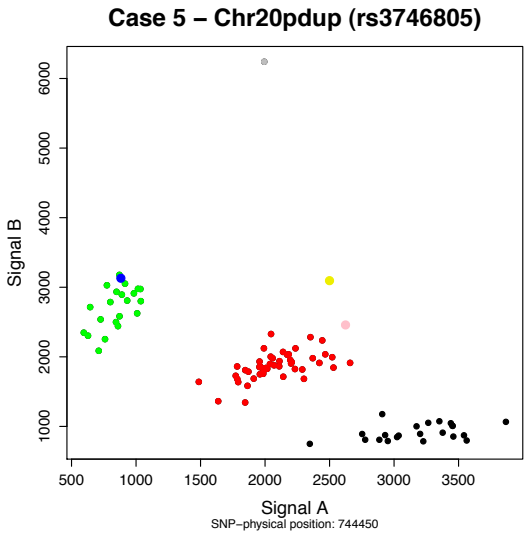

Case 5 – Chr20pdup (rs365548)
Signal B
Signal A
SNP–physical position: 237618

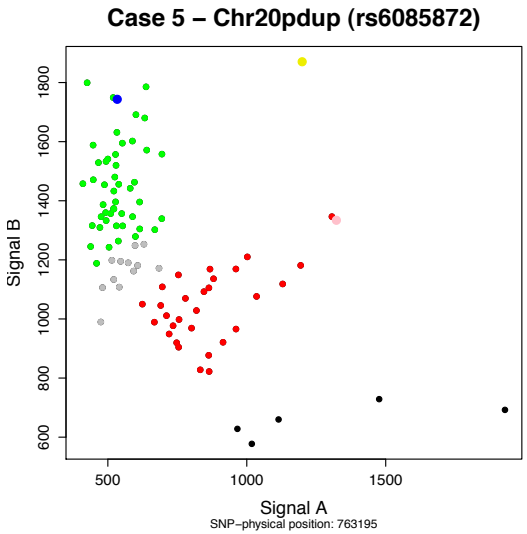

Case 5 – Chr20pdup (rs13039523)
Signal B
Signal A
SNP–physical position: 255240

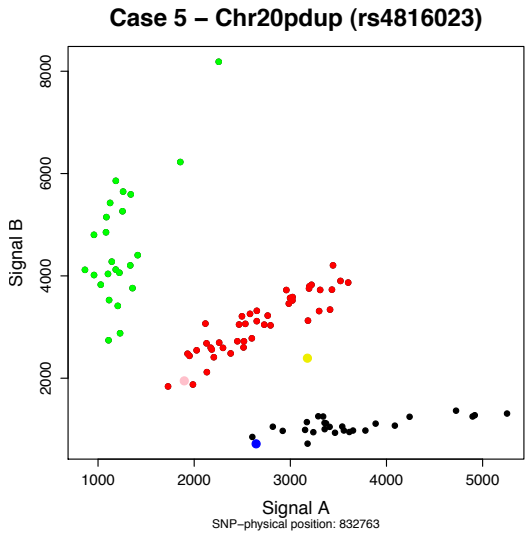

Case 5 – Chr20pdup (rs6107303)
Signal B
Signal A
SNP–physical position: 404407

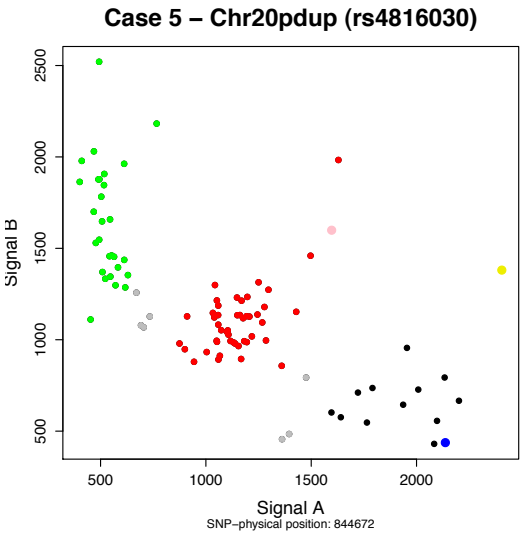

Case 5 – Chr20pdup (rs204670)
Signal B
Signal A
SNP–physical position: 536536

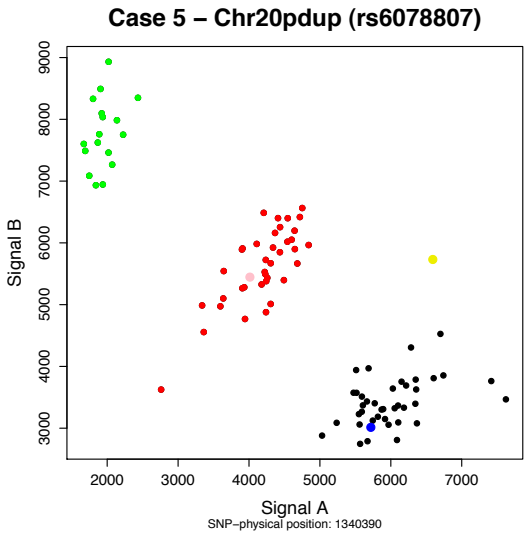

Case 5 – Chr20pdup (rs12106143)
Signal B
Signal A
SNP–physical position: 659441

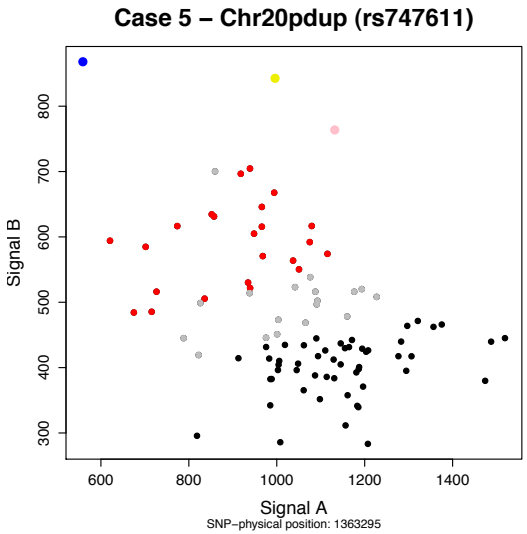

Case 5 – Chr20pdup (rs3746805)
Signal B
Signal A
SNP–physical position: 744450

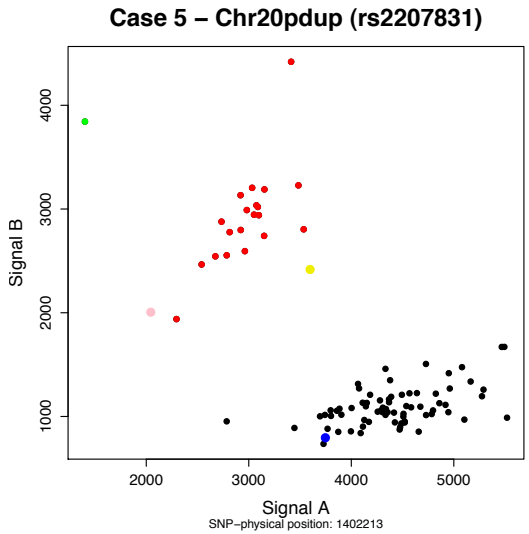

Case 5 – Chr20pdup (rs6085872)
Signal B
Signal A
SNP–physical position: 763195

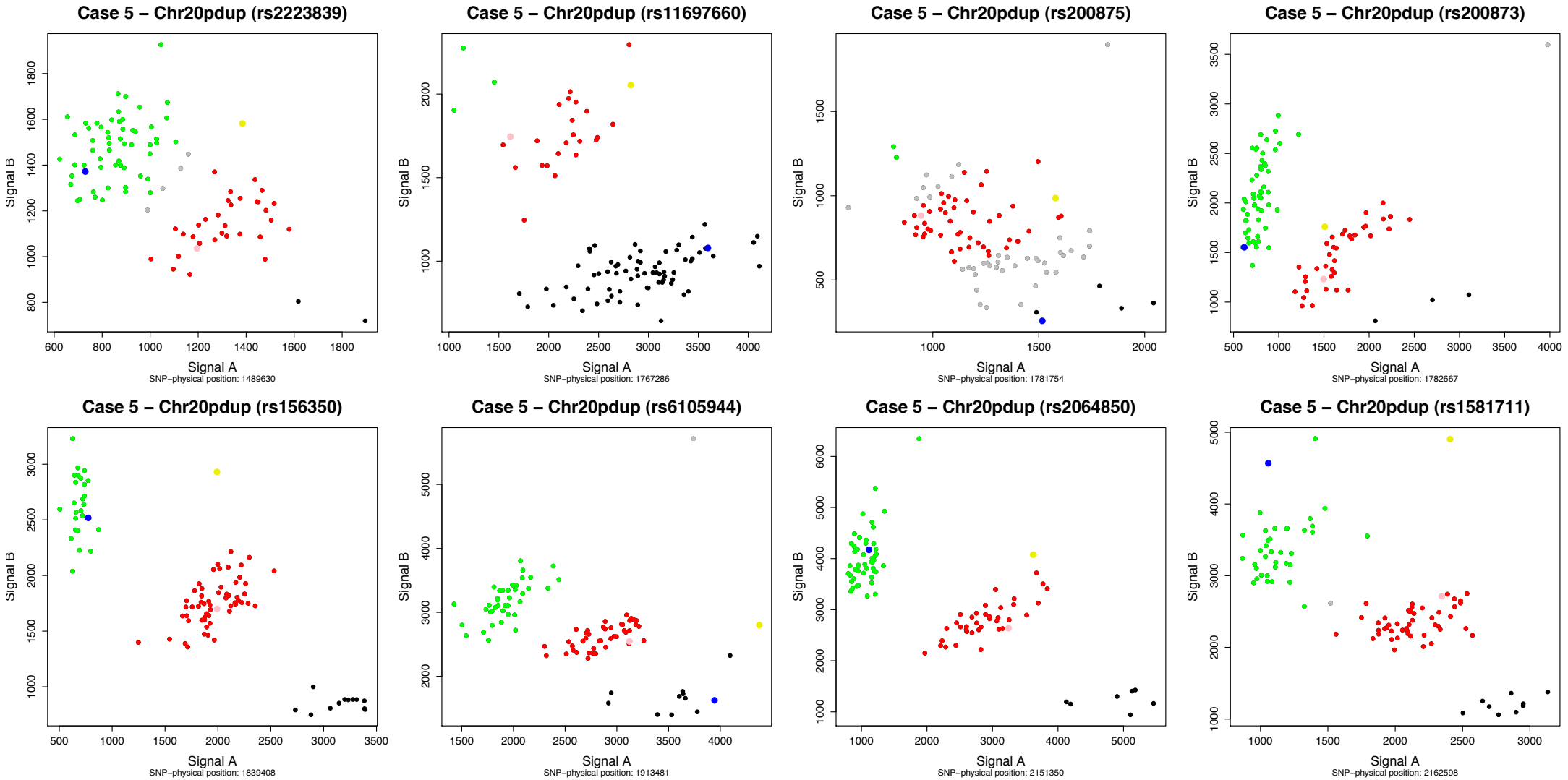

Case 5 – Chr20pdup (rs4816023)
Signal B
Signal A
SNP–physical position: 832763

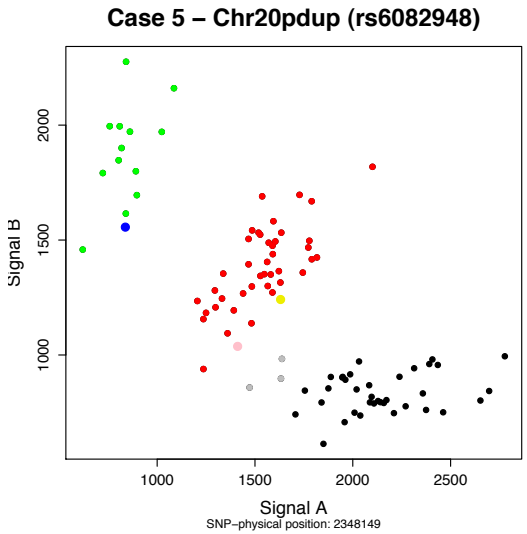

Case 5 – Chr20pdup (rs4816030)
Signal B
Signal A
SNP–physical position: 844672

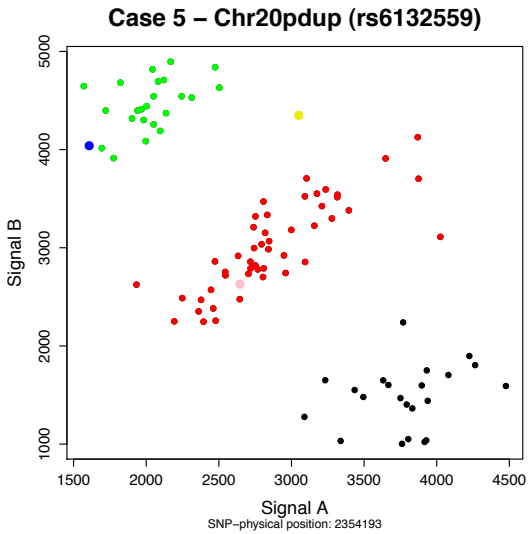

Case 5 – Chr20pdup (rs6078807)
Signal B
Signal A
SNP–physical position: 1340390

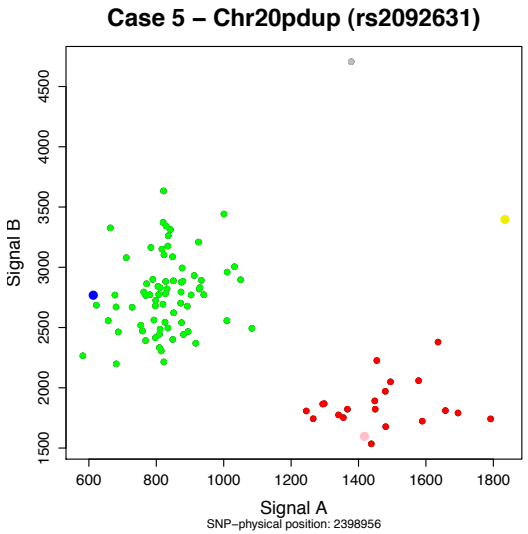

Case 5 – Chr20pdup (rs747611)
Signal B
Signal A
SNP–physical position: 1363295

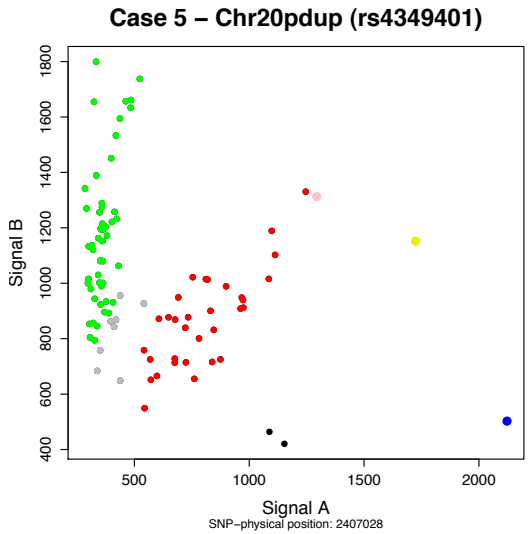

Case 5 – Chr20pdup (rs2207831)
Signal B
Signal A
SNP–physical position: 1402213

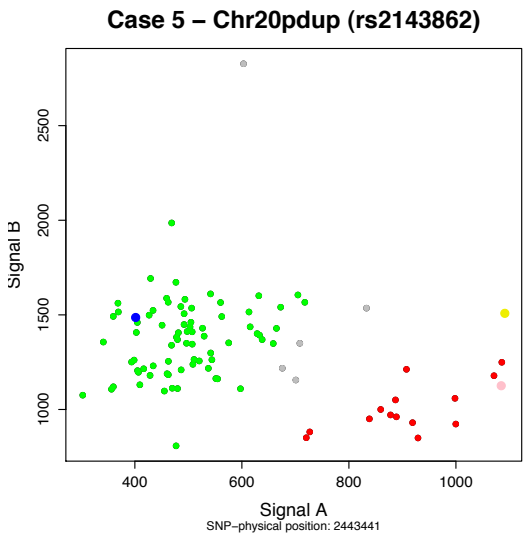

Case 5 – Chr20pdup (rs2223839)
Signal B
Signal A
SNP–physical position: 1489630
Case 5 – Chr20pdup (rs11697660)
Signal B
Signal A
SNP–physical position: 1767286
Case 5 – Chr20pdup (rs200875)
Signal B
Signal A
SNP–physical position: 1781754
Case 5 – Chr20pdup (rs200873)
Signal B
Signal A
SNP–physical position: 1782667
Case 5 – Chr20pdup (rs156350)
Signal B
Signal A
SNP–physical position: 1839408
Case 5 – Chr20pdup (rs6105944)
Signal B
Signal A
SNP–physical position: 1913481
Case 5 – Chr20pdup (rs2064850)
Signal B
Signal A
SNP–physical position: 2151350
Case 5 – Chr20pdup (rs1581711)
Signal B
Signal A
SNP–physical position: 2162598

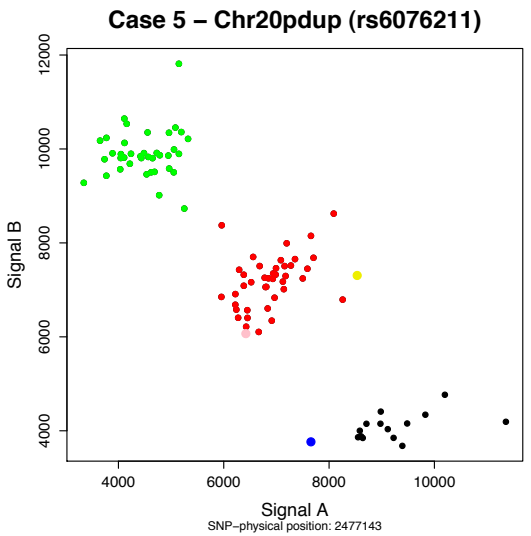

Case 5 – Chr20pdup (rs6082948)
Signal B
Signal A
SNP–physical position: 2348149

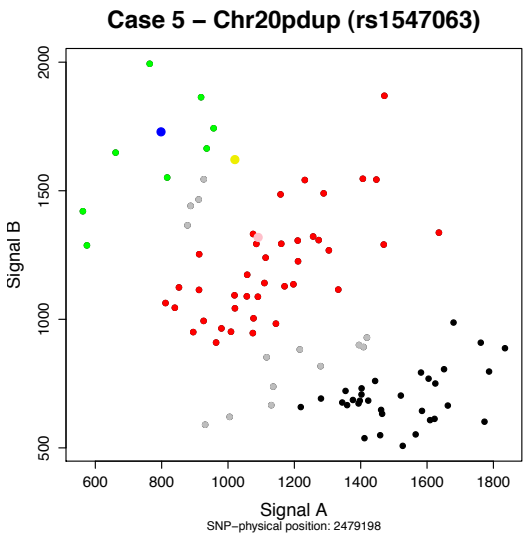

Case 5 – Chr20pdup (rs6132559)
Signal B
Signal A
SNP–physical position: 2354193

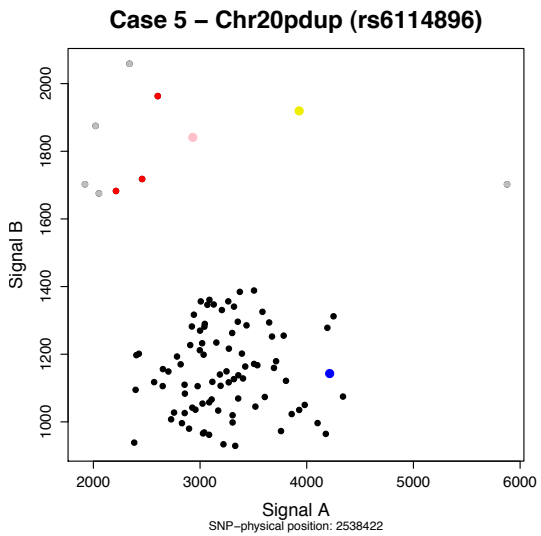

Case 5 – Chr20pdup (rs2092631)
Signal B
Signal A
SNP–physical position: 2398956

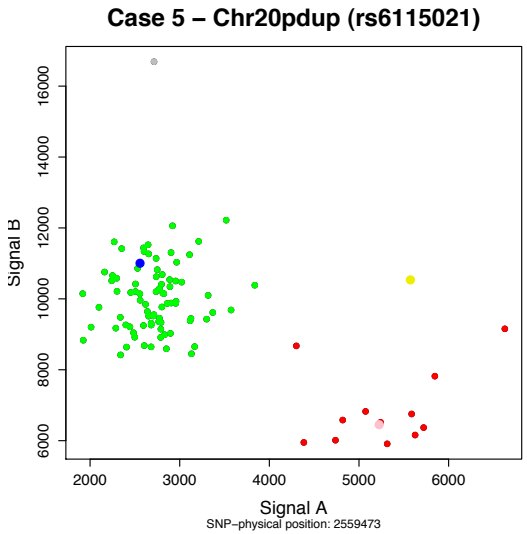

Case 5 – Chr20pdup (rs4349401)
Signal B
Signal A
SNP–physical position: 2407028

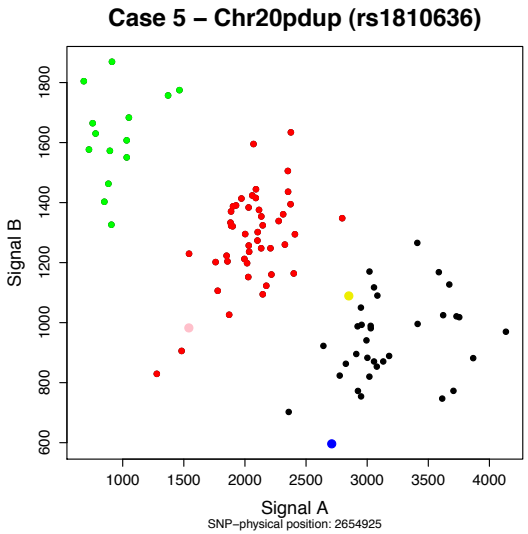

Case 5 – Chr20pdup (rs2143862)
Signal B
Signal A
SNP–physical position: 2443441

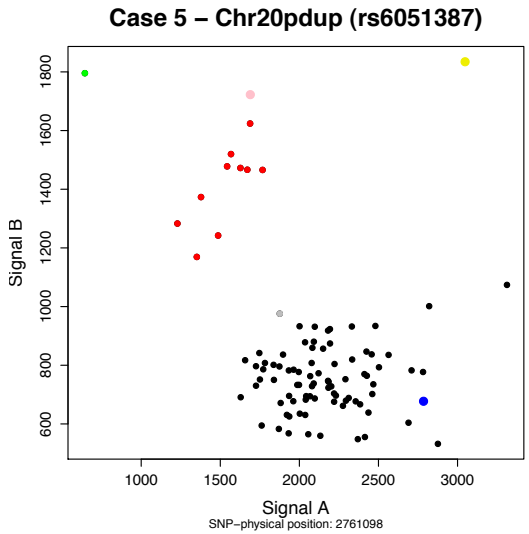

Case 5 – Chr20pdup (rs6076211)
Signal B
Signal A
SNP–physical position: 2477143

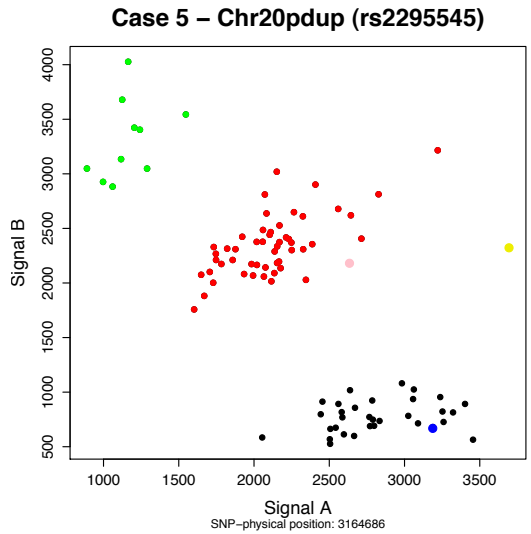

Case 5 – Chr20pdup (rs1547063)
Signal B
Signal A
SNP–physical position: 2479198

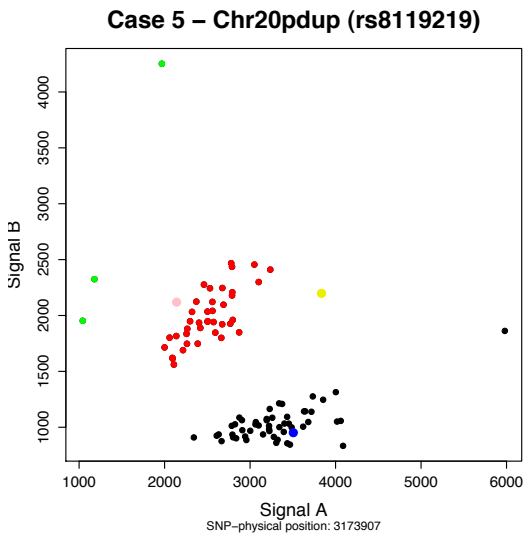

Case 5 – Chr20pdup (rs6114896)
Signal B
Signal A
SNP–physical position: 2538422

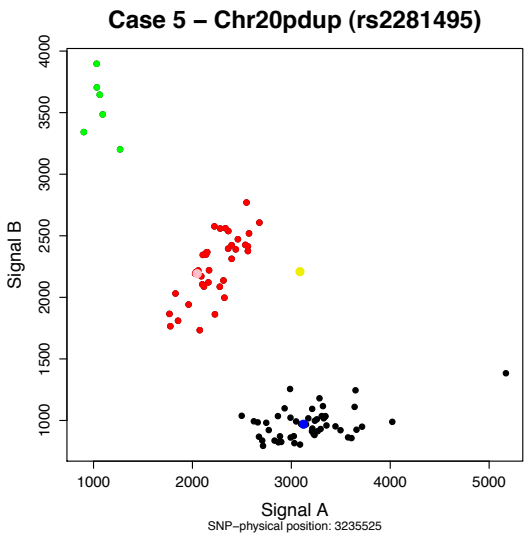

Case 5 – Chr20pdup (rs6115021)
Signal B
Signal A
SNP–physical position: 2559473

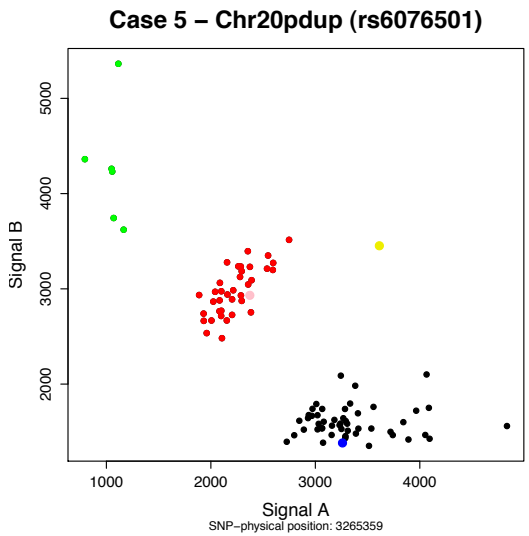

Case 5 – Chr20pdup (rs1810636)
Signal B
Signal A
SNP–physical position: 2654925

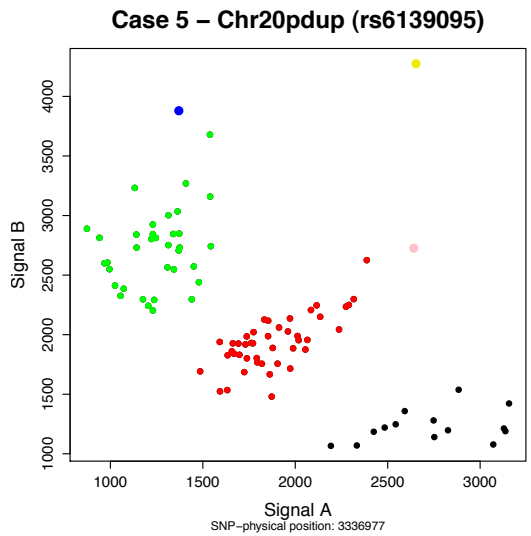

Case 5 – Chr20pdup (rs6051387)
Signal B
Signal A
SNP–physical position: 2761098

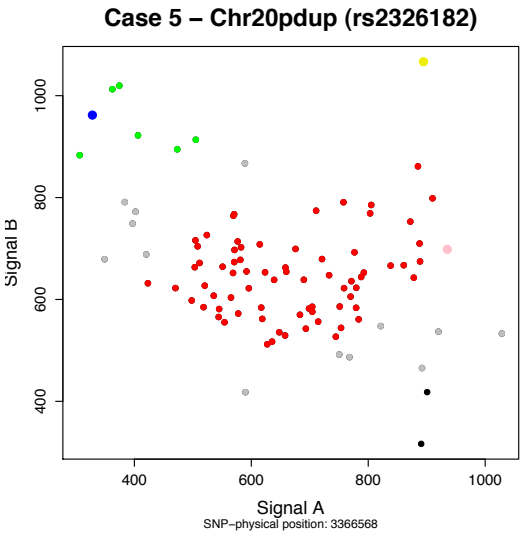

Case 5 – Chr20pdup (rs2295545)
Signal B
Signal A
SNP–physical position: 3164686

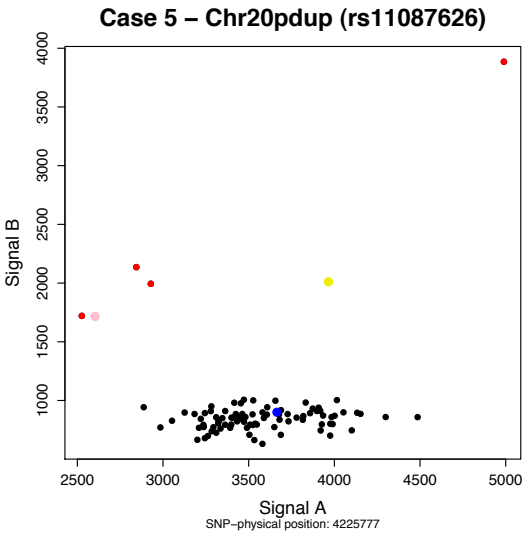

Case 5 – Chr20pdup (rs8119219)
Signal B
Signal A
SNP–physical position: 3173907

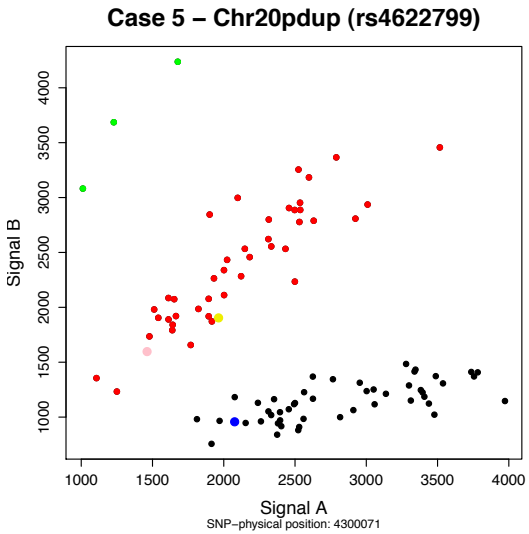

Case 5 – Chr20pdup (rs2281495)
Signal B
Signal A
SNP–physical position: 3235525

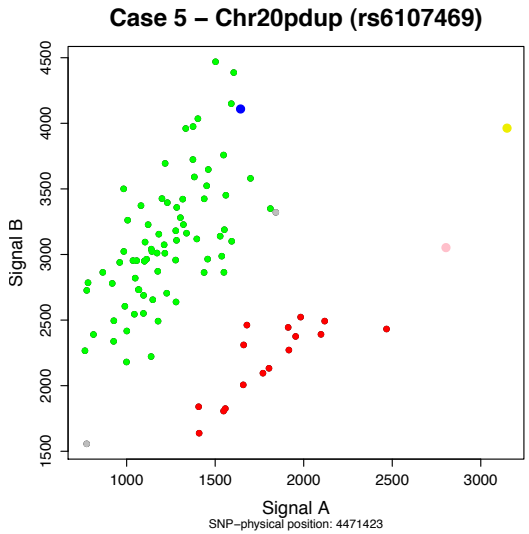

Case 5 – Chr20pdup (rs6076501)
Signal B
Signal A
SNP–physical position: 3265359

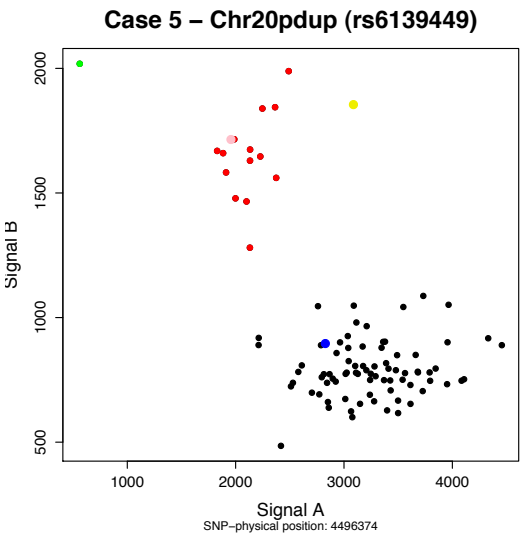

Case 5 – Chr20pdup (rs6139095)
Signal B
Signal A
SNP–physical position: 3336977

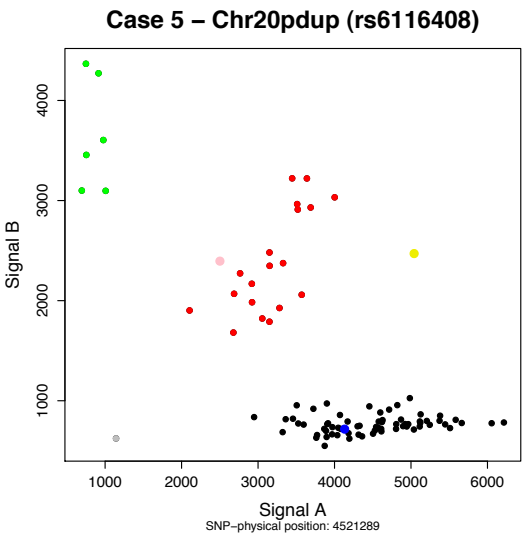

Case 5 – Chr20pdup (rs2326182)
Signal B
Signal A
SNP–physical position: 3366568

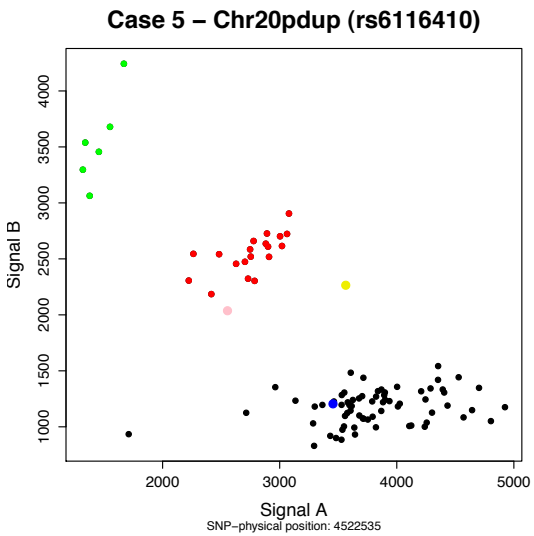

Case 5 – Chr20pdup (rs11087626)
Signal B
Signal A
SNP–physical position: 4225777

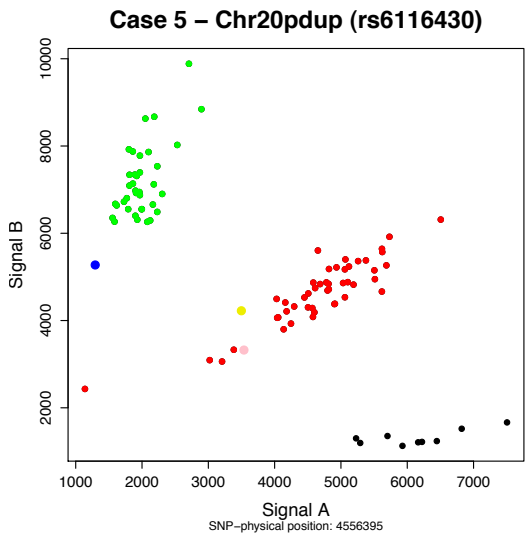

Case 5 – Chr20pdup (rs4622799)
Signal B
Signal A
SNP–physical position: 4300071

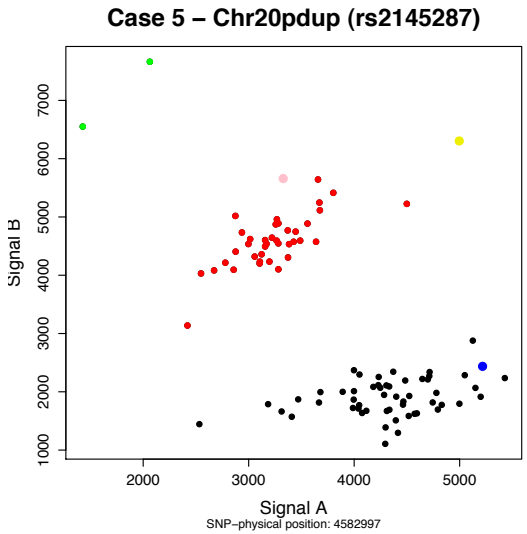

Case 5 – Chr20pdup (rs6107469)
Signal B
Signal A
SNP–physical position: 4471423

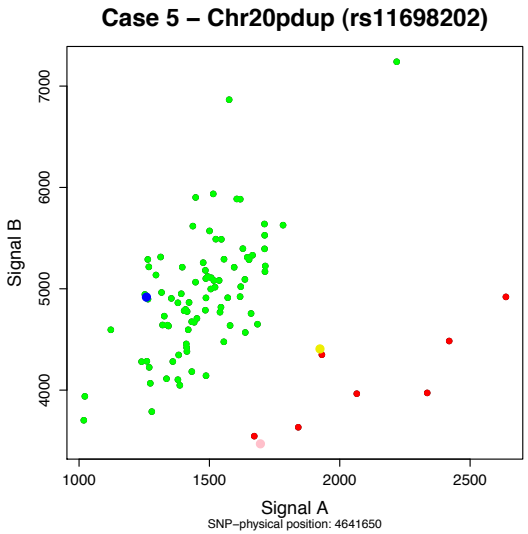

Case 5 – Chr20pdup (rs6139449)
Signal B
Signal A
SNP–physical position: 4496374

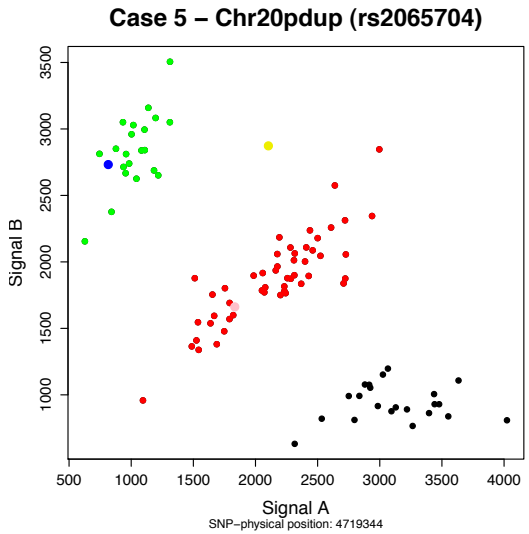

Case 5 – Chr20pdup (rs6116408)
Signal B
Signal A
SNP–physical position: 4521289

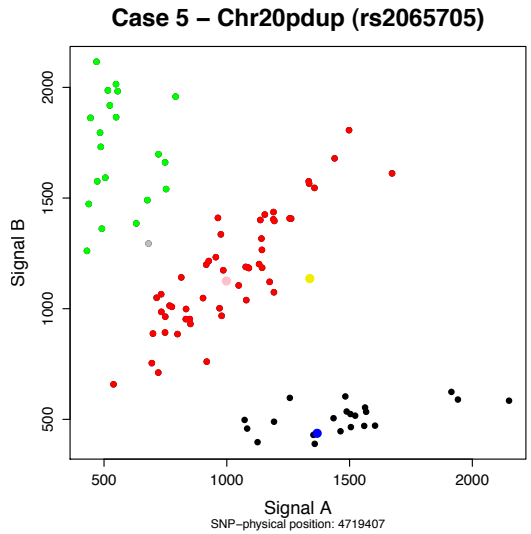

Case 5 – Chr20pdup (rs6116410)
Signal B
Signal A
SNP–physical position: 4522535

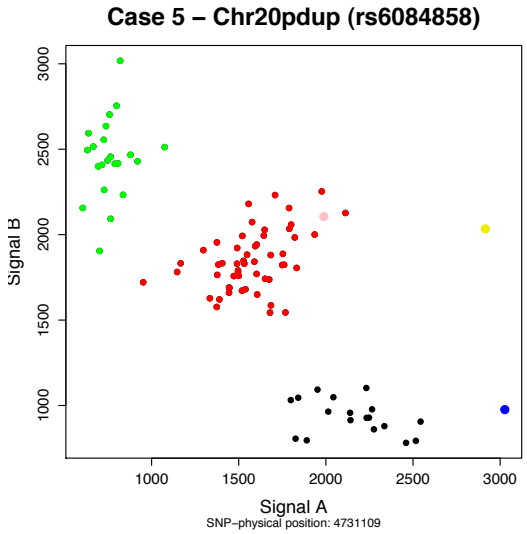

Case 5 – Chr20pdup (rs6116430)
Signal B
Signal A
SNP–physical position: 4556395

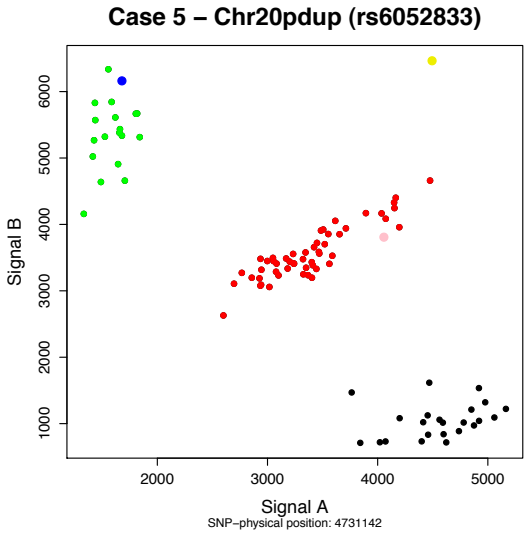

Case 5 – Chr20pdup (rs2145287)
Signal B
Signal A
SNP–physical position: 4582997

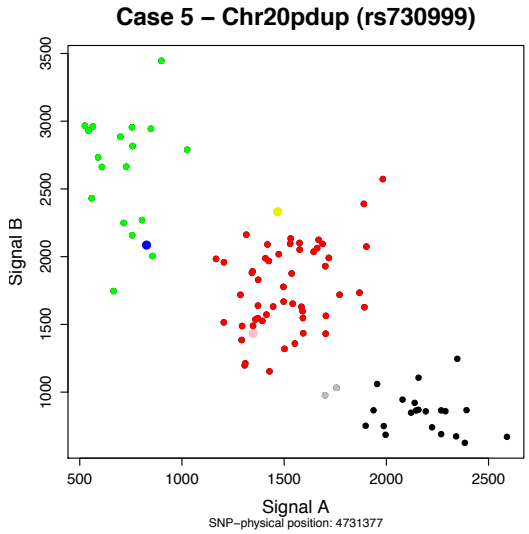

Case 5 – Chr20pdup (rs11698202)
Signal B
Signal A
SNP–physical position: 4641650

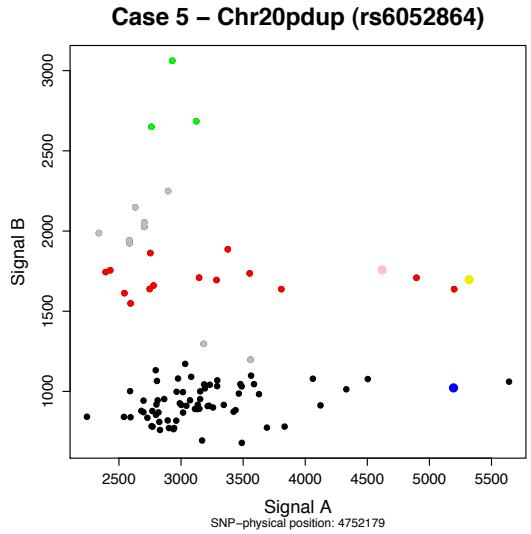

Case 5 – Chr20pdup (rs2065704)
Signal B
Signal A
SNP–physical position: 4719344

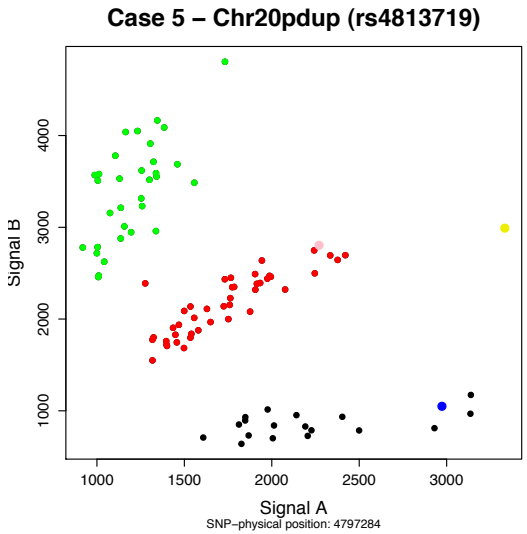

Case 5 – Chr20pdup (rs2065705)
Signal B
Signal A
SNP–physical position: 4719407

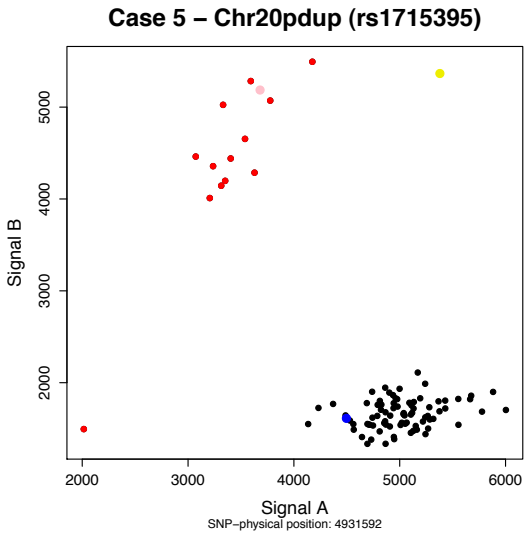

Case 5 – Chr20pdup (rs6084858)
Signal B
Signal A
SNP–physical position: 4731109

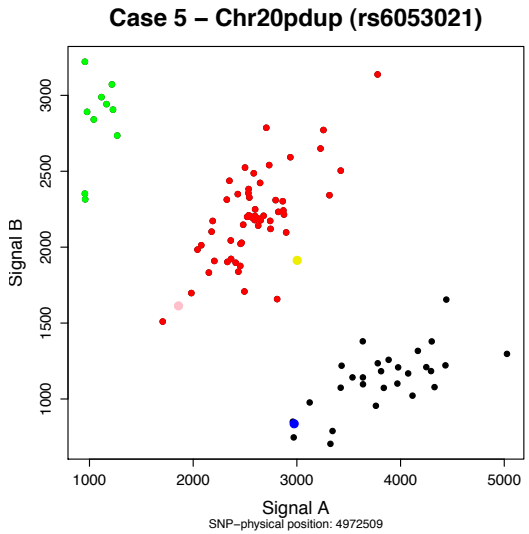

Case 5 – Chr20pdup (rs6052833)
Signal B
Signal A
SNP–physical position: 4731142

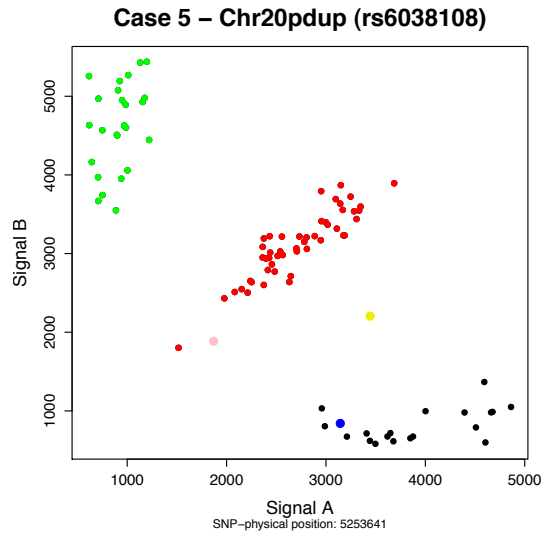

Case 5 – Chr20pdup (rs730999)
Signal B
Signal A
SNP–physical position: 4731377

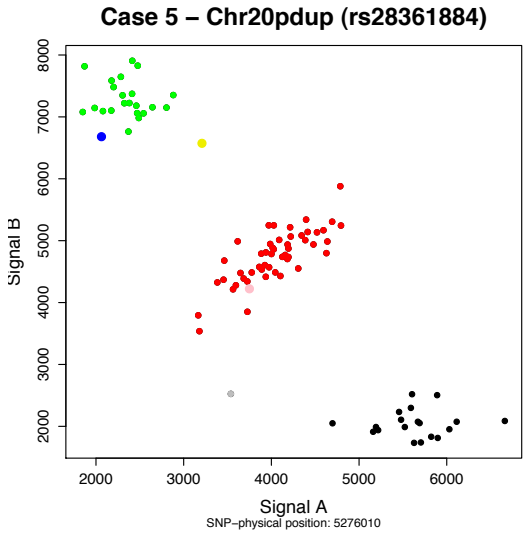

Case 5 – Chr20pdup (rs6052864)
Signal B
Signal A
SNP–physical position: 4752179

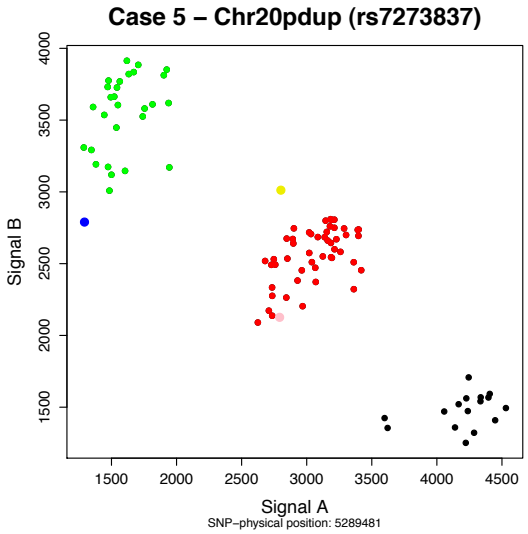

Case 5 – Chr20pdup (rs4813719)
Signal B
Signal A
SNP–physical position: 4797284

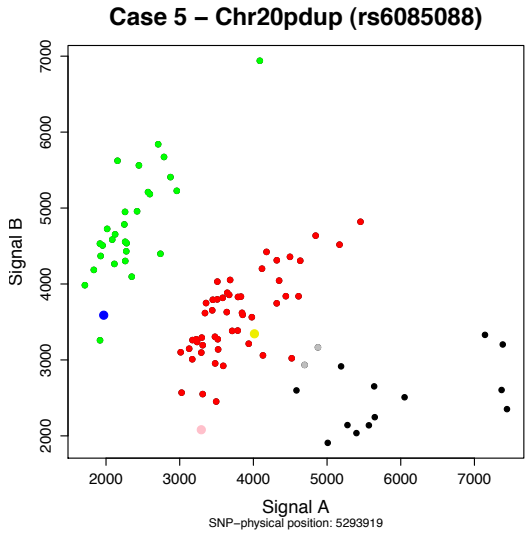

Case 5 – Chr20pdup (rs1715395)
Signal B
Signal A
SNP–physical position: 4931592

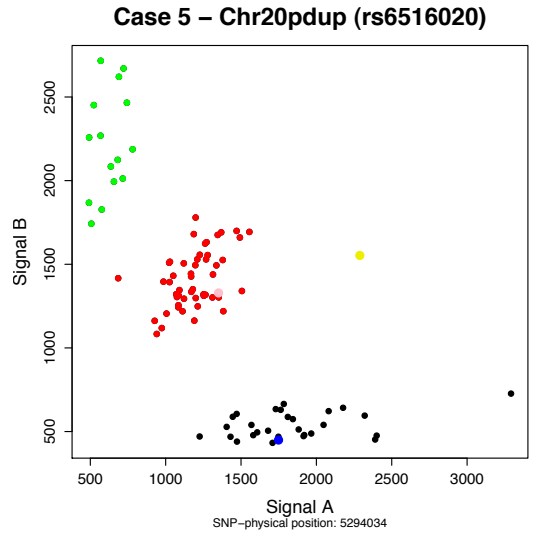

Case 5 – Chr20pdup (rs6053021)
Signal B
Signal A
SNP–physical position: 4972509

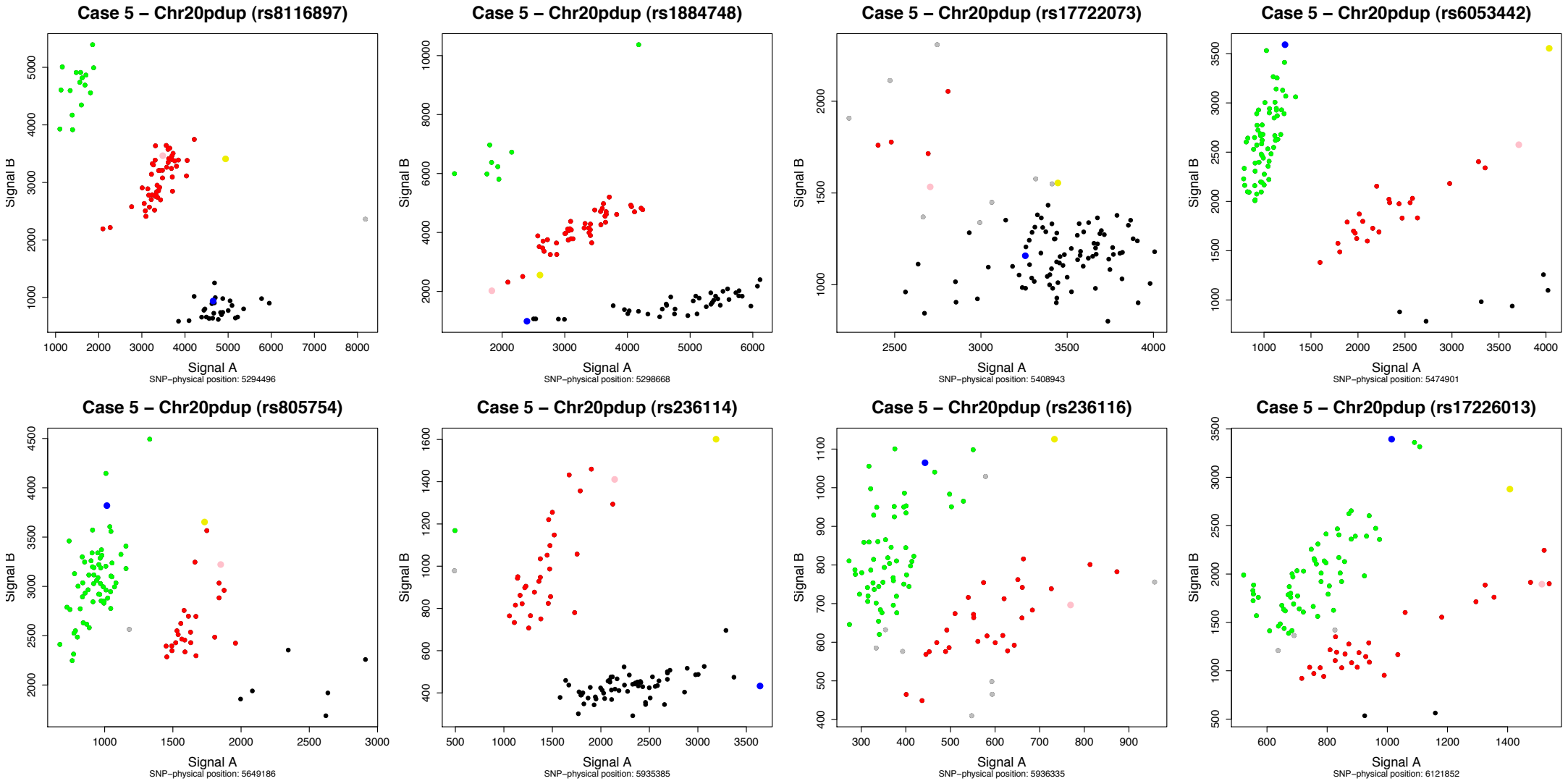

Case 5 – Chr20pdup (rs6038108)
Signal B
Signal A
SNP–physical position: 5253641

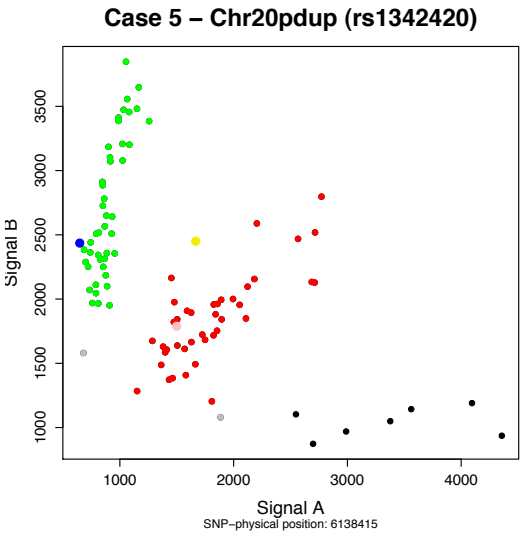

Case 5 – Chr20pdup (rs28361884)
Signal B
Signal A
SNP–physical position: 5276010

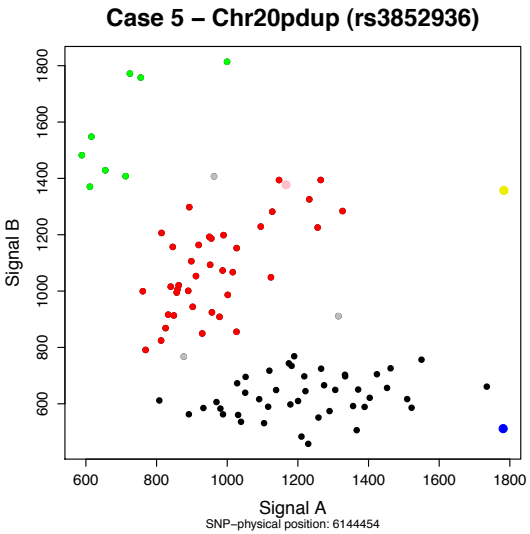

Case 5 – Chr20pdup (rs7273837)
Signal B
Signal A
SNP–physical position: 5289481

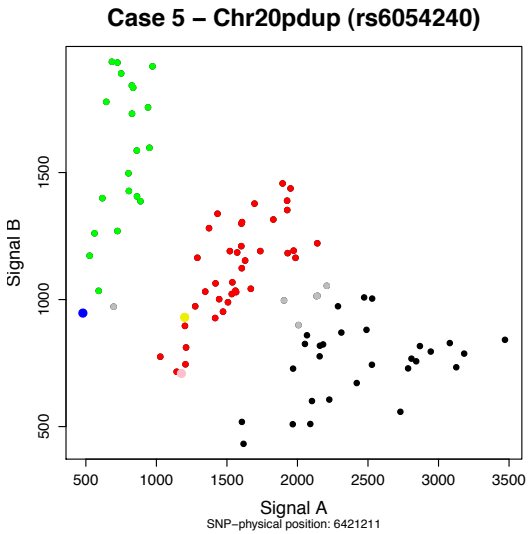

Case 5 – Chr20pdup (rs6085088)
Signal B
Signal A
SNP–physical position: 5293919

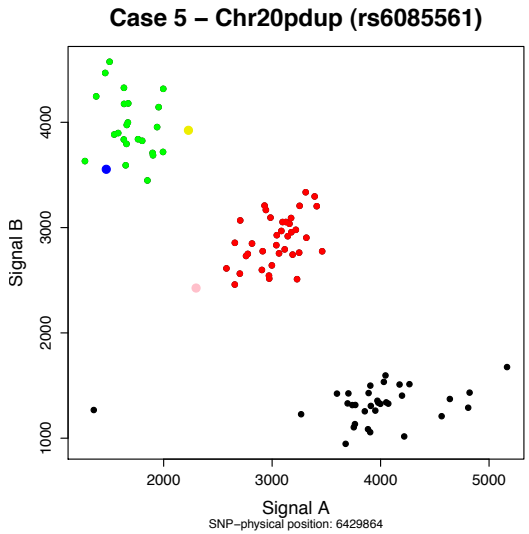

Case 5 – Chr20pdup (rs6516020)
Signal B
Signal A
SNP–physical position: 5294034

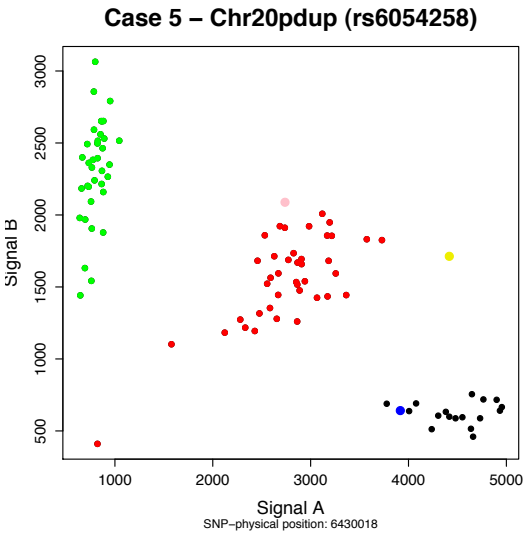

Case 5 – Chr20pdup (rs8116897)
Signal B
Signal A
SNP–physical position: 5294496
Case 5 – Chr20pdup (rs1884748)
Signal B
Signal A
SNP–physical position: 5298668
Case 5 – Chr20pdup (rs17722073)
Signal B
Signal A
SNP–physical position: 5408943
Case 5 – Chr20pdup (rs6053442)
Signal B
Signal A
SNP–physical position: 5474901
Case 5 – Chr20pdup (rs805754)
Signal B
Signal A
SNP–physical position: 5649186
Case 5 – Chr20pdup (rs236114)
Signal B
Signal A
SNP–physical position: 5935385
Case 5 – Chr20pdup (rs236116)
Signal B
Signal A
SNP–physical position: 5936335
Case 5 – Chr20pdup (rs17226013)
Signal B
Signal A
SNP–physical position: 6121852

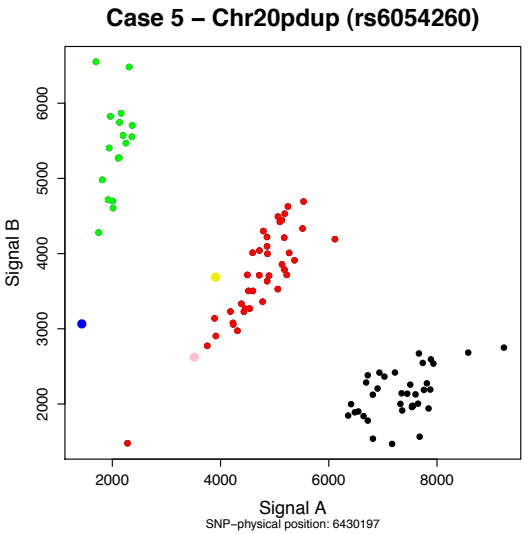

Case 5 – Chr20pdup (rs1342420)
Signal B
Signal A
SNP–physical position: 6138415

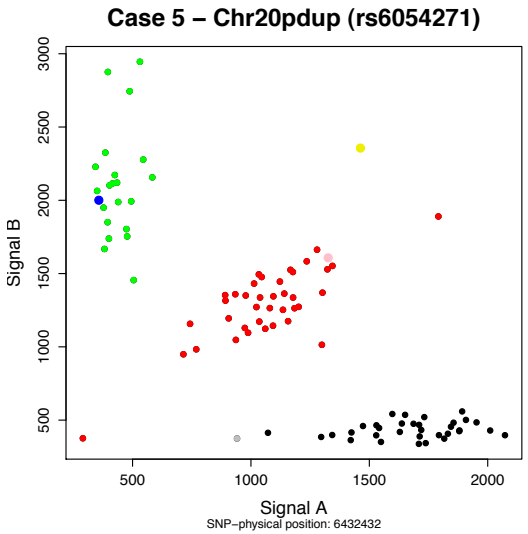

Case 5 – Chr20pdup (rs3852936)
Signal B
Signal A
SNP–physical position: 6144454

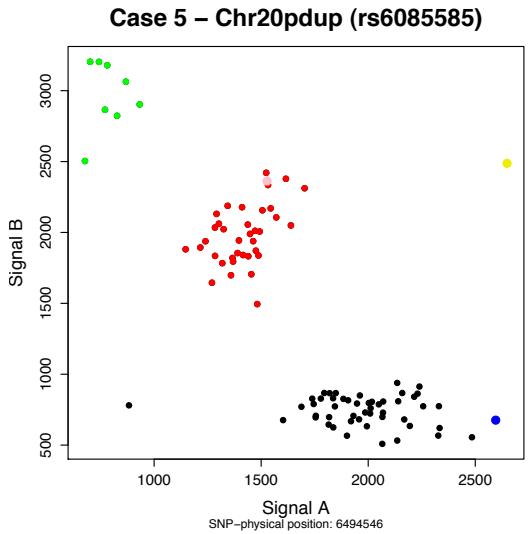

Case 5 – Chr20pdup (rs6054240)
Signal B
Signal A
SNP–physical position: 6421211

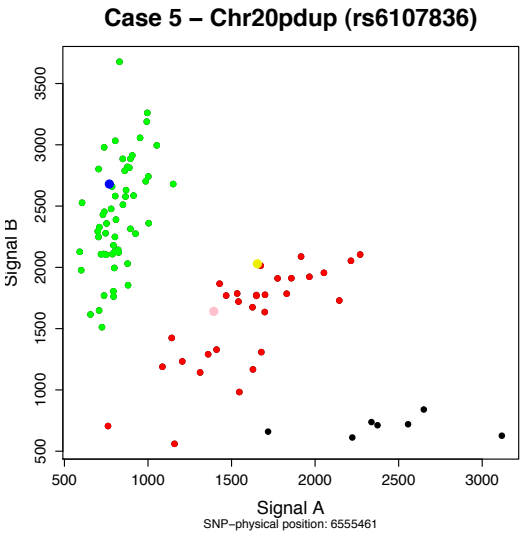

Case 5 – Chr20pdup (rs6085561)
Signal B
Signal A
SNP–physical position: 6429864

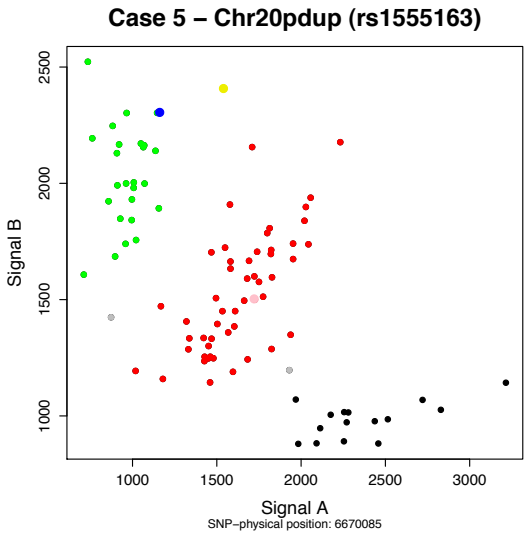

Case 5 – Chr20pdup (rs6054258)
Signal B
Signal A
SNP–physical position: 6430018

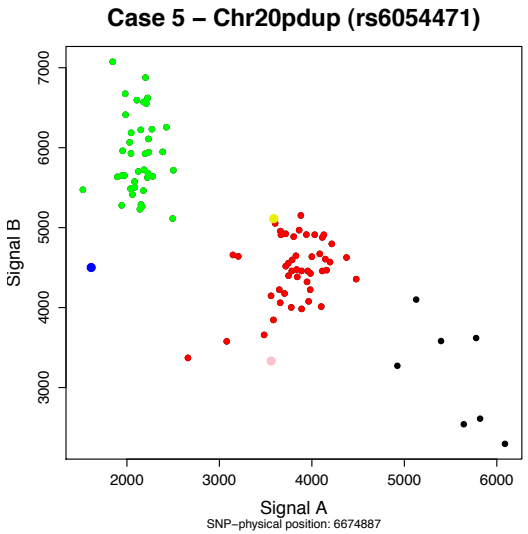

Case 5 – Chr20pdup (rs6054260)
Signal B
Signal A
SNP–physical position: 6430197

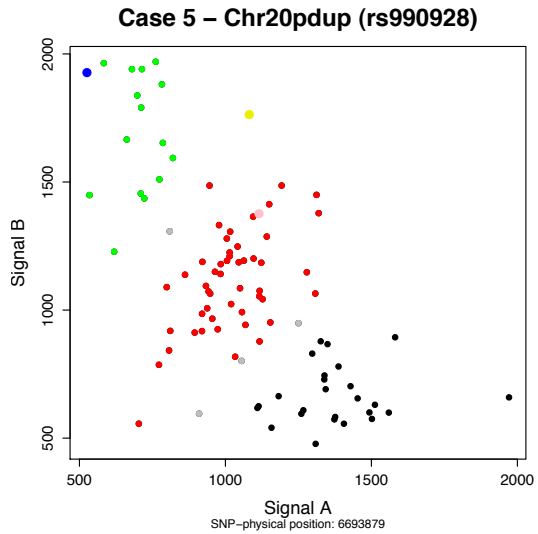

Case 5 – Chr20pdup (rs6054271)
Signal B
Signal A
SNP–physical position: 6432432

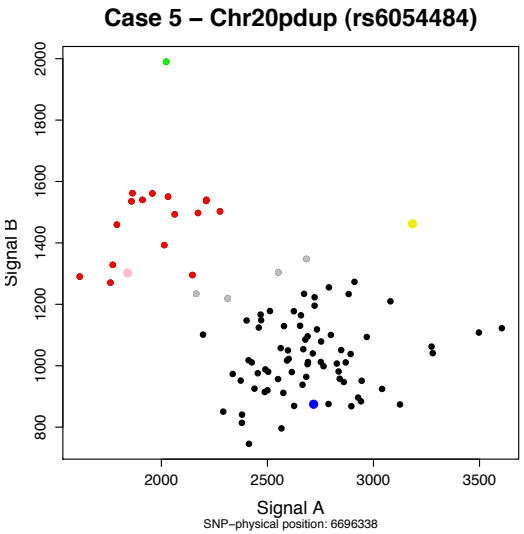

Case 5 – Chr20pdup (rs6085585)
Signal B
Signal A
SNP–physical position: 6494546

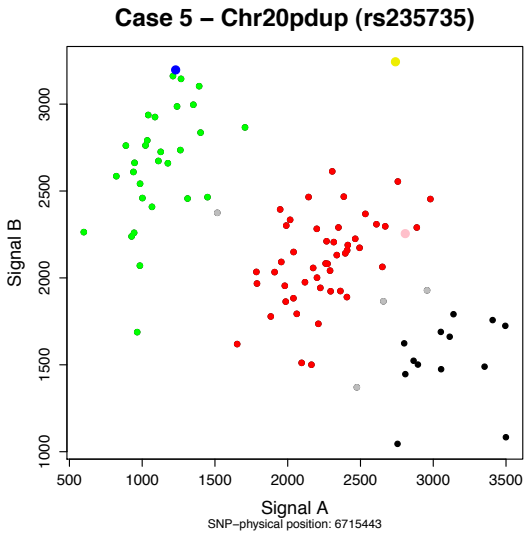

Case 5 – Chr20pdup (rs6107836)
Signal B
Signal A
SNP–physical position: 6555461

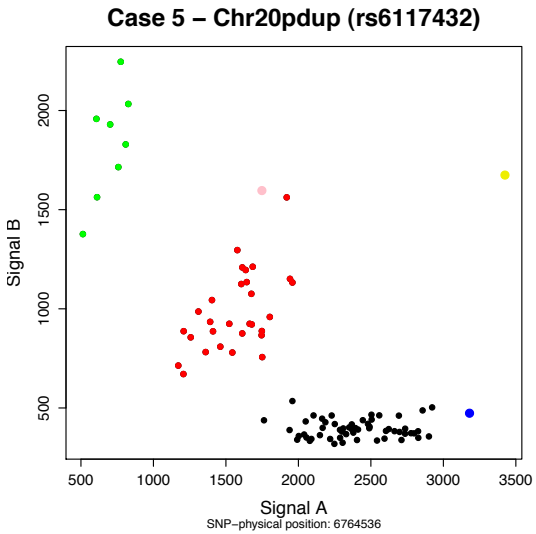

Case 5 – Chr20pdup (rs1555163)
Signal B
Signal A
SNP–physical position: 6670085

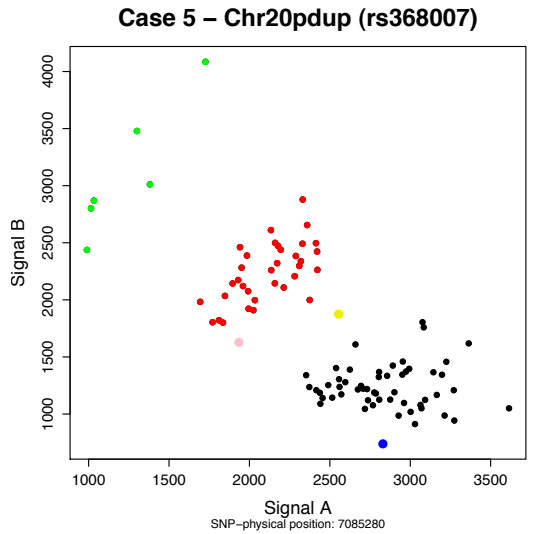

Case 5 – Chr20pdup (rs6054471)
Signal B
Signal A
SNP–physical position: 6674887

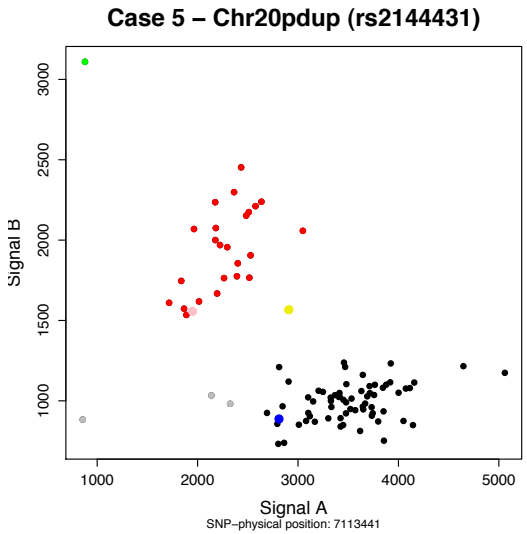

Case 5 – Chr20pdup (rs990928)
Signal B
Signal A
SNP–physical position: 6693879

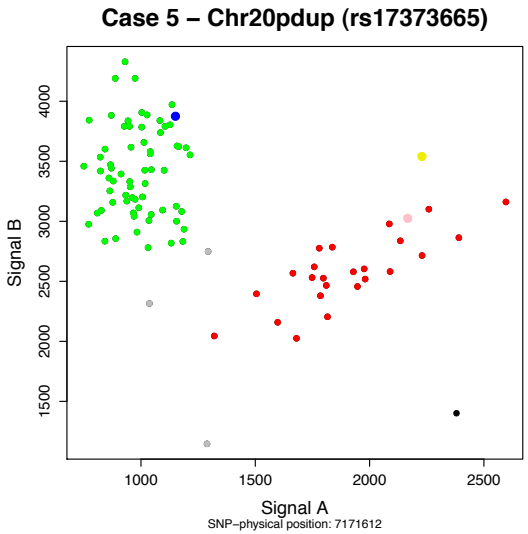

Case 5 – Chr20pdup (rs6054484)
Signal B
Signal A
SNP–physical position: 6696338

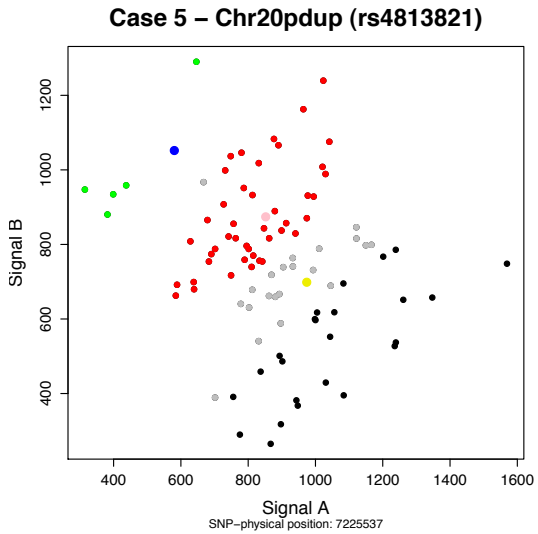

Case 5 – Chr20pdup (rs235735)
Signal B
Signal A
SNP–physical position: 6715443

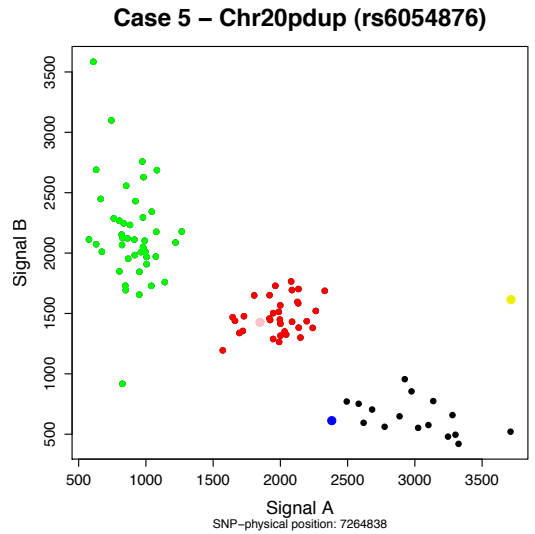

Case 5 – Chr20pdup (rs6117432)
Signal B
Signal A
SNP–physical position: 6764536

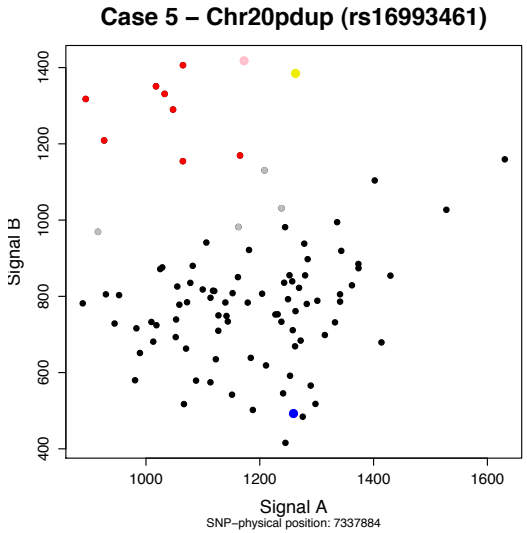

Case 5 – Chr20pdup (rs368007)
Signal B
Signal A
SNP–physical position: 7085280

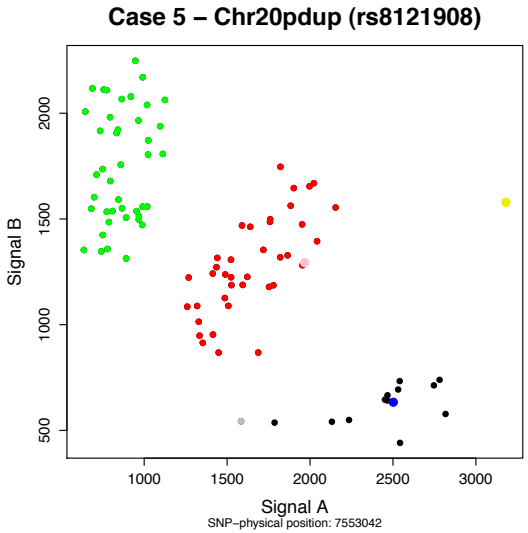

Case 5 – Chr20pdup (rs2144431)
Signal B
Signal A
SNP–physical position: 7113441

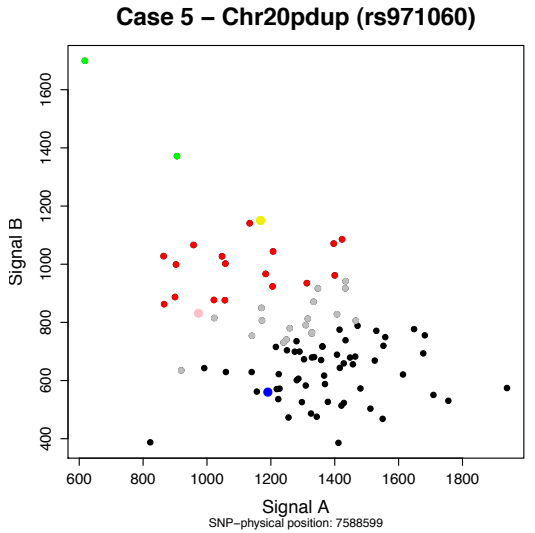

Case 5 – Chr20pdup (rs17373665)
Signal B
Signal A
SNP–physical position: 7171612

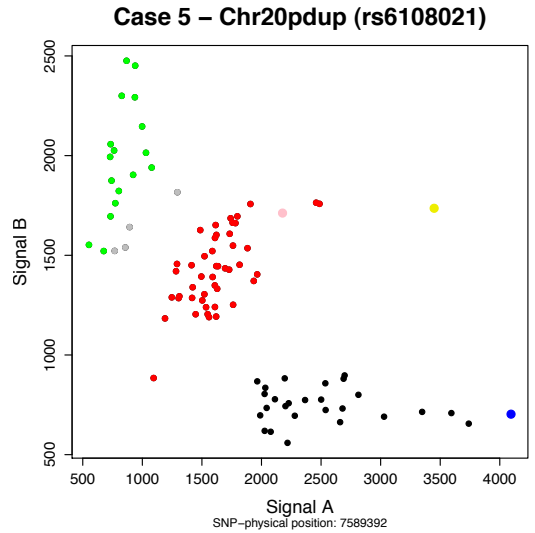

Case 5 – Chr20pdup (rs4813821)
Signal B
Signal A
SNP–physical position: 7225537

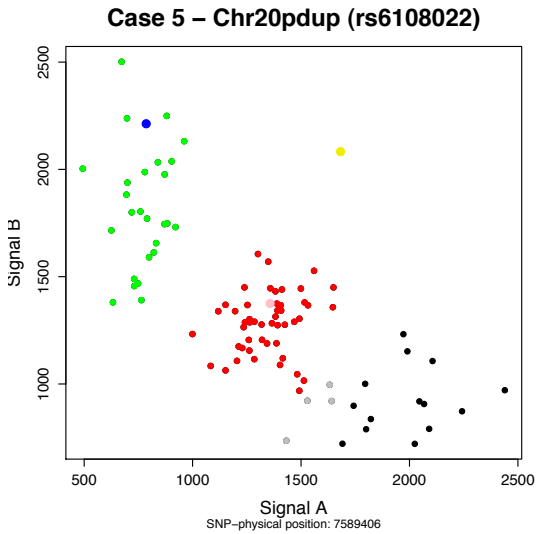

Case 5 – Chr20pdup (rs6054876)
Signal B
Signal A
SNP–physical position: 7264838

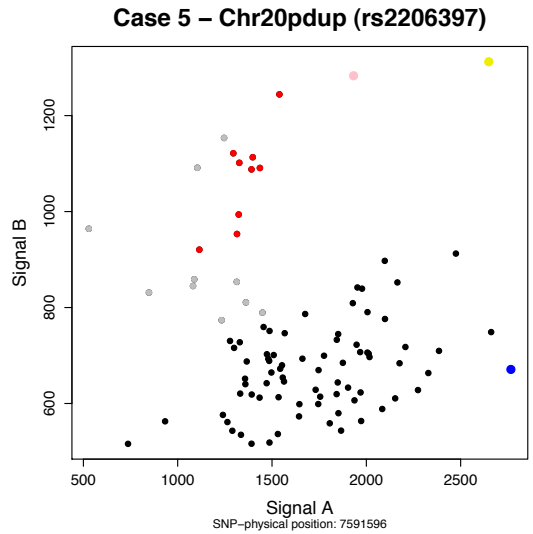

Case 5 – Chr20pdup (rs16993461)
Signal B
Signal A
SNP–physical position: 7337884

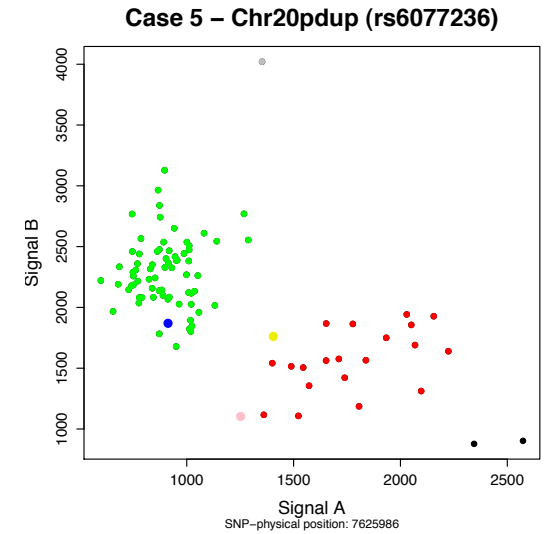

Case 5 – Chr20pdup (rs8121908)
Signal B
Signal A
SNP–physical position: 7553042

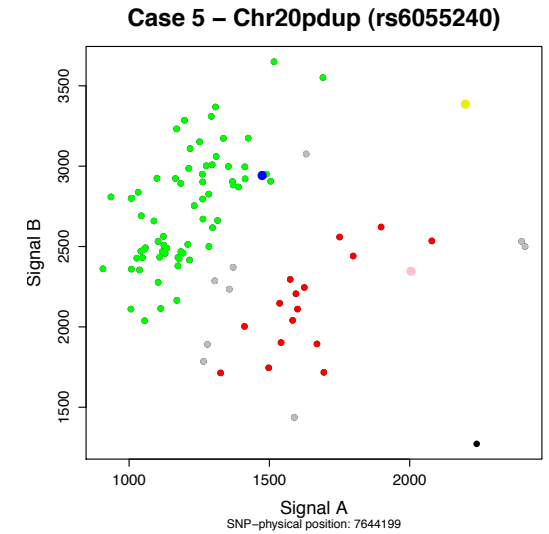

Case 5 – Chr20pdup (rs971060)
Signal B
Signal A
SNP–physical position: 7588599

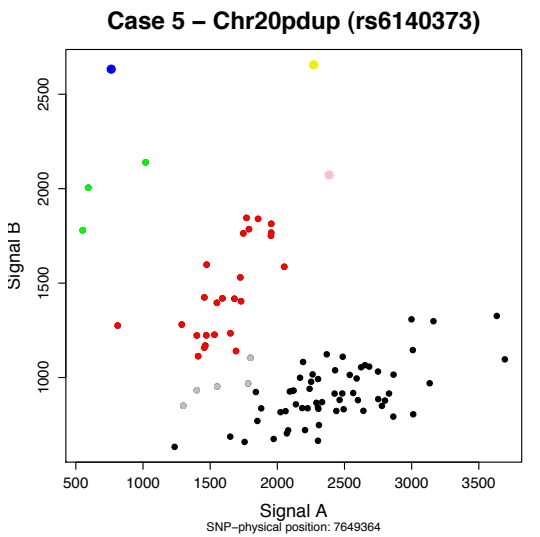

Case 5 – Chr20pdup (rs6108021)
Signal B
Signal A
SNP–physical position: 7589392

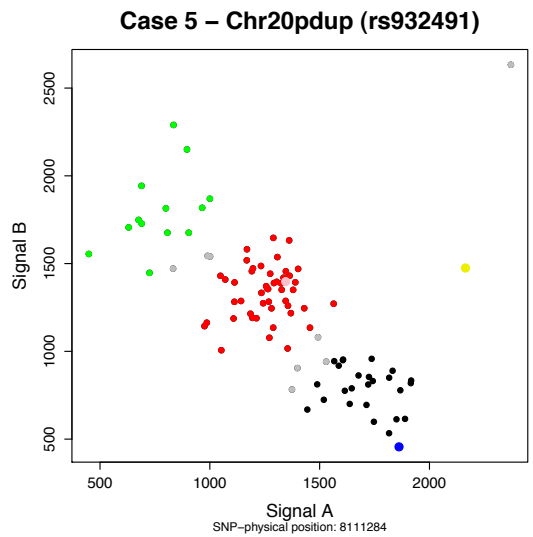

Case 5 – Chr20pdup (rs6108022)
Signal B
Signal A
SNP–physical position: 7589406

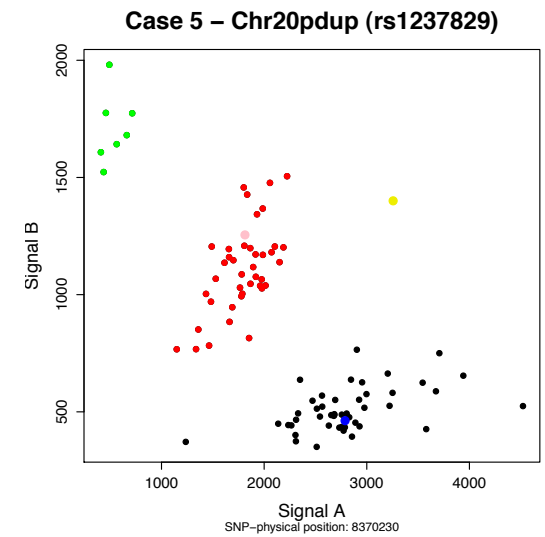

Case 5 – Chr20pdup (rs2206397)
Signal B
Signal A
SNP–physical position: 7591596

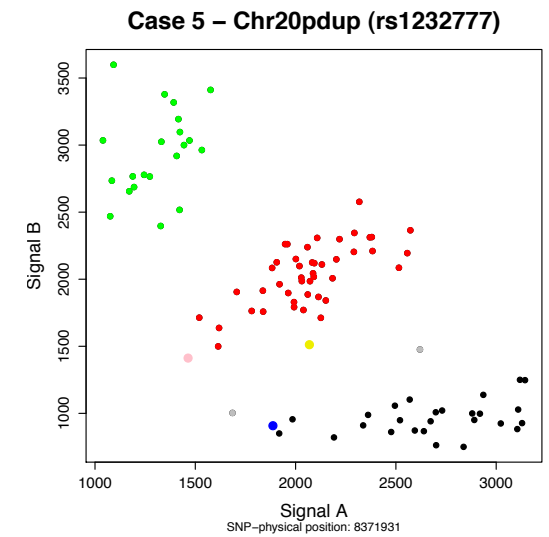

Case 5 – Chr20pdup (rs6077236)
Signal B
Signal A
SNP–physical position: 7625986

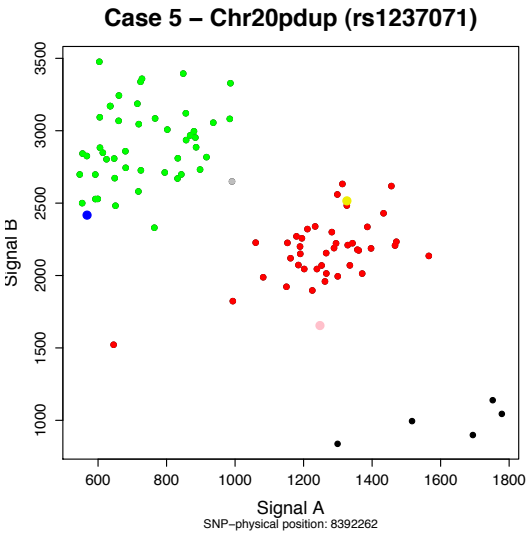

Case 5 – Chr20pdup (rs6055240)
Signal B
Signal A
SNP–physical position: 7644199

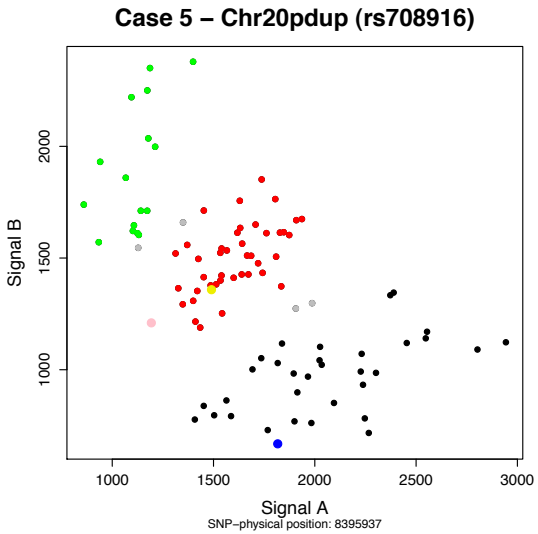

Case 5 – Chr20pdup (rs6140373)
Signal B
Signal A
SNP–physical position: 7649364

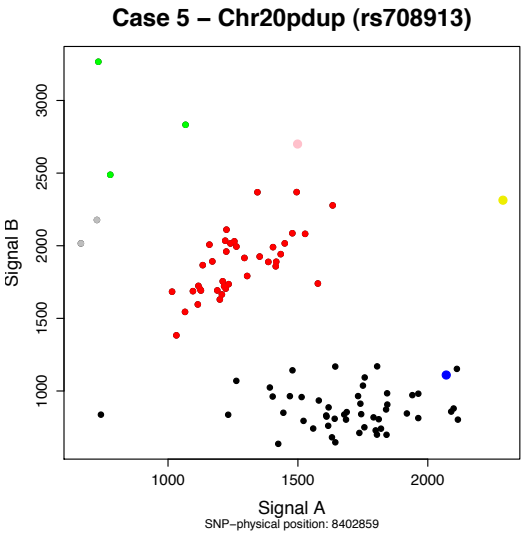

Case 5 – Chr20pdup (rs932491)
Signal B
Signal A
SNP–physical position: 8111284

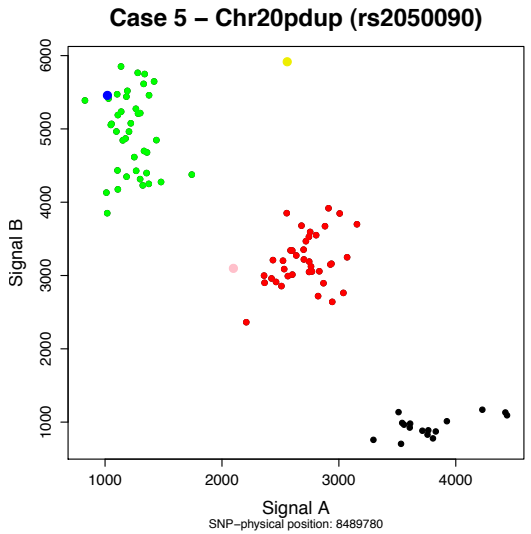

Case 5 – Chr20pdup (rs1237829)
Signal B
Signal A
SNP–physical position: 8370230

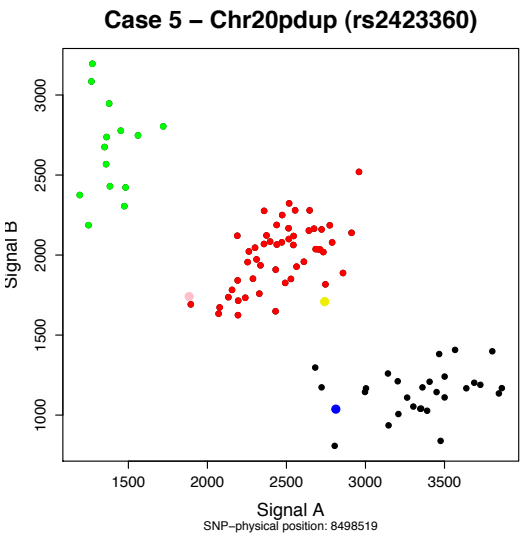

Case 5 – Chr20pdup (rs1232777)
Signal B
Signal A
SNP–physical position: 8371931

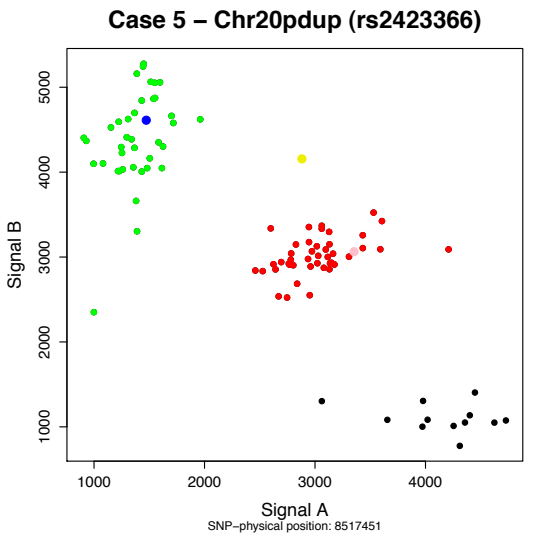

Case 5 – Chr20pdup (rs1237071)
Signal B
Signal A
SNP–physical position: 8392262

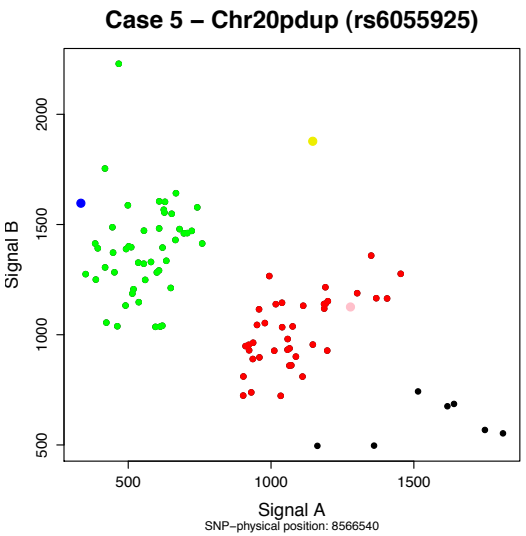

Case 5 – Chr20pdup (rs708916)
Signal B
Signal A
SNP–physical position: 8395937

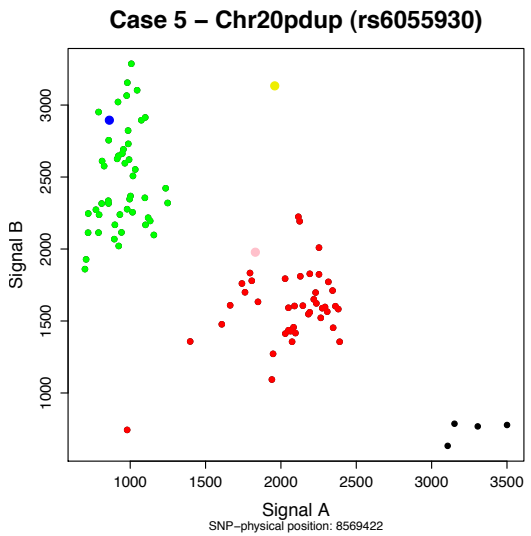

Case 5 – Chr20pdup (rs708913)
Signal B
Signal A
SNP–physical position: 8402859

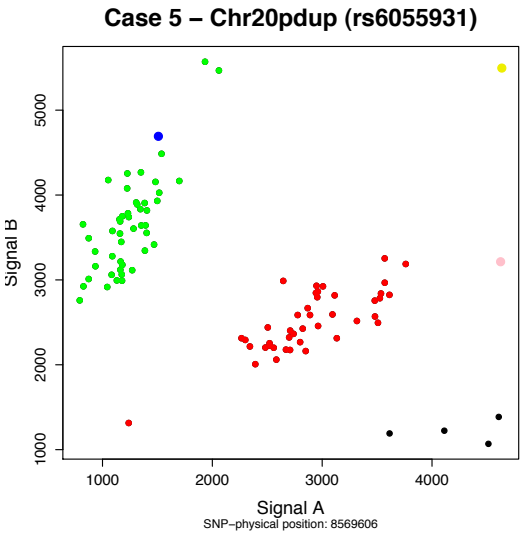

Case 5 – Chr20pdup (rs2050090)
Signal B
Signal A
SNP–physical position: 8489780


Case 5 – Chr20pdup (rs2423360)
Signal B
Signal A
SNP–physical position: 8498519

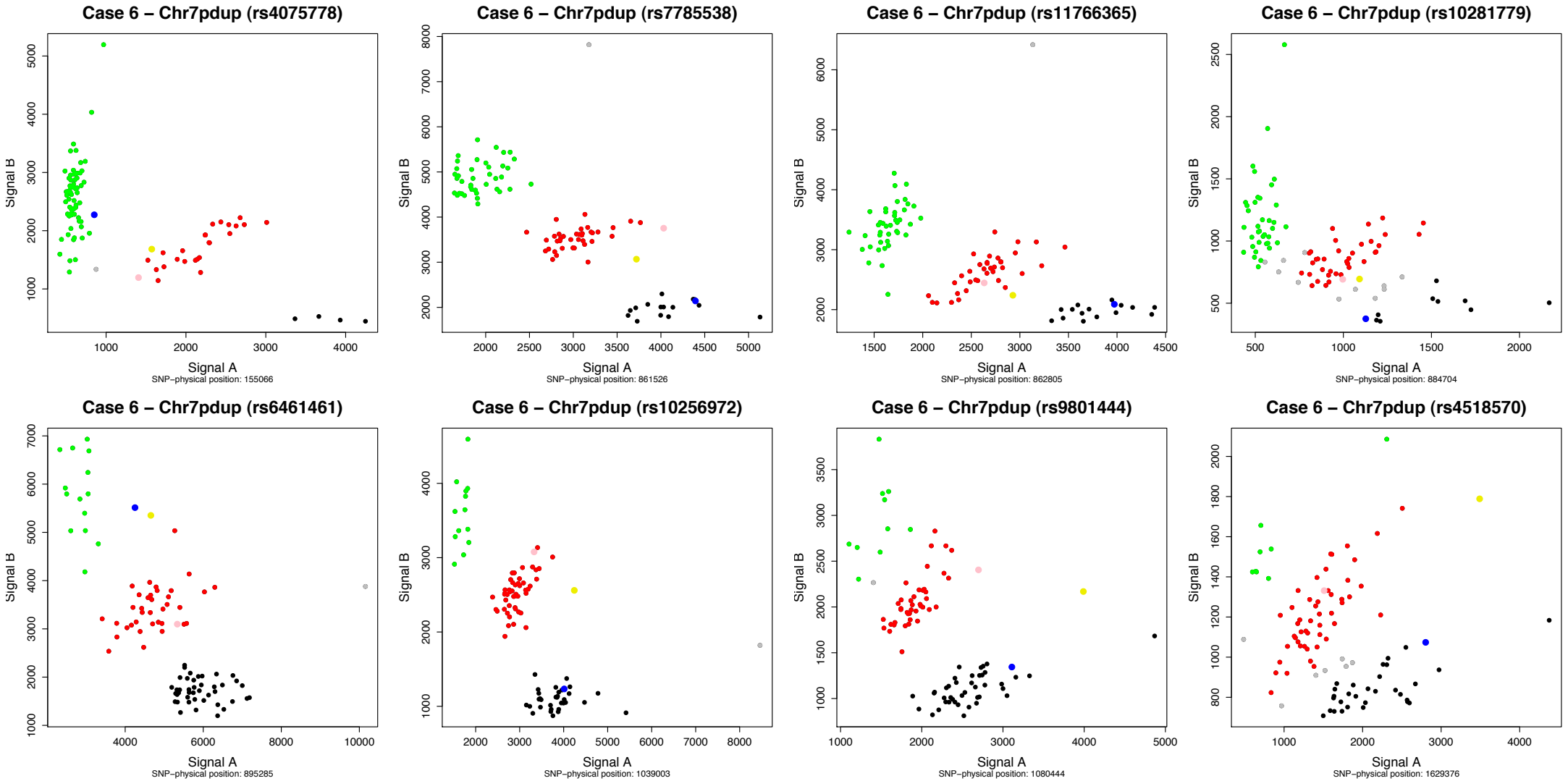

Case 5 – Chr20pdup (rs2423366)
Signal B
Signal A
SNP–physical position: 8517451

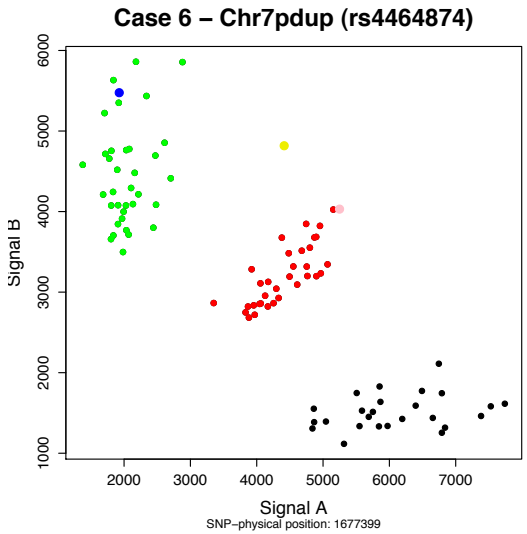

Case 5 – Chr20pdup (rs6055925)
Signal B
Signal A
SNP–physical position: 8566540

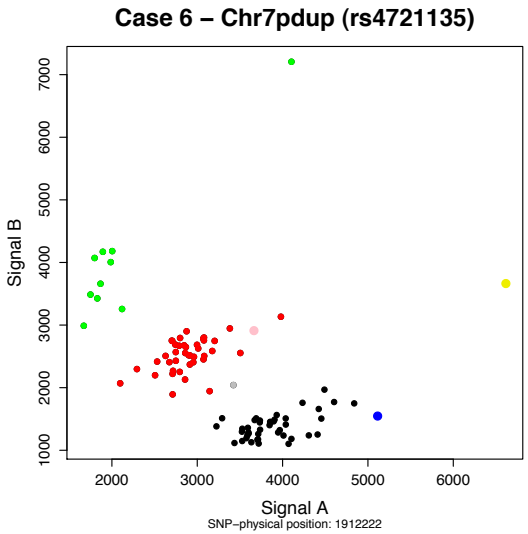

Case 5 – Chr20pdup (rs6055930)
Signal B
Signal A
SNP–physical position: 8569422

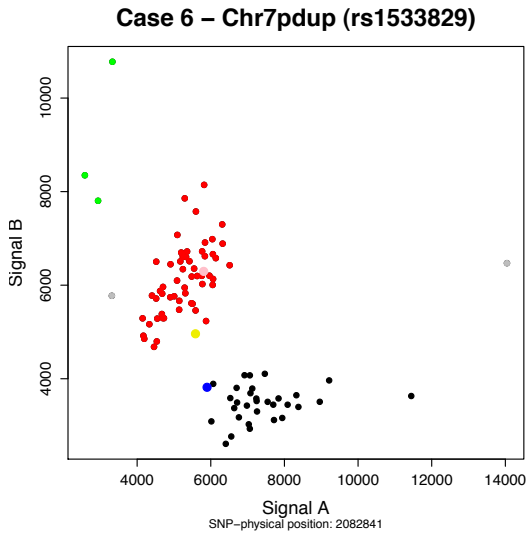

Case 5 – Chr20pdup (rs6055931)
Signal B
5000
4000
3000
2000
1000
1000
2000
3000
4000
Signal A
SNP–physical position: 8569606

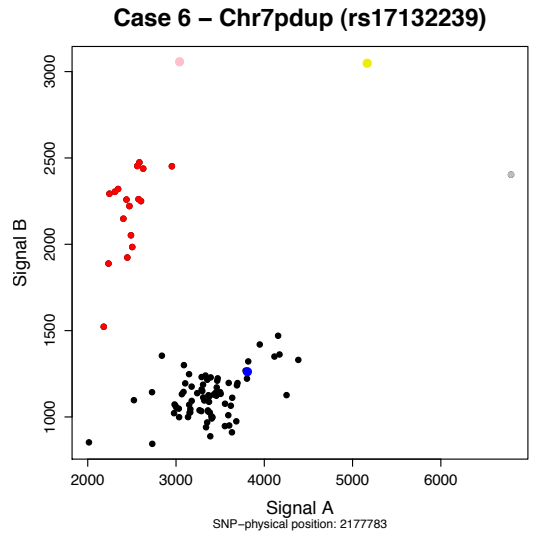
Case: 6
Chromosome: 7p
Abberation: dup.
Origin: Maternal

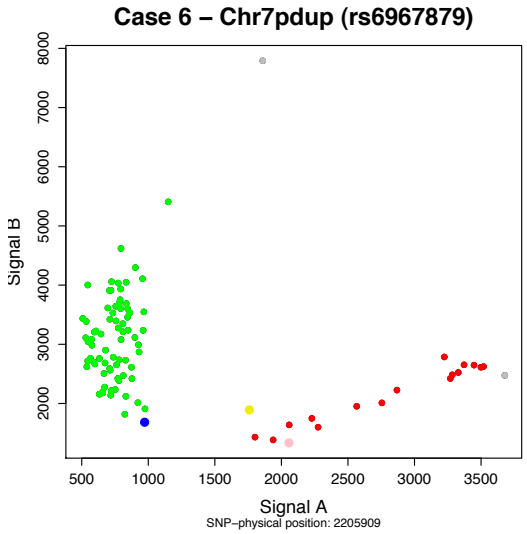

Case 6 – Chr7pdup (rs4075778)
Signal B
Signal A
SNP–physical position: 155066
Case 6 – Chr7pdup (rs7785538)
Signal B
Signal A
SNP–physical position: 861526
Case 6 – Chr7pdup (rs11766365)
Signal B
Signal A
SNP–physical position: 862805
Case 6 – Chr7pdup (rs10281779)
Signal B
Signal A
SNP–physical position: 884704
Case 6 – Chr7pdup (rs6461461)
Signal B
Signal A
SNP–physical position: 895285
Case 6 – Chr7pdup (rs10256972)
Signal B
Signal A
SNP–physical position: 1039003
Case 6 – Chr7pdup (rs9801444)
Signal B
Signal A
SNP–physical position: 1080444
Case 6 – Chr7pdup (rs4518570)
Signal B
Signal A
SNP–physical position: 1629376

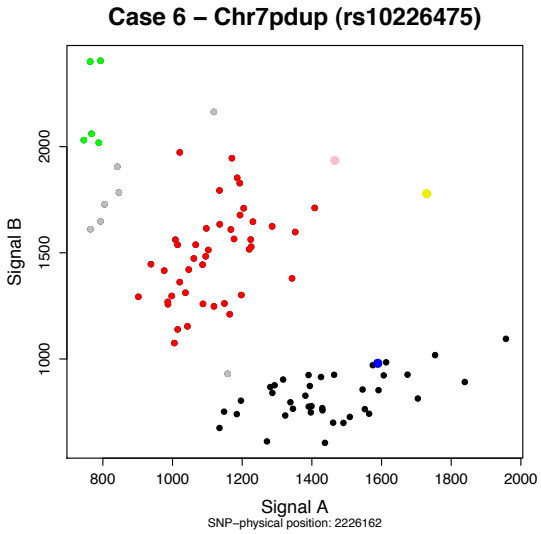

Case 6 – Chr7pdup (rs4464874)
Signal B
Signal A
SNP–physical position: 1677399

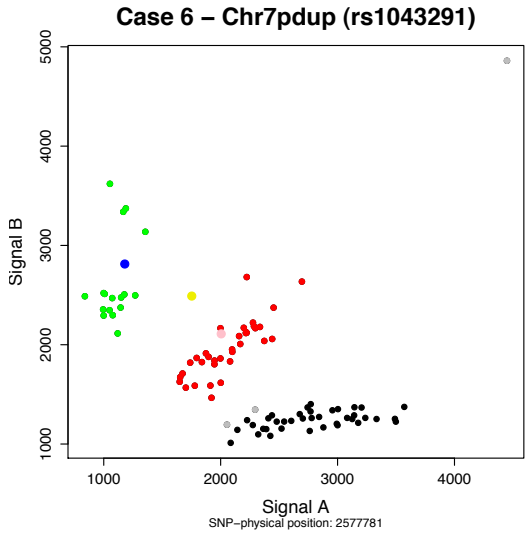

Case 6 – Chr7pdup (rs4721135)
Signal B
Signal A
SNP–physical position: 1912222

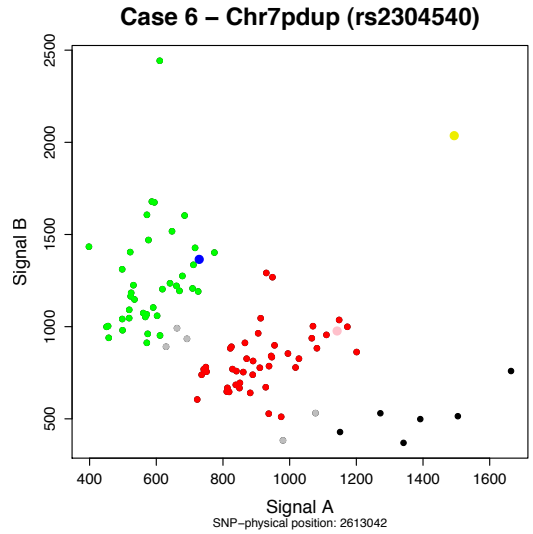

Case 6 – Chr7pdup (rs1533829)
Signal B
Signal A
SNP–physical position: 2082841

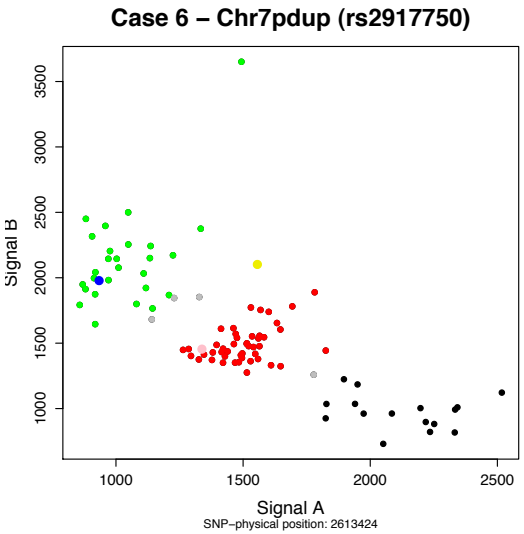

Case 6 – Chr7pdup (rs17132239)
Signal B
Signal A
SNP–physical position: 2177783

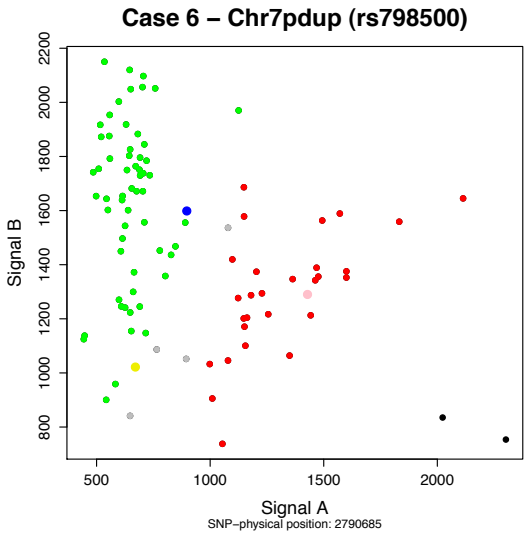

Case 6 – Chr7pdup (rs6967879)
Signal B
Signal A
SNP–physical position: 2205909

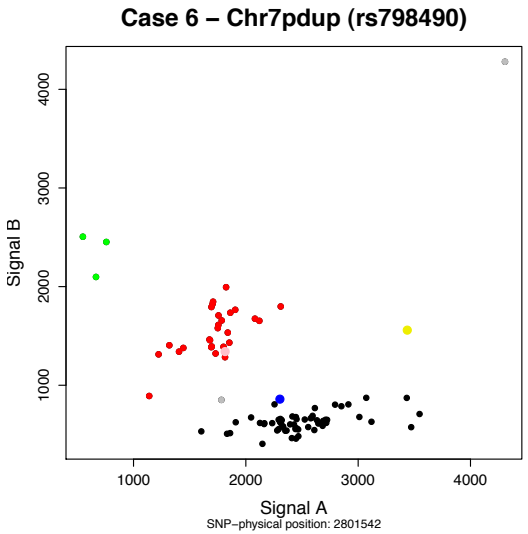

Case 6 – Chr7pdup (rs10226475)
Signal B
Signal A
SNP–physical position: 2226162

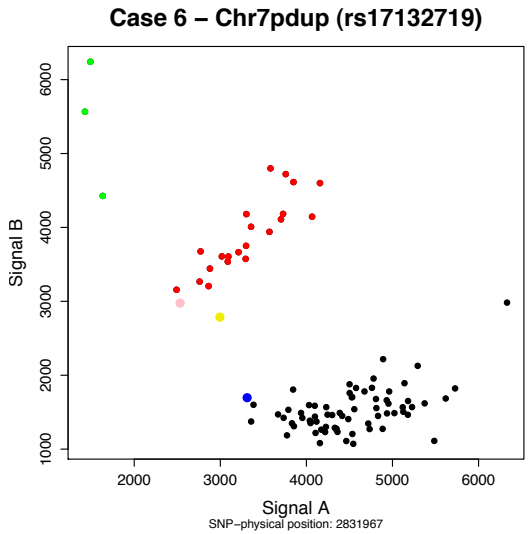

Case 6 – Chr7pdup (rs1043291)
Signal B
Signal A
SNP–physical position: 2577781

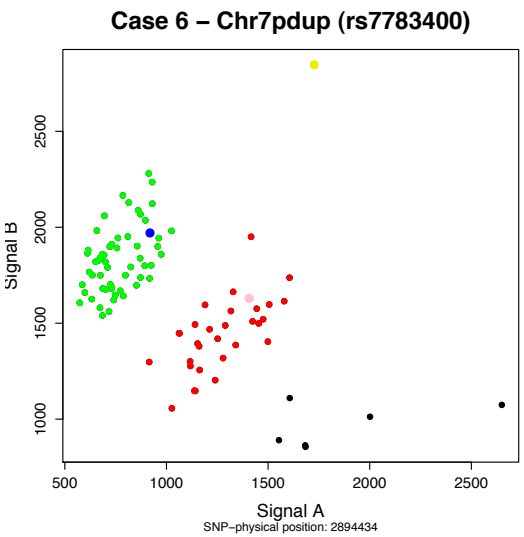

Case 6 – Chr7pdup (rs2304540)
Signal B
Signal A
SNP–physical position: 2613042

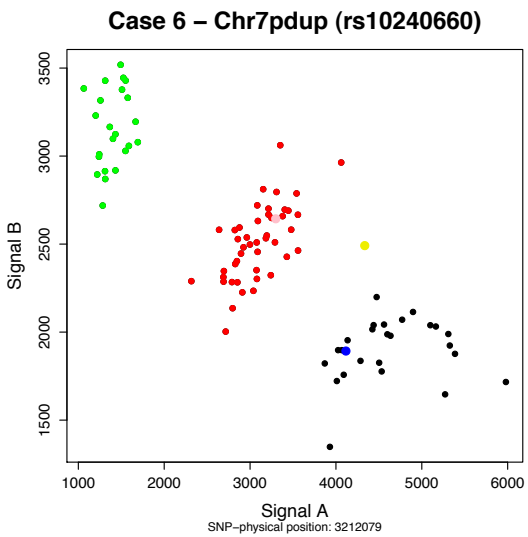

Case 6 – Chr7pdup (rs2917750)
Signal B
Signal A
SNP–physical position: 2613424

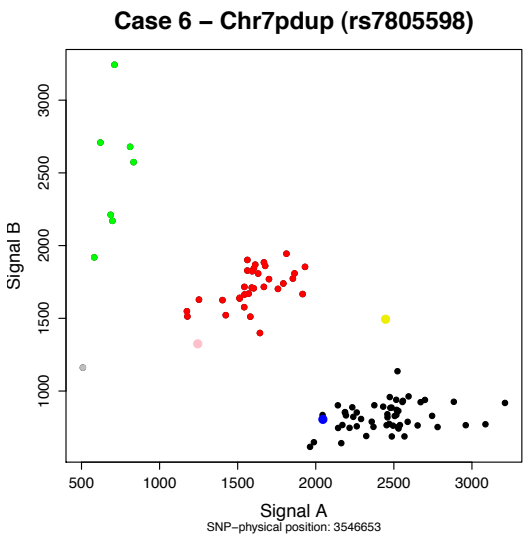

Case 6 – Chr7pdup (rs798500)
Signal B
Signal A
SNP–physical position: 2790685

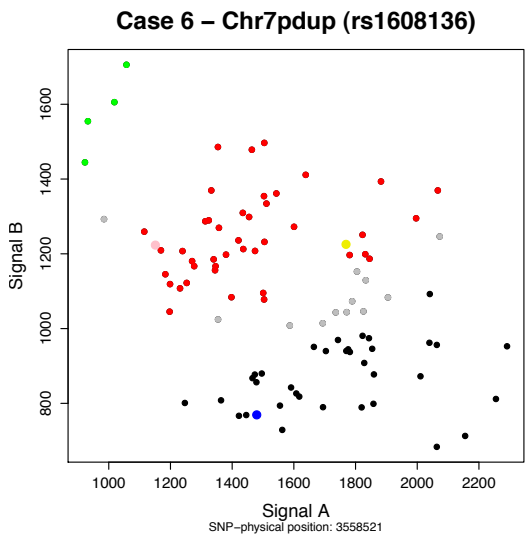

Case 6 – Chr7pdup (rs798490)
Signal B
Signal A
SNP–physical position: 2801542

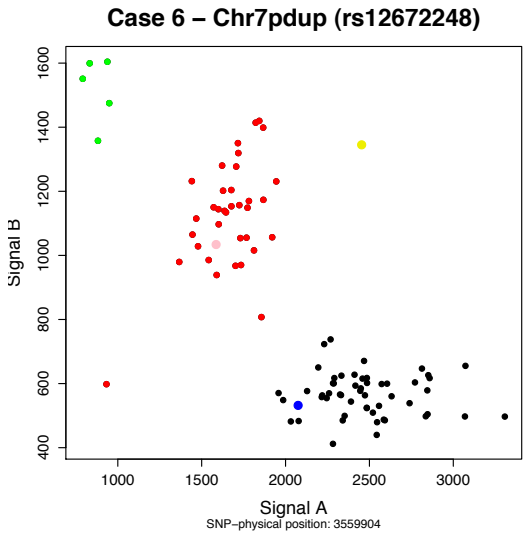

Case 6 – Chr7pdup (rs17132719)
Signal B
Signal A
SNP–physical position: 2831967

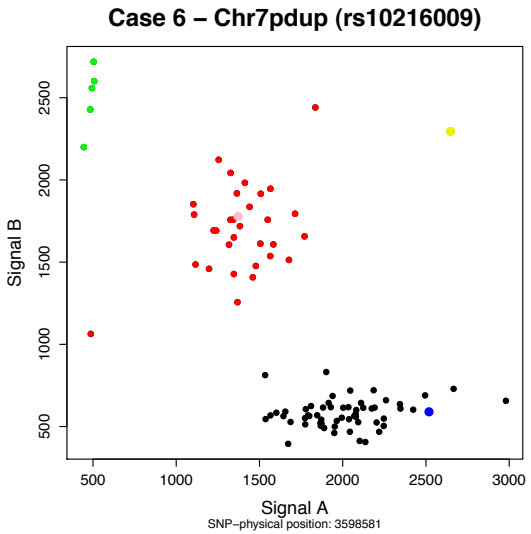

Case 6 – Chr7pdup (rs7783400)
Signal B
Signal A
SNP–physical position: 2894434

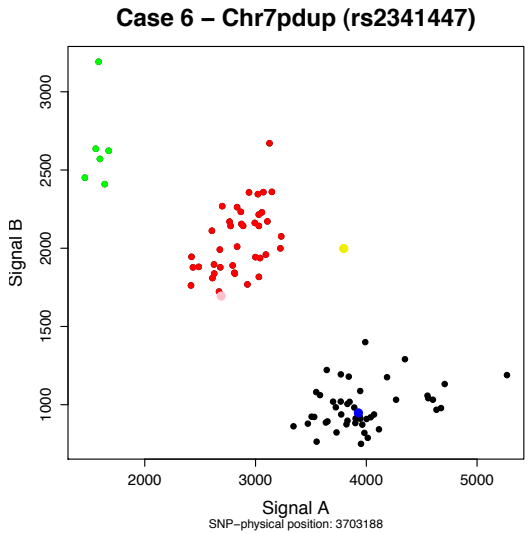

Case 6 – Chr7pdup (rs10240660)
Signal B
Signal A
SNP–physical position: 3212079

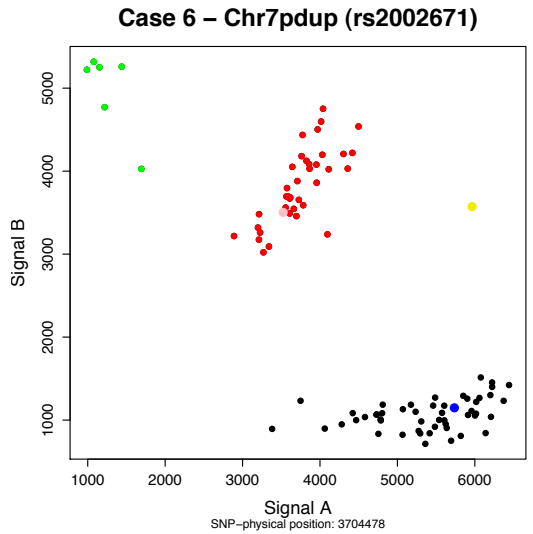

Case 6 – Chr7pdup (rs7805598)
Signal B
Signal A
SNP–physical position: 3546653

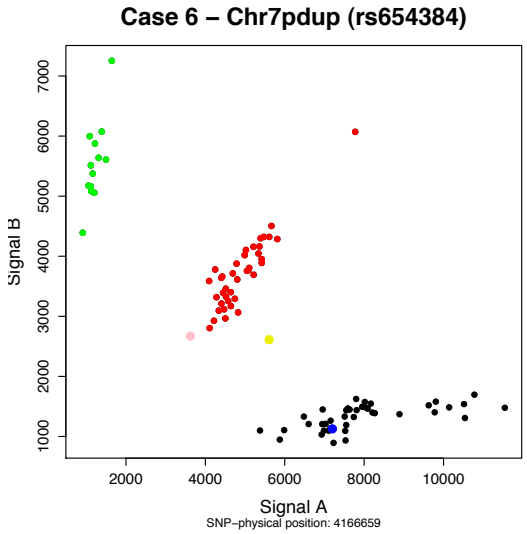

Case 6 – Chr7pdup (rs1608136)
Signal B
Signal A
SNP–physical position: 3558521

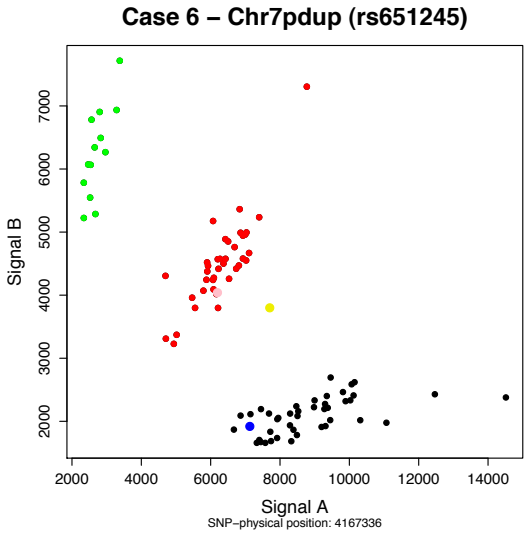

Case 6 – Chr7pdup (rs12672248)
Signal B
Signal A
SNP–physical position: 3559904

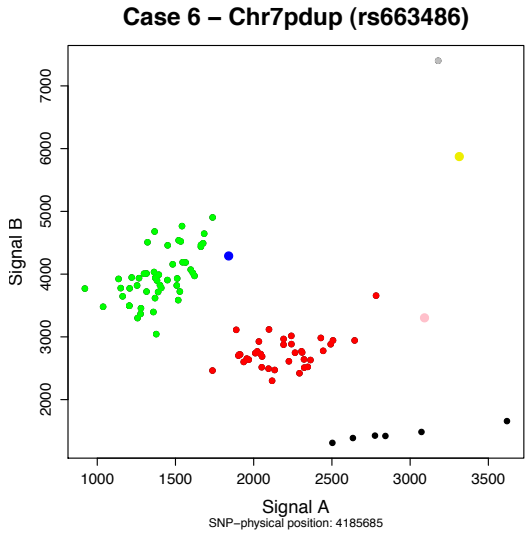

Case 6 – Chr7pdup (rs10216009)
Signal B
Signal A
SNP–physical position: 3598581

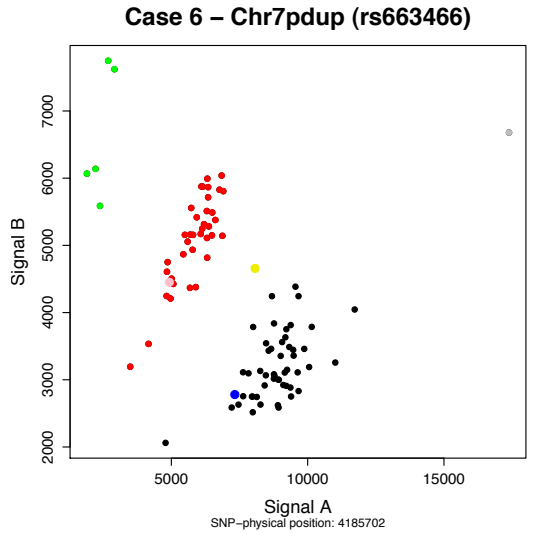

Case 6 – Chr7pdup (rs2341447)
Signal B
Signal A
SNP–physical position: 3703188

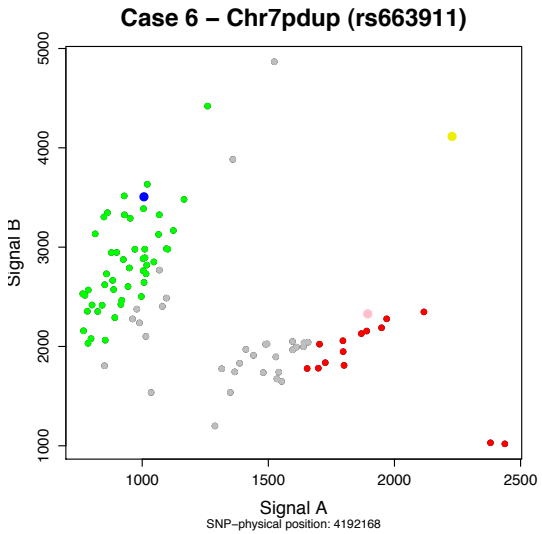

Case 6 – Chr7pdup (rs2002671)
Signal B
Signal A
SNP–physical position: 3704478

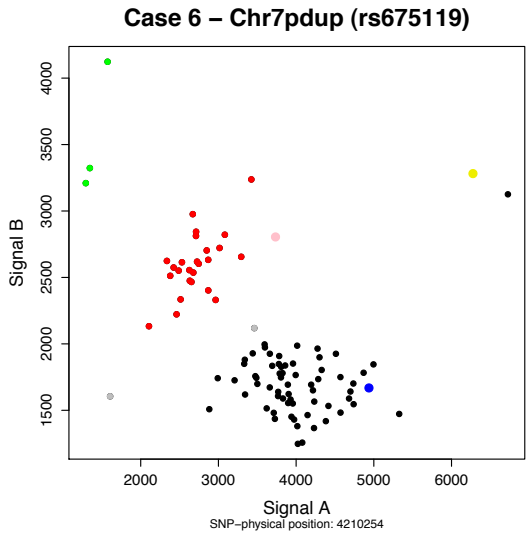

Case 6 – Chr7pdup (rs654384)
Signal B
Signal A
SNP–physical position: 4166659

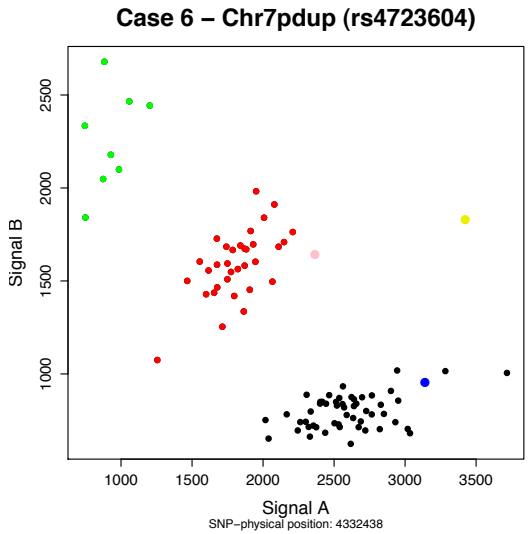

Case 6 – Chr7pdup (rs651245)
Signal B
Signal A
SNP–physical position: 4167336

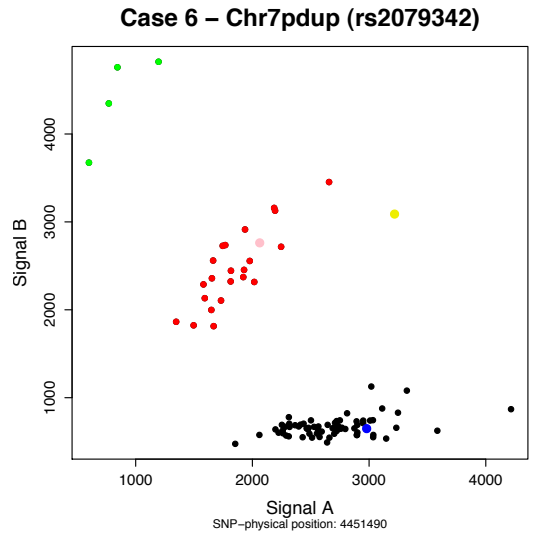

Case 6 – Chr7pdup (rs663486)
Signal B
Signal A
SNP–physical position: 4185685

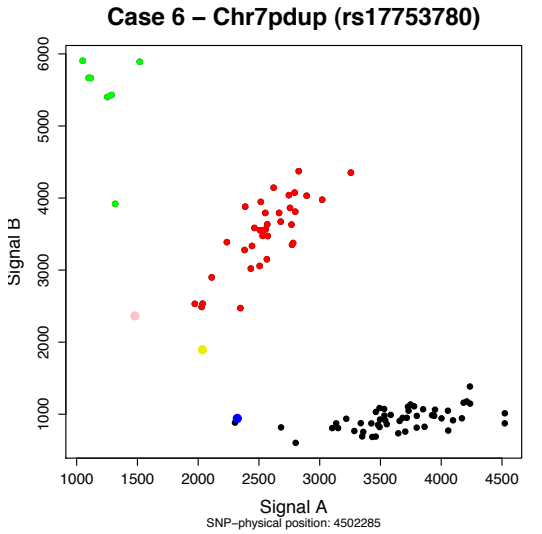

Case 6 – Chr7pdup (rs663466)
Signal B
Signal A
SNP–physical position: 4185702

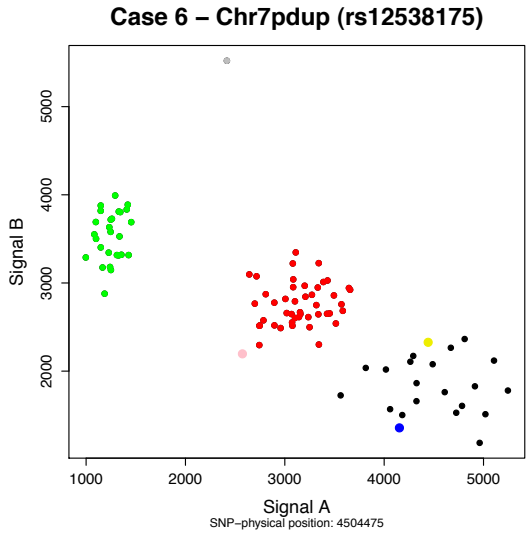

Case 6 – Chr7pdup (rs663911)
Signal B
Signal A
SNP–physical position: 4192168

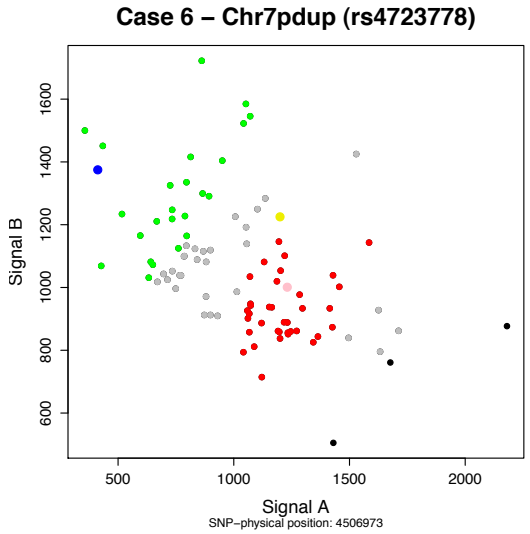

Case 6 – Chr7pdup (rs675119)
Signal B
Signal A
SNP–physical position: 4210254

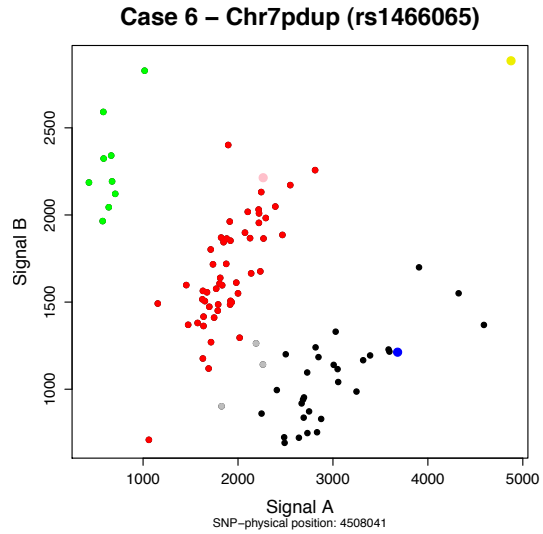

Case 6 – Chr7pdup (rs4723604)
Signal B
Signal A
SNP–physical position: 4332438

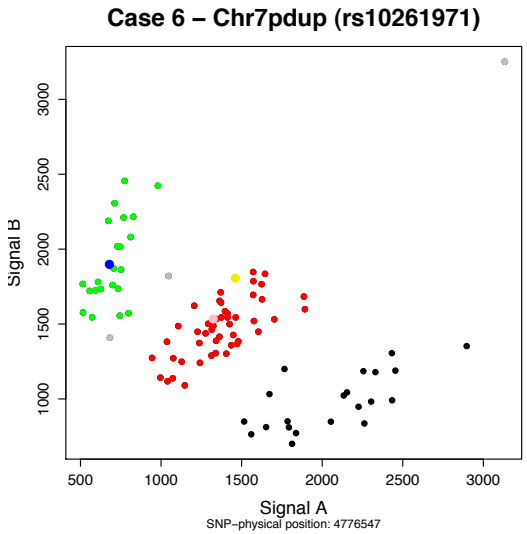

Case 6 – Chr7pdup (rs2079342)
Signal B
Signal A
SNP–physical position: 4451490

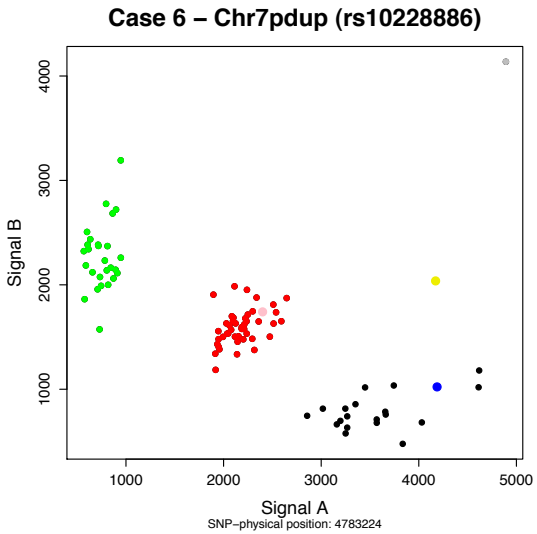

Case 6 – Chr7pdup (rs17753780)
Signal B
Signal A
SNP–physical position: 4502285

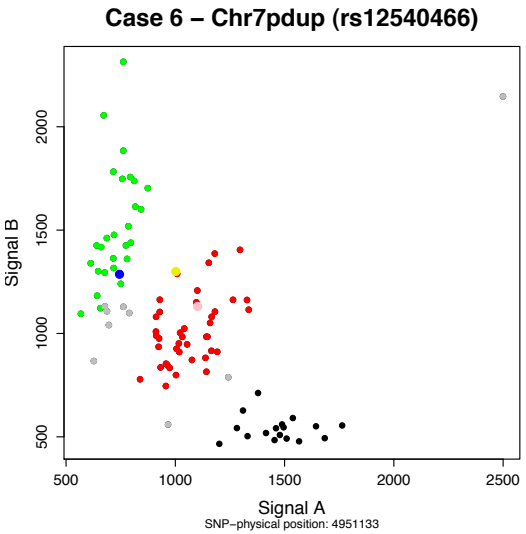

Case 6 – Chr7pdup (rs12538175)
Signal B
Signal A
SNP–physical position: 4504475

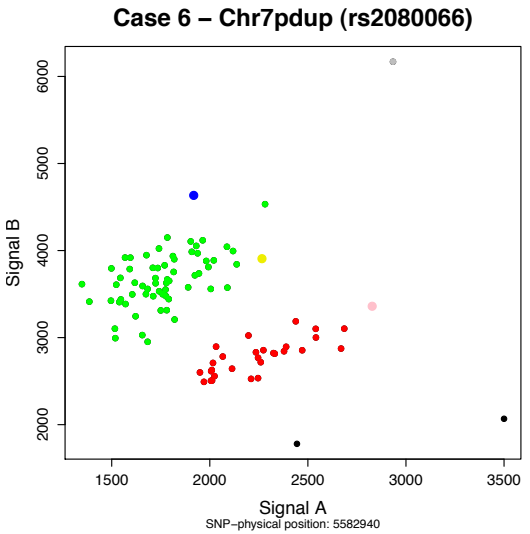

Case 6 – Chr7pdup (rs4723778)
Signal B
Signal A
SNP–physical position: 4506973

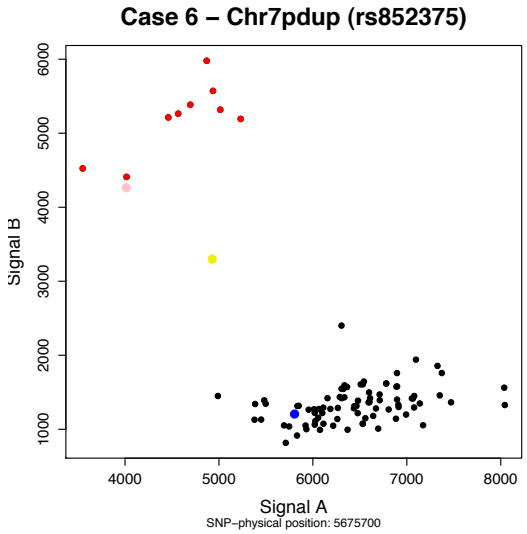

Case 6 – Chr7pdup (rs1466065)
Signal B
Signal A
SNP–physical position: 4508041

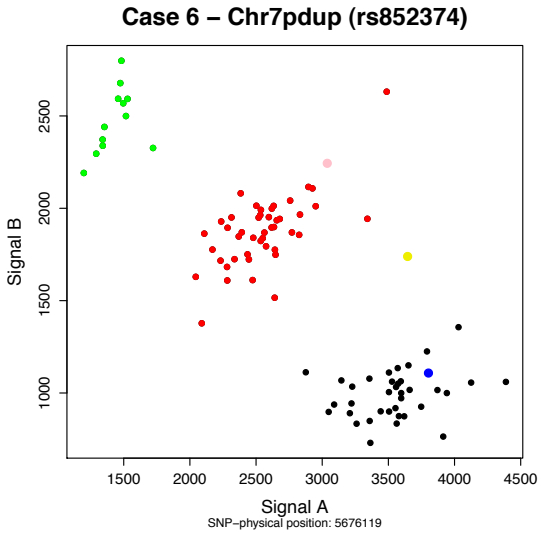

Case 6 – Chr7pdup (rs10261971)
Signal B
Signal A
SNP–physical position: 4776547

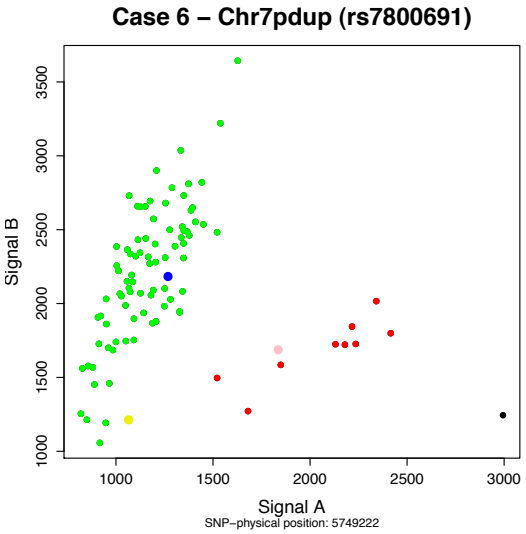

Case 6 – Chr7pdup (rs10228886)
Signal B
Signal A
SNP–physical position: 4783224

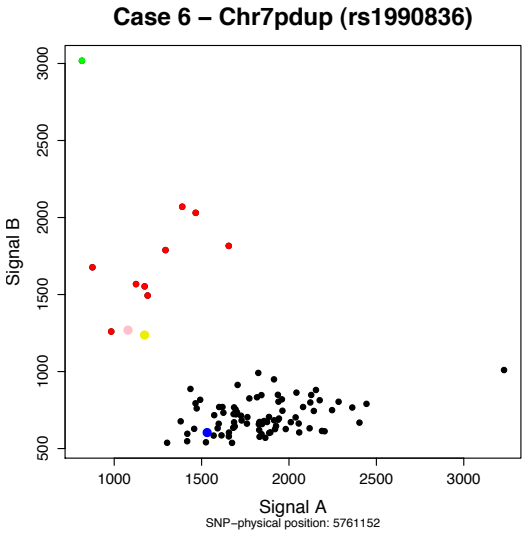

Case 6 – Chr7pdup (rs12540466)
Signal B
Signal A
SNP–physical position: 4951133

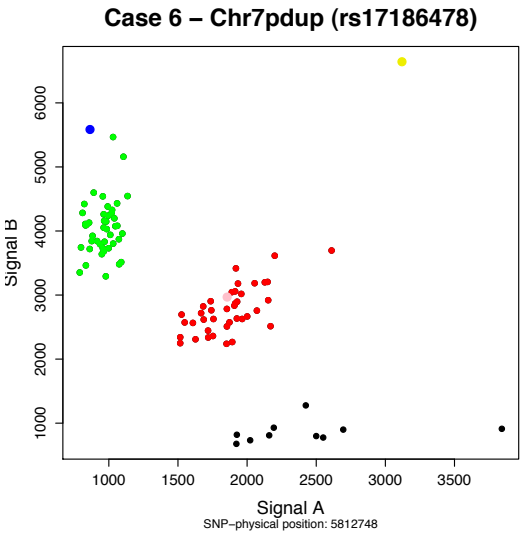

Case 6 – Chr7pdup (rs2080066)
Signal B
Signal A
SNP–physical position: 5582940

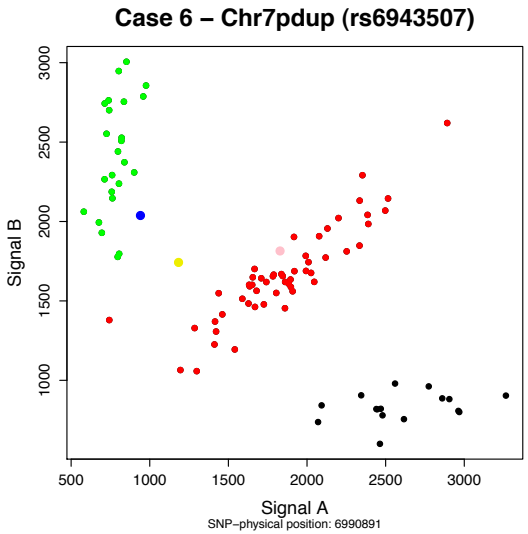

Case 6 – Chr7pdup (rs852375)
Signal B
Signal A
SNP–physical position: 5675700

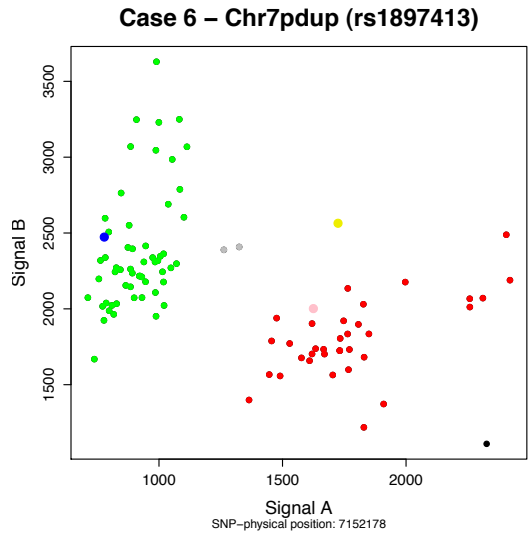

Case 6 – Chr7pdup (rs852374)
Signal B
Signal A
SNP–physical position: 5676119

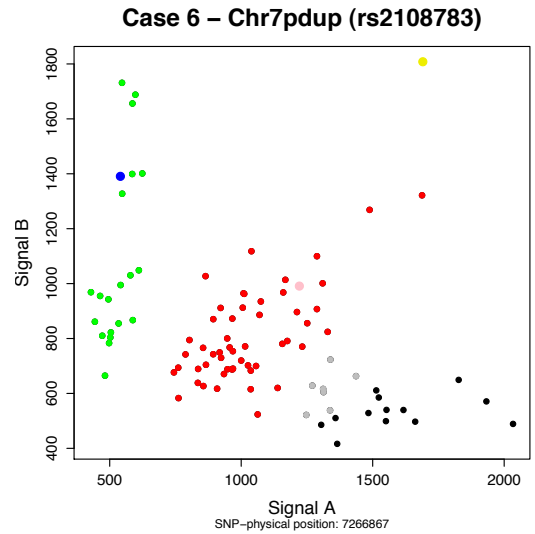

Case 6 – Chr7pdup (rs7800691)
Signal B
Signal A
SNP–physical position: 5749222

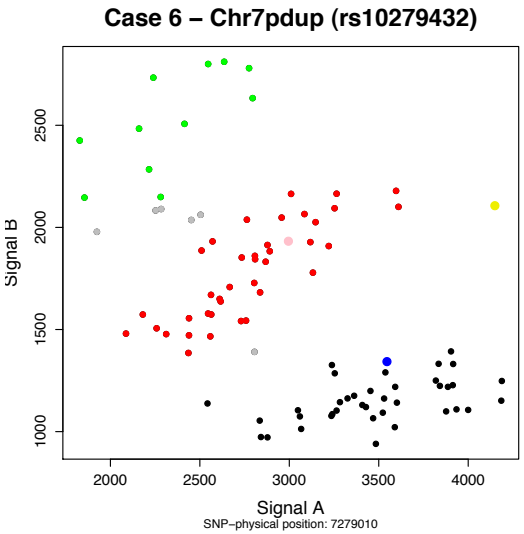

Case 6 – Chr7pdup (rs1990836)
Signal B
Signal A
SNP–physical position: 5761152

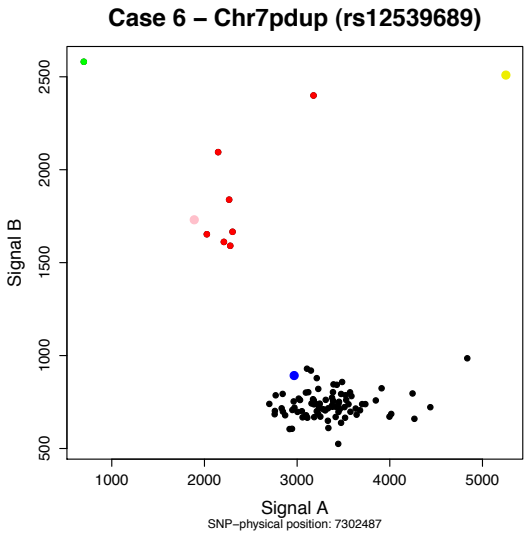

Case 6 – Chr7pdup (rs17186478)
Signal B
Signal A
SNP–physical position: 5812748

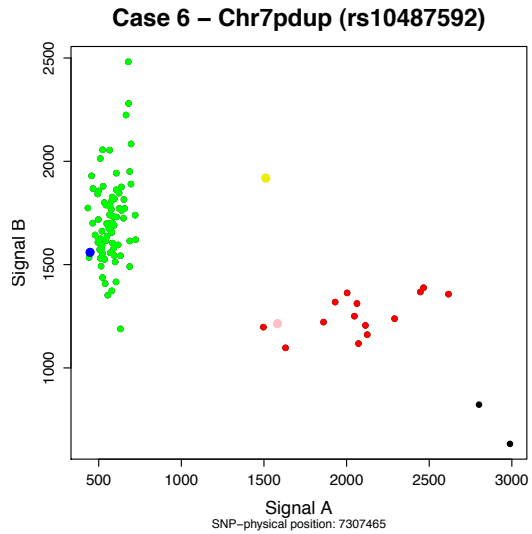

Case 6 – Chr7pdup (rs6943507)
Signal B
Signal A
SNP–physical position: 6990891

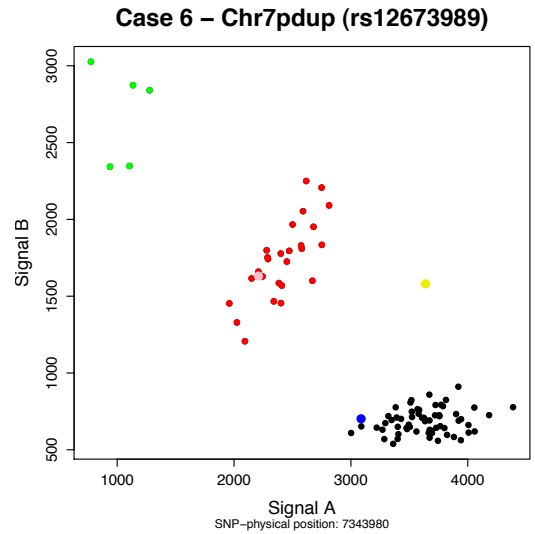

Case 6 – Chr7pdup (rs1897413)
Signal B
Signal A
SNP–physical position: 7152178

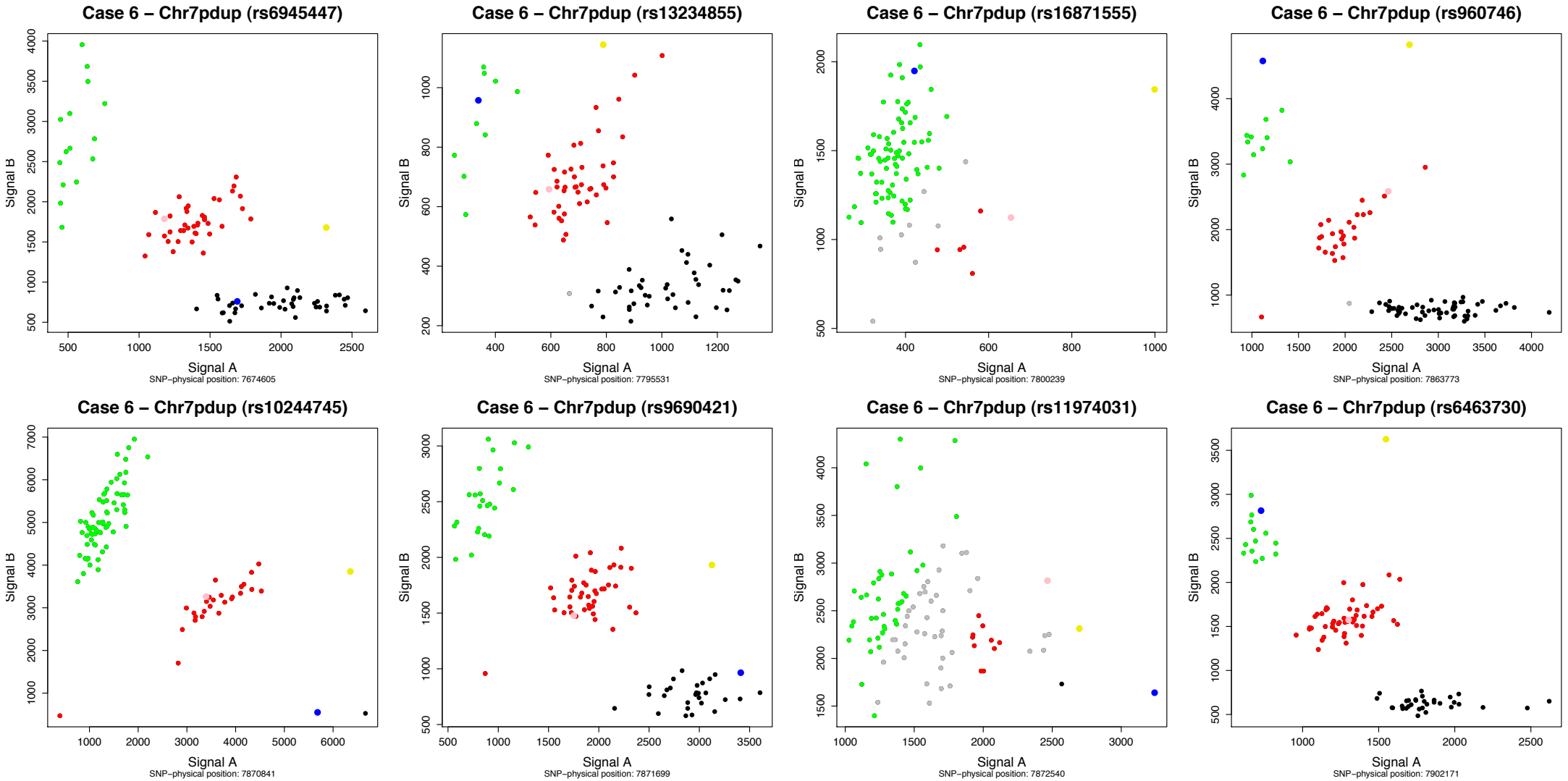

Case 6 – Chr7pdup (rs2108783)
Signal B
Signal A
SNP–physical position: 7266867

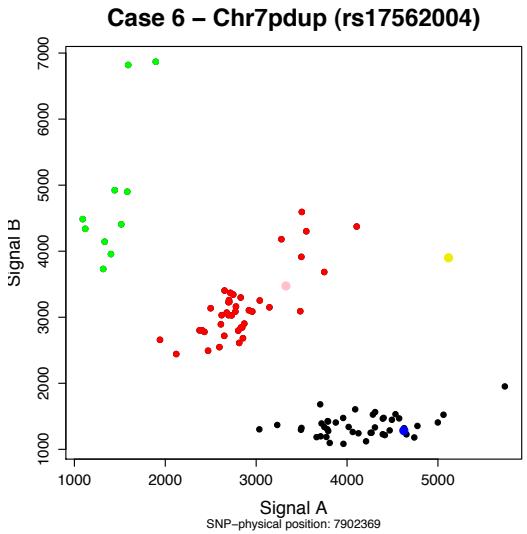

Case 6 – Chr7pdup (rs10279432)
Signal B
Signal A
SNP–physical position: 7279010

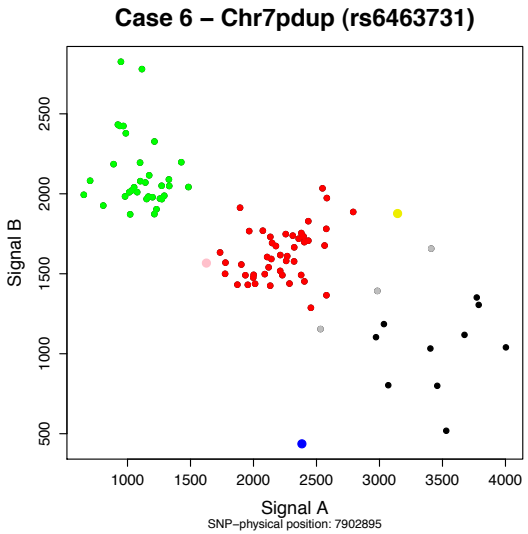

Case 6 – Chr7pdup (rs12539689)
Signal B
Signal A
SNP–physical position: 7302487

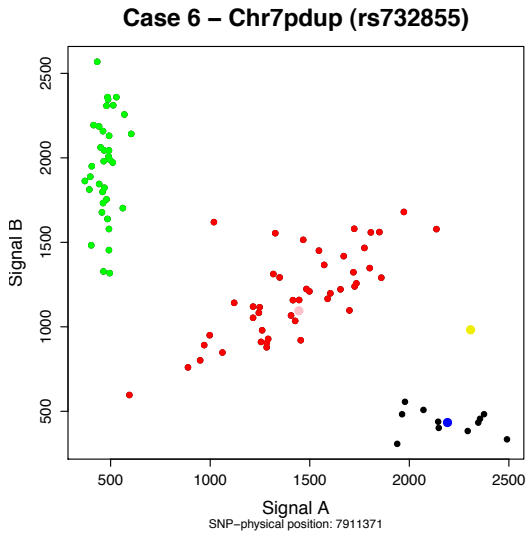

Case 6 – Chr7pdup (rs10487592)
Signal B
Signal A
SNP–physical position: 7307465

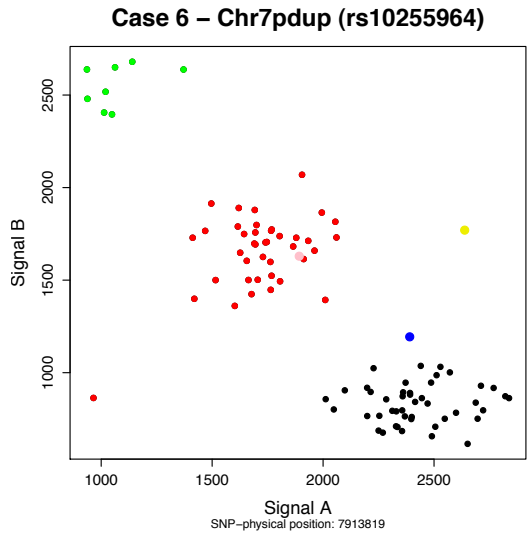

Case 6 – Chr7pdup (rs12673989)
Signal B
Signal A
SNP–physical position: 7343980

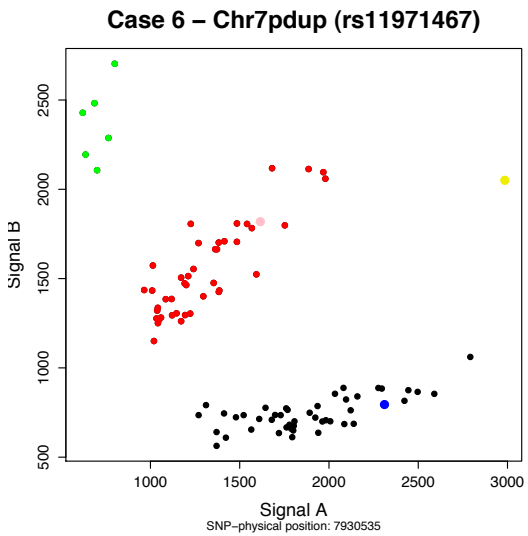

Case 6 – Chr7pdup (rs6945447)
Signal B
Signal A
SNP–physical position: 7674605
Case 6 – Chr7pdup (rs13234855)
Signal B
Signal A
SNP–physical position: 7795531
Case 6 – Chr7pdup (rs16871555)
Signal B
Signal A
SNP–physical position: 7800239
Case 6 – Chr7pdup (rs960746)
Signal B
Signal A
SNP–physical position: 7863773
Case 6 – Chr7pdup (rs10244745)
Signal B
Signal A
SNP–physical position: 7870841
Case 6 – Chr7pdup (rs9690421)
Signal B
Signal A
SNP–physical position: 7871699
Case 6 – Chr7pdup (rs11974031)
Signal B
Signal A
SNP–physical position: 7872540
Case 6 – Chr7pdup (rs6463730)
Signal B
Signal A
SNP–physical position: 7902171

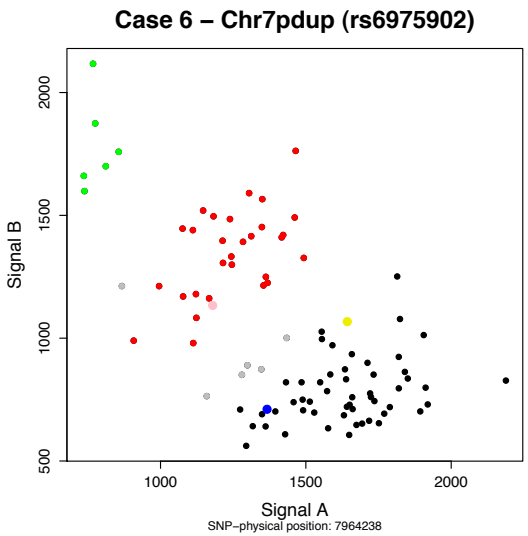

Case 6 – Chr7pdup (rs17562004)
Signal B
Signal A
SNP–physical position: 7902369

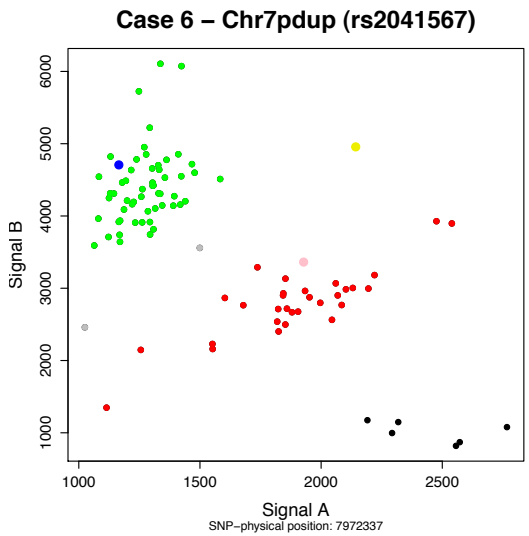

Case 6 – Chr7pdup (rs6463731)
Signal B
Signal A
SNP–physical position: 7902895

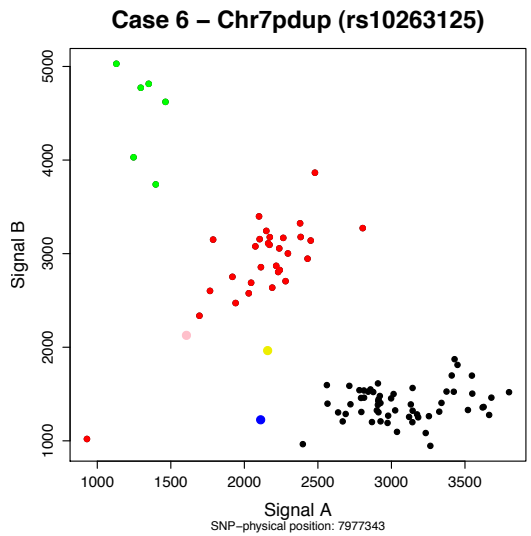

Case 6 – Chr7pdup (rs732855)
Signal B
Signal A
SNP–physical position: 7911371

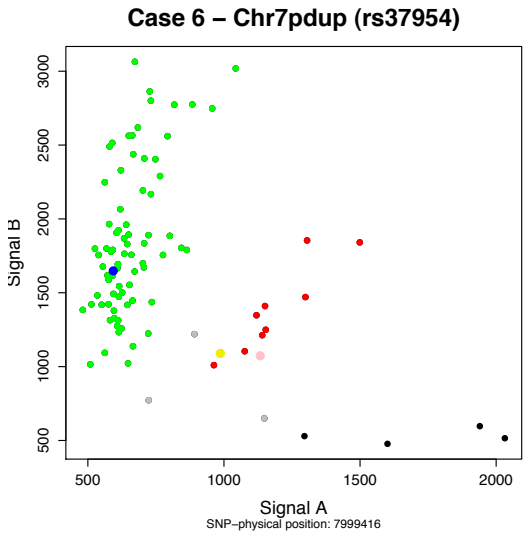

Case 6 – Chr7pdup (rs10255964)
Signal B
Signal A
SNP–physical position: 7913819

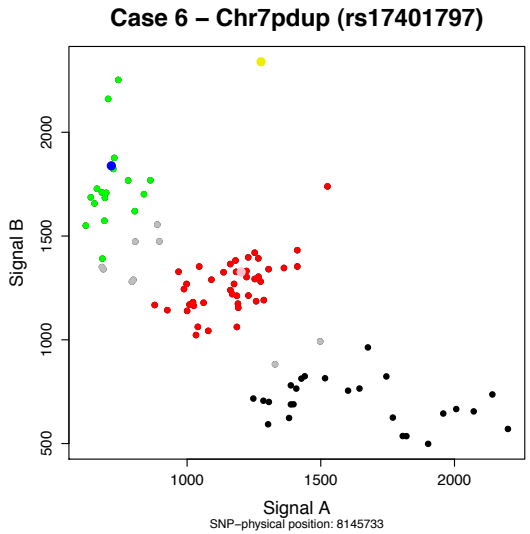

Case 6 – Chr7pdup (rs11971467)
Signal B
Signal A
SNP–physical position: 7930535

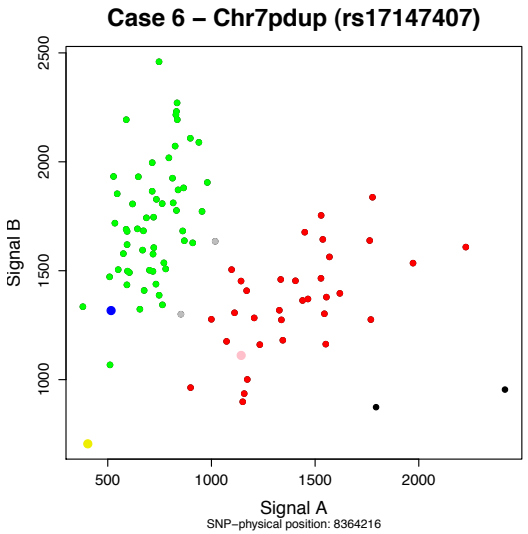

Case 6 – Chr7pdup (rs6975902)
Signal B
Signal A
SNP–physical position: 7964238

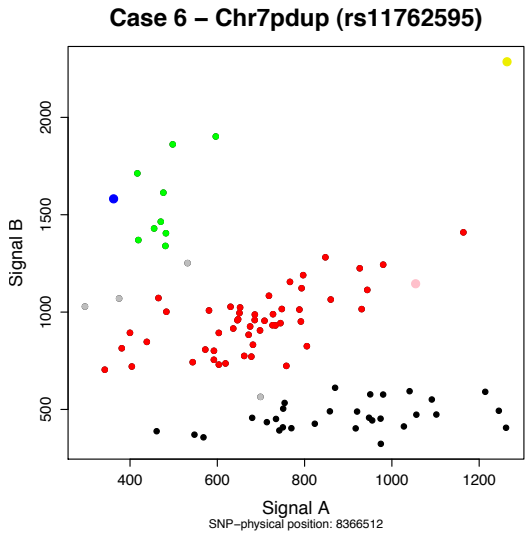

Case 6 – Chr7pdup (rs2041567)
Signal B
Signal A
SNP–physical position: 7972337

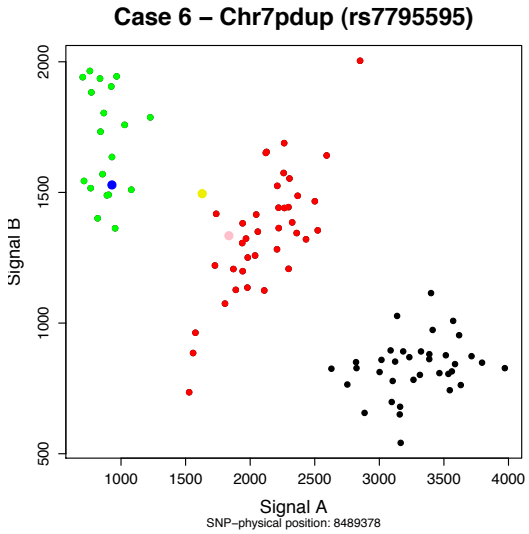

Case 6 – Chr7pdup (rs10263125)
Signal B
Signal A
SNP–physical position: 7977343

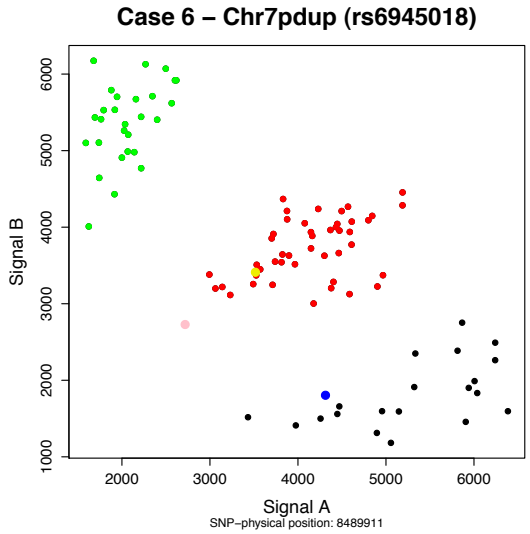

Case 6 – Chr7pdup (rs37954)
Signal B
Signal A
SNP–physical position: 7999416

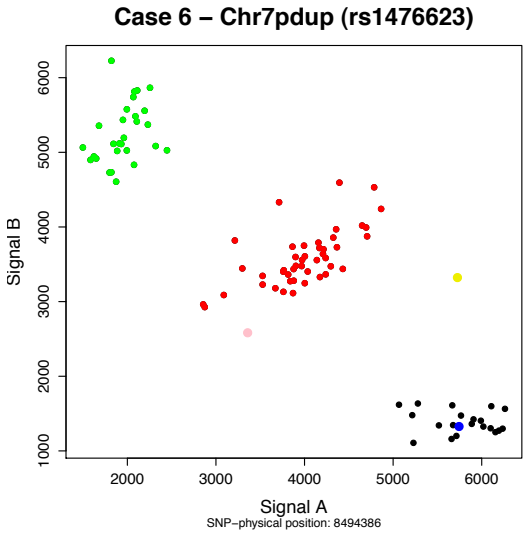

Case 6 – Chr7pdup (rs17401797)
Signal B
Signal A
SNP–physical position: 8145733

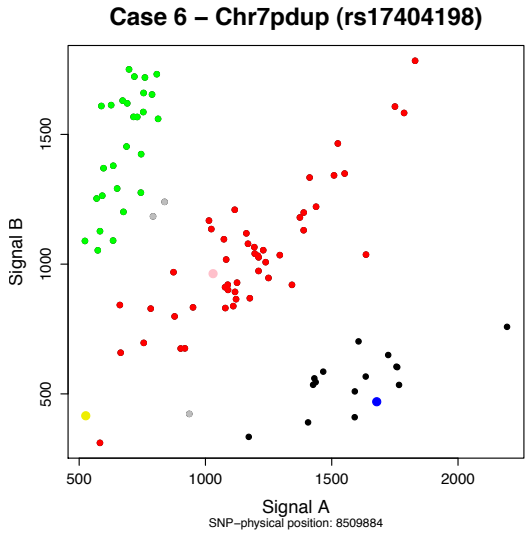

Case 6 – Chr7pdup (rs17147407)
Signal B
Signal A
SNP–physical position: 8364216

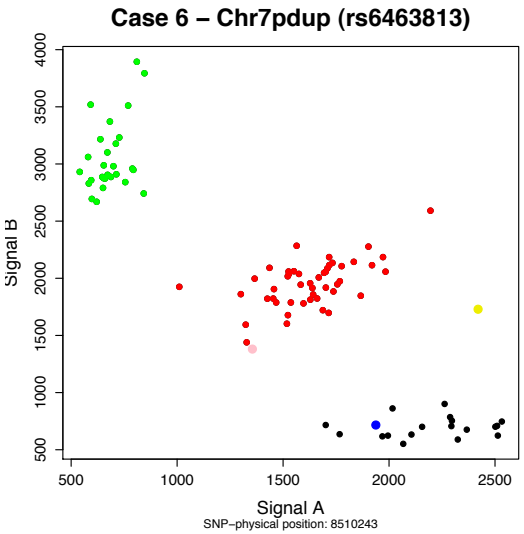

Case 6 – Chr7pdup (rs11762595)
Signal B
Signal A
SNP–physical position: 8366512

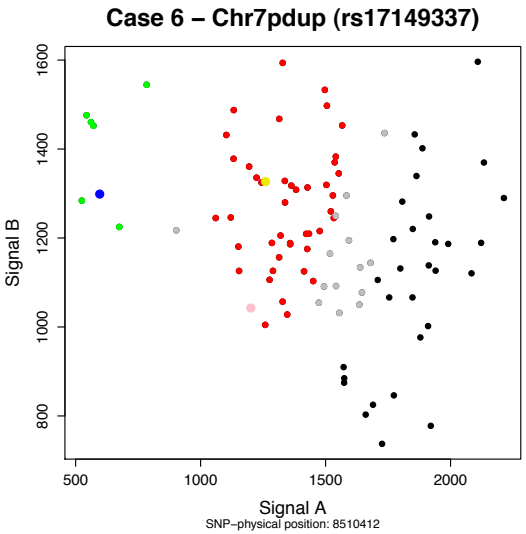

Case 6 – Chr7pdup (rs7795595)
Signal B
Signal A
SNP–physical position: 8489378

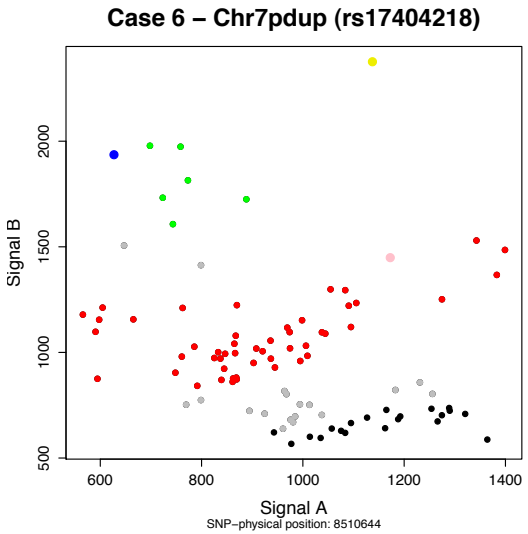

Case 6 – Chr7pdup (rs6945018)
Signal B
Signal A
SNP–physical position: 8489911

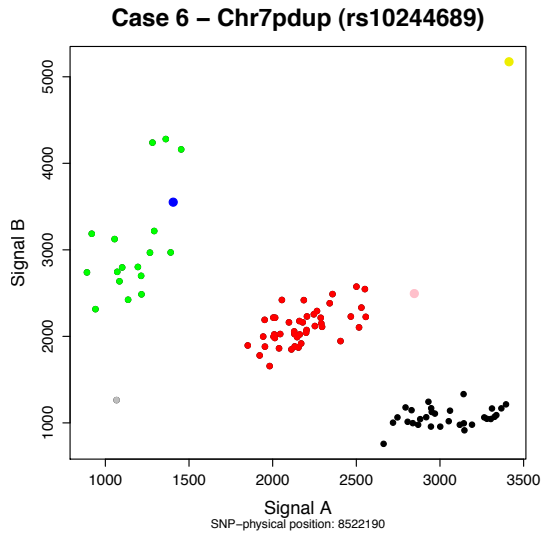

Case 6 – Chr7pdup (rs1476623)
Signal B
Signal A
SNP–physical position: 8494386

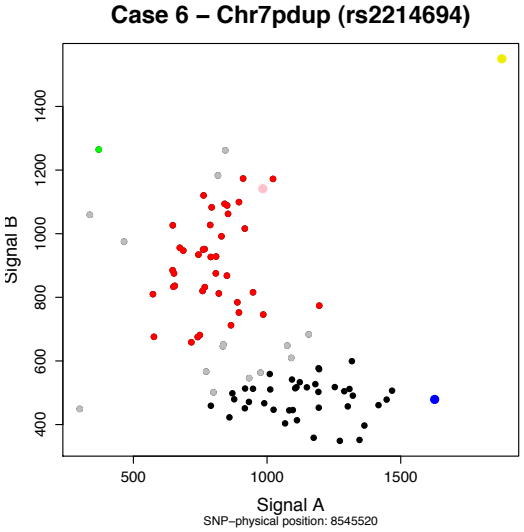

Case 6 – Chr7pdup (rs17404198)
Signal B
Signal A
SNP–physical position: 8509884

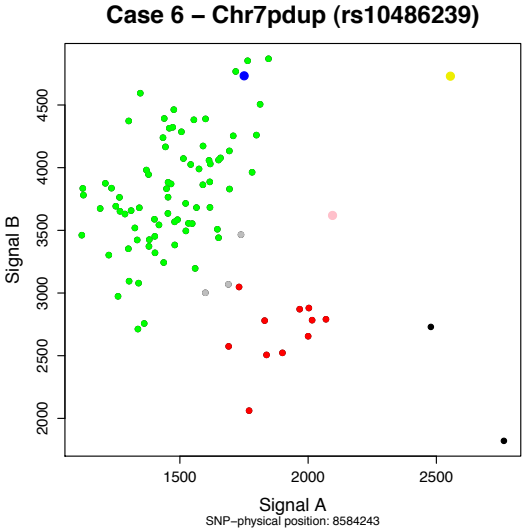

Case 6 – Chr7pdup (rs6463813)
Signal B
Signal A
SNP–physical position: 8510243

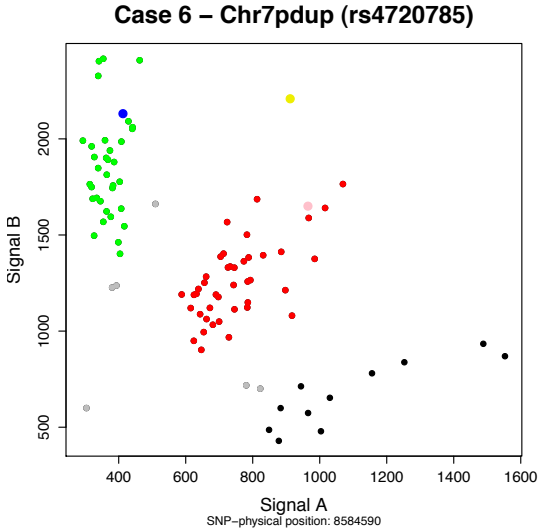

Case 6 – Chr7pdup (rs17149337)
Signal B
Signal A
SNP–physical position: 8510412

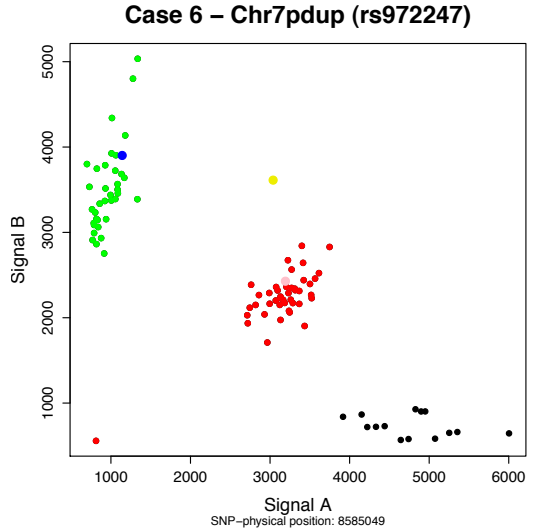

Case 6 – Chr7pdup (rs17404218)
Signal B
Signal A
SNP–physical position: 8510644

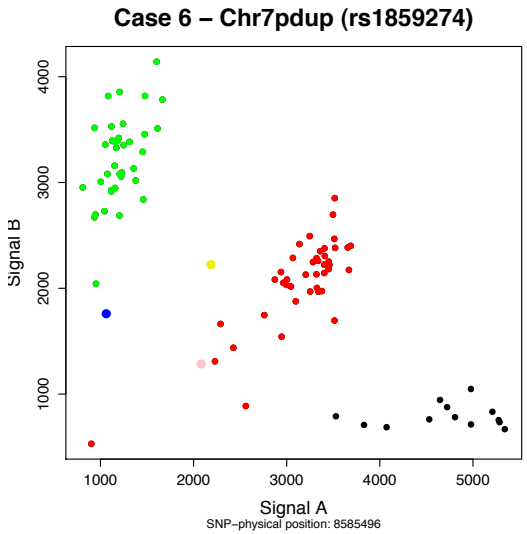

Case 6 – Chr7pdup (rs10244689)
Signal B
Signal A
SNP–physical position: 8522190

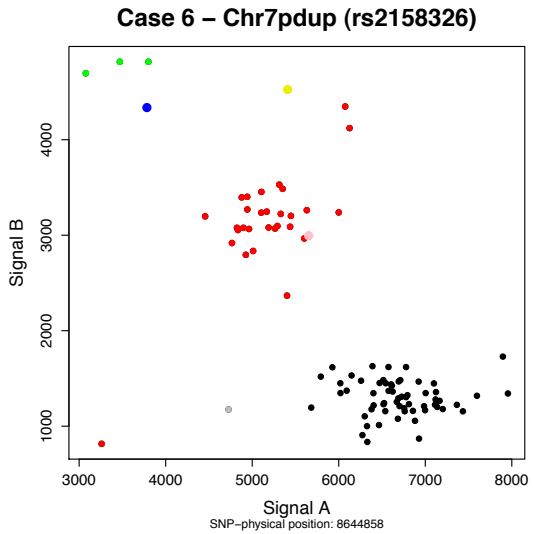

Case 6 – Chr7pdup (rs2214694)
Signal B
Signal A
SNP–physical position: 8545520

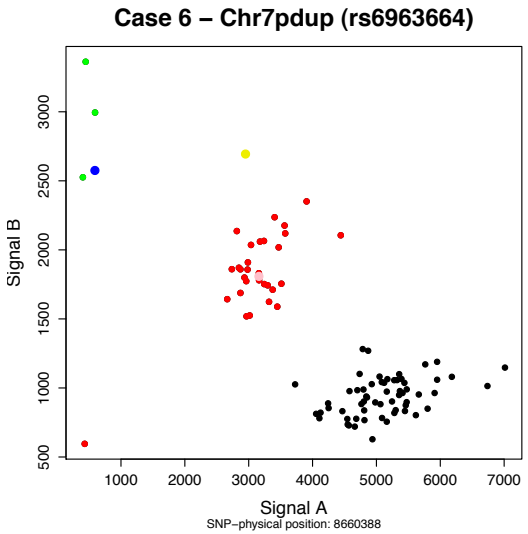

Case 6 – Chr7pdup (rs10486239)
Signal B
Signal A
SNP–physical position: 8584243

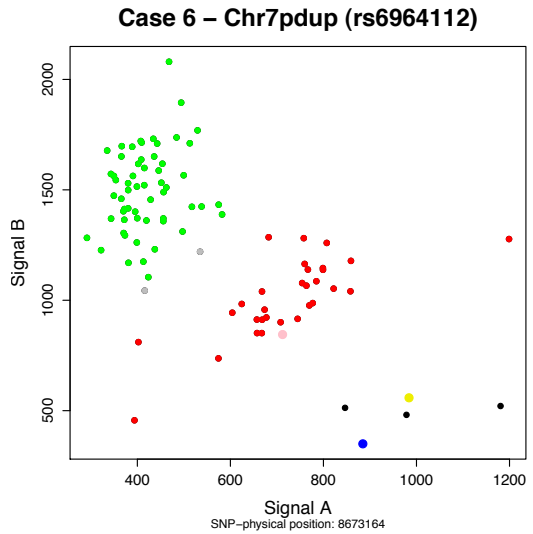

Case 6 – Chr7pdup (rs4720785)
Signal B
Signal A
SNP–physical position: 8584590

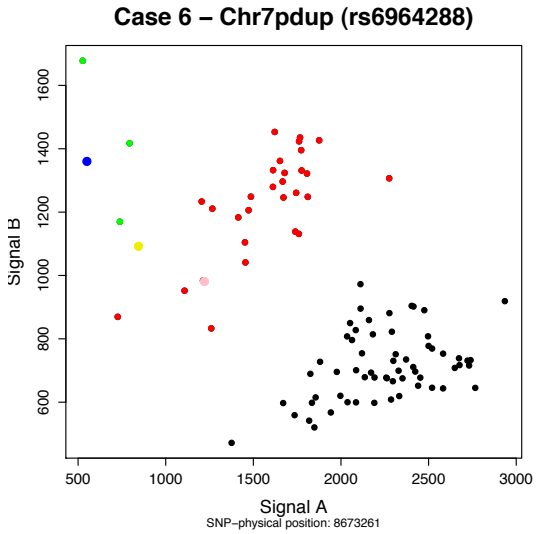

Case 6 – Chr7pdup (rs972247)
Signal B
Signal A
SNP–physical position: 8585049

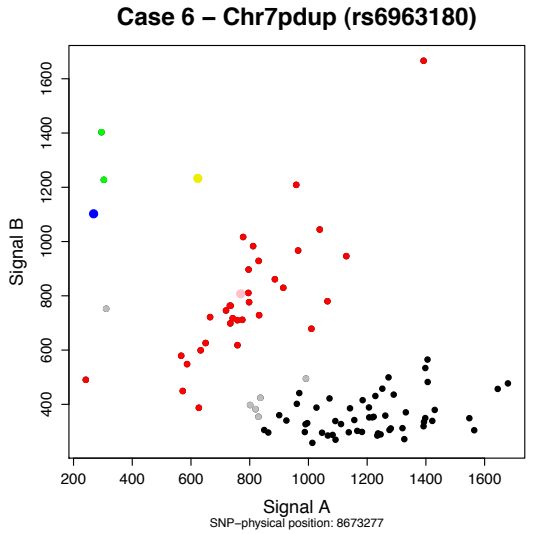

Case 6 – Chr7pdup (rs1859274)
Signal B
Signal A
SNP–physical position: 8585496

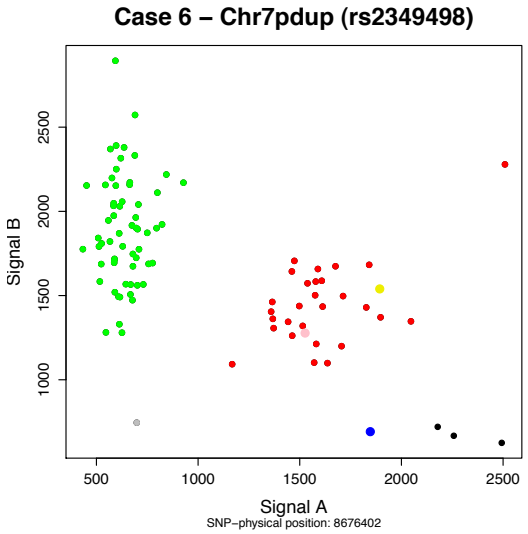

Case 6 – Chr7pdup (rs2158326)
Signal B
Signal A
SNP–physical position: 8644858

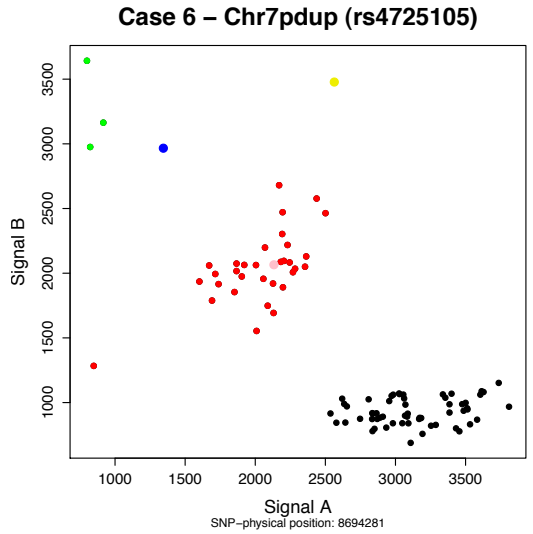

Case 6 – Chr7pdup (rs6963664)
Signal B
Signal A
SNP–physical position: 8660388

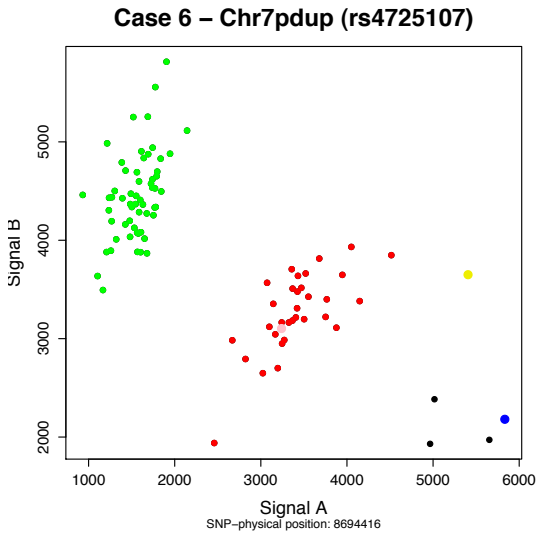

Case 6 – Chr7pdup (rs6964112)
Signal B
Signal A
SNP–physical position: 8673164

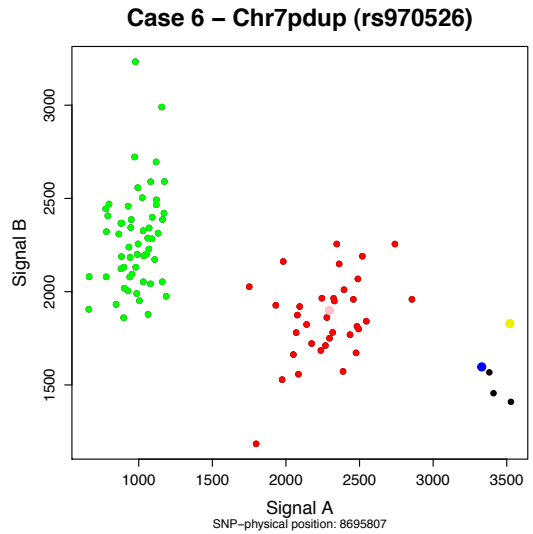

Case 6 – Chr7pdup (rs6964288)
Signal B
Signal A
SNP–physical position: 8673261

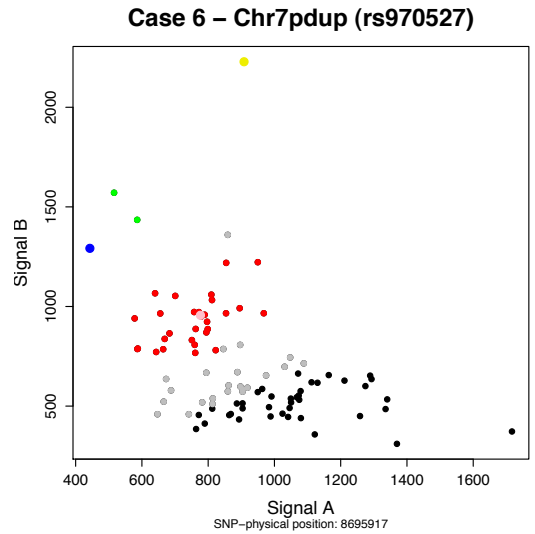

Case 6 – Chr7pdup (rs6963180)
Signal B
Signal A
SNP–physical position: 8673277

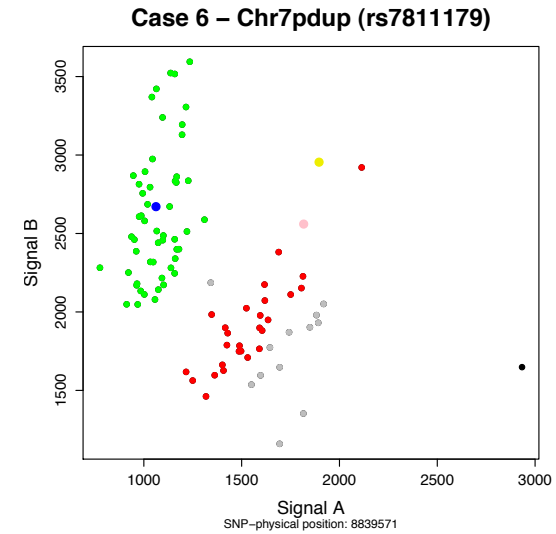

Case 6 – Chr7pdup (rs2349498)
Signal B
Signal A
SNP–physical position: 8676402

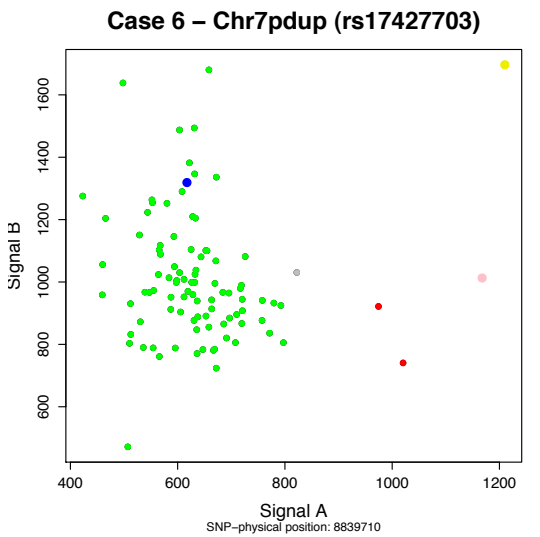

Case 6 – Chr7pdup (rs4725105)
Signal B
Signal A
SNP–physical position: 8694281

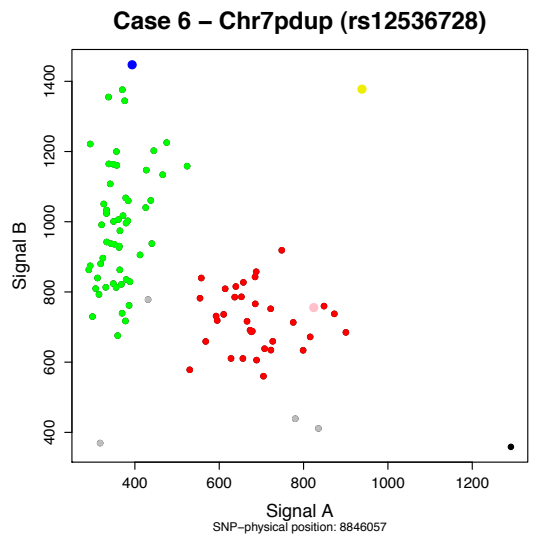

Case 6 – Chr7pdup (rs4725107)
Signal B
Signal A
SNP–physical position: 8694416

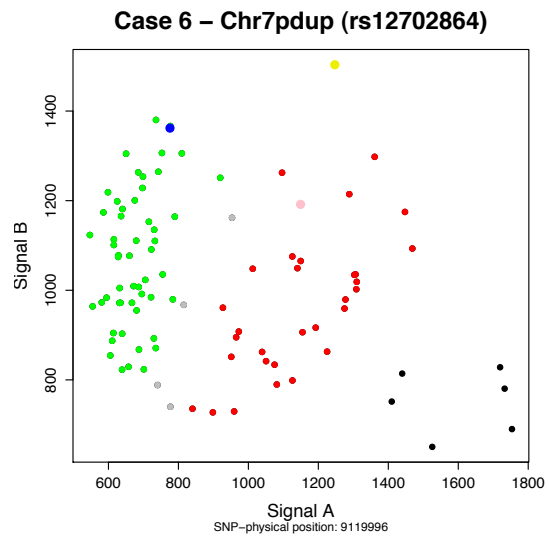

Case 6 – Chr7pdup (rs970526)
Signal B
Signal A
SNP–physical position: 8695807

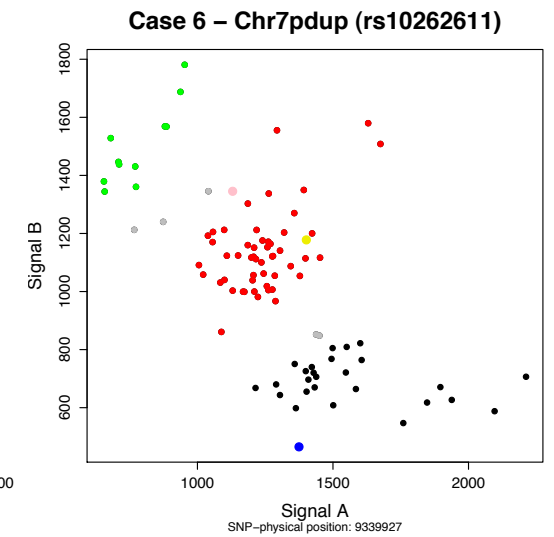

Case 6 – Chr7pdup (rs970527)
Signal B
Signal A
SNP–physical position: 8695917

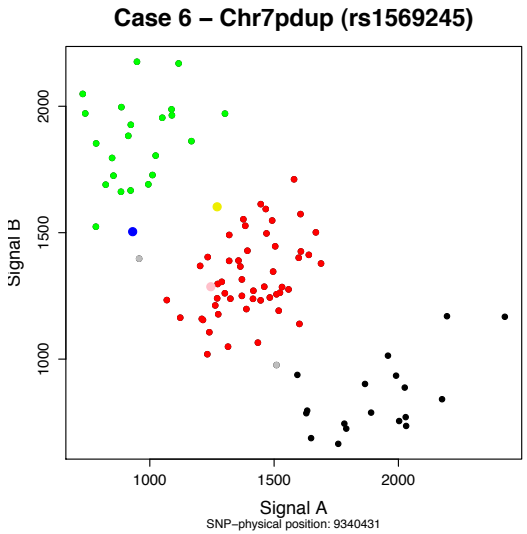

Case 6 – Chr7pdup (rs7811179)
Signal B
Signal A
SNP–physical position: 8839571

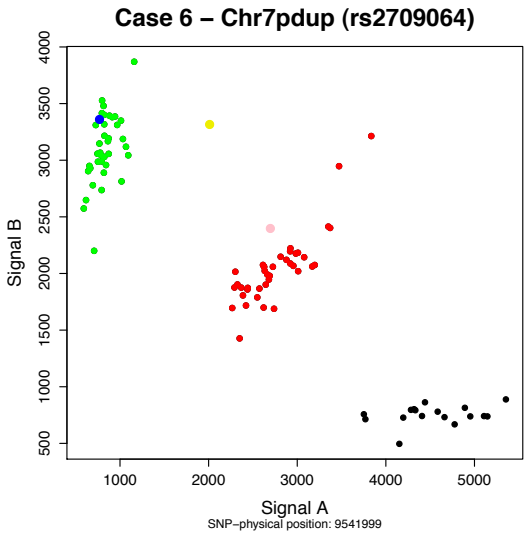

Case 6 – Chr7pdup (rs17427703)
Signal B
Signal A
SNP–physical position: 8839710

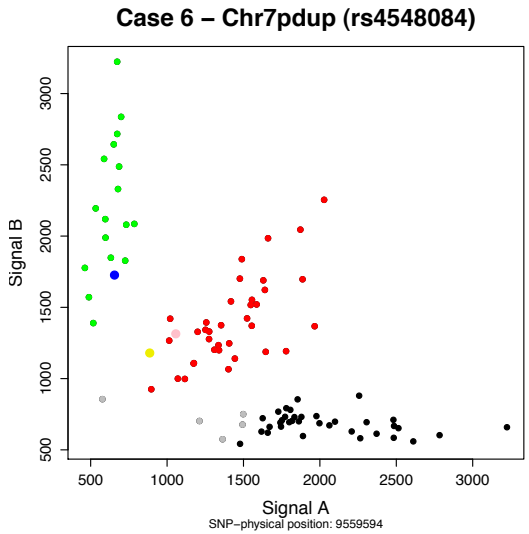

Case 6 – Chr7pdup (rs12536728)
Signal B
Signal A
SNP–physical position: 8846057

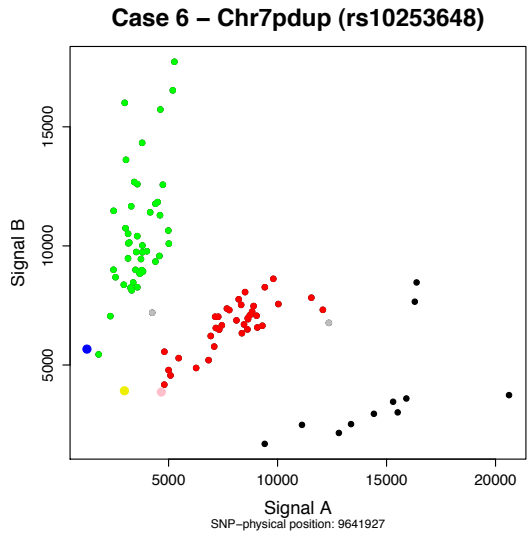

Case 6 – Chr7pdup (rs12702864)
Signal B
Signal A
SNP–physical position: 9119996

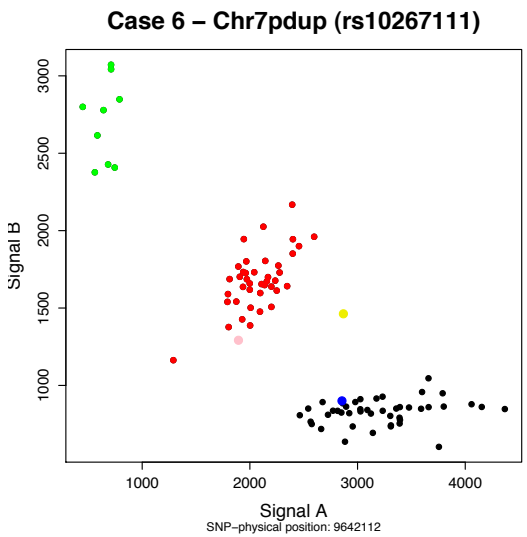

Case 6 – Chr7pdup (rs10262611)
Signal B
Signal A
SNP–physical position: 9339927

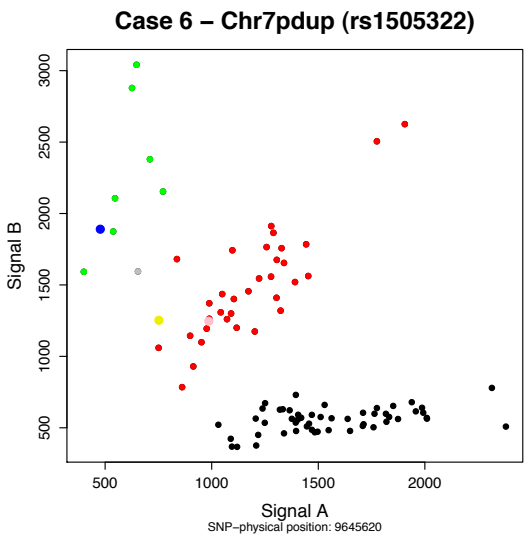

Case 6 – Chr7pdup (rs1569245)
Signal B
Signal A
SNP–physical position: 9340431

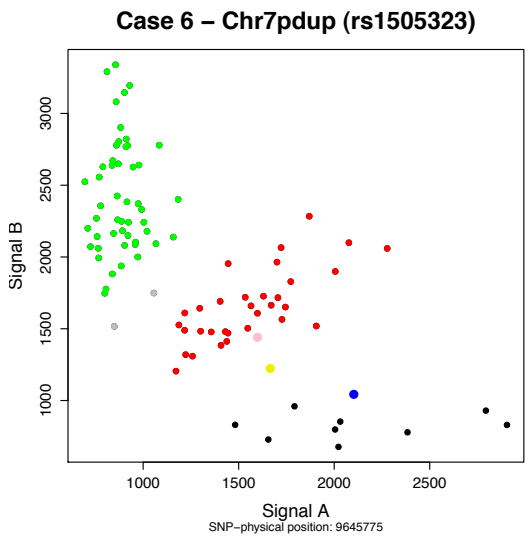

Case 6 – Chr7pdup (rs2709064)
Signal B
Signal A
SNP–physical position: 9541999

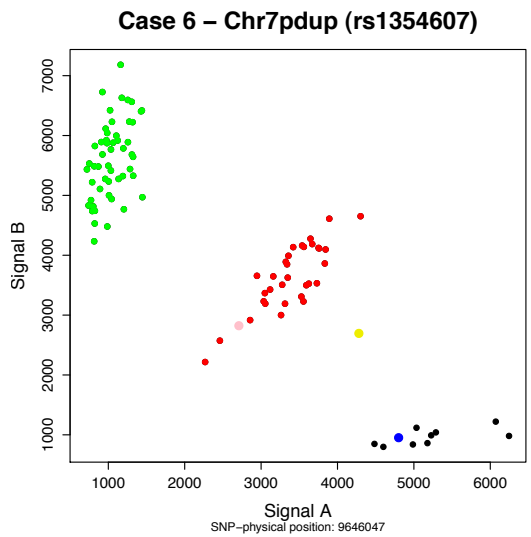

Case 6 – Chr7pdup (rs4548084)
Signal B
Signal A
SNP–physical position: 9559594

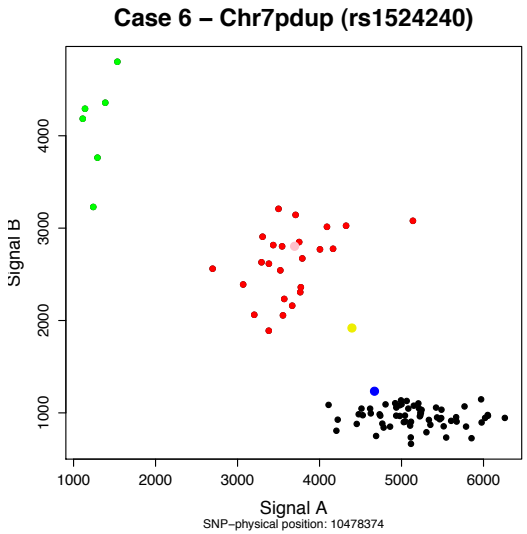

Case 6 – Chr7pdup (rs10253648)
Signal B
Signal A
SNP–physical position: 9641927

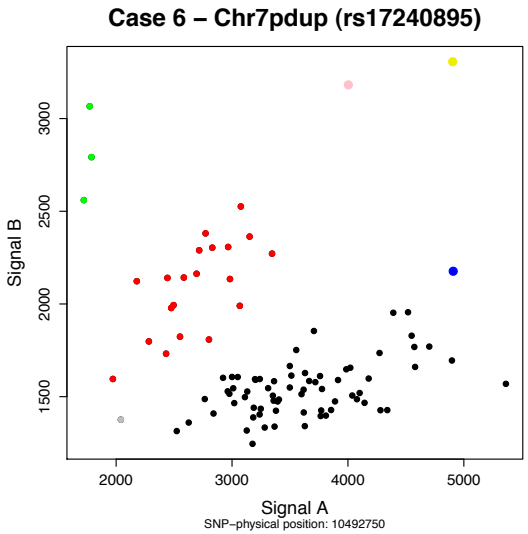

Case 6 – Chr7pdup (rs10267111)
Signal B
Signal A
SNP–physical position: 9642112

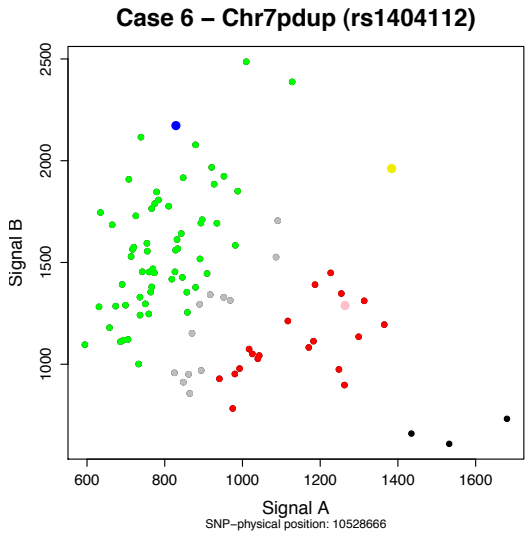

Case 6 – Chr7pdup (rs1505322)
Signal B
Signal A
SNP–physical position: 9645620

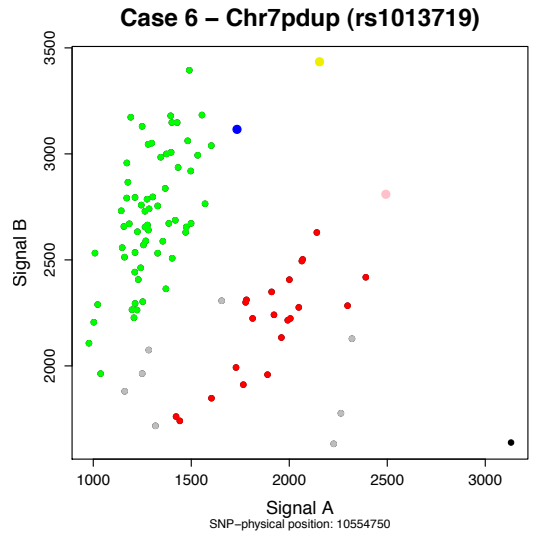

Case 6 – Chr7pdup (rs1505323)
Signal B
Signal A
SNP–physical position: 9645775

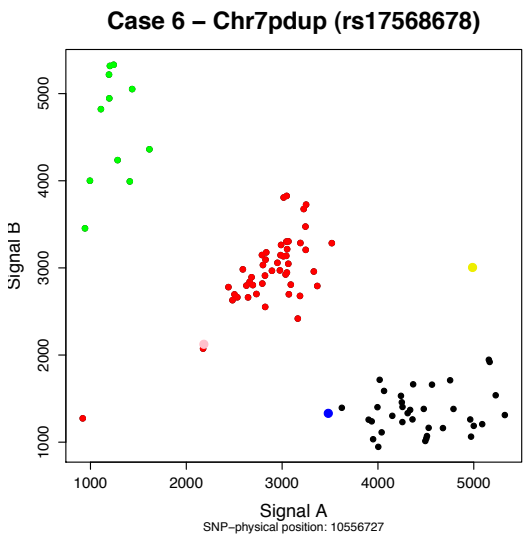

Case 6 – Chr7pdup (rs1354607)
Signal B
Signal A
SNP–physical position: 9646047

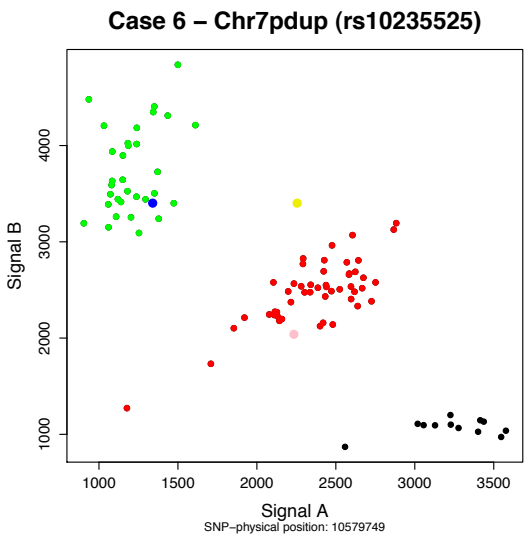

Case 6 – Chr7pdup (rs1524240)
Signal B
Signal A
SNP–physical position: 10478374

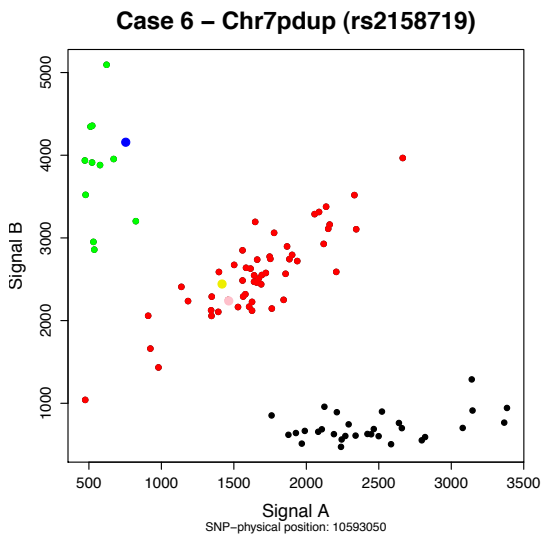

Case 6 – Chr7pdup (rs17240895)
Signal B
Signal A
SNP–physical position: 10492750

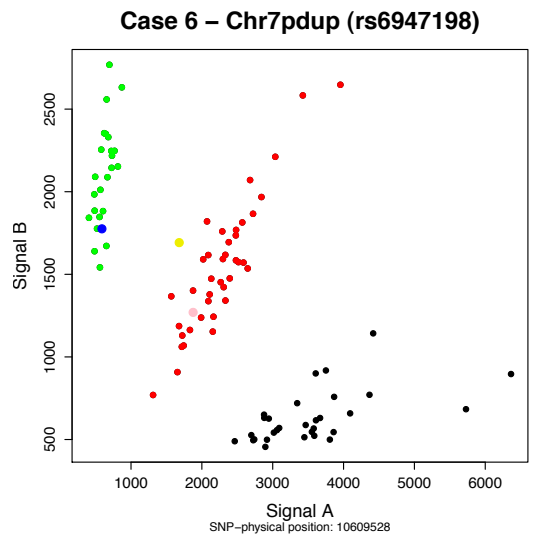

Case 6 – Chr7pdup (rs1404112)
Signal B
Signal A
SNP–physical position: 10528666

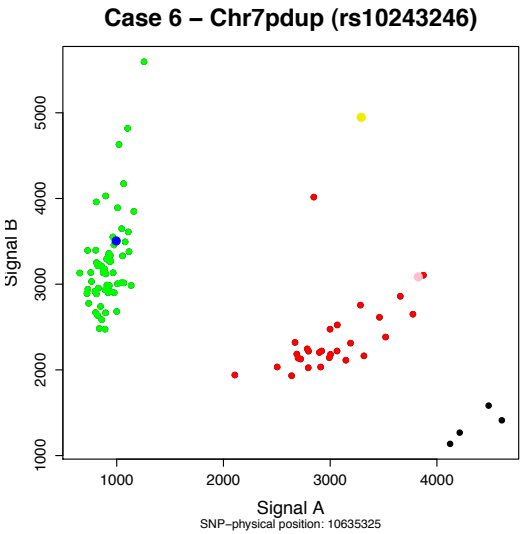

Case 6 – Chr7pdup (rs1013719)
Signal B
Signal A
SNP–physical position: 10554750

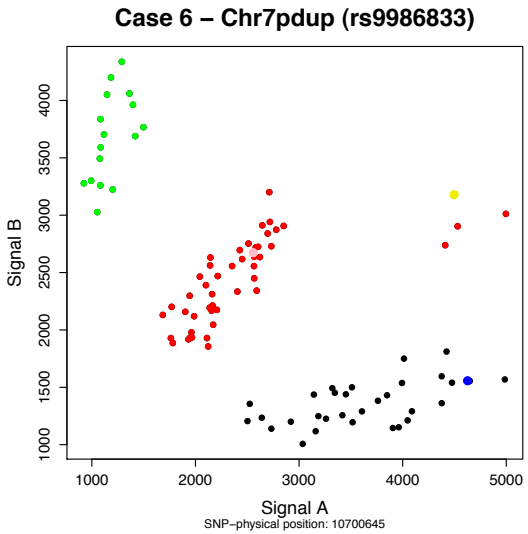

Case 6 – Chr7pdup (rs17568678)
Signal B
Signal A
SNP–physical position: 10556727

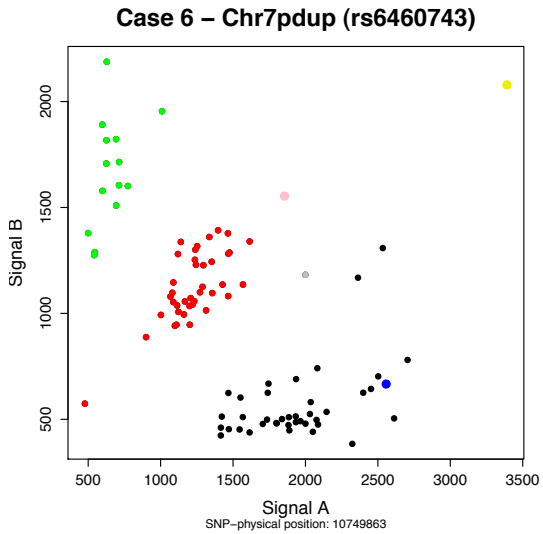

Case 6 – Chr7pdup (rs10235525)
Signal B
Signal A
SNP–physical position: 10579749

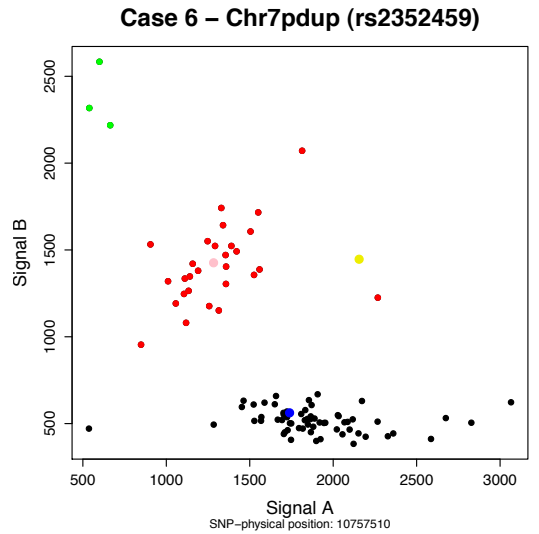

Case 6 – Chr7pdup (rs2158719)
Signal B
Signal A
SNP–physical position: 10593050

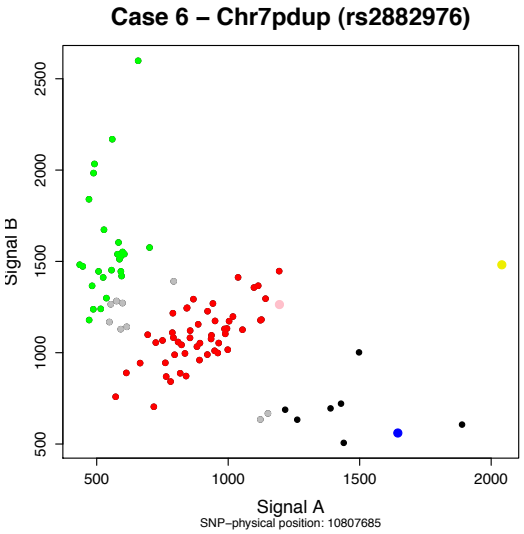

Case 6 – Chr7pdup (rs6947198)
Signal B
Signal A
SNP–physical position: 10609528

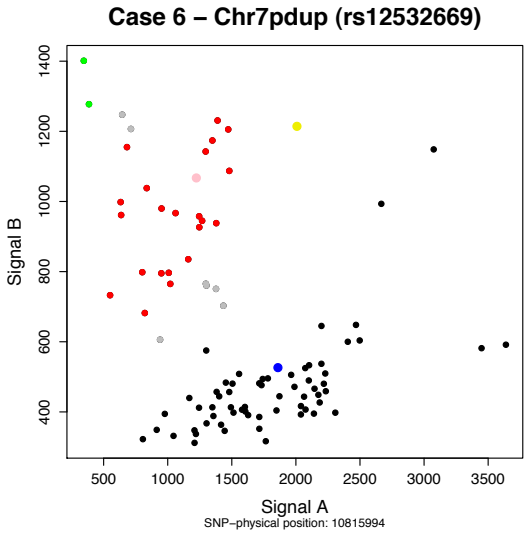

Case 6 – Chr7pdup (rs10243246)
Signal B
Signal A
SNP–physical position: 10635325

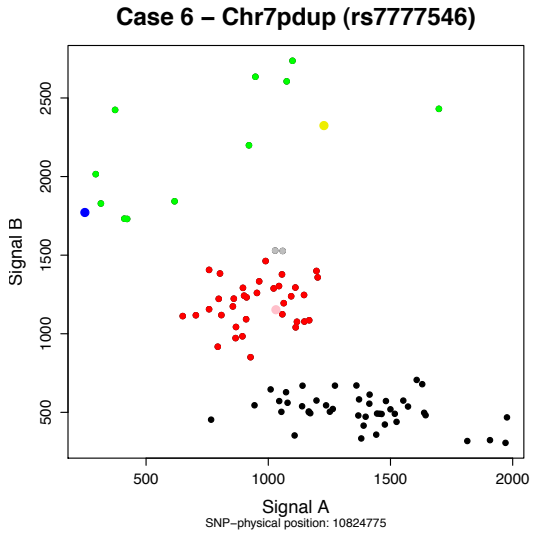

Case 6 – Chr7pdup (rs9986833)
Signal B
Signal A
SNP–physical position: 10700645

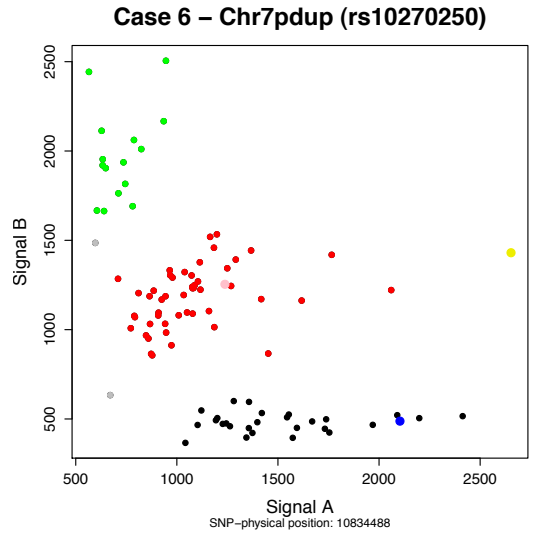

Case 6 – Chr7pdup (rs6460743)
Signal B
Signal A
SNP–physical position: 10749863

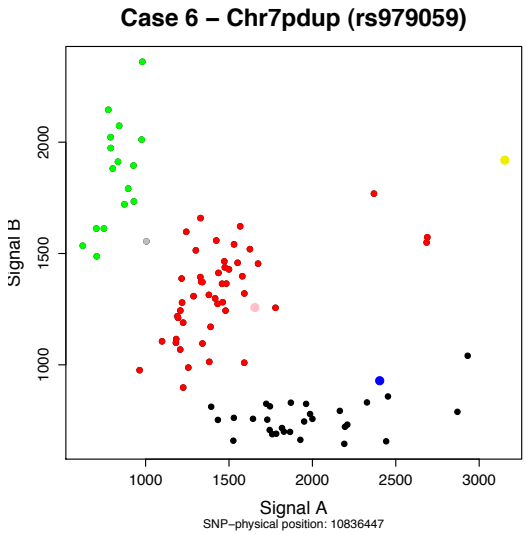

Case 6 – Chr7pdup (rs2352459)
Signal B
Signal A
SNP–physical position: 10757510

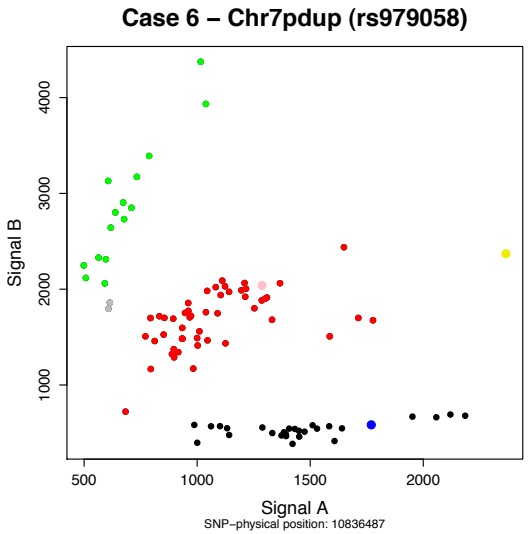

Case 6 – Chr7pdup (rs2882976)
Signal B
Signal A
SNP–physical position: 10807685

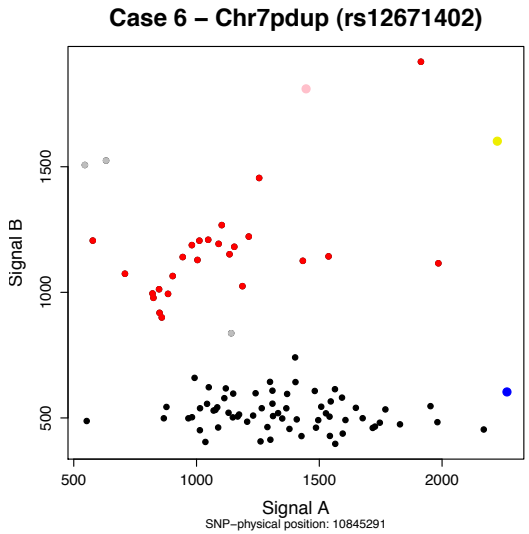

Case 6 – Chr7pdup (rs12532669)
Signal B
Signal A
SNP–physical position: 10815994

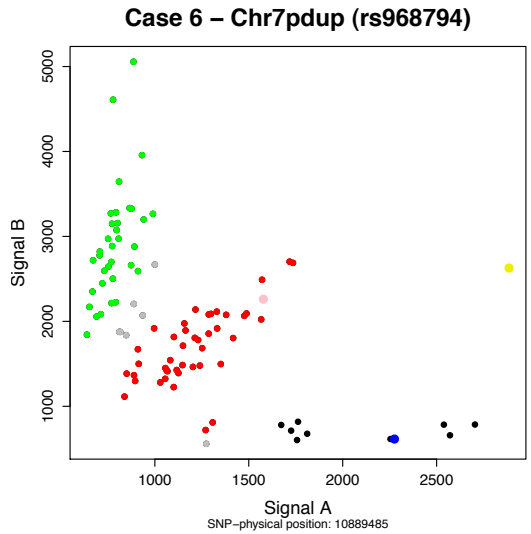

Case 6 – Chr7pdup (rs7777546)
Signal B
Signal A
SNP–physical position: 10824775

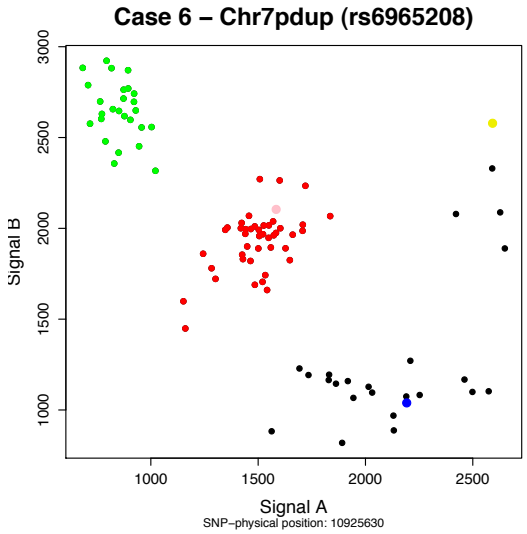

Case 6 – Chr7pdup (rs10270250)
Signal B
Signal A
SNP–physical position: 10834488

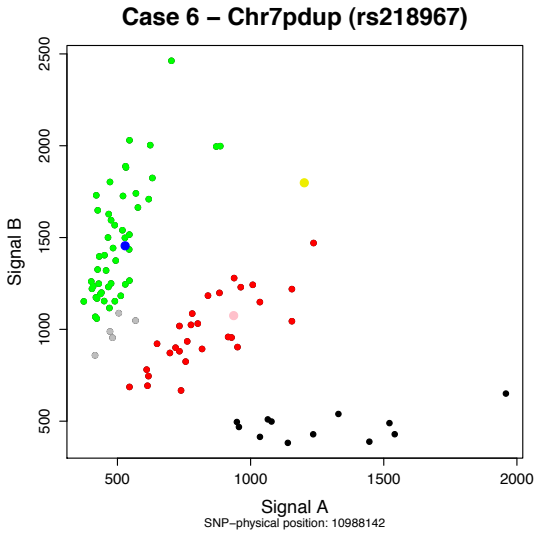

Case 6 – Chr7pdup (rs979059)
Signal B
Signal A
SNP–physical position: 10836447

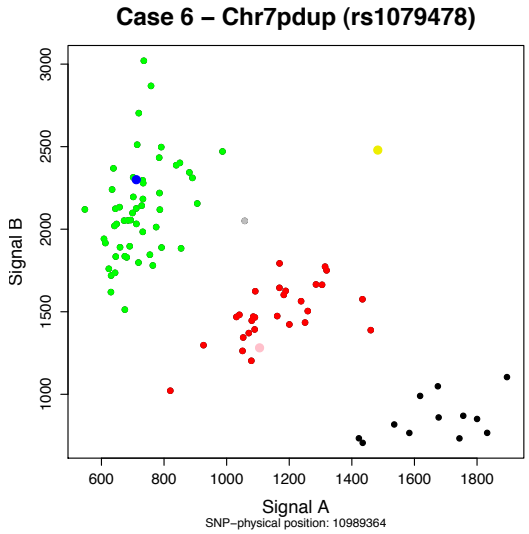

Case 6 – Chr7pdup (rs979058)
Signal B
Signal A
SNP–physical position: 10836487

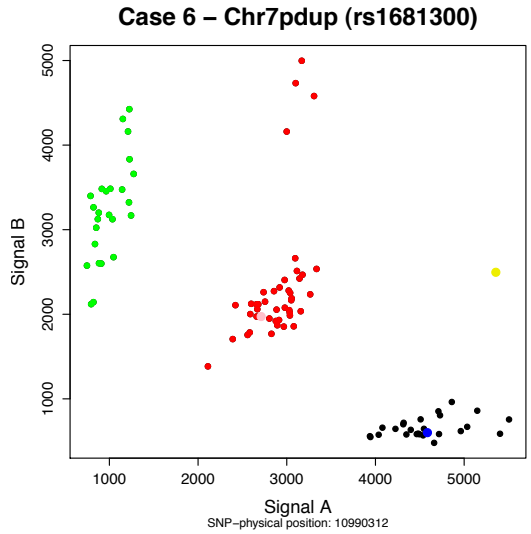

Case 6 – Chr7pdup (rs12671402)
Signal B
Signal A
SNP–physical position: 10845291

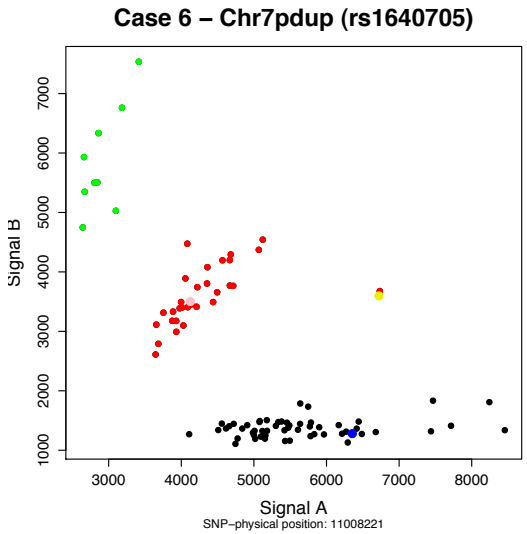

Case 6 – Chr7pdup (rs968794)
Signal B
Signal A
SNP–physical position: 10889485

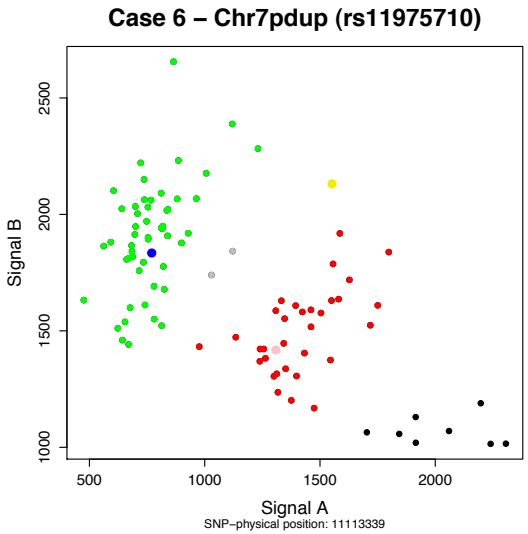

Case 6 – Chr7pdup (rs6965208)
Signal B
Signal A
SNP–physical position: 10925630

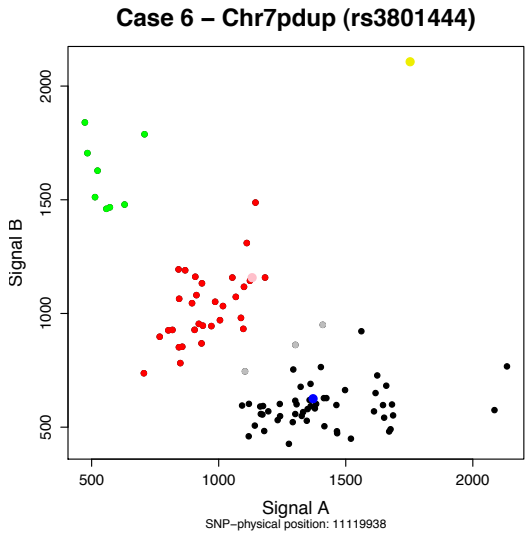

Case 6 – Chr7pdup (rs218967)
Signal B
Signal A
SNP–physical position: 10988142

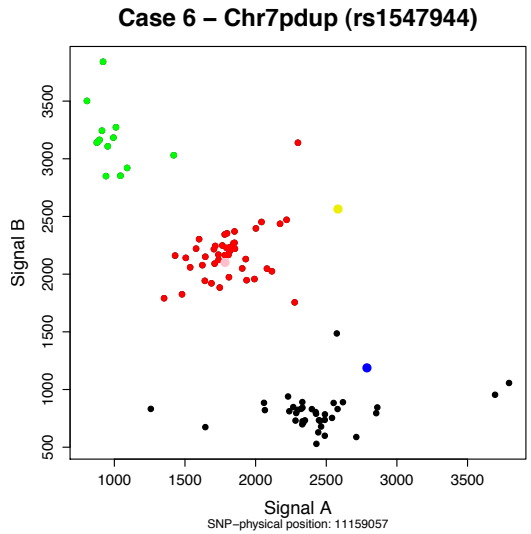

Case 6 – Chr7pdup (rs1079478)
Signal B
Signal A
SNP–physical position: 10989364

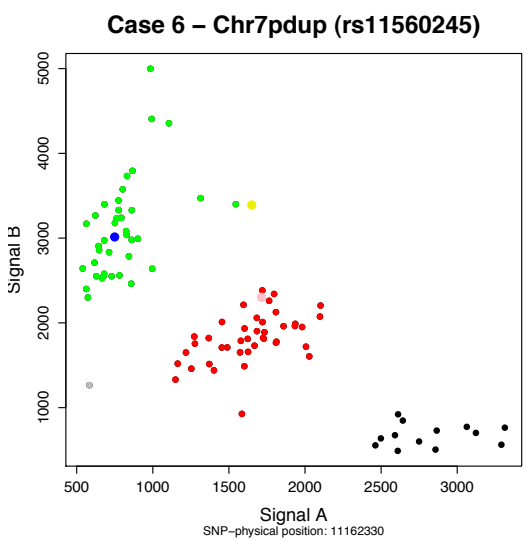

Case 6 – Chr7pdup (rs1681300)
Signal B
Signal A
SNP–physical position: 10990312

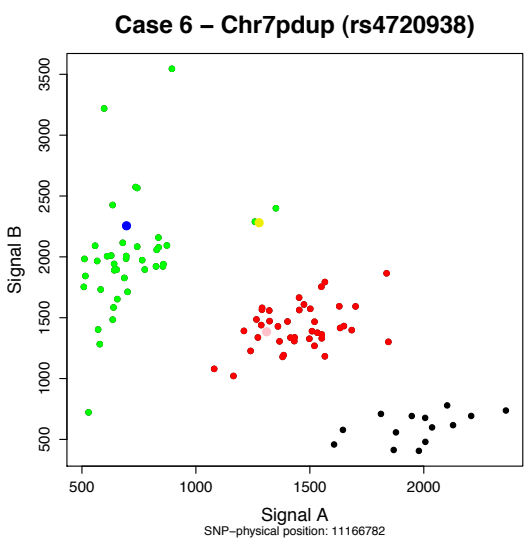

Case 6 – Chr7pdup (rs1640705)
Signal B
Signal A
SNP−physical position: 11008221

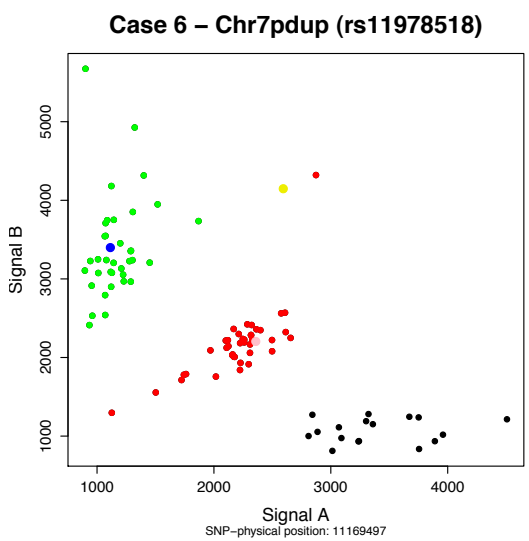

Case 6 – Chr7pdup (rs11975710)
Signal B
Signal A
SNP−physical position: 11113339

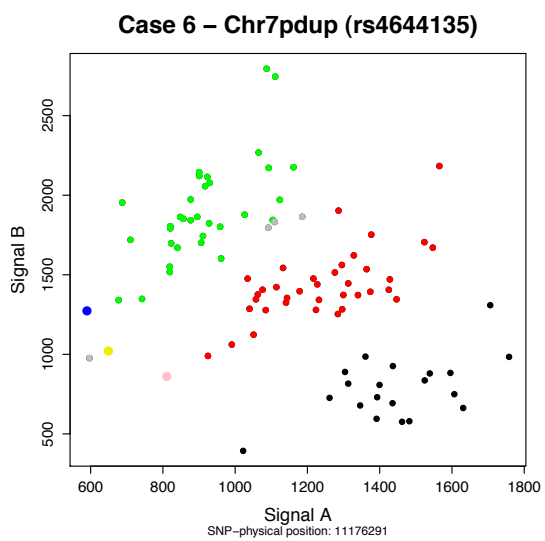

Case 6 – Chr7pdup (rs3801444)
Signal B
Signal A
SNP−physical position: 11119938

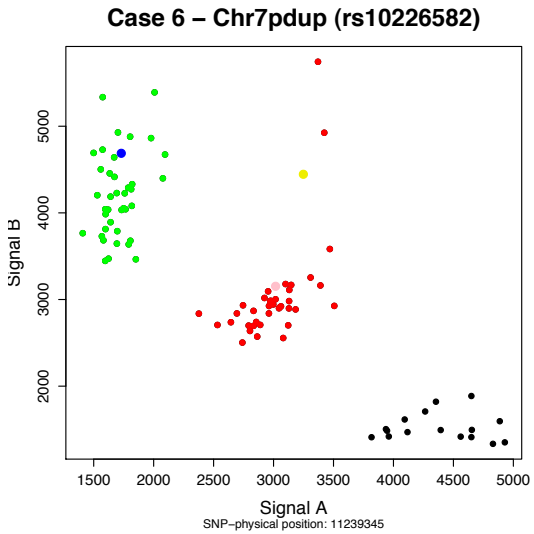

Case 6 – Chr7pdup (rs1547944)
Signal B
Signal A
SNP−physical position: 11159057

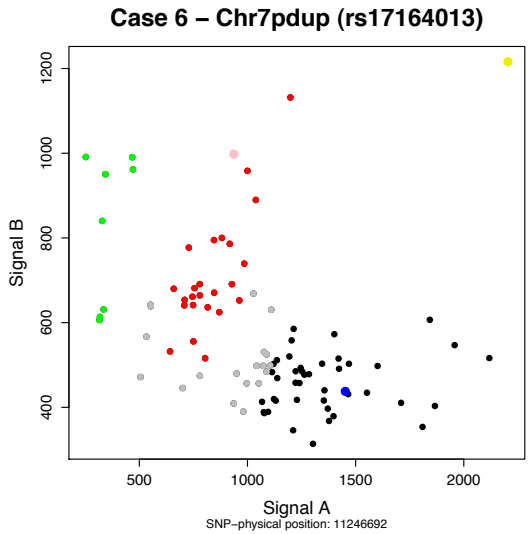

Case 6 – Chr7pdup (rs11560245)
Signal B
Signal A
SNP−physical position: 11162330

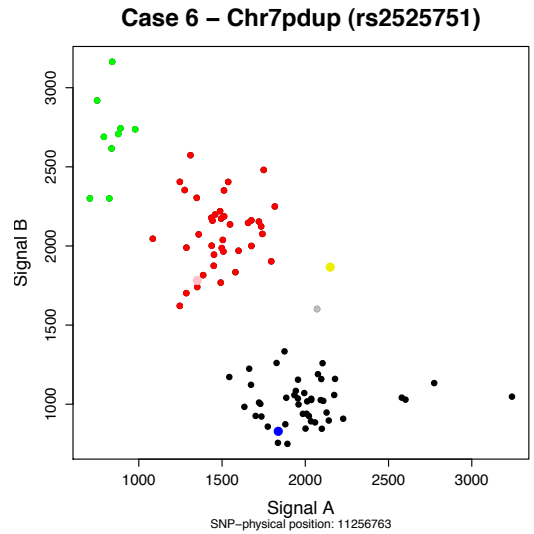

Case 6 – Chr7pdup (rs4720938)
Signal B
Signal A
SNP−physical position: 11166782

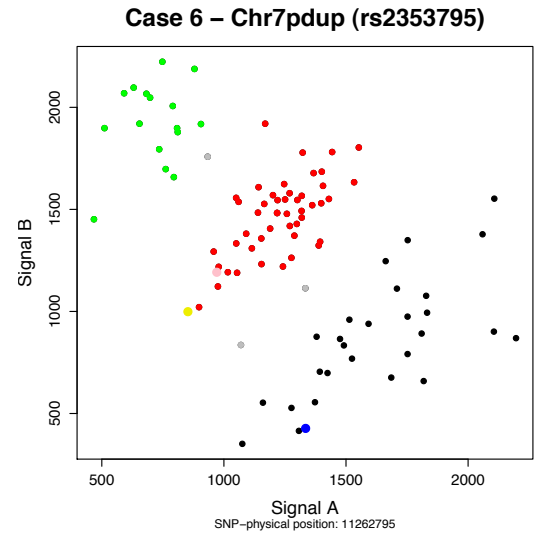

Case 6 – Chr7pdup (rs11978518)
Signal B
Signal A
SNP−physical position: 11169497

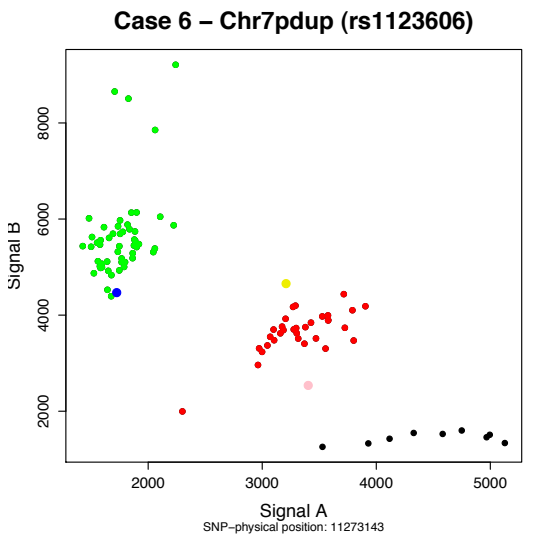

Case 6 – Chr7pdup (rs4644135)
Signal B
Signal A
SNP−physical position: 11176291

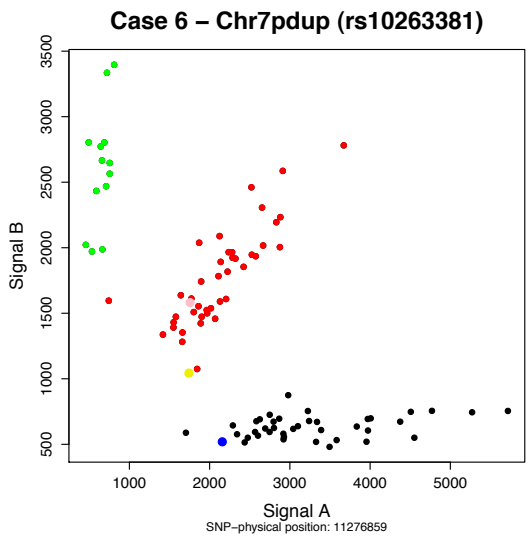

Case 6 – Chr7pdup (rs10226582)
Signal B
Signal A
SNP–physical position: 11239345

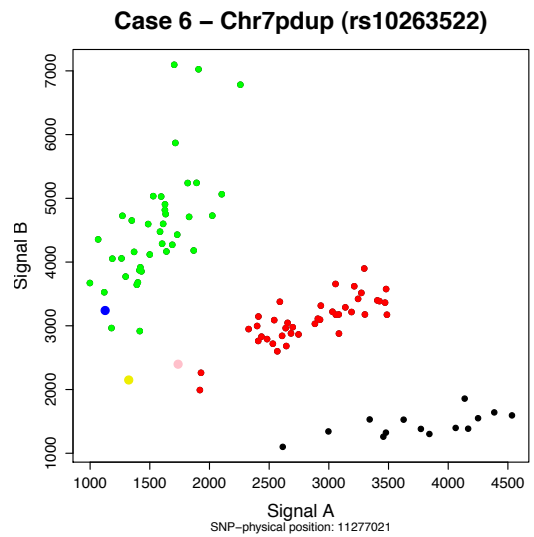

Case 6 – Chr7pdup (rs17164013)
Signal B
Signal A
SNP–physical position: 11246692

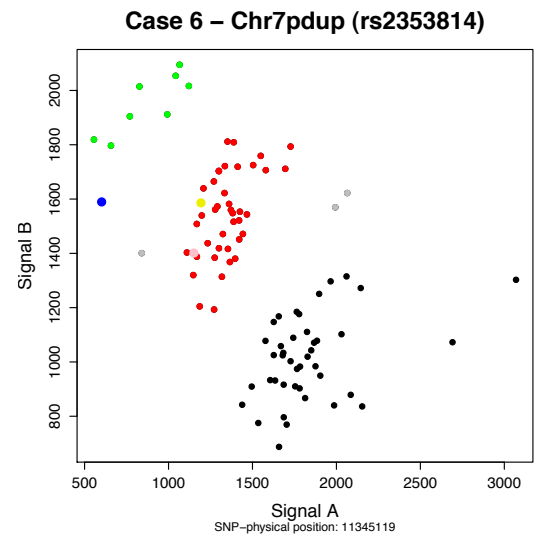

Case 6 – Chr7pdup (rs2525751)
Signal B
Signal A
SNP–physical position: 11256763

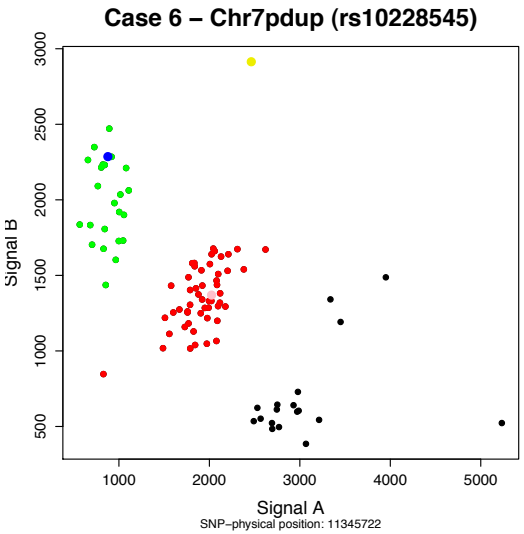

Case 6 – Chr7pdup (rs2353795)
Signal B
Signal A
SNP–physical position: 11262795

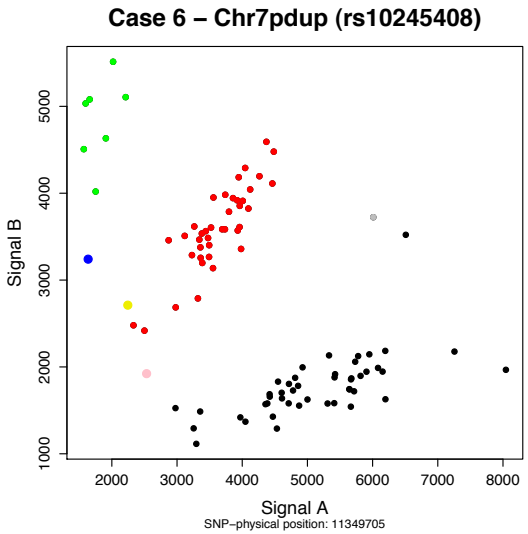

Case 6 – Chr7pdup (rs1123606)
Signal B
Signal A
SNP–physical position: 11273143

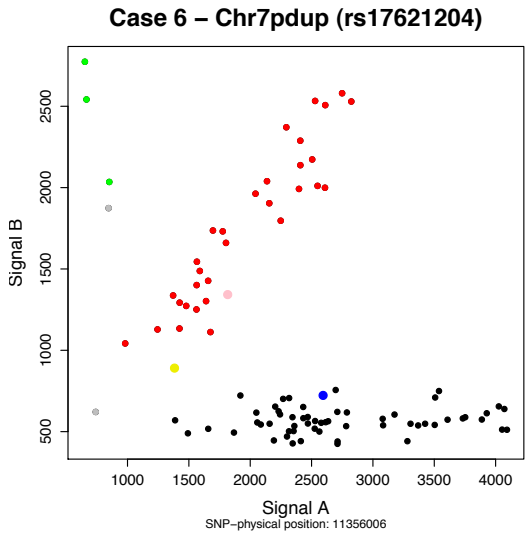

Case 6 – Chr7pdup (rs10263381)
Signal B
Signal A
SNP–physical position: 11276859

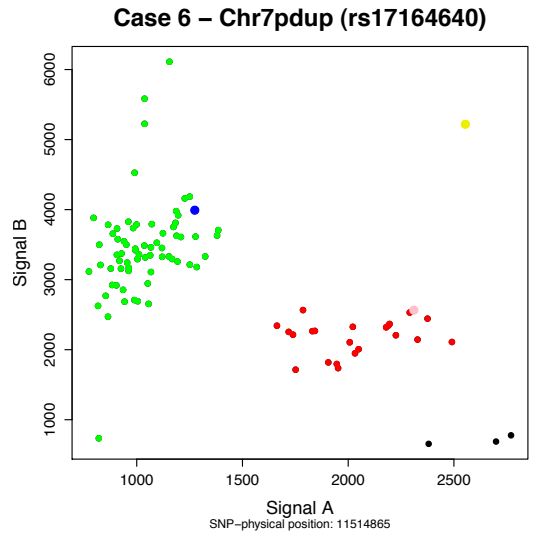

Case 6 – Chr7pdup (rs10263522)
Signal B
Signal A
SNP–physical position: 11277021

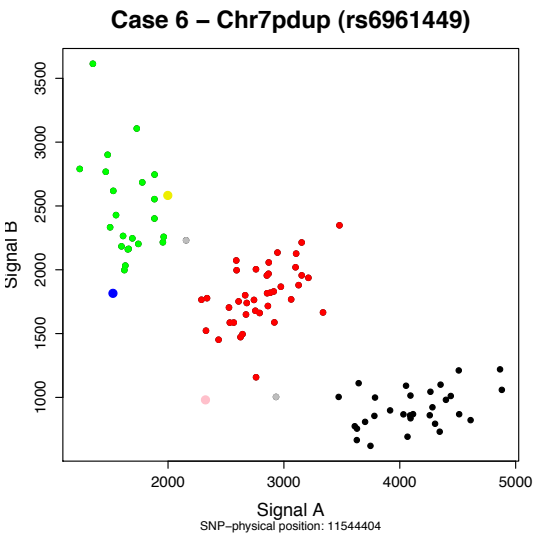

Case 6 – Chr7pdup (rs2353814)
Signal B
Signal A
SNP–physical position: 11345119

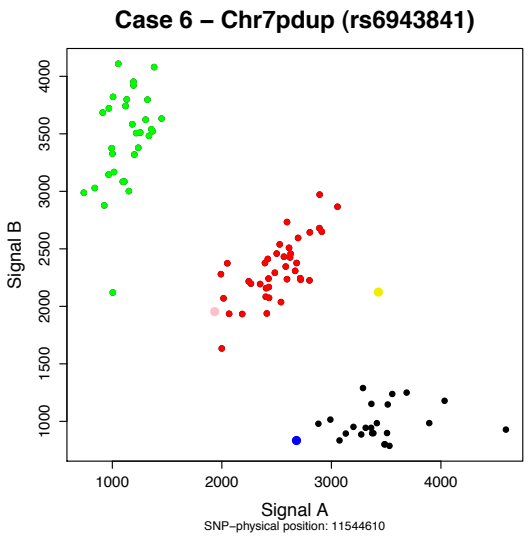

Case 6 – Chr7pdup (rs10228545)
Signal B
Signal A
SNP–physical position: 11345722

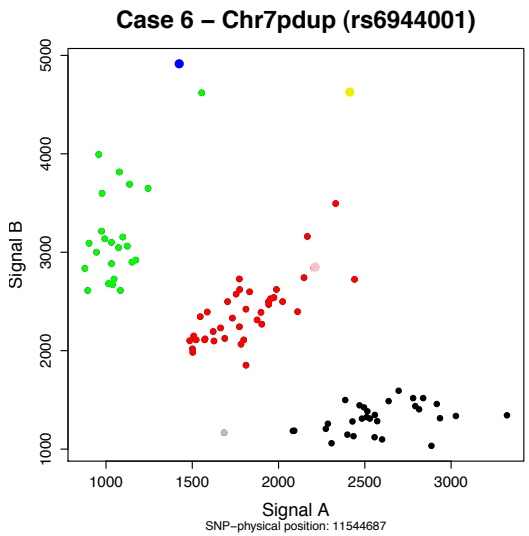

Case 6 – Chr7pdup (rs10245408)
Signal B
Signal A
SNP–physical position: 11349705

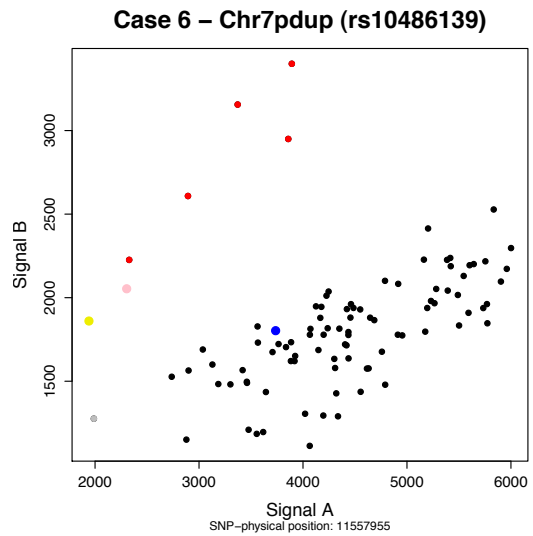

Case 6 – Chr7pdup (rs17621204)
Signal B
Signal A
SNP–physical position: 11356006

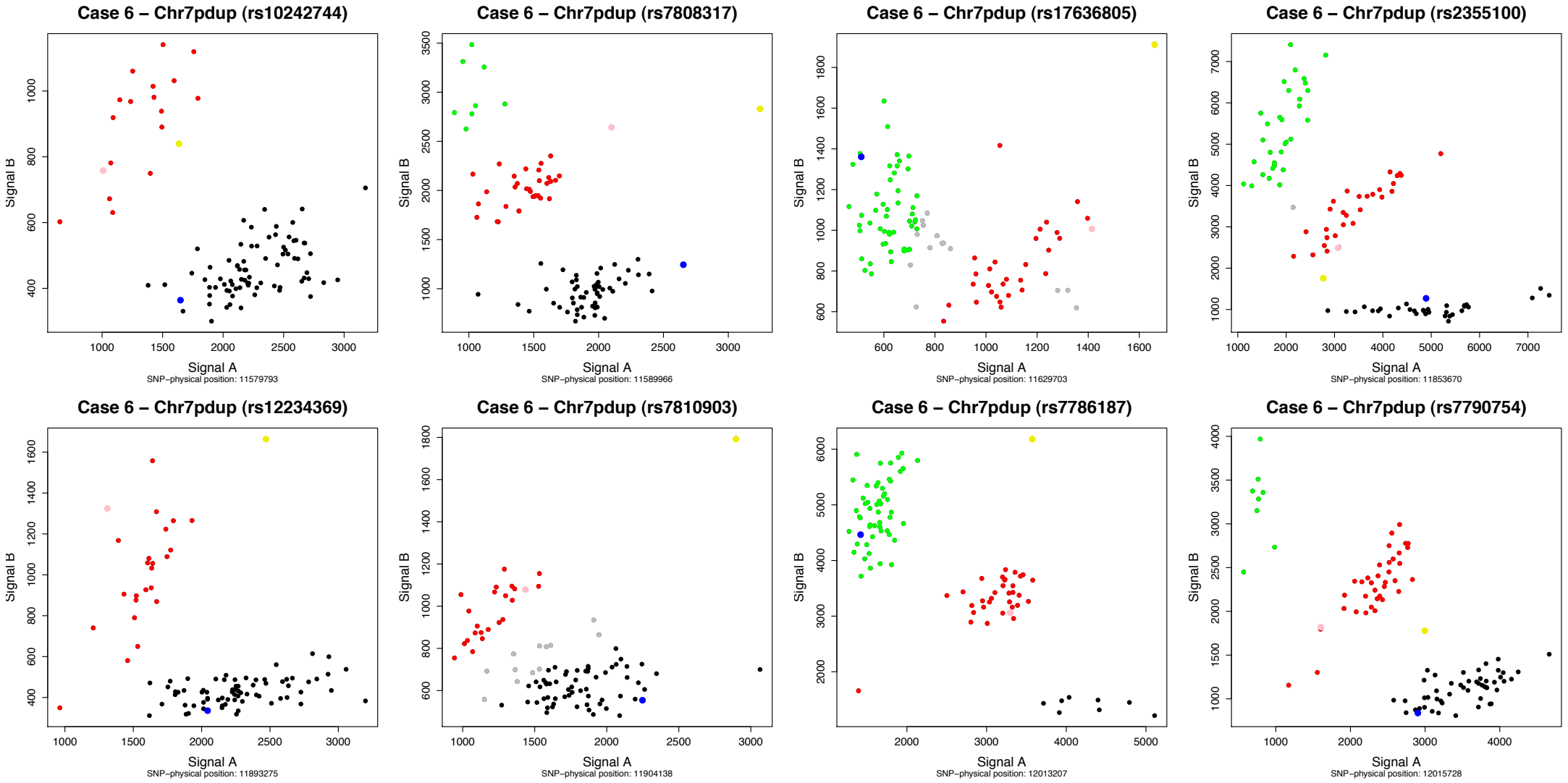

Case 6 – Chr7pdup (rs17164640)
Signal B
Signal A
SNP–physical position: 11514865

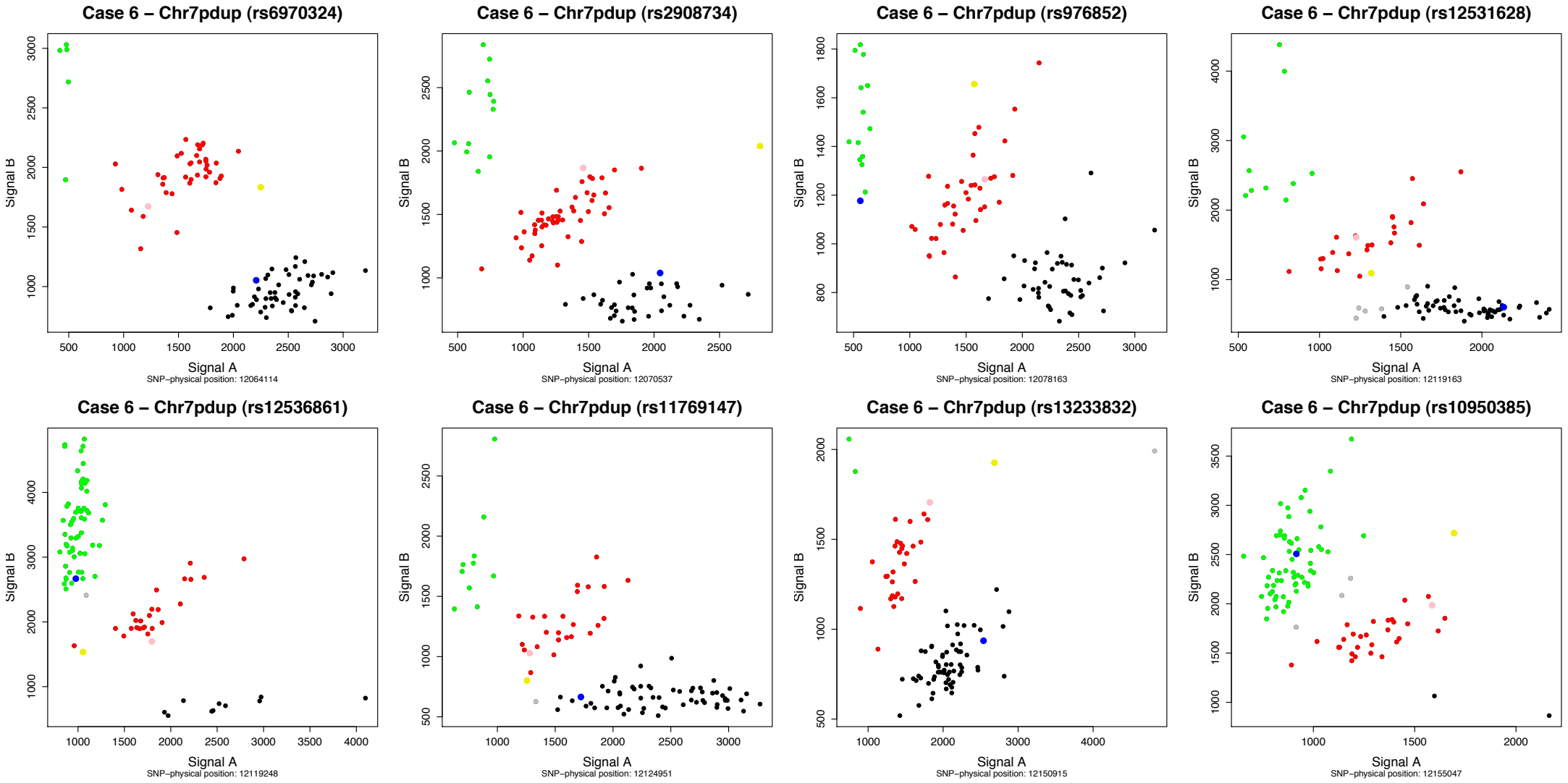

Case 6 – Chr7pdup (rs6961449)
Signal B
Signal A
SNP–physical position: 11544404

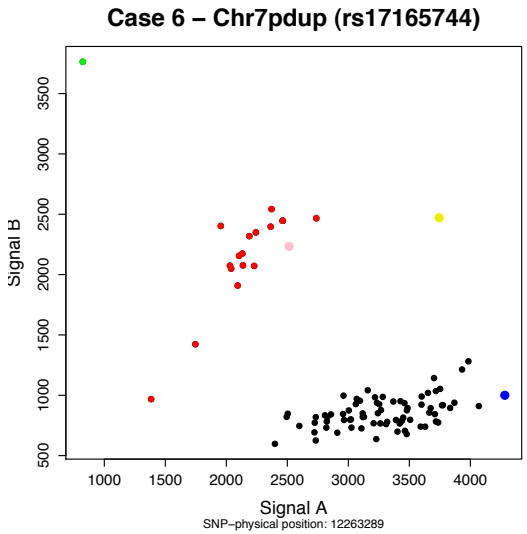

Case 6 – Chr7pdup (rs6943841)
Signal B
Signal A
SNP–physical position: 11544610

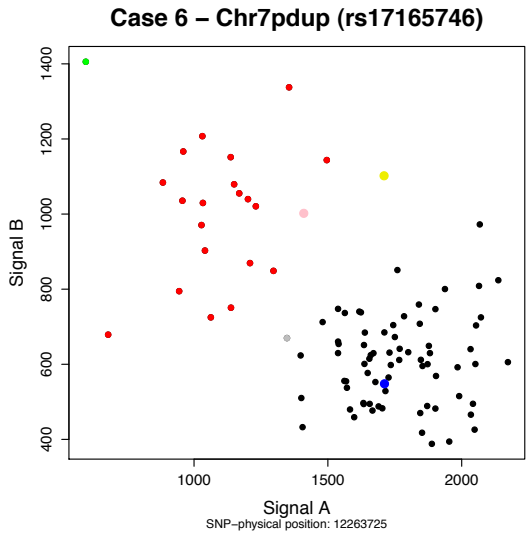

Case 6 – Chr7pdup (rs6944001)
Signal B
Signal A
SNP–physical position: 11544687

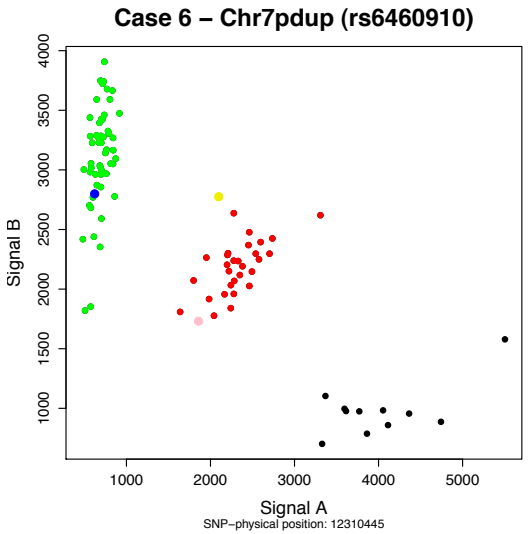

Case 6 – Chr7pdup (rs10486139)
Signal B
Signal A
SNP–physical position: 11557955

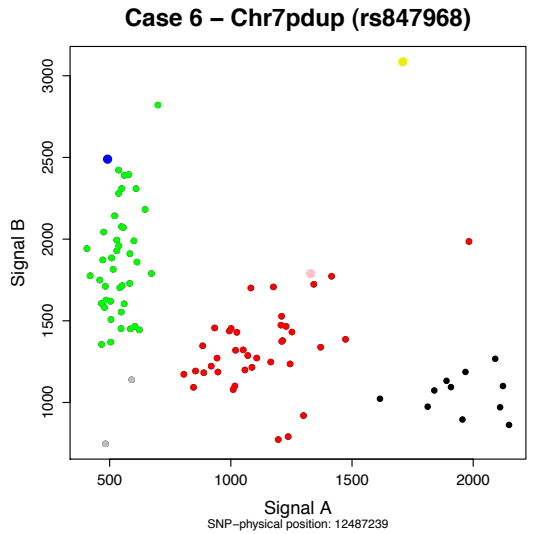

Case 6 – Chr7pdup (rs10242744)
Signal B
Signal A
SNP–physical position: 11579793
Case 6 – Chr7pdup (rs7808317)
Signal B
Signal A
SNP–physical position: 11589966
Case 6 – Chr7pdup (rs17636805)
Signal B
Signal A
SNP–physical position: 11629703
Case 6 – Chr7pdup (rs2355100)
Signal B
Signal A
SNP–physical position: 11853670
Case 6 – Chr7pdup (rs12234369)
Signal B
Signal A
SNP–physical position: 11893275
Case 6 – Chr7pdup (rs7810903)
Signal B
Signal A
SNP–physical position: 11904138
Case 6 – Chr7pdup (rs7786187)
Signal B
Signal A
SNP–physical position: 12013207
Case 6 – Chr7pdup (rs7790754)
Signal B
Signal A
SNP–physical position: 12015728

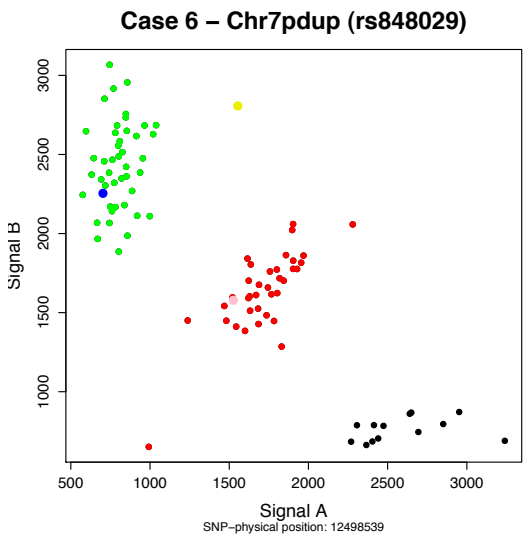

Case 6 – Chr7pdup (rs6970324)
Signal B
Signal A
SNP–physical position: 12064114
Case 6 – Chr7pdup (rs2908734)
Signal B
Signal A
SNP–physical position: 12070537
Case 6 – Chr7pdup (rs976852)
Signal B
Signal A
SNP–physical position: 12078163
Case 6 – Chr7pdup (rs12531628)
Signal B
Signal A
SNP–physical position: 12119163
Case 6 – Chr7pdup (rs12536861)
Signal B
Signal A
SNP–physical position: 12119248
Case 6 – Chr7pdup (rs11769147)
Signal B
Signal A
SNP–physical position: 12124951
Case 6 – Chr7pdup (rs13233832)
Signal B
Signal A
SNP–physical position: 12150915
Case 6 – Chr7pdup (rs10950385)
Signal B
Signal A
SNP–physical position: 12155047

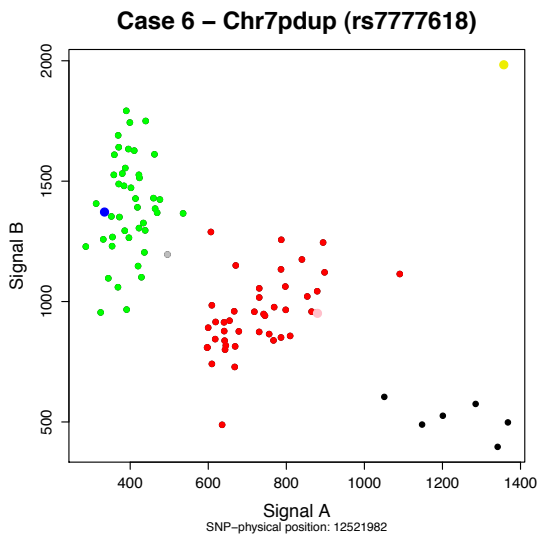

Case 6 – Chr7pdup (rs17165744)
Signal B
Signal A
SNP−physical position: 12263289

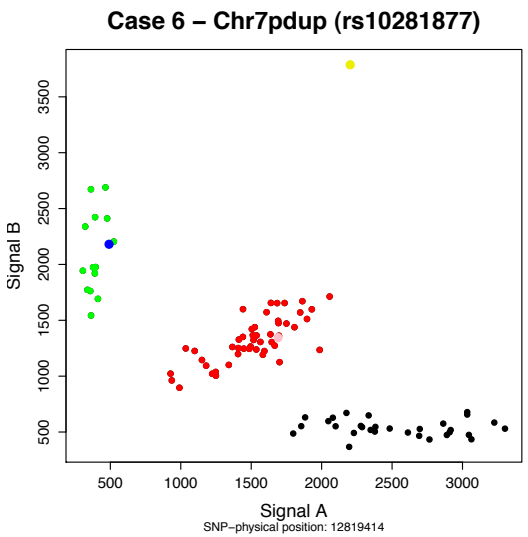

Case 6 – Chr7pdup (rs17165746)
Signal B
Signal A
SNP−physical position: 12263725

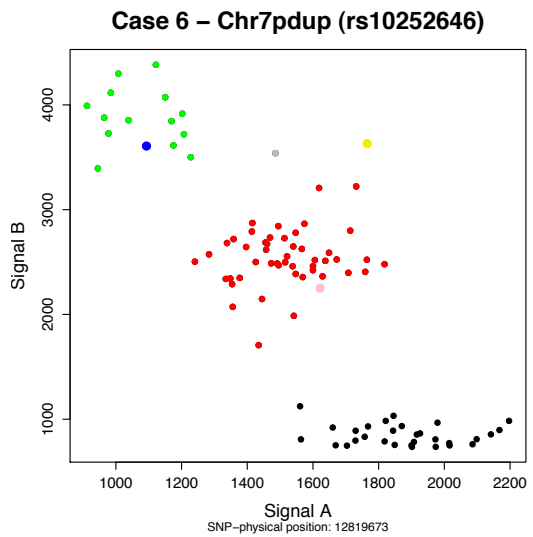

Case 6 – Chr7pdup (rs6460910)
Signal B
Signal A
SNP−physical position: 12310445

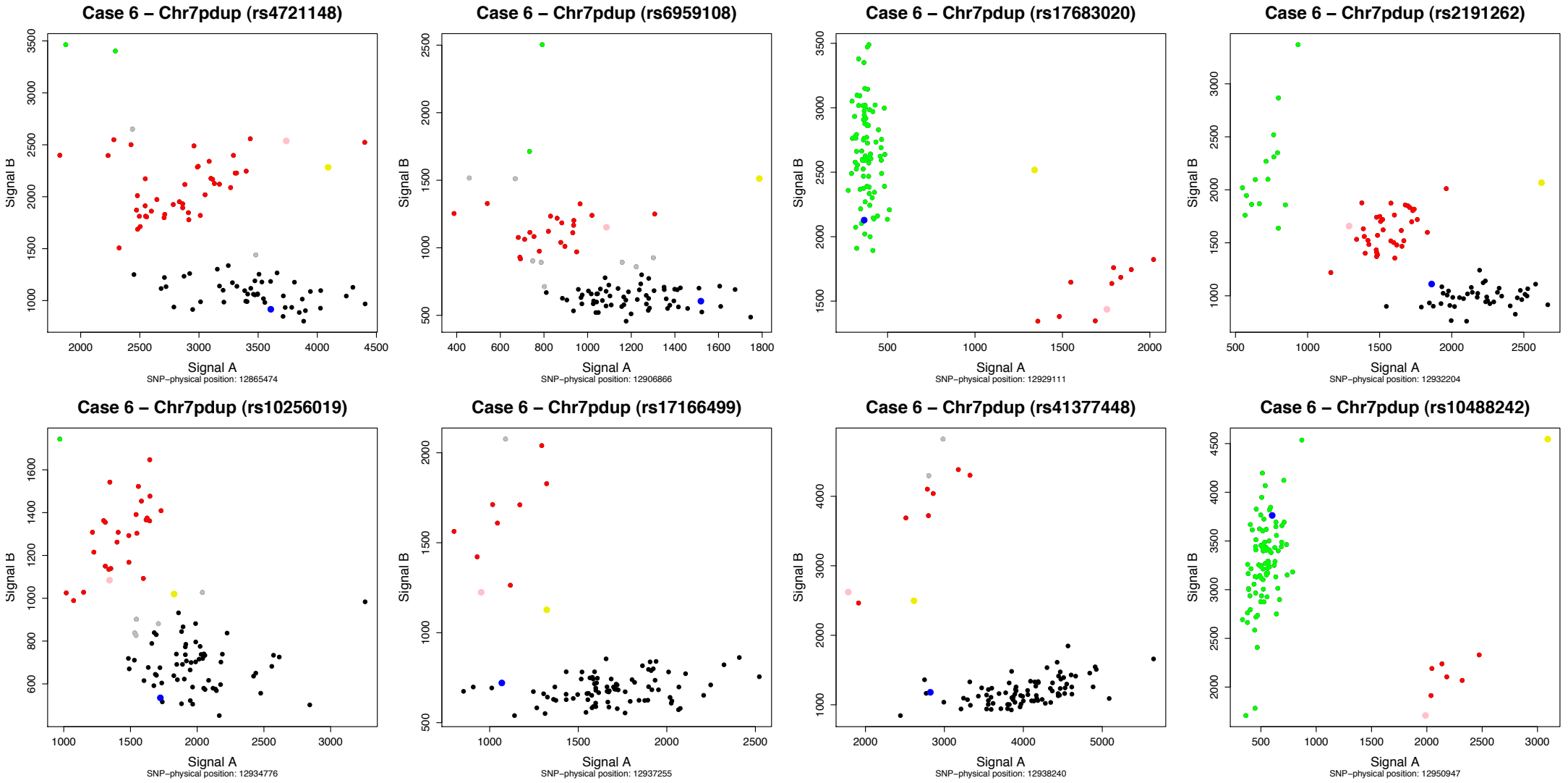

Case 6 – Chr7pdup (rs847968)
Signal B
Signal A
SNP−physical position: 12487239

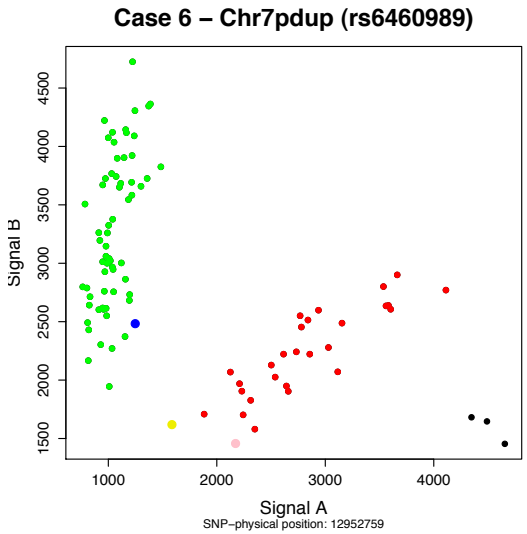

Case 6 – Chr7pdup (rs848029)
Signal B
Signal A
SNP−physical position: 12498539

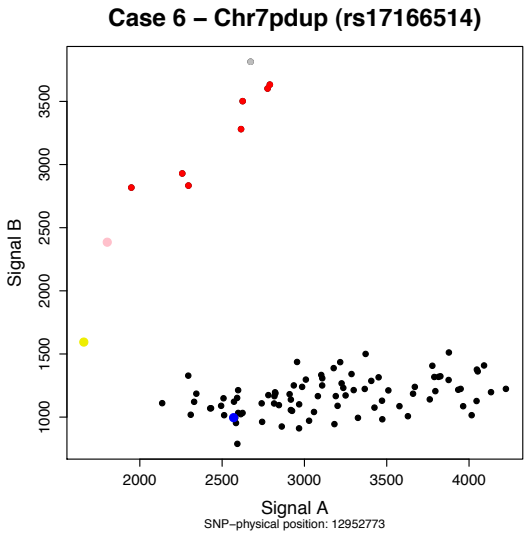

Case 6 – Chr7pdup (rs7777618)
Signal B
Signal A
SNP−physical position: 12521982

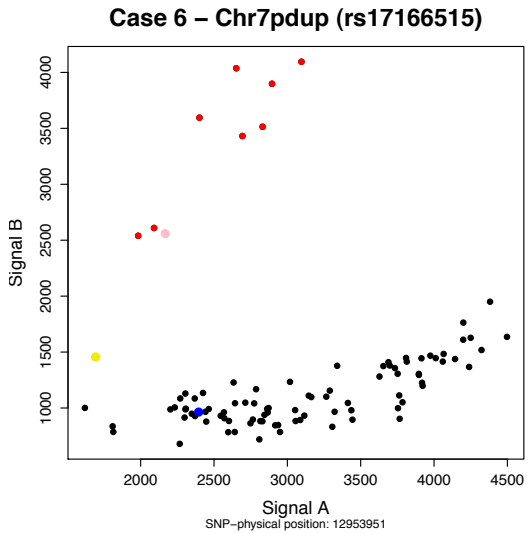

Case 6 – Chr7pdup (rs10281877)
Signal B
Signal A
SNP−physical position: 12819414

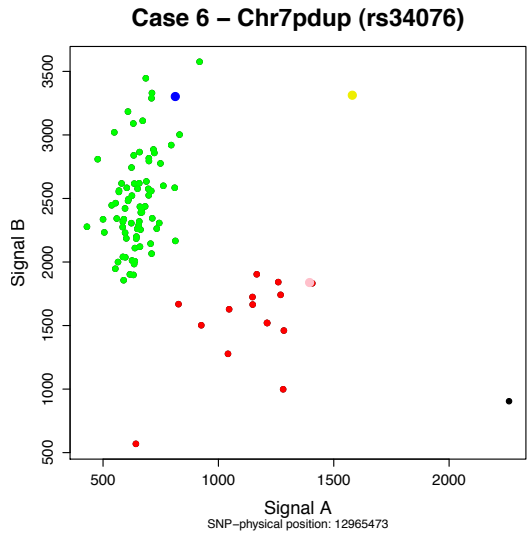

Case 6 – Chr7pdup (rs10252646)
Signal B
Signal A
SNP−physical position: 12819673

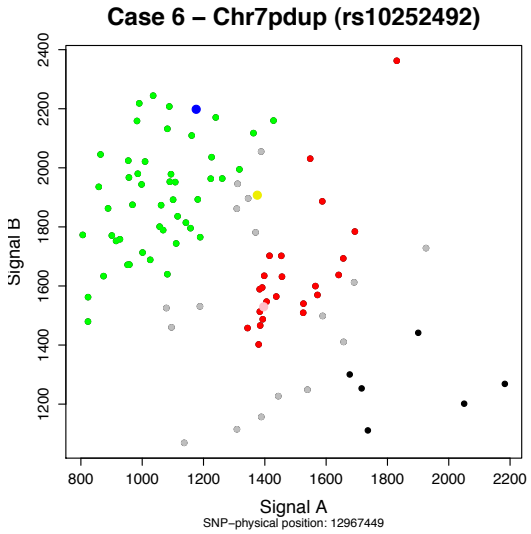

Case 6 – Chr7pdup (rs4721148)
Signal B
Signal A
SNP–physical position: 12865474
Case 6 – Chr7pdup (rs6959108)
Signal B
Signal A
SNP–physical position: 12906866
Case 6 – Chr7pdup (rs17683020)
Signal B
Signal A
SNP–physical position: 12929111
Case 6 – Chr7pdup (rs2191262)
Signal B
Signal A
SNP–physical position: 12932204
Case 6 – Chr7pdup (rs10256019)
Signal B
Signal A
SNP–physical position: 12934776
Case 6 – Chr7pdup (rs17166499)
Signal B
Signal A
SNP–physical position: 12937255
Case 6 – Chr7pdup (rs41377448)
Signal B
Signal A
SNP–physical position: 12938240
Case 6 – Chr7pdup (rs10488242)
Signal B
Signal A
SNP–physical position: 12950947

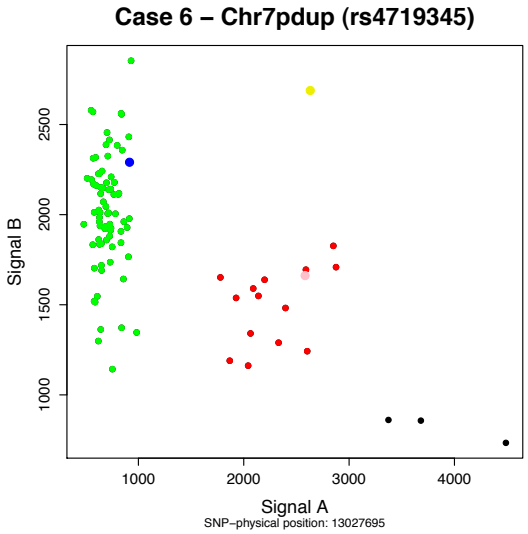

Case 6 – Chr7pdup (rs6460989)
Signal B
Signal A
SNP–physical position: 12952759

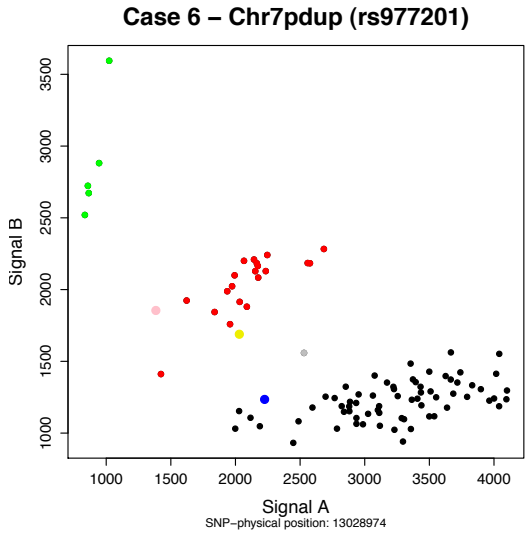

Case 6 – Chr7pdup (rs17166514)
Signal B
Signal A
SNP–physical position: 12952773

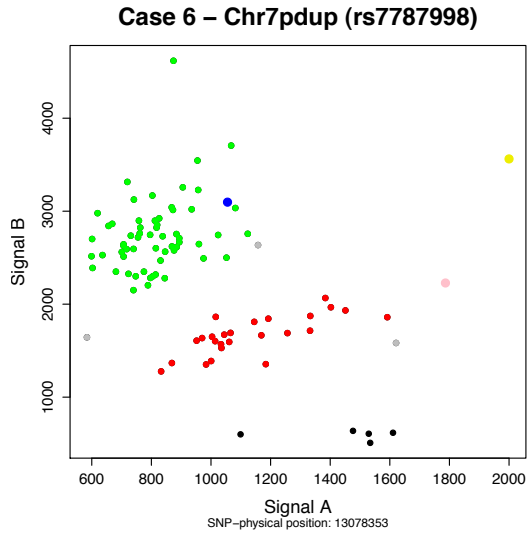

Case 6 – Chr7pdup (rs17166515)
Signal B
Signal A
SNP–physical position: 12953951

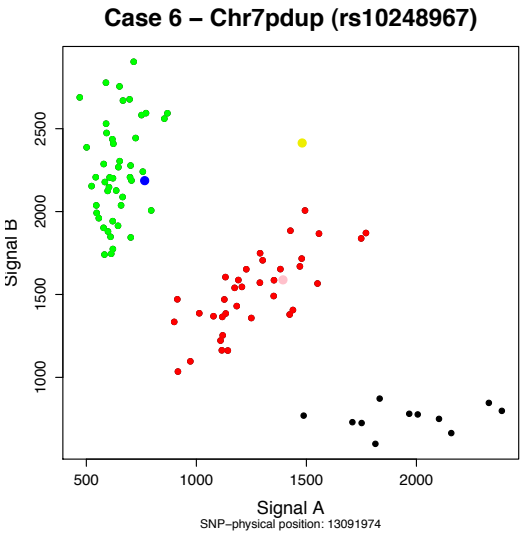

Case 6 – Chr7pdup (rs34076)
Signal B
Signal A
SNP–physical position: 12965473

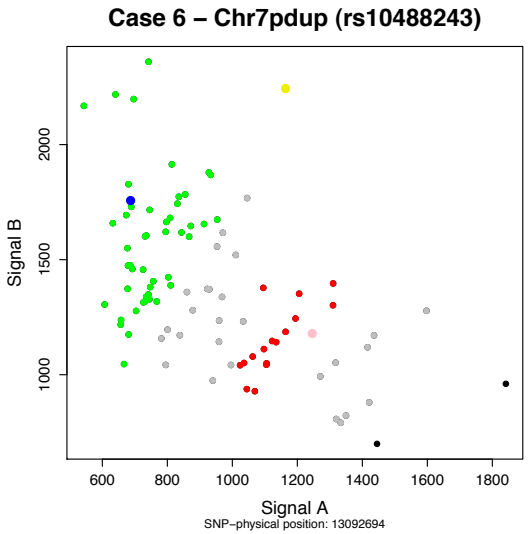

Case 6 – Chr7pdup (rs10252492)
Signal B
Signal A
SNP–physical position: 12967449

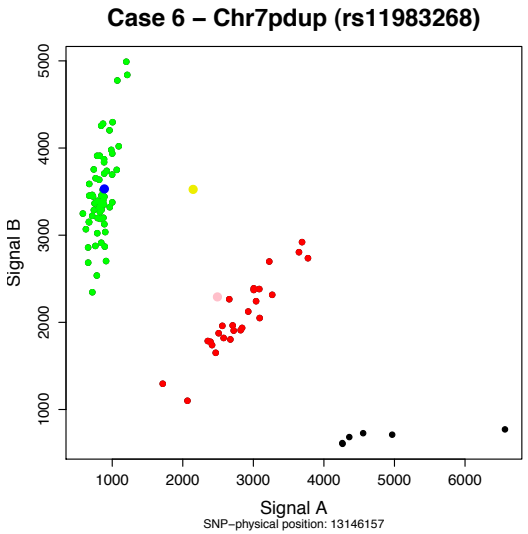

Case 6 – Chr7pdup (rs4719345)
Signal B
Signal A
SNP–physical position: 13027695

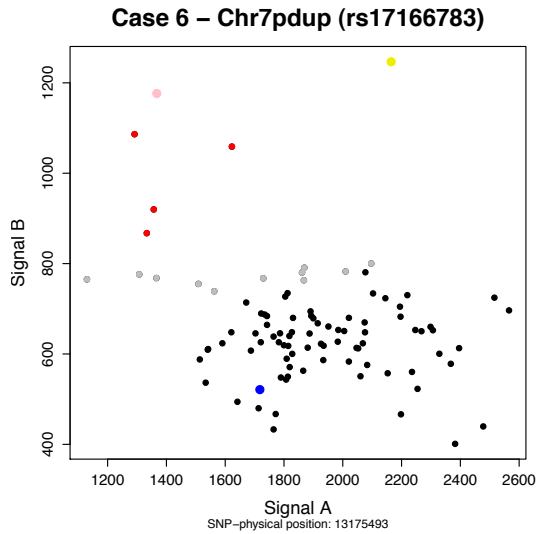

Case 6 – Chr7pdup (rs977201)
Signal B
Signal A
SNP–physical position: 13028974

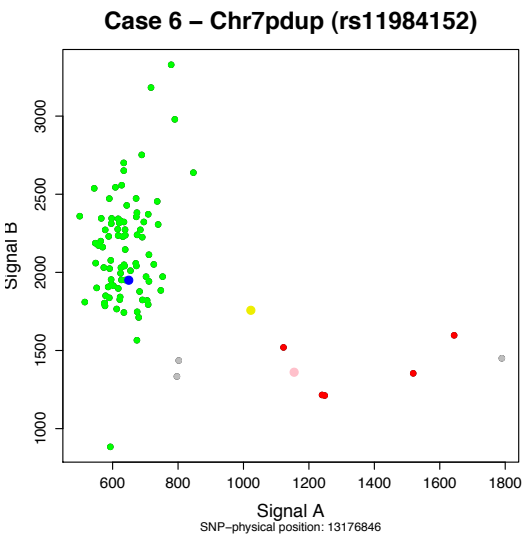

Case 6 – Chr7pdup (rs7787998)
Signal B
Signal A
SNP–physical position: 13078353

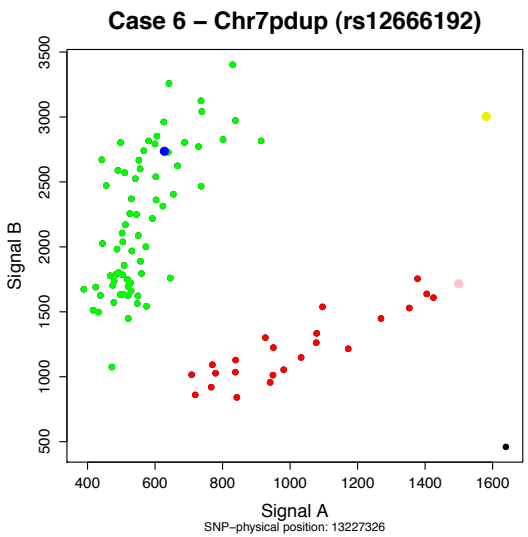

Case 6 – Chr7pdup (rs10248967)
Signal B
Signal A
SNP−physical position: 13091974

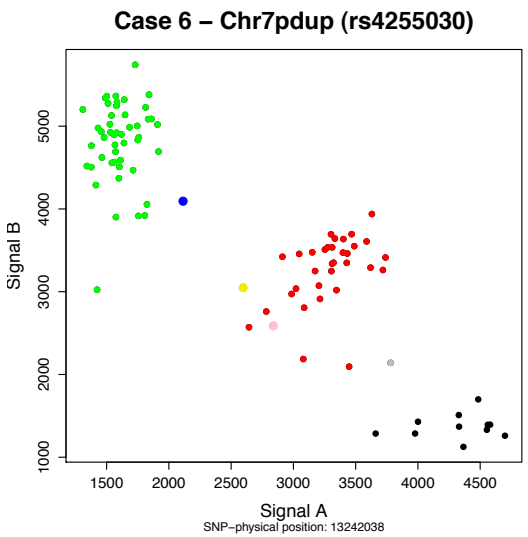

Case 6 – Chr7pdup (rs10488243)
Signal B
Signal A
SNP−physical position: 13092694

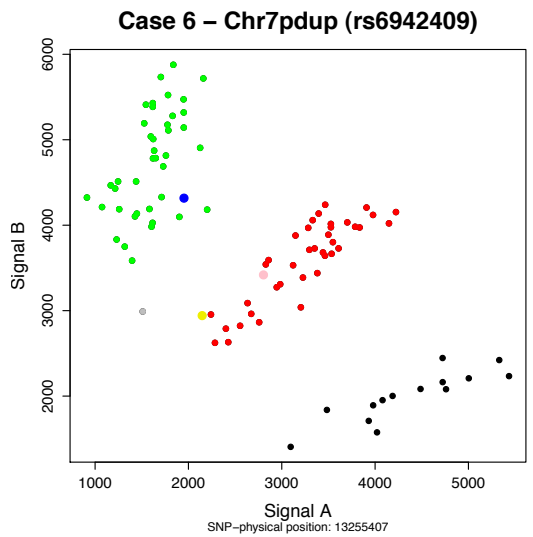

Case 6 – Chr7pdup (rs11983268)
Signal B
Signal A
SNP−physical position: 13146157

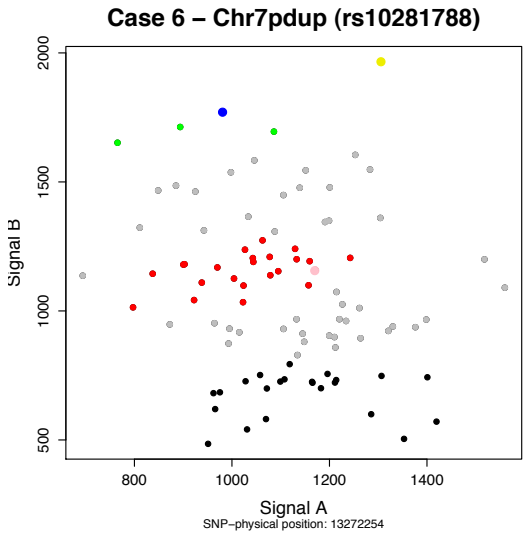

Case 6 – Chr7pdup (rs17166783)
Signal B
Signal A
SNP−physical position: 13175493

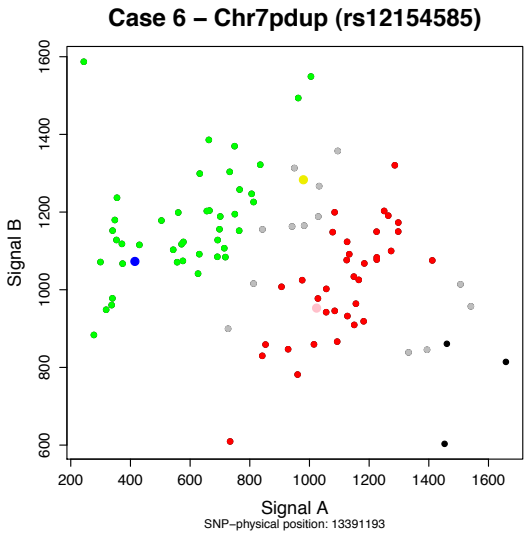

Case 6 – Chr7pdup (rs11984152)
Signal B
Signal A
SNP−physical position: 13176846

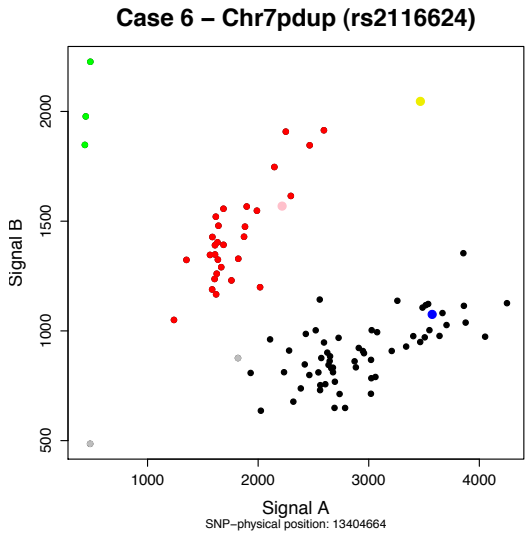

Case 6 – Chr7pdup (rs12666192)
Signal B
Signal A
SNP−physical position: 13227326

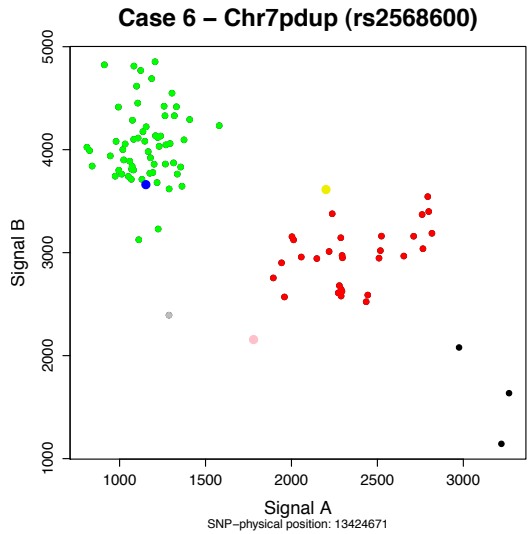

Case 6 – Chr7pdup (rs4255030)
Signal B
Signal A
SNP−physical position: 13242038

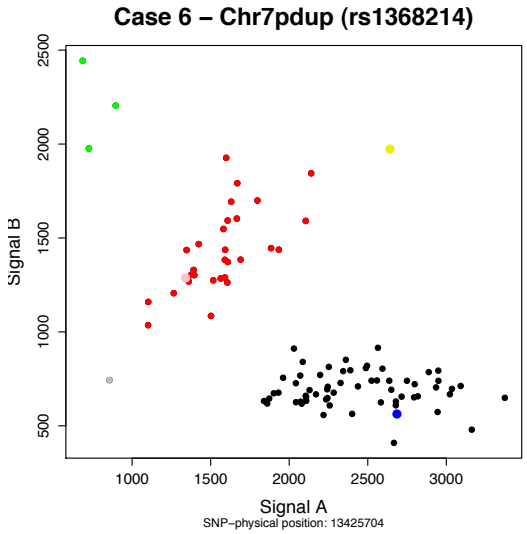

Case 6 – Chr7pdup (rs6942409)
Signal B
Signal A
SNP−physical position: 13255407

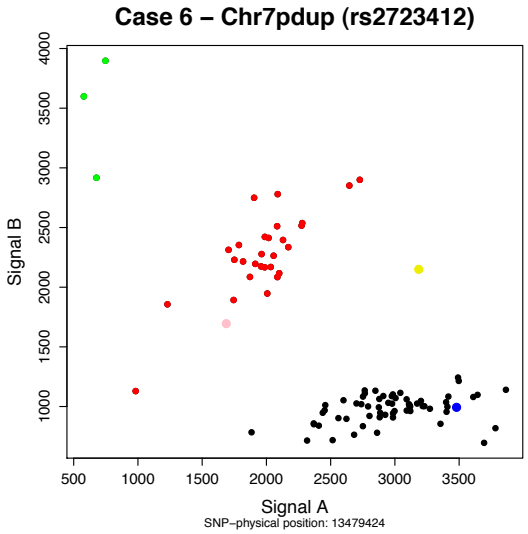

Case 6 – Chr7pdup (rs10281788)
Signal B
Signal A
SNP–physical position: 13272254

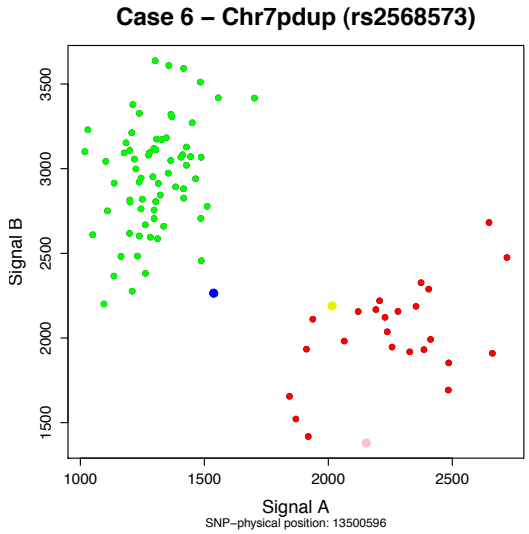

Case 6 – Chr7pdup (rs12154585)
Signal B
Signal A
SNP–physical position: 13391193

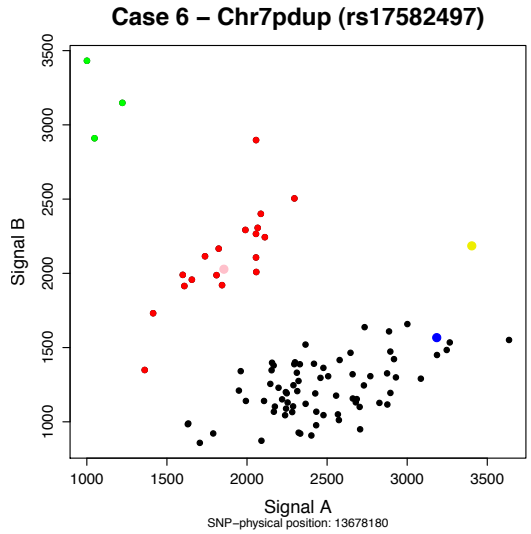

Case 6 – Chr7pdup (rs2116624)
Signal B
Signal A
SNP–physical position: 13404664

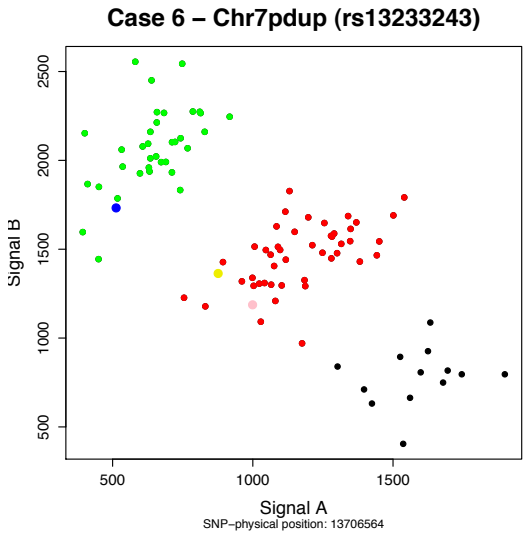

Case 6 – Chr7pdup (rs2568600)
Signal B
Signal A
SNP–physical position: 13424671

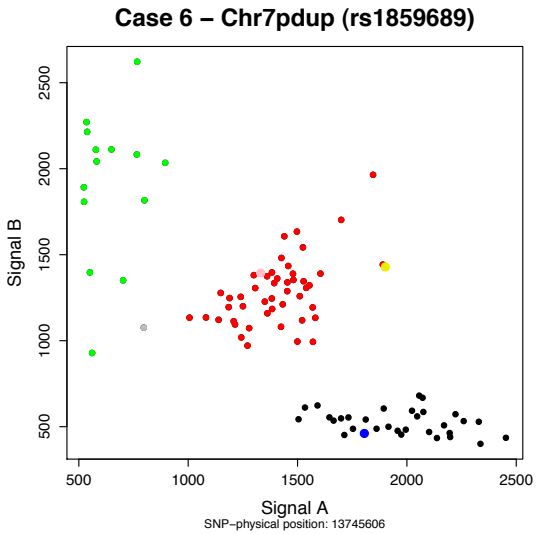

Case 6 – Chr7pdup (rs1368214)
Signal B
Signal A
SNP–physical position: 13425704

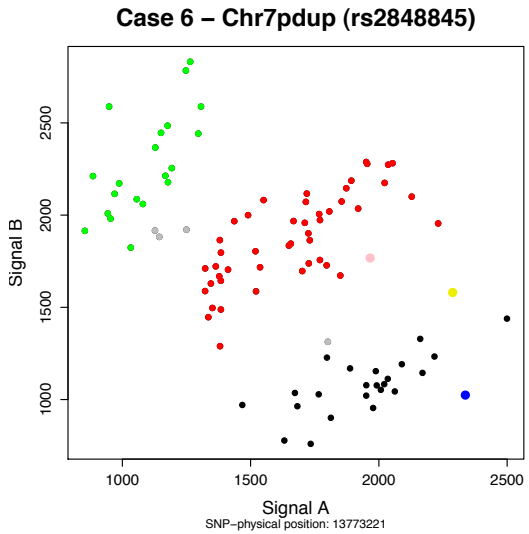

Case 6 – Chr7pdup (rs2723412)
Signal B
Signal A
SNP–physical position: 13479424

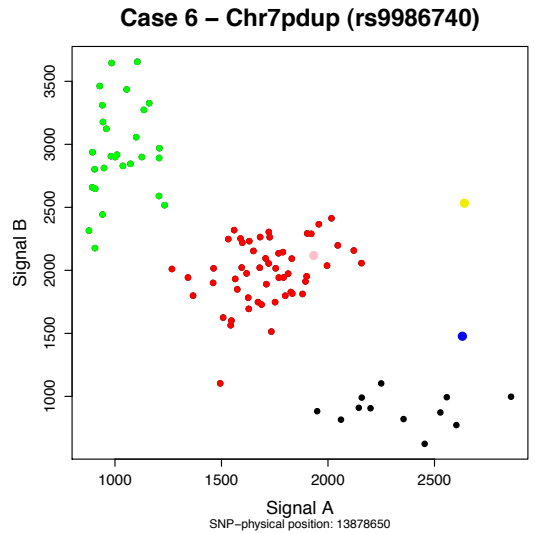

Case 6 – Chr7pdup (rs2568573)
Signal B
Signal A
SNP–physical position: 13500596

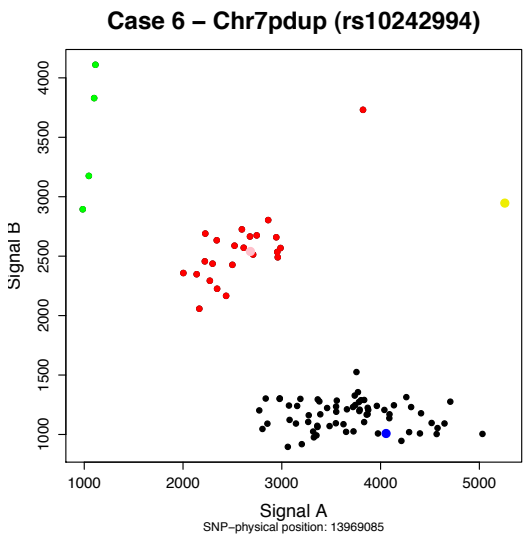

Case 6 – Chr7pdup (rs17582497)
Signal B
Signal A
SNP–physical position: 13678180

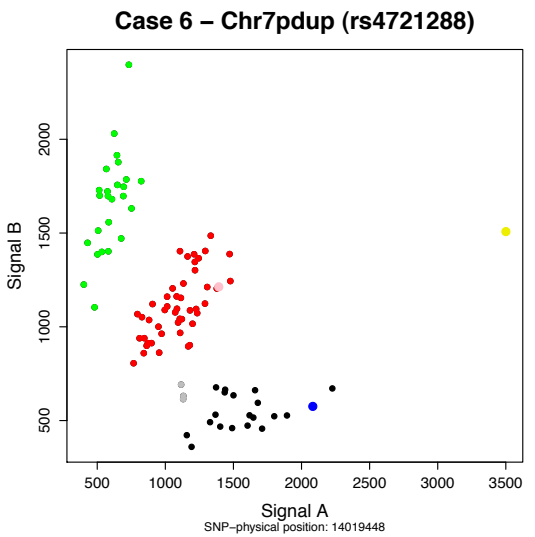

Case 6 – Chr7pdup (rs13233243)
Signal B
Signal A
SNP−physical position: 13706564

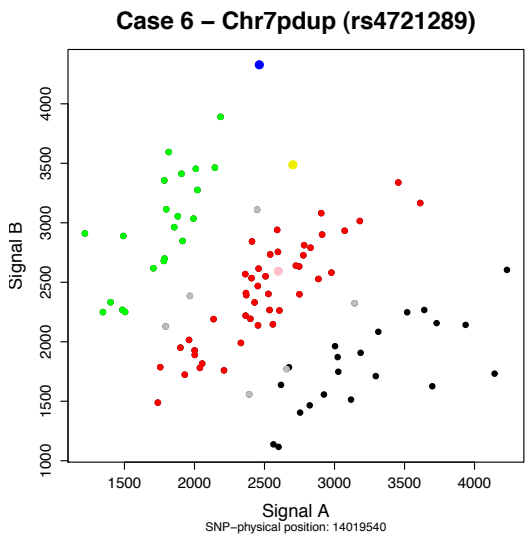

Case 6 – Chr7pdup (rs1859689)
Signal B
Signal A
SNP−physical position: 13745606

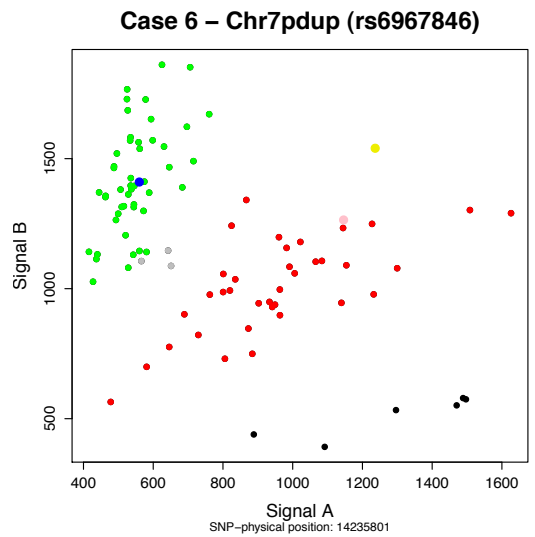

Case 6 – Chr7pdup (rs2848845)
Signal B
Signal A
SNP−physical position: 13773221

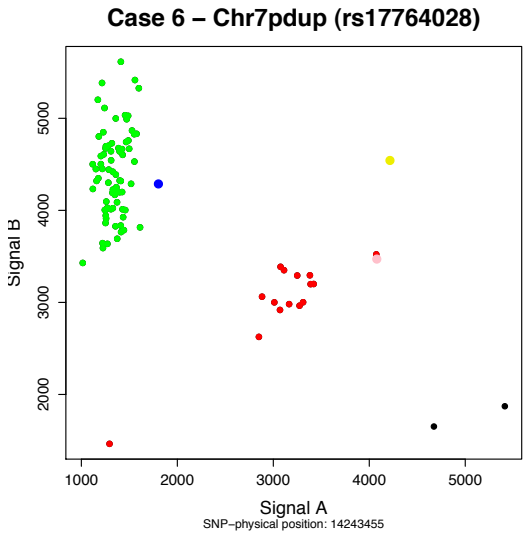

Case 6 – Chr7pdup (rs9986740)
Signal B
Signal A
SNP−physical position: 13878650

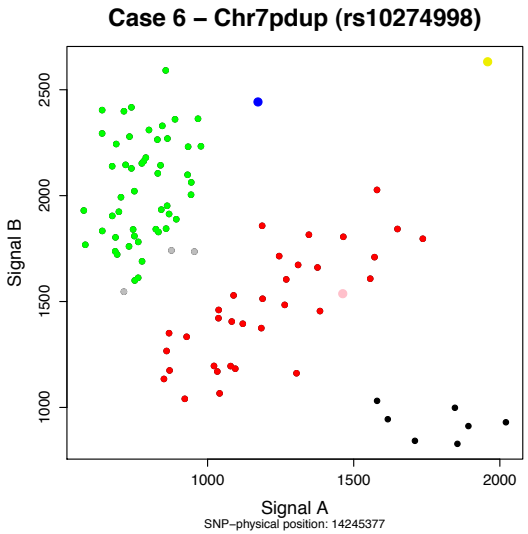

Case 6 – Chr7pdup (rs10242994)
Signal B
Signal A
SNP−physical position: 13969085

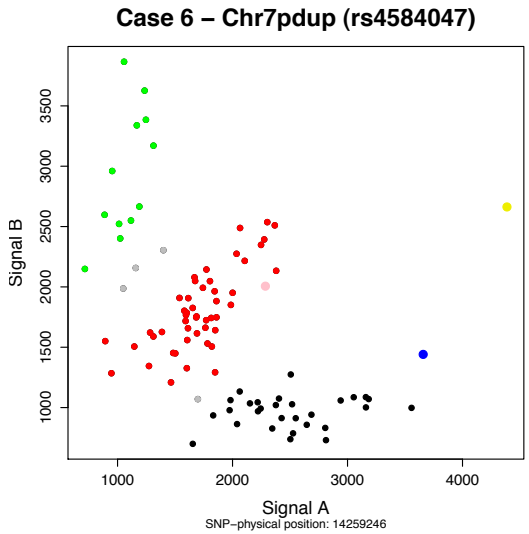

Case 6 – Chr7pdup (rs4721288)
Signal B
Signal A
SNP−physical position: 14019448

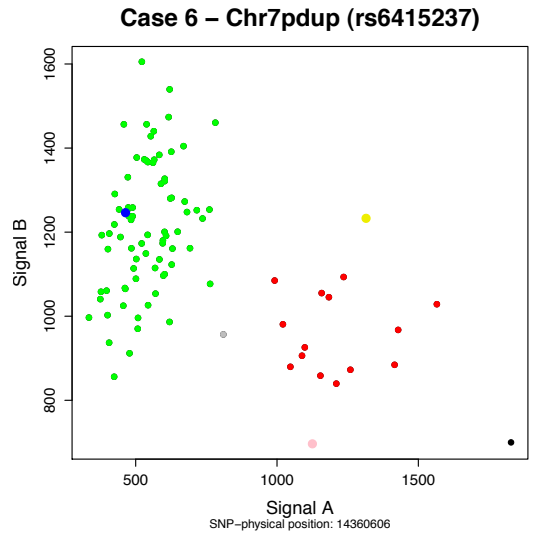

Case 6 – Chr7pdup (rs4721289)
Signal B
Signal A
SNP−physical position: 14019540

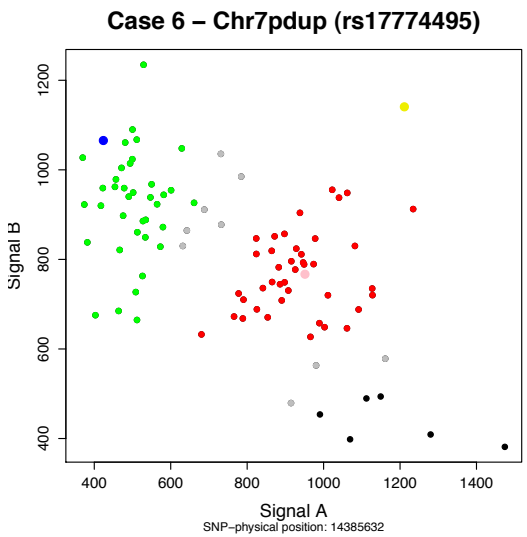

Case 6 – Chr7pdup (rs6967846)
Signal B
Signal A
SNP−physical position: 14235801

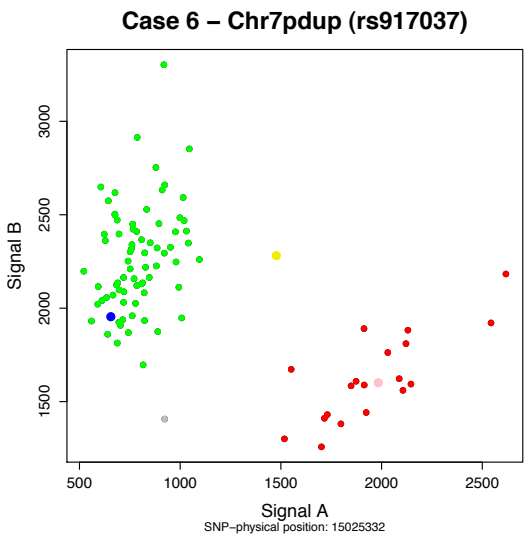

Case 6 – Chr7pdup (rs17764028)
Signal B
Signal A
SNP−physical position: 14243455

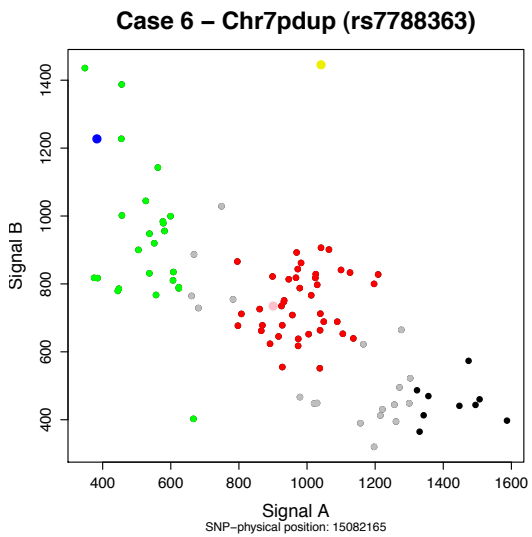

Case 6 – Chr7pdup (rs10274998)
Signal B
Signal A
SNP−physical position: 14245377

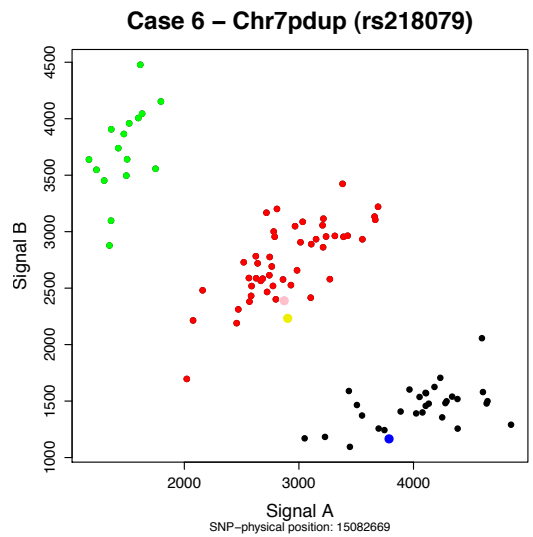

Case 6 – Chr7pdup (rs4584047)
Signal B
Signal A
SNP−physical position: 14259246

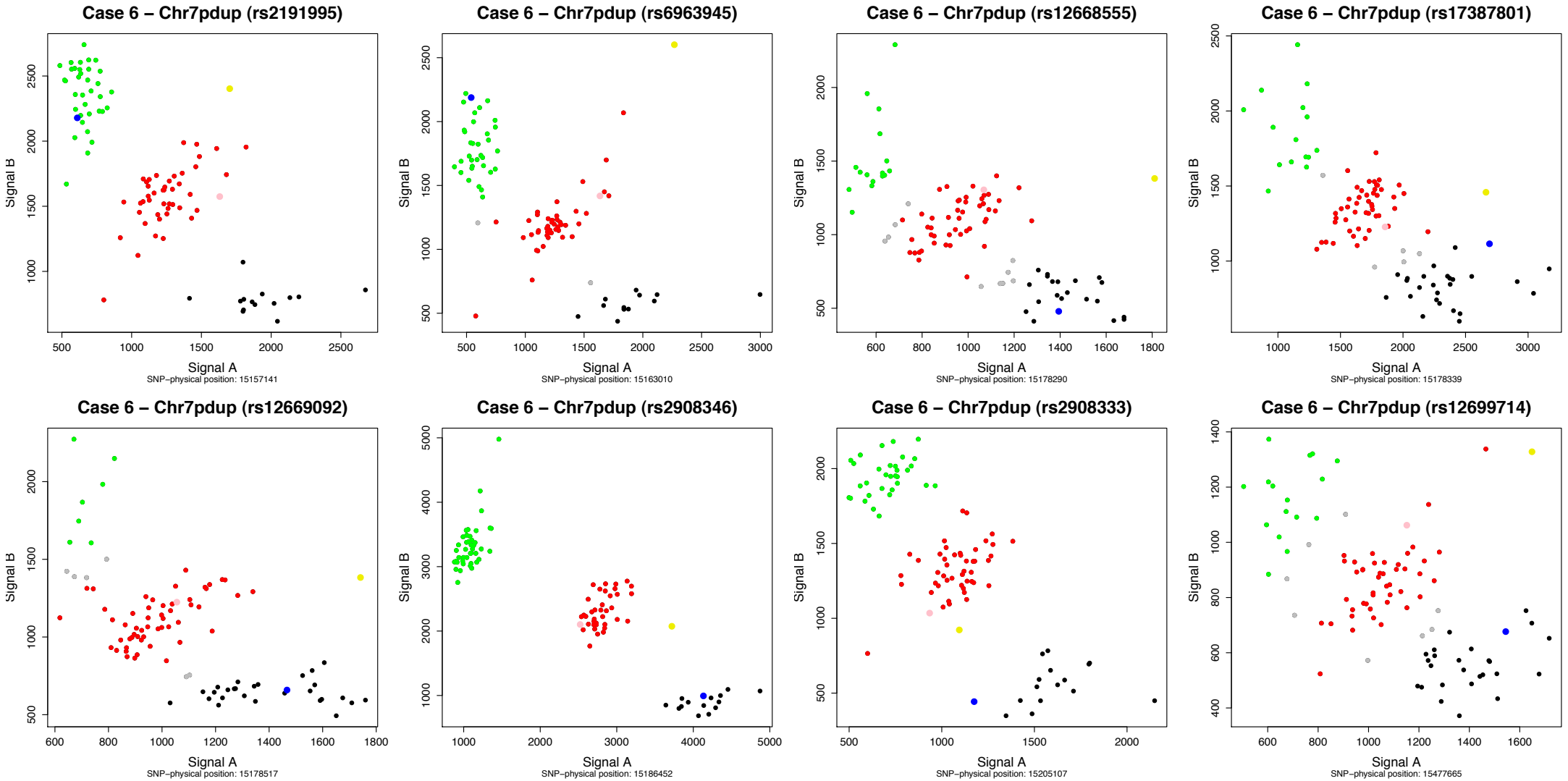

Case 6 – Chr7pdup (rs6415237)
Signal B
Signal A
SNP−physical position: 14360606

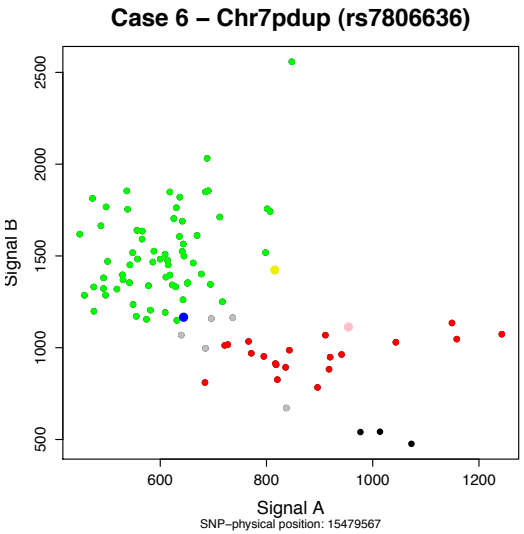

Case 6 – Chr7pdup (rs17774495)
Signal B
Signal A
SNP−physical position: 14385632

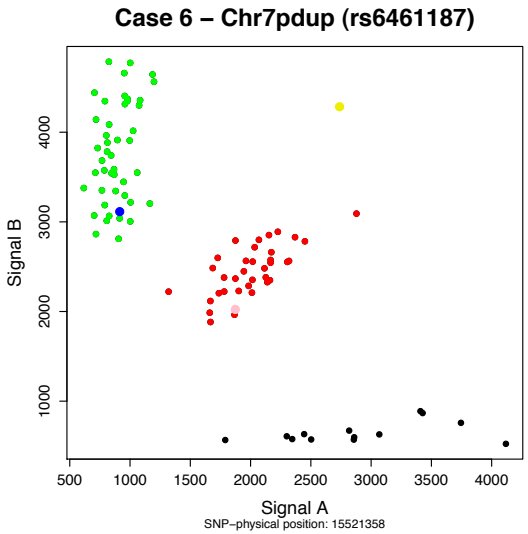

Case 6 – Chr7pdup (rs917037)
Signal B
Signal A
SNP−physical position: 15025332


Case 6 – Chr7pdup (rs7788363)
Signal B
Signal A
SNP−physical position: 15082165

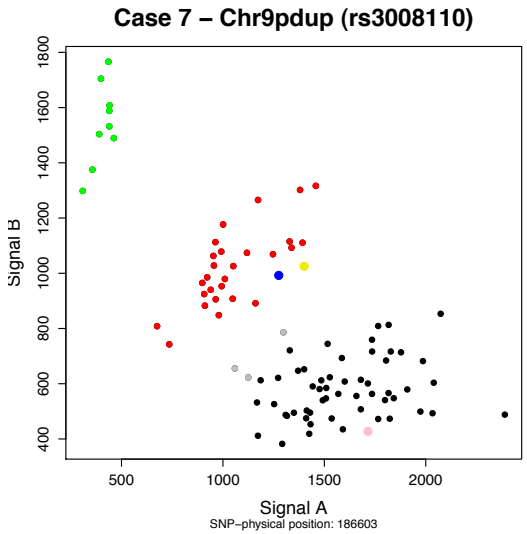

Case 6 – Chr7pdup (rs218079)
Signal B
Signal A
SNP−physical position: 15082669

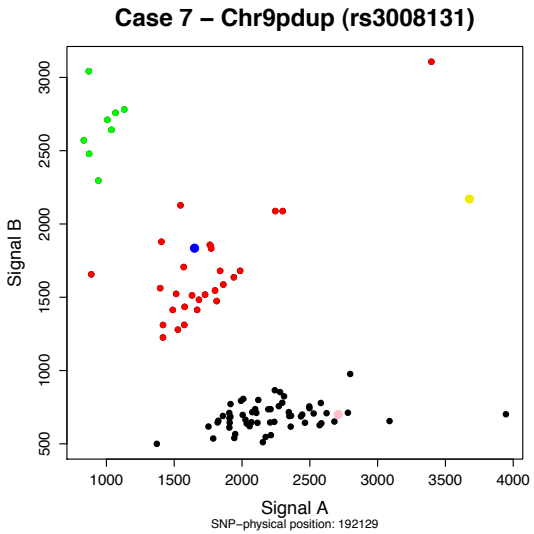

Case 6 – Chr7pdup (rs2191995)
Signal B
Signal A
SNP–physical position: 15157141
Case 6 – Chr7pdup (rs6963945)
Signal B
Signal A
SNP–physical position: 15163010
Case 6 – Chr7pdup (rs12668555)
Signal B
Signal A
SNP–physical position: 15178290
Case 6 – Chr7pdup (rs17387801)
Signal B
Signal A
SNP–physical position: 15178339
Case 6 – Chr7pdup (rs12669092)
Signal B
Signal A
SNP–physical position: 15178517
Case 6 – Chr7pdup (rs2908346)
Signal B
Signal A
SNP–physical position: 15186452
Case 6 – Chr7pdup (rs2908333)
Signal B
Signal A
SNP–physical position: 15205107
Case 6 – Chr7pdup (rs12699714)
Signal B
Signal A
SNP–physical position: 15477665

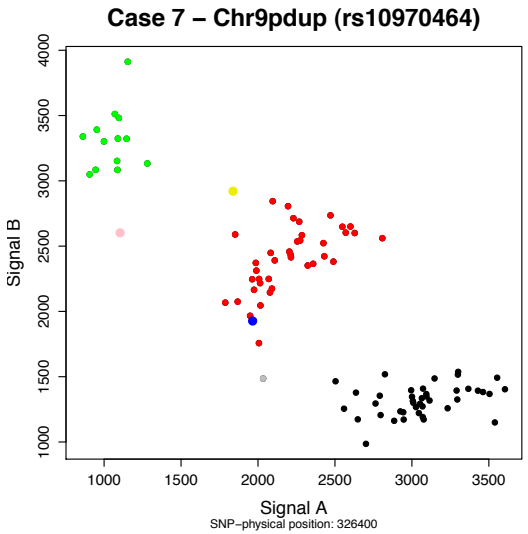

Case 6 – Chr7pdup (rs7806636)
Signal B
500
1000
1500
2000
2500
600
800
1000
1200
Signal A
SNP–physical position: 15479567

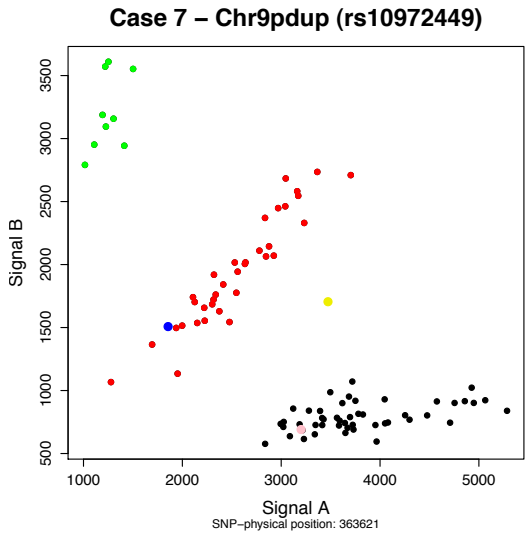

Case 6 – Chr7pdup (rs6461187)
Signal B
1000
2000
3000
4000
500
1000
1500
2000
2500
3000
3500
4000
Signal A
SNP–physical position: 15521358

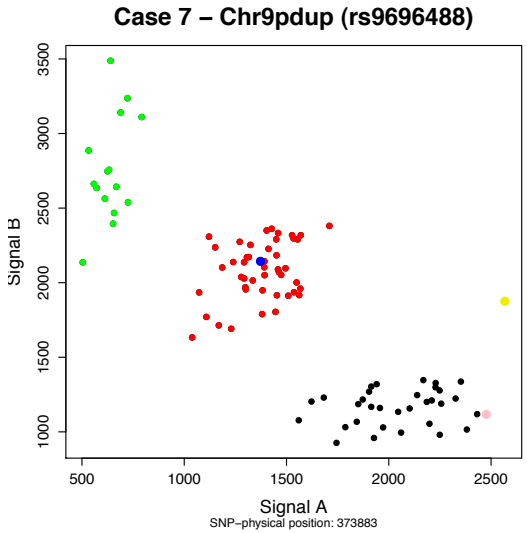
Case: 7
Chromosome: 9p
Abberation: dup.
Origin: Paternal

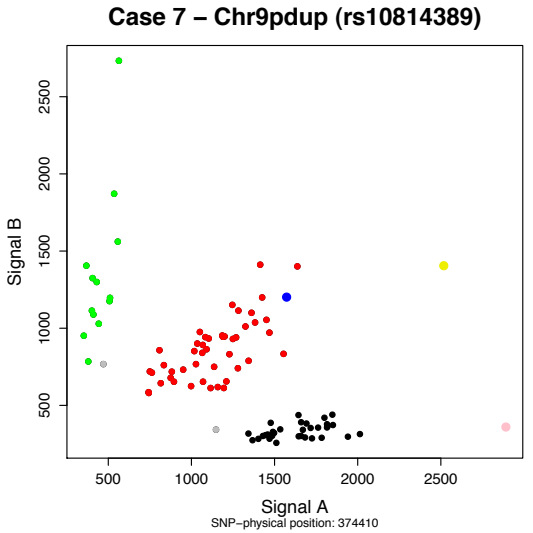

Case 7 – Chr9pdup (rs3008110)
Signal B
Signal A
SNP–physical position: 186603

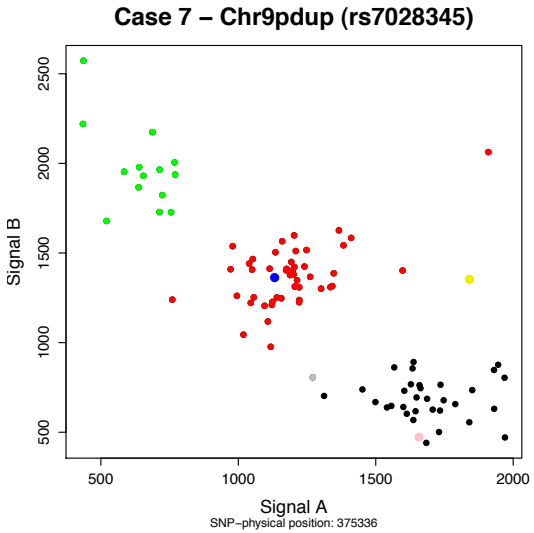

Case 7 – Chr9pdup (rs3008131)
Signal B
Signal A
SNP–physical position: 192129

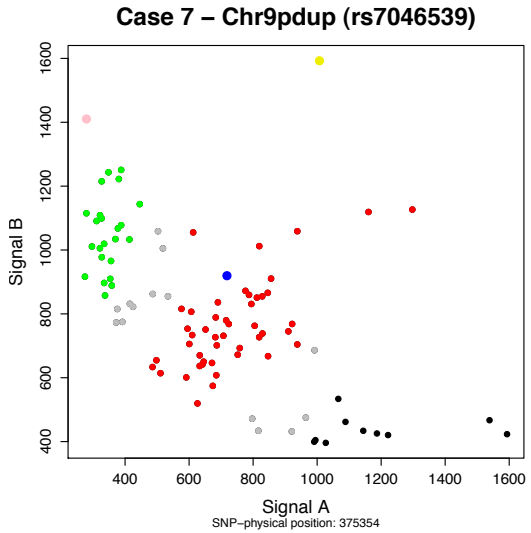

Case 7 – Chr9pdup (rs10970464)
Signal B
Signal A
SNP–physical position: 326400

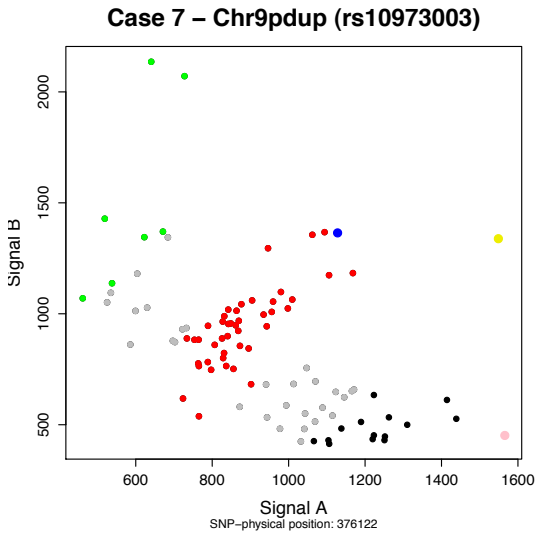

Case 7 – Chr9pdup (rs10972449)
Signal B
Signal A
SNP–physical position: 363621

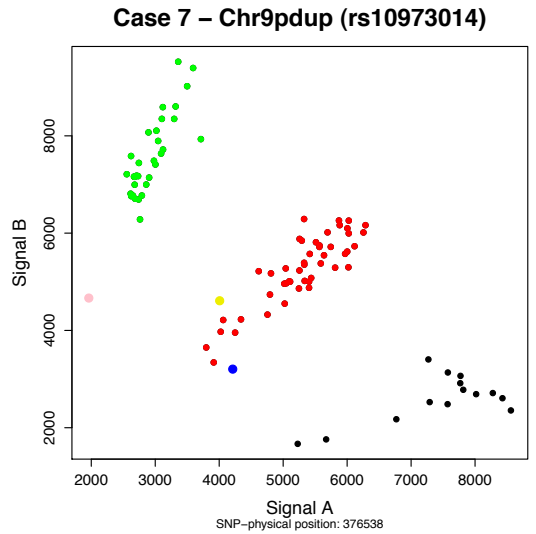

Case 7 – Chr9pdup (rs9696488)
Signal B
Signal A
SNP–physical position: 373883

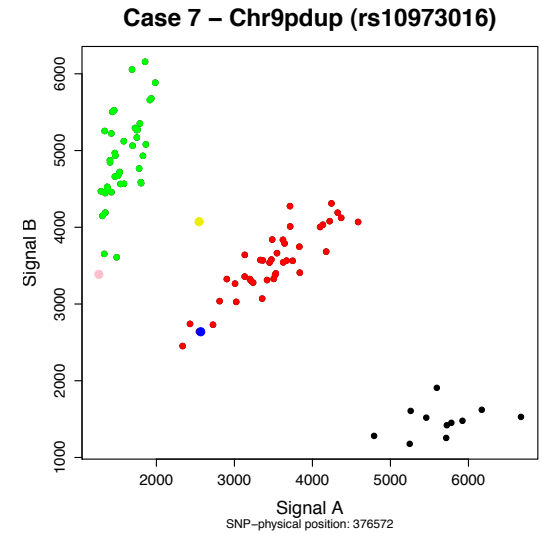

Case 7 – Chr9pdup (rs10814389)
Signal B
Signal A
SNP–physical position: 374410

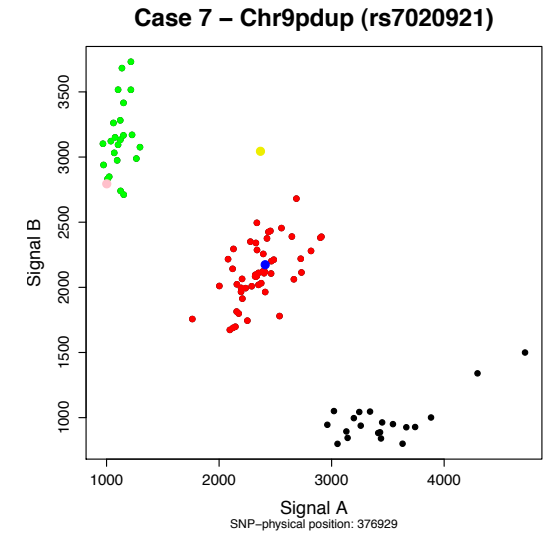

Case 7 – Chr9pdup (rs7028345)
Signal B
Signal A
SNP–physical position: 375336

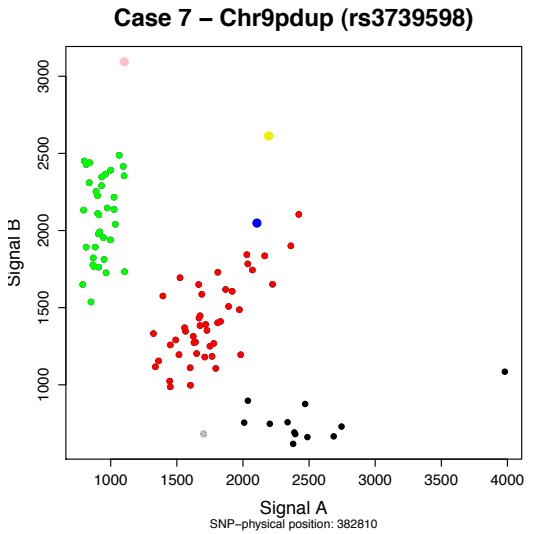

Case 7 – Chr9pdup (rs7046539)
Signal B
Signal A
SNP–physical position: 375354

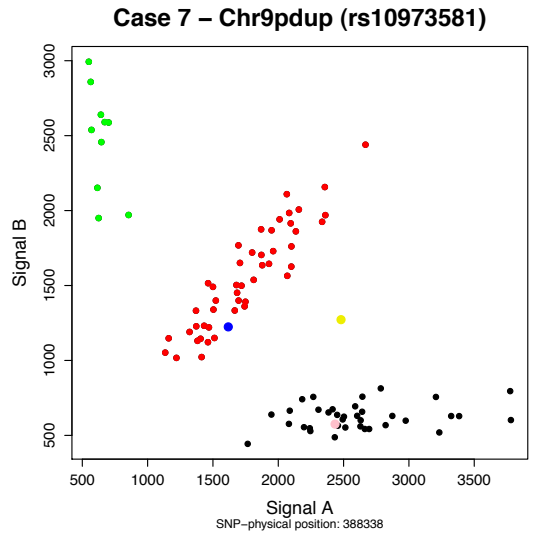

Case 7 – Chr9pdup (rs10973003)
Signal B
Signal A
SNP–physical position: 376122

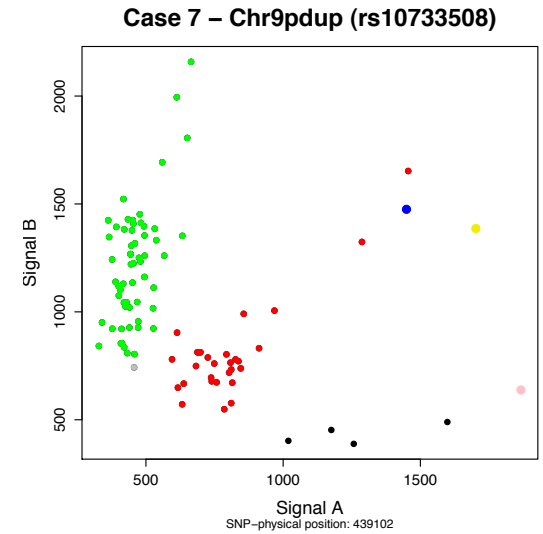

Case 7 – Chr9pdup (rs10973014)
Signal B
Signal A
SNP–physical position: 376538

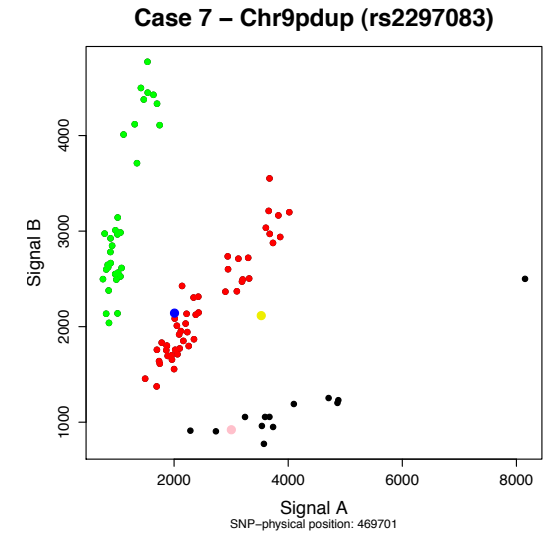

Case 7 – Chr9pdup (rs10973016)
Signal B
Signal A
SNP–physical position: 376572

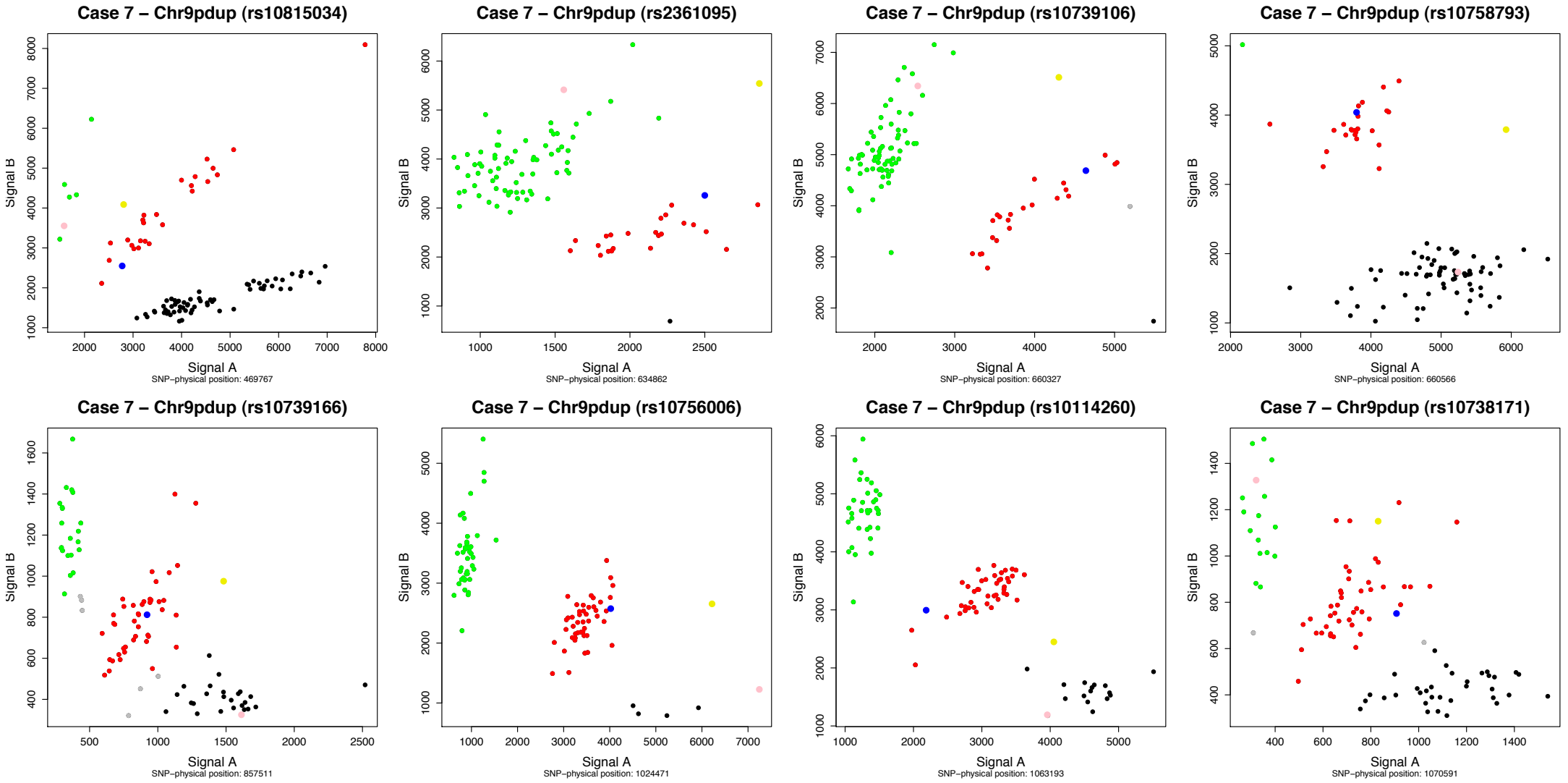

Case 7 – Chr9pdup (rs7020921)
Signal B
Signal A
SNP–physical position: 376929

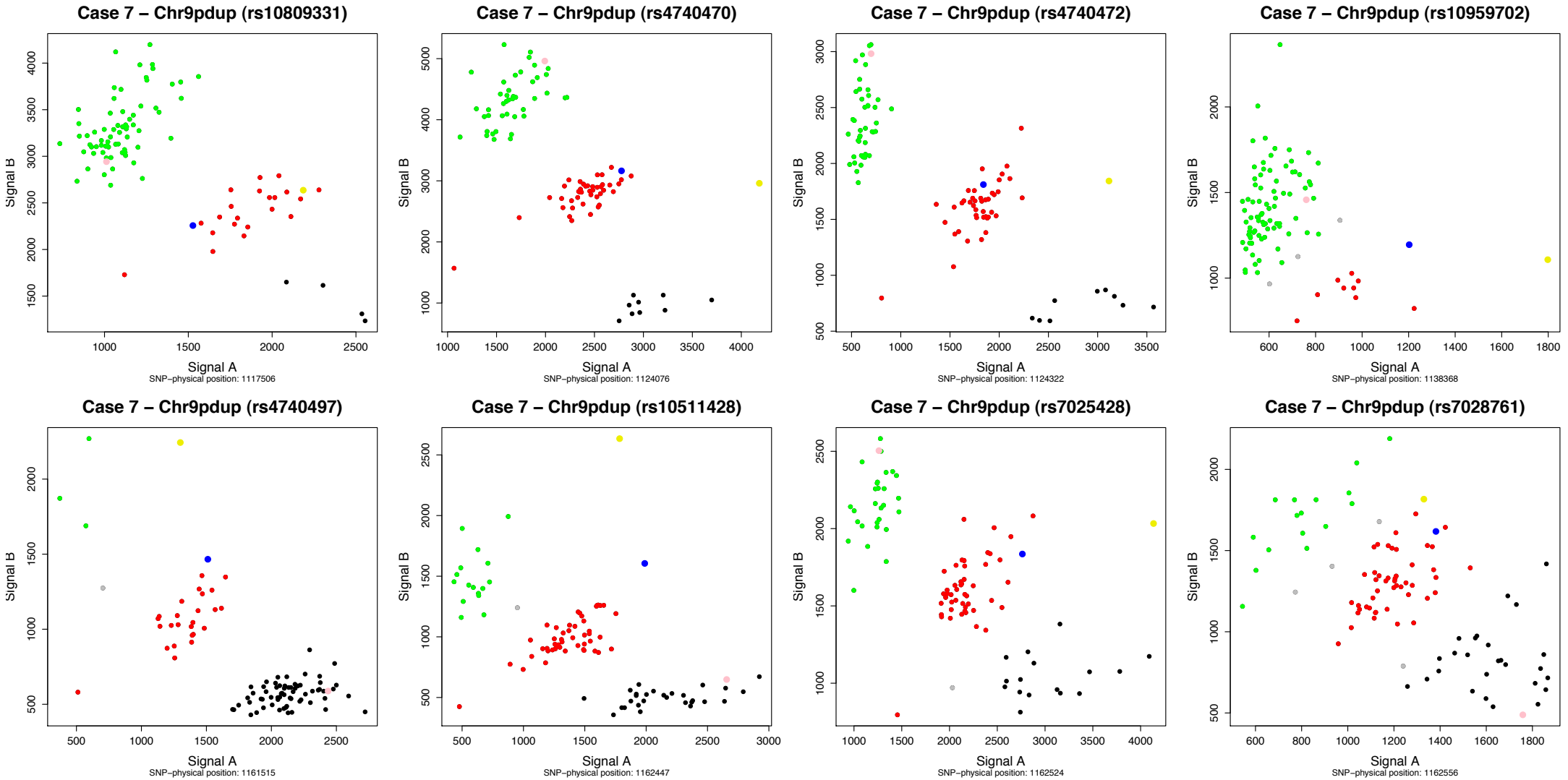

Case 7 – Chr9pdup (rs3739598)
Signal B
Signal A
SNP–physical position: 382810

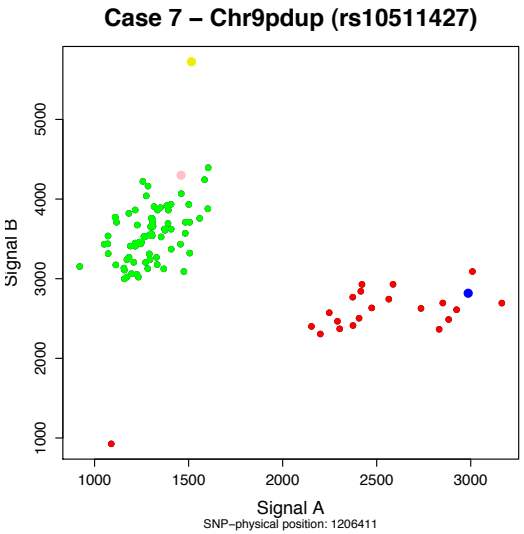

Case 7 – Chr9pdup (rs10973581)
Signal B
Signal A
SNP–physical position: 388338

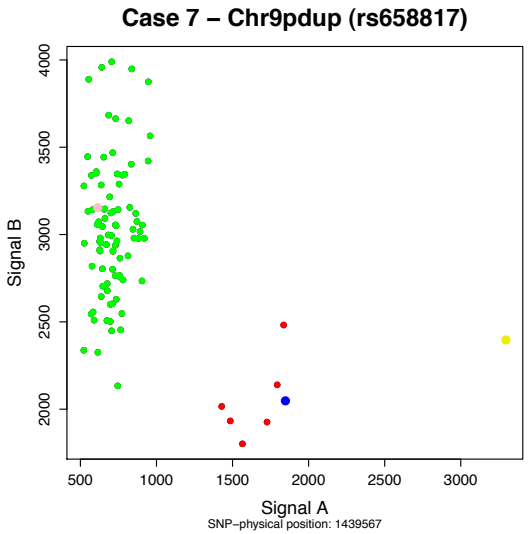

Case 7 – Chr9pdup (rs10733508)
Signal B
Signal A
SNP–physical position: 439102

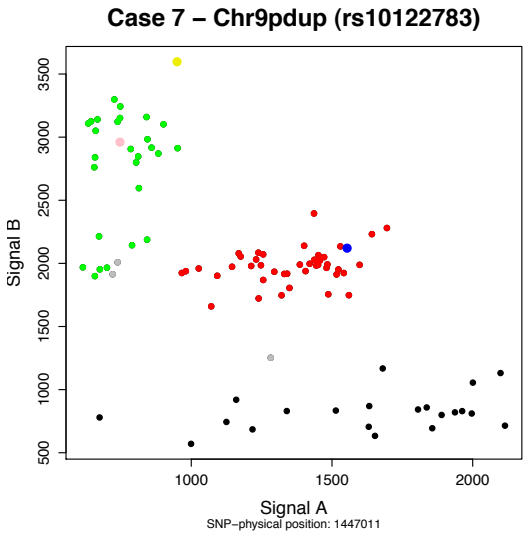

Case 7 – Chr9pdup (rs2297083)
Signal B
Signal A
SNP–physical position: 469701

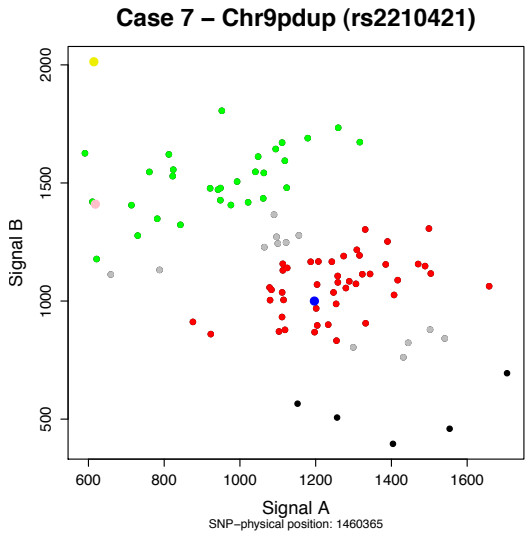

Case 7 – Chr9pdup (rs10815034)
Signal B
Signal A
SNP–physical position: 469767
Case 7 – Chr9pdup (rs2361095)
Signal B
Signal A
SNP–physical position: 634862
Case 7 – Chr9pdup (rs10739106)
Signal B
Signal A
SNP–physical position: 660327
Case 7 – Chr9pdup (rs10758793)
Signal B
Signal A
SNP–physical position: 660566
Case 7 – Chr9pdup (rs10739166)
Signal B
Signal A
SNP–physical position: 857511
Case 7 – Chr9pdup (rs10756006)
Signal B
Signal A
SNP–physical position: 1024471
Case 7 – Chr9pdup (rs10114260)
Signal B
Signal A
SNP–physical position: 1063193
Case 7 – Chr9pdup (rs10738171)
Signal B
Signal A
SNP–physical position: 1070591

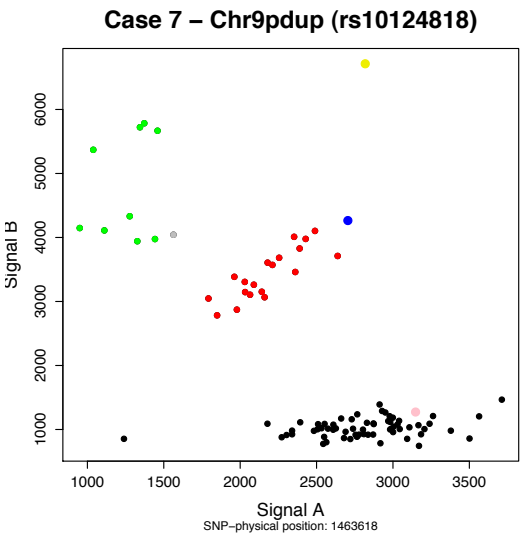

Case 7 – Chr9pdup (rs10809331)
Signal B
Signal A
SNP–physical position: 1117506
Case 7 – Chr9pdup (rs4740470)
Signal B
Signal A
SNP–physical position: 1124076
Case 7 – Chr9pdup (rs4740472)
Signal B
Signal A
SNP–physical position: 1124322
Case 7 – Chr9pdup (rs10959702)
Signal B
Signal A
SNP–physical position: 1138368
Case 7 – Chr9pdup (rs4740497)
Signal B
Signal A
SNP–physical position: 1161515
Case 7 – Chr9pdup (rs10511428)
Signal B
Signal A
SNP–physical position: 1162447
Case 7 – Chr9pdup (rs7025428)
Signal B
Signal A
SNP–physical position: 1162524
Case 7 – Chr9pdup (rs7028761)
Signal B
Signal A
SNP–physical position: 1162556

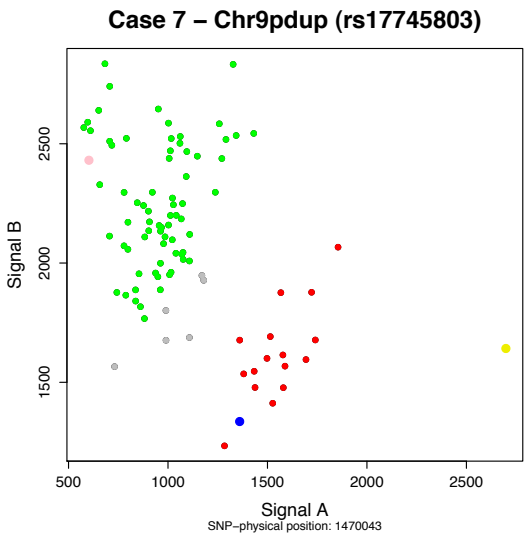

Case 7 – Chr9pdup (rs10511427)
Signal B
Signal A
SNP–physical position: 1206411

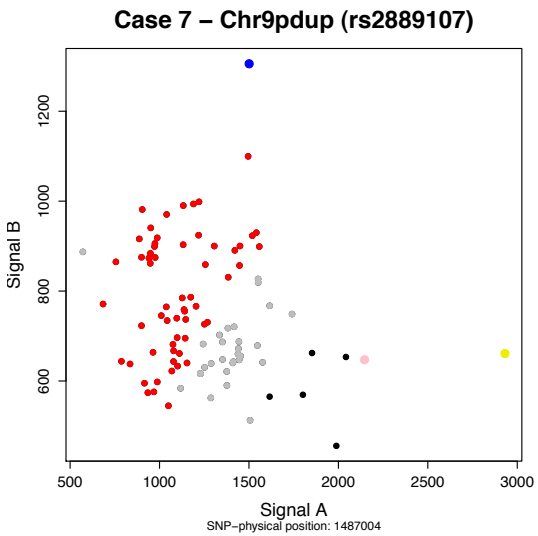

Case 7 – Chr9pdup (rs658817)
Signal B
Signal A
SNP–physical position: 1439567

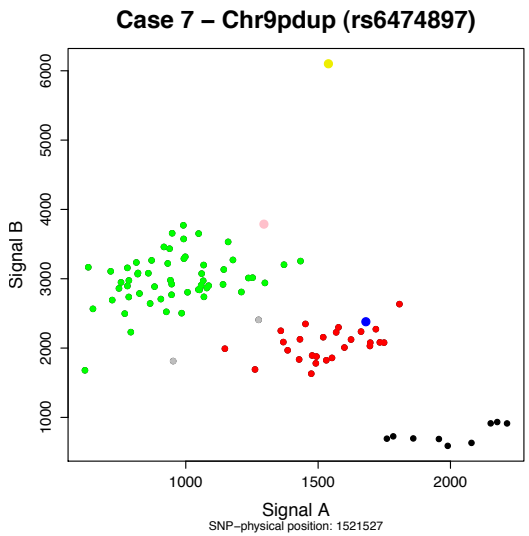

Case 7 – Chr9pdup (rs10122783)
Signal B
Signal A
SNP–physical position: 1447011

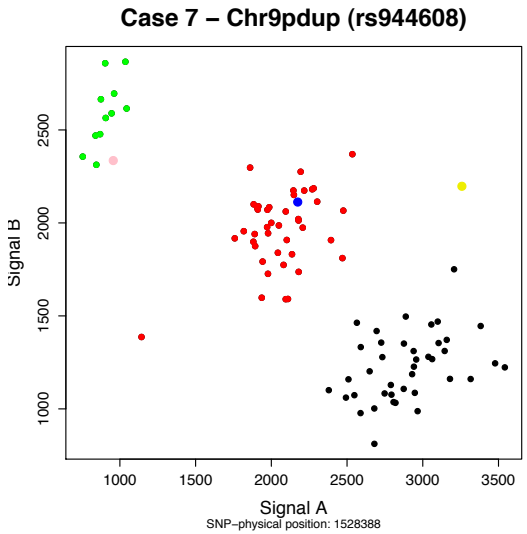

Case 7 – Chr9pdup (rs2210421)
Signal B
Signal A
SNP–physical position: 1460365

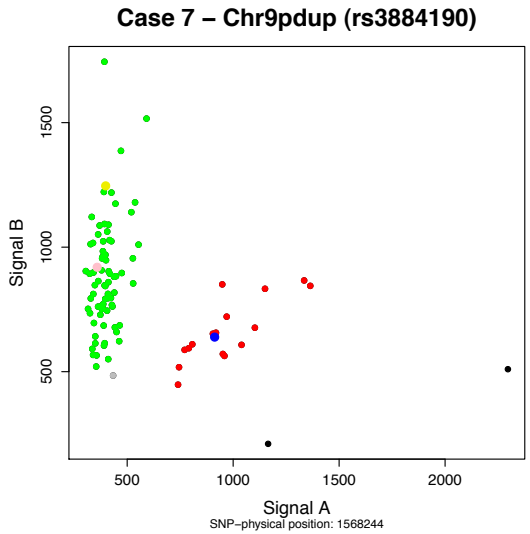

Case 7 – Chr9pdup (rs10124818)
Signal B
Signal A
SNP–physical position: 1463618

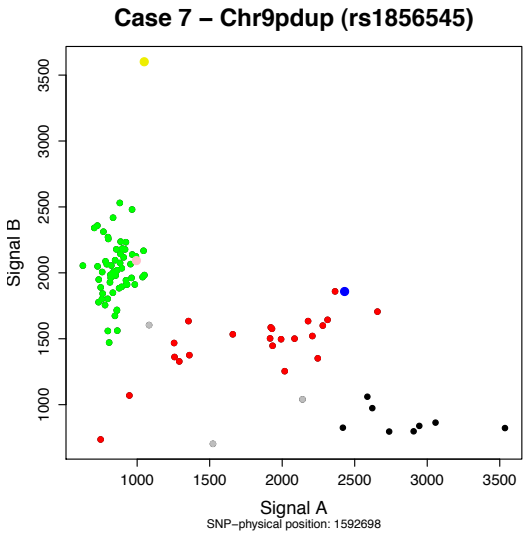

Case 7 – Chr9pdup (rs17745803)
Signal B
Signal A
SNP–physical position: 1470043

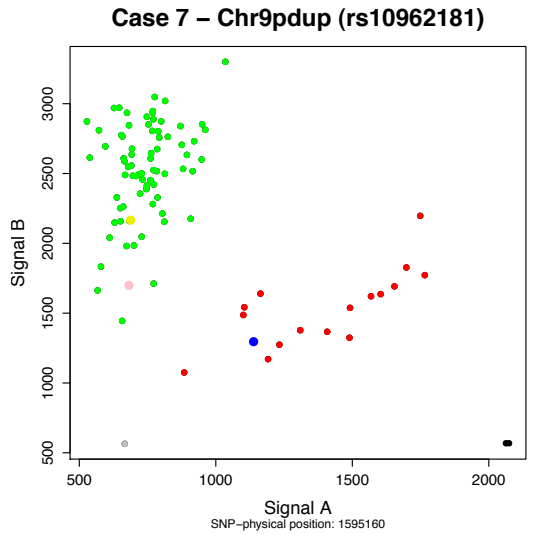

Case 7 – Chr9pdup (rs2889107)
Signal B
Signal A
SNP–physical position: 1487004

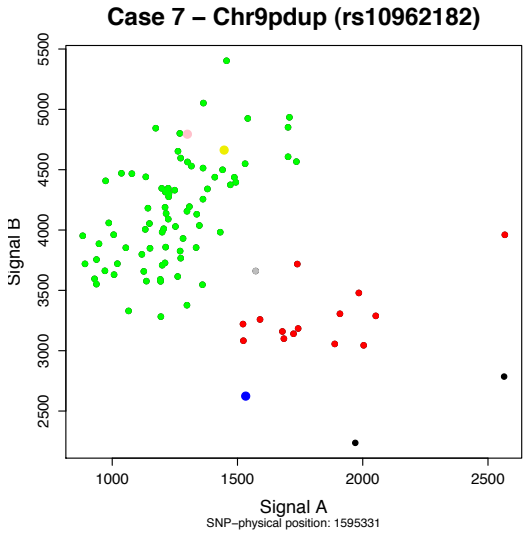

Case 7 – Chr9pdup (rs6474897)
Signal B
Signal A
SNP–physical position: 1521527

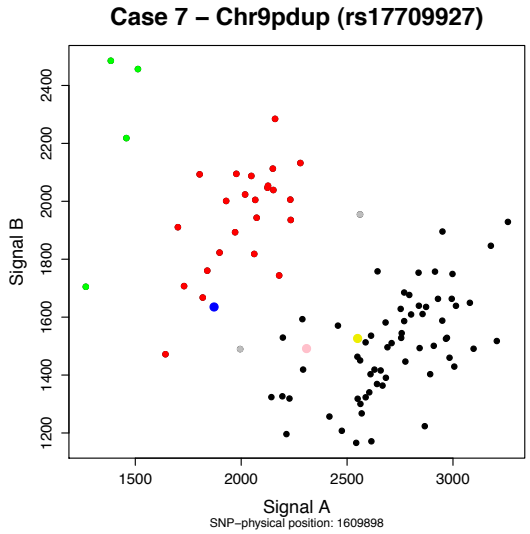

Case 7 – Chr9pdup (rs944608)
Signal B
Signal A
SNP–physical position: 1528388

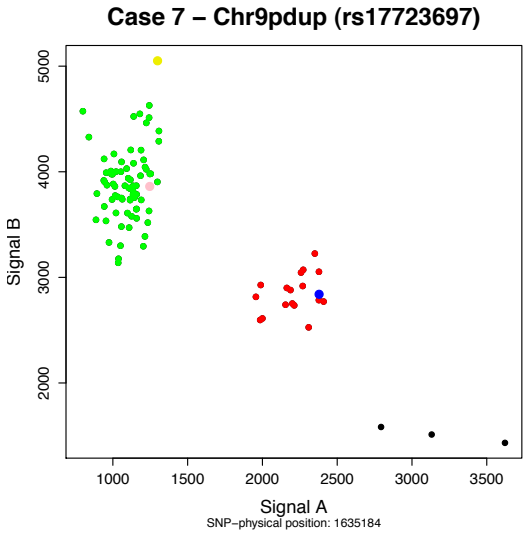

Case 7 – Chr9pdup (rs3884190)
Signal B
Signal A
SNP–physical position: 1568244

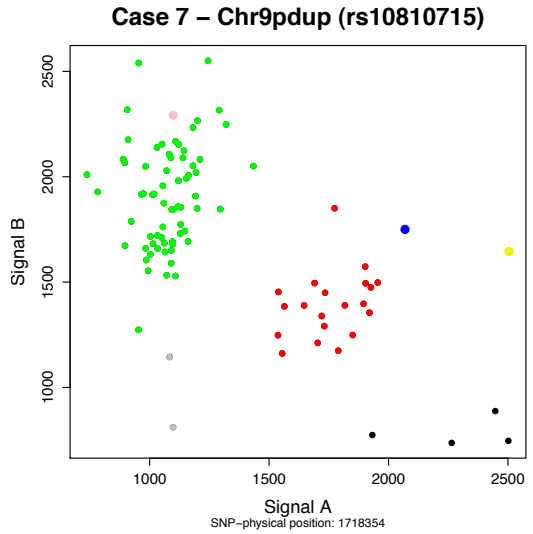

Case 7 – Chr9pdup (rs1856545)
Signal B
Signal A
SNP–physical position: 1592698

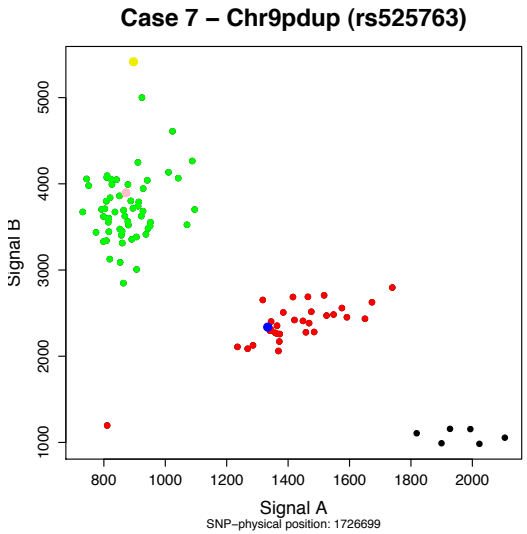

Case 7 – Chr9pdup (rs10962181)
Signal B
Signal A
SNP–physical position: 1595160

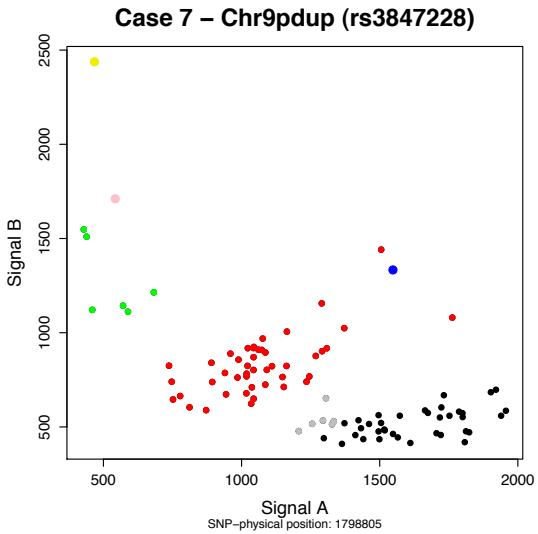

Case 7 – Chr9pdup (rs10962182)
Signal B
Signal A
SNP–physical position: 1595331

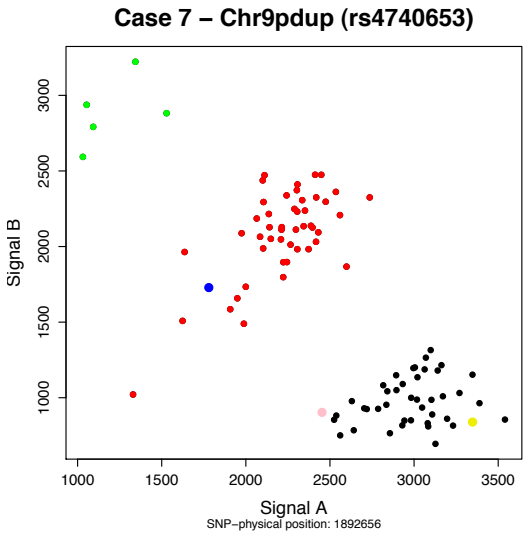

Case 7 – Chr9pdup (rs17709927)
Signal B
Signal A
SNP–physical position: 1609898

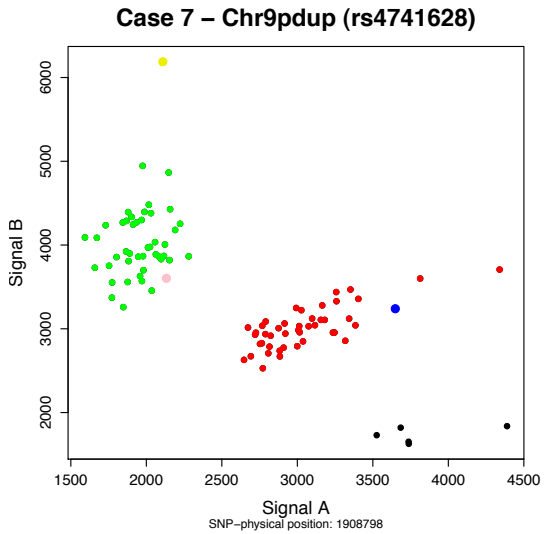

Case 7 – Chr9pdup (rs17723697)
Signal B
Signal A
SNP–physical position: 1635184

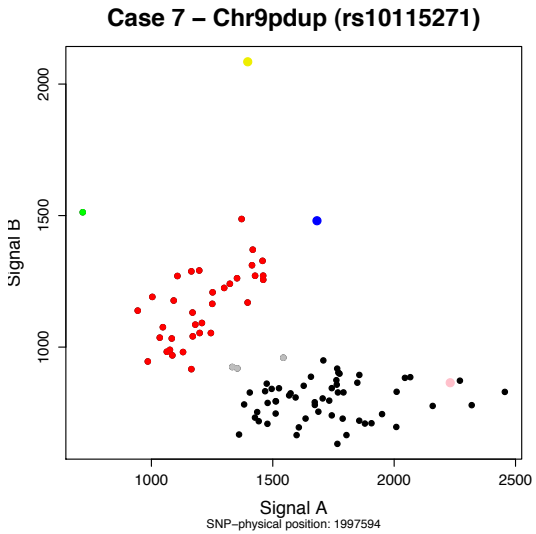

Case 7 – Chr9pdup (rs10810715)
Signal B
Signal A
SNP–physical position: 1718354

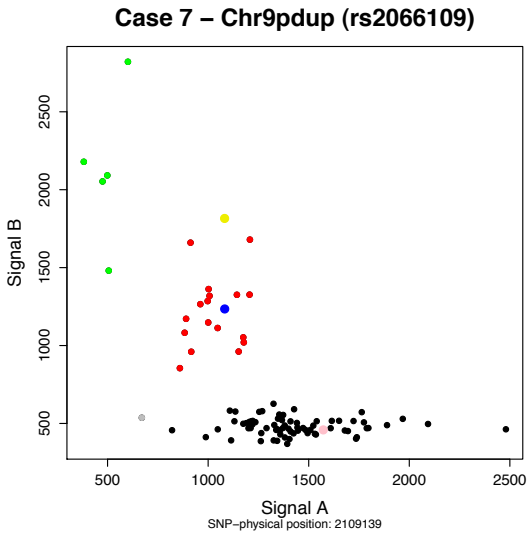

Case 7 – Chr9pdup (rs525763)
Signal B
Signal A
SNP–physical position: 1726699

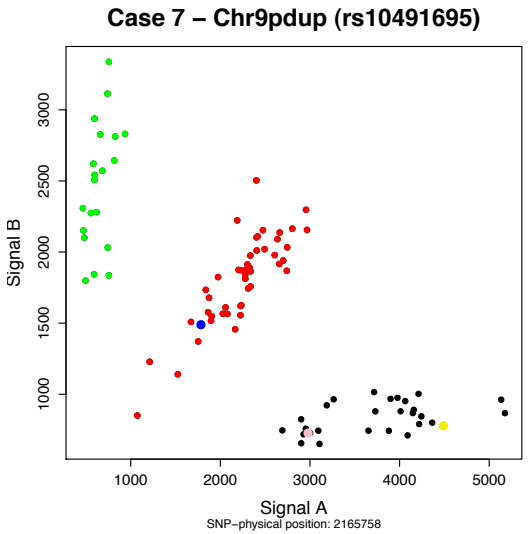

Case 7 – Chr9pdup (rs3847228)
Signal B
Signal A
SNP–physical position: 1798805

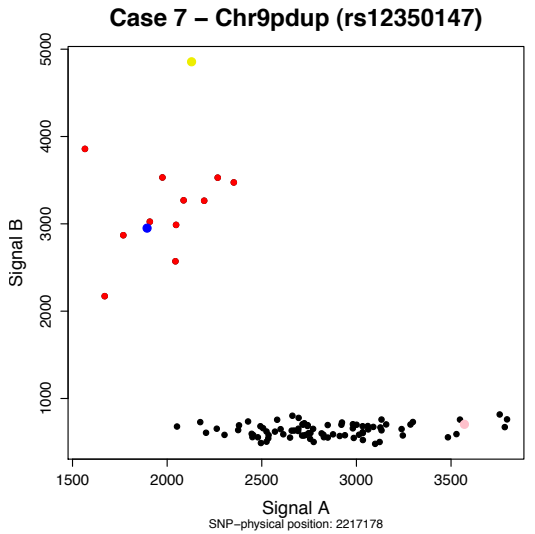

Case 7 – Chr9pdup (rs4740653)
Signal B
Signal A
SNP–physical position: 1892656

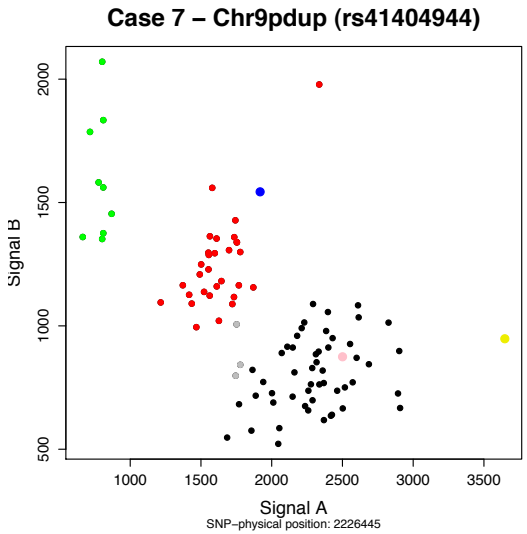

Case 7 – Chr9pdup (rs4741628)
Signal B
Signal A
SNP–physical position: 1908798

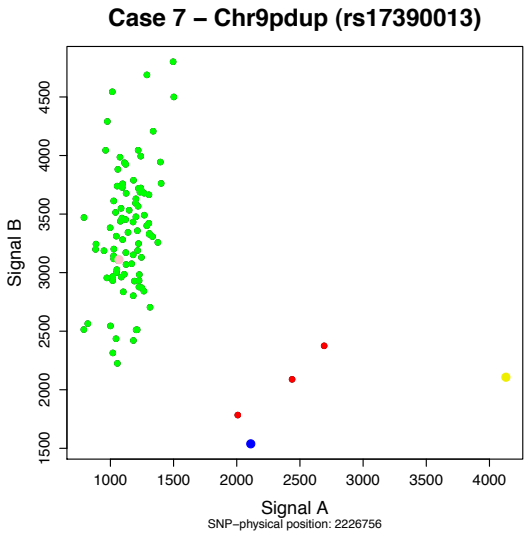

Case 7 – Chr9pdup (rs10115271)
Signal B
Signal A
SNP–physical position: 1997594

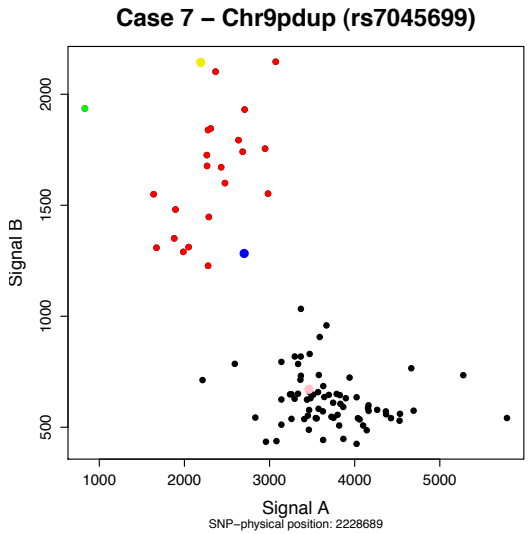

Case 7 – Chr9pdup (rs2066109)
Signal B
Signal A
SNP–physical position: 2109139

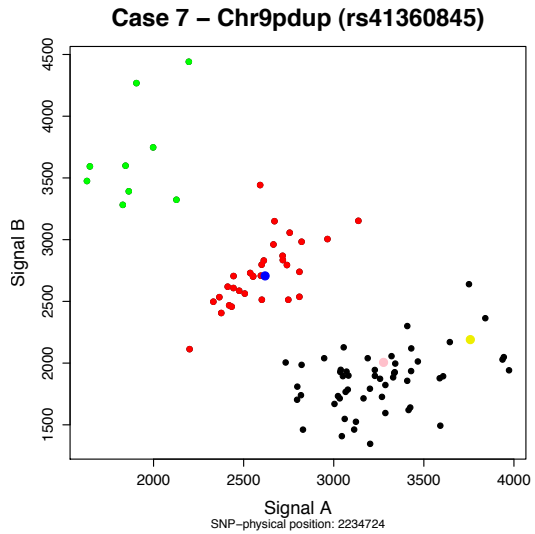

Case 7 – Chr9pdup (rs10491695)
Signal B
Signal A
SNP–physical position: 2165758

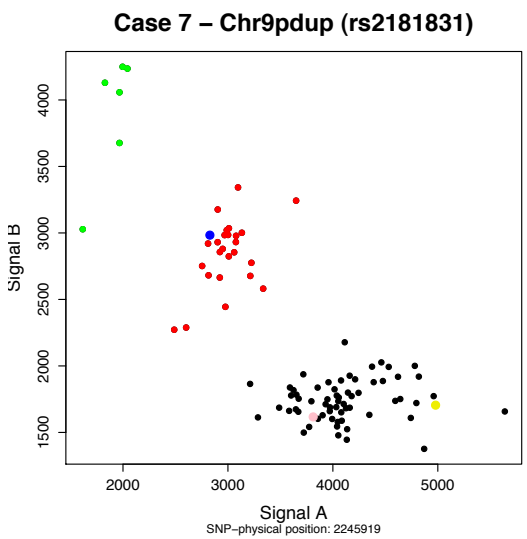

Case 7 – Chr9pdup (rs12350147)
Signal B
Signal A
SNP–physical position: 2217178

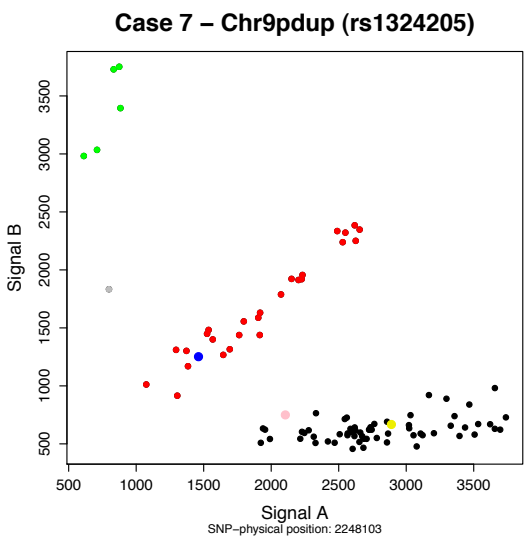

Case 7 – Chr9pdup (rs41404944)
Signal B
Signal A
SNP–physical position: 2226445

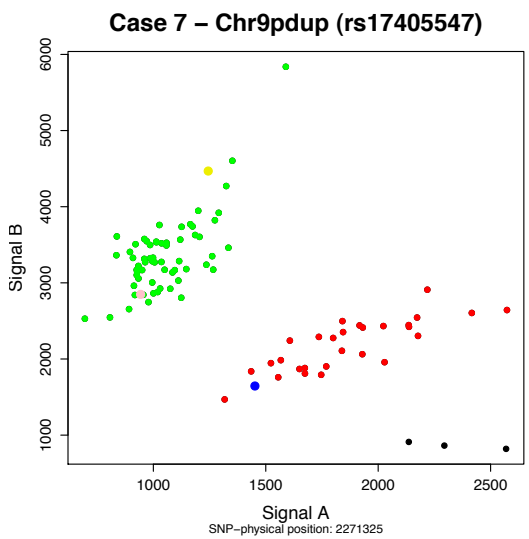

Case 7 – Chr9pdup (rs17390013)
Signal B
Signal A
SNP–physical position: 2226756

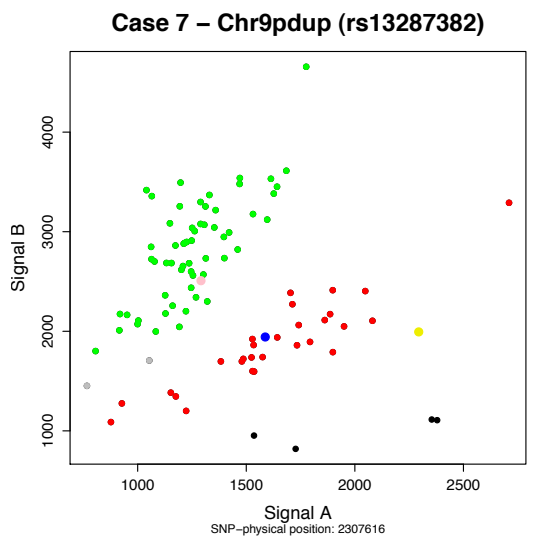

Case 7 – Chr9pdup (rs7045699)
Signal B
Signal A
SNP–physical position: 2228689

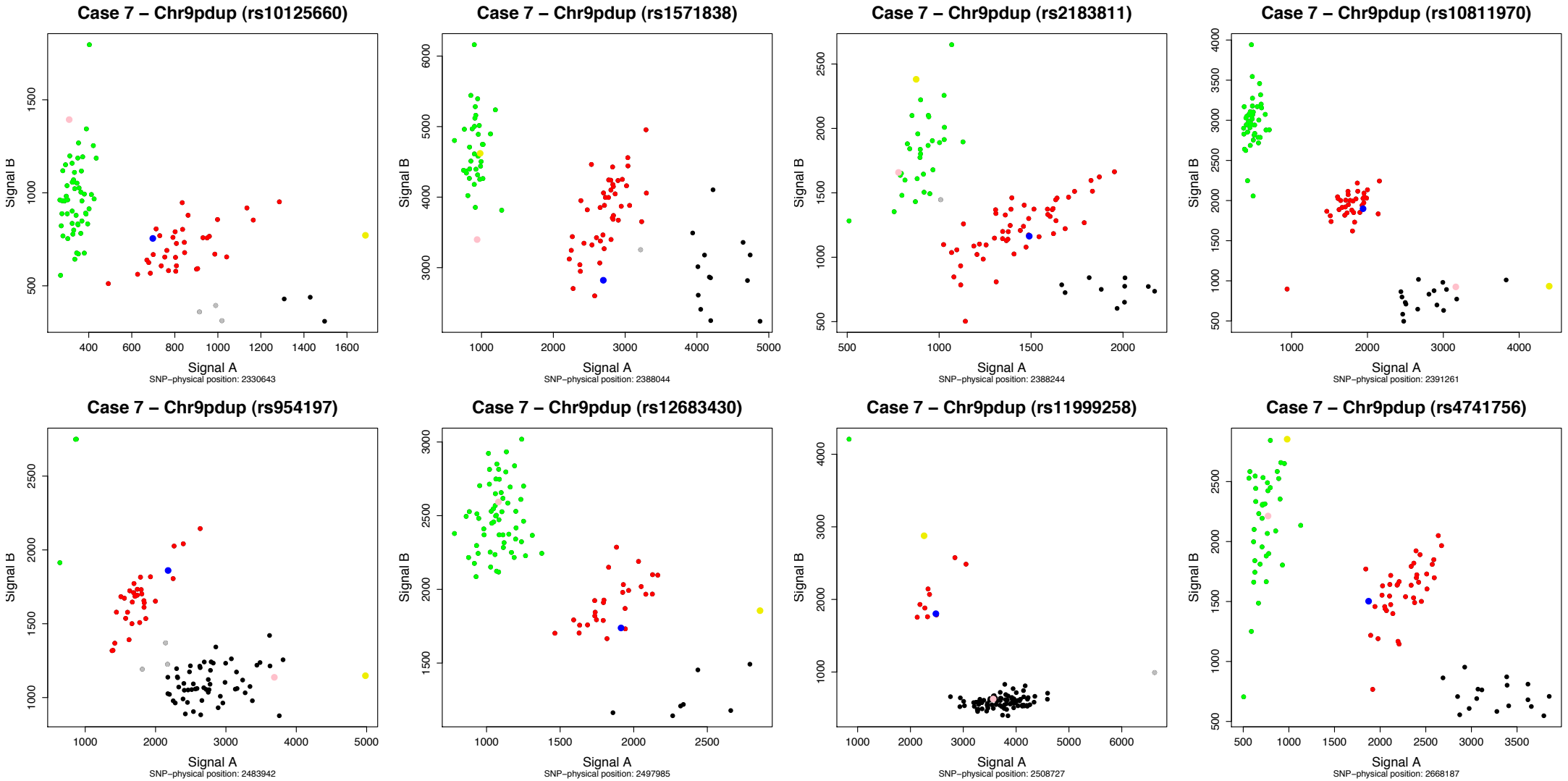

Case 7 – Chr9pdup (rs41360845)
Signal B
Signal A
SNP–physical position: 2234724

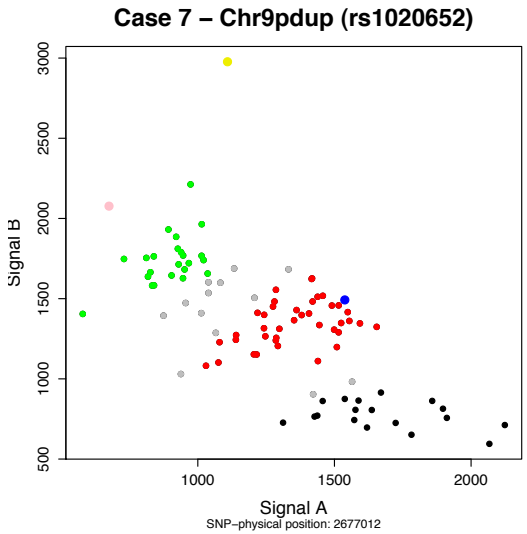

Case 7 – Chr9pdup (rs2181831)
Signal B
Signal A
SNP–physical position: 2245919

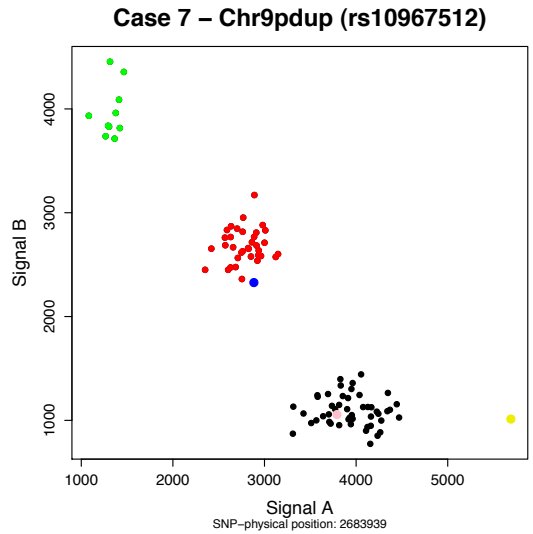

Case 7 – Chr9pdup (rs1324205)
Signal B
Signal A
SNP–physical position: 2248103

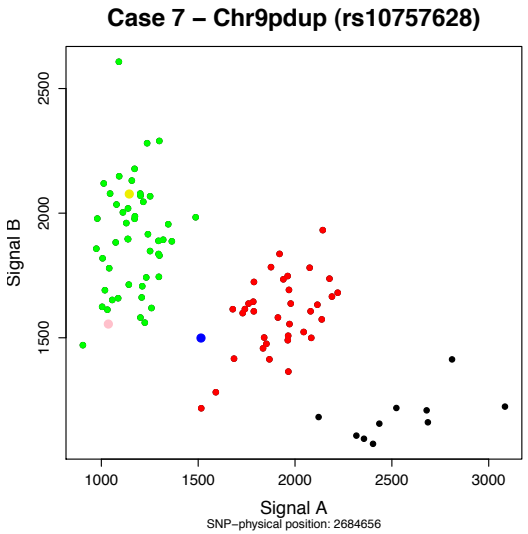

Case 7 – Chr9pdup (rs17405547)
Signal B
Signal A
SNP–physical position: 2271325

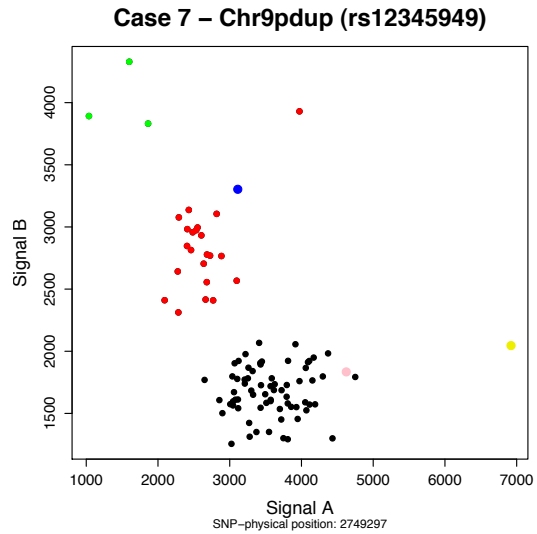

Case 7 – Chr9pdup (rs13287382)
Signal B
Signal A
SNP–physical position: 2307616

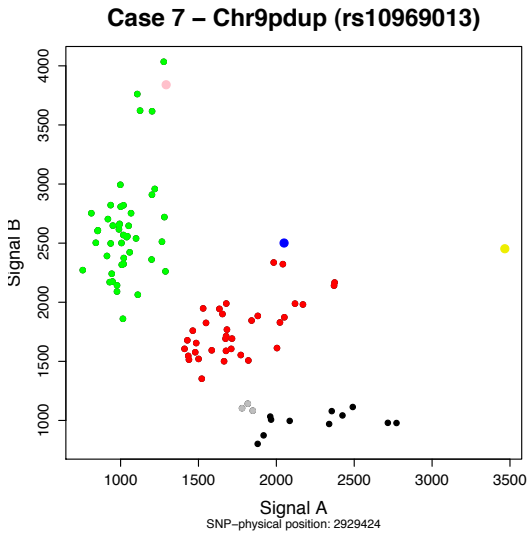

Case 7 – Chr9pdup (rs10125660)
Signal B
Signal A
SNP–physical position: 2330643
Case 7 – Chr9pdup (rs1571838)
Signal B
Signal A
SNP–physical position: 2388044
Case 7 – Chr9pdup (rs2183811)
Signal B
Signal A
SNP–physical position: 2388244
Case 7 – Chr9pdup (rs10811970)
Signal B
Signal A
SNP–physical position: 2391261
Case 7 – Chr9pdup (rs954197)
Signal B
Signal A
SNP–physical position: 2483942
Case 7 – Chr9pdup (rs12683430)
Signal B
Signal A
SNP–physical position: 2497985
Case 7 – Chr9pdup (rs11999258)
Signal B
Signal A
SNP–physical position: 2508727
Case 7 – Chr9pdup (rs4741756)
Signal B
Signal A
SNP–physical position: 2668187

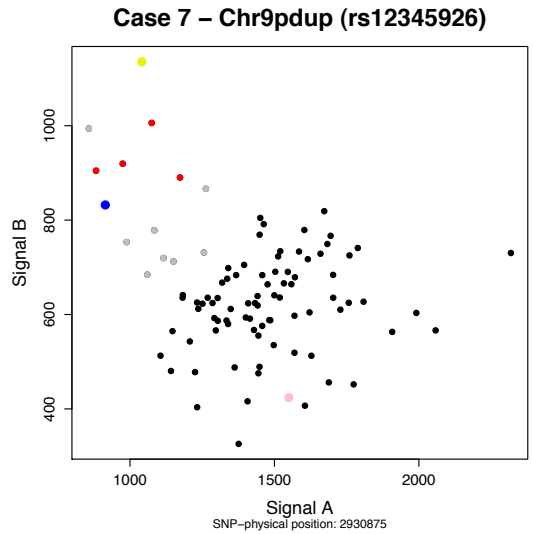

Case 7 – Chr9pdup (rs1020652)
Signal B
Signal A
SNP–physical position: 2677012

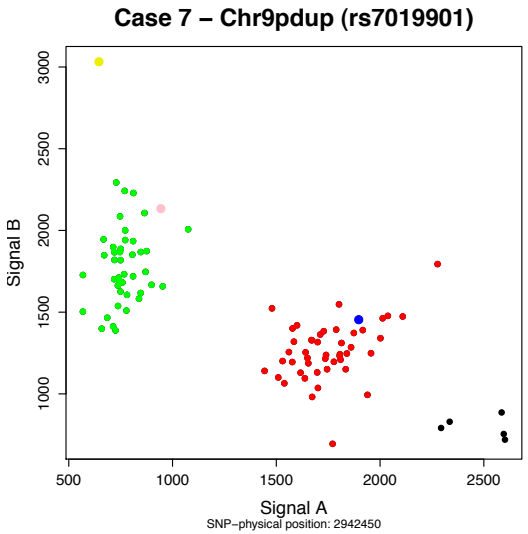

Case 7 – Chr9pdup (rs10967512)
Signal B
Signal A
SNP–physical position: 2683939

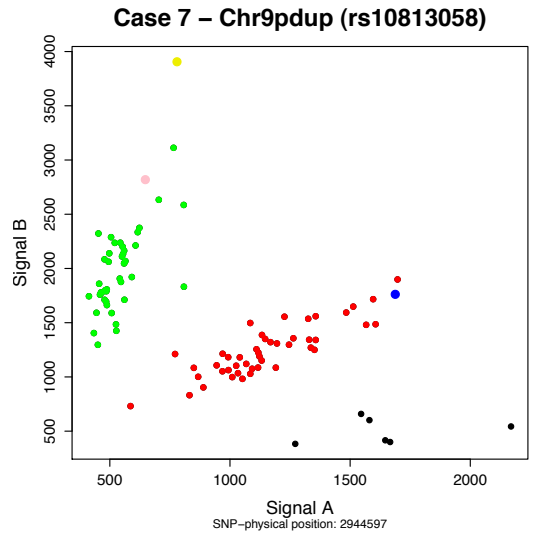

Case 7 – Chr9pdup (rs10757628)
Signal B
Signal A
SNP–physical position: 2684656

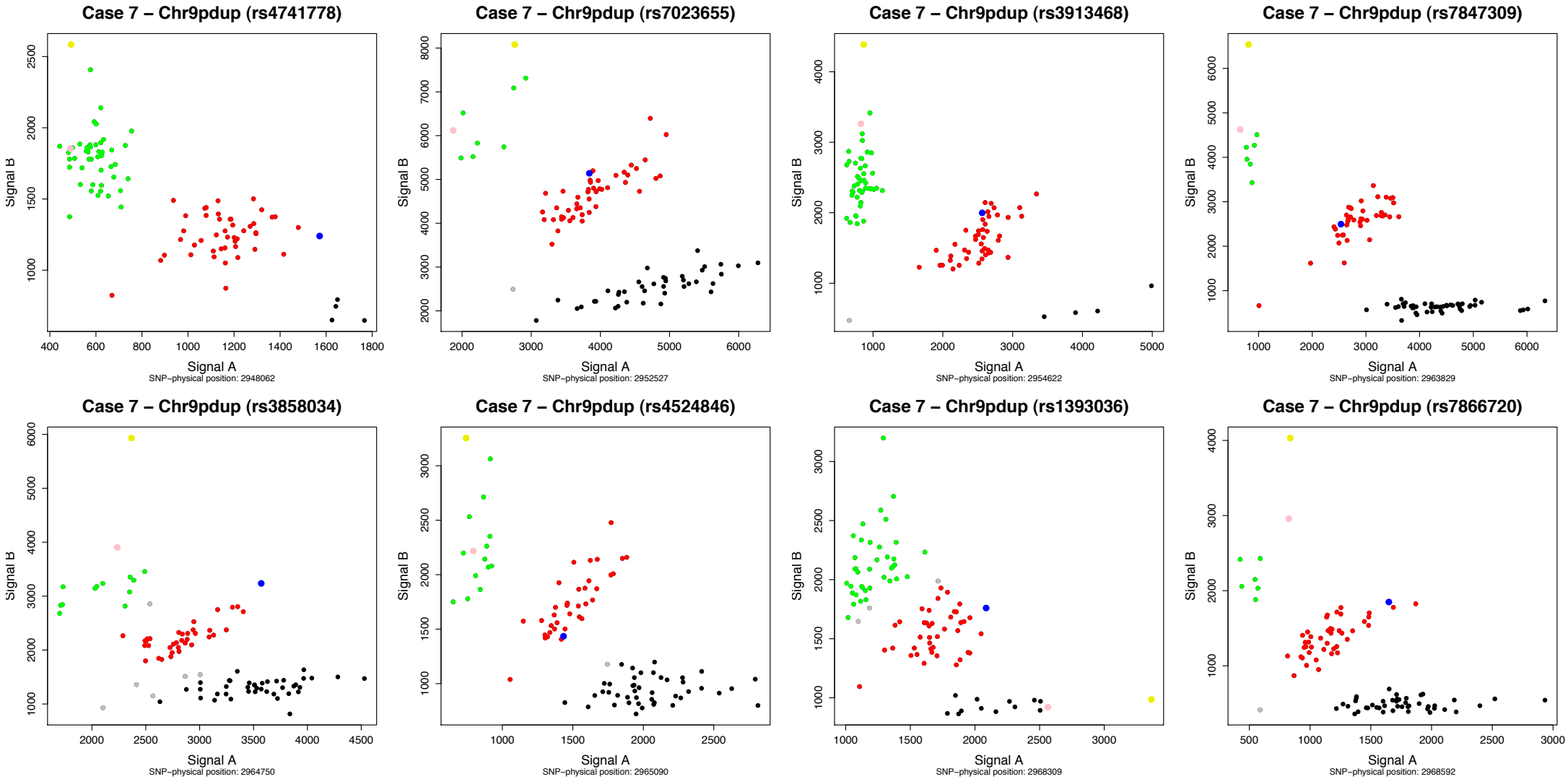

Case 7 – Chr9pdup (rs12345949)
Signal B
Signal A
SNP–physical position: 2749297

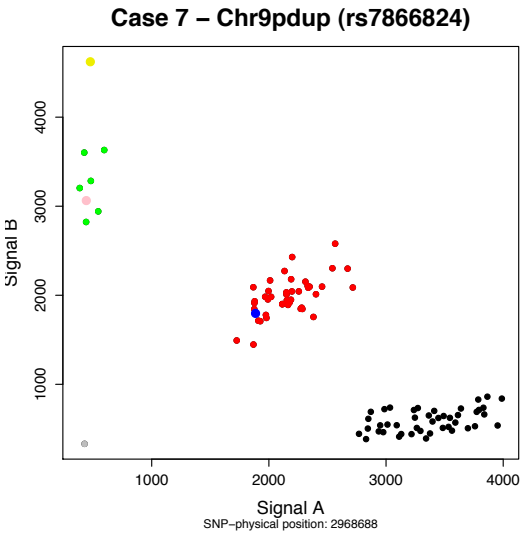

Case 7 – Chr9pdup (rs10969013)
Signal B
Signal A
SNP–physical position: 2929424

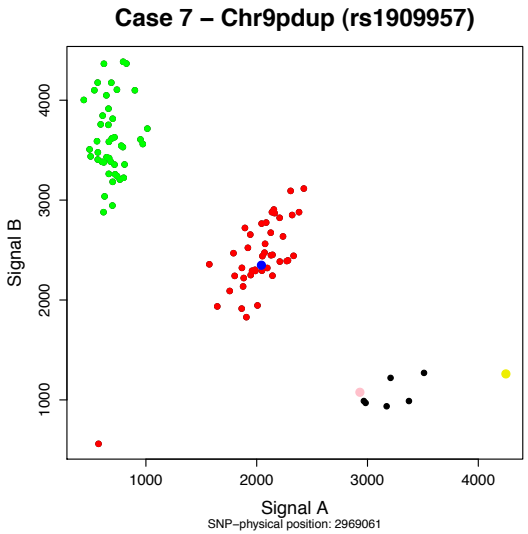

Case 7 – Chr9pdup (rs12345926)
Signal B
Signal A
SNP–physical position: 2930875

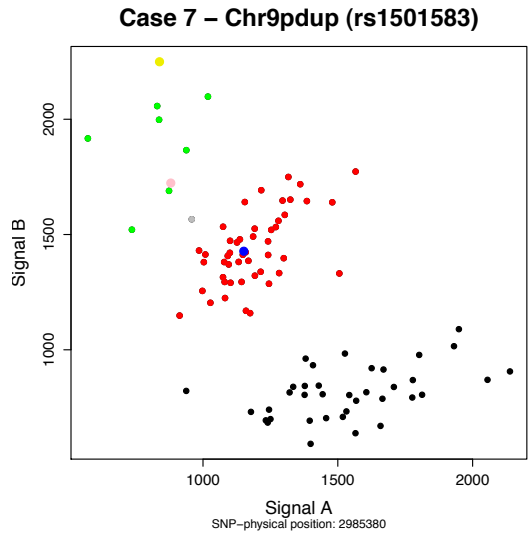

Case 7 – Chr9pdup (rs7019901)
Signal B
Signal A
SNP–physical position: 2942450

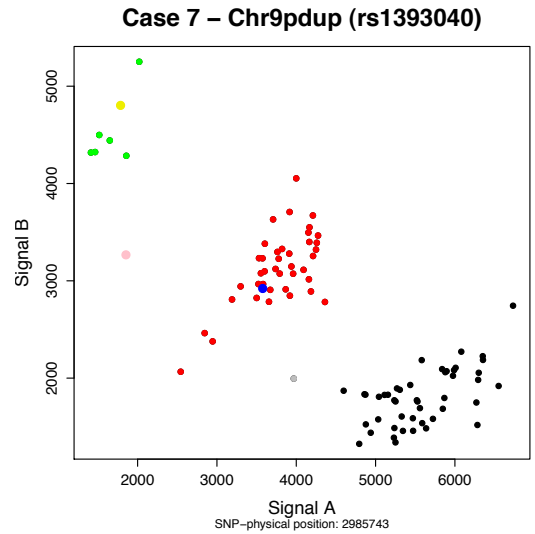

Case 7 – Chr9pdup (rs10813058)
Signal B
Signal A
SNP–physical position: 2944597

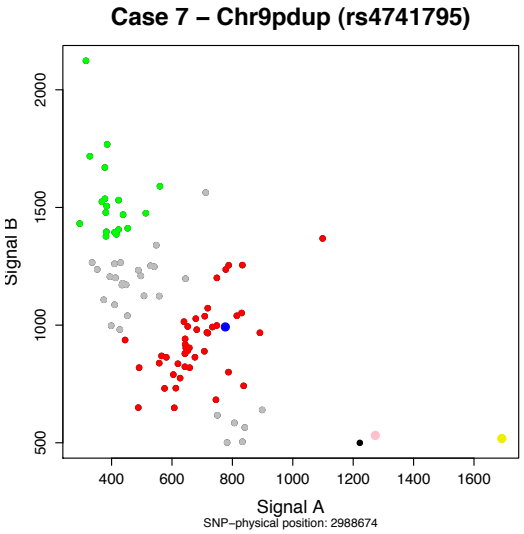

Case 7 – Chr9pdup (rs4741778)
Signal B
Signal A
SNP–physical position: 2948062
Case 7 – Chr9pdup (rs7023655)
Signal B
Signal A
SNP–physical position: 2952527
Case 7 – Chr9pdup (rs3913468)
Signal B
Signal A
SNP–physical position: 2954622
Case 7 – Chr9pdup (rs7847309)
Signal B
Signal A
SNP–physical position: 2963829
Case 7 – Chr9pdup (rs3858034)
Signal B
Signal A
SNP–physical position: 2964750
Case 7 – Chr9pdup (rs4524846)
Signal B
Signal A
SNP–physical position: 2965090
Case 7 – Chr9pdup (rs1393036)
Signal B
Signal A
SNP–physical position: 2968309
Case 7 – Chr9pdup (rs7866720)
Signal B
Signal A
SNP–physical position: 2968592

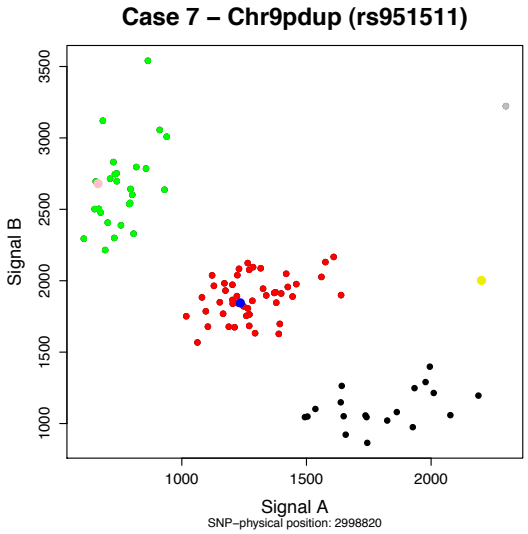

Case 7 – Chr9pdup (rs7866824)
Signal B
Signal A
SNP–physical position: 2968688

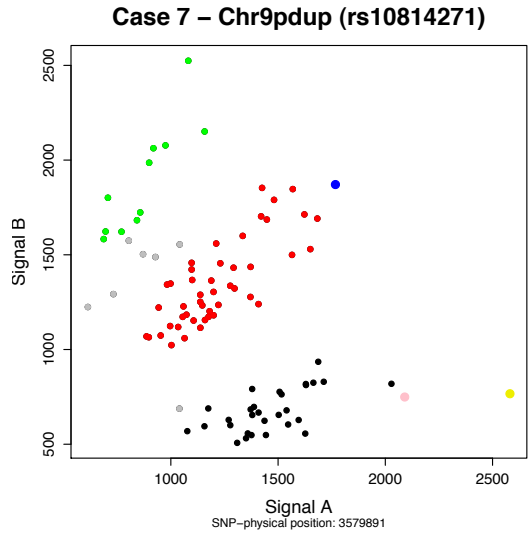

Case 7 – Chr9pdup (rs1909957)
Signal B
Signal A
SNP–physical position: 2969061

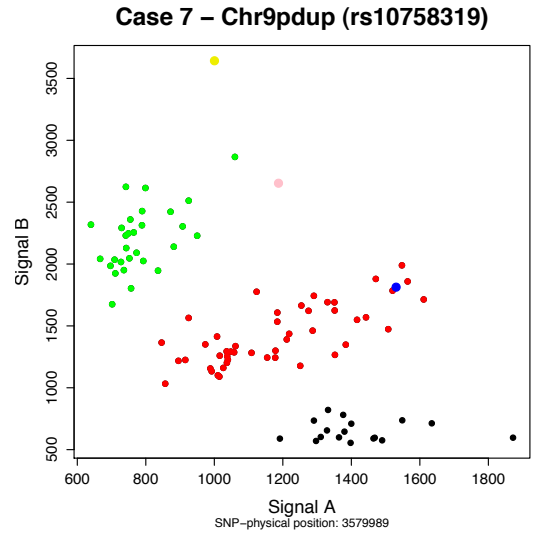

Case 7 – Chr9pdup (rs1501583)
Signal B
Signal A
SNP–physical position: 2985380

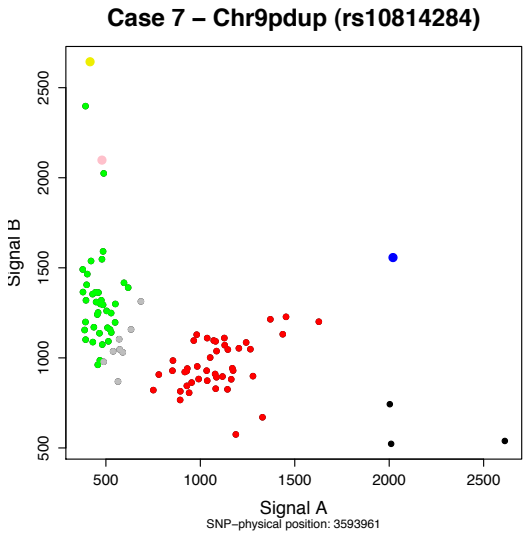

Case 7 – Chr9pdup (rs1393040)
Signal B
Signal A
SNP–physical position: 2985743

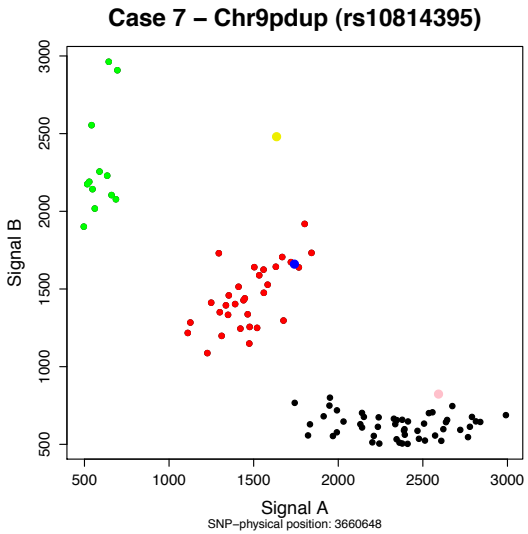

Case 7 – Chr9pdup (rs4741795)
Signal B
Signal A
SNP–physical position: 2988674

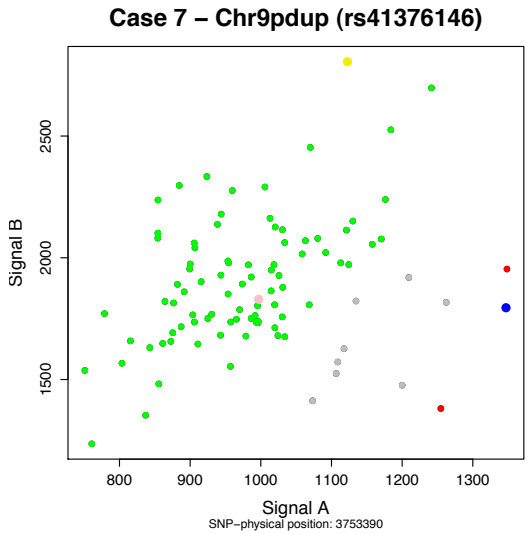

Case 7 – Chr9pdup (rs951511)
Signal B
Signal A
SNP–physical position: 2998820

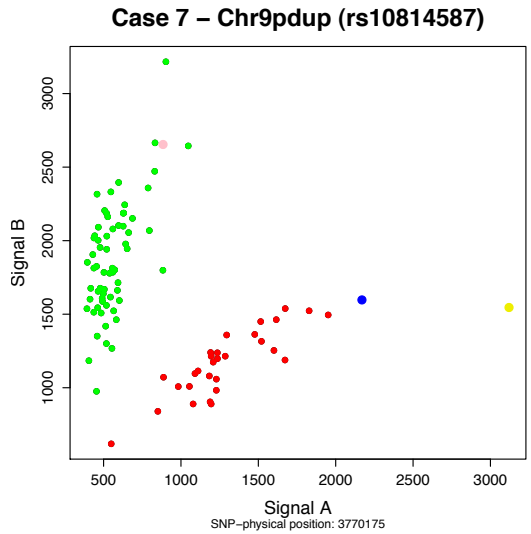

Case 7 – Chr9pdup (rs10814271)
Signal B
Signal A
SNP–physical position: 3579891

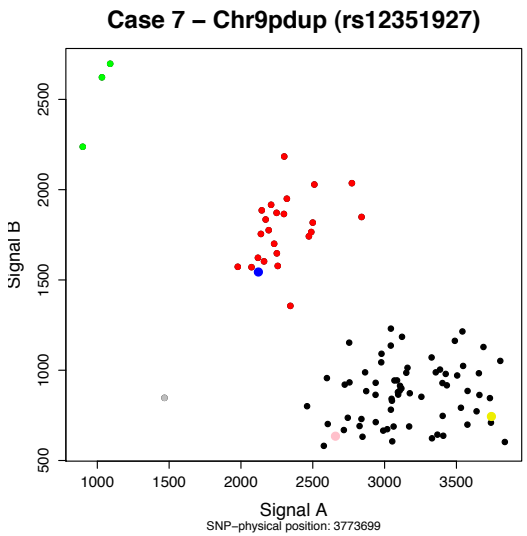

Case 7 – Chr9pdup (rs10758319)
Signal B
Signal A
SNP–physical position: 3579989

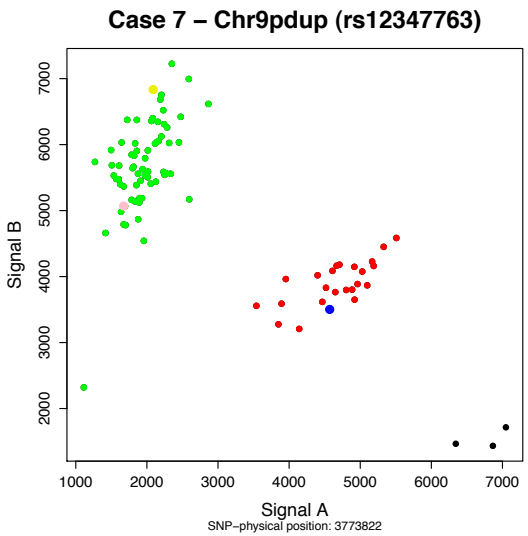

Case 7 – Chr9pdup (rs10814284)
Signal B
Signal A
SNP–physical position: 3593961

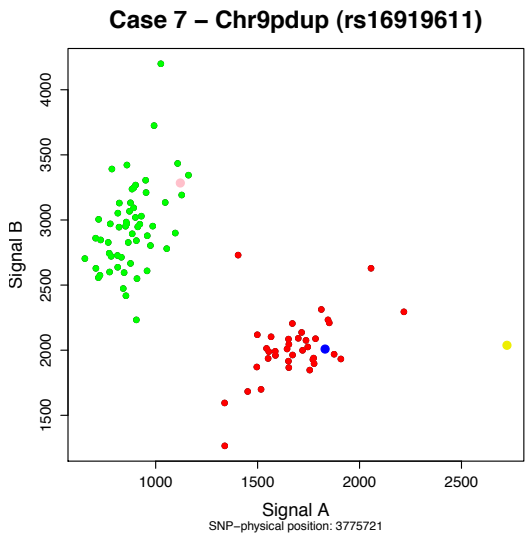

Case 7 – Chr9pdup (rs10814395)
Signal B
Signal A
SNP–physical position: 3660648

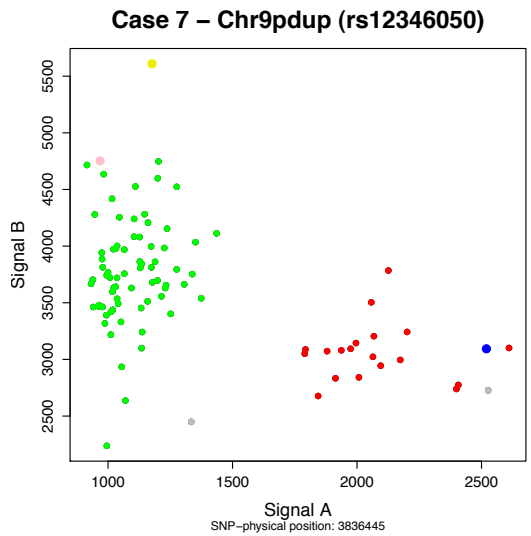

Case 7 – Chr9pdup (rs41376146)
Signal B
Signal A
SNP–physical position: 3753390

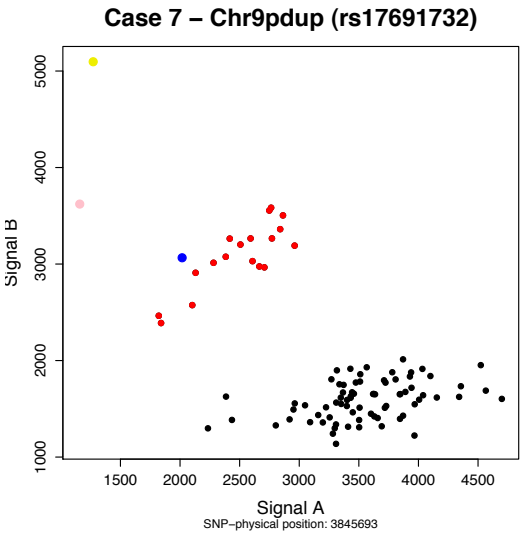

Case 7 – Chr9pdup (rs10814587)
Signal B
Signal A
SNP–physical position: 3770175

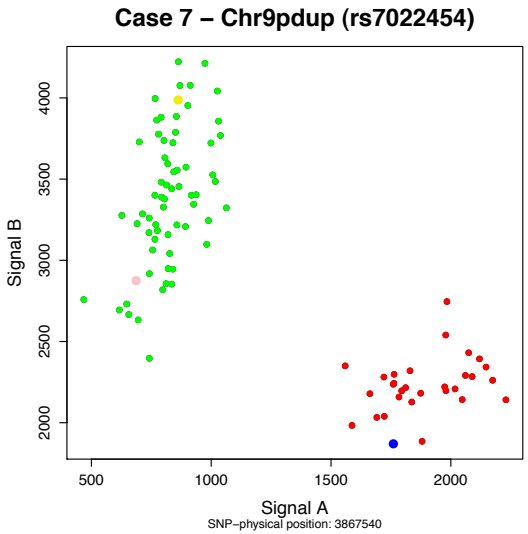

Case 7 – Chr9pdup (rs12351927)
Signal B
Signal A
SNP–physical position: 3773699

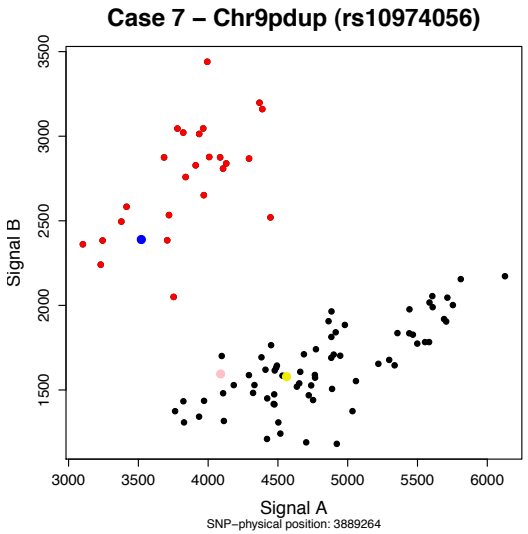

Case 7 – Chr9pdup (rs12347763)
Signal B
Signal A
SNP–physical position: 3773822

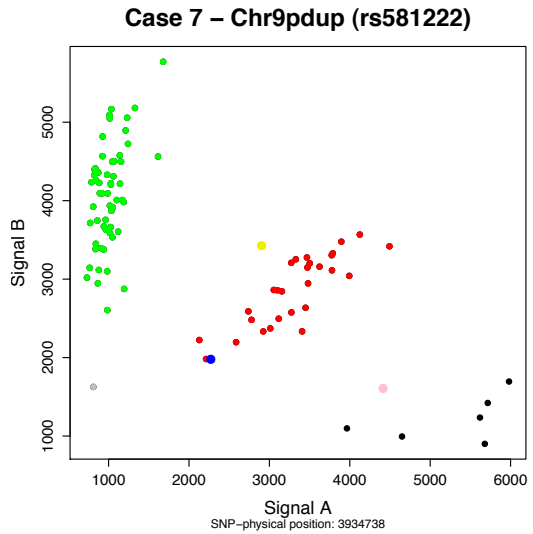

Case 7 – Chr9pdup (rs16919611)
Signal B
Signal A
SNP–physical position: 3775721

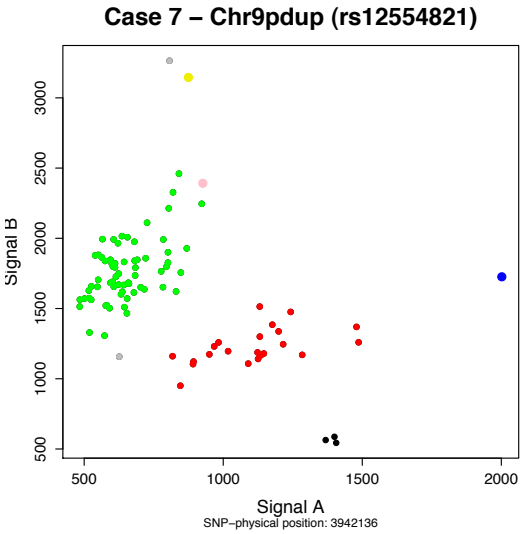

Case 7 – Chr9pdup (rs12346050)
Signal B
Signal A
SNP–physical position: 3836445

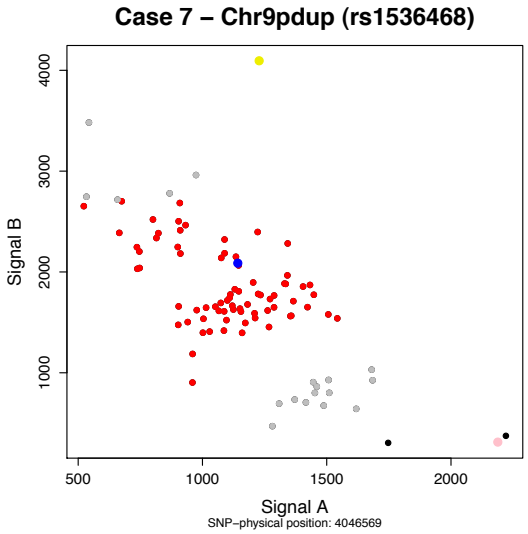

Case 7 – Chr9pdup (rs17691732)
Signal B
Signal A
SNP–physical position: 3845693

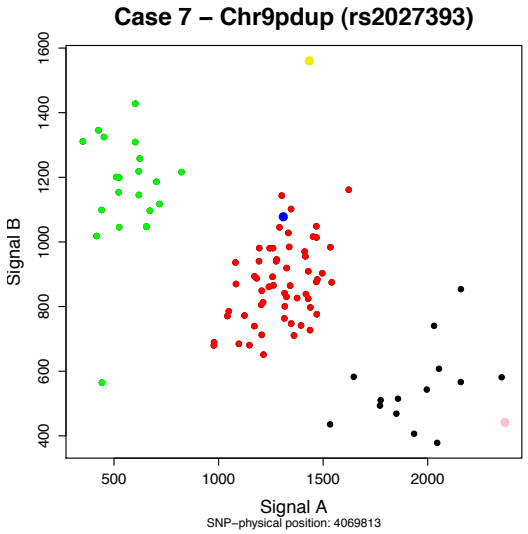

Case 7 – Chr9pdup (rs7022454)
Signal B
Signal A
SNP–physical position: 3867540

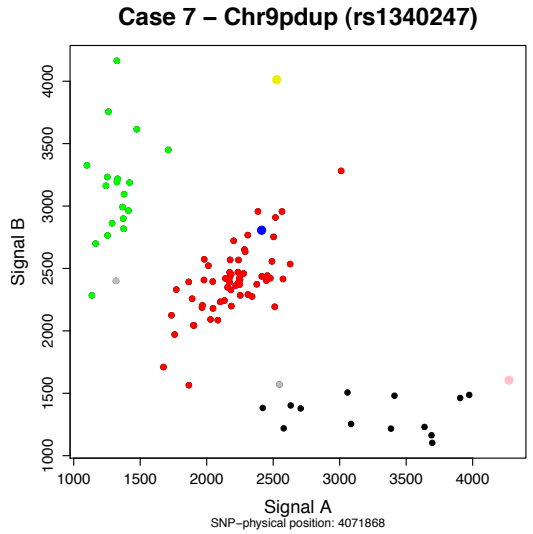

Case 7 – Chr9pdup (rs10974056)
Signal B
Signal A
SNP–physical position: 3889264

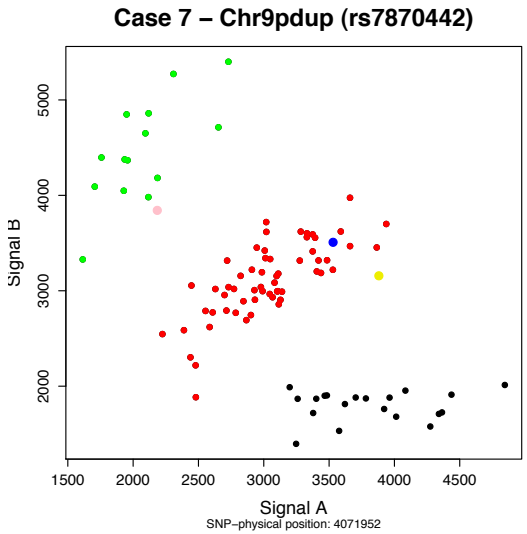

Case 7 – Chr9pdup (rs581222)
Signal B
Signal A
SNP–physical position: 3934738

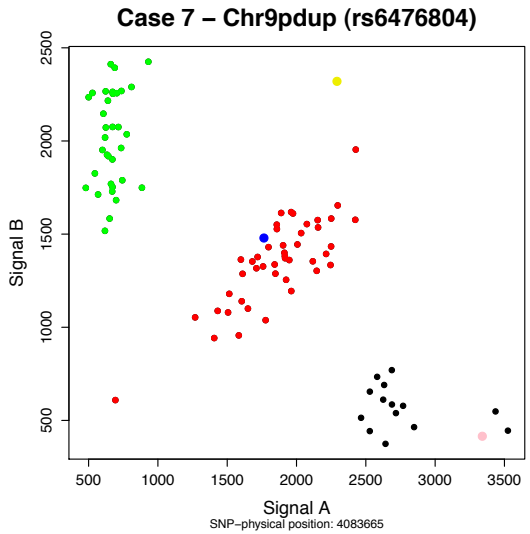

Case 7 – Chr9pdup (rs12554821)
Signal B
Signal A
SNP–physical position: 3942136

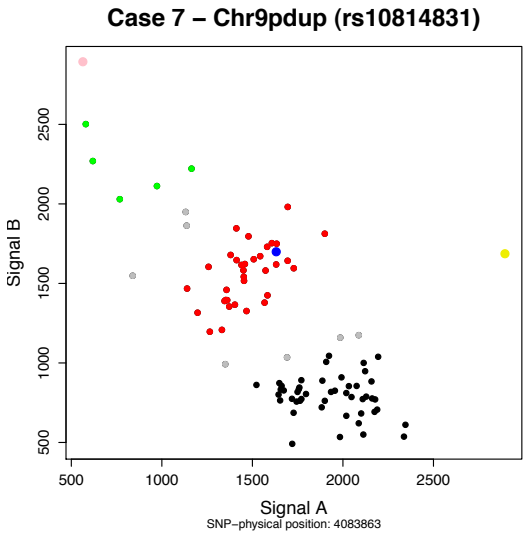

Case 7 – Chr9pdup (rs1536468)
Signal B
Signal A
SNP–physical position: 4046569

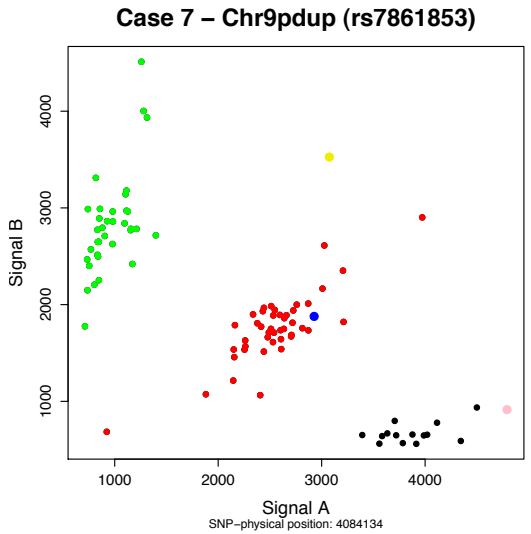

Case 7 – Chr9pdup (rs2027393)
Signal B
Signal A
SNP–physical position: 4069813

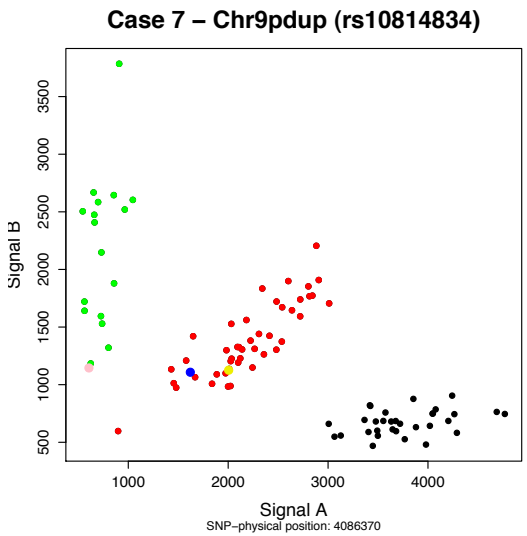

Case 7 – Chr9pdup (rs1340247)
Signal B
Signal A
SNP–physical position: 4071868

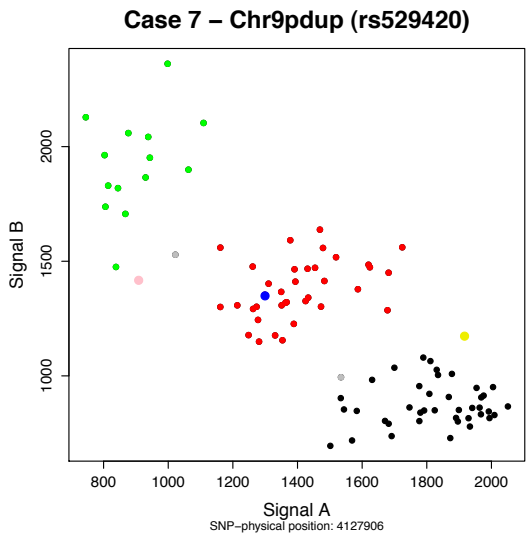

Case 7 – Chr9pdup (rs7870442)
Signal B
Signal A
SNP–physical position: 4071952

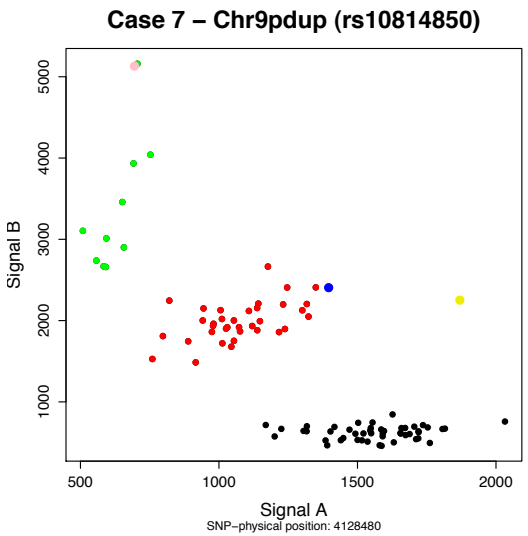

Case 7 – Chr9pdup (rs6476804)
Signal B
Signal A
SNP–physical position: 4083665

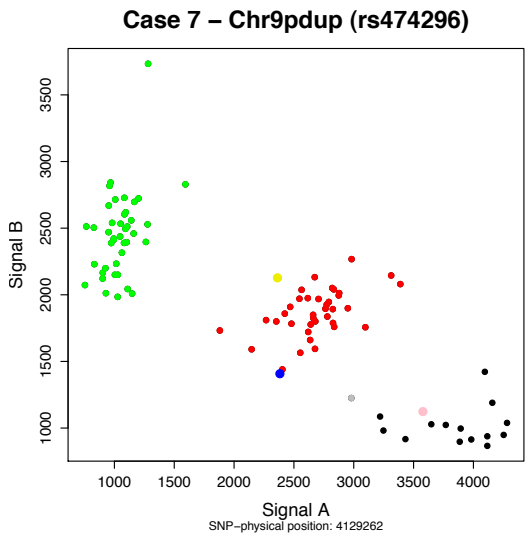

Case 7 – Chr9pdup (rs10814831)
Signal B
Signal A
SNP–physical position: 4083863

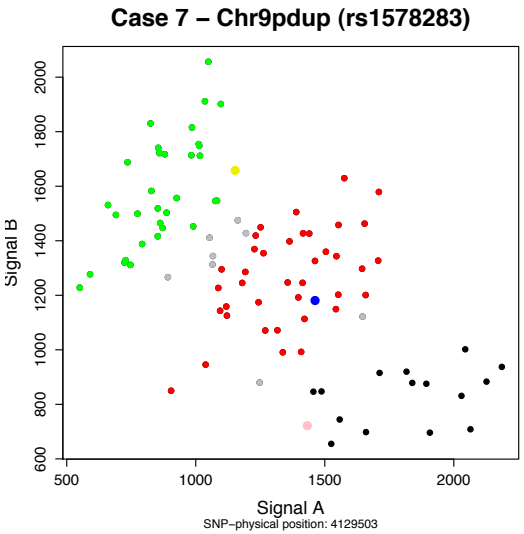

Case 7 – Chr9pdup (rs7861853)
Signal B
Signal A
SNP–physical position: 4084134

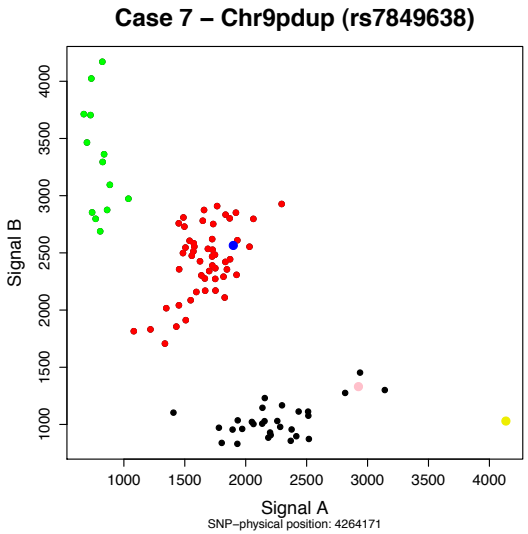

Case 7 – Chr9pdup (rs10814834)
Signal B
Signal A
SNP–physical position: 4086370

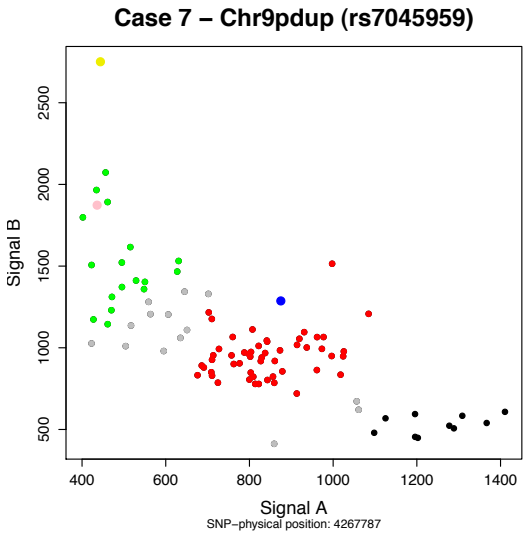

Case 7 – Chr9pdup (rs529420)
Signal B
Signal A
SNP–physical position: 4127906

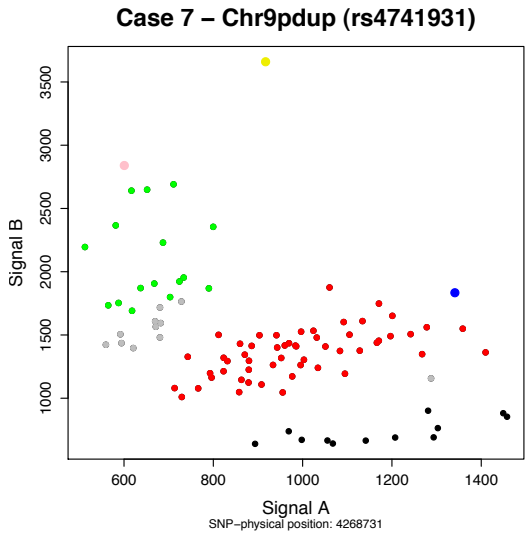

Case 7 – Chr9pdup (rs10814850)
Signal B
Signal A
SNP–physical position: 4128480

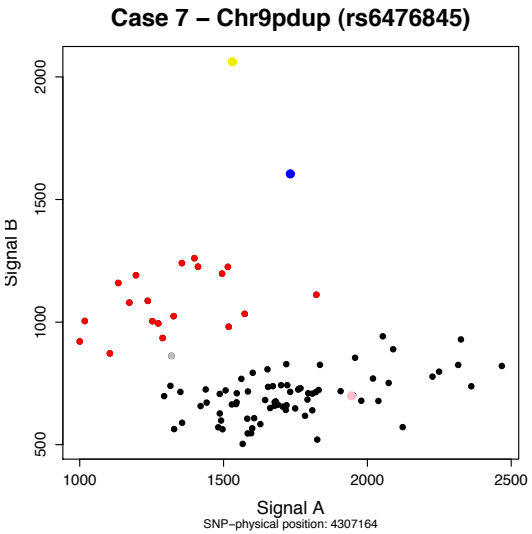

Case 7 – Chr9pdup (rs474296)
Signal B
Signal A
SNP–physical position: 4129262

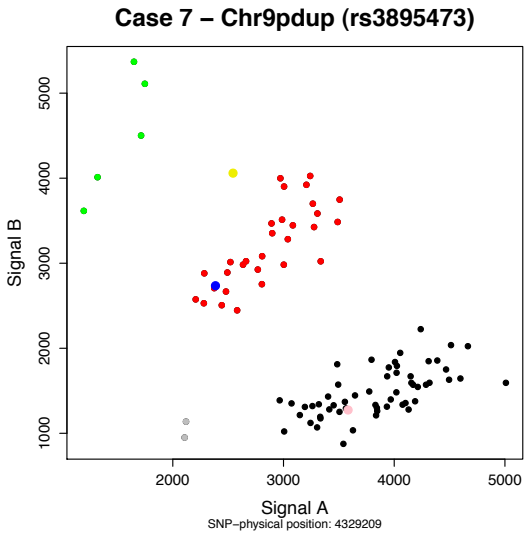

Case 7 – Chr9pdup (rs1578283)
Signal B
Signal A
SNP–physical position: 4129503

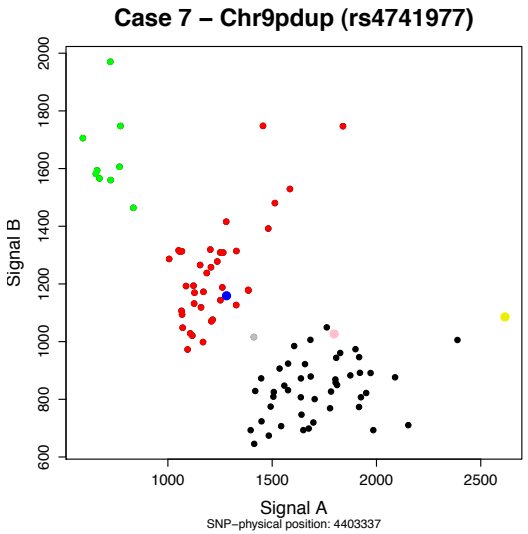

Case 7 – Chr9pdup (rs7849638)
Signal B
Signal A
SNP–physical position: 4264171

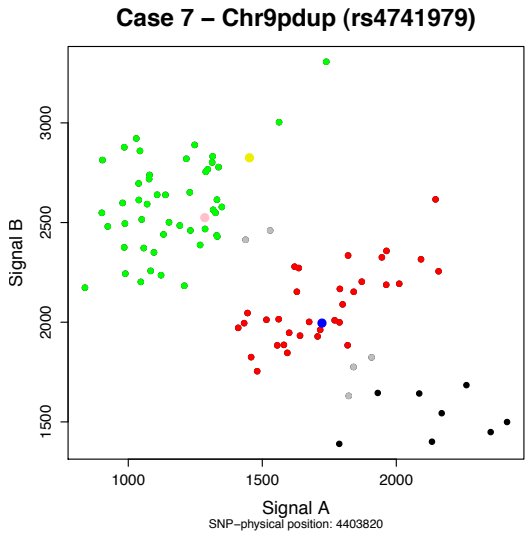

Case 7 – Chr9pdup (rs7045959)
Signal B
Signal A
SNP–physical position: 4267787

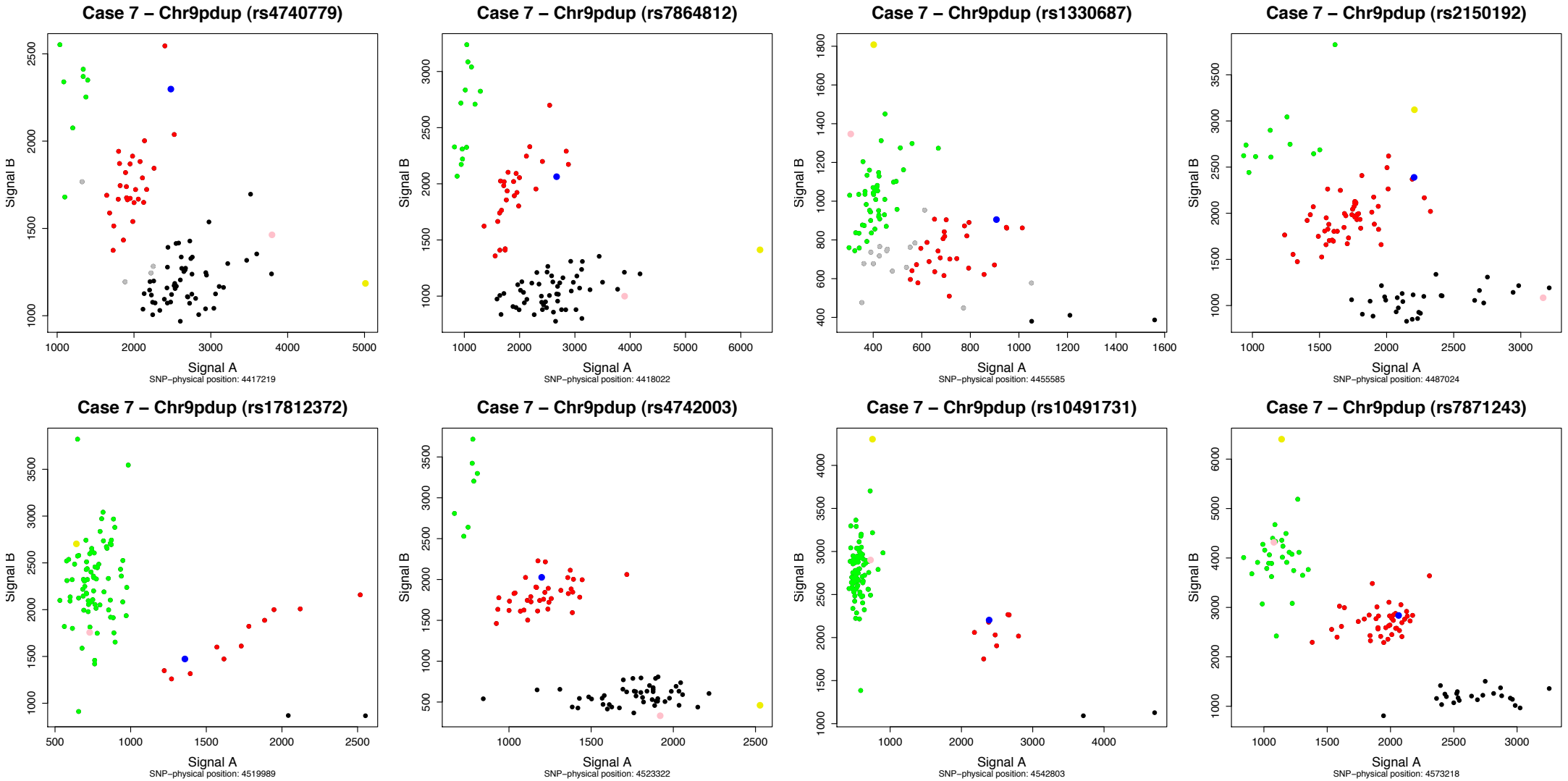

Case 7 – Chr9pdup (rs4741931)
Signal B
Signal A
SNP–physical position: 4268731

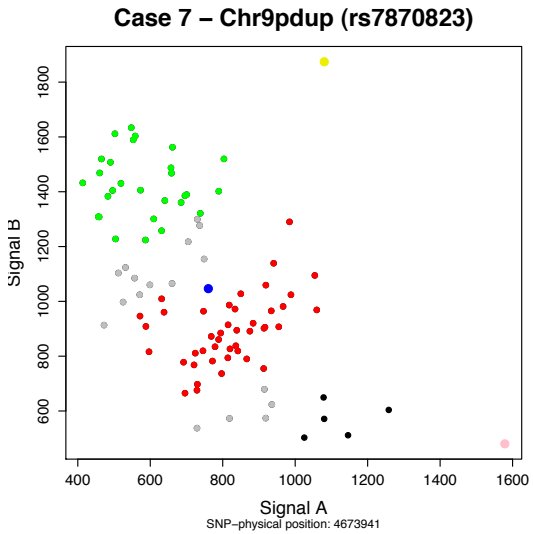

Case 7 – Chr9pdup (rs6476845)
Signal B
Signal A
SNP–physical position: 4307164

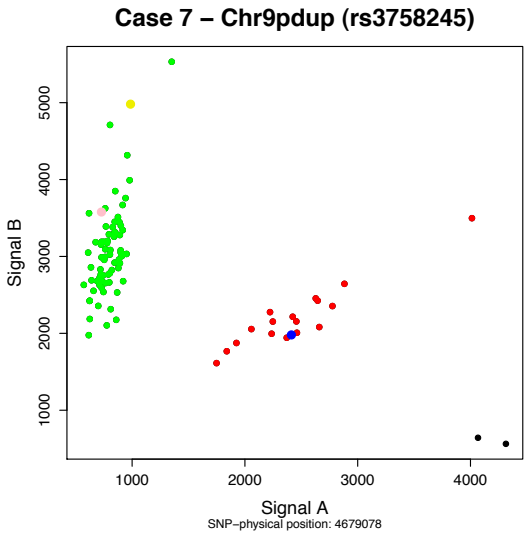

Case 7 – Chr9pdup (rs3895473)
Signal B
Signal A
SNP–physical position: 4329209

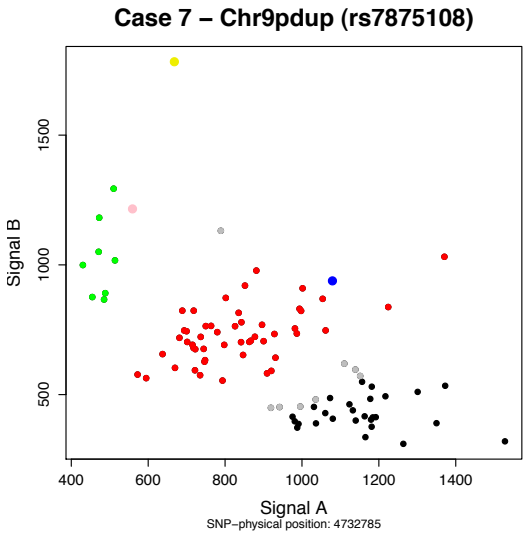

Case 7 – Chr9pdup (rs4741977)
Signal B
Signal A
SNP–physical position: 4403337

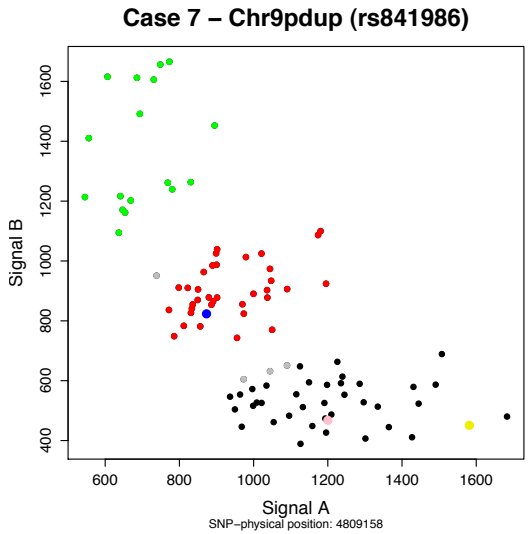

Case 7 – Chr9pdup (rs4741979)
Signal B
Signal A
SNP–physical position: 4403820

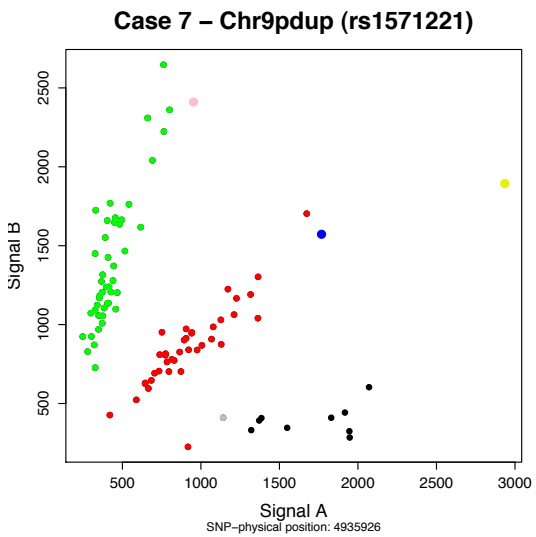

Case 7 – Chr9pdup (rs4740779)
Signal B
Signal A
SNP–physical position: 4417219
Case 7 – Chr9pdup (rs7864812)
Signal B
Signal A
SNP–physical position: 4418022
Case 7 – Chr9pdup (rs1330687)
Signal B
Signal A
SNP–physical position: 4455585
Case 7 – Chr9pdup (rs2150192)
Signal B
Signal A
SNP–physical position: 4487024
Case 7 – Chr9pdup (rs17812372)
Signal B
Signal A
SNP–physical position: 4519989
Case 7 – Chr9pdup (rs4742003)
Signal B
Signal A
SNP–physical position: 4523322
Case 7 – Chr9pdup (rs10491731)
Signal B
Signal A
SNP–physical position: 4542803
Case 7 – Chr9pdup (rs7871243)
Signal B
Signal A
SNP–physical position: 4573218

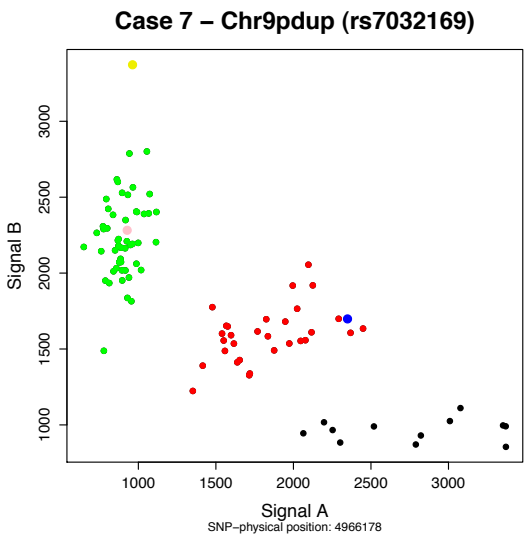

Case 7 – Chr9pdup (rs7870823)
Signal B
Signal A
SNP–physical position: 4673941

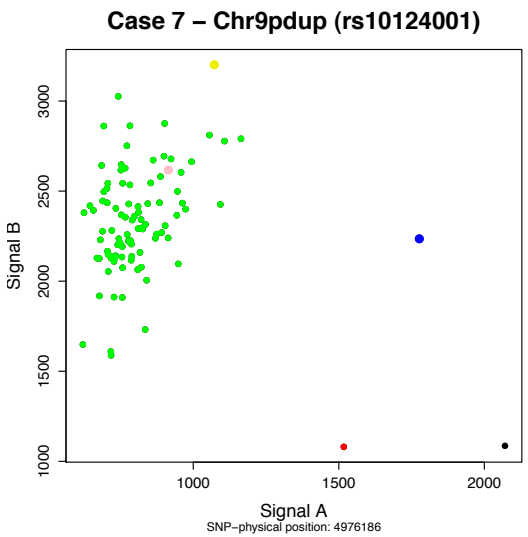

Case 7 – Chr9pdup (rs3758245)
Signal B
Signal A
SNP–physical position: 4679078

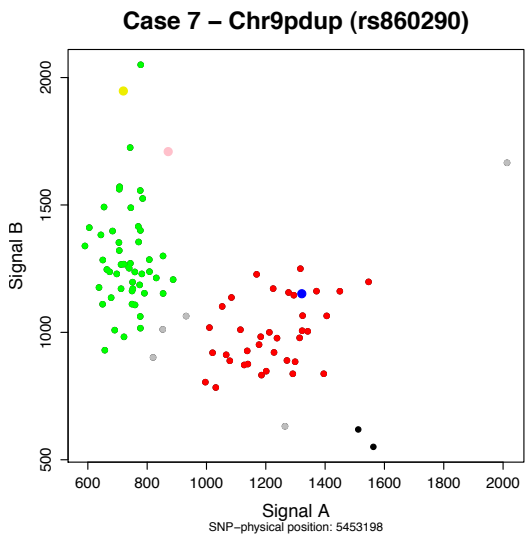

Case 7 – Chr9pdup (rs7875108)
Signal B
Signal A
SNP–physical position: 4732785

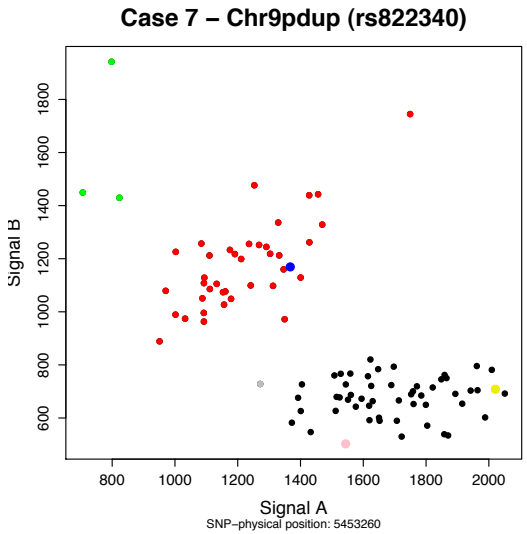

Case 7 – Chr9pdup (rs841986)
Signal B
Signal A
SNP–physical position: 4809158

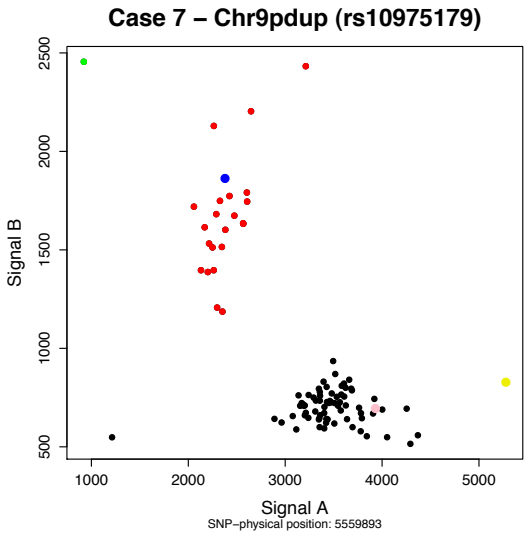

Case 7 – Chr9pdup (rs1571221)
Signal B
Signal A
SNP–physical position: 4935926

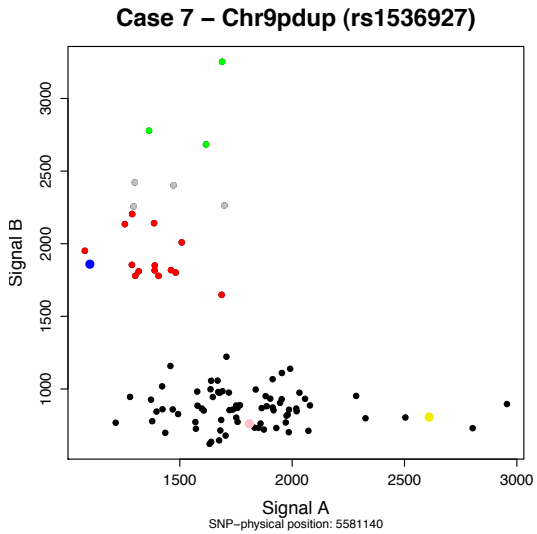

Case 7 – Chr9pdup (rs7032169)
Signal B
Signal A
SNP–physical position: 4966178

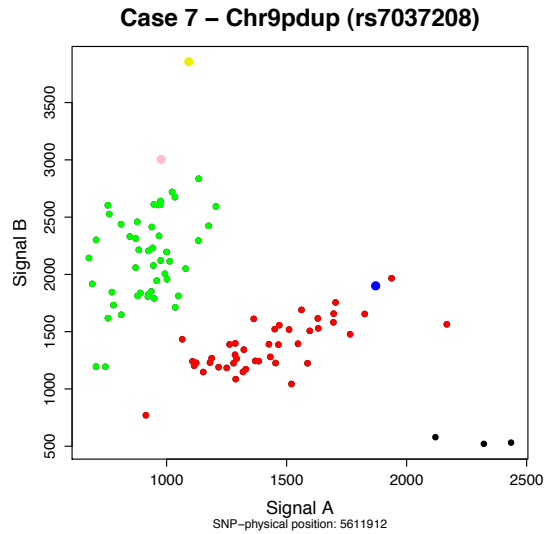

Case 7 – Chr9pdup (rs10124001)
Signal B
Signal A
SNP–physical position: 4976186

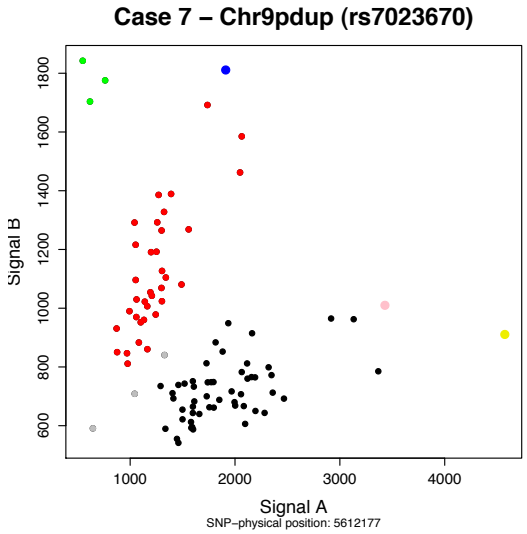

Case 7 – Chr9pdup (rs860290)
Signal B
Signal A
SNP–physical position: 5453198

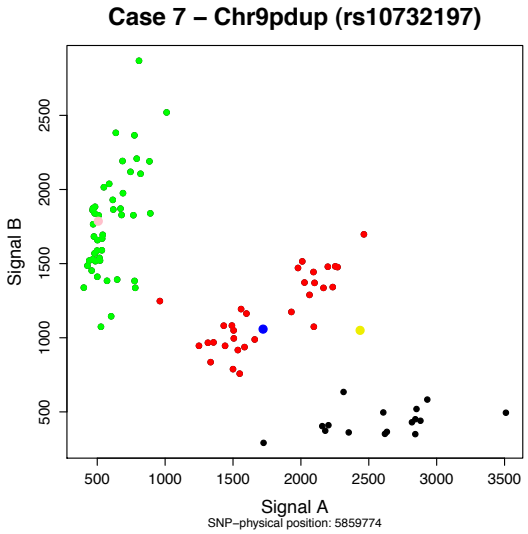

Case 7 – Chr9pdup (rs822340)
Signal B
Signal A
SNP–physical position: 5453260

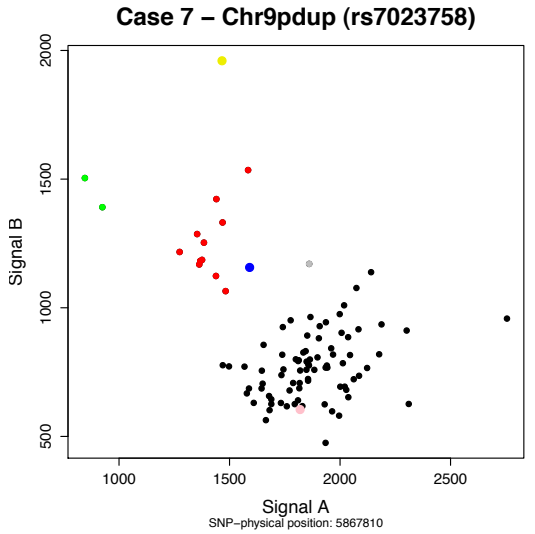

Case 7 – Chr9pdup (rs10975179)
Signal B
Signal A
SNP–physical position: 5559893

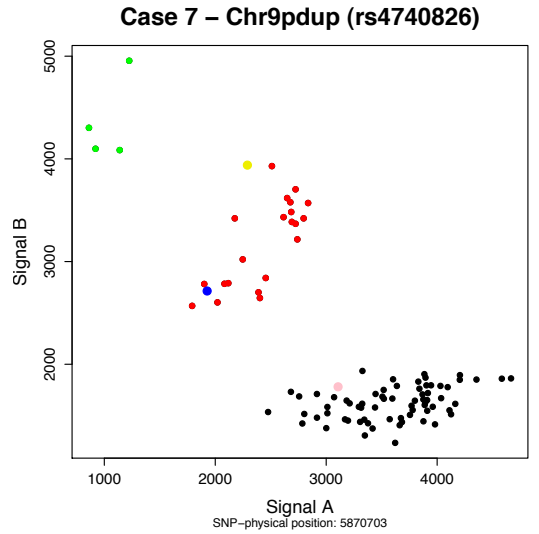

Case 7 – Chr9pdup (rs1536927)
Signal B
Signal A
SNP–physical position: 5581140

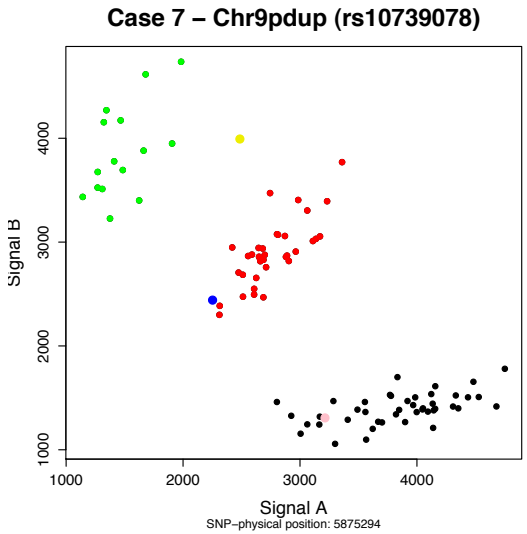

Case 7 – Chr9pdup (rs7037208)
Signal B
Signal A
SNP–physical position: 5611912

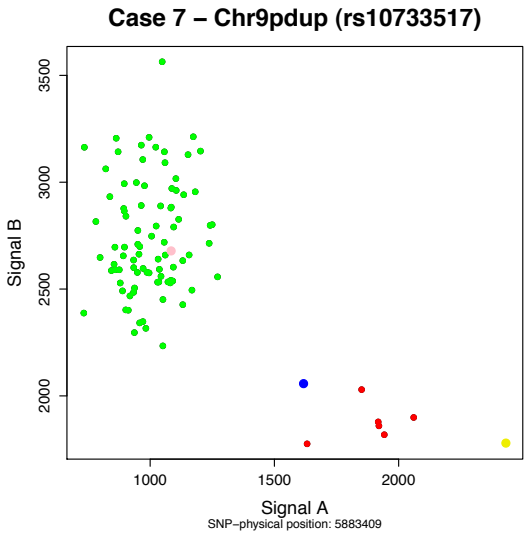

Case 7 – Chr9pdup (rs7023670)
Signal B
Signal A
SNP–physical position: 5612177

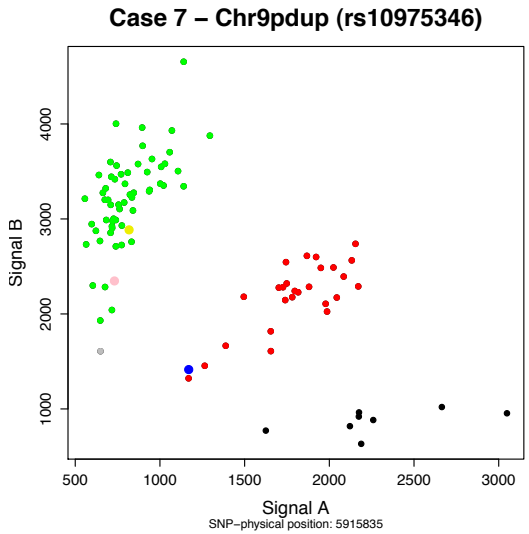

Case 7 – Chr9pdup (rs10732197)
Signal B
Signal A
SNP–physical position: 5859774

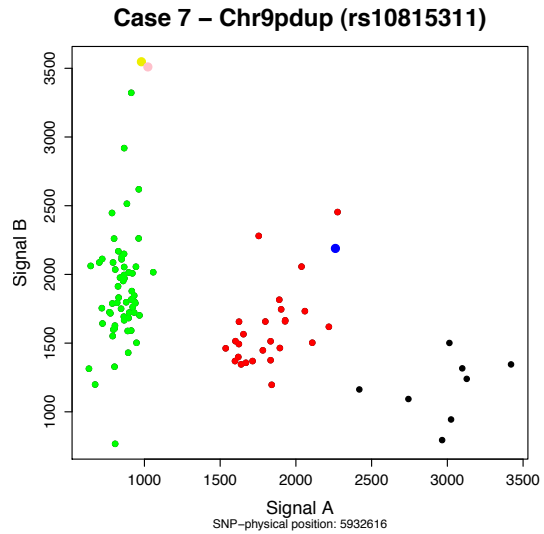

Case 7 – Chr9pdup (rs7023758)
Signal B
Signal A
SNP–physical position: 5867810

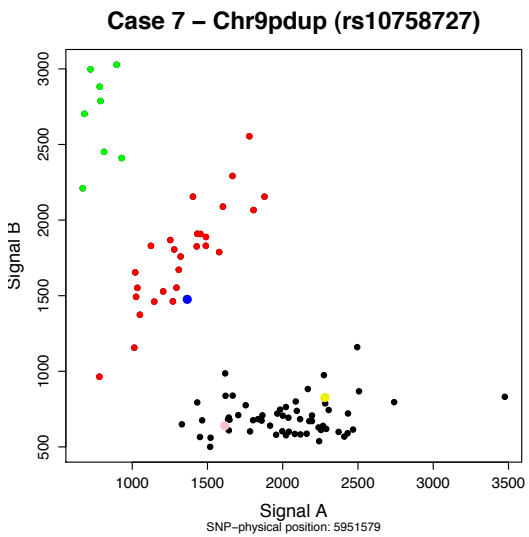

Case 7 – Chr9pdup (rs4740826)
Signal B
Signal A
SNP–physical position: 5870703

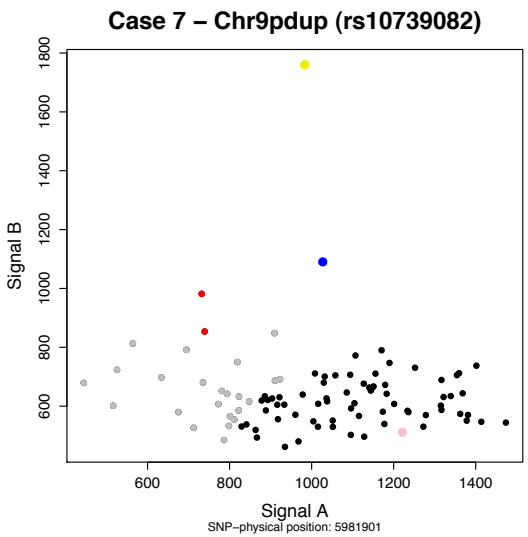

Case 7 – Chr9pdup (rs10739078)
Signal B
Signal A
SNP–physical position: 5875294

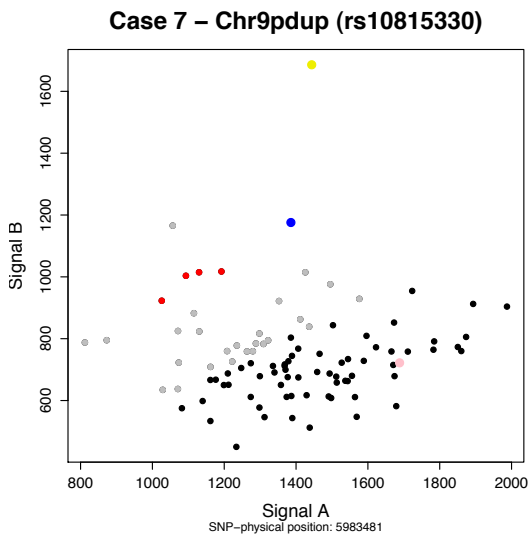

Case 7 – Chr9pdup (rs10733517)
Signal B
Signal A
SNP–physical position: 5883409

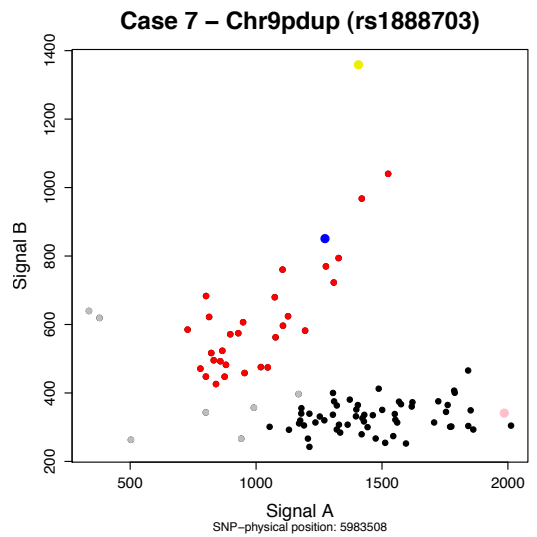

Case 7 – Chr9pdup (rs10975346)
Signal B
Signal A
SNP–physical position: 5915835

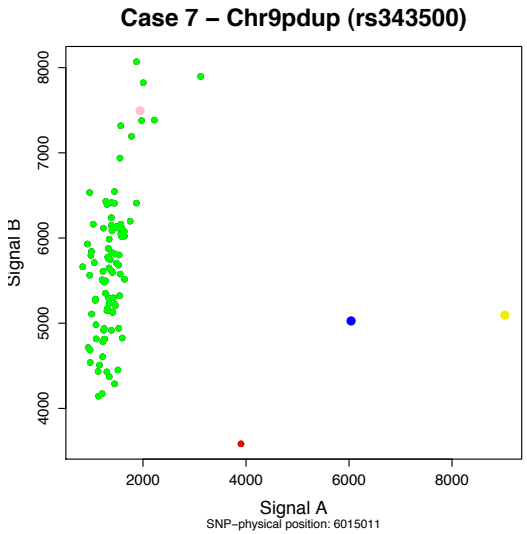

Case 7 – Chr9pdup (rs10815311)
Signal B
Signal A
SNP–physical position: 5932616

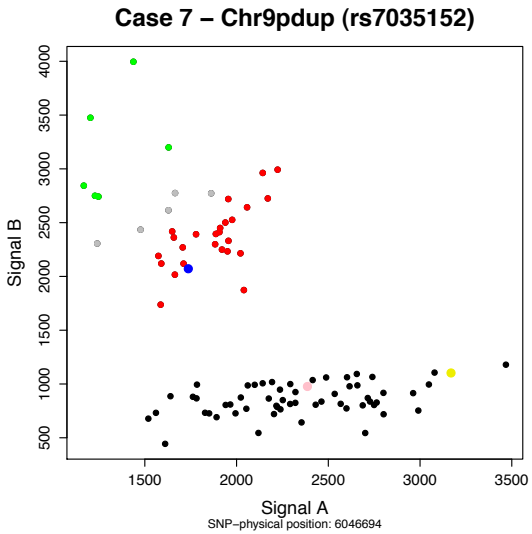

Case 7 – Chr9pdup (rs10758727)
Signal B
Signal A
SNP–physical position: 5951579

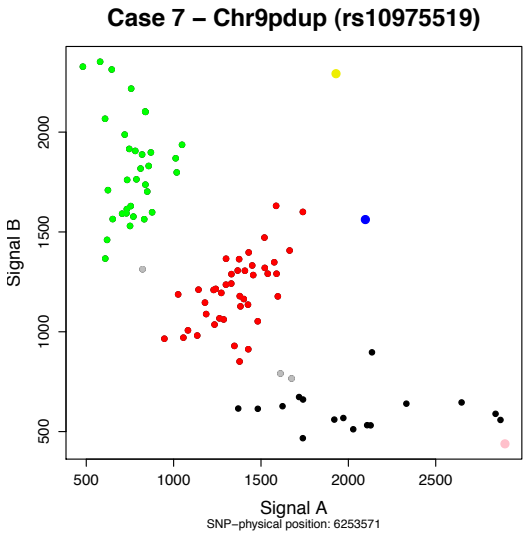

Case 7 – Chr9pdup (rs10739082)
Signal B
Signal A
SNP–physical position: 5981901

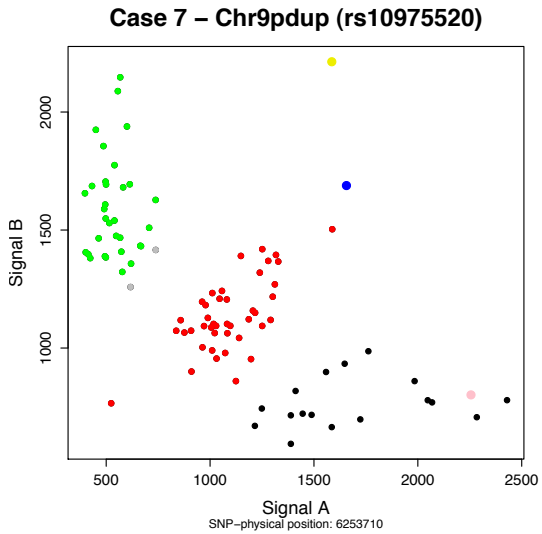

Case 7 – Chr9pdup (rs10815330)
Signal B
Signal A
SNP–physical position: 5983481

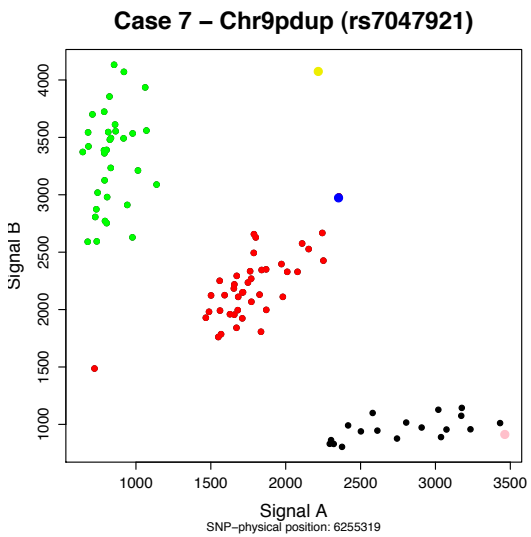

Case 7 – Chr9pdup (rs1888703)
Signal B
Signal A
SNP–physical position: 5983508

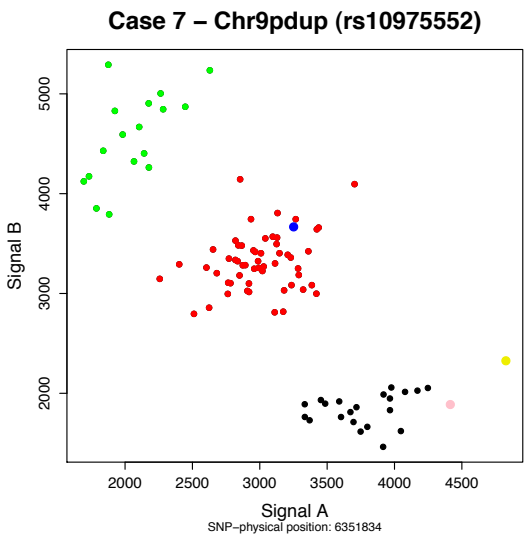

Case 7 – Chr9pdup (rs343500)
Signal B
Signal A
SNP–physical position: 6015011

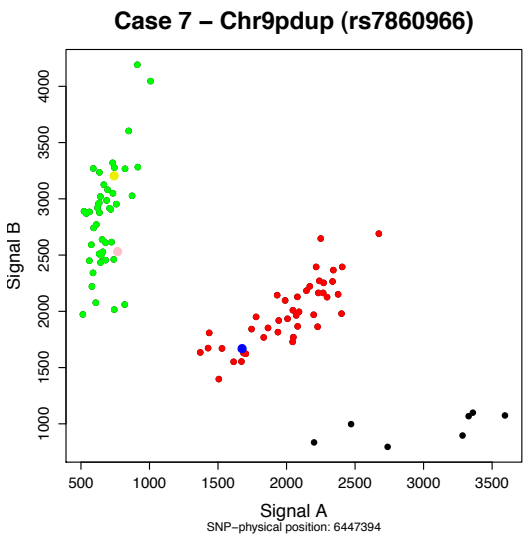

Case 7 – Chr9pdup (rs7035152)
Signal B
Signal A
SNP–physical position: 6046694

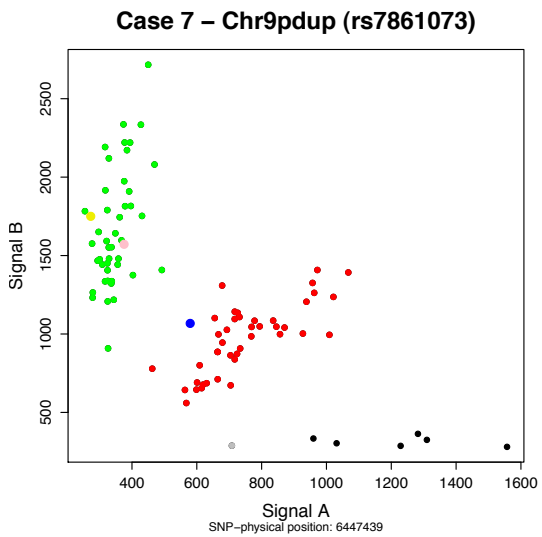

Case 7 – Chr9pdup (rs10975519)
Signal B
Signal A
SNP–physical position: 6253571

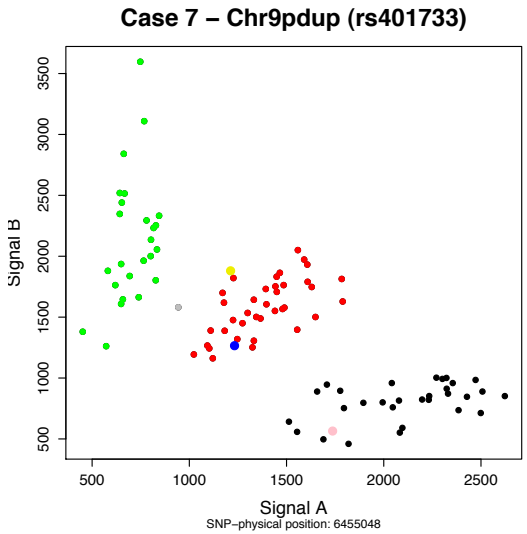

Case 7 – Chr9pdup (rs10975520)
Signal B
Signal A
SNP–physical position: 6253710

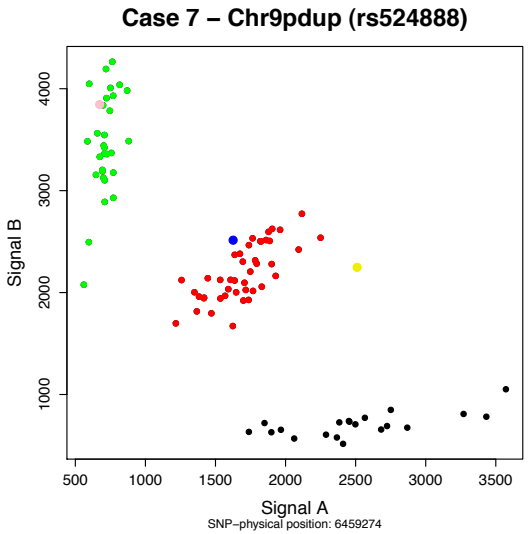

Case 7 – Chr9pdup (rs7047921)
Signal B
Signal A
SNP–physical position: 6255319

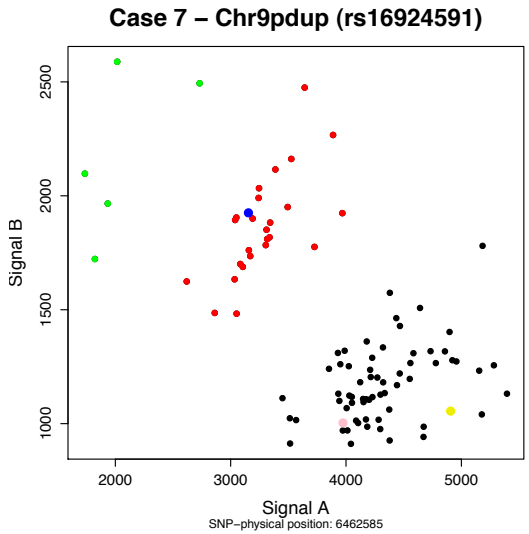

Case 7 – Chr9pdup (rs10975552)
Signal B
Signal A
SNP–physical position: 6351834

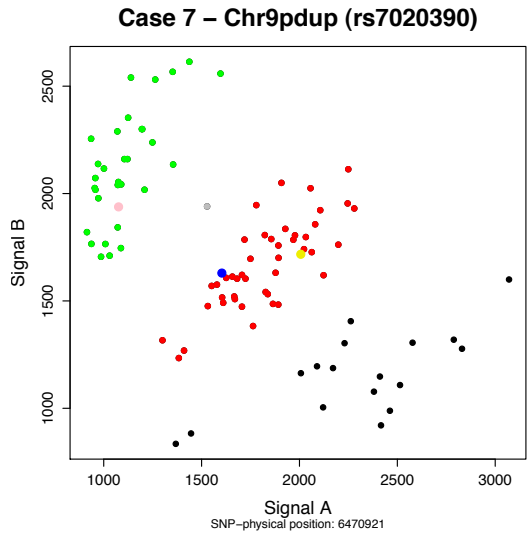

Case 7 – Chr9pdup (rs7860966)
Signal B
Signal A
SNP–physical position: 6447394

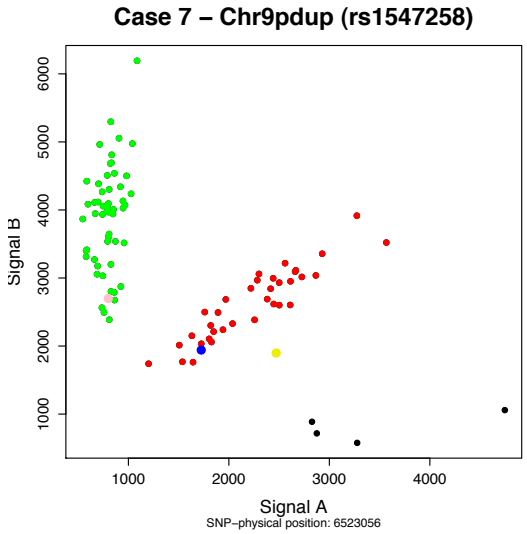

Case 7 – Chr9pdup (rs7861073)
Signal B
Signal A
SNP–physical position: 6447439

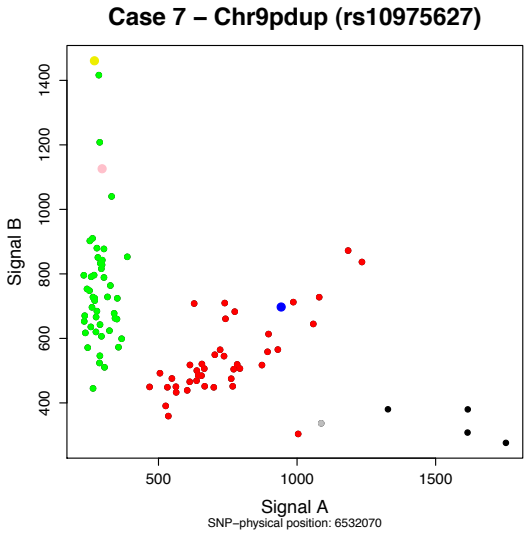

Case 7 – Chr9pdup (rs401733)
Signal B
Signal A
SNP–physical position: 6455048

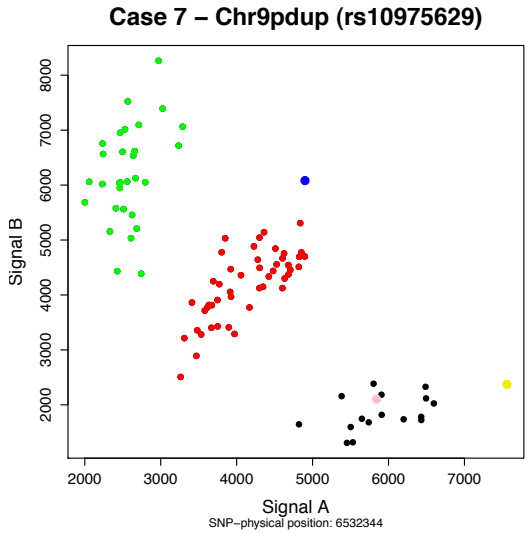

Case 7 – Chr9pdup (rs524888)
Signal B
Signal A
SNP–physical position: 6459274

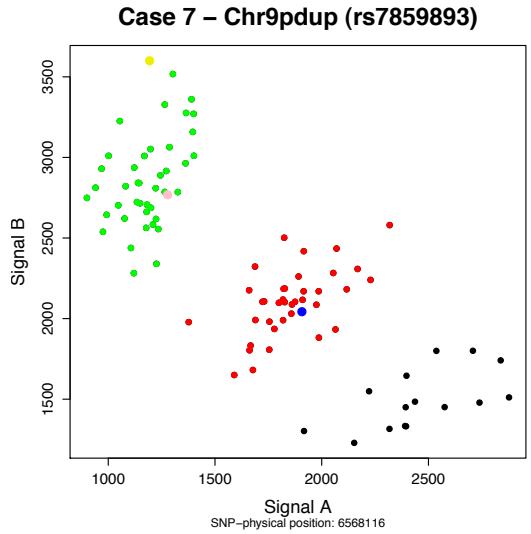

Case 7 – Chr9pdup (rs16924591)
Signal B
Signal A
SNP–physical position: 6462585

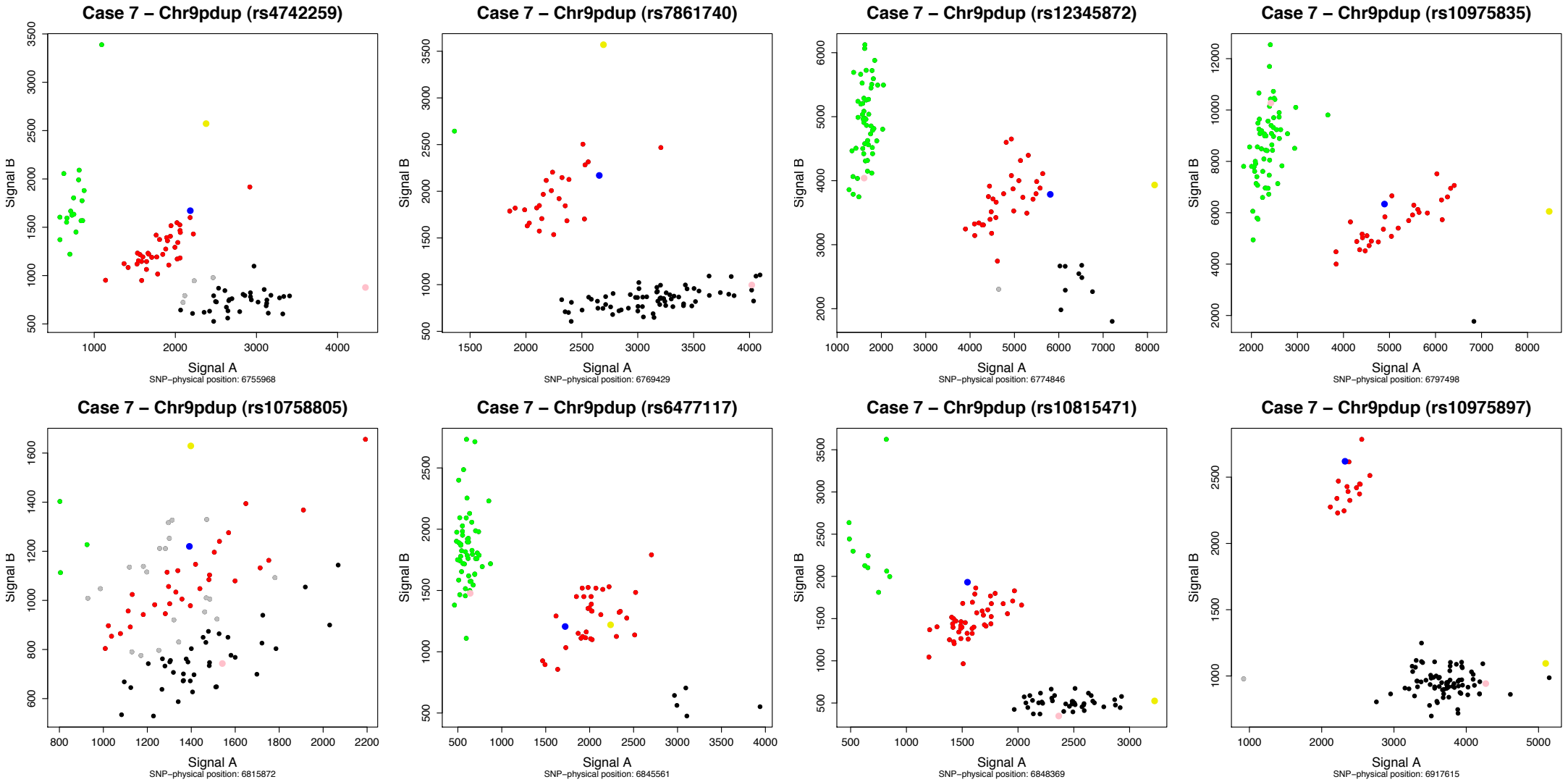

Case 7 – Chr9pdup (rs7020390)
Signal B
Signal A
SNP–physical position: 6470921

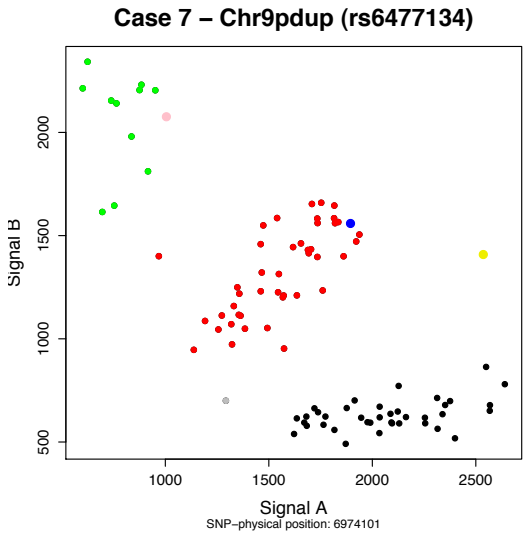

Case 7 – Chr9pdup (rs1547258)
Signal B
Signal A
SNP–physical position: 6523056

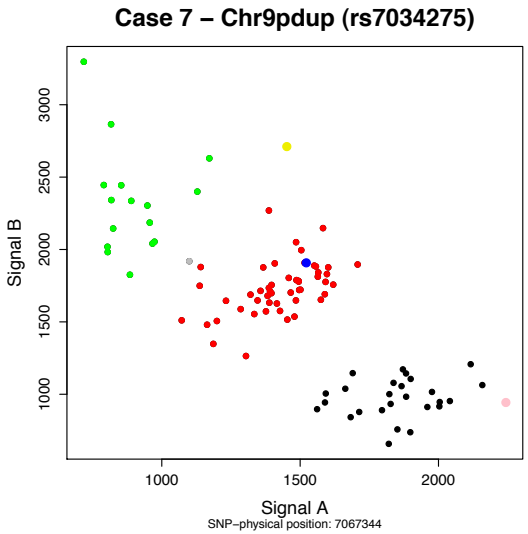

Case 7 – Chr9pdup (rs10975627)
Signal B
Signal A
SNP–physical position: 6532070

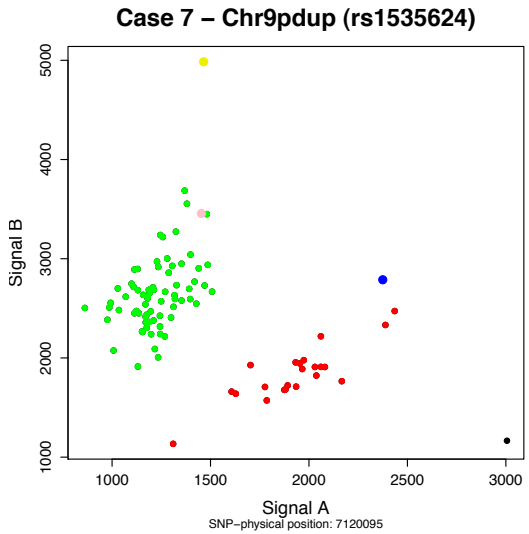

Case 7 – Chr9pdup (rs10975629)
Signal B
Signal A
SNP–physical position: 6532344

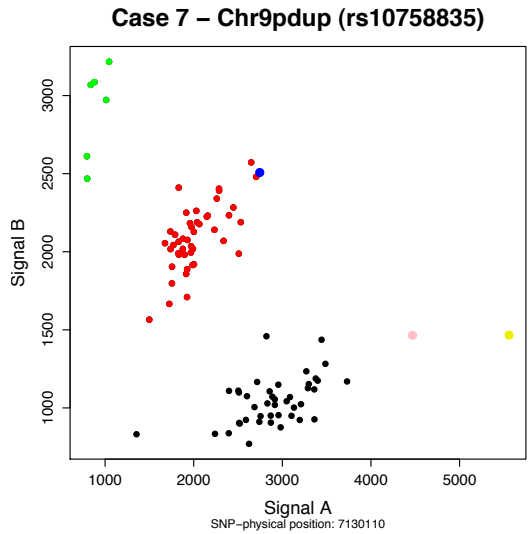

Case 7 – Chr9pdup (rs7859893)
Signal B
Signal A
SNP–physical position: 6568116

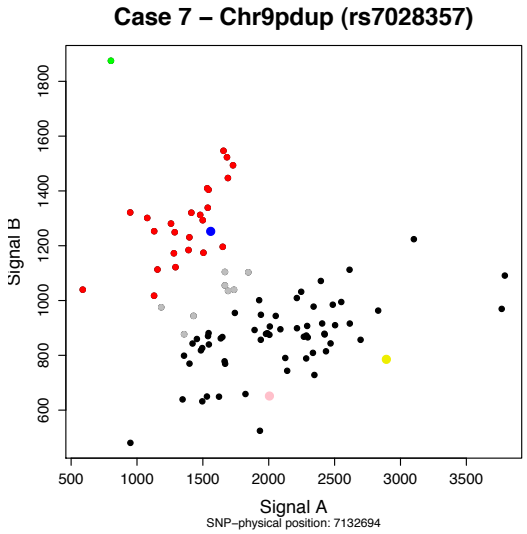

Case 7 – Chr9pdup (rs4742259)
Signal B
Signal A
SNP–physical position: 6755968
Case 7 – Chr9pdup (rs7861740)
Signal B
Signal A
SNP–physical position: 6769429
Case 7 – Chr9pdup (rs12345872)
Signal B
Signal A
SNP–physical position: 6774846
Case 7 – Chr9pdup (rs10975835)
Signal B
Signal A
SNP–physical position: 6797498
Case 7 – Chr9pdup (rs10758805)
Signal B
Signal A
SNP–physical position: 6815872
Case 7 – Chr9pdup (rs6477117)
Signal B
Signal A
SNP–physical position: 6845561
Case 7 – Chr9pdup (rs10815471)
Signal B
Signal A
SNP–physical position: 6848369
Case 7 – Chr9pdup (rs10975897)
Signal B
Signal A
SNP–physical position: 6917615

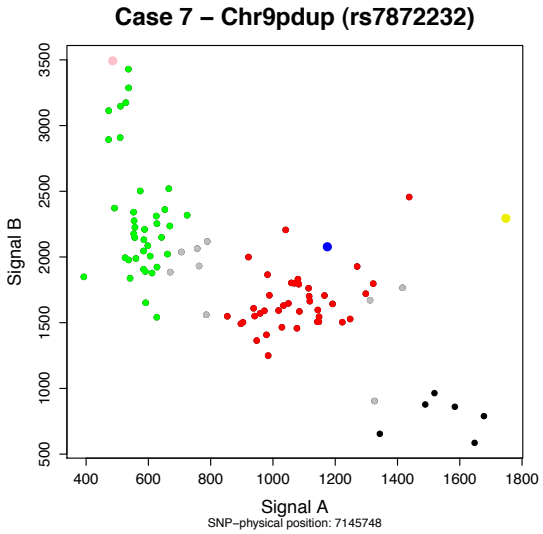

Case 7 – Chr9pdup (rs6477134)
Signal B
Signal A
SNP–physical position: 6974101

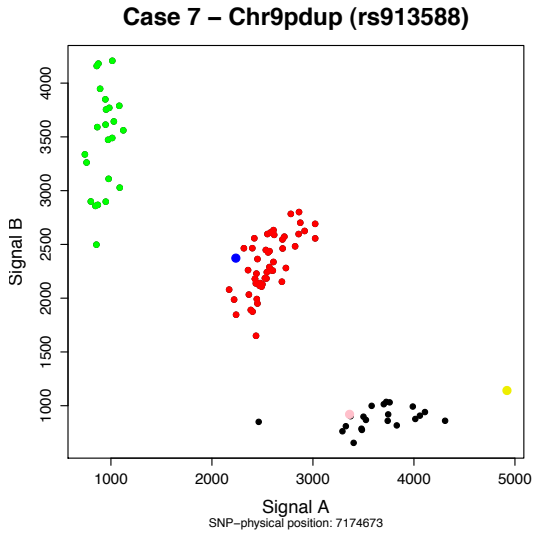

Case 7 – Chr9pdup (rs7034275)
Signal B
Signal A
SNP–physical position: 7067344

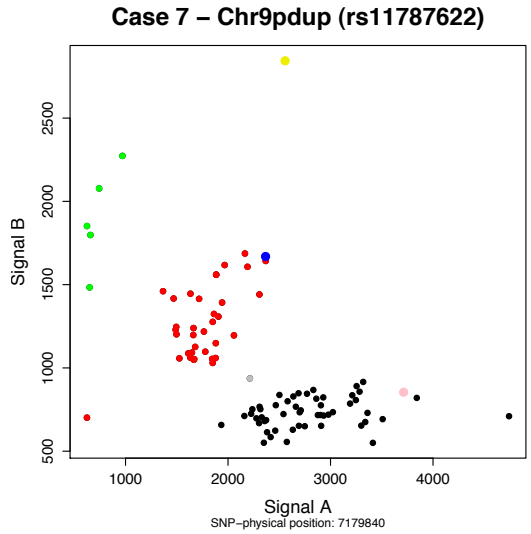

Case 7 – Chr9pdup (rs1535624)
Signal B
Signal A
SNP–physical position: 7120095

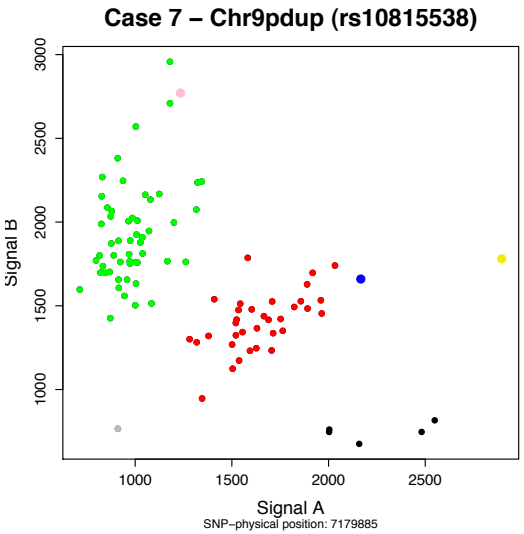

Case 7 – Chr9pdup (rs10758835)
Signal B
Signal A
SNP–physical position: 7130110

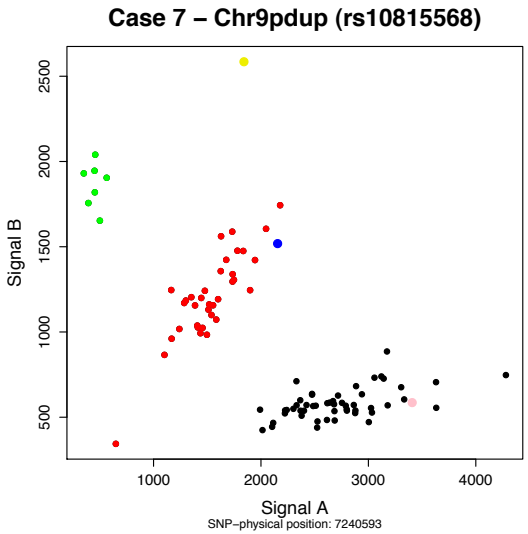

Case 7 – Chr9pdup (rs7028357)
Signal B
Signal A
SNP–physical position: 7132694

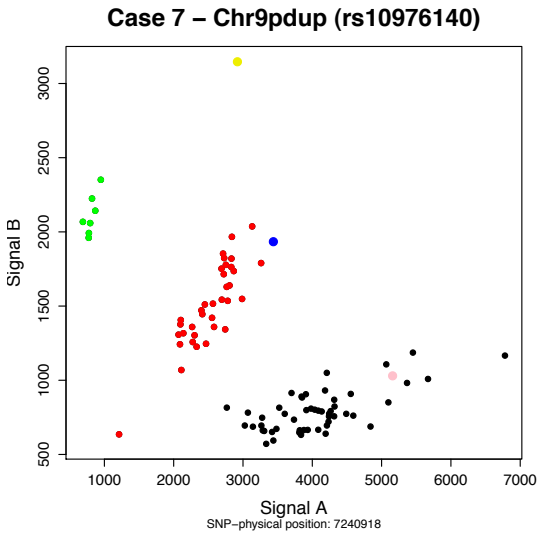

Case 7 – Chr9pdup (rs7872232)
Signal B
Signal A
SNP–physical position: 7145748

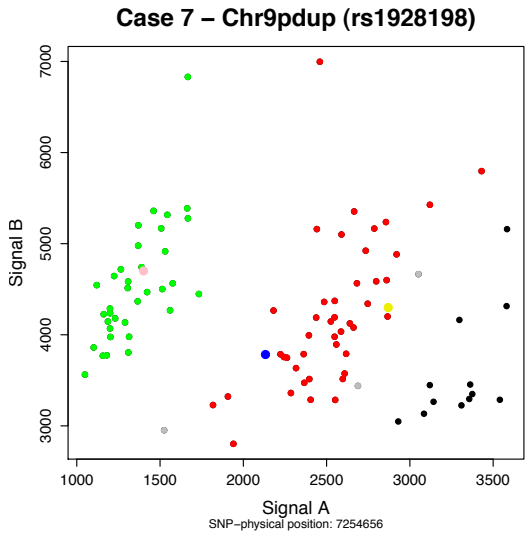

Case 7 – Chr9pdup (rs913588)
Signal B
Signal A
SNP–physical position: 7174673

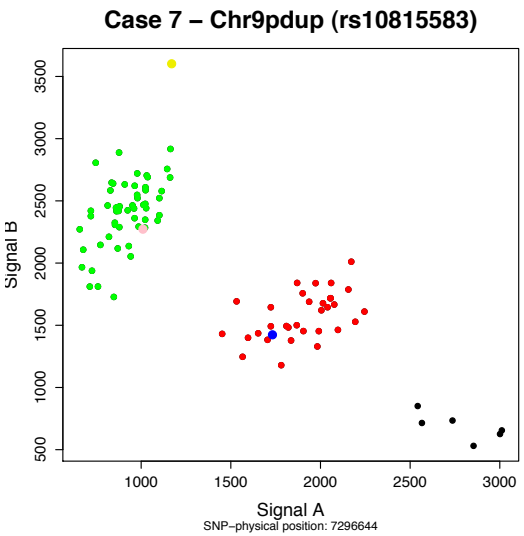

Case 7 – Chr9pdup (rs11787622)
Signal B
Signal A
SNP–physical position: 7179840

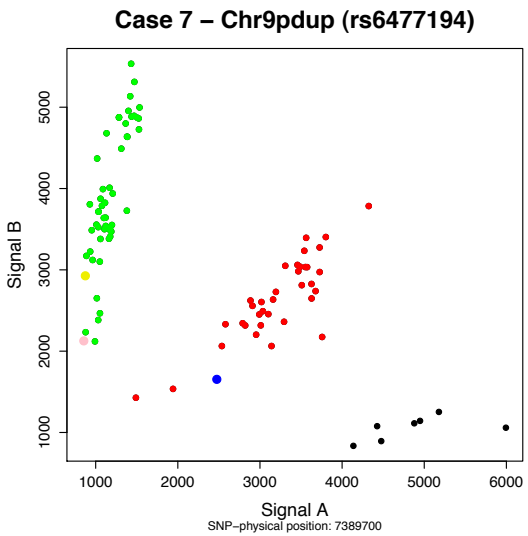

Case 7 – Chr9pdup (rs10815538)
Signal B
Signal A
SNP–physical position: 7179885

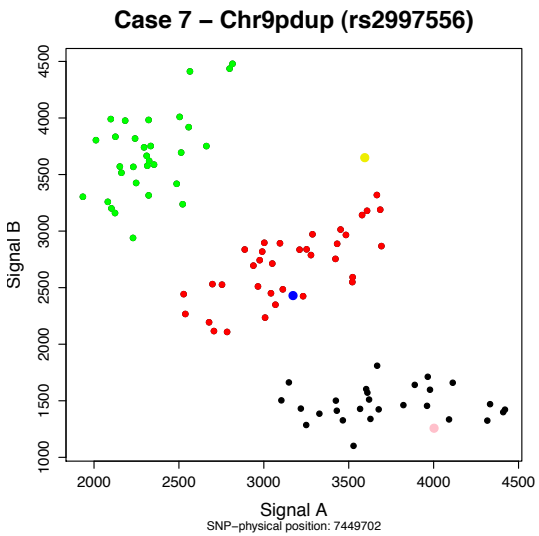

Case 7 – Chr9pdup (rs10815568)
Signal B
Signal A
SNP–physical position: 7240593

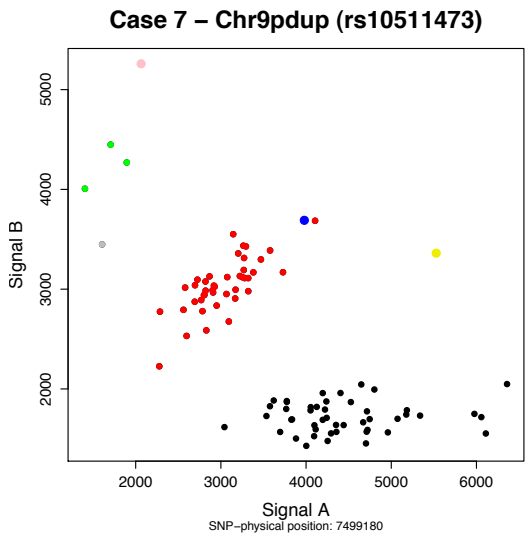

Case 7 – Chr9pdup (rs10976140)
Signal B
Signal A
SNP–physical position: 7240918

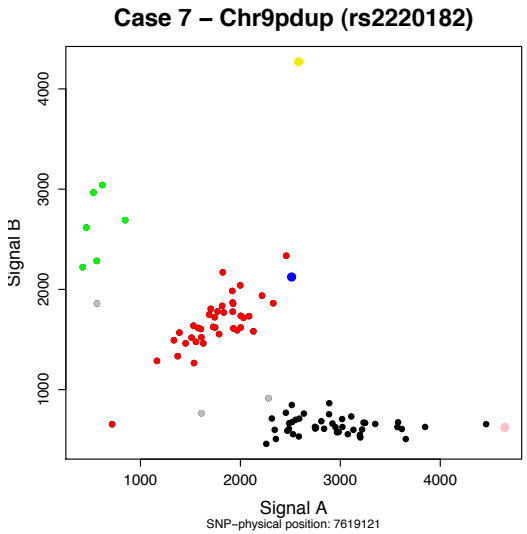

Case 7 – Chr9pdup (rs1928198)
Signal B
Signal A
SNP–physical position: 7254656

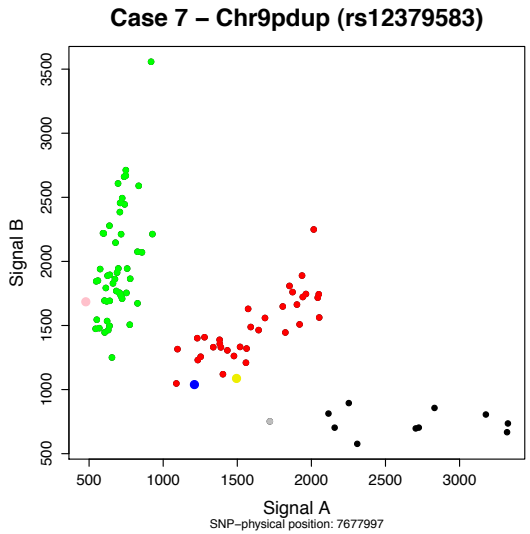

Case 7 – Chr9pdup (rs10815583)
Signal B
Signal A
SNP–physical position: 7296644

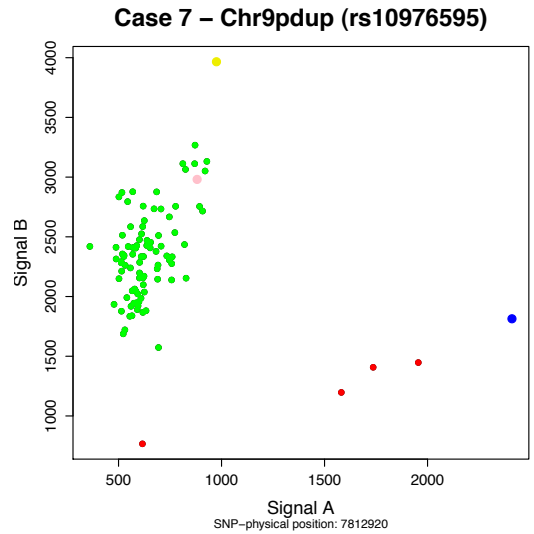

Case 7 – Chr9pdup (rs6477194)
Signal B
Signal A
SNP–physical position: 7389700

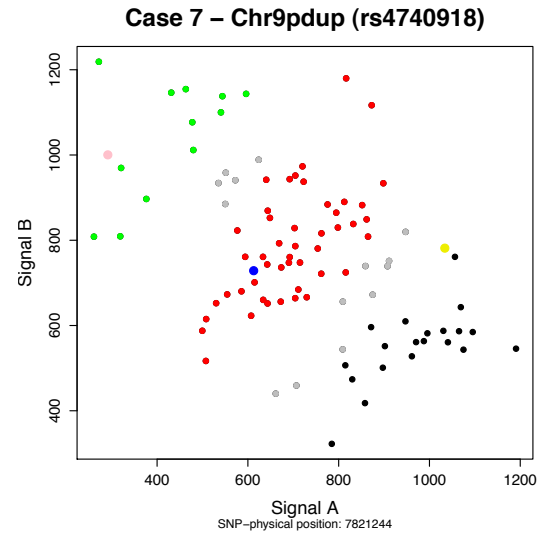

Case 7 – Chr9pdup (rs2997556)
Signal B
Signal A
SNP–physical position: 7449702

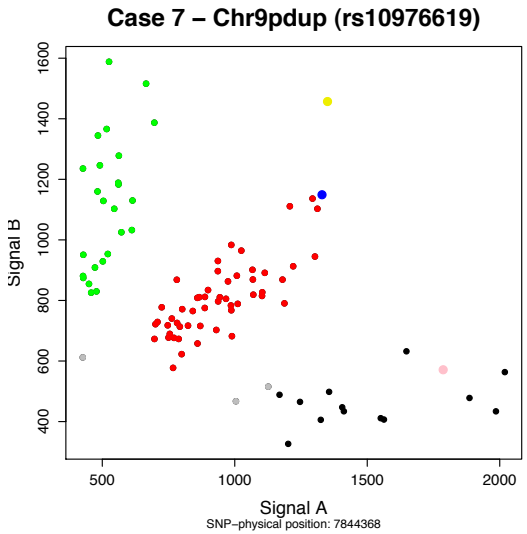

Case 7 – Chr9pdup (rs10511473)
Signal B
Signal A
SNP–physical position: 7499180

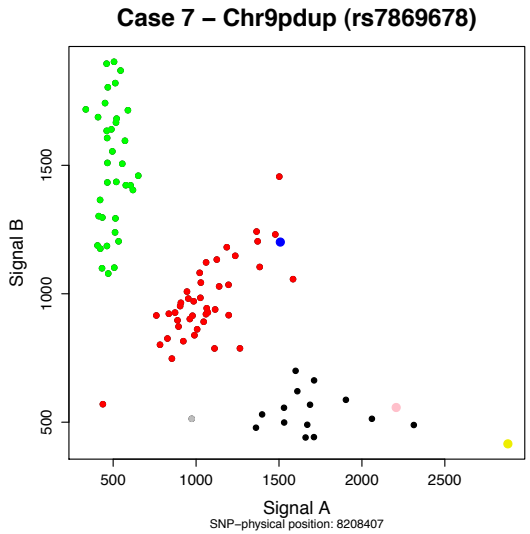

Case 7 – Chr9pdup (rs2220182)
Signal B
Signal A
SNP–physical position: 7619121

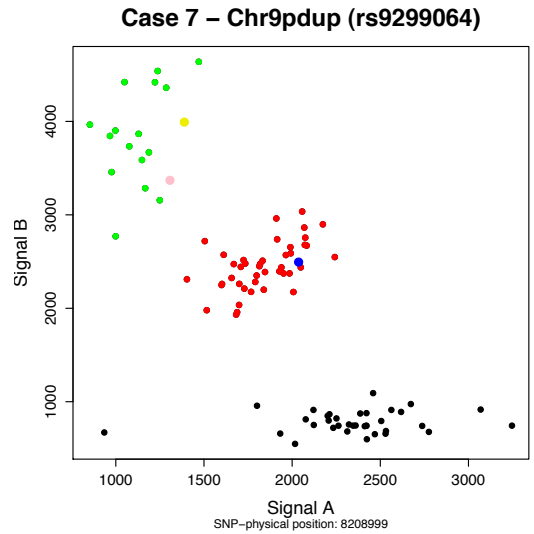

Case 7 – Chr9pdup (rs12379583)
Signal B
Signal A
SNP–physical position: 7677997

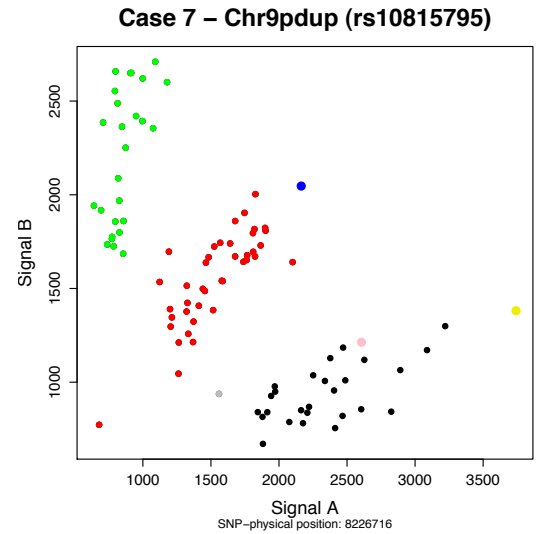

Case 7 – Chr9pdup (rs10976595)
Signal B
Signal A
SNP–physical position: 7812920

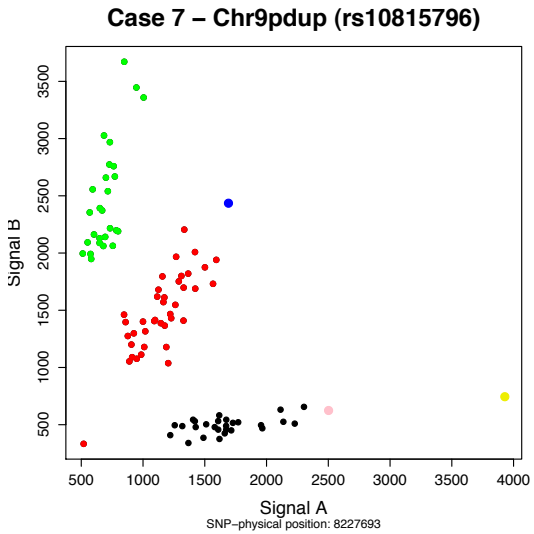

Case 7 – Chr9pdup (rs4740918)
Signal B
Signal A
SNP–physical position: 7821244

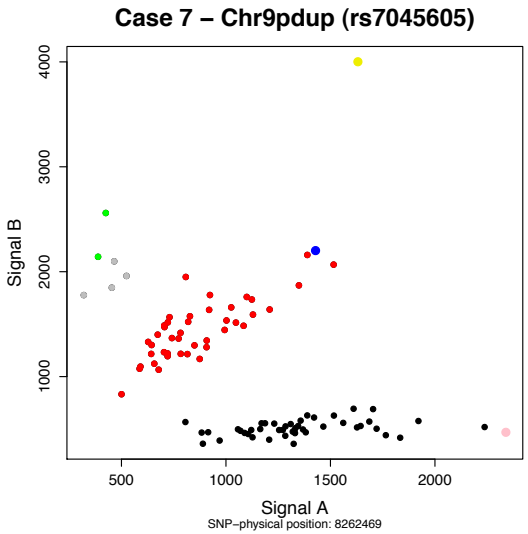

Case 7 – Chr9pdup (rs10976619)
Signal B
Signal A
SNP–physical position: 7844368

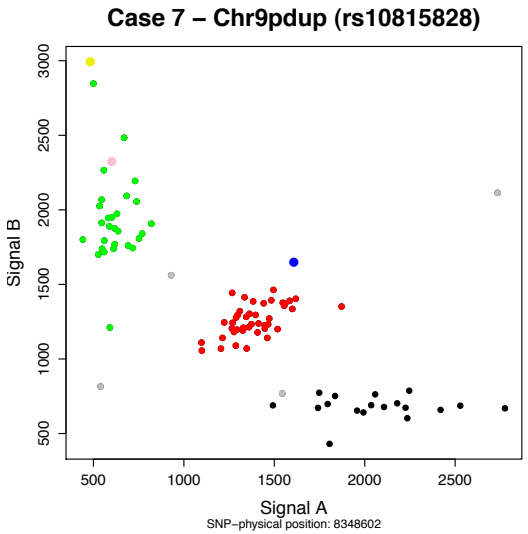

Case 7 – Chr9pdup (rs7869678)
Signal B
Signal A
SNP–physical position: 8208407

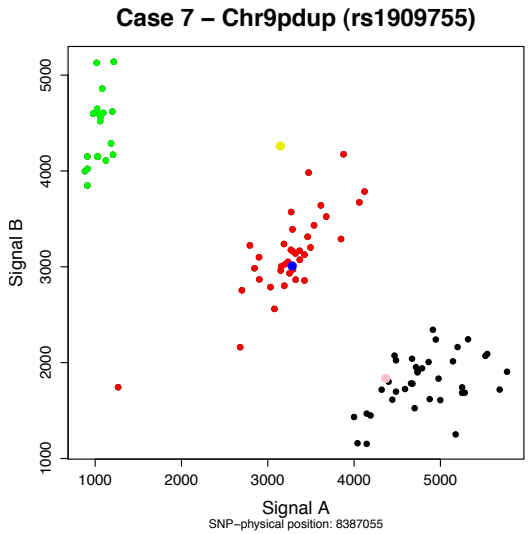

Case 7 – Chr9pdup (rs9299064)
Signal B
Signal A
SNP–physical position: 8208999

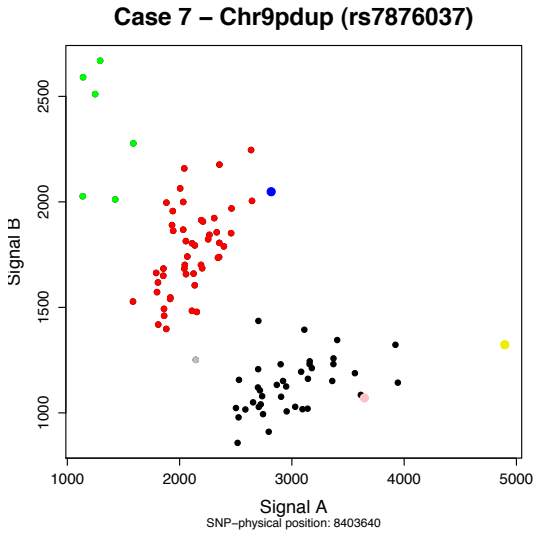

Case 7 – Chr9pdup (rs10815795)
Signal B
Signal A
SNP–physical position: 8226716

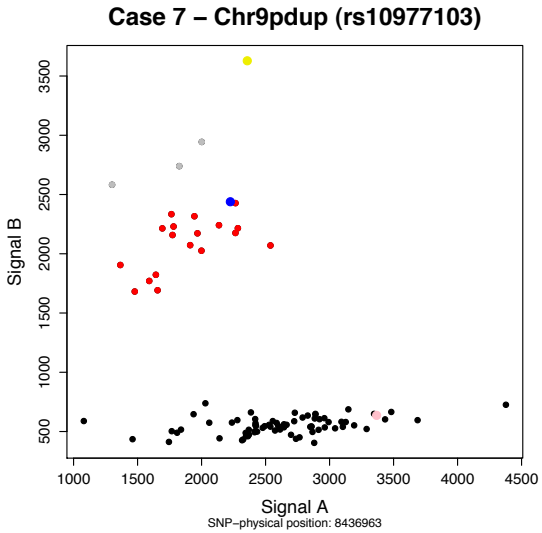

Case 7 – Chr9pdup (rs10815796)
Signal B
Signal A
SNP–physical position: 8227693

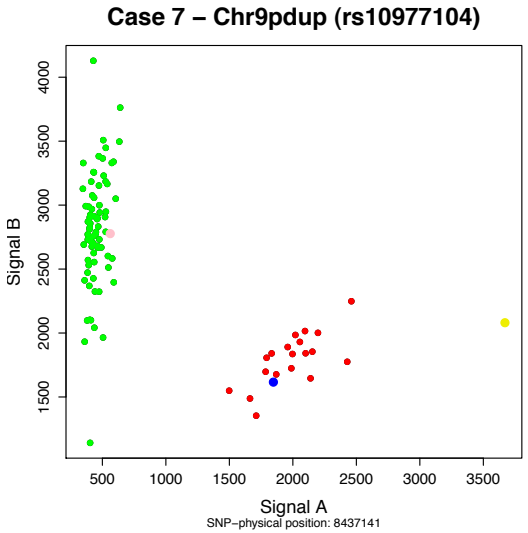

Case 7 – Chr9pdup (rs7045605)
Signal B
Signal A
SNP–physical position: 8262469

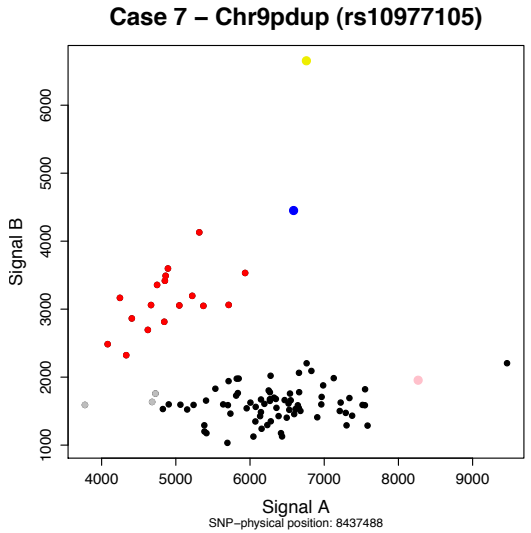

Case 7 – Chr9pdup (rs10815828)
Signal B
Signal A
SNP–physical position: 8348602

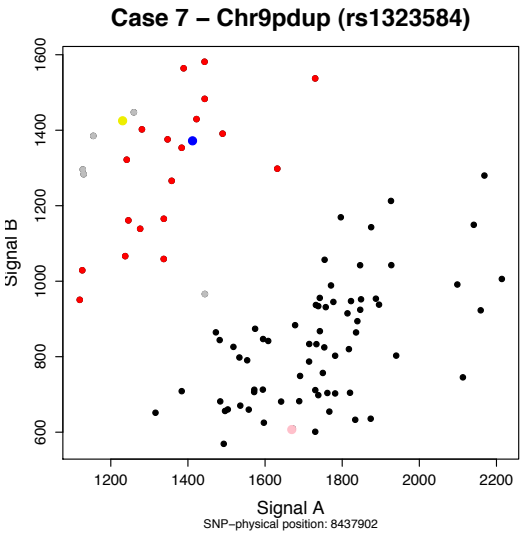

Case 7 – Chr9pdup (rs1909755)
Signal B
Signal A
SNP–physical position: 8387055

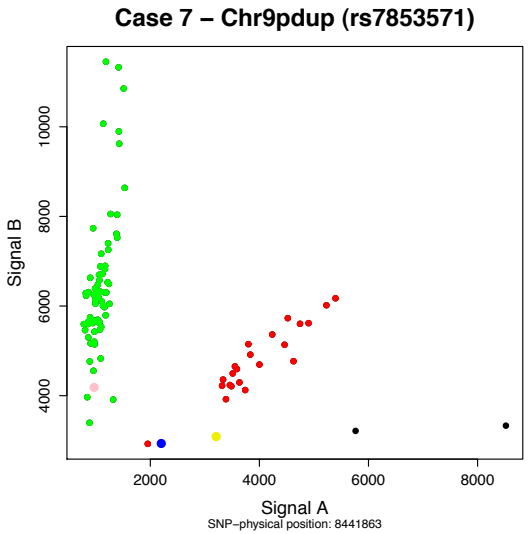

Case 7 – Chr9pdup (rs7876037)
Signal B
Signal A
SNP–physical position: 8403640

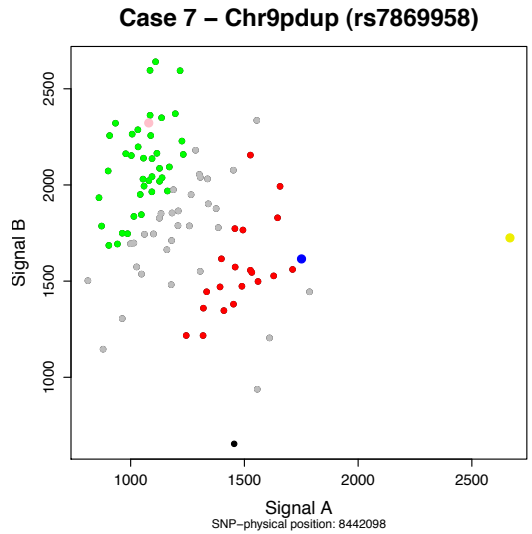

Case 7 – Chr9pdup (rs10977103)
Signal B
Signal A
SNP–physical position: 8436963

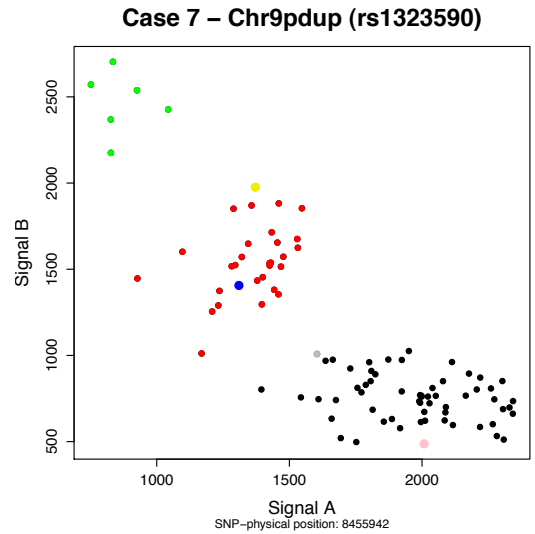

Case 7 – Chr9pdup (rs10977104)
Signal B
Signal A
SNP–physical position: 8437141

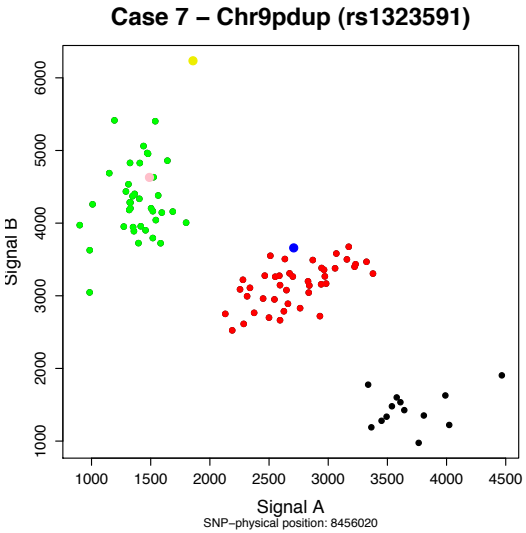

Case 7 – Chr9pdup (rs10977105)
Signal B
Signal A
SNP–physical position: 8437488

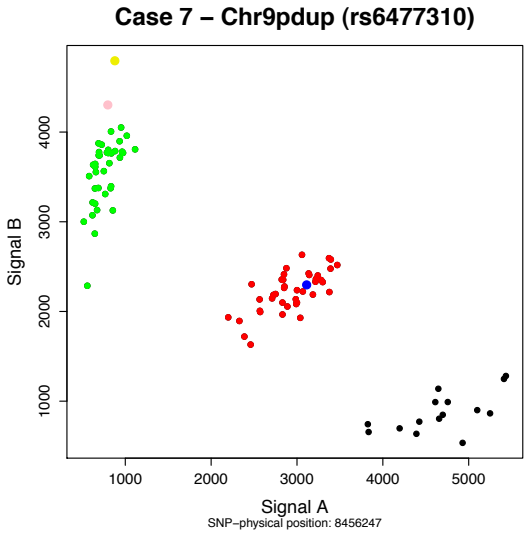

Case 7 – Chr9pdup (rs1323584)
Signal B
Signal A
SNP–physical position: 8437902

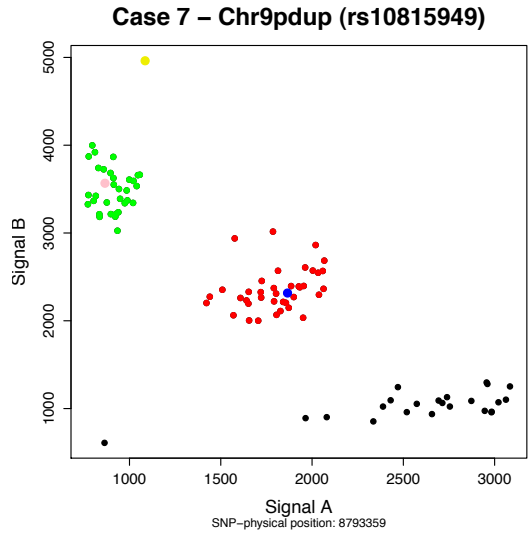

Case 7 – Chr9pdup (rs7853571)
Signal B
Signal A
SNP–physical position: 8441863

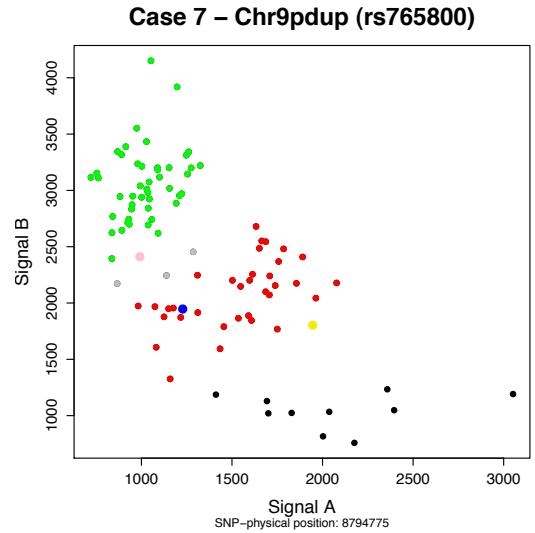

Case 7 – Chr9pdup (rs7869958)
Signal B
Signal A
SNP–physical position: 8442098

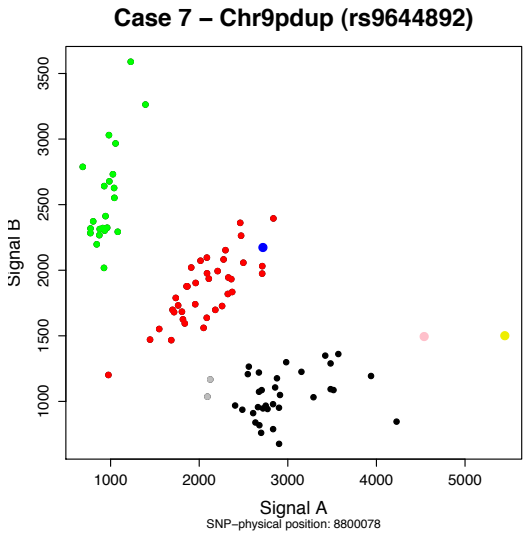

Case 7 – Chr9pdup (rs1323590)
Signal B
Signal A
SNP–physical position: 8455942

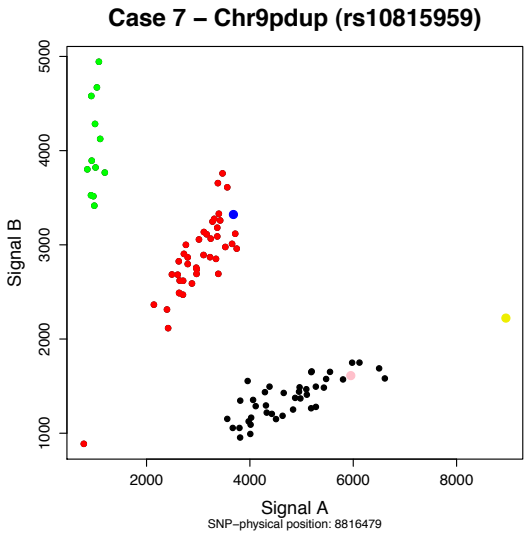

Case 7 – Chr9pdup (rs1323591)
Signal B
Signal A
SNP–physical position: 8456020

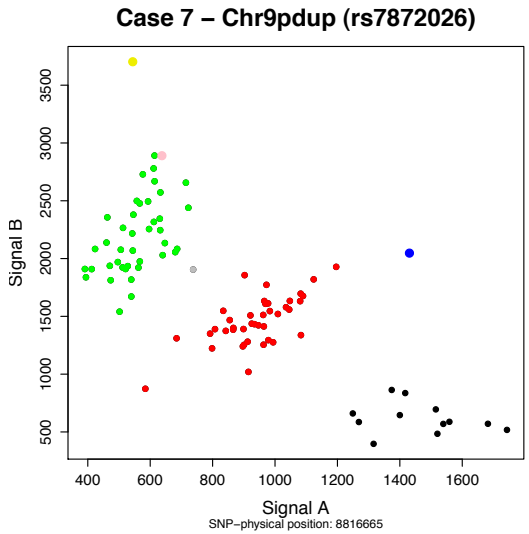

Case 7 – Chr9pdup (rs6477310)
Signal B
Signal A
SNP–physical position: 8456247

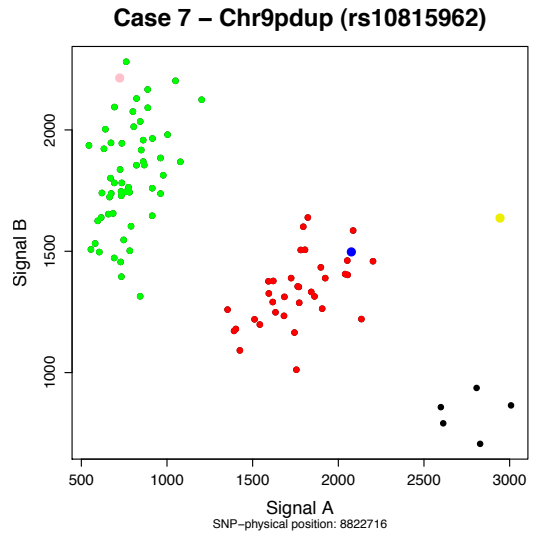

Case 7 – Chr9pdup (rs10815949)
Signal B
Signal A
SNP–physical position: 8793359

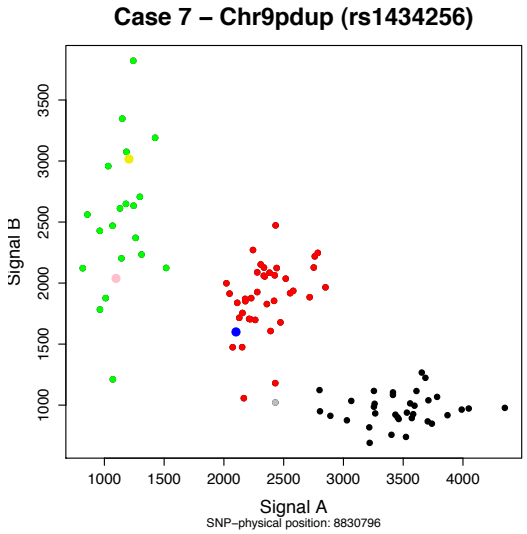

Case 7 – Chr9pdup (rs765800)
Signal B
Signal A
SNP–physical position: 8794775

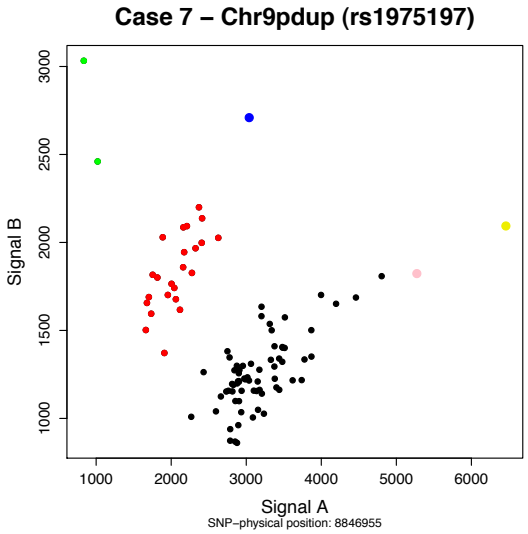

Case 7 – Chr9pdup (rs9644892)
Signal B
Signal A
SNP–physical position: 8800078

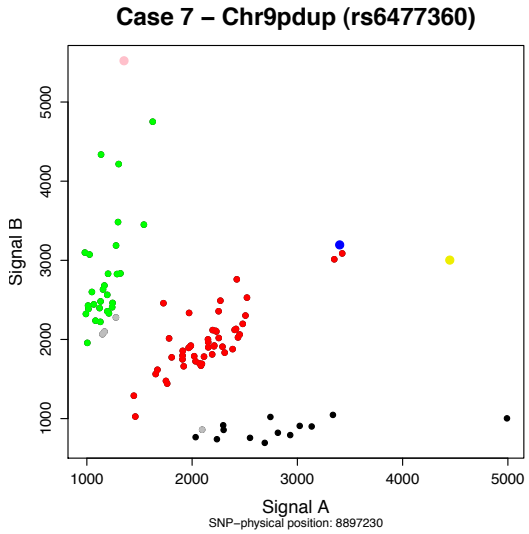

Case 7 – Chr9pdup (rs10815959)
Signal B
Signal A
SNP–physical position: 8816479

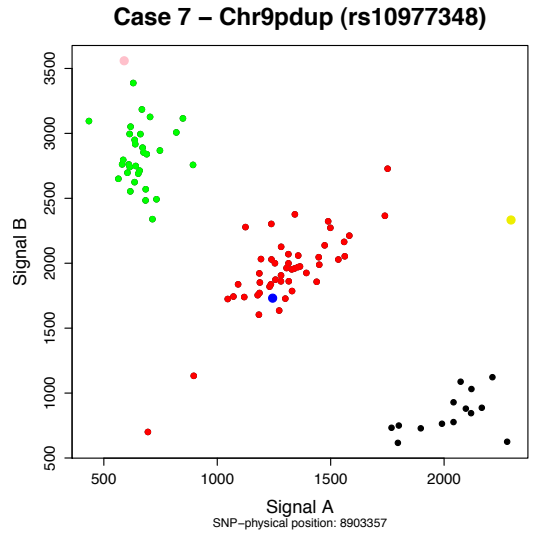

Case 7 – Chr9pdup (rs7872026)
Signal B
Signal A
SNP–physical position: 8816665

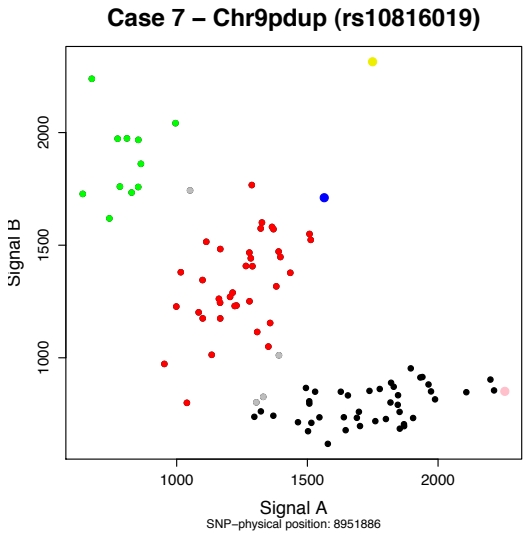

Case 7 – Chr9pdup (rs10815962)
Signal B
Signal A
SNP–physical position: 8822716

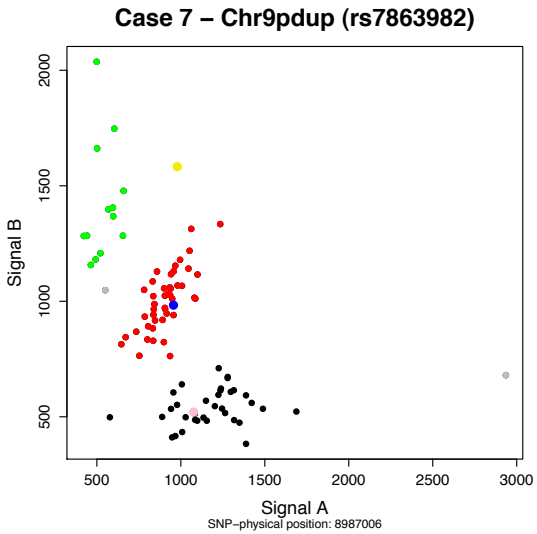

Case 7 – Chr9pdup (rs1434256)
Signal B
Signal A
SNP–physical position: 8830796

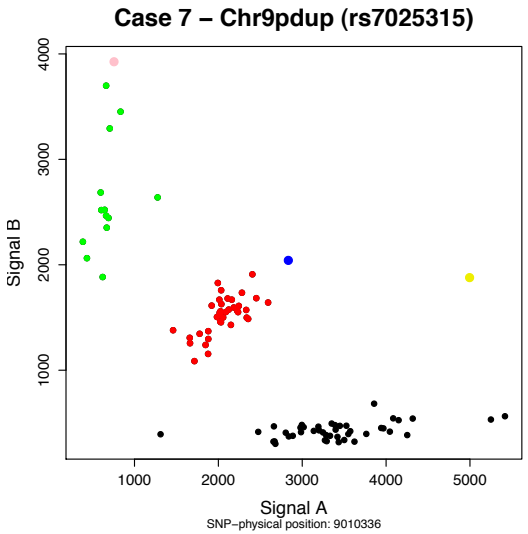

Case 7 – Chr9pdup (rs1975197)
Signal B
Signal A
SNP–physical position: 8846955

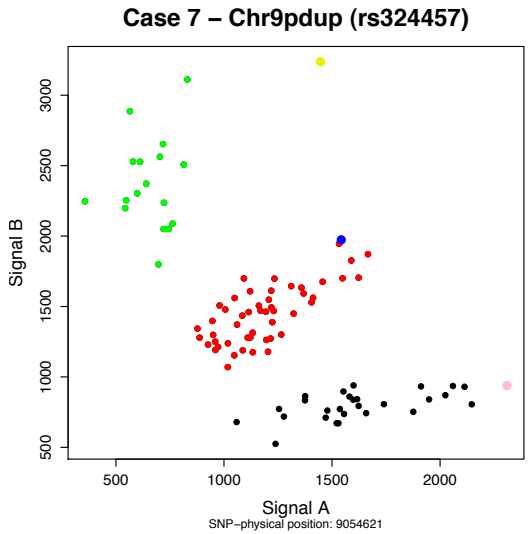

Case 7 – Chr9pdup (rs6477360)
Signal B
Signal A
SNP–physical position: 8897230

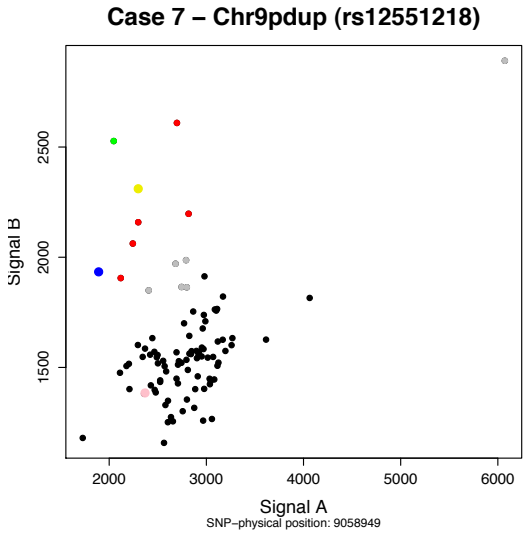

Case 7 – Chr9pdup (rs10977348)
Signal B
Signal A
SNP–physical position: 8903357

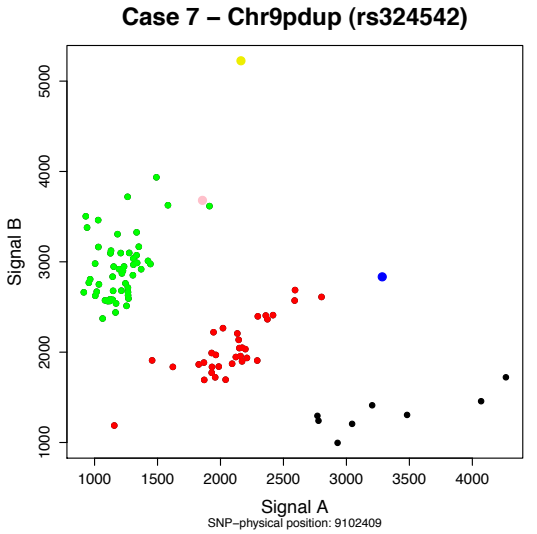

Case 7 – Chr9pdup (rs10816019)
Signal B
Signal A
SNP–physical position: 8951886

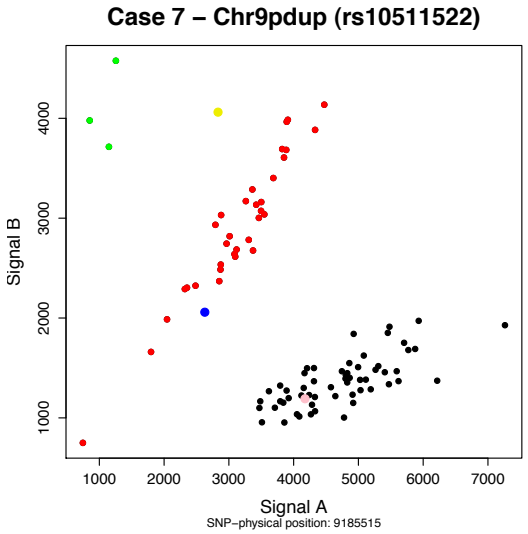

Case 7 – Chr9pdup (rs7863982)
Signal B
Signal A
SNP–physical position: 8987006

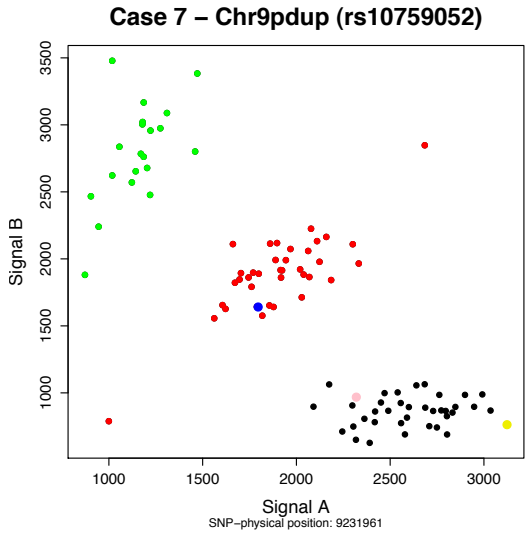

Case 7 – Chr9pdup (rs7025315)
Signal B
Signal A
SNP–physical position: 9010336

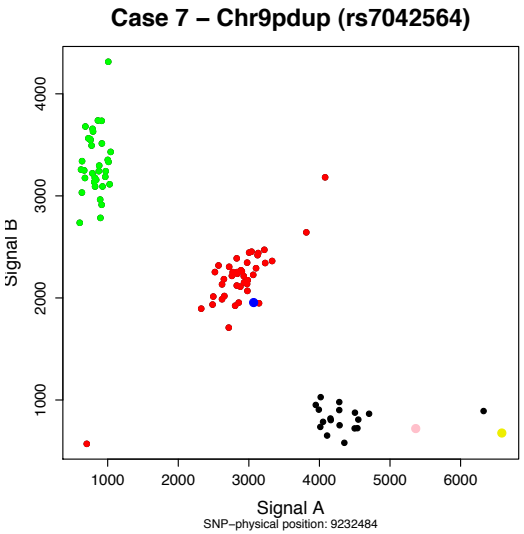

Case 7 – Chr9pdup (rs324457)
Signal B
Signal A
SNP–physical position: 9054621

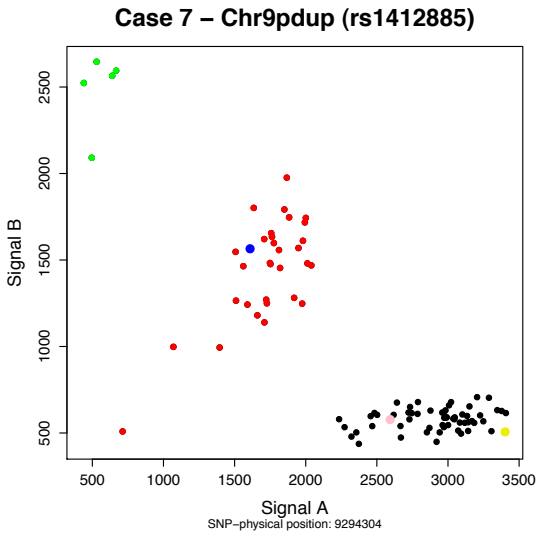

Case 7 – Chr9pdup (rs12551218)
Signal B
Signal A
SNP–physical position: 9058949

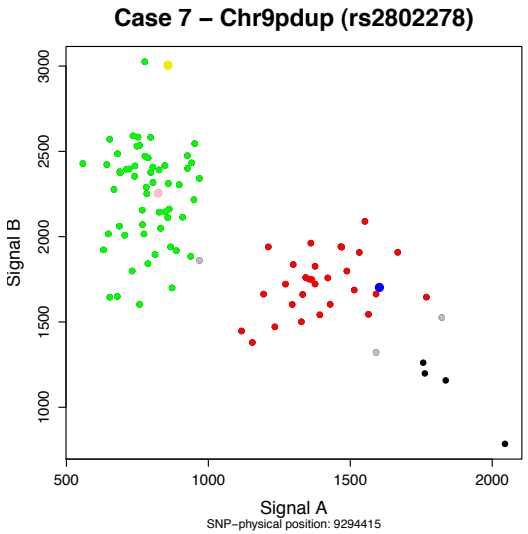

Case 7 – Chr9pdup (rs324542)
Signal B
Signal A
SNP–physical position: 9102409

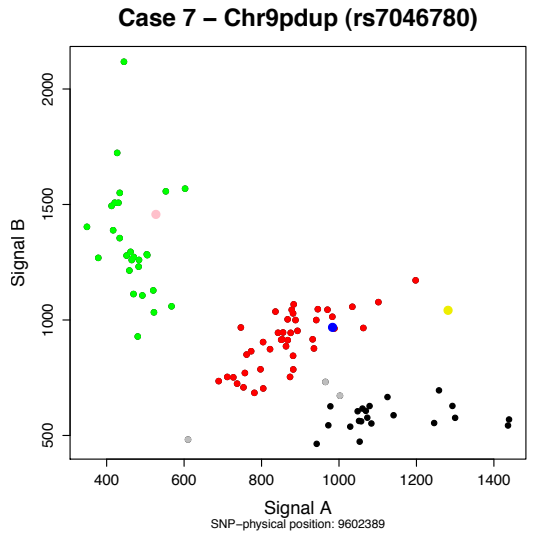

Case 7 – Chr9pdup (rs10511522)
Signal B
Signal A
SNP–physical position: 9185515

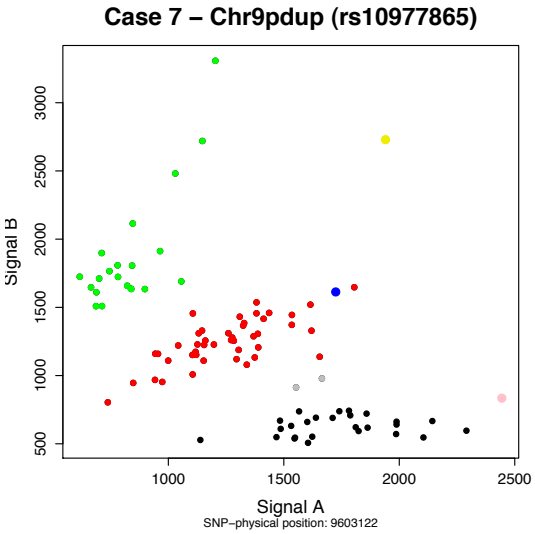

Case 7 – Chr9pdup (rs10759052)
Signal B
Signal A
SNP–physical position: 9231961

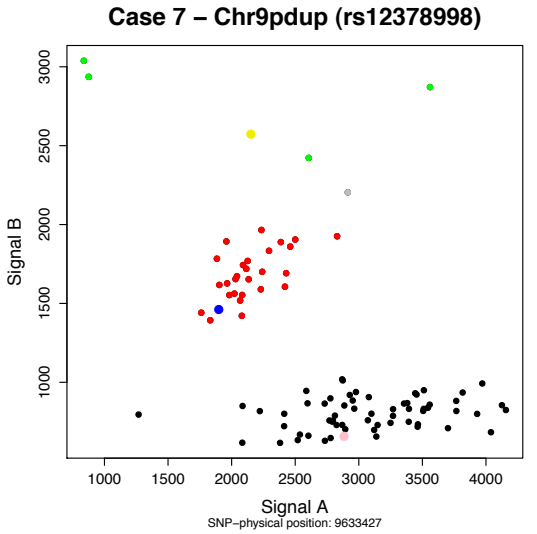

Case 7 – Chr9pdup (rs7042564)
Signal B
Signal A
SNP–physical position: 9232484

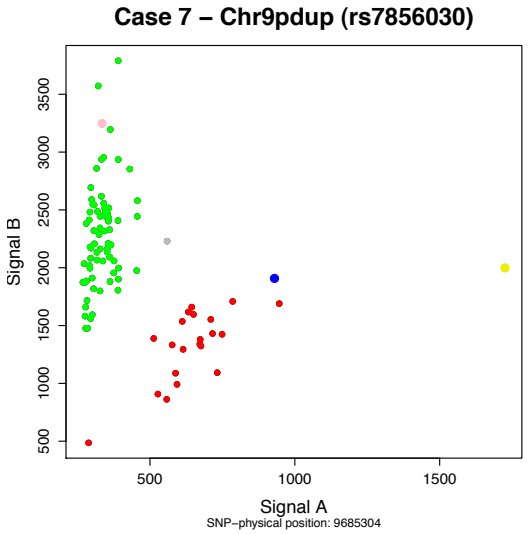

Case 7 – Chr9pdup (rs1412885)
Signal B
Signal A
SNP–physical position: 9294304

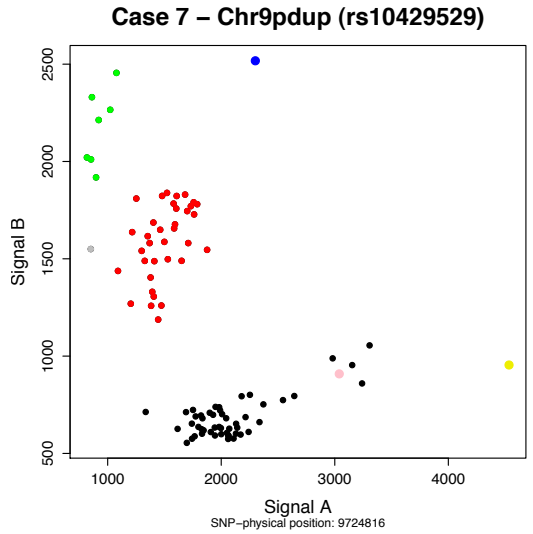

Case 7 – Chr9pdup (rs2802278)
Signal B
Signal A
SNP–physical position: 9294415

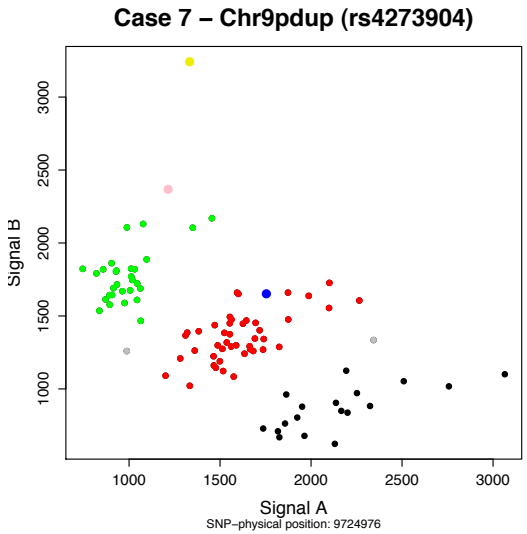

Case 7 – Chr9pdup (rs7046780)
Signal B
Signal A
SNP–physical position: 9602389

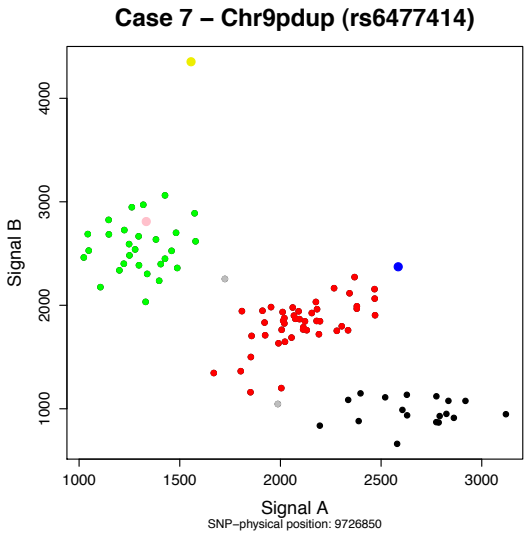

Case 7 – Chr9pdup (rs10977865)
Signal B
Signal A
SNP–physical position: 9603122

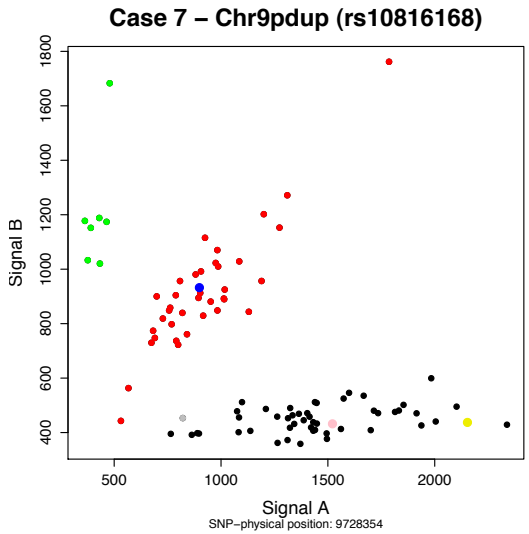

Case 7 – Chr9pdup (rs12378998)
Signal B
Signal A
SNP–physical position: 9633427

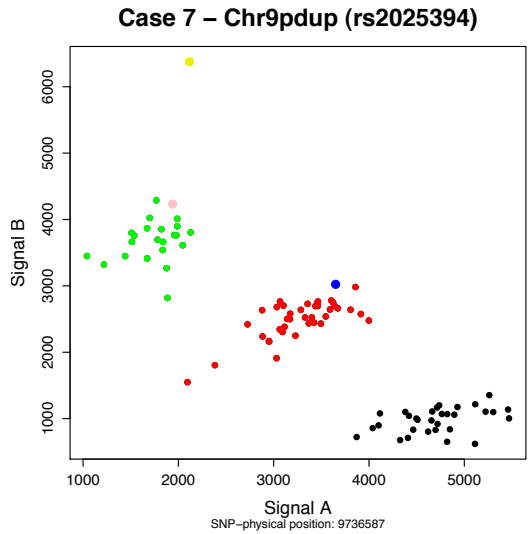

Case 7 – Chr9pdup (rs7856030)
Signal B
Signal A
SNP–physical position: 9685304

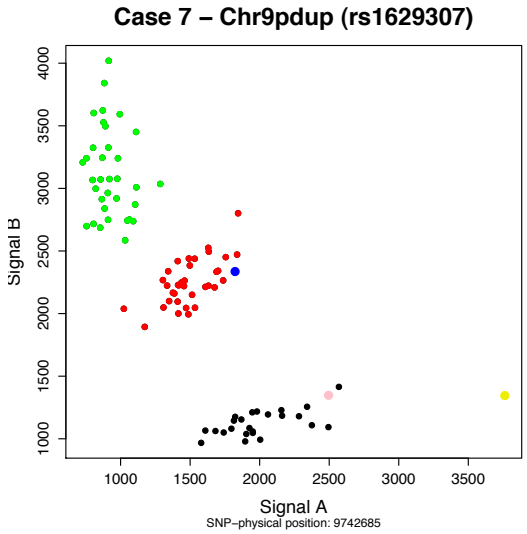

Case 7 – Chr9pdup (rs10429529)
Signal B
Signal A
SNP–physical position: 9724816

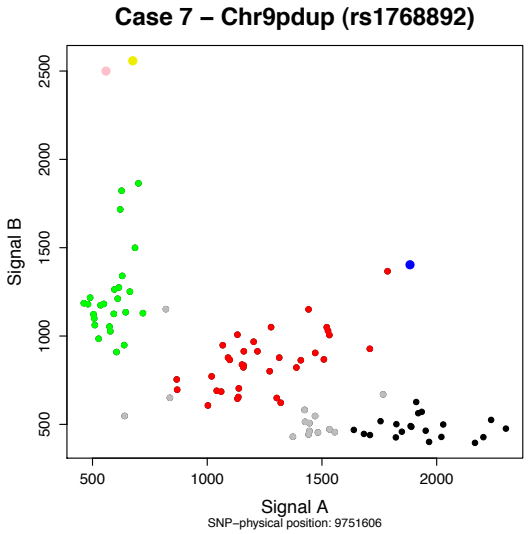

Case 7 – Chr9pdup (rs4273904)
Signal B
Signal A
SNP–physical position: 9724976

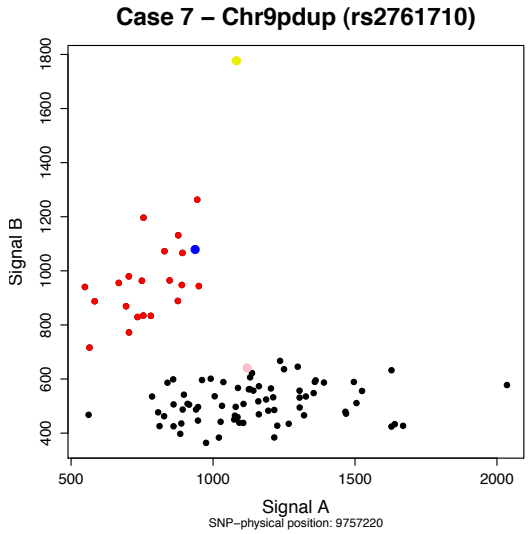

Case 7 – Chr9pdup (rs6477414)
Signal B
Signal A
SNP–physical position: 9726850

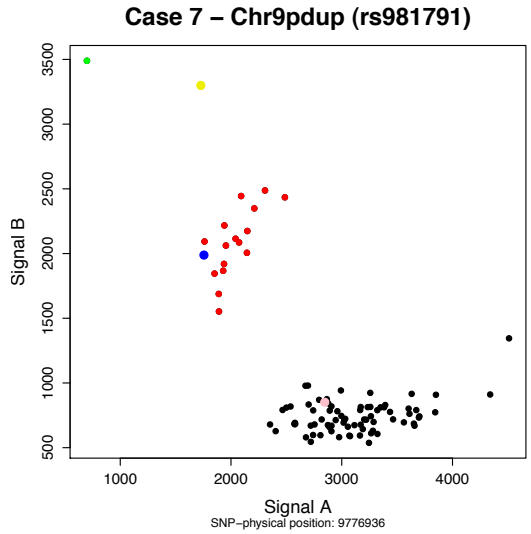

Case 7 – Chr9pdup (rs10816168)
Signal B
Signal A
SNP–physical position: 9728354

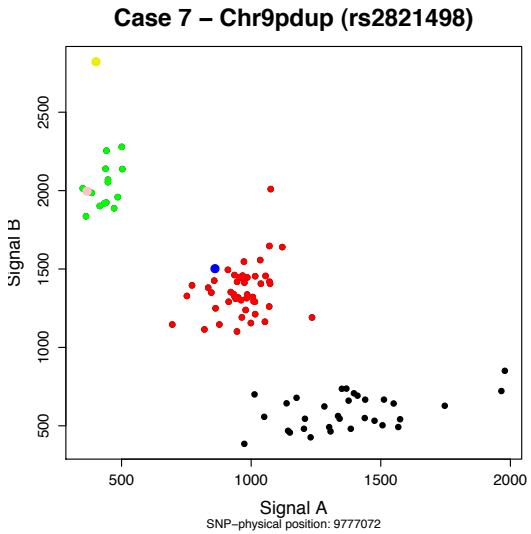

Case 7 – Chr9pdup (rs2025394)
Signal B
Signal A
SNP–physical position: 9736587

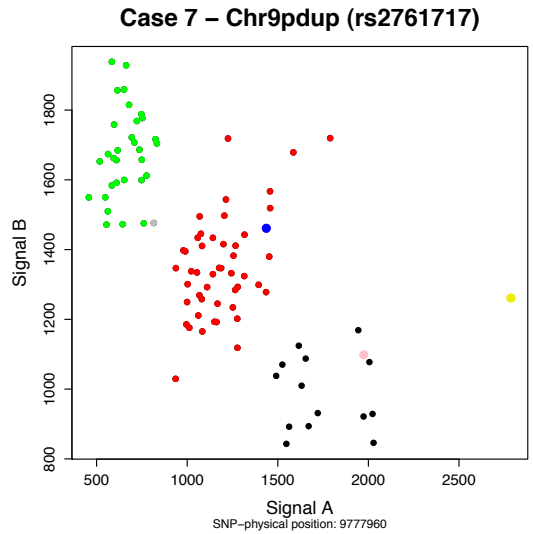

Case 7 – Chr9pdup (rs1629307)
Signal B
Signal A
SNP–physical position: 9742685

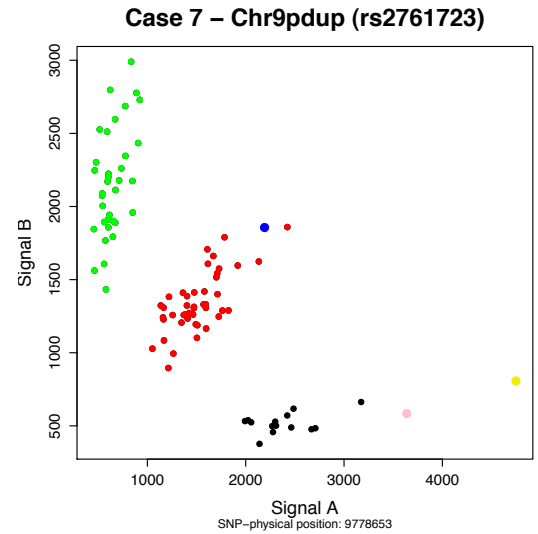

Case 7 – Chr9pdup (rs1768892)
Signal B
Signal A
SNP–physical position: 9751606

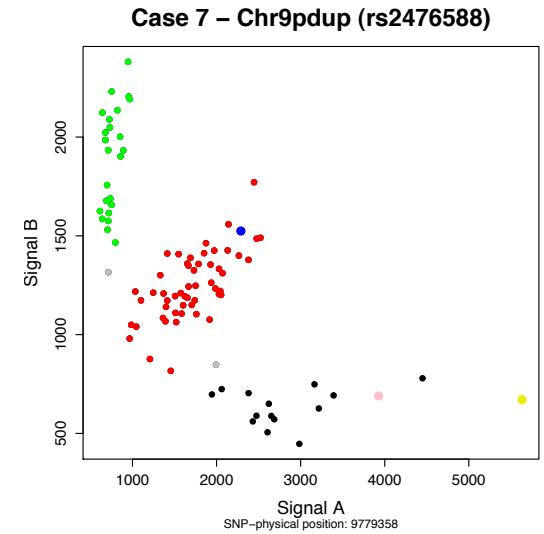

Case 7 – Chr9pdup (rs2761710)
Signal B
Signal A
SNP–physical position: 9757220

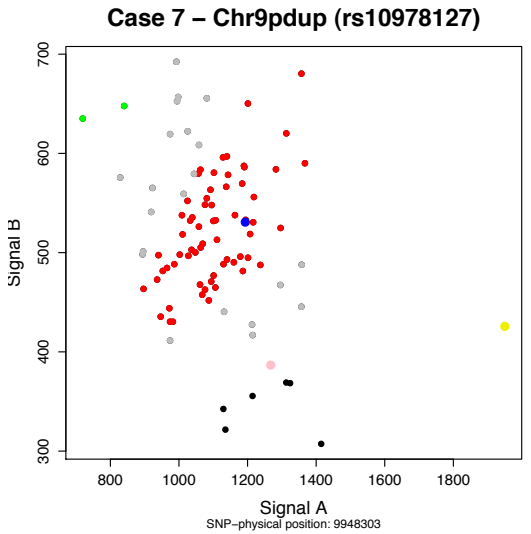

Case 7 – Chr9pdup (rs981791)
Signal B
Signal A
SNP–physical position: 9776936

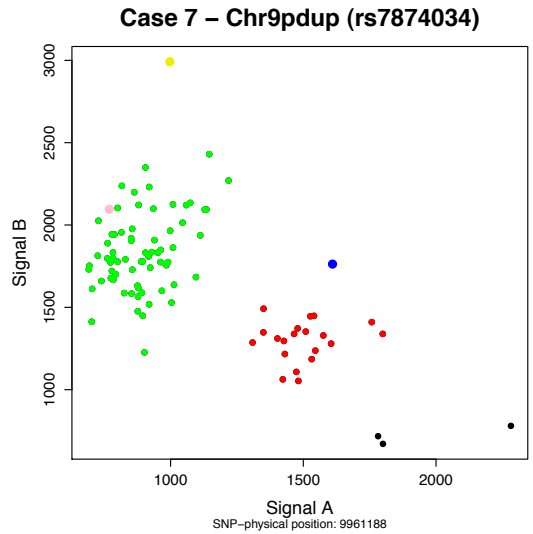

Case 7 – Chr9pdup (rs2821498)
Signal B
Signal A
SNP−physical position: 9777072

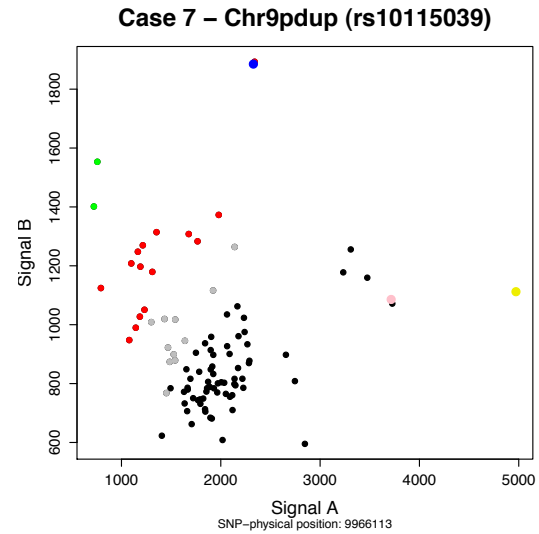

Case 7 – Chr9pdup (rs2761717)
Signal B
Signal A
SNP−physical position: 9777960

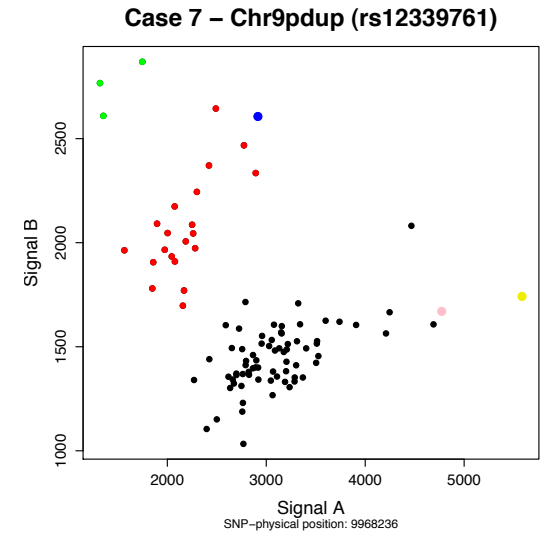

Case 7 – Chr9pdup (rs2761723)
Signal B
Signal A
SNP−physical position: 9778653

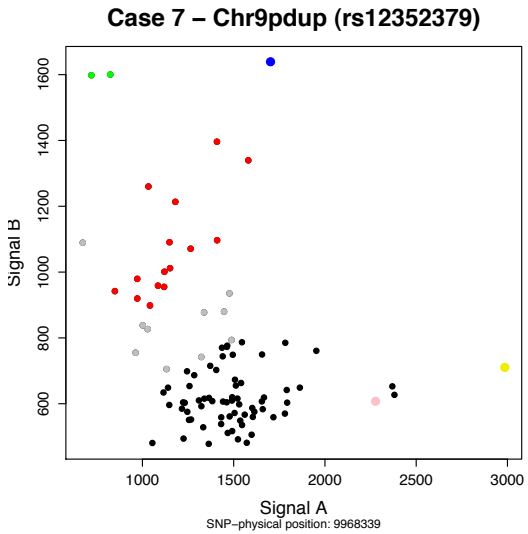

Case 7 – Chr9pdup (rs2476588)
Signal B
Signal A
SNP−physical position: 9779358

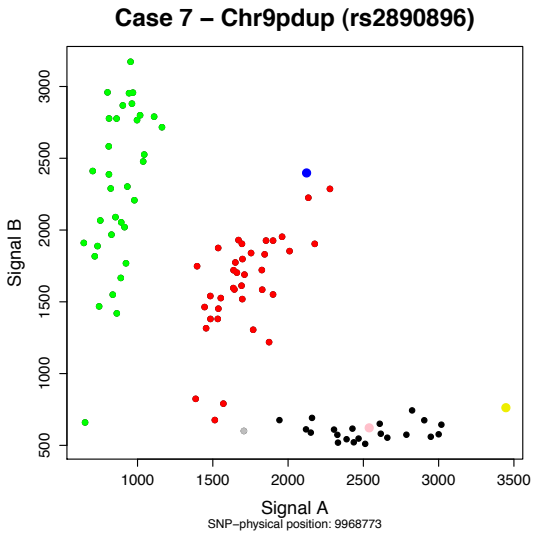

Case 7 – Chr9pdup (rs10978127)
Signal B
Signal A
SNP−physical position: 9948303

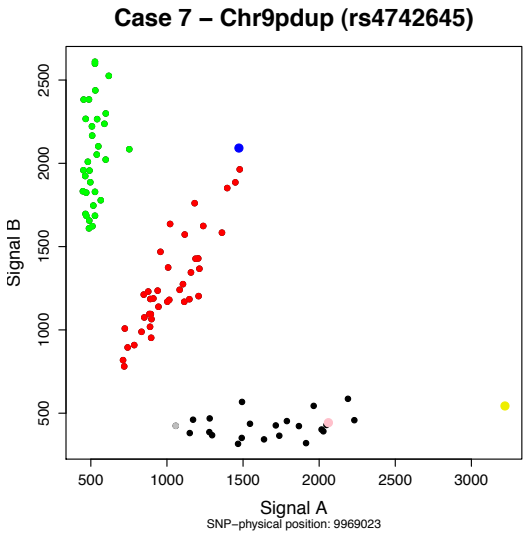

Case 7 – Chr9pdup (rs7874034)
Signal B
Signal A
SNP−physical position: 9961188

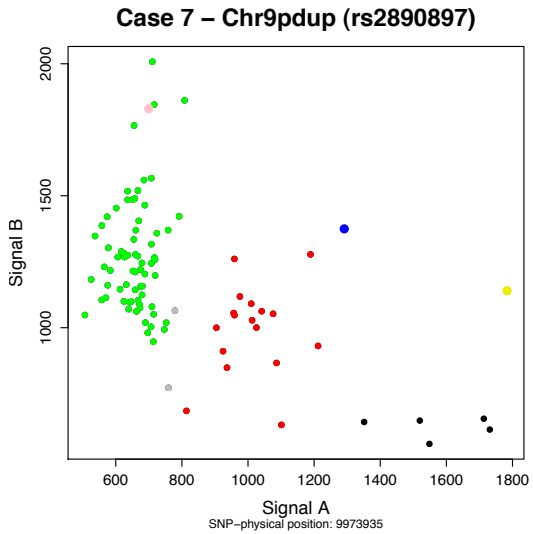

Case 7 – Chr9pdup (rs10115039)
Signal B
Signal A
SNP−physical position: 9966113

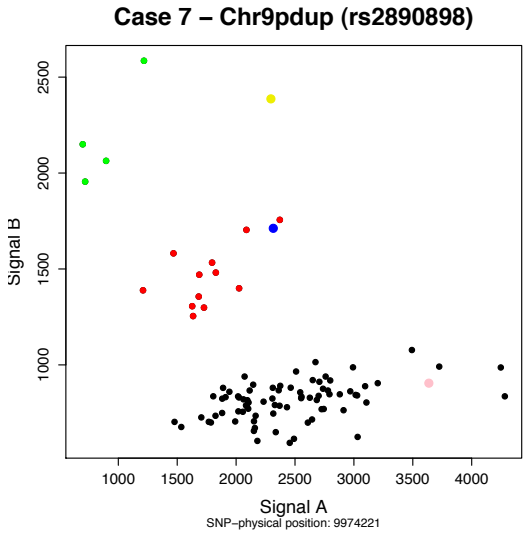

Case 7 – Chr9pdup (rs12339761)
Signal B
Signal A
SNP−physical position: 9968236

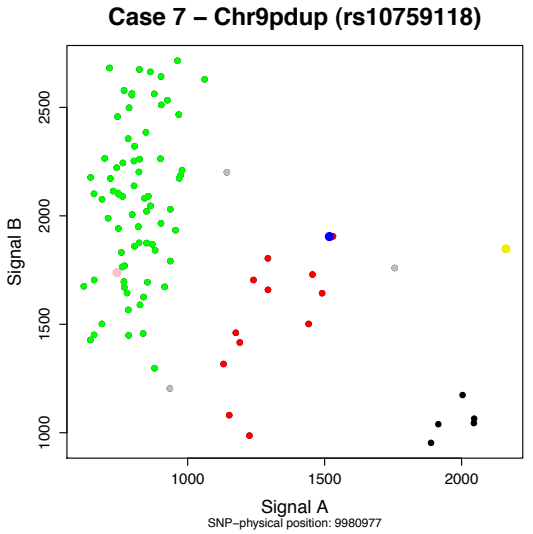

Case 7 – Chr9pdup (rs12352379)
Signal B
Signal A
SNP–physical position: 9968339

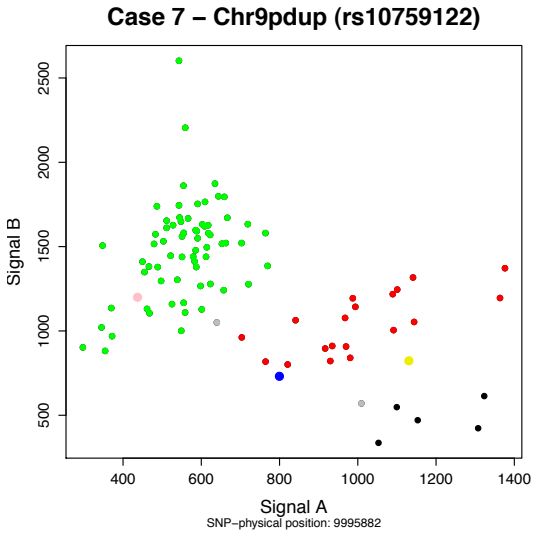

Case 7 – Chr9pdup (rs2890896)
Signal B
Signal A
SNP–physical position: 9968773

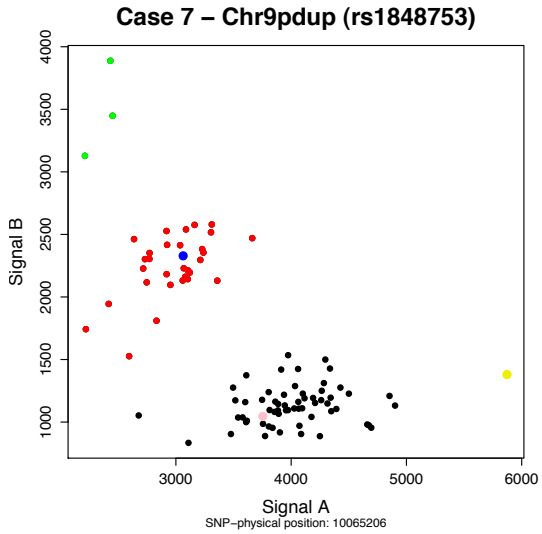

Case 7 – Chr9pdup (rs4742645)
Signal B
Signal A
SNP–physical position: 9969023

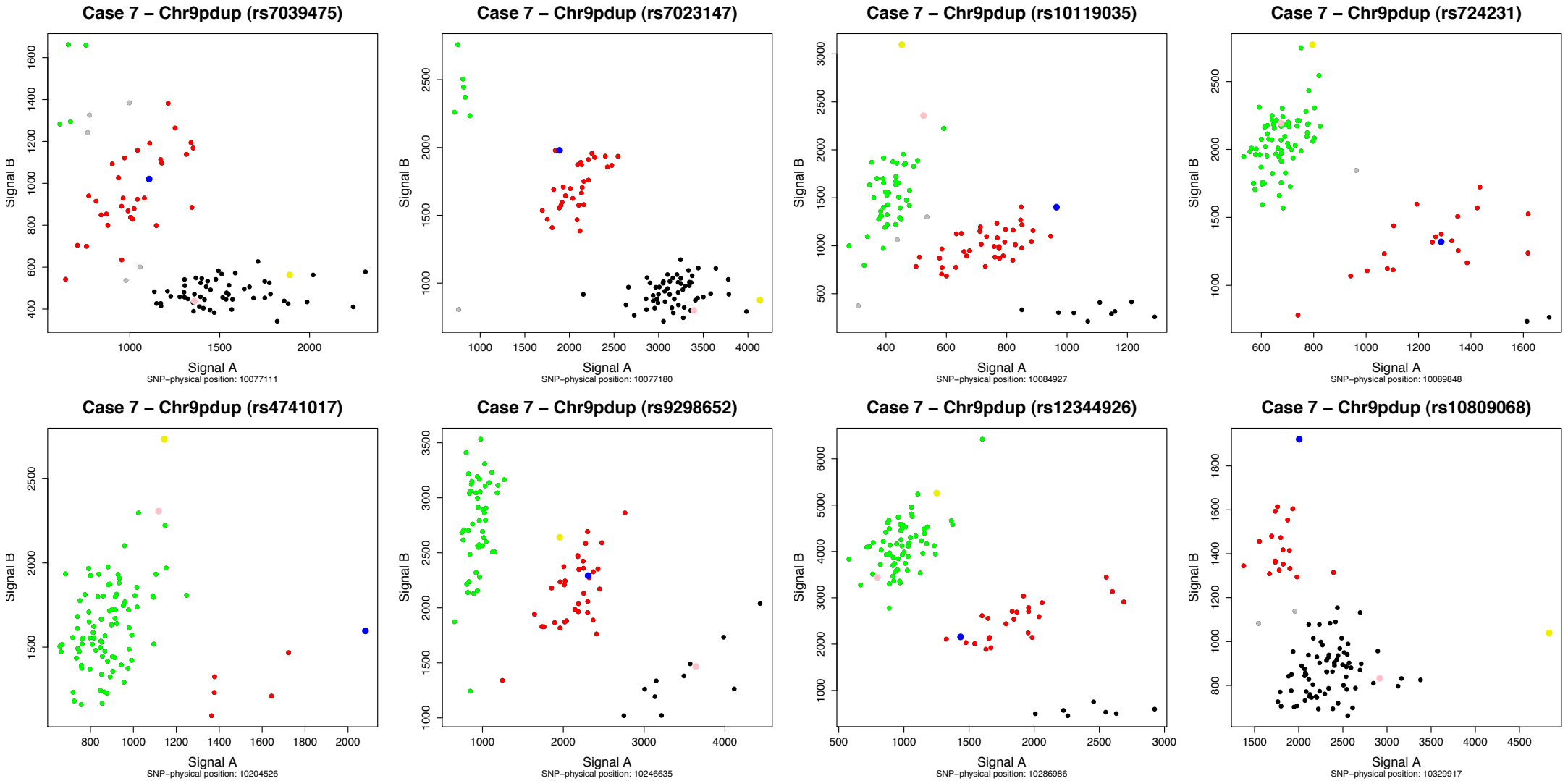

Case 7 – Chr9pdup (rs2890897)
Signal B
Signal A
SNP–physical position: 9973935

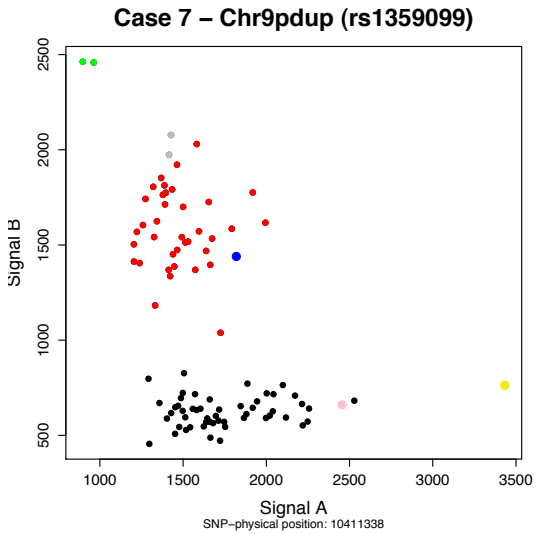

Case 7 – Chr9pdup (rs2890898)
Signal B
Signal A
SNP–physical position: 9974221

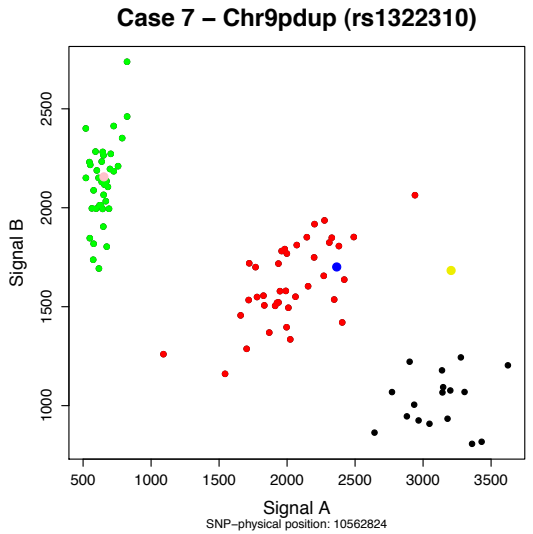

Case 7 – Chr9pdup (rs10759118)
Signal B
Signal A
SNP–physical position: 9980977

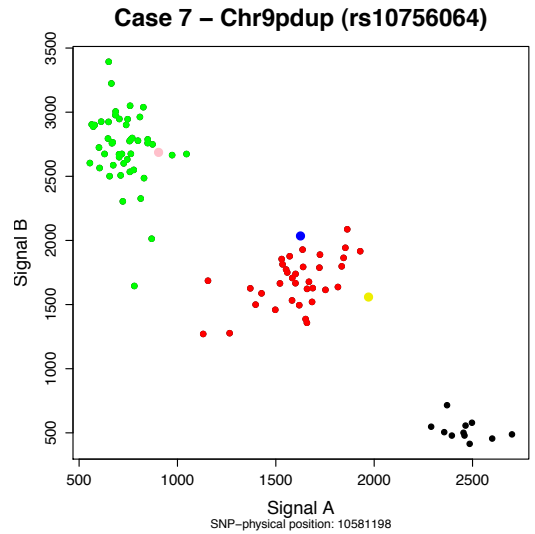

Case 7 – Chr9pdup (rs10759122)
Signal B
Signal A
SNP–physical position: 9995882

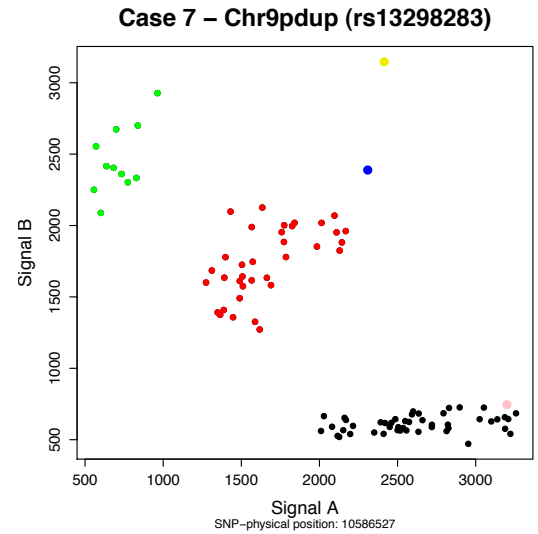

Case 7 – Chr9pdup (rs1848753)
Signal B
Signal A
SNP–physical position: 10065206

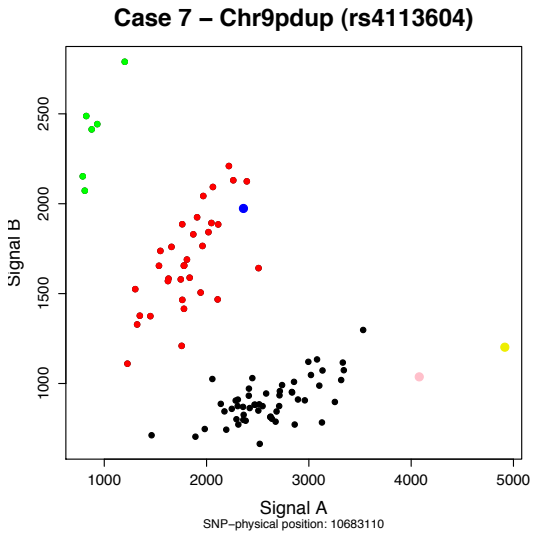

Case 7 – Chr9pdup (rs7039475)
Signal B
Signal A
SNP–physical position: 10077111
Case 7 – Chr9pdup (rs7023147)
Signal B
Signal A
SNP–physical position: 10077180
Case 7 – Chr9pdup (rs10119035)
Signal B
Signal A
SNP–physical position: 10084927
Case 7 – Chr9pdup (rs724231)
Signal B
Signal A
SNP–physical position: 10089848
Case 7 – Chr9pdup (rs4741017)
Signal B
Signal A
SNP–physical position: 10204526
Case 7 – Chr9pdup (rs9298652)
Signal B
Signal A
SNP–physical position: 10246635
Case 7 – Chr9pdup (rs12344926)
Signal B
Signal A
SNP–physical position: 10286986
Case 7 – Chr9pdup (rs10809068)
Signal B
Signal A
SNP–physical position: 10329917

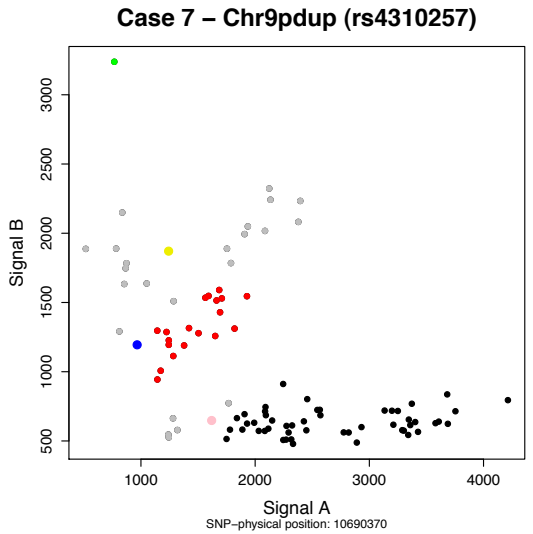

Case 7 – Chr9pdup (rs1359099)
Signal B
Signal A
SNP–physical position: 10411338

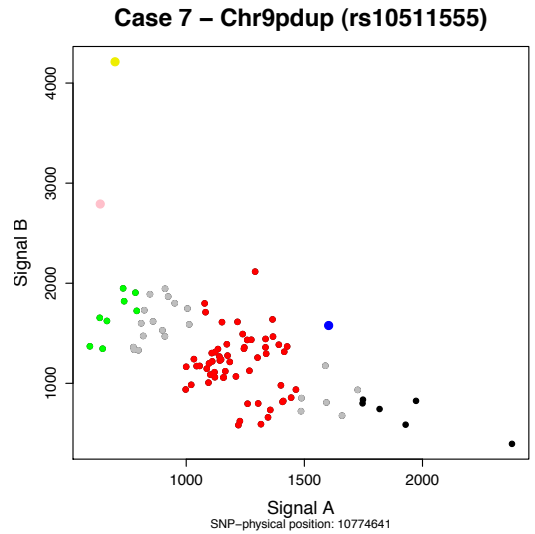

Case 7 – Chr9pdup (rs1322310)
Signal B
Signal A
SNP–physical position: 10562824

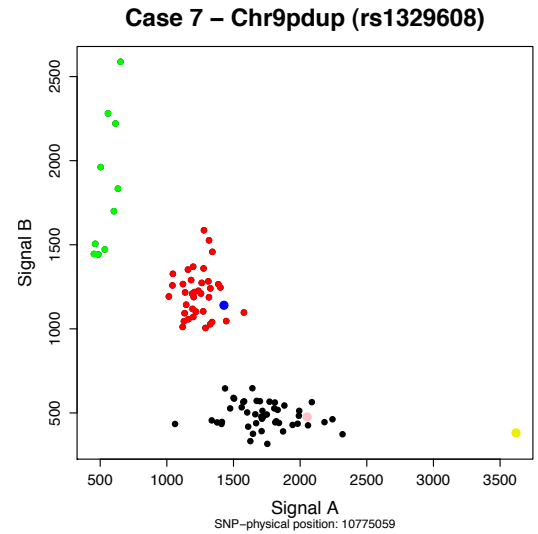

Case 7 – Chr9pdup (rs10756064)
Signal B
Signal A
SNP–physical position: 10581198

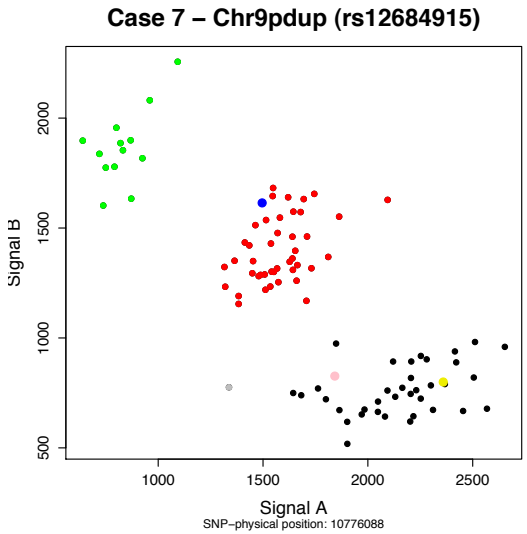

Case 7 – Chr9pdup (rs13298283)
Signal B
Signal A
SNP–physical position: 10586527

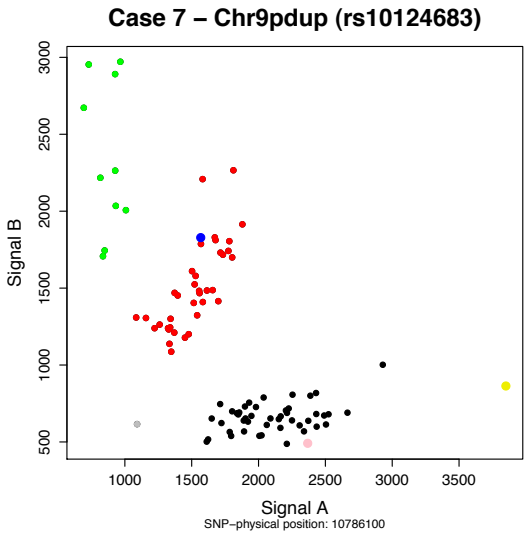

Case 7 – Chr9pdup (rs4113604)
Signal B
Signal A
SNP–physical position: 10683110

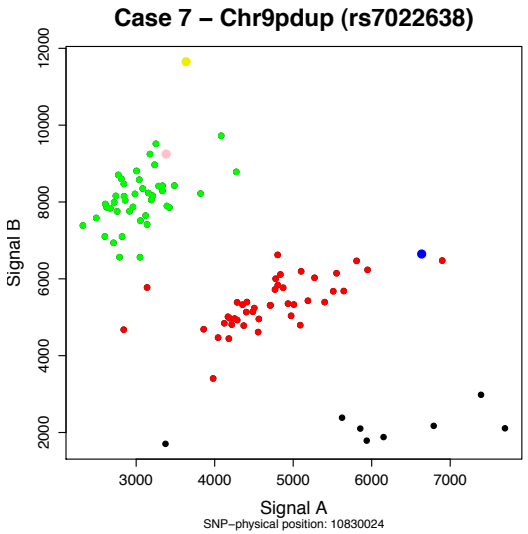

Case 7 – Chr9pdup (rs4310257)
Signal B
Signal A
SNP–physical position: 10690370

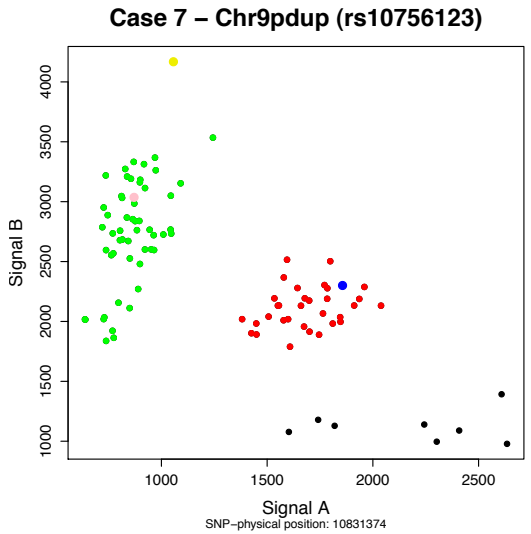

Case 7 – Chr9pdup (rs10511555)
Signal B
Signal A
SNP–physical position: 10774641

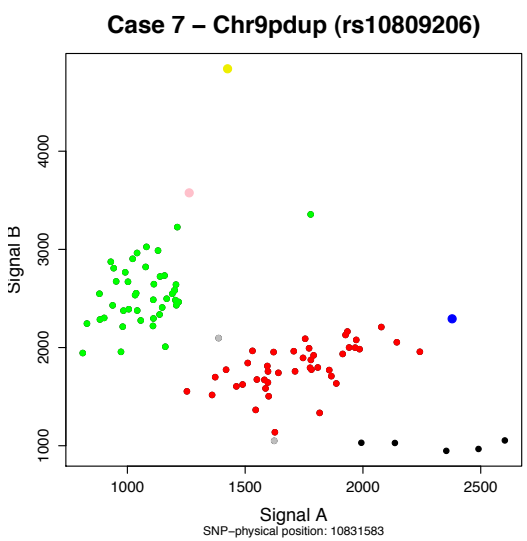

Case 7 – Chr9pdup (rs1329608)
Signal B
Signal A
SNP–physical position: 10775059

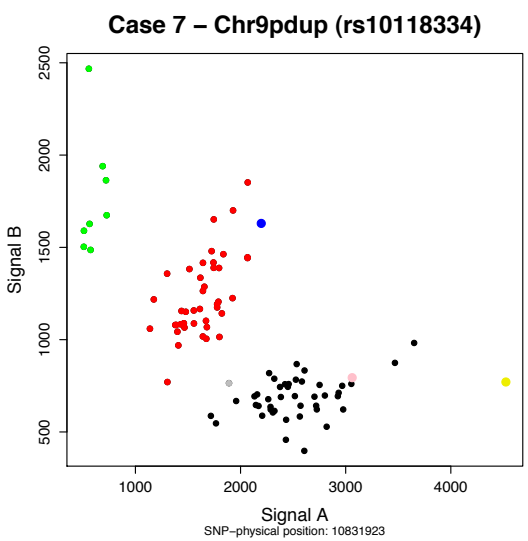

Case 7 – Chr9pdup (rs12684915)
Signal B
Signal A
SNP–physical position: 10776088

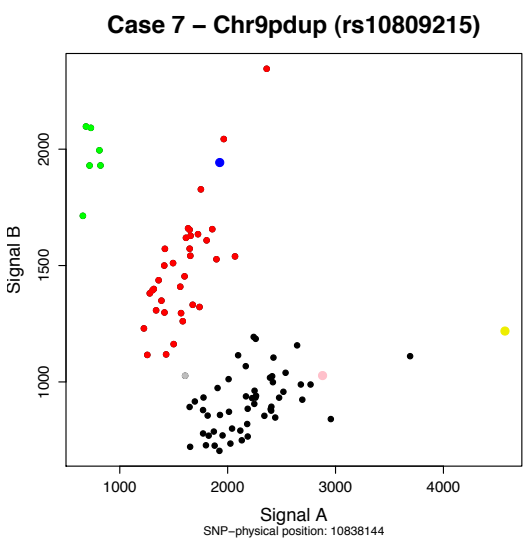

Case 7 – Chr9pdup (rs10124683)
Signal B
Signal A
SNP–physical position: 10786100

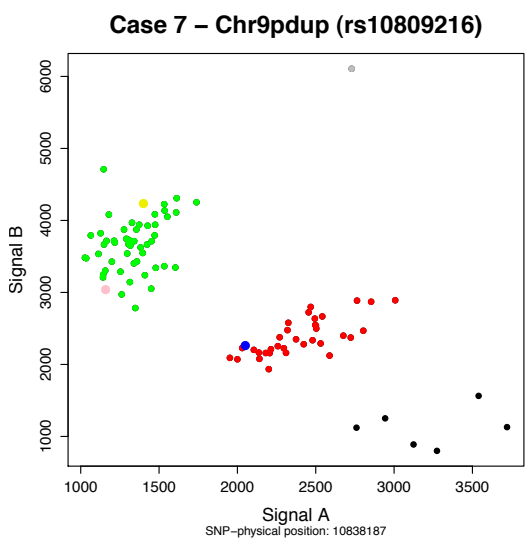

Case 7 – Chr9pdup (rs7022638)
Signal B
Signal A
SNP–physical position: 10830024

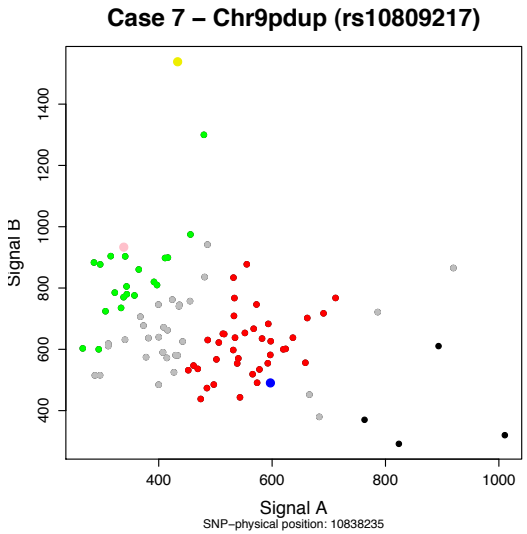

Case 7 – Chr9pdup (rs10756123)
Signal B
Signal A
SNP–physical position: 10831374

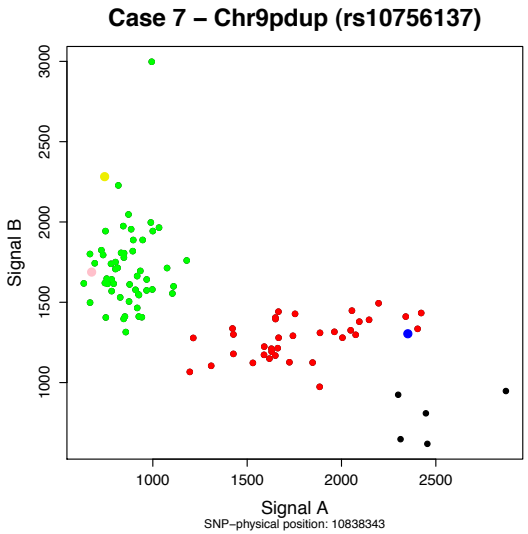

Case 7 – Chr9pdup (rs10809206)
Signal B
Signal A
SNP–physical position: 10831583

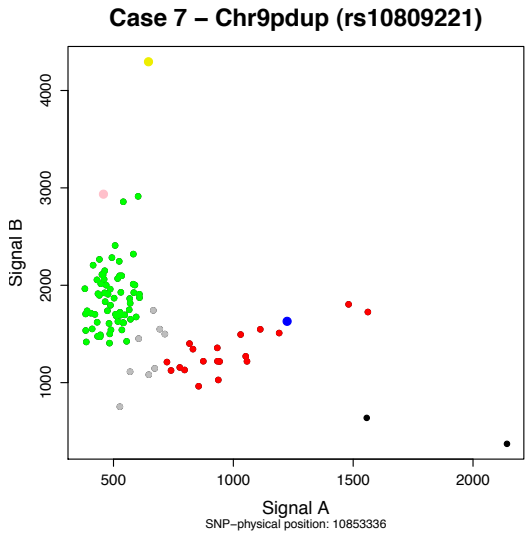

Case 7 – Chr9pdup (rs10118334)
Signal B
Signal A
SNP–physical position: 10831923

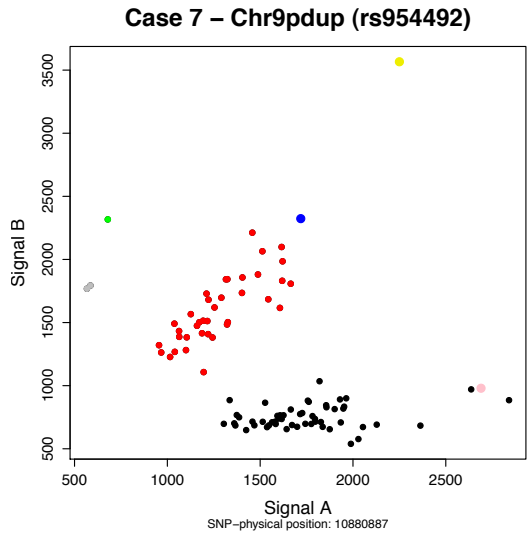

Case 7 – Chr9pdup (rs10809215)
Signal B
Signal A
SNP–physical position: 10838144

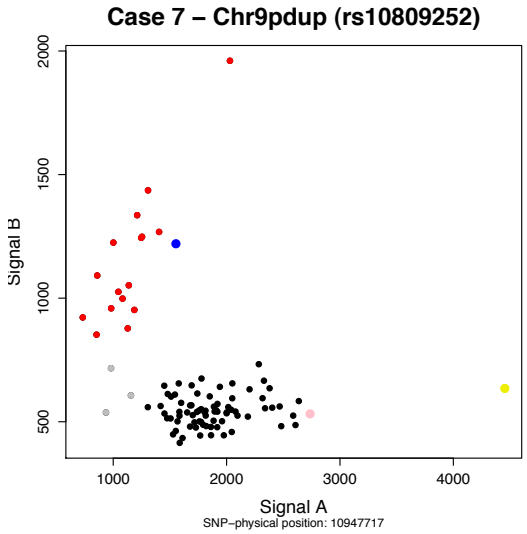

Case 7 – Chr9pdup (rs10809216)
Signal B
Signal A
SNP–physical position: 10838187

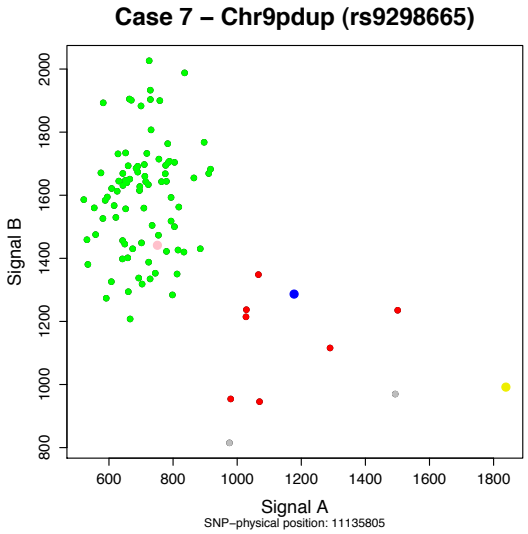

Case 7 – Chr9pdup (rs10809217)
Signal B
Signal A
SNP–physical position: 10838235

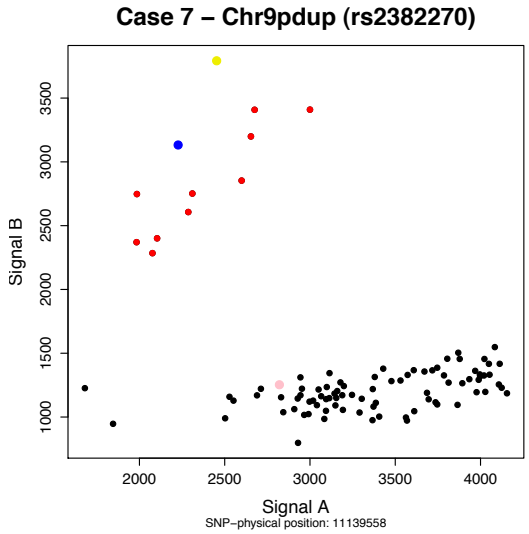

Case 7 – Chr9pdup (rs10756137)
Signal B
Signal A
SNP–physical position: 10838343

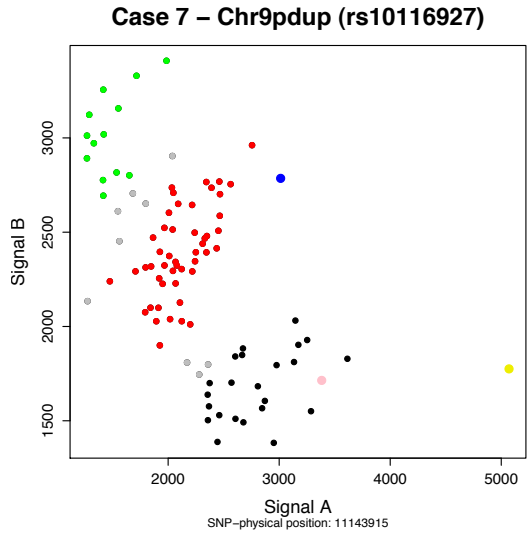

Case 7 – Chr9pdup (rs10809221)
Signal B
Signal A
SNP–physical position: 10853336

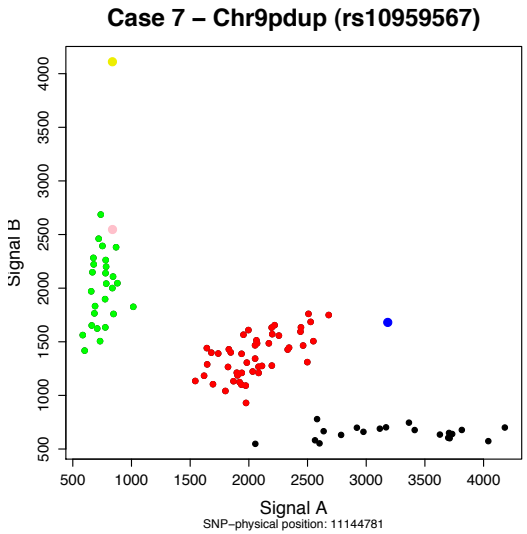

Case 7 – Chr9pdup (rs954492)
Signal B
Signal A
SNP–physical position: 10880887

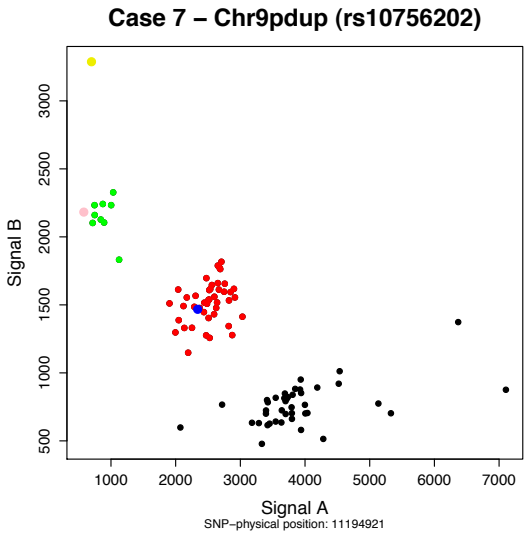

Case 7 – Chr9pdup (rs10809252)
Signal B
Signal A
SNP–physical position: 10947717

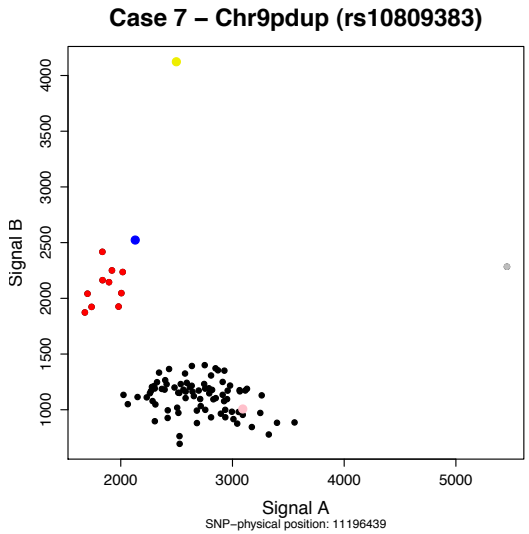

Case 7 – Chr9pdup (rs9298665)
Signal B
Signal A
SNP–physical position: 11135805

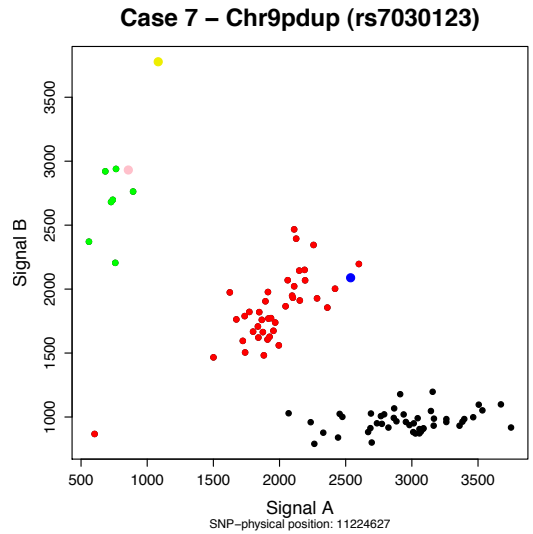

Case 7 – Chr9pdup (rs2382270)
Signal B
Signal A
SNP–physical position: 11139558

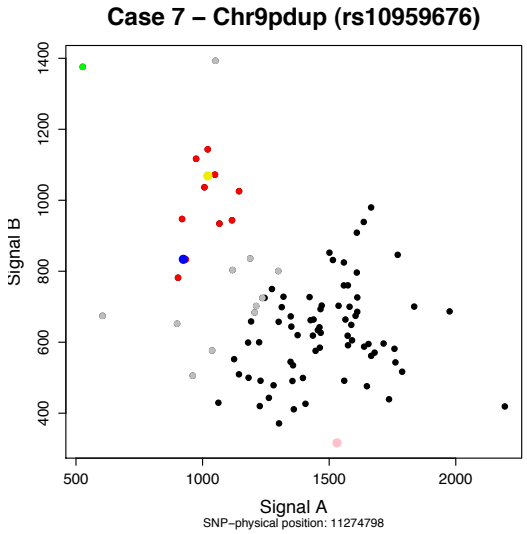

Case 7 – Chr9pdup (rs10116927)
Signal B
Signal A
SNP–physical position: 11143915

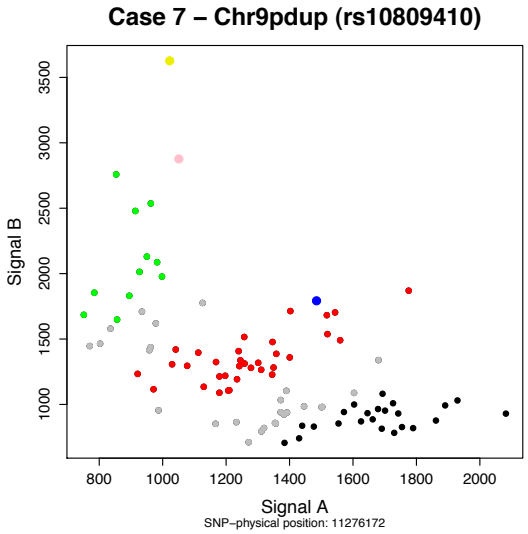

Case 7 – Chr9pdup (rs10959567)
Signal B
Signal A
SNP–physical position: 11144781

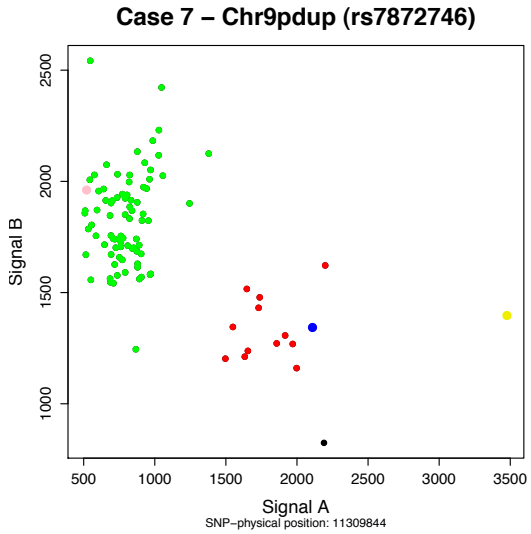

Case 7 – Chr9pdup (rs10756202)
Signal B
Signal A
SNP–physical position: 11194921

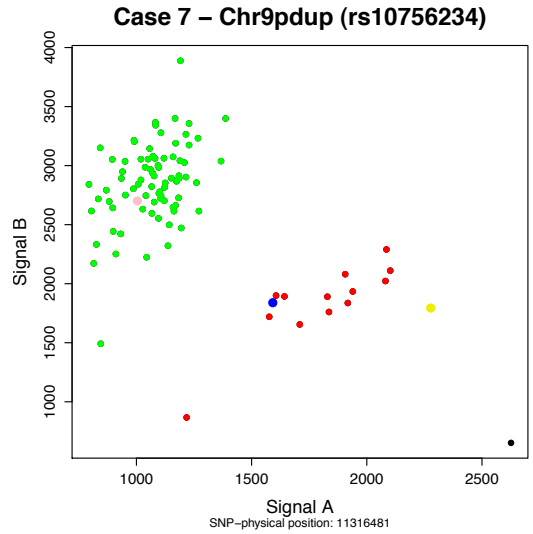

Case 7 – Chr9pdup (rs10809383)
Signal B
Signal A
SNP–physical position: 11196439

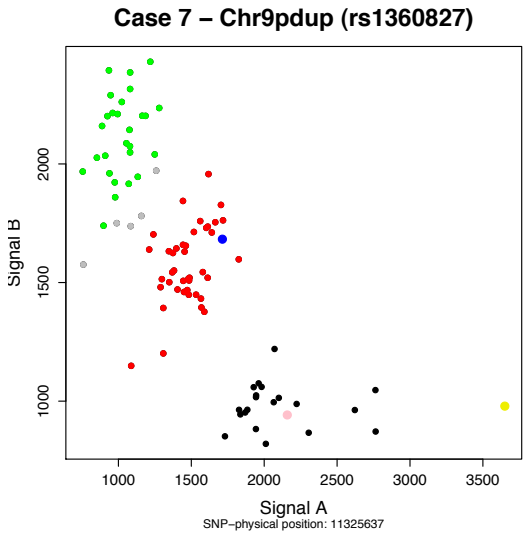

Case 7 – Chr9pdup (rs7030123)
Signal B
Signal A
SNP–physical position: 11224627

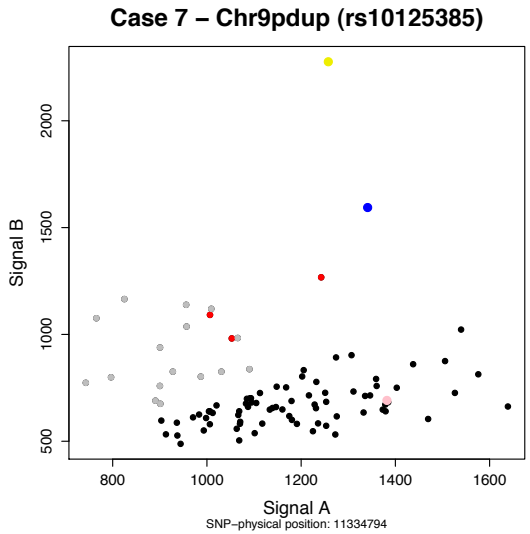

Case 7 – Chr9pdup (rs10959676)
Signal B
Signal A
SNP–physical position: 11274798

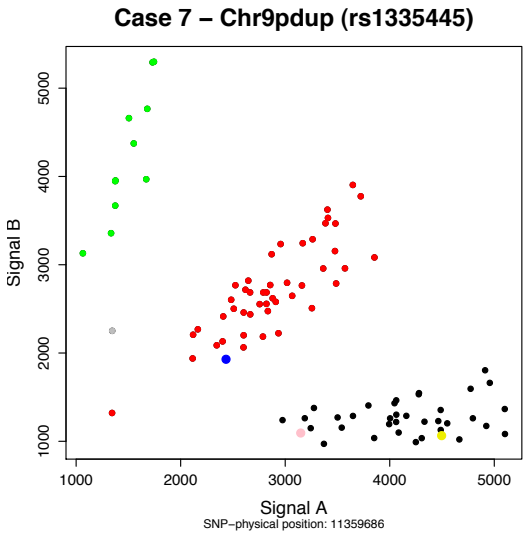

Case 7 – Chr9pdup (rs10809410)
Signal B
Signal A
SNP–physical position: 11276172

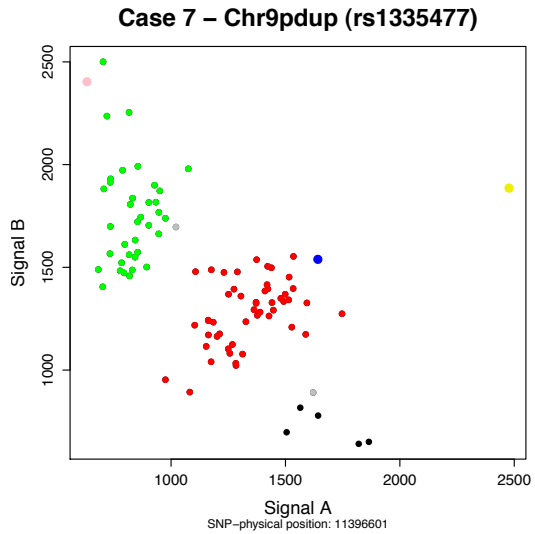

Case 7 – Chr9pdup (rs7872746)
Signal B
Signal A
SNP–physical position: 11309844

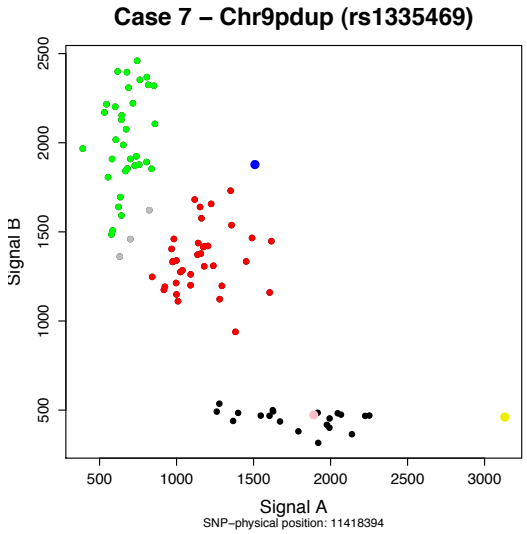

Case 7 – Chr9pdup (rs10756234)
Signal B
Signal A
SNP–physical position: 11316481

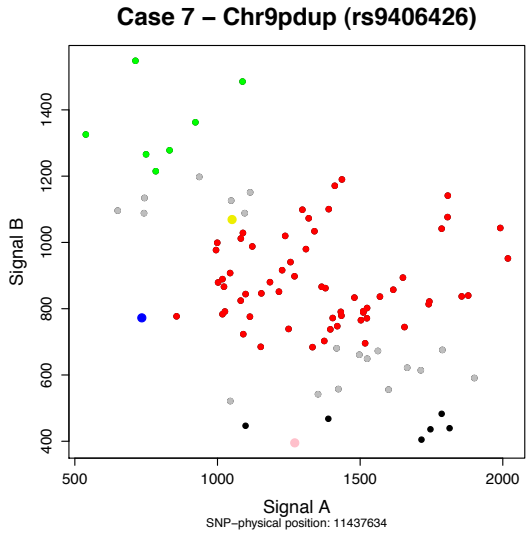

Case 7 – Chr9pdup (rs1360827)
Signal B
Signal A
SNP–physical position: 11325637

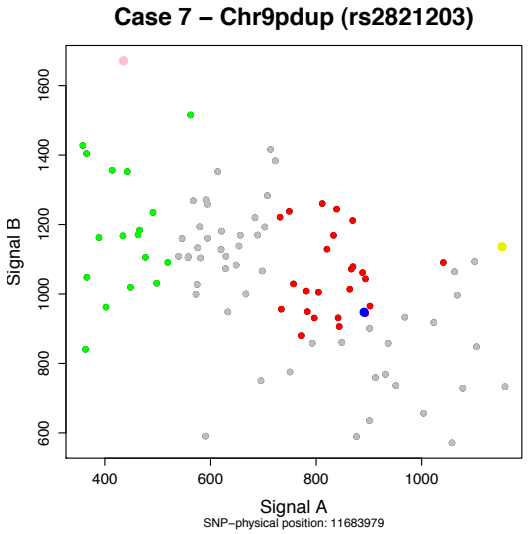

Case 7 – Chr9pdup (rs10125385)
Signal B
Signal A
SNP–physical position: 11334794

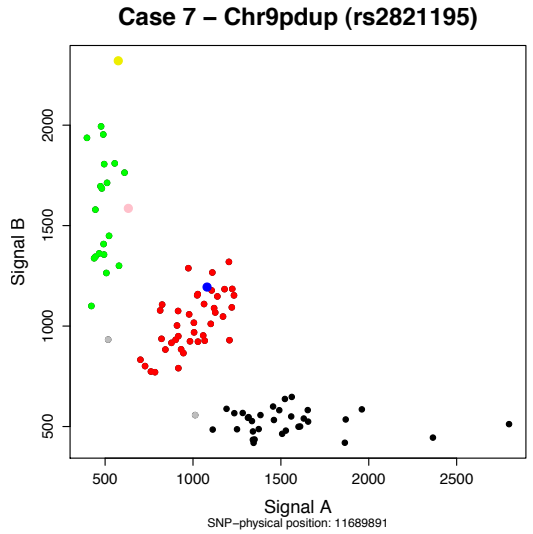

Case 7 – Chr9pdup (rs1335445)
Signal B
Signal A
SNP–physical position: 11359686

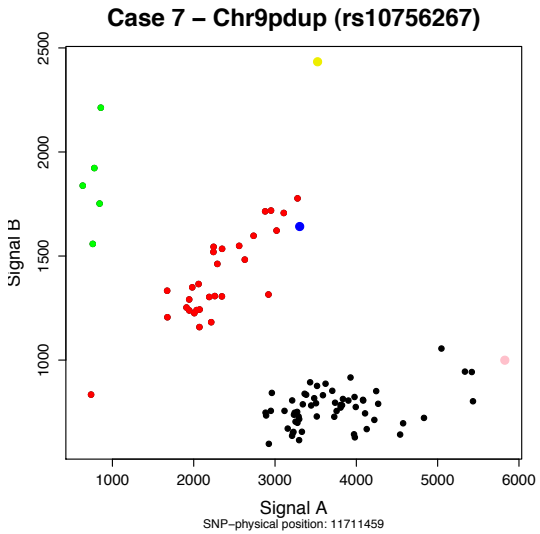

Case 7 – Chr9pdup (rs1335477)
Signal B
Signal A
SNP–physical position: 11396601

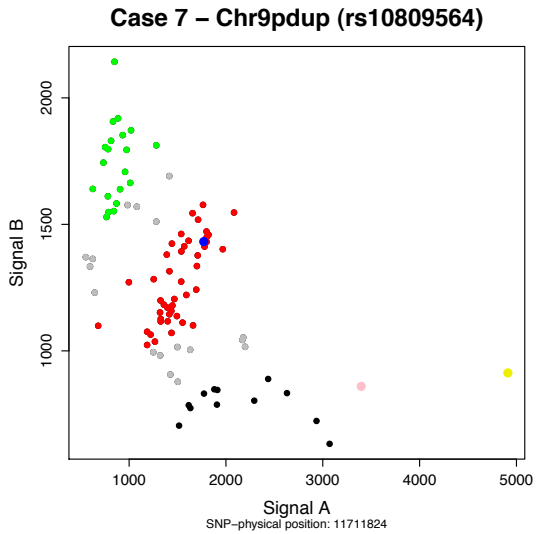

Case 7 – Chr9pdup (rs1335469)
Signal B
Signal A
SNP–physical position: 11418394

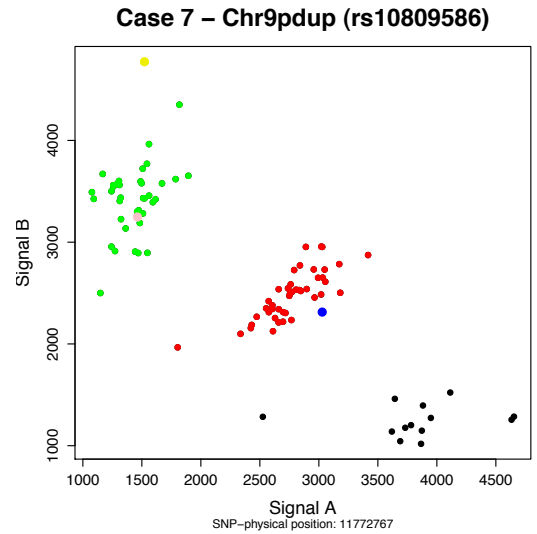

Case 7 – Chr9pdup (rs9406426)
Signal B
Signal A
SNP–physical position: 11437634

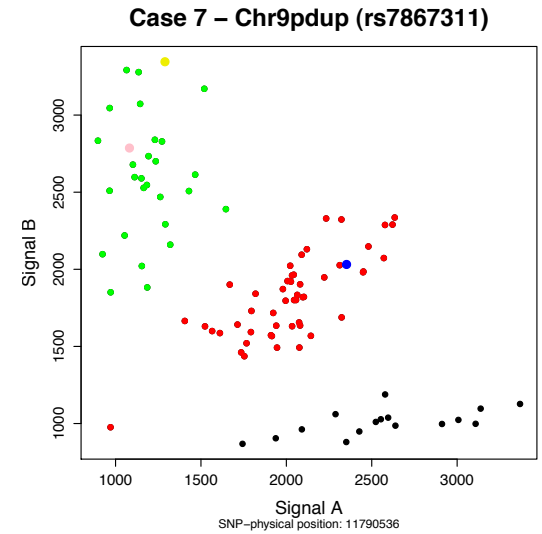

Case 7 – Chr9pdup (rs2821203)
Signal B
Signal A
SNP–physical position: 11683979

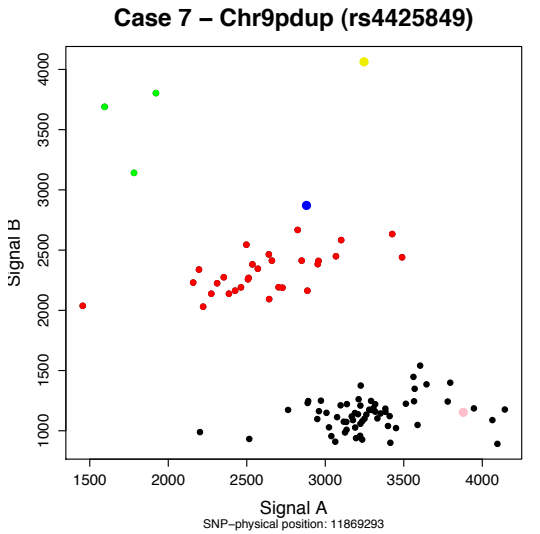

Case 7 – Chr9pdup (rs2821195)
Signal B
Signal A
SNP–physical position: 11689891

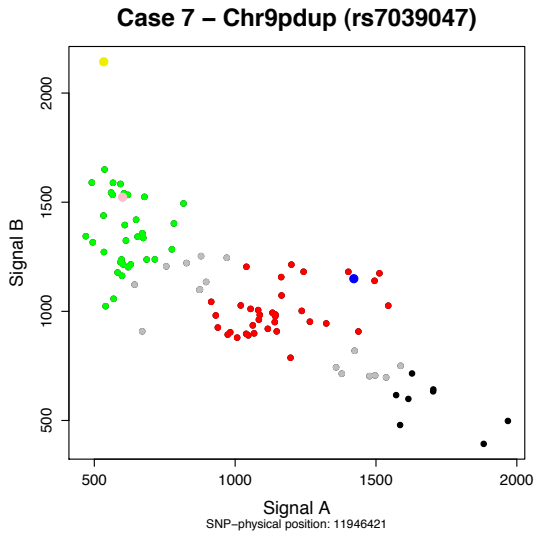

Case 7 – Chr9pdup (rs10756267)
Signal B
Signal A
SNP–physical position: 11711459

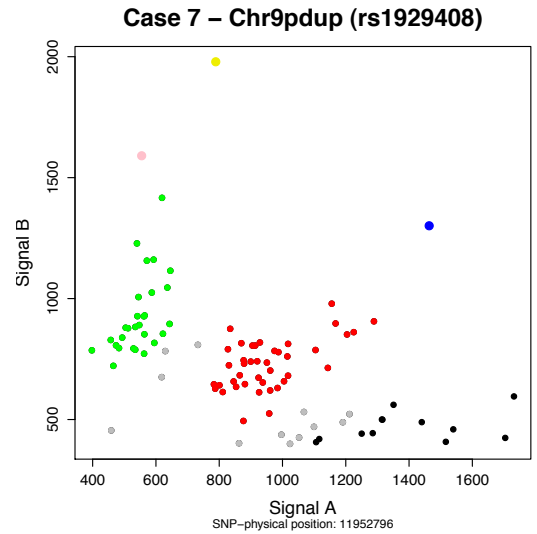

Case 7 – Chr9pdup (rs10809564)
Signal B
Signal A
SNP–physical position: 11711824

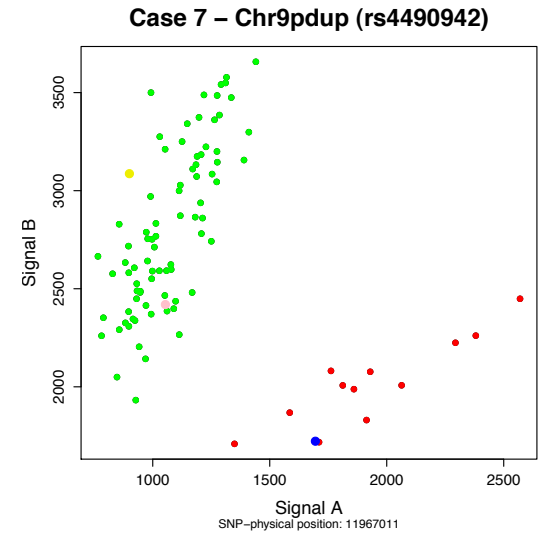

Case 7 – Chr9pdup (rs10809586)
Signal B
Signal A
SNP–physical position: 11772767

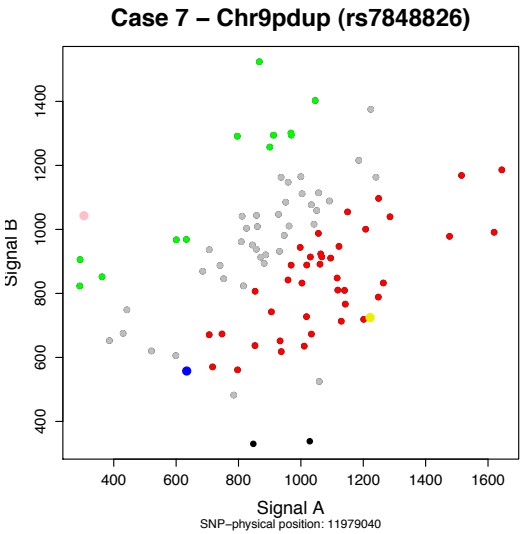

Case 7 – Chr9pdup (rs7867311)
Signal B
Signal A
SNP–physical position: 11790536

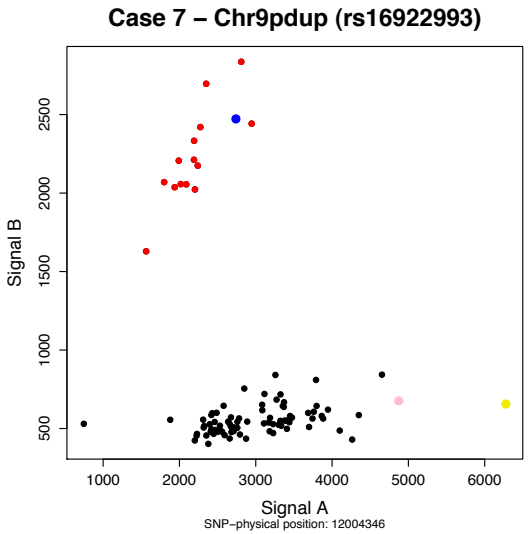

Case 7 – Chr9pdup (rs4425849)
Signal B
Signal A
SNP–physical position: 11869293

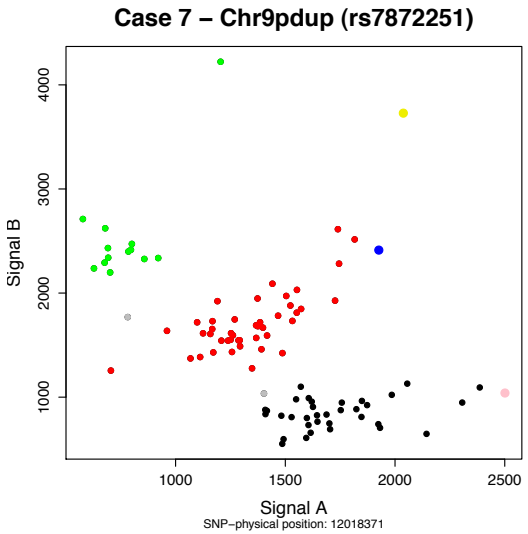

Case 7 – Chr9pdup (rs7039047)
Signal B
Signal A
SNP–physical position: 11946421

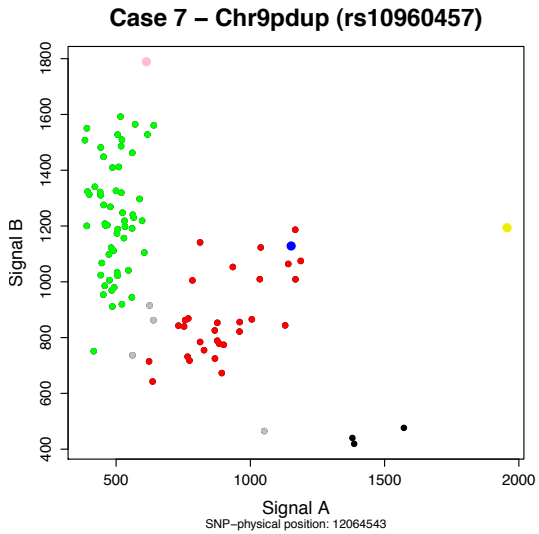

Case 7 – Chr9pdup (rs1929408)
Signal B
Signal A
SNP–physical position: 11952796

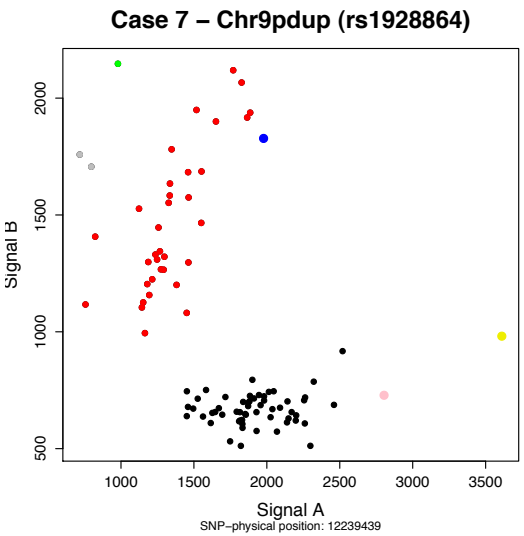

Case 7 – Chr9pdup (rs4490942)
Signal B
Signal A
SNP–physical position: 11967011

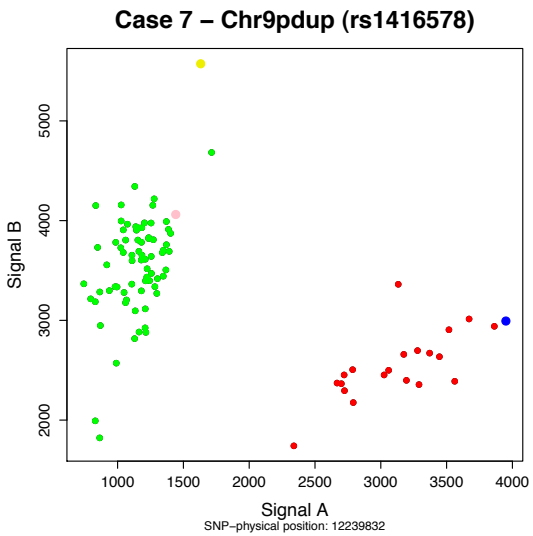

Case 7 – Chr9pdup (rs7848826)
Signal B
Signal A
SNP–physical position: 11979040

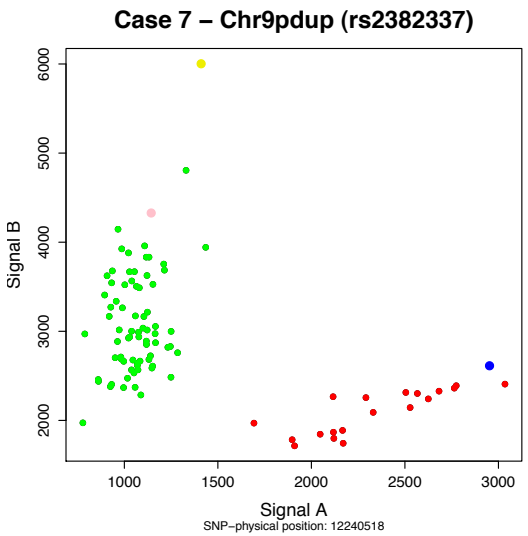

Case 7 – Chr9pdup (rs16922993)
Signal B
Signal A
SNP–physical position: 12004346

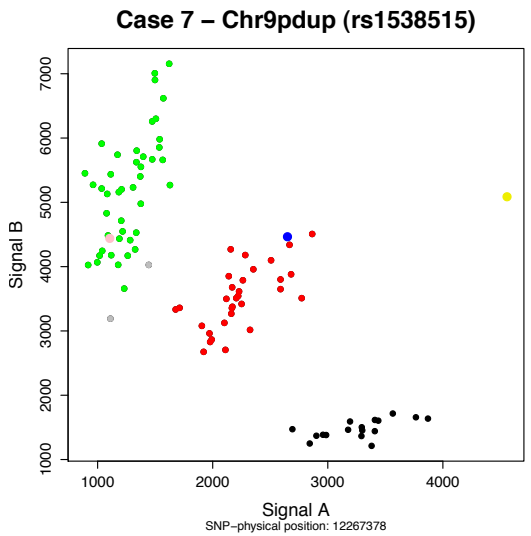

Case 7 – Chr9pdup (rs7872251)
Signal B
Signal A
SNP–physical position: 12018371

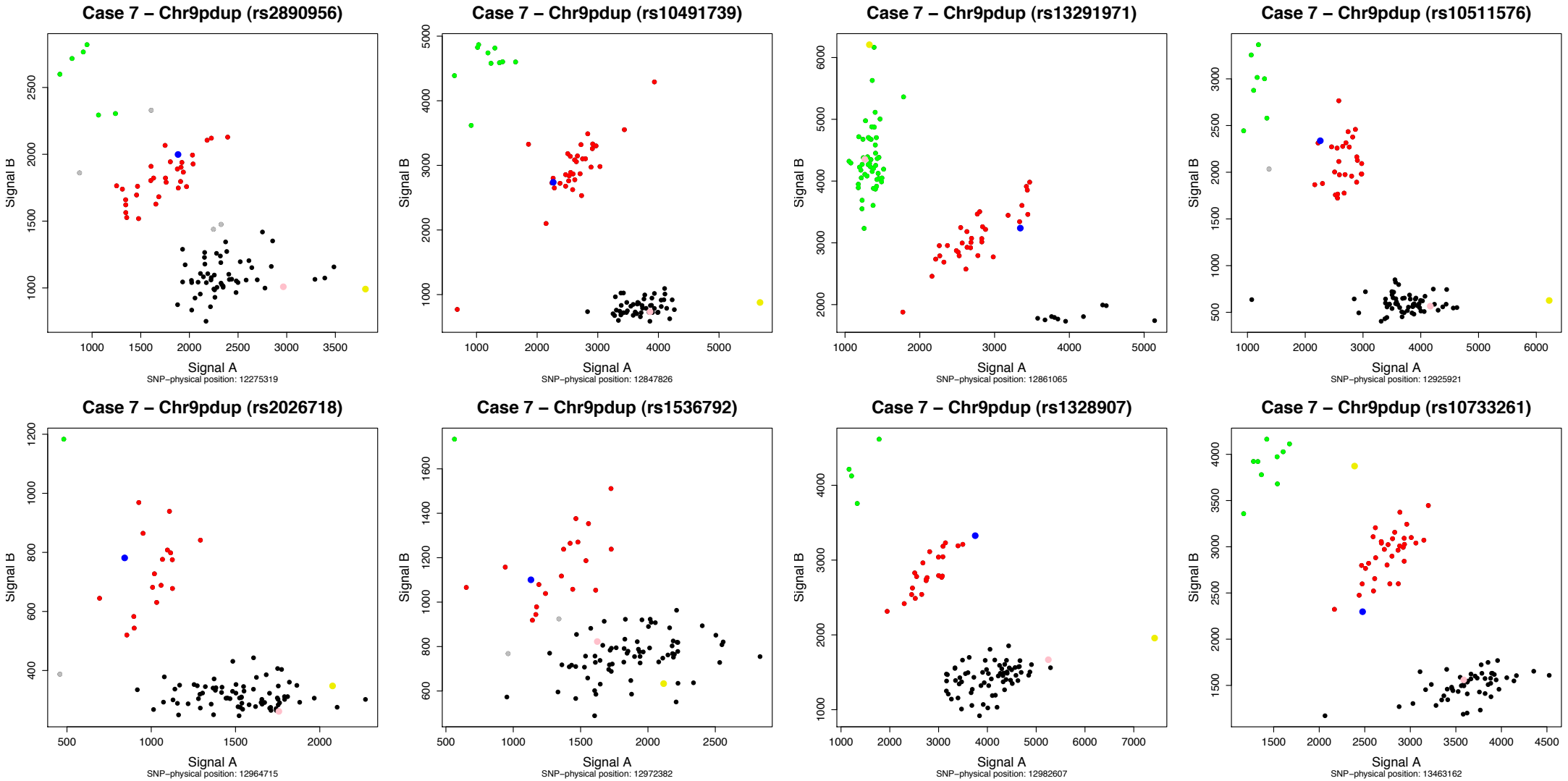

Case 7 – Chr9pdup (rs10960457)
Signal B
Signal A
SNP–physical position: 12064543

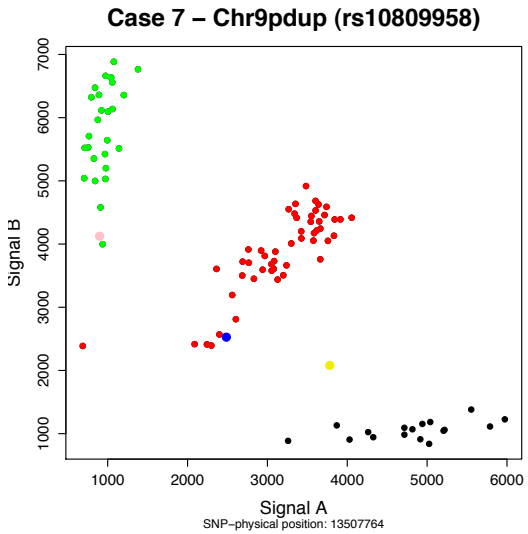

Case 7 – Chr9pdup (rs1928864)
Signal B
Signal A
SNP–physical position: 12239439

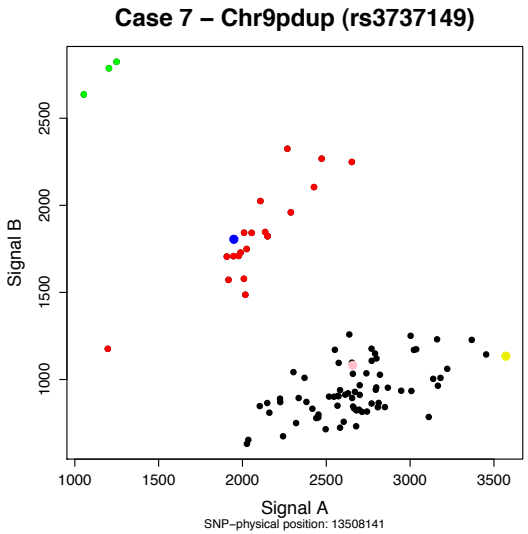

Case 7 – Chr9pdup (rs1416578)
Signal B
Signal A
SNP–physical position: 12239832

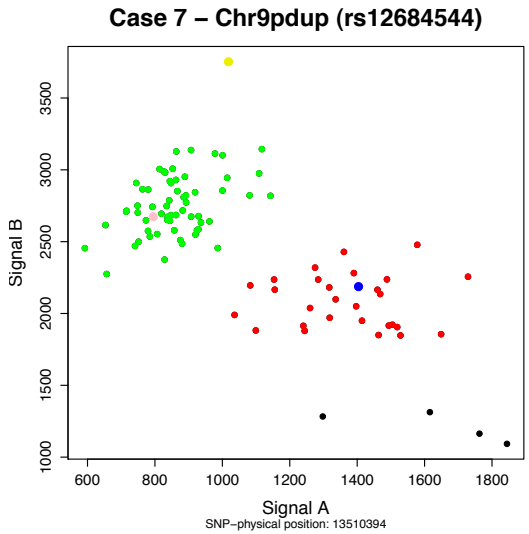

Case 7 – Chr9pdup (rs2382337)
Signal B
Signal A
SNP–physical position: 12240518

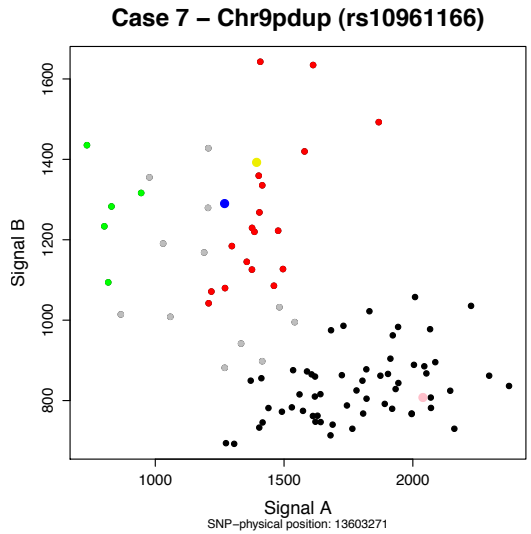

Case 7 – Chr9pdup (rs1538515)
Signal B
Signal A
SNP–physical position: 12267378

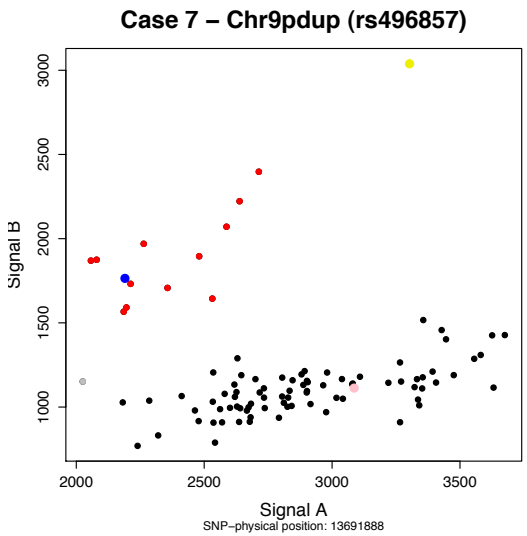

Case 7 – Chr9pdup (rs2890956)
Signal B
Signal A
SNP–physical position: 12275319
Case 7 – Chr9pdup (rs10491739)
Signal B
Signal A
SNP–physical position: 12847826
Case 7 – Chr9pdup (rs13291971)
Signal B
Signal A
SNP–physical position: 12861065
Case 7 – Chr9pdup (rs10511576)
Signal B
Signal A
SNP–physical position: 12925921
Case 7 – Chr9pdup (rs2026718)
Signal B
Signal A
SNP–physical position: 12964715
Case 7 – Chr9pdup (rs1536792)
Signal B
Signal A
SNP–physical position: 12972382
Case 7 – Chr9pdup (rs1328907)
Signal B
Signal A
SNP–physical position: 12982607
Case 7 – Chr9pdup (rs10733261)
Signal B
Signal A
SNP–physical position: 13463162

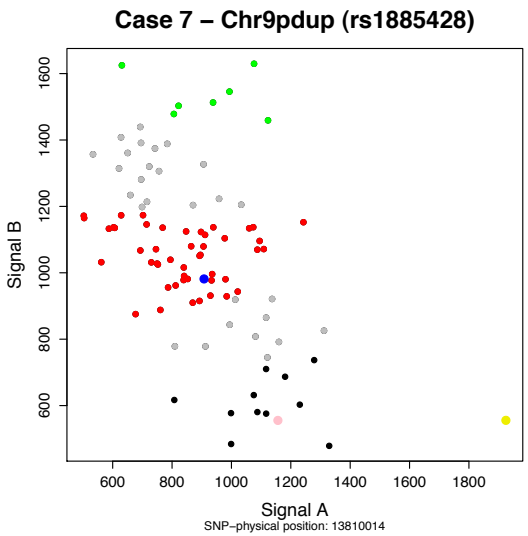

Case 7 – Chr9pdup (rs10809958)
Signal B
Signal A
SNP–physical position: 13507764

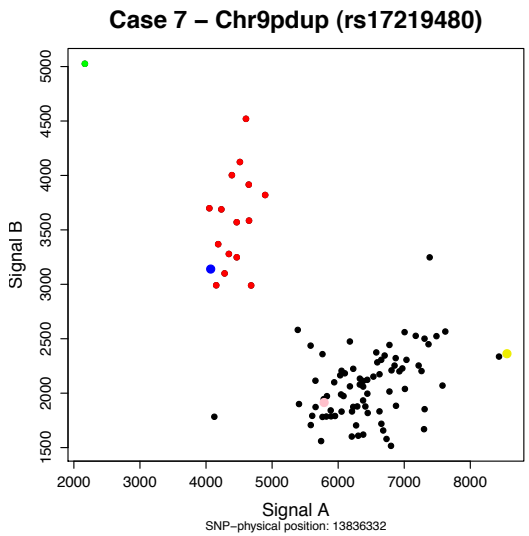

Case 7 – Chr9pdup (rs3737149)
Signal B
Signal A
SNP–physical position: 13508141

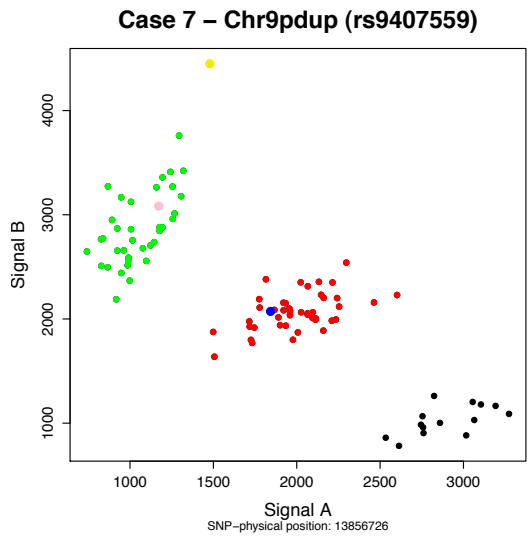

Case 7 – Chr9pdup (rs12684544)
Signal B
Signal A
SNP–physical position: 13510394

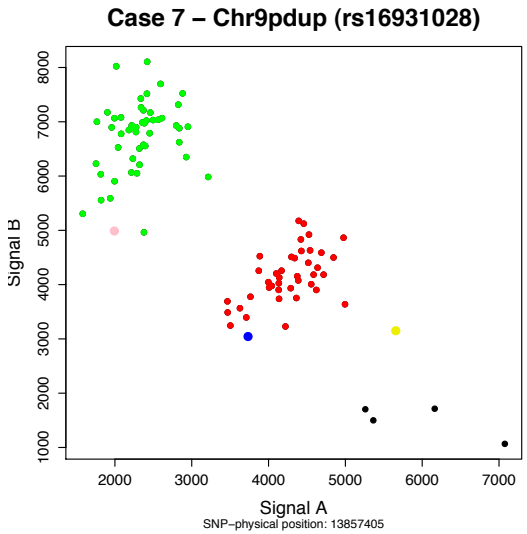

Case 7 – Chr9pdup (rs10961166)
Signal B
Signal A
SNP–physical position: 13603271

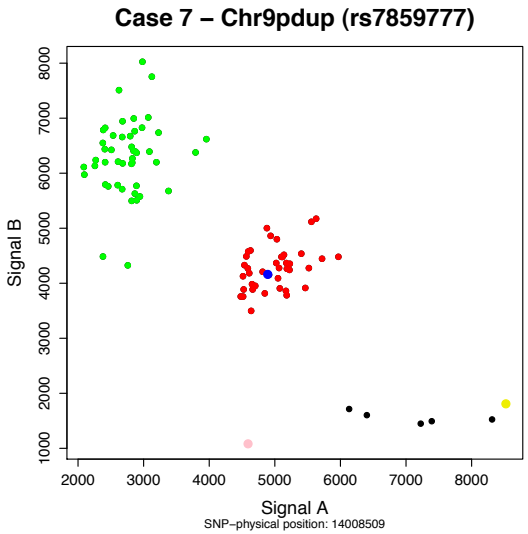

Case 7 – Chr9pdup (rs496857)
Signal B
Signal A
SNP–physical position: 13691888

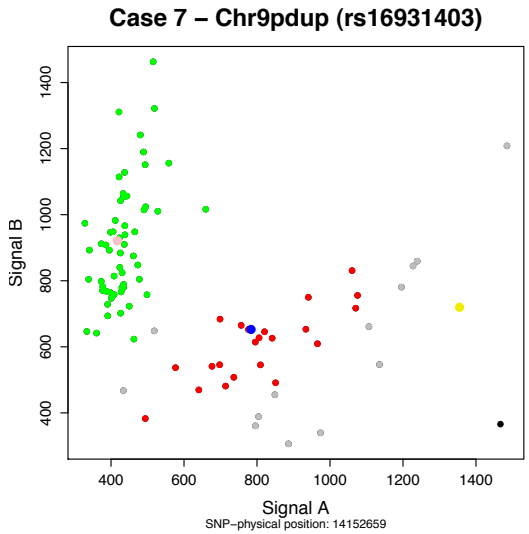

Case 7 – Chr9pdup (rs1885428)
Signal B
Signal A
SNP–physical position: 13810014

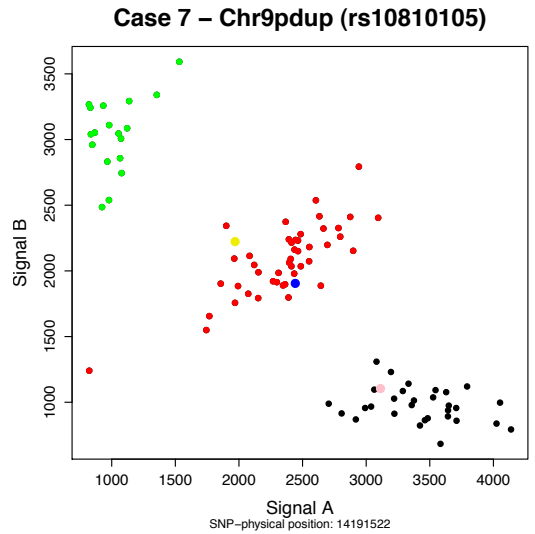

Case 7 – Chr9pdup (rs17219480)
Signal B
Signal A
SNP–physical position: 13836332

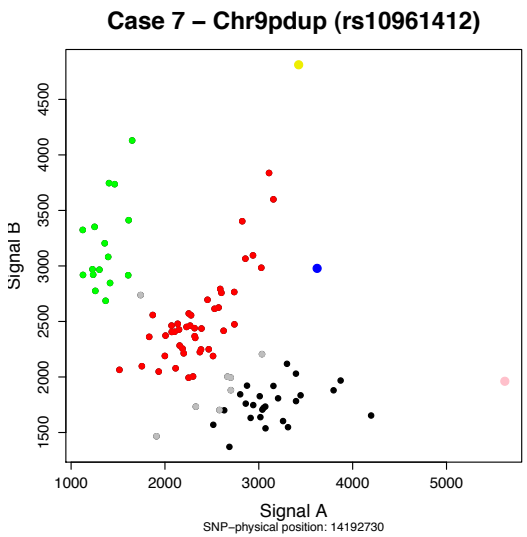

Case 7 – Chr9pdup (rs9407559)
Signal B
Signal A
SNP–physical position: 13856726

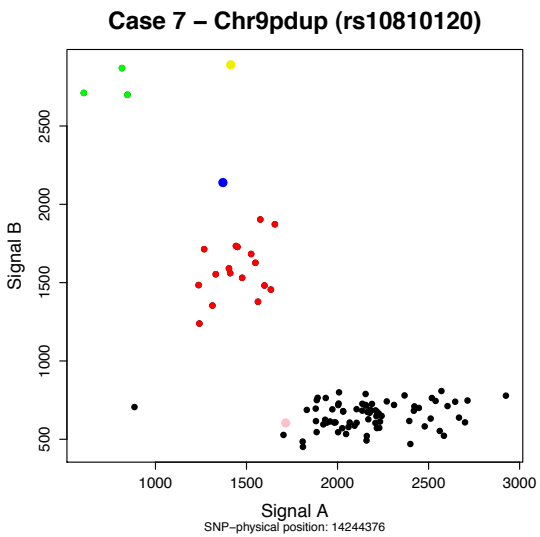

Case 7 – Chr9pdup (rs16931028)
Signal B
Signal A
SNP–physical position: 13857405

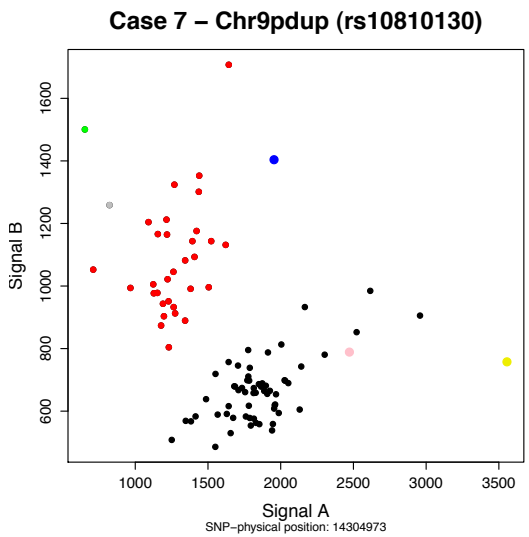

Case 7 – Chr9pdup (rs7859777)
Signal B
Signal A
SNP–physical position: 14008509

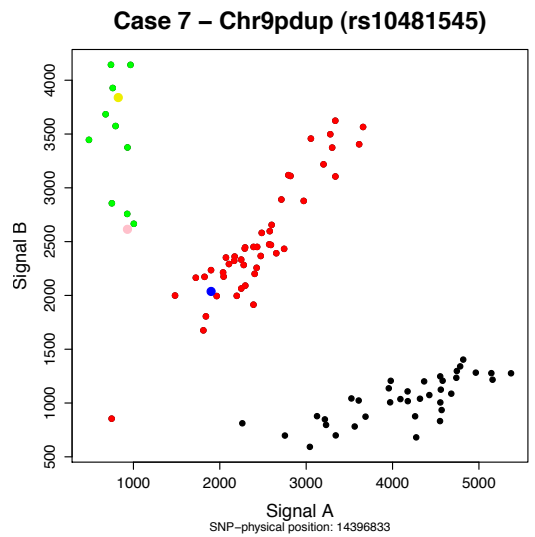

Case 7 – Chr9pdup (rs16931403)
Signal B
Signal A
SNP–physical position: 14152659

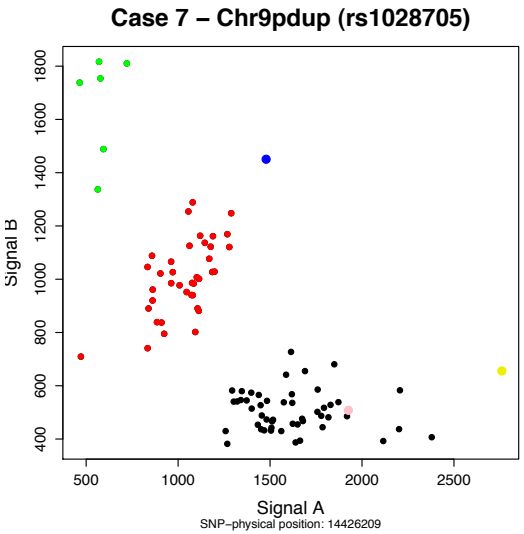

Case 7 – Chr9pdup (rs10810105)
Signal B
Signal A
SNP–physical position: 14191522

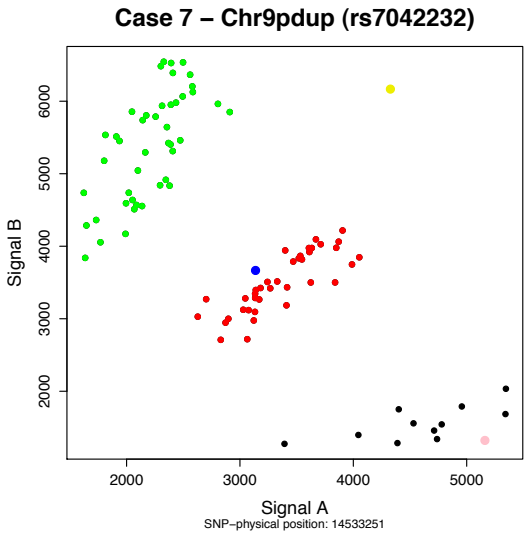

Case 7 – Chr9pdup (rs10961412)
Signal B
Signal A
SNP–physical position: 14192730

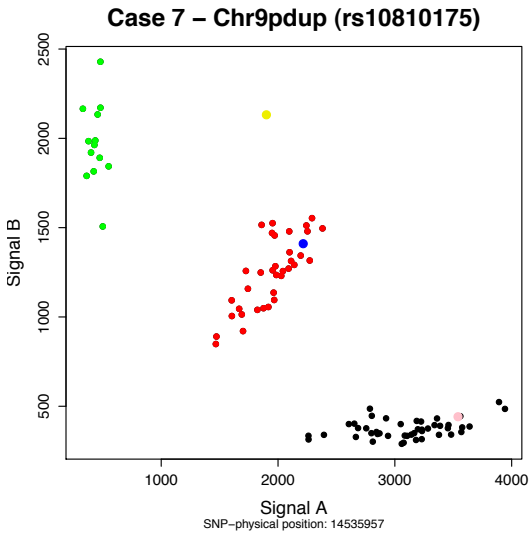

Case 7 – Chr9pdup (rs10810120)
Signal B
Signal A
SNP–physical position: 14244376

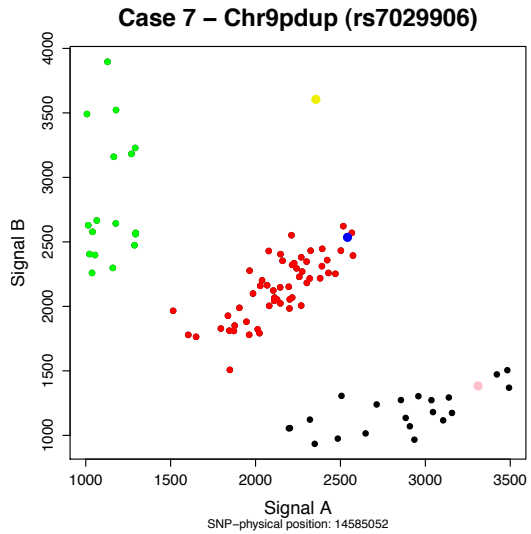

Case 7 – Chr9pdup (rs10810130)
Signal B
Signal A
SNP–physical position: 14304973

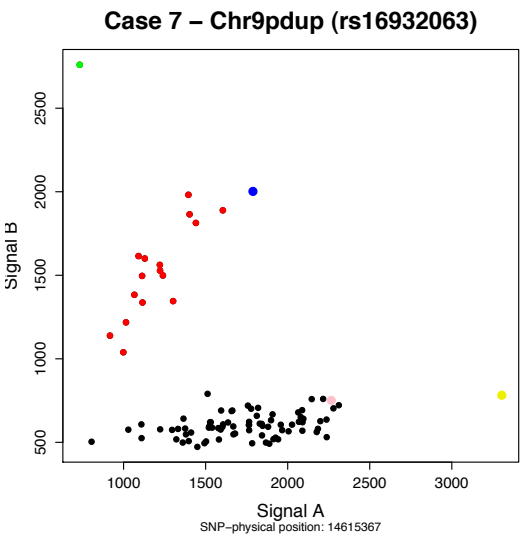

Case 7 – Chr9pdup (rs10481545)
Signal B
Signal A
SNP–physical position: 14396833

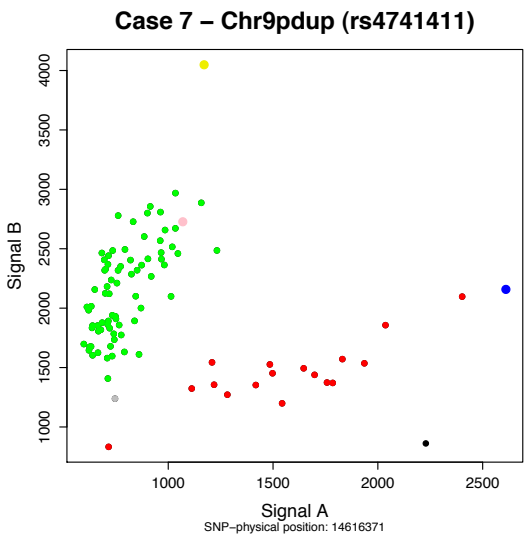

Case 7 – Chr9pdup (rs1028705)
Signal B
Signal A
SNP–physical position: 14426209

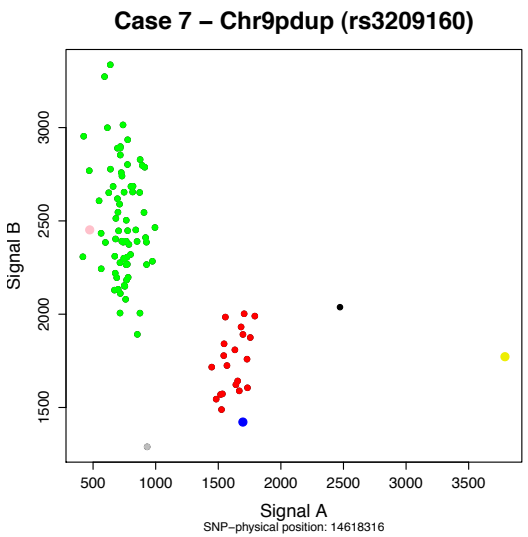

Case 7 – Chr9pdup (rs7042232)
Signal B
Signal A
SNP–physical position: 14533251

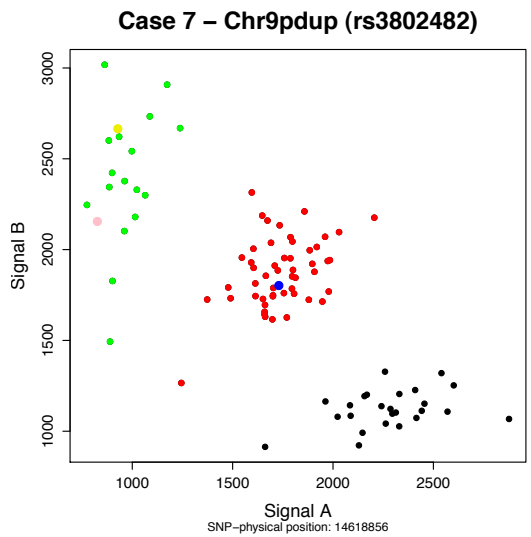

Case 7 – Chr9pdup (rs10810175)
Signal B
Signal A
SNP–physical position: 14535957

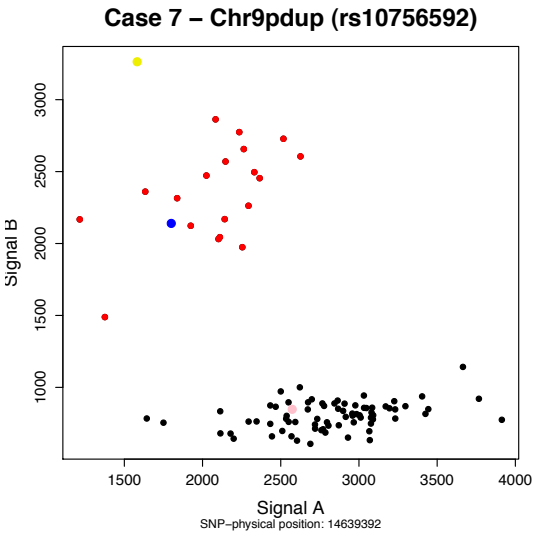

Case 7 – Chr9pdup (rs7029906)
Signal B
Signal A
SNP–physical position: 14585052

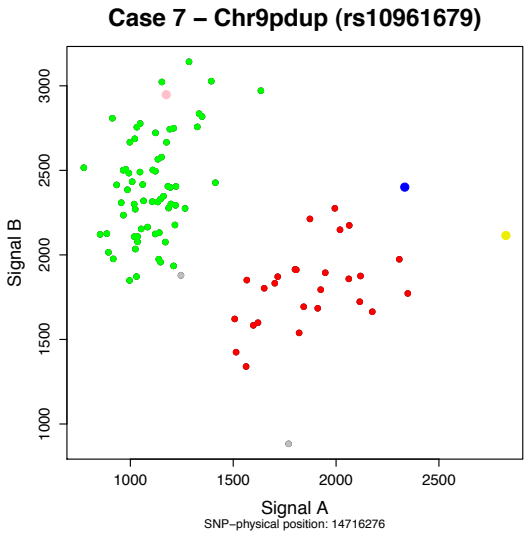

Case 7 – Chr9pdup (rs16932063)
Signal B
Signal A
SNP–physical position: 14615367

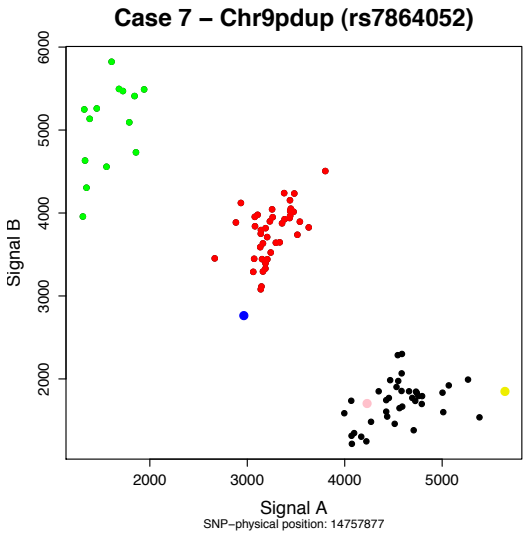

Case 7 – Chr9pdup (rs4741411)
Signal B
Signal A
SNP–physical position: 14616371

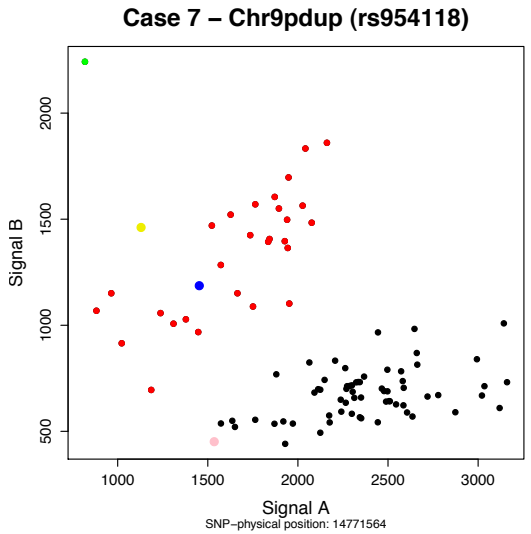

Case 7 – Chr9pdup (rs3209160)
Signal B
Signal A
SNP–physical position: 14618316

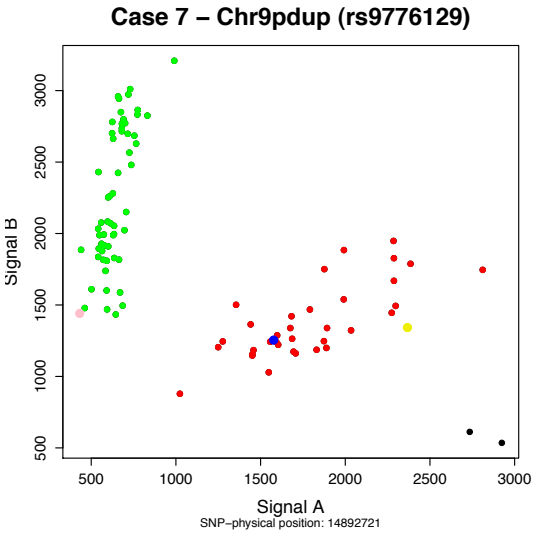

Case 7 – Chr9pdup (rs3802482)
Signal B
Signal A
SNP–physical position: 14618856

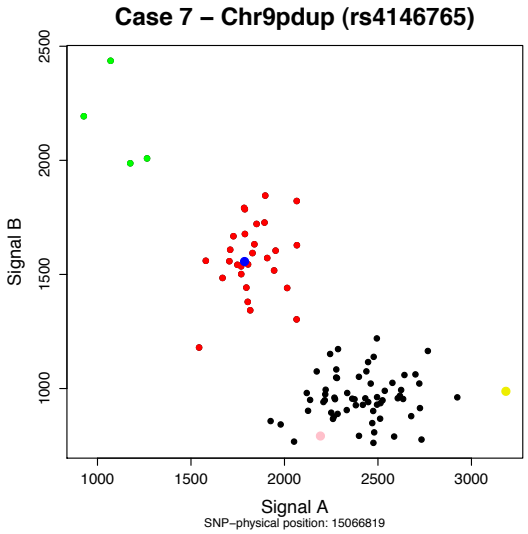

Case 7 – Chr9pdup (rs10756592)
Signal B
Signal A
SNP–physical position: 14639392

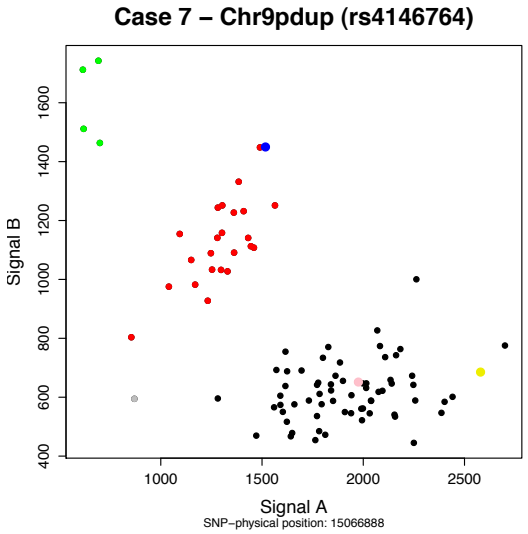

Case 7 – Chr9pdup (rs10961679)
Signal B
Signal A
SNP–physical position: 14716276

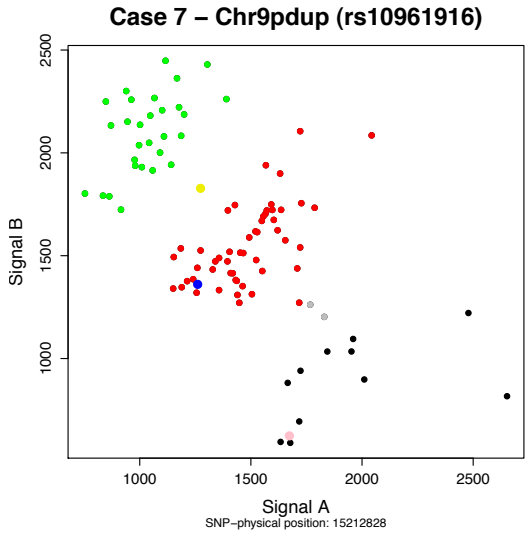

Case 7 – Chr9pdup (rs7864052)
Signal B
Signal A
SNP–physical position: 14757877

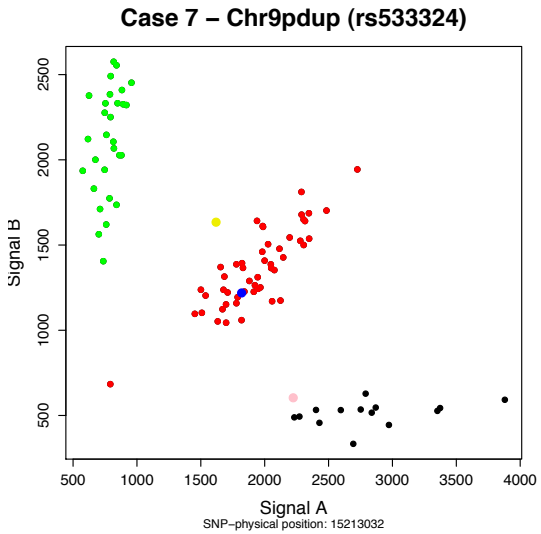

Case 7 – Chr9pdup (rs954118)
Signal B
Signal A
SNP–physical position: 14771564

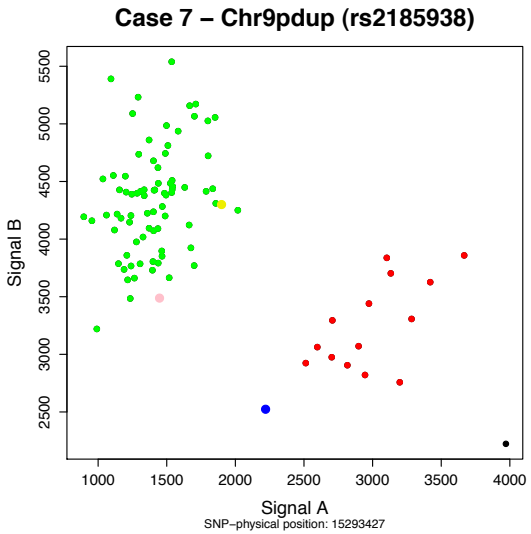

Case 7 – Chr9pdup (rs9776129)
Signal B
Signal A
SNP–physical position: 14892721

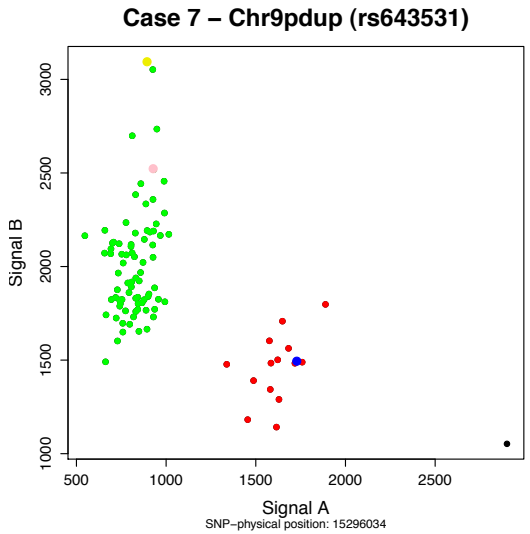

Case 7 – Chr9pdup (rs4146765)
Signal B
Signal A
SNP–physical position: 15066819

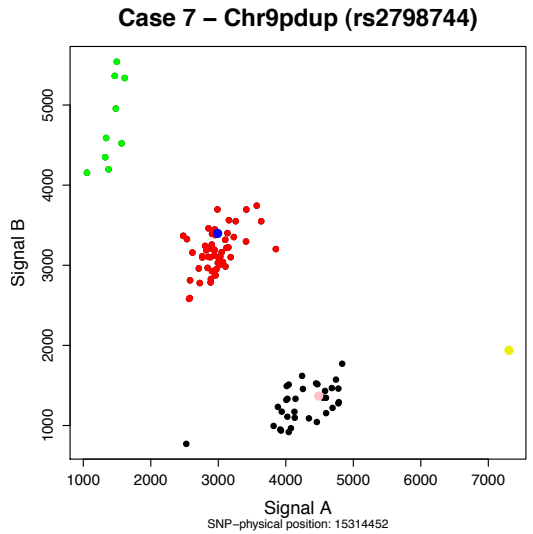

Case 7 – Chr9pdup (rs4146764)
Signal B
Signal A
SNP–physical position: 15066888

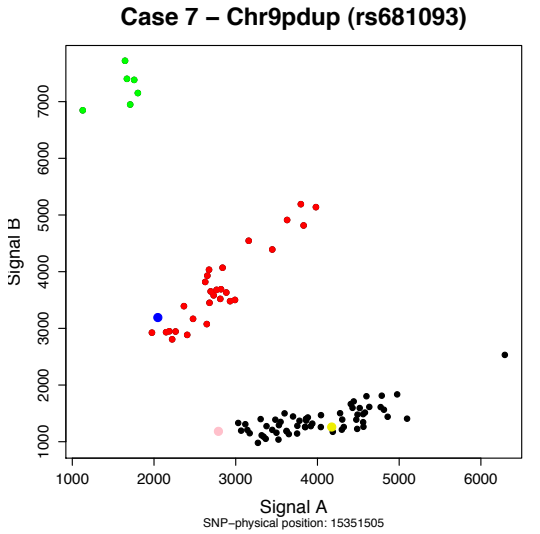

Case 7 – Chr9pdup (rs10961916)
Signal B
Signal A
SNP–physical position: 15212828

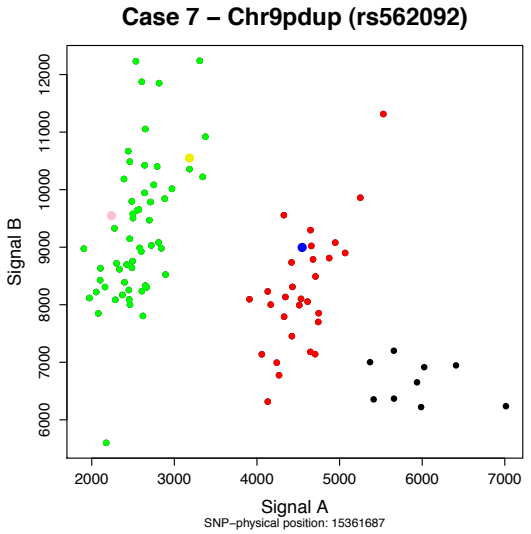

Case 7 – Chr9pdup (rs533324)
Signal B
Signal A
SNP–physical position: 15213032

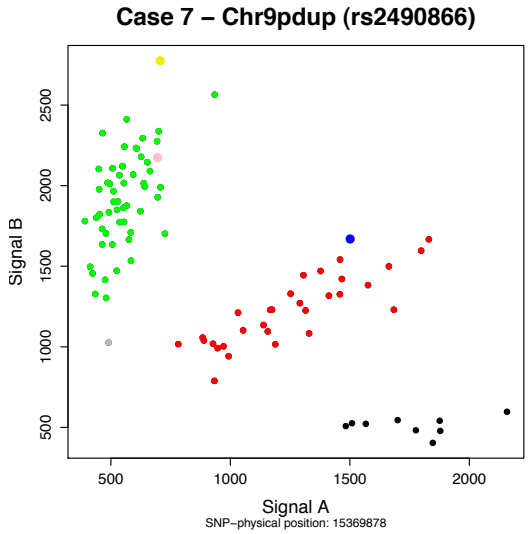

Case 7 – Chr9pdup (rs2185938)
Signal B
Signal A
SNP–physical position: 15293427


Case 7 – Chr9pdup (rs643531)
Signal B
Signal A
SNP–physical position: 15296034

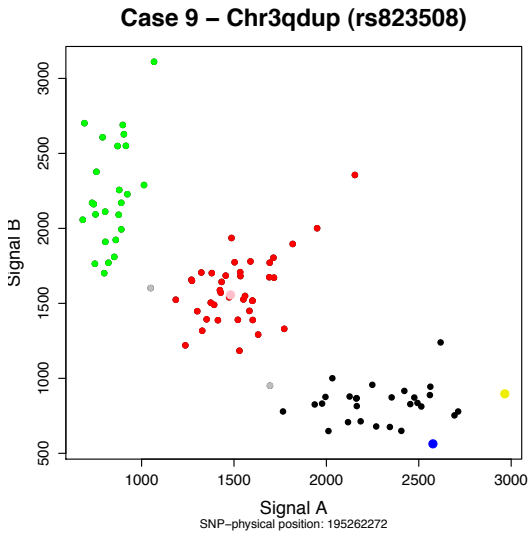

Case 7 – Chr9pdup (rs2798744)
Signal B
Signal A
SNP–physical position: 15314452

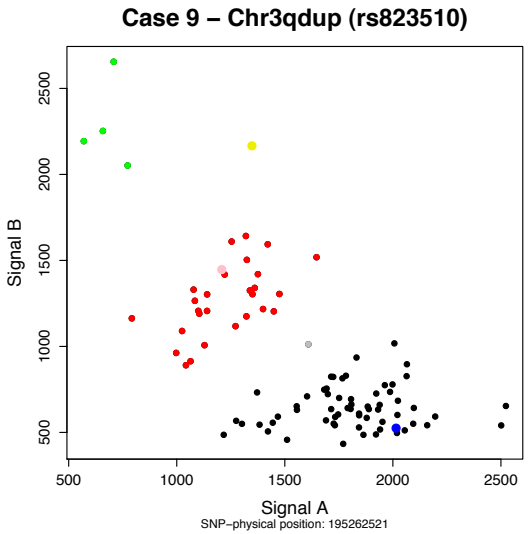

Case 7 – Chr9pdup (rs681093)
Signal B
Signal A
SNP–physical position: 15351505

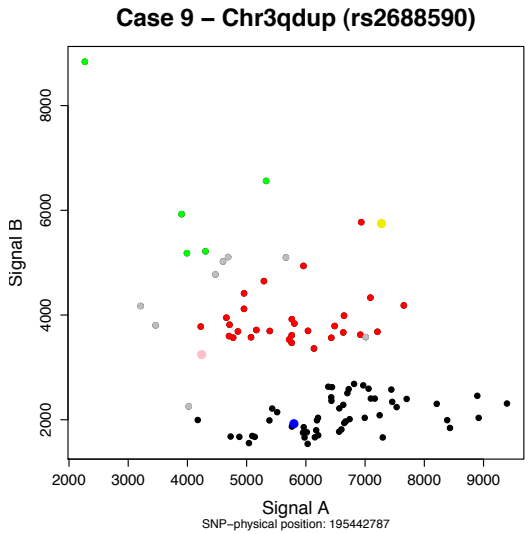

Case 7 – Chr9pdup (rs562092)
Signal B
Signal A
SNP–physical position: 15361687

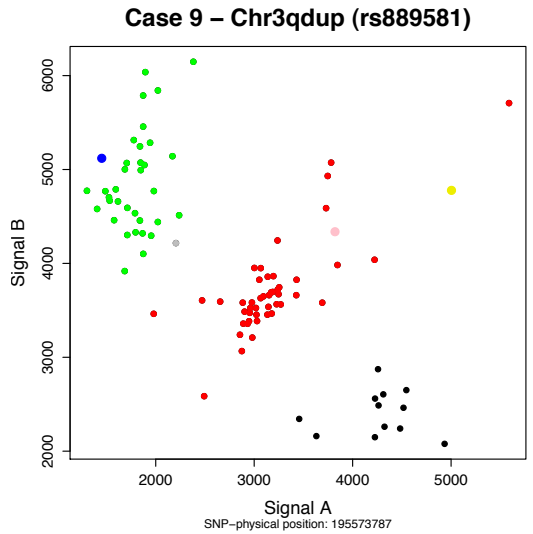

Case 7 – Chr9pdup (rs2490866)
Signal B
Signal A
SNP–physical position: 15369878

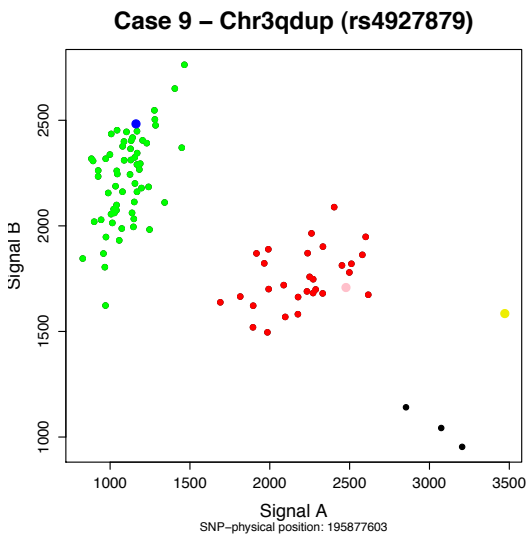
Case: 9
Chromosome: 3q
Abberation: dup.
Origin: Maternal

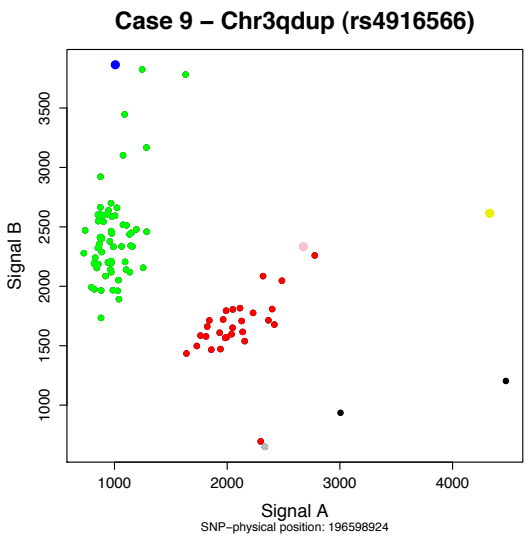

Case 9 – Chr3qdup (rs823508)
Signal B
Signal A
SNP−physical position: 195262272

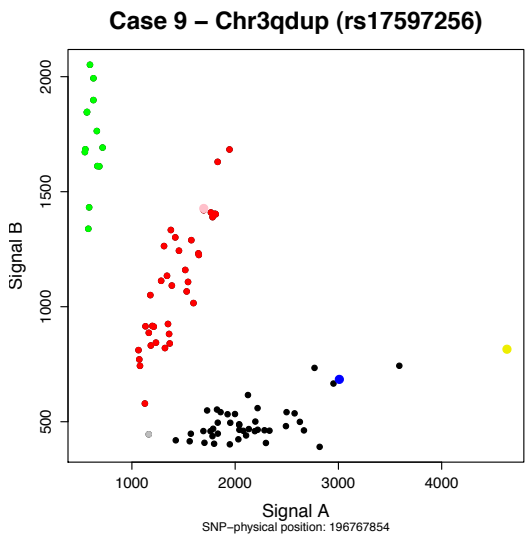

Case 9 – Chr3qdup (rs823510)
Signal B
Signal A
SNP−physical position: 195262521

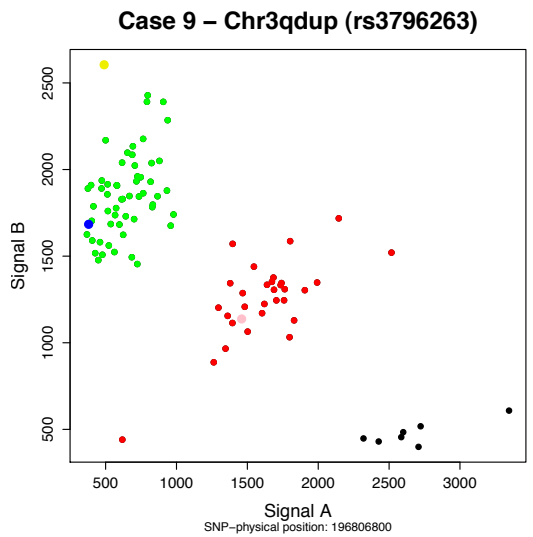

Case 9 – Chr3qdup (rs2688590)
Signal B
Signal A
SNP−physical position: 195442787

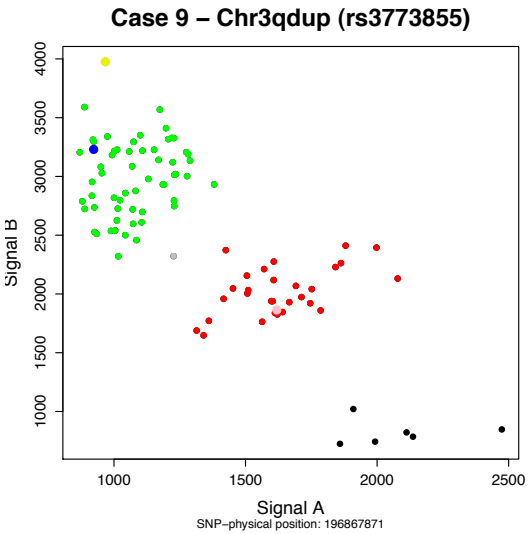

Case 9 – Chr3qdup (rs889581)
Signal B
Signal A
SNP−physical position: 195573787

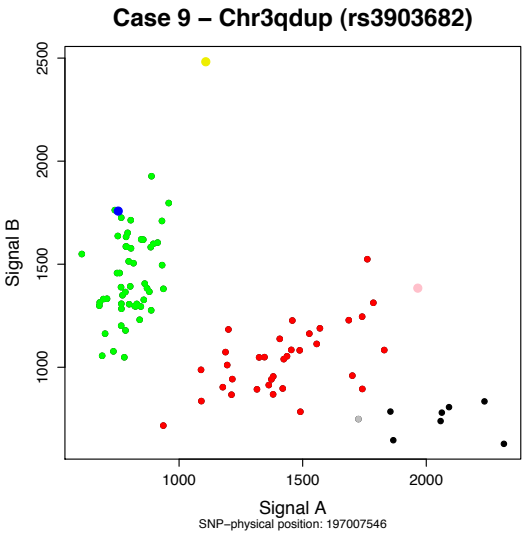

Case 9 – Chr3qdup (rs4927879)
Signal B
Signal A
SNP−physical position: 195877603

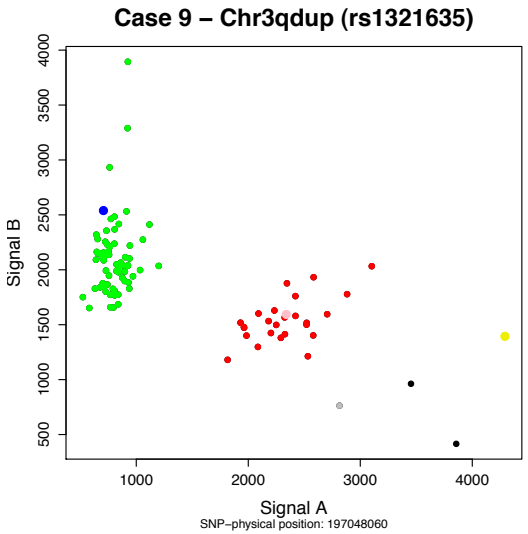

Case 9 – Chr3qdup (rs4916566)
Signal B
Signal A
SNP−physical position: 196598924

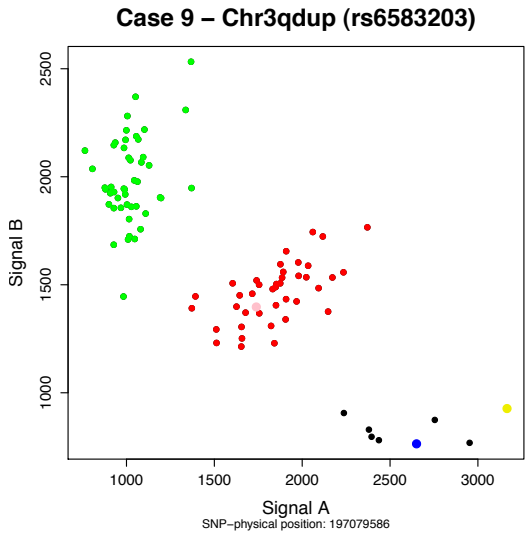

Case 9 – Chr3qdup (rs17597256)
Signal B
Signal A
SNP−physical position: 196767854

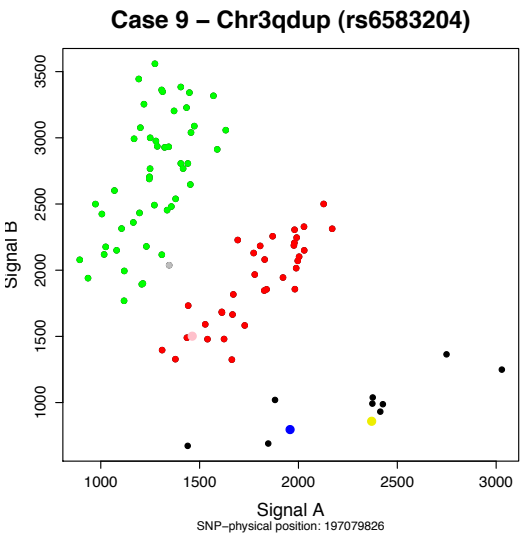

Case 9 – Chr3qdup (rs3796263)
Signal B
Signal A
SNP−physical position: 196806800

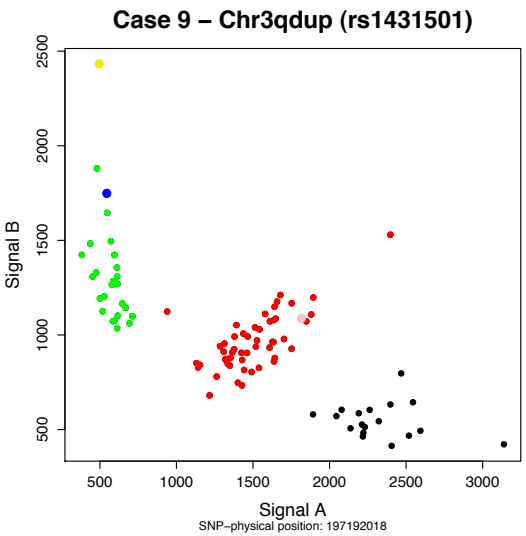

Case 9 – Chr3qdup (rs3773855)
Signal B
Signal A
SNP−physical position: 196867871

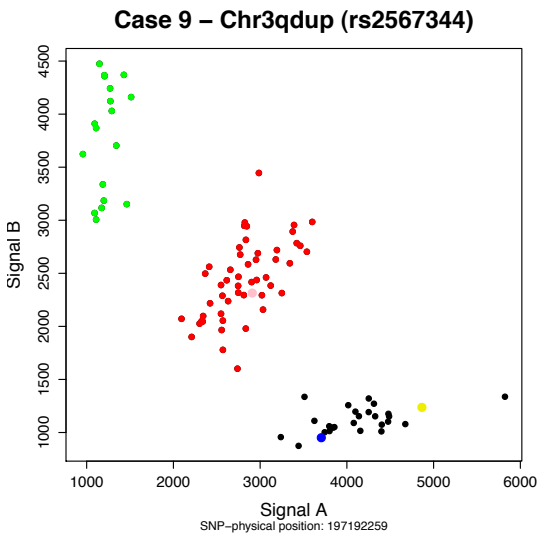

Case 9 – Chr3qdup (rs3903682)
Signal B
Signal A
SNP−physical position: 197007546

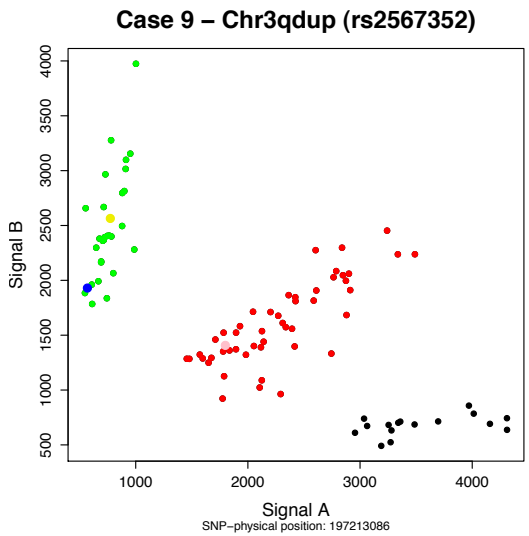

Case 9 – Chr3qdup (rs1321635)
Signal B
Signal A
SNP−physical position: 197048060

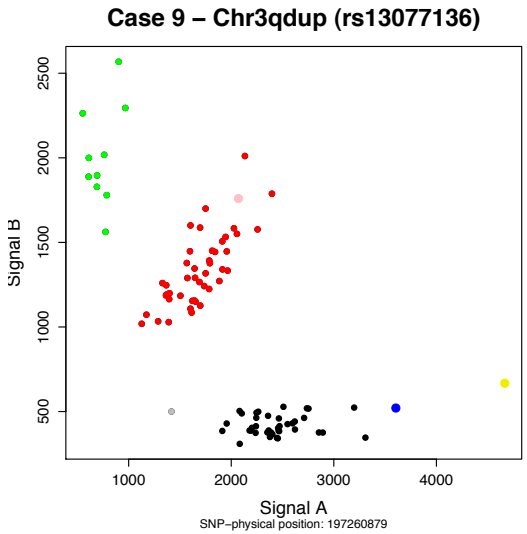

Case 9 – Chr3qdup (rs6583203)
Signal B
Signal A
SNP−physical position: 197079586

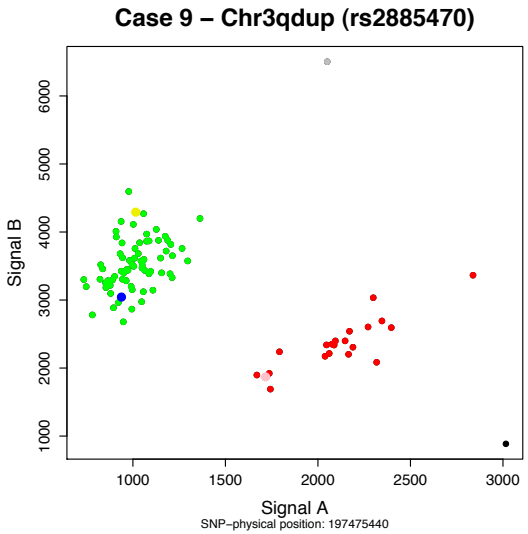

Case 9 – Chr3qdup (rs6583204)
Signal B
Signal A
SNP−physical position: 197079826

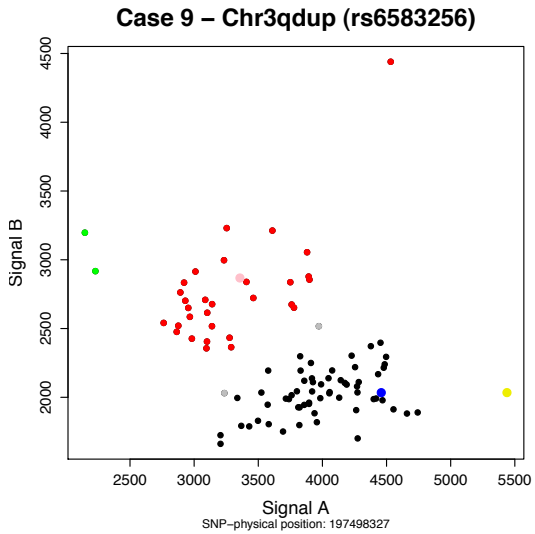

Case 9 – Chr3qdup (rs1431501)
Signal B
Signal A
SNP−physical position: 197192018

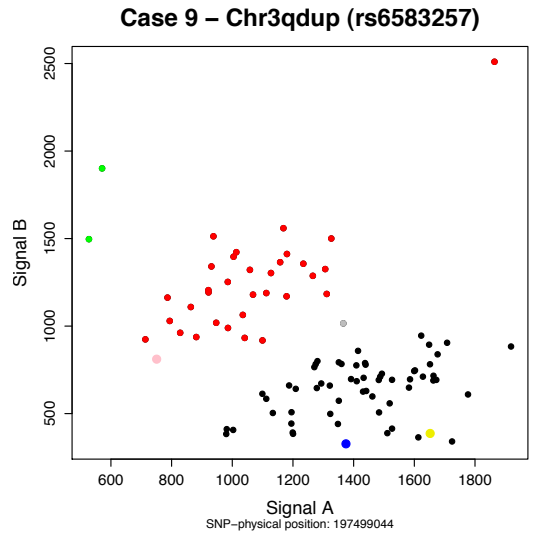

Case 9 – Chr3qdup (rs2567344)
Signal B
Signal A
SNP−physical position: 197192259


Case 9 – Chr3qdup (rs2567352)
Signal B
Signal A
SNP−physical position: 197213086

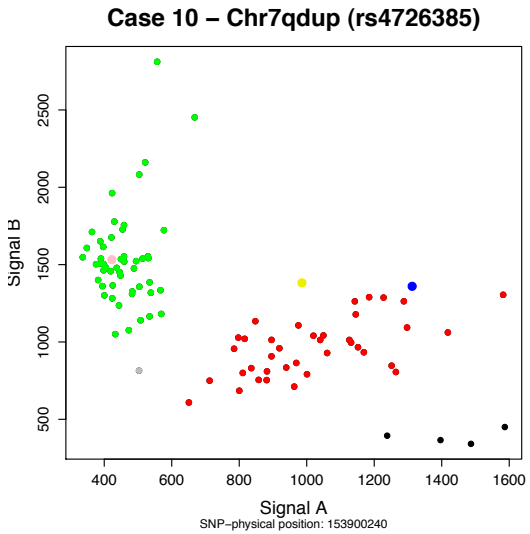

Case 9 – Chr3qdup (rs13077136)
Signal B
Signal A
SNP−physical position: 197260879

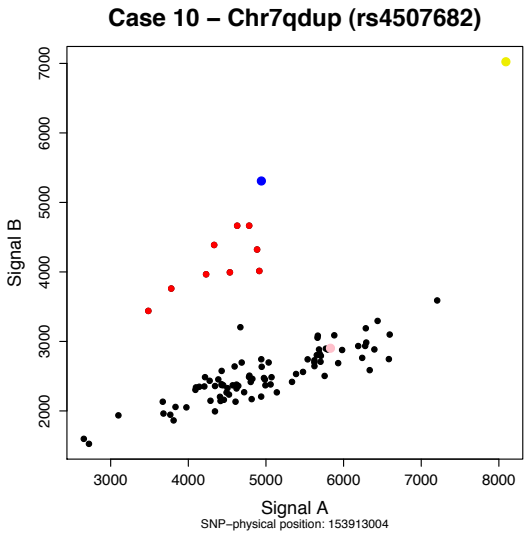

Case 9 – Chr3qdup (rs2885470)
Signal B
Signal A
SNP−physical position: 197475440

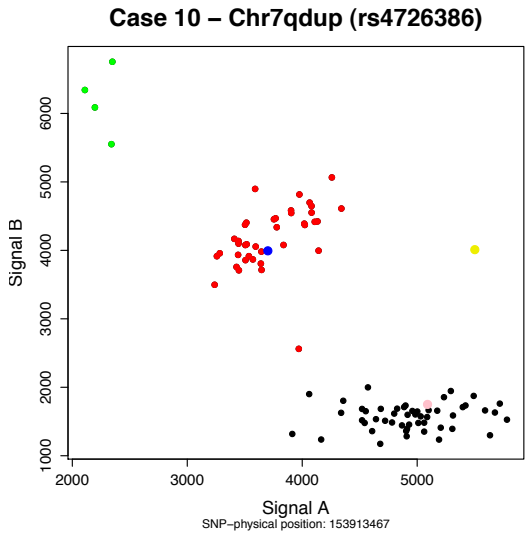

Case 9 – Chr3qdup (rs6583256)
Signal B
Signal A
SNP−physical position: 197498327

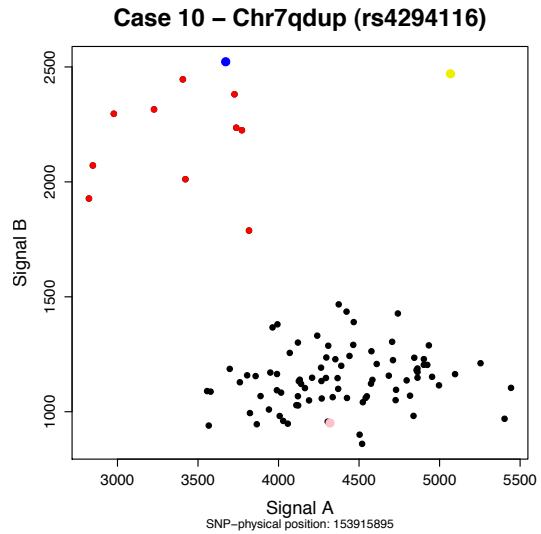

Case 9 – Chr3qdup (rs6583257)
Signal B
Signal A
SNP−physical position: 197499044

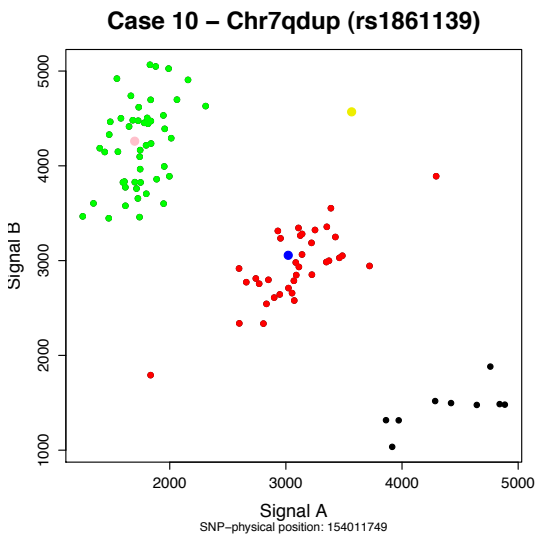
Case: 10
Chromosome: 7q
Abberation: dup.
Origin: Paternal

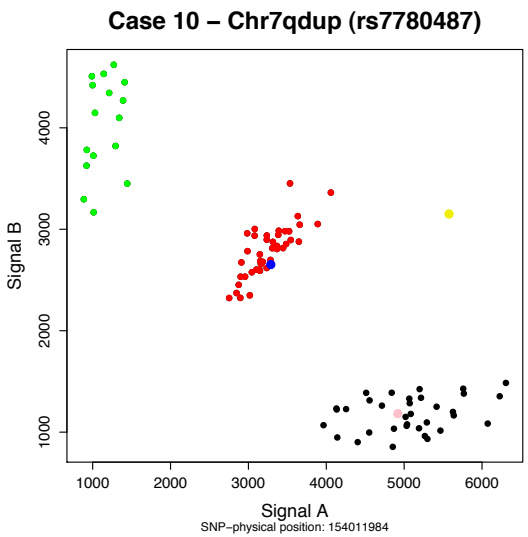

Case 10 – Chr7qdup (rs4726385)
Signal B
Signal A
SNP−physical position: 153900240

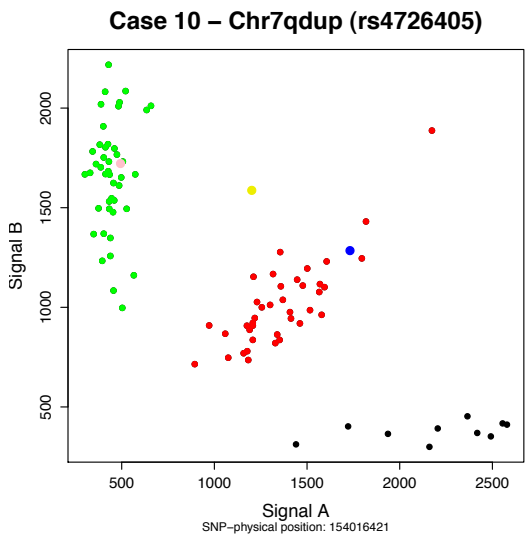

Case 10 – Chr7qdup (rs4507682)
Signal B
Signal A
SNP−physical position: 153913004

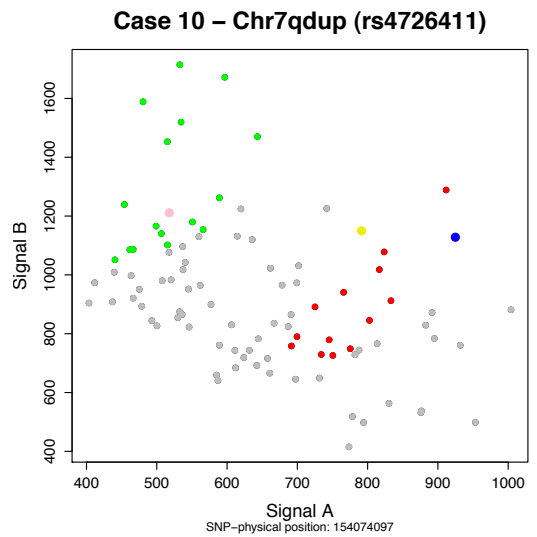

Case 10 – Chr7qdup (rs4726386)
Signal B
Signal A
SNP−physical position: 153913467

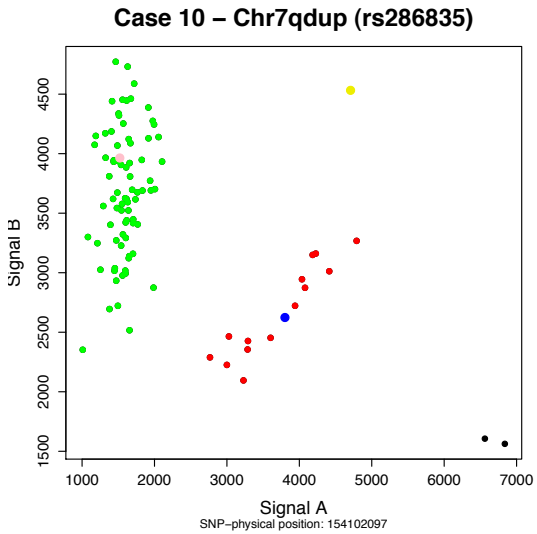

Case 10 – Chr7qdup (rs4294116)
Signal B
Signal A
SNP−physical position: 153915895

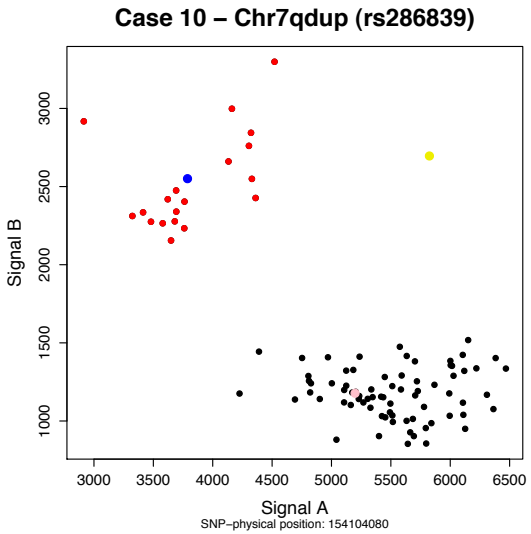

Case 10 – Chr7qdup (rs1861139)
Signal B
Signal A
SNP−physical position: 154011749

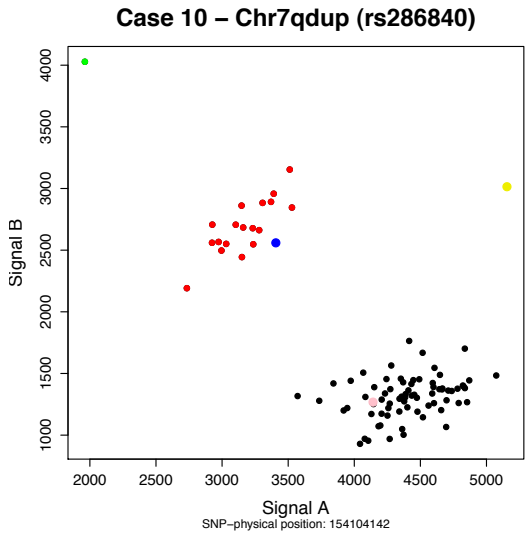

Case 10 – Chr7qdup (rs7780487)
Signal B
Signal A
SNP−physical position: 154011984

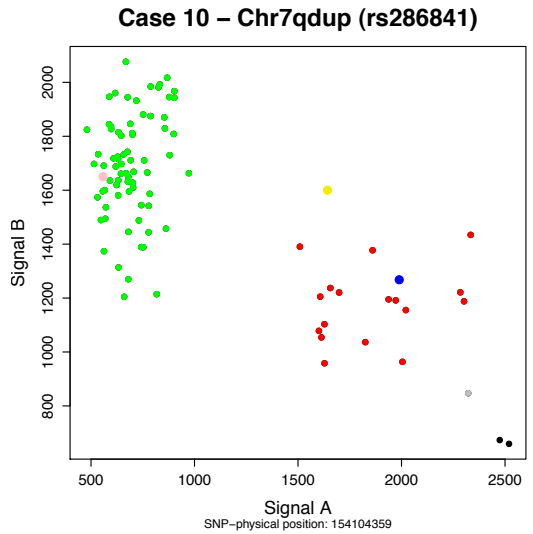

Case 10 – Chr7qdup (rs4726405)
Signal B
Signal A
SNP−physical position: 154016421

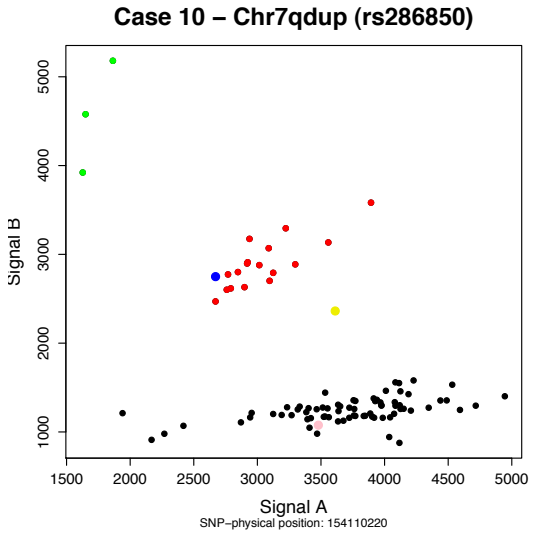

Case 10 – Chr7qdup (rs4726411)
Signal B
Signal A
SNP−physical position: 154074097

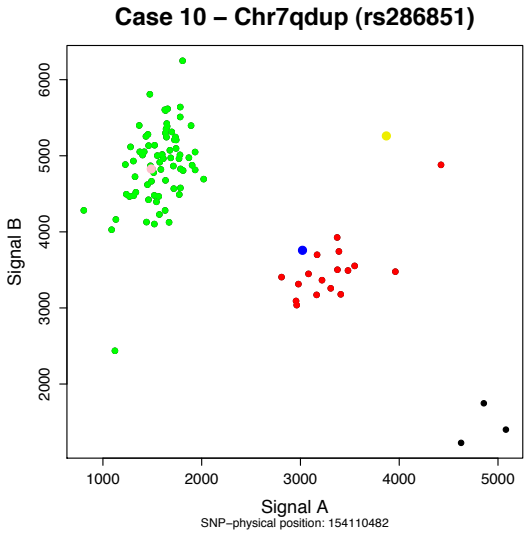

Case 10 – Chr7qdup (rs286835)
Signal B
Signal A
SNP–physical position: 154102097

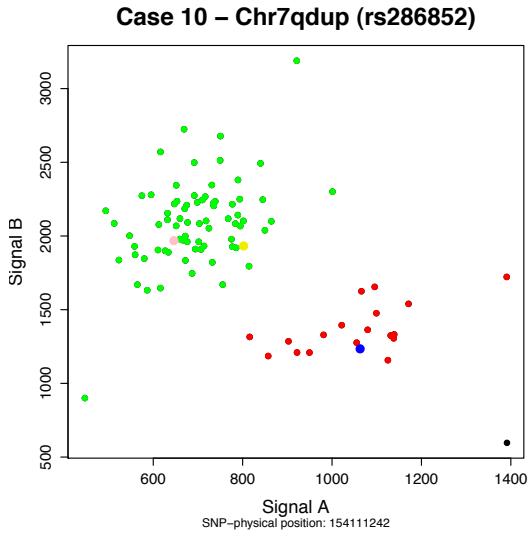

Case 10 – Chr7qdup (rs286839)
Signal B
Signal A
SNP–physical position: 154104080

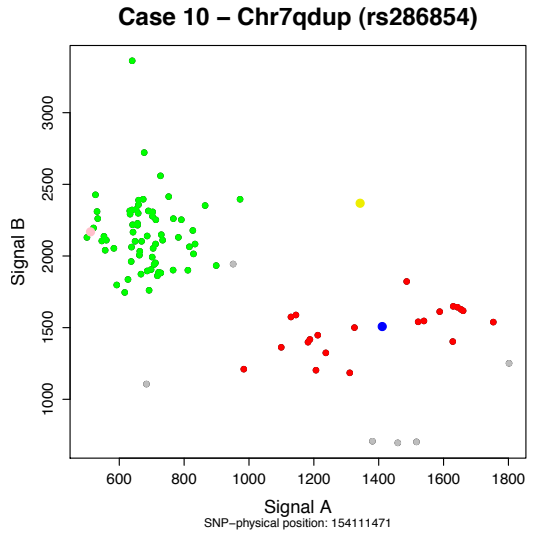

Case 10 – Chr7qdup (rs286840)
Signal B
Signal A
SNP–physical position: 154104142

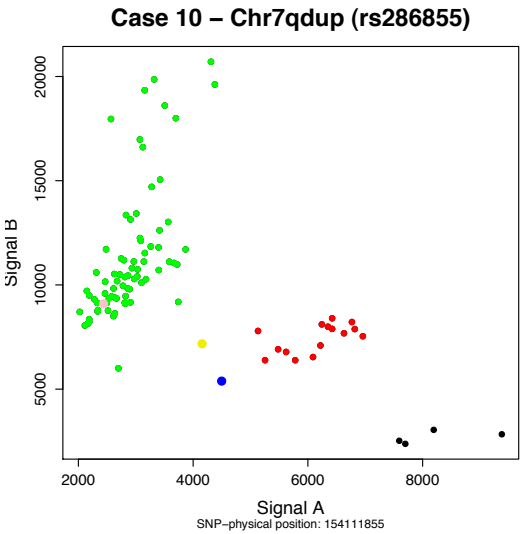

Case 10 – Chr7qdup (rs286841)
Signal B
Signal A
SNP–physical position: 154104359

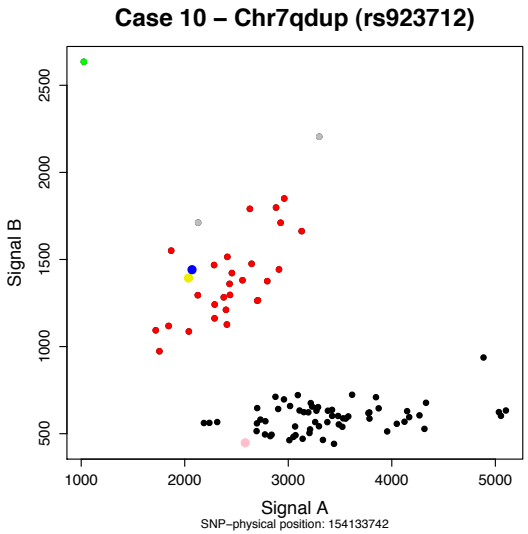

Case 10 – Chr7qdup (rs286850)
Signal B
Signal A
SNP–physical position: 154110220

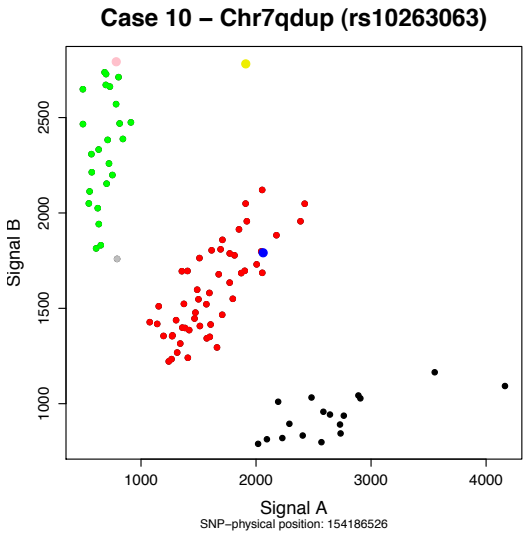

Case 10 – Chr7qdup (rs286851)
Signal B
Signal A
SNP–physical position: 154110482

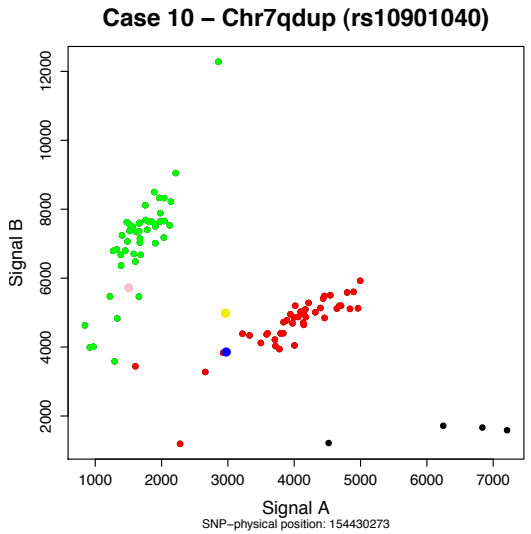

Case 10 – Chr7qdup (rs286852)
Signal B
Signal A
SNP–physical position: 154111242

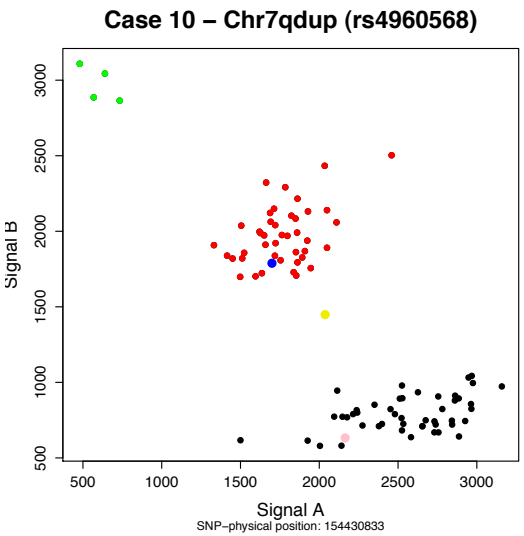

Case 10 – Chr7qdup (rs286854)
Signal B
Signal A
SNP–physical position: 154111471

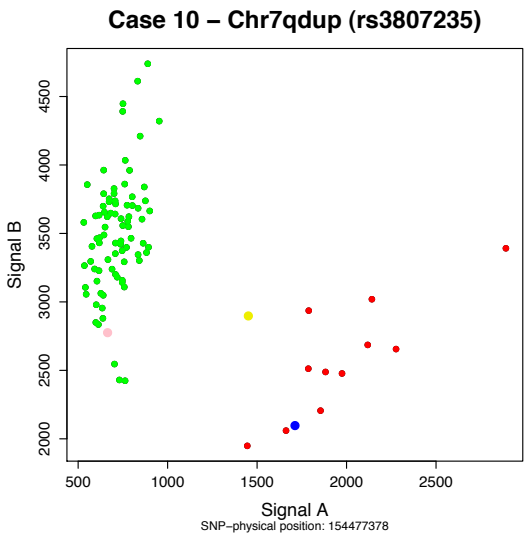

Case 10 – Chr7qdup (rs286855)
Signal B
Signal A
SNP–physical position: 154111855

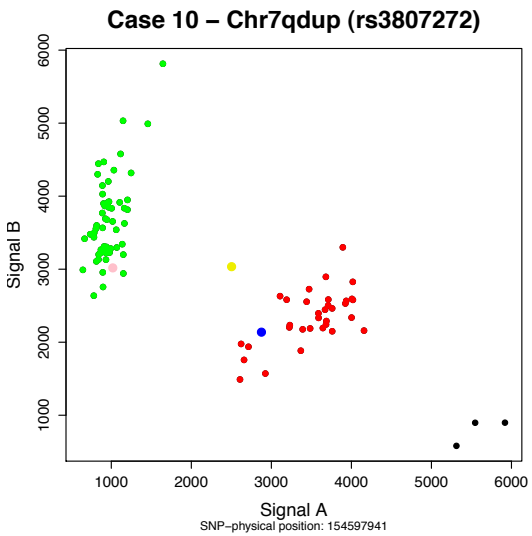

Case 10 – Chr7qdup (rs923712)
Signal B
Signal A
SNP–physical position: 154133742

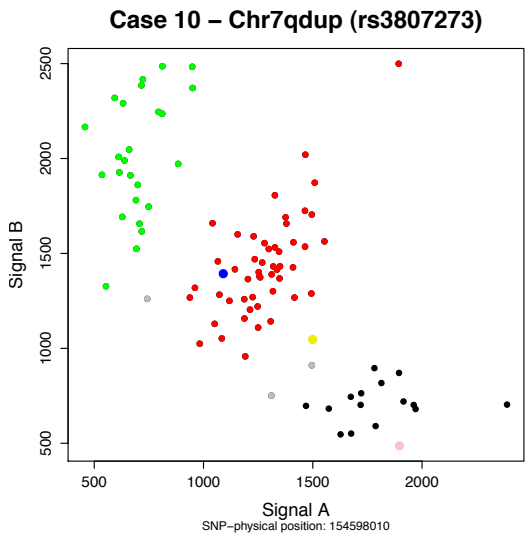

Case 10 – Chr7qdup (rs10263063)
Signal B
Signal A
SNP–physical position: 154186526

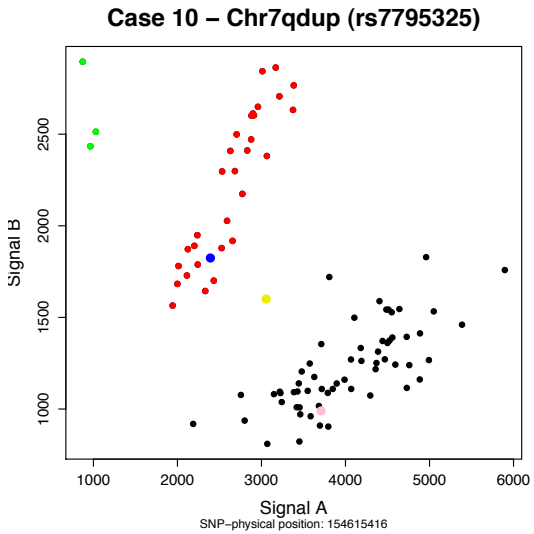

Case 10 – Chr7qdup (rs10901040)
Signal B
Signal A
SNP–physical position: 154430273

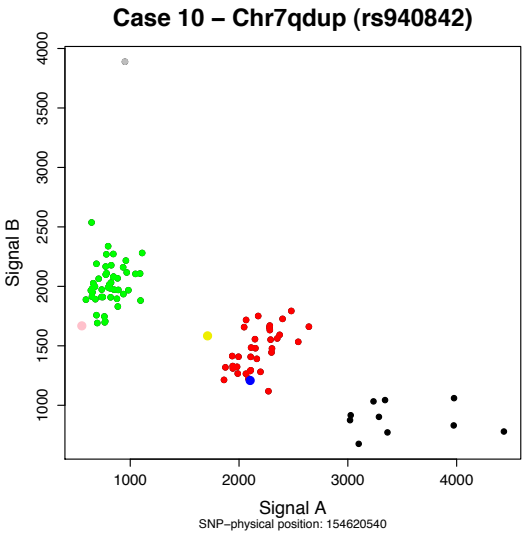

Case 10 – Chr7qdup (rs4960568)
Signal B
Signal A
SNP–physical position: 154430833

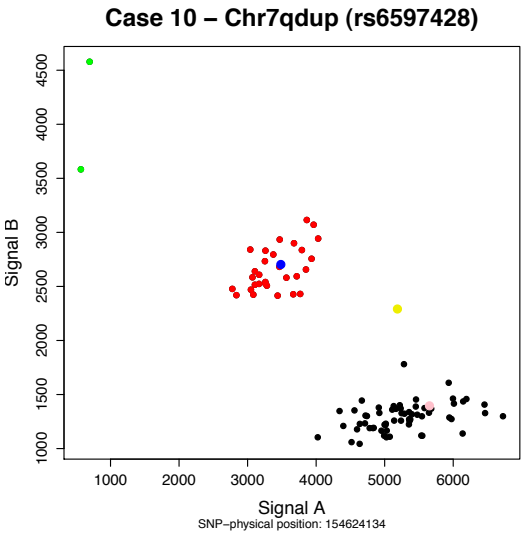

Case 10 – Chr7qdup (rs3807235)
Signal B
Signal A
SNP–physical position: 154477378

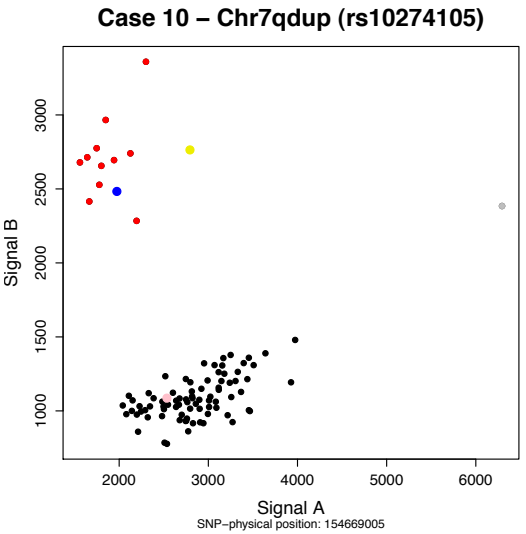

Case 10 – Chr7qdup (rs3807272)
Signal B
Signal A
SNP–physical position: 154597941

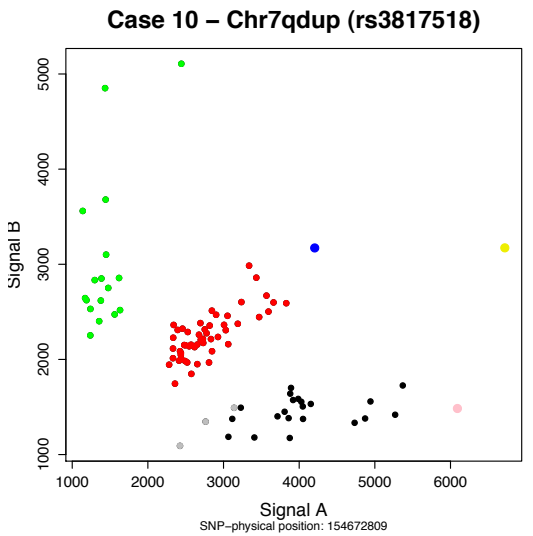

Case 10 – Chr7qdup (rs3807273)
Signal B
Signal A
SNP–physical position: 154598010

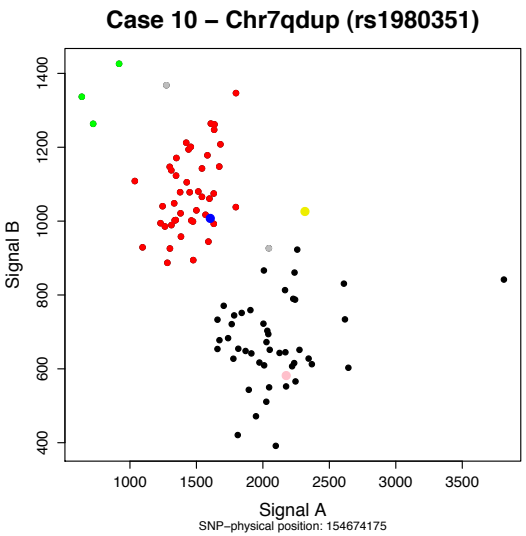

Case 10 – Chr7qdup (rs7795325)
Signal B
Signal A
SNP−physical position: 154615416

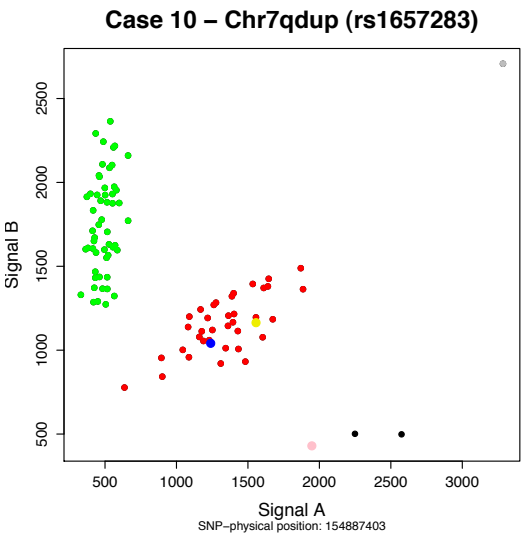

Case 10 – Chr7qdup (rs940842)
Signal B
Signal A
SNP−physical position: 154620540

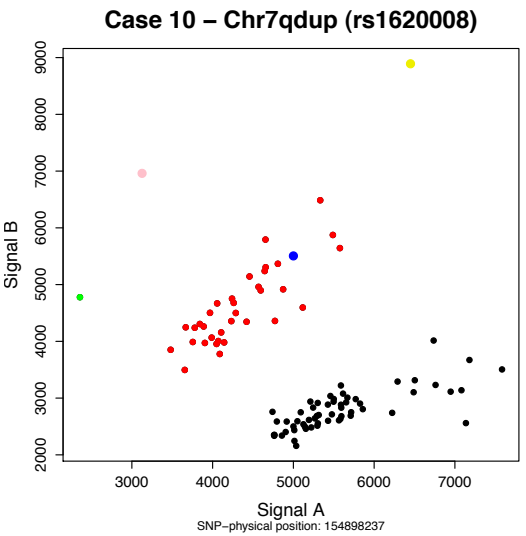

Case 10 – Chr7qdup (rs6597428)
Signal B
Signal A
SNP−physical position: 154624134

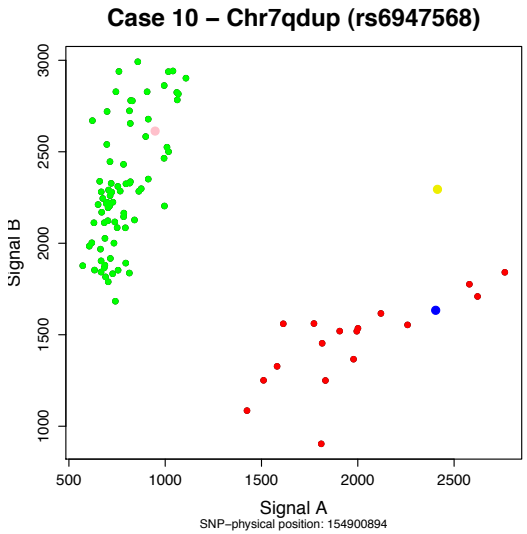

Case 10 – Chr7qdup (rs10274105)
Signal B
Signal A
SNP−physical position: 154669005

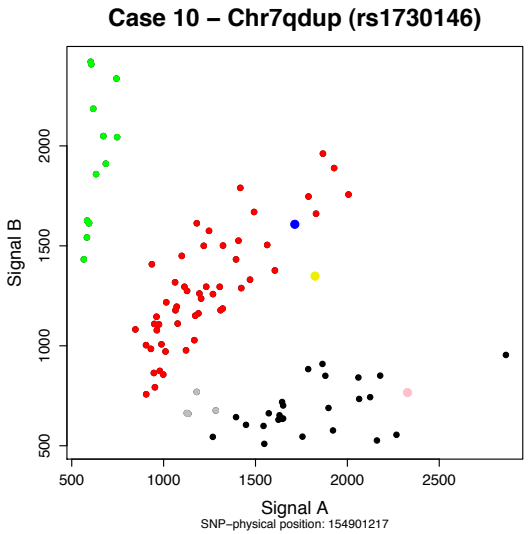

Case 10 – Chr7qdup (rs3817518)
Signal B
Signal A
SNP−physical position: 154672809

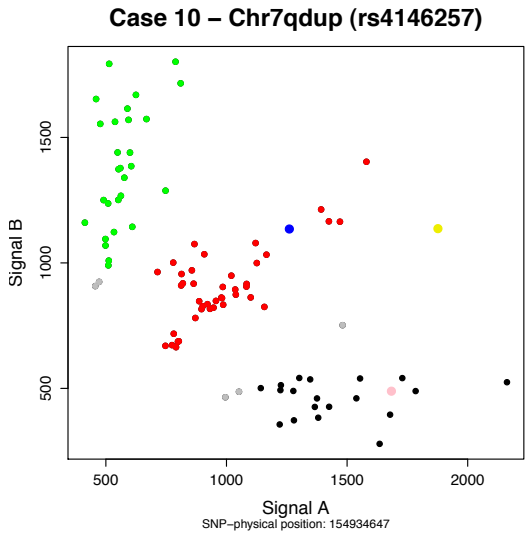

Case 10 – Chr7qdup (rs1980351)
Signal B
Signal A
SNP−physical position: 154674175

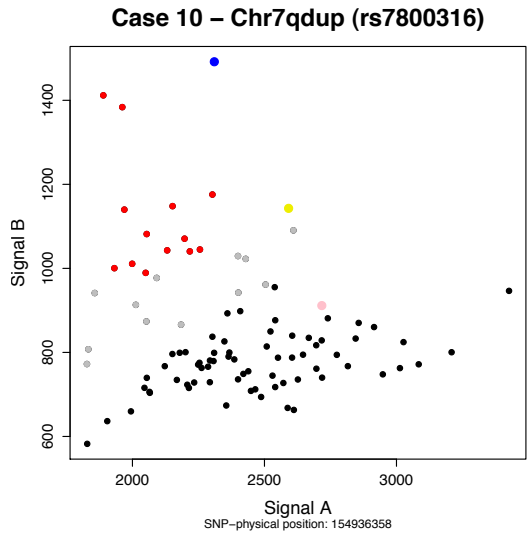

Case 10 – Chr7qdup (rs1657283)
Signal B
Signal A
SNP−physical position: 154887403

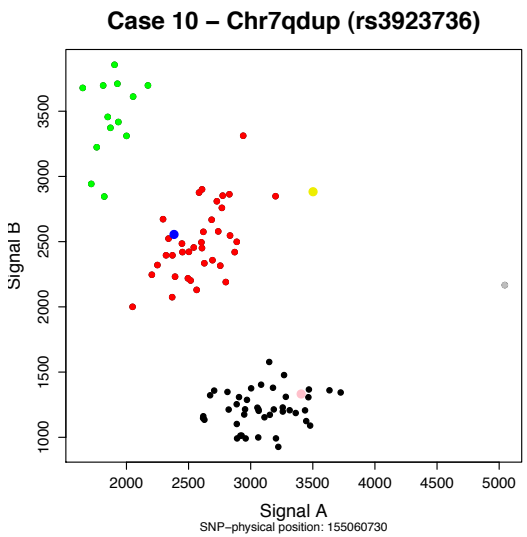

Case 10 – Chr7qdup (rs1620008)
Signal B
Signal A
SNP−physical position: 154898237

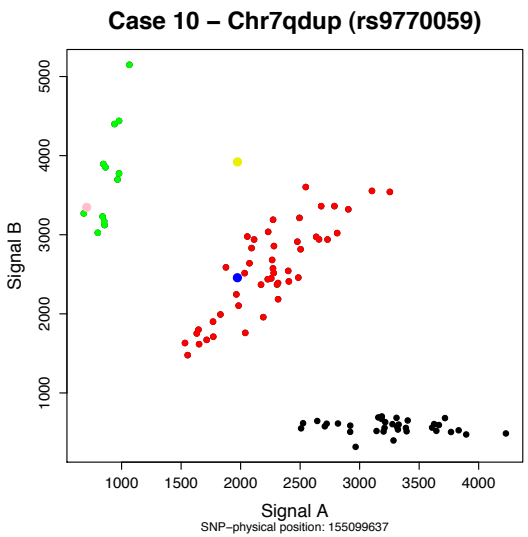

Case 10 – Chr7qdup (rs6947568)
Signal B
Signal A
SNP−physical position: 154900894

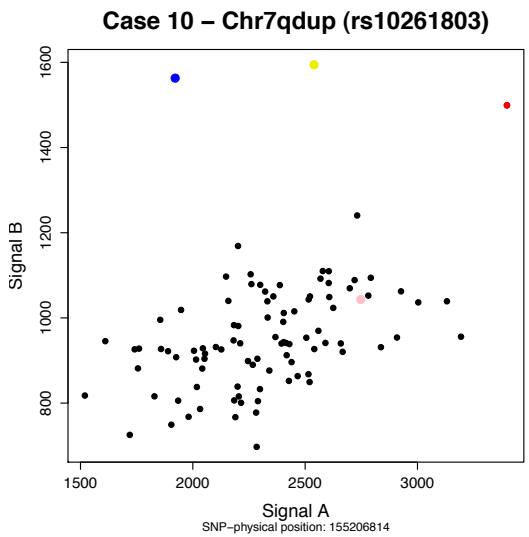

Case 10 – Chr7qdup (rs1730146)
Signal B
Signal A
SNP−physical position: 154901217

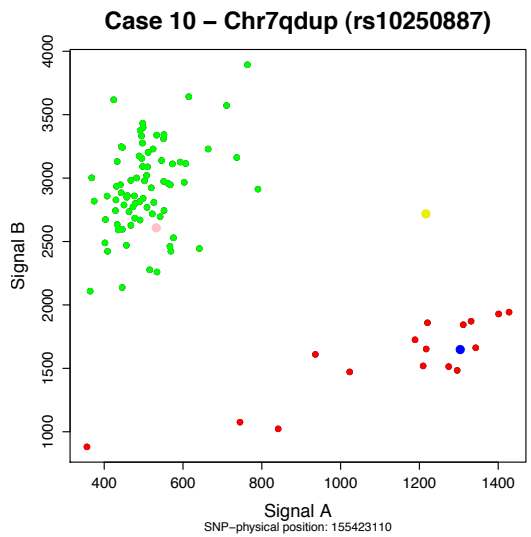

Case 10 – Chr7qdup (rs4146257)
Signal B
Signal A
SNP−physical position: 154934647

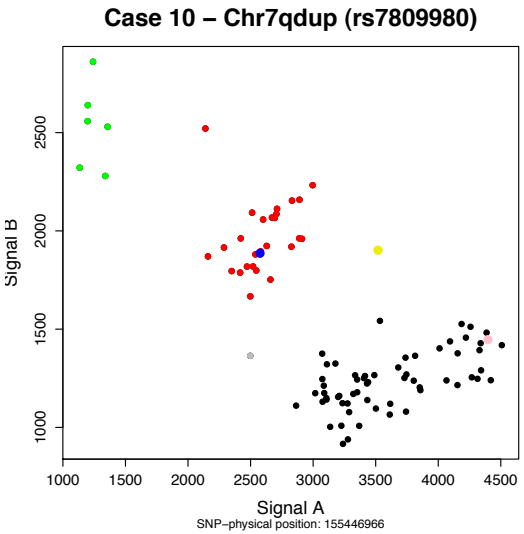

Case 10 – Chr7qdup (rs7800316)
Signal B
Signal A
SNP−physical position: 154936358

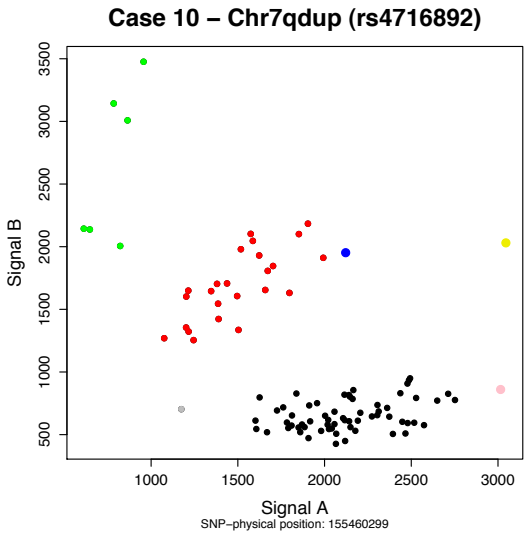

Case 10 – Chr7qdup (rs3923736)
Signal B
Signal A
SNP−physical position: 155060730

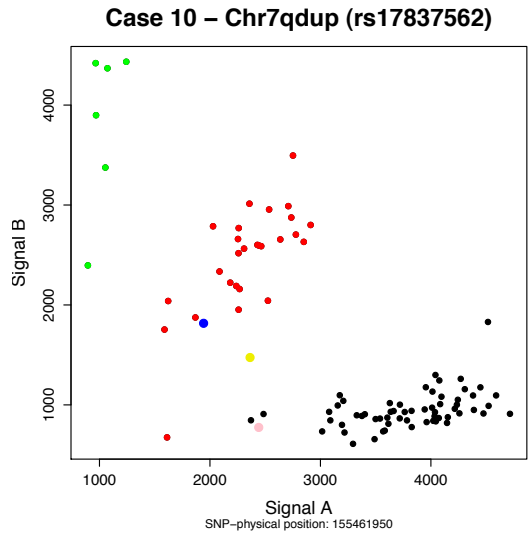

Case 10 – Chr7qdup (rs9770059)
Signal B
Signal A
SNP−physical position: 155099637

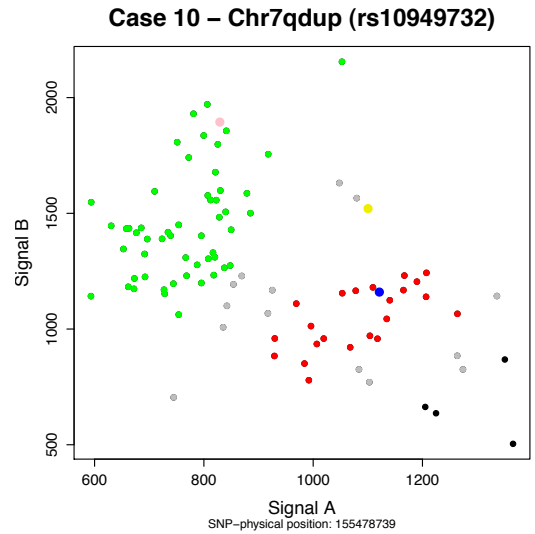

Case 10 – Chr7qdup (rs10261803)
Signal B
Signal A
SNP−physical position: 155206814

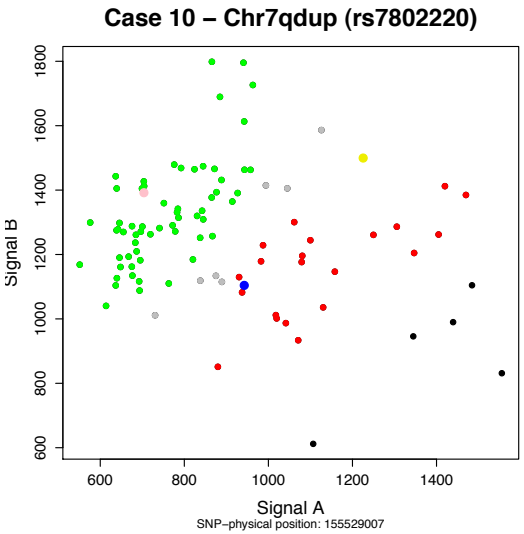

Case 10 – Chr7qdup (rs10250887)
Signal B
Signal A
SNP−physical position: 155423110

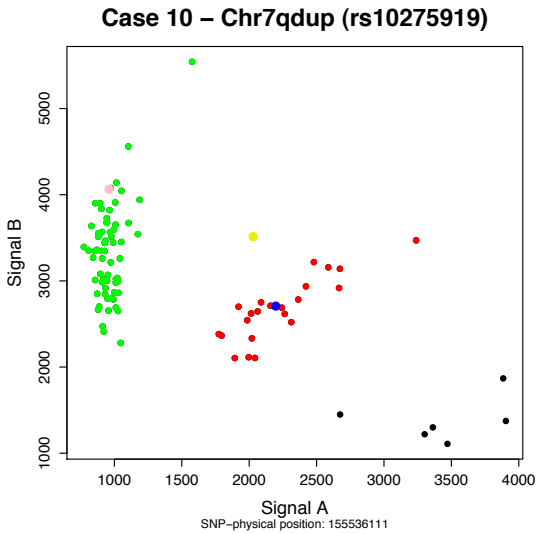

Case 10 – Chr7qdup (rs7809980)
Signal B
Signal A
SNP−physical position: 155446966

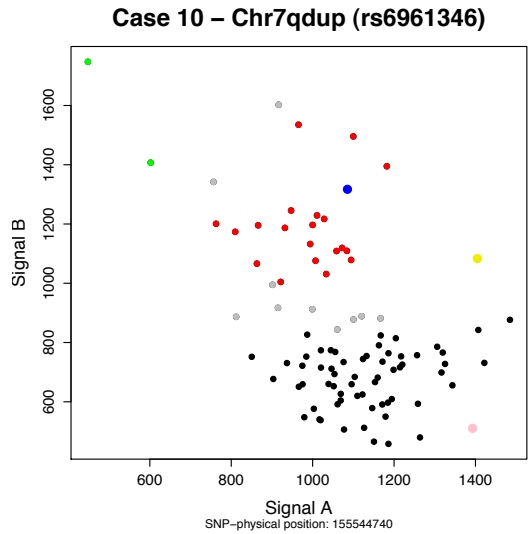

Case 10 – Chr7qdup (rs4716892)
Signal B
Signal A
SNP−physical position: 155460299

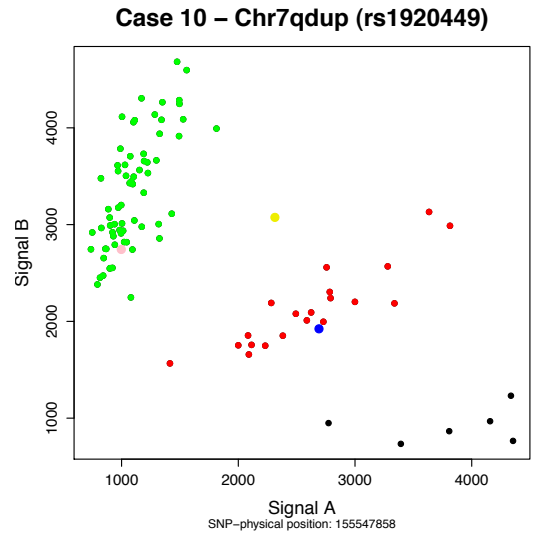

Case 10 – Chr7qdup (rs17837562)
Signal B
Signal A
SNP−physical position: 155461950

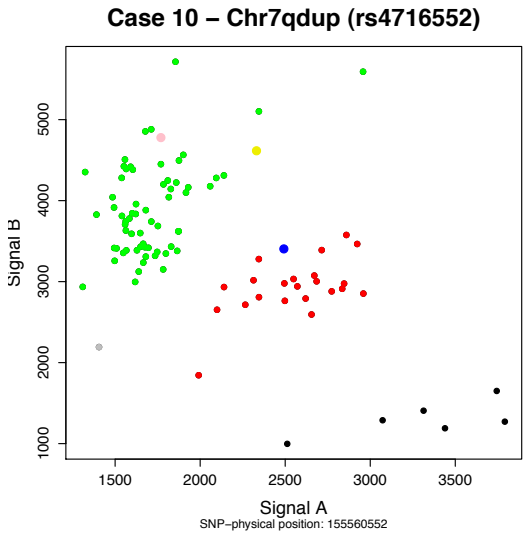

Case 10 – Chr7qdup (rs10949732)
Signal B
Signal A
SNP−physical position: 155478739

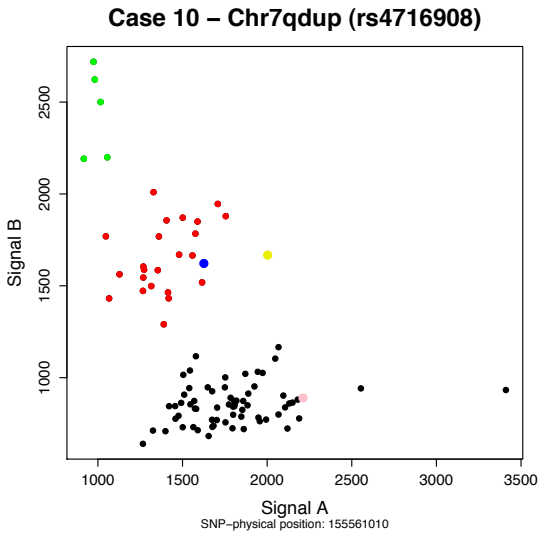

Case 10 – Chr7qdup (rs7802220)
Signal B
Signal A
SNP−physical position: 155529007

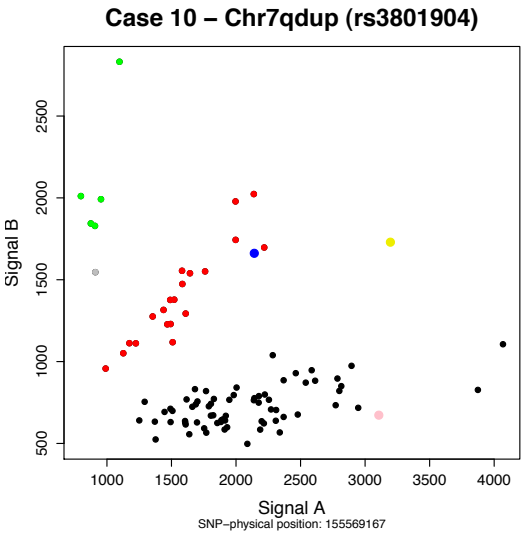

Case 10 – Chr7qdup (rs10275919)
Signal B
Signal A
SNP−physical position: 155536111

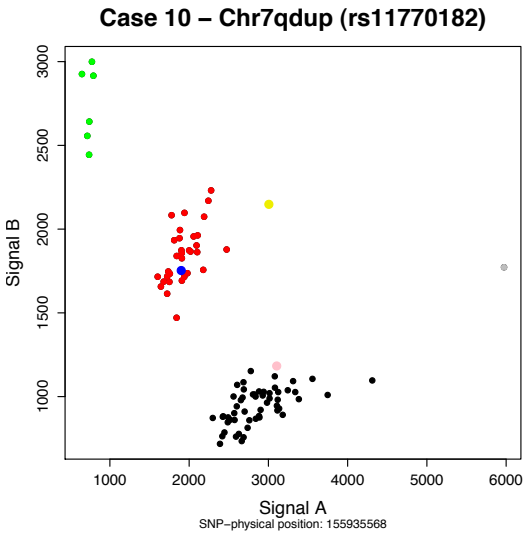

Case 10 – Chr7qdup (rs6961346)
Signal B
Signal A
SNP−physical position: 155544740

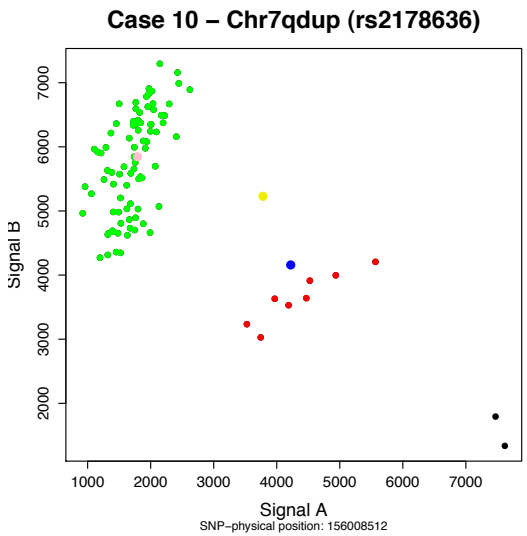

Case 10 – Chr7qdup (rs1920449)
Signal B
Signal A
SNP−physical position: 155547858

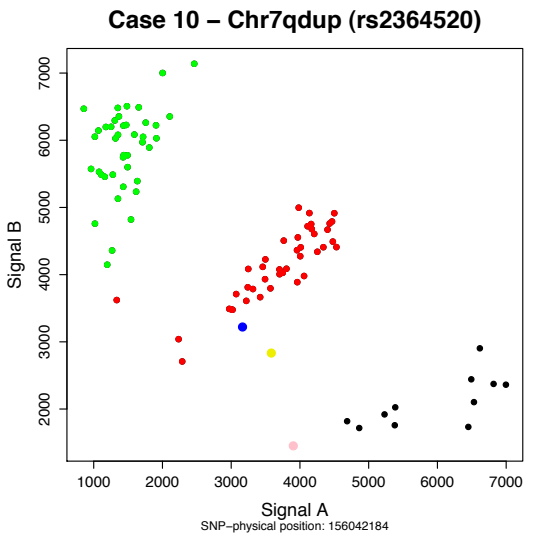

Case 10 – Chr7qdup (rs4716552)
Signal B
Signal A
SNP−physical position: 155560552

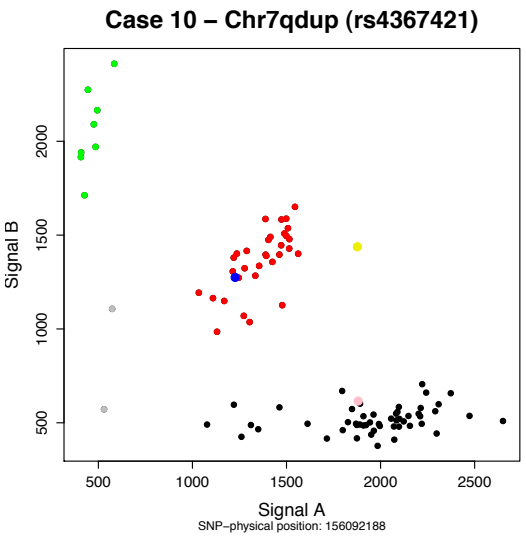

Case 10 – Chr7qdup (rs4716908)
Signal B
Signal A
SNP−physical position: 155561010

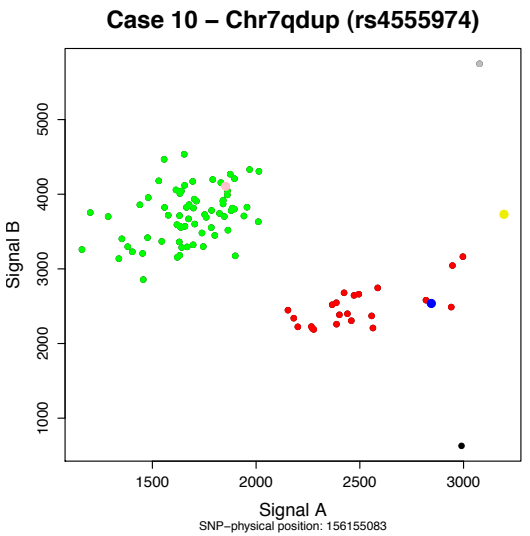

Case 10 – Chr7qdup (rs3801904)
Signal B
Signal A
SNP−physical position: 155569167

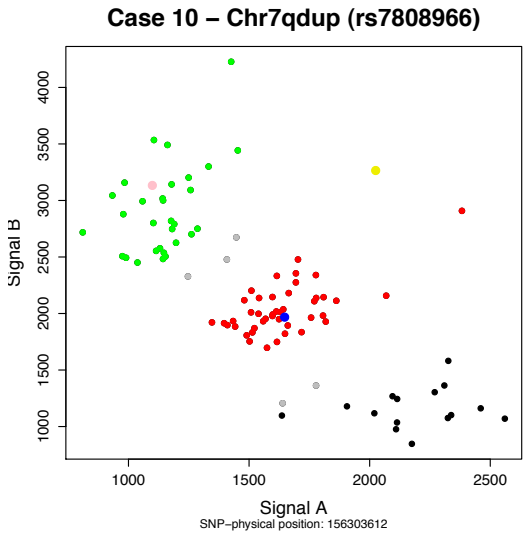

Case 10 – Chr7qdup (rs11770182)
Signal B
Signal A
SNP−physical position: 155935568

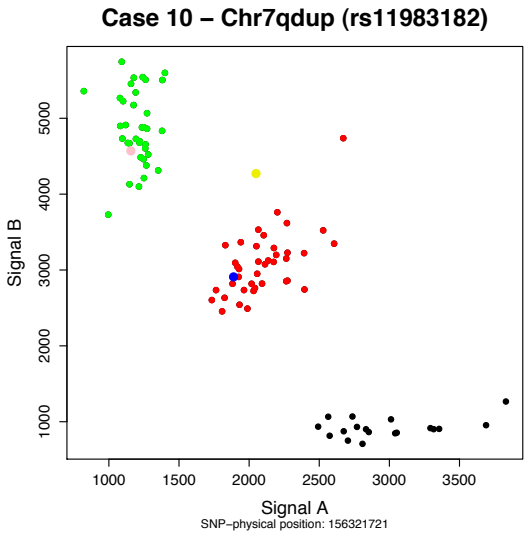

Case 10 – Chr7qdup (rs2178636)
Signal B
Signal A
SNP−physical position: 156008512

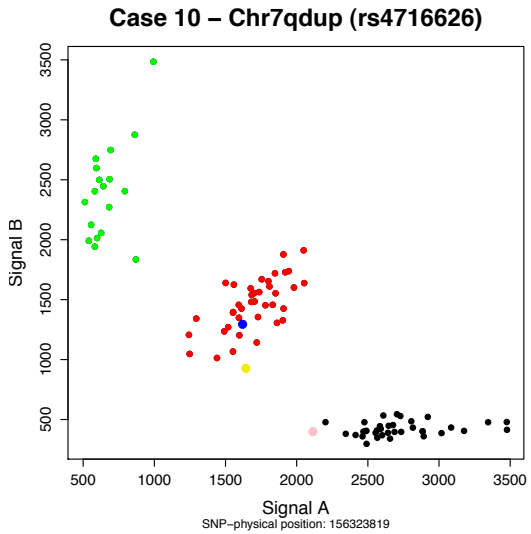

Case 10 – Chr7qdup (rs2364520)
Signal B
Signal A
SNP−physical position: 156042184

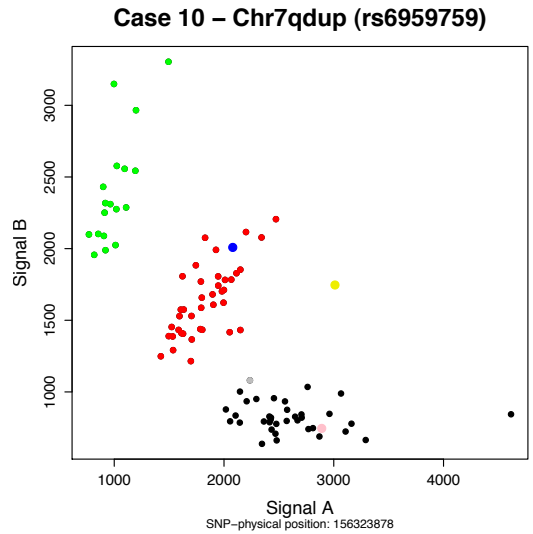

Case 10 – Chr7qdup (rs4367421)
Signal B
Signal A
SNP−physical position: 156092188

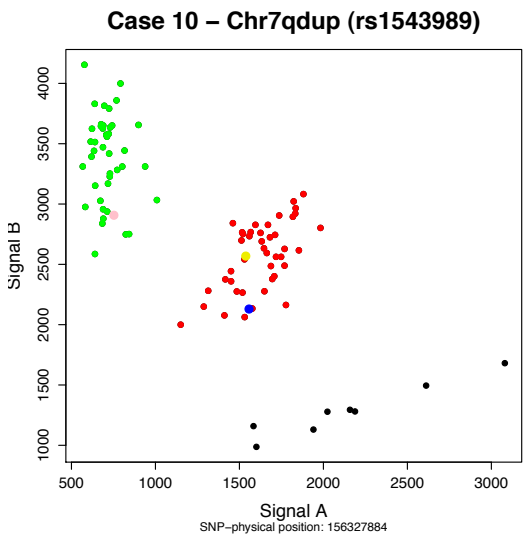

Case 10 – Chr7qdup (rs4555974)
Signal B
Signal A
SNP−physical position: 156155083

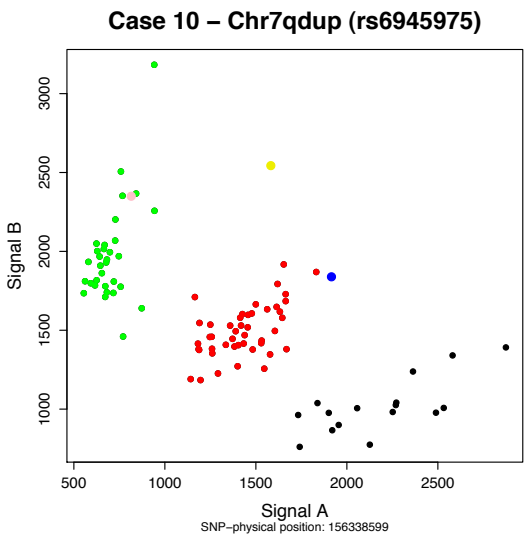

Case 10 – Chr7qdup (rs7808966)
Signal B
Signal A
SNP−physical position: 156303612

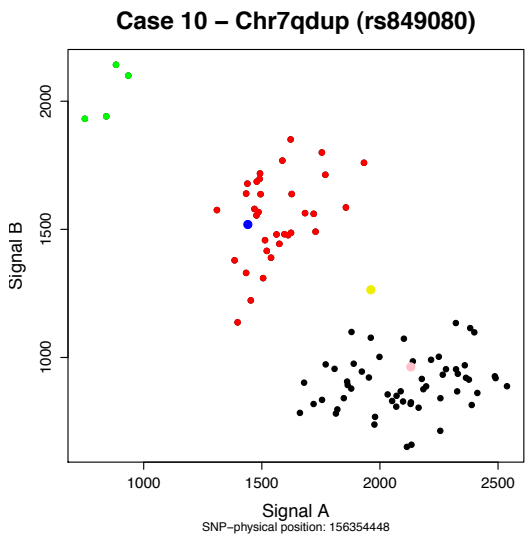

Case 10 – Chr7qdup (rs11983182)
Signal B
Signal A
SNP−physical position: 156321721

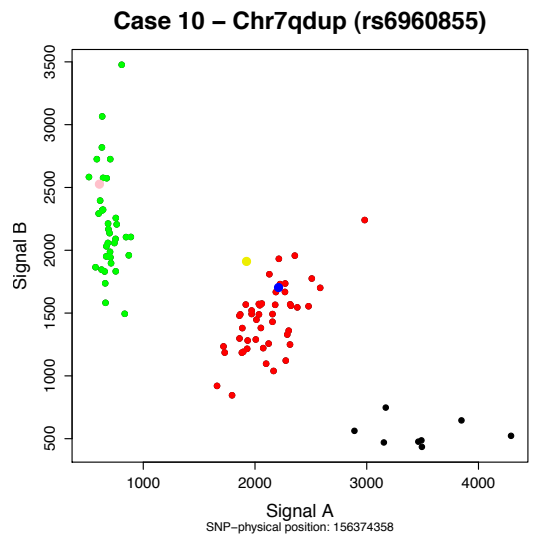

Case 10 – Chr7qdup (rs4716626)
Signal B
Signal A
SNP−physical position: 156323819

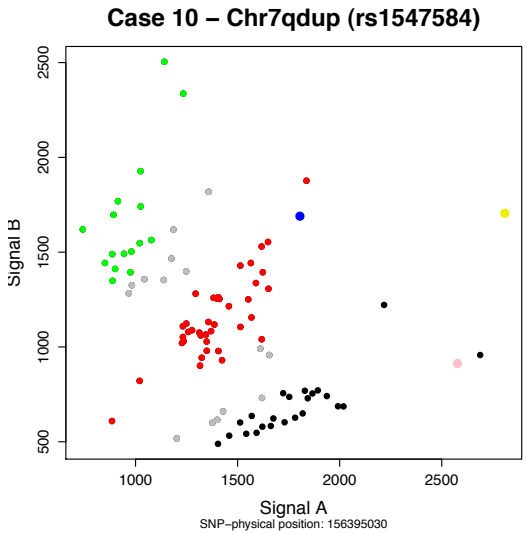

Case 10 – Chr7qdup (rs6959759)
Signal B
Signal A
SNP−physical position: 156323878

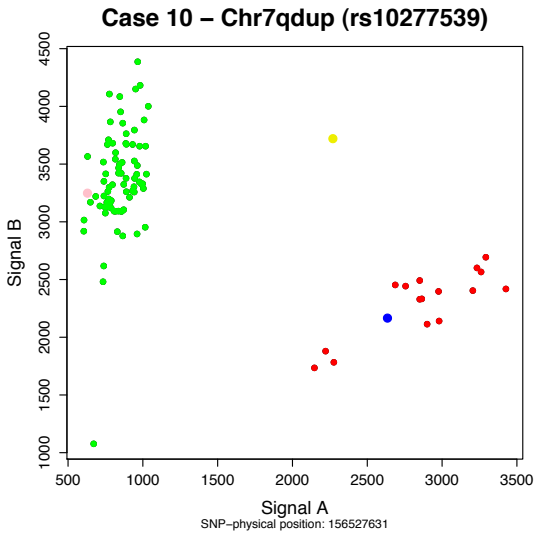

Case 10 – Chr7qdup (rs1543989)
Signal B
Signal A
SNP−physical position: 156327884

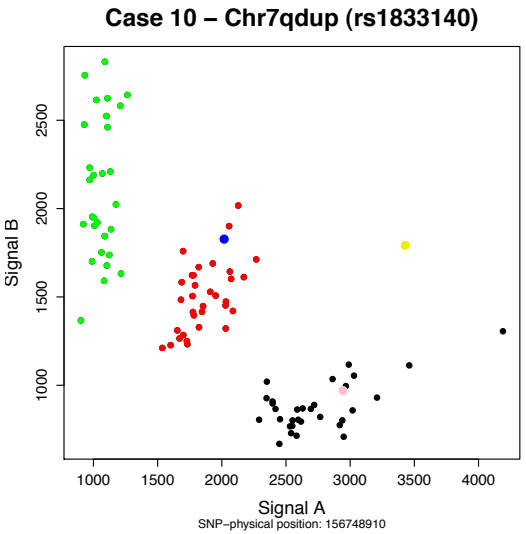

Case 10 – Chr7qdup (rs6945975)
Signal B
Signal A
SNP−physical position: 156338599

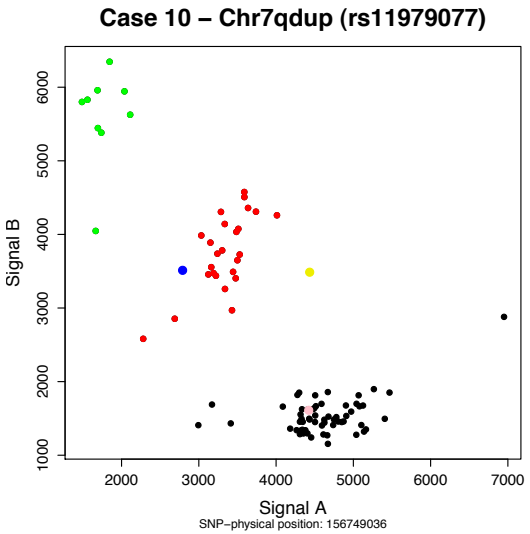

Case 10 – Chr7qdup (rs849080)
Signal B
Signal A
SNP−physical position: 156354448

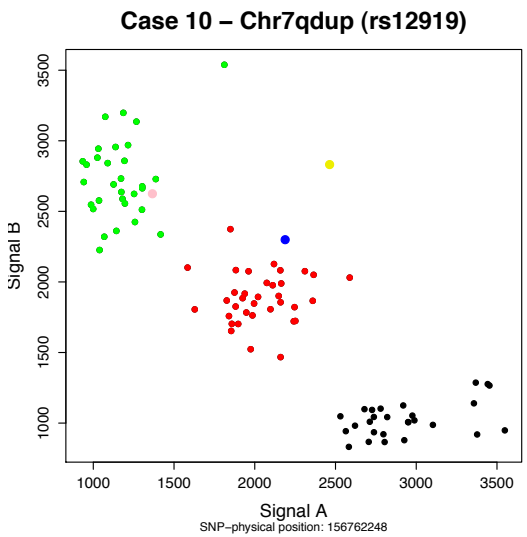

Case 10 – Chr7qdup (rs6960855)
Signal B
Signal A
SNP−physical position: 156374358

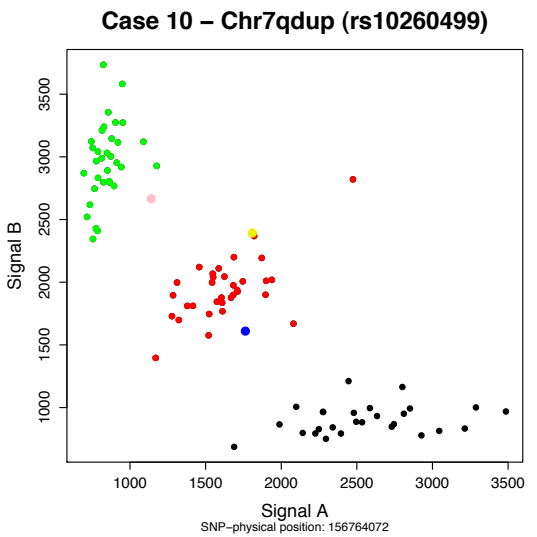

Case 10 – Chr7qdup (rs1547584)
Signal B
Signal A
SNP−physical position: 156395030

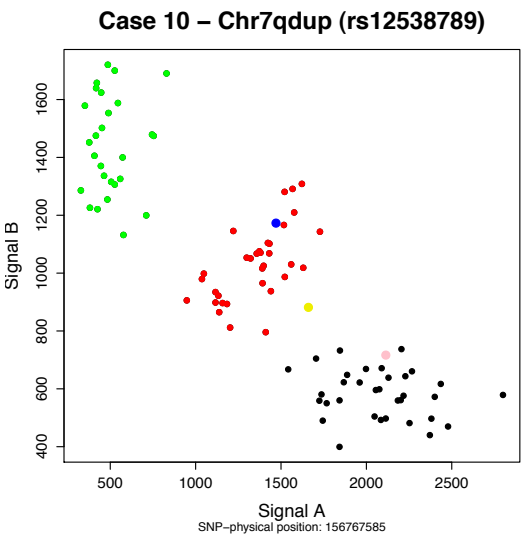

Case 10 – Chr7qdup (rs10277539)
Signal B
Signal A
SNP−physical position: 156527631

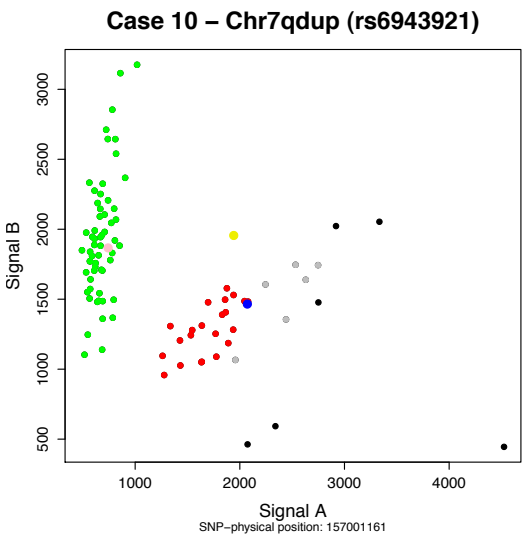

Case 10 – Chr7qdup (rs1833140)
Signal B
Signal A
SNP−physical position: 156748910

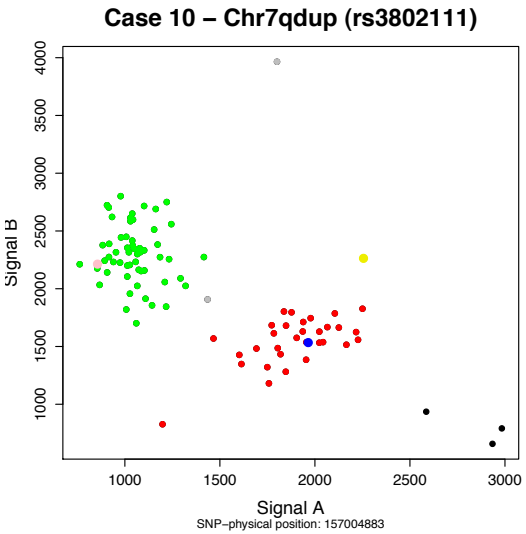

Case 10 – Chr7qdup (rs11979077)
Signal B
Signal A
SNP−physical position: 156749036

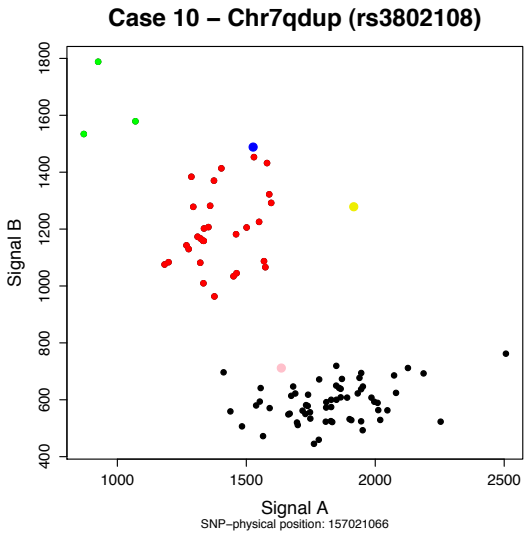

Case 10 – Chr7qdup (rs12919)
Signal B
Signal A
SNP−physical position: 156762248

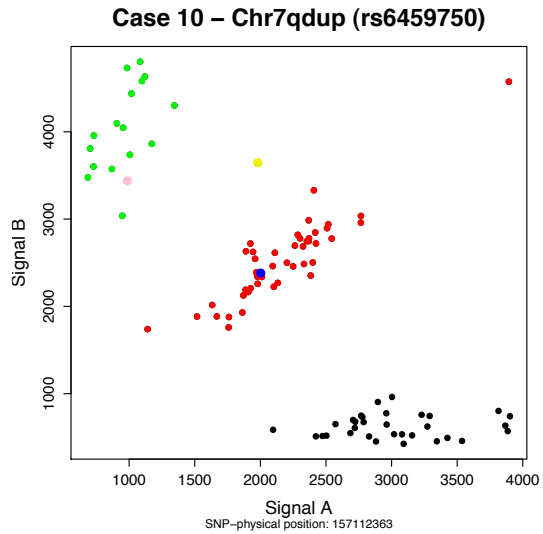

Case 10 – Chr7qdup (rs10260499)
Signal B
Signal A
SNP−physical position: 156764072

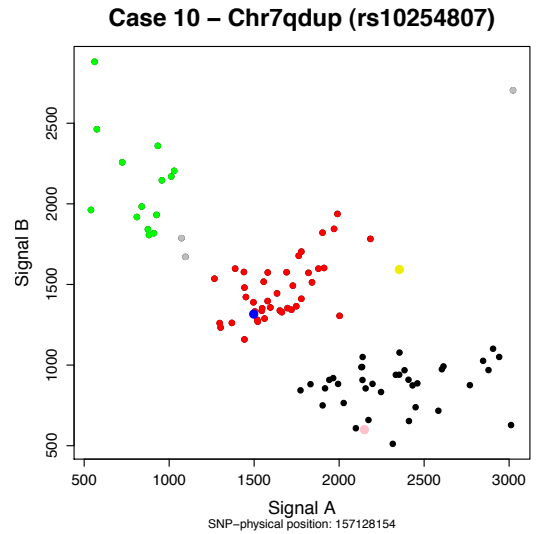

Case 10 – Chr7qdup (rs12538789)
Signal B
Signal A
SNP−physical position: 156767585

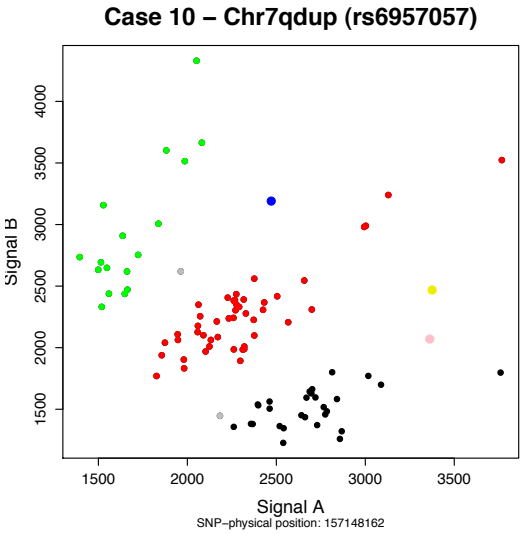

Case 10 – Chr7qdup (rs6943921)
Signal B
Signal A
SNP−physical position: 157001161

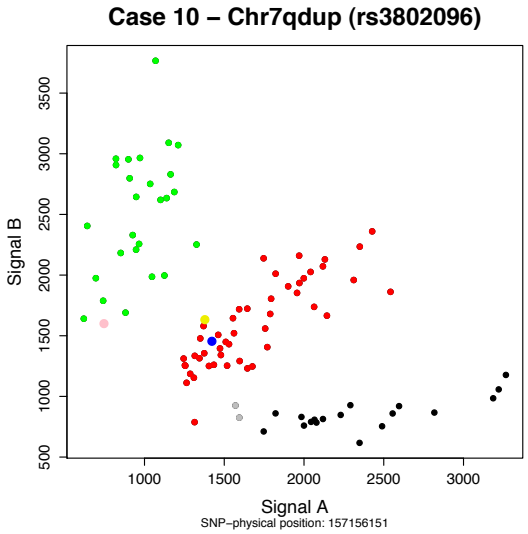

Case 10 – Chr7qdup (rs3802111)
Signal B
Signal A
SNP−physical position: 157004883

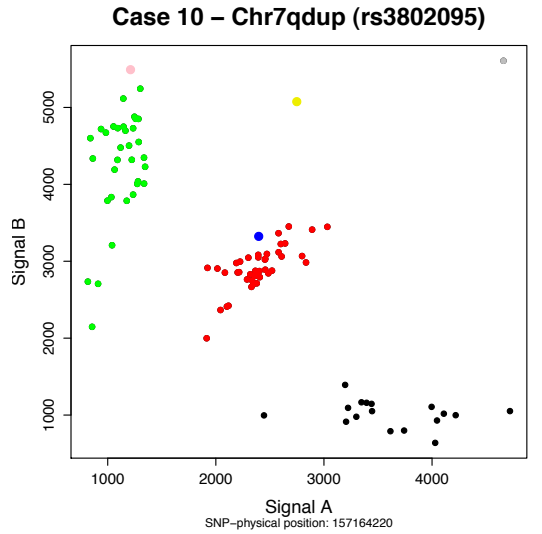

Case 10 – Chr7qdup (rs3802108)
Signal B
Signal A
SNP−physical position: 157021066

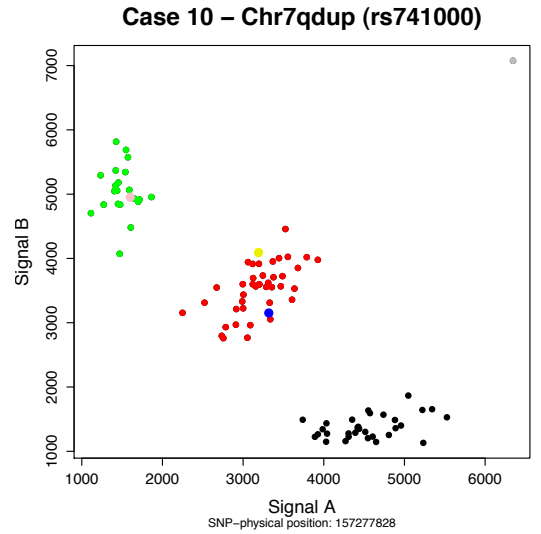

Case 10 – Chr7qdup (rs6459750)
Signal B
Signal A
SNP−physical position: 157112363

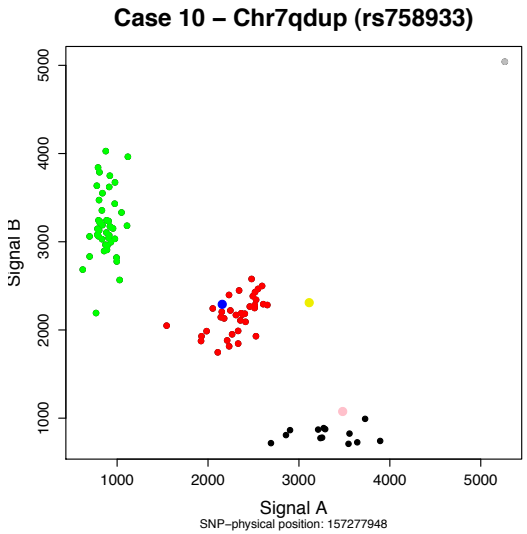

Case 10 – Chr7qdup (rs10254807)
Signal B
Signal A
SNP−physical position: 157128154

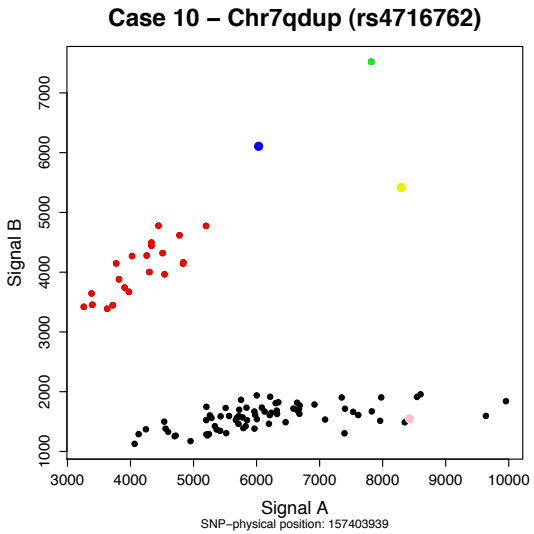

Case 10 – Chr7qdup (rs6957057)
Signal B
Signal A
SNP−physical position: 157148162

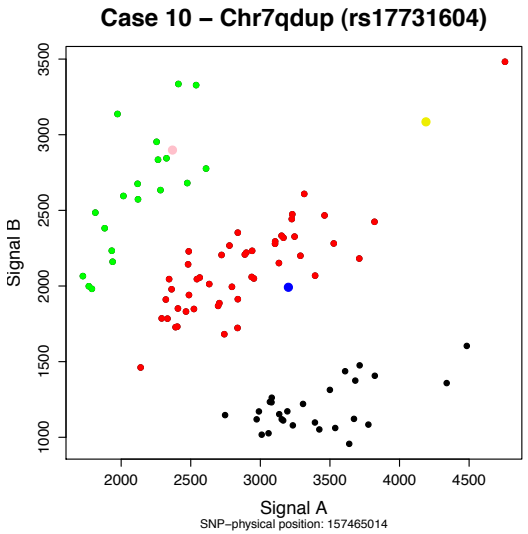

Case 10 – Chr7qdup (rs3802096)
Signal B
Signal A
SNP−physical position: 157156151

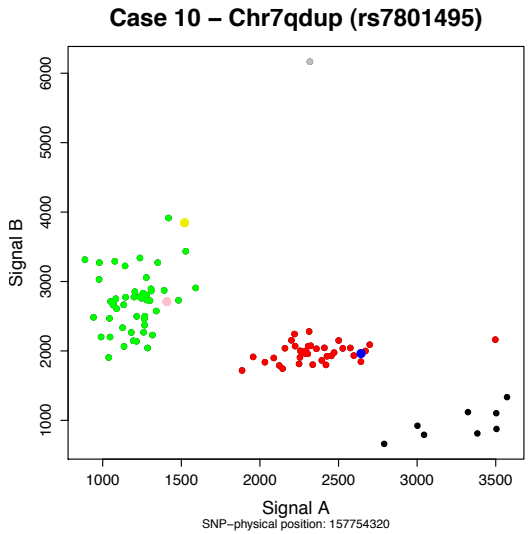

Case 10 – Chr7qdup (rs3802095)
Signal B
Signal A
SNP−physical position: 157164220

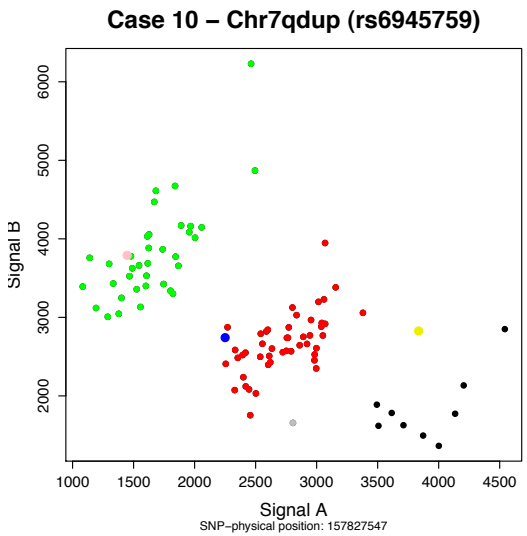

Case 10 – Chr7qdup (rs741000)
Signal B
Signal A
SNP−physical position: 157277828

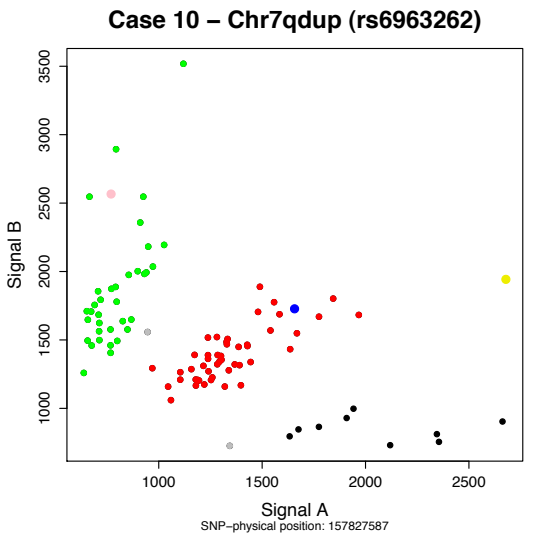

Case 10 – Chr7qdup (rs758933)
Signal B
Signal A
SNP−physical position: 157277948

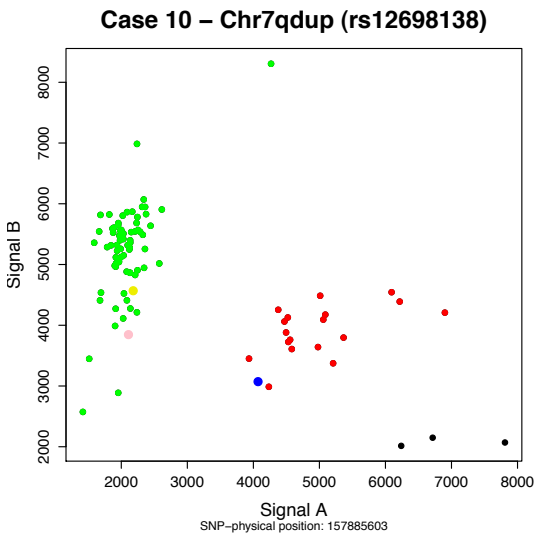

Case 10 – Chr7qdup (rs4716762)
Signal B
Signal A
SNP−physical position: 157403939

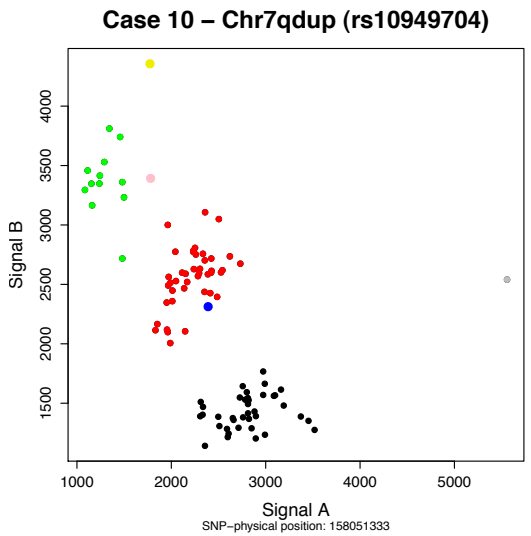

Case 10 – Chr7qdup (rs17731604)
Signal B
Signal A
SNP−physical position: 157465014

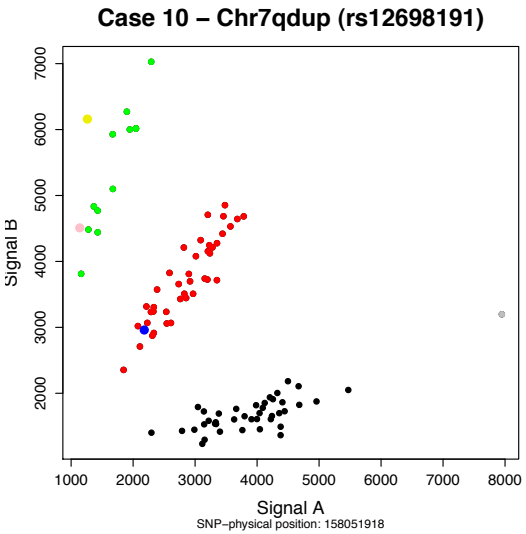

Case 10 – Chr7qdup (rs7801495)
Signal B
Signal A
SNP−physical position: 157754320

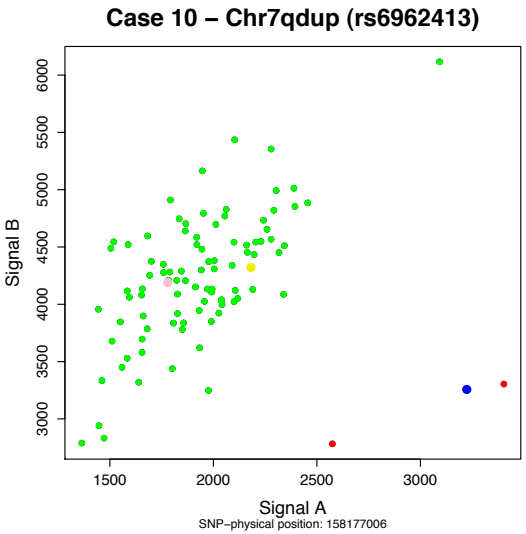

Case 10 – Chr7qdup (rs6945759)
Signal B
Signal A
SNP−physical position: 157827547

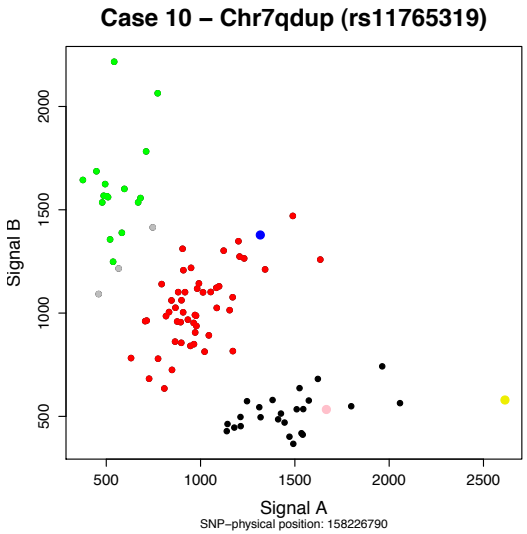

Case 10 – Chr7qdup (rs6963262)
Signal B
Signal A
SNP−physical position: 157827587

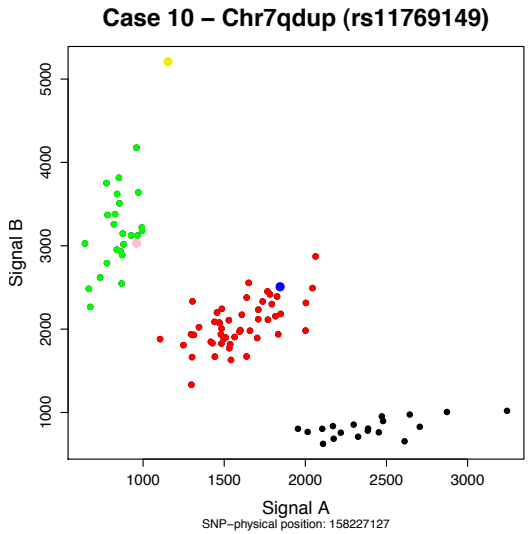

Case 10 – Chr7qdup (rs12698138)
Signal B
Signal A
SNP−physical position: 157885603

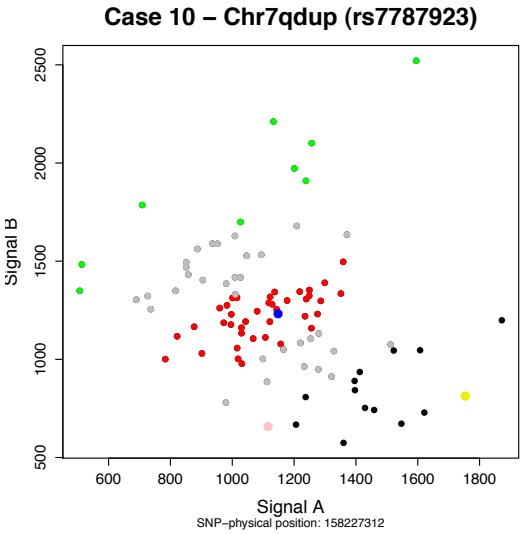

Case 10 – Chr7qdup (rs10949704)
Signal B
Signal A
SNP−physical position: 158051333

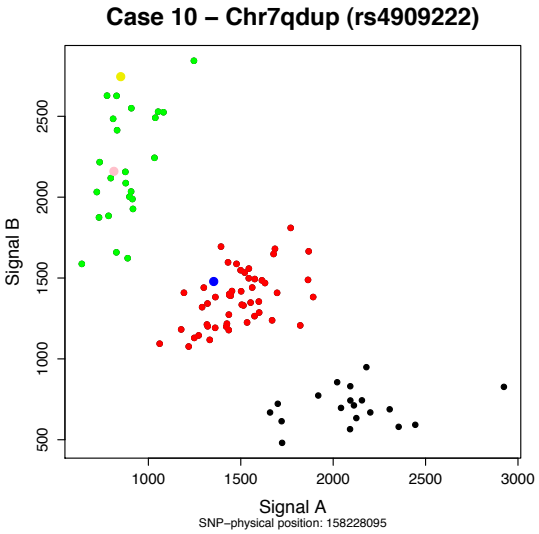

Case 10 – Chr7qdup (rs12698191)
Signal B
Signal A
SNP−physical position: 158051918

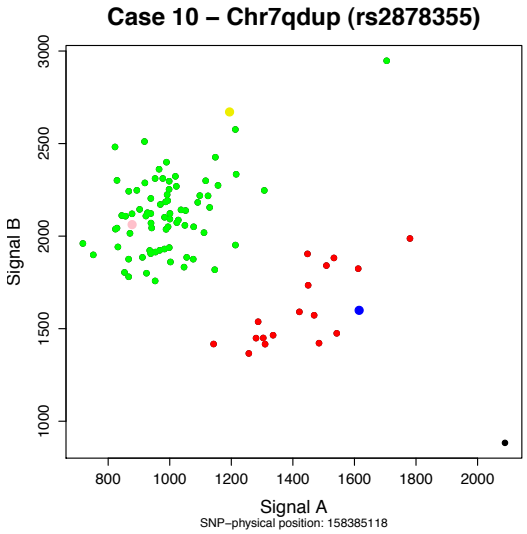

Case 10 – Chr7qdup (rs6962413)
Signal B
Signal A
SNP−physical position: 158177006

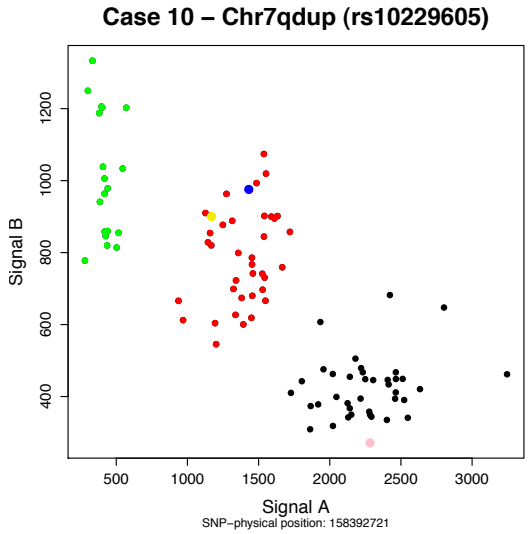

Case 10 – Chr7qdup (rs11765319)
Signal B
Signal A
SNP−physical position: 158226790

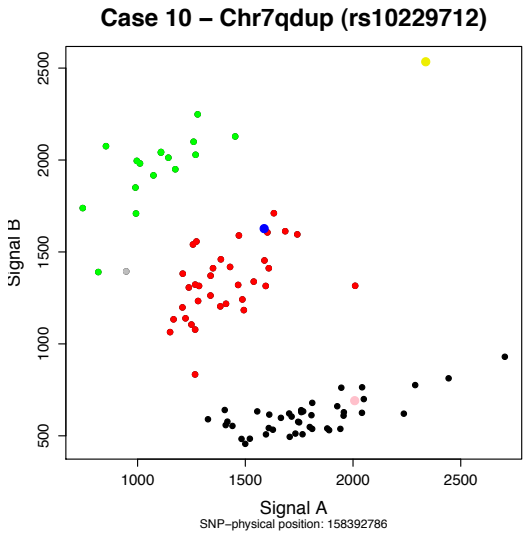

Case 10 – Chr7qdup (rs11769149)
Signal B
Signal A
SNP−physical position: 158227127

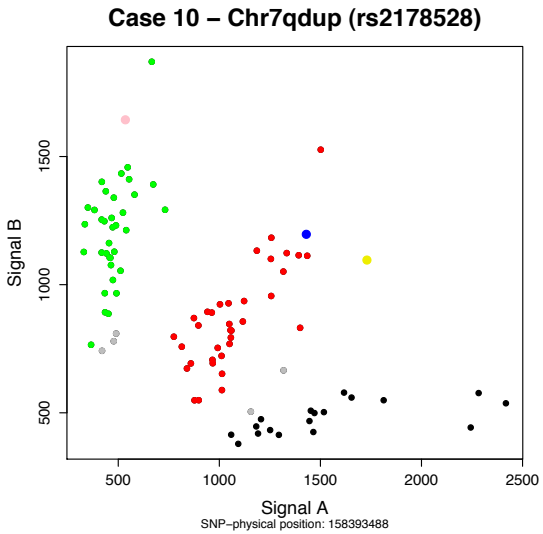

Case 10 – Chr7qdup (rs7787923)
Signal B
Signal A
SNP−physical position: 158227312

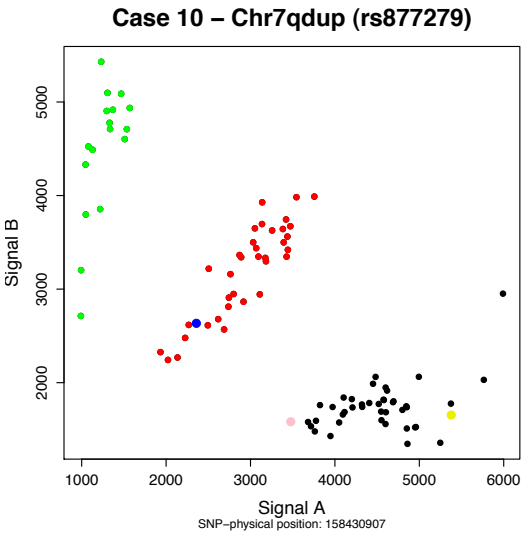

Case 10 – Chr7qdup (rs4909222)
Signal B
Signal A
SNP−physical position: 158228095

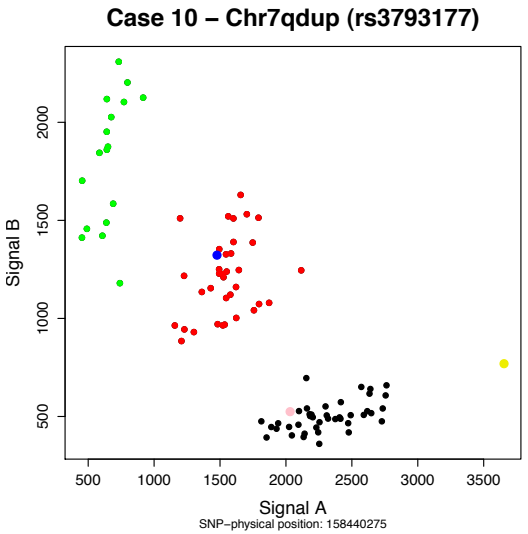

Case 10 – Chr7qdup (rs2878355)
Signal B
Signal A
SNP−physical position: 158385118

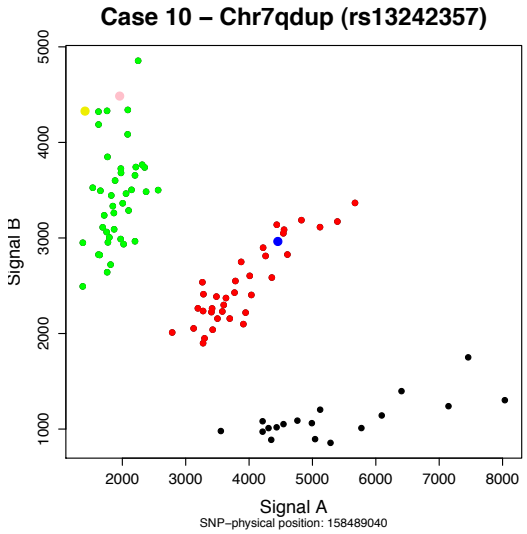

Case 10 – Chr7qdup (rs10229605)
Signal B
Signal A
SNP−physical position: 158392721

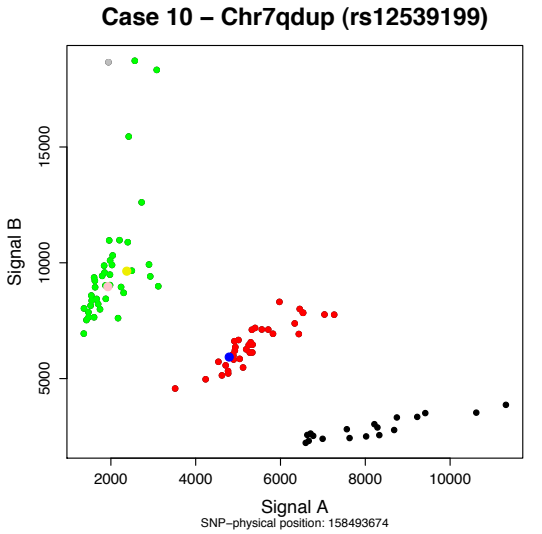

Case 10 – Chr7qdup (rs10229712)
Signal B
Signal A
SNP–physical position: 158392786

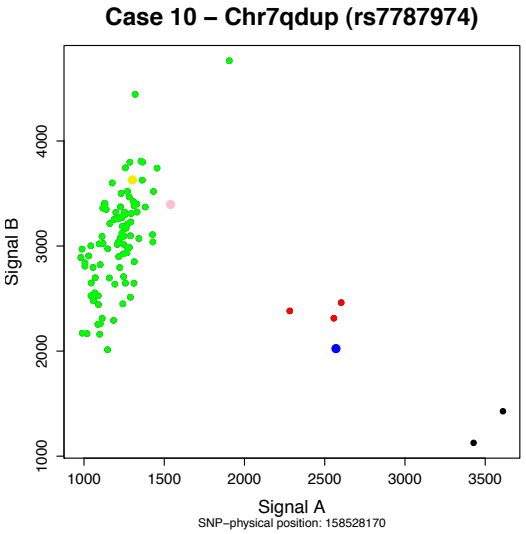

Case 10 – Chr7qdup (rs2178528)
Signal B
Signal A
SNP–physical position: 158393488

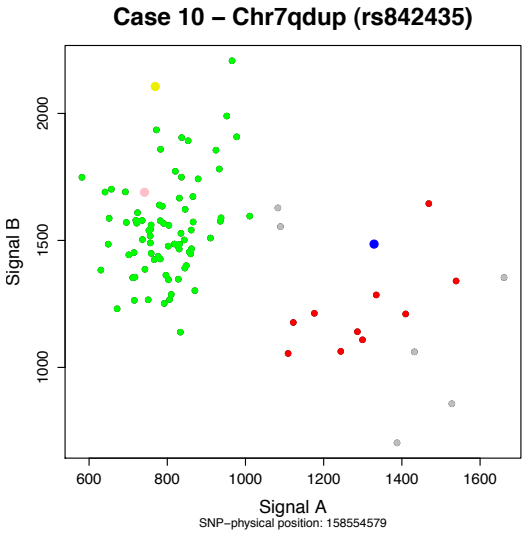

Case 10 – Chr7qdup (rs877279)
Signal B
Signal A
SNP–physical position: 158430907

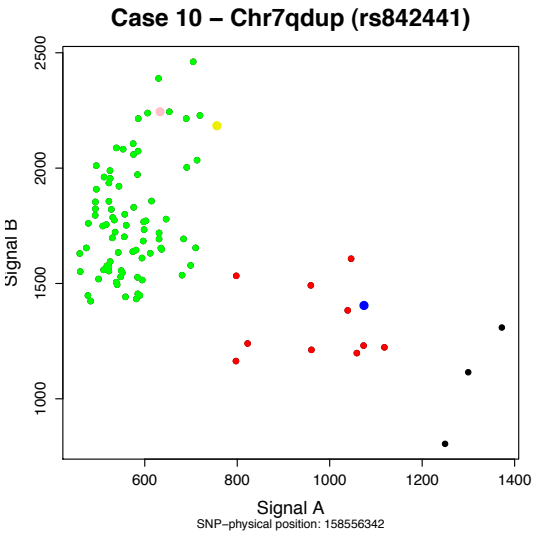

Case 10 – Chr7qdup (rs3793177)
Signal B
Signal A
SNP–physical position: 158440275

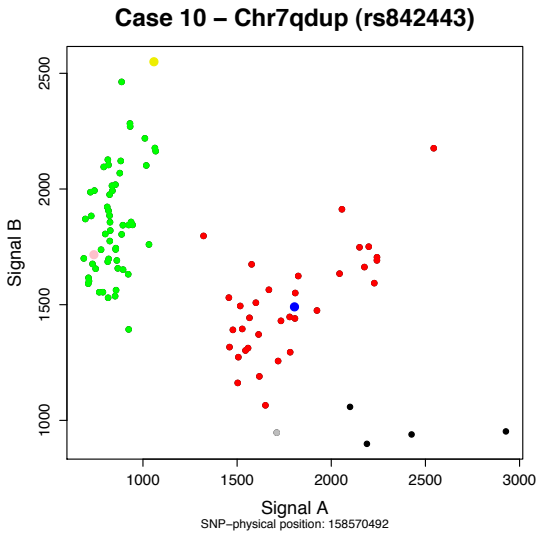

Case 10 – Chr7qdup (rs13242357)
Signal B
Signal A
SNP–physical position: 158489040

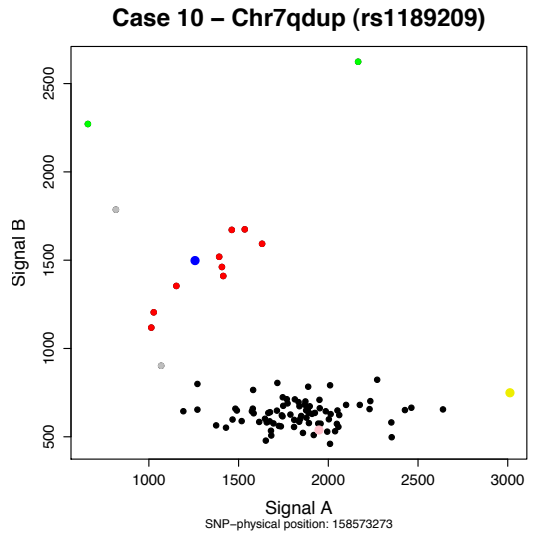

Case 10 – Chr7qdup (rs12539199)
Signal B
Signal A
SNP–physical position: 158493674

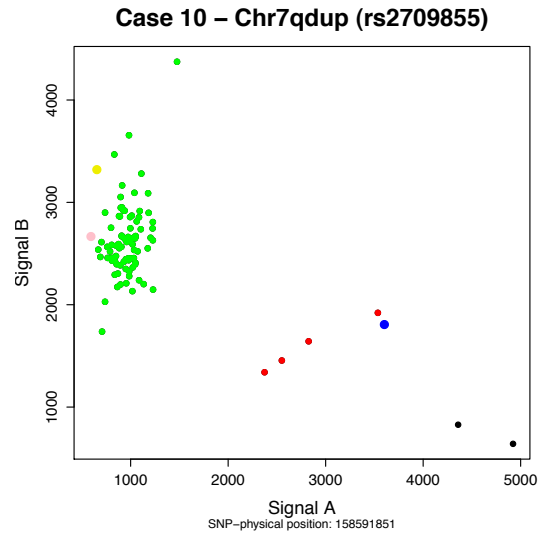

Case 10 – Chr7qdup (rs7787974)
Signal B
Signal A
SNP–physical position: 158528170

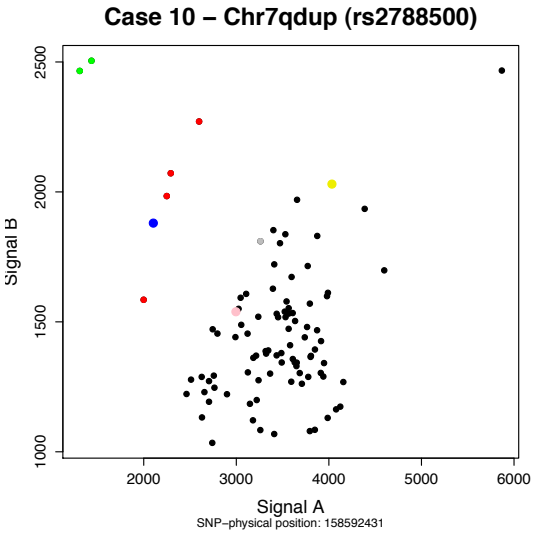

Case 10 – Chr7qdup (rs842435)
Signal B
Signal A
SNP–physical position: 158554579

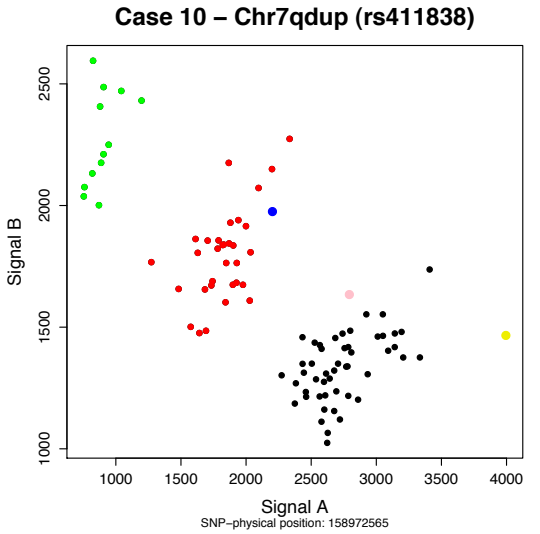

Case 10 – Chr7qdup (rs842441)
Signal B
Signal A
SNP−physical position: 158556342


Case 10 – Chr7qdup (rs842443)
Signal B
Signal A
SNP−physical position: 158570492


Case 10 – Chr7qdup (rs1189209)
Signal B
Signal A
SNP−physical position: 158573273


Case 10 – Chr7qdup (rs2709855)
Signal B
Signal A
SNP−physical position: 158591851


Case 10 – Chr7qdup (rs2788500)
Signal B
Signal A
SNP−physical position: 158592431


Case 10 – Chr7qdup (rs411838)
Signal B
Signal A
SNP−physical position: 158972565