

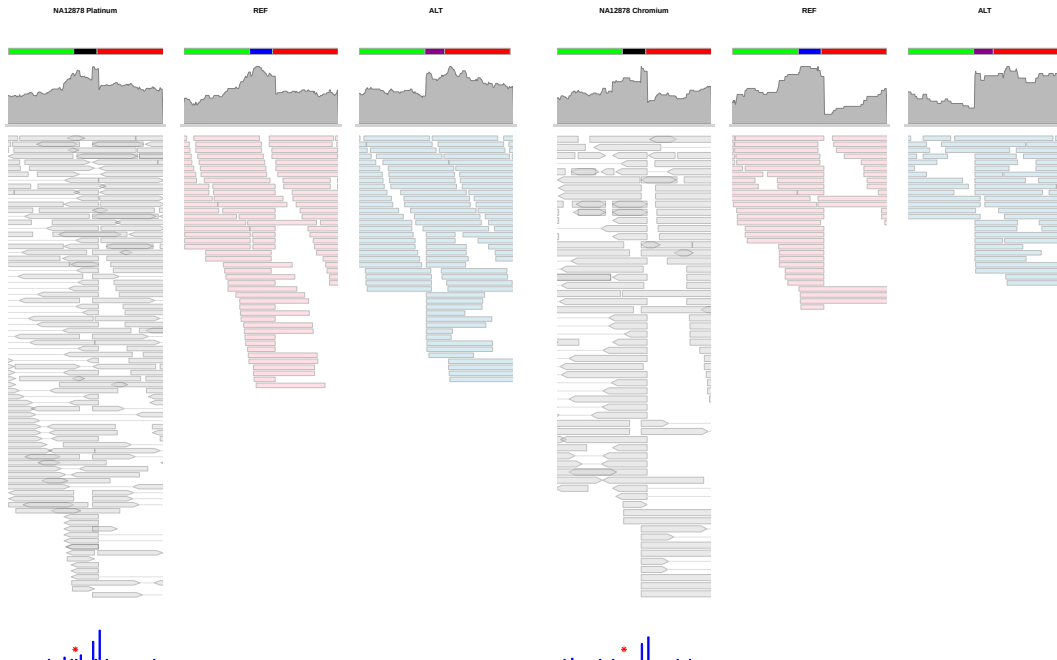
Thousands of human mutation clusters are explained by short-range template switching

Ari Löytynoja

Data S1: TSM candidates discovered in NA12878 with HaplotypeSV data.

Each page shows one locus, indicated on the top-left corner. Top row: slices of the original Platinum (left) and Chromium (right) bam data (in gray) and the realignment of the reads against the REF (in pink) and ALT alleles (in light blue). Below the alignments: original SNVs (red) and indels (black), and numbers of clip sites (height; in blue). Middle: numbers of variants in original datasets and dbSNP information. Bottom: template switch solution, template switch alignment and forward alignment.

chr1.30096573.30096605.30096576.30096609



Platinum: 1 SNP, 0 INDEL; Chromium: 1 SNP, 0 INDEL
Ebert *et al.*: 1 SNP, 0 INDEL
dbSNP: rs796781372
alleles=CTAATGCCATGATAGGGCT.TATCATGGCATTAG

Switch process:

F1: L CTGTGTACCACTCCGTCCTGCCACCCGGTGTATGATGCCACCAATG 1
 RF: 4 GCATCTGTGGGACATCATCTGTGACGAAGCAAGAGGGGCTAGTG R
 F3: CTGTGTACCACTCCGTCCTGCCACCCGGTGTATGATGCCACCAATGTCACGCCCTTATGCATGATAGGGCTGTGGGCACTGTGGGACATCATCTGTGACGAAGCAAGAGGGGCTAGTG
 RR: GACCATGTGTGGGAGCGGGACCTGTGGGCCCAATGATCGGGTGTTCAGTGGGCGGGGATTAAGGTACTATCCGACCAAGGCGGCTTAAAGCGCTGTGATACCAAGCTCCCTCTGTGTCCTCCCTCACG
 F4: 3 GGTGGGGATGACGGTCACTATCCGACCG 2

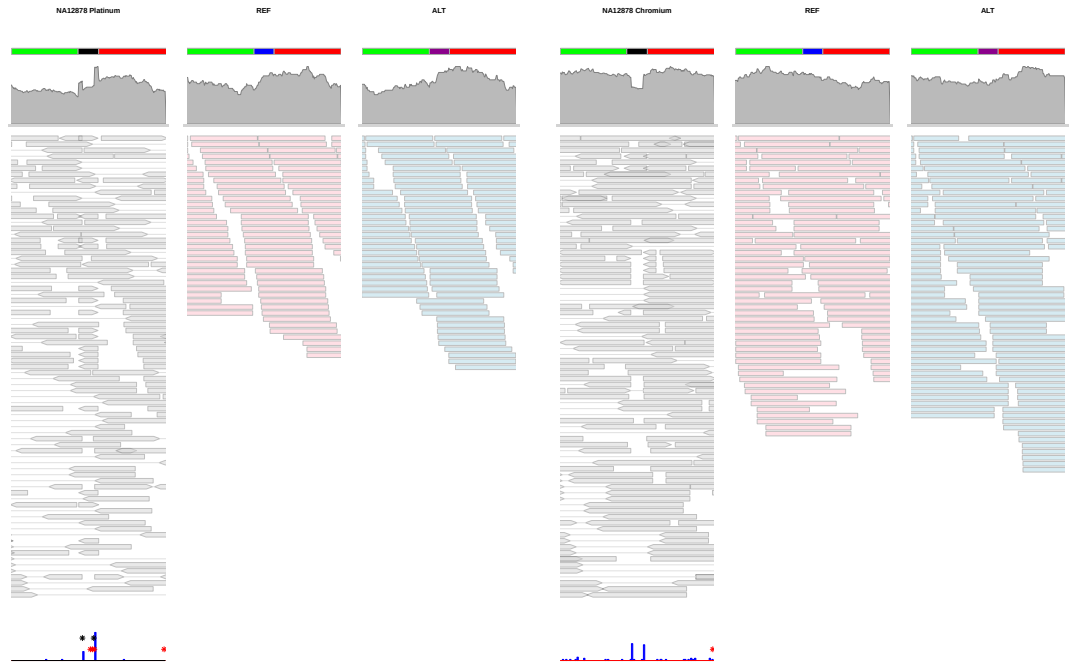
Template-switch alignment:

CTGTGTGAACACCCCTGCCCTGGCACCOCGGGTTATGATGCCCAACAATG/GCCAGCCCTATCATGGCATTAGGGGCTGG/GCCATTGCGGGACATCATGGTCAGAGGGAAGCAGGGGCACTGG

Maftt alignment:

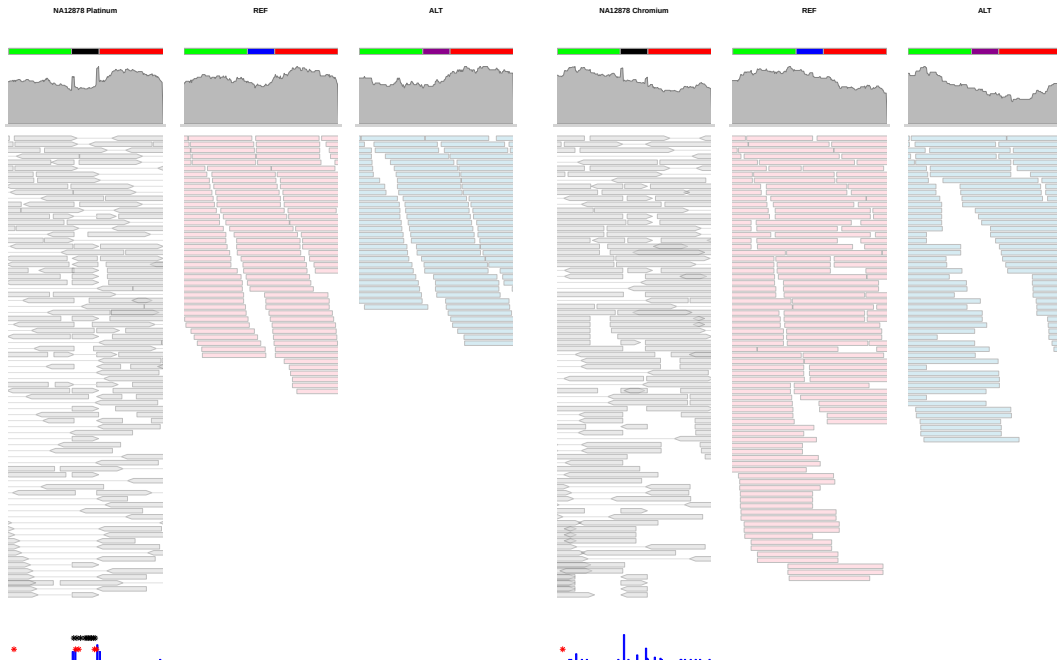
CTGTGTGAACACCCCTGCCCTGGCACCACCGGGTTATGATGCCCAACAATGGCTCAGCCCTTATCTG₂CTAT₁-----G₂GGGTGGGGCATTGGGGACATCATGTGTACAGAGGAAGCAGGGGCACTGG
CTGTGTGAACACCCCTGCCCTGGCACCACCGGGTTATGATGCCCAACAATGGTCCAGCCCTTAAATGCCATGATAGGGCTGGGGCATTGGGGACATCATGTGTACAGAGGAAGCAGGGGCACTGG

chr1.68086419.68086449.68086420.68086450



Switch process:
F1: L ACGGACTAACTAAGGAAGTTATCTTATTATCTAAGACACAAGA 1 4 ACTCTTGAAGGCCAAGATAATTTCTATGTTACTTGGAAACTAG R
F3: ACGGACTAACTAAGGAAGTTATCTTATTATCTAAGACACAAGATAGAACATTGTGTTGAAGAGTTCTATCACTCTTGAAGGCCAAGATAATTTCTATGTTACTTGGAAACTAG
RF: ACGGACTAACTAAGGAAGTTATCTTATTATCTAAGACACAAGATAGAACATTGTGTTGAAGAGTTCTATCACTCTTGAAGGCCAAGATAATTTCTATGTTACTTGGAAACTAG
HR: TGGCTGATGATCTTCAATAGATAAATAGATTCTGTGTTCTATCTGTTAAGACACTCTCTCAAGATAGTGAAGAACTCGGCTTCTATTAAAGATACATGAACCTTGGATC
F2: 3 CTATCTGTTAAGACACTCTCTCAAGATAG 2
Template-switch alignment:
ACGGACTAACTAAGGAAGTTATCTTATTATCTAAGACACAAGATAGAACCTCTCaccacaatgctCTATCACTCTTGAAGGCCAAGATAATTTCTATGTTACTTGGAAACTAG
ACGGACTAACTAAGGAAGTTATCTTATTATCTAAGACACAAGATAGAACATTGTGTTGAAGAGTTCTATCACTCTTGAAGGCCAAGATAATTTCTATGTTACTTGGAAACTAG
Maff alignment:
ACGGACTAACTAAGGAAGTTATCTTATTATCTAAGACACAAGATAGAACCTCTCaccacaatgctCTATCACTCTTGAAGGCCAAGATAATTTCTATGTTACTTGGAAACTAG
ACGGACTAACTAAGGAAGTTATCTTATTATCTAAGACACAAGATAGAACATTGTGTTGAAGAGTTCTATCACTCTTGAAGGCCAAGATAATTTCTATGTTACTTGGAAACTAG

chr1.88768007.88768050.88768008.88768051



Platinum: 4 SNP, 10 INDEL; Chromium: 0 SNP, 0 INDEL

Ebert *et al.*: 10 SNP, 2 INDEL

dbSNP: rs796727117

alleles=CTTAGTGATTAAAAATAGAGATGCTTAAATAATAT,ATATTATTTAAGCATCTCTATTTTTTAATCACTAAG

Switch process:

F1: L AGGAGAATACAGGTTGATTGTGTGCTATTTTATCCAAATTAGTACTGA 1

F3: 4 AGCTTCTCCTTTCTTATGAATAAGTGCTTTCTAACTTGATGCTTAA R

RF: AGGAGAATACAGGTTGATTGTGTGCTATTTTATCCAAATTAGTACTGATTGCATATTATTTAAGCATCTCTATTTTTAATCACTAAGGCAAAGCTTCTCTTTCTTATGAATAAGTGCTTTCTAACTTGATGCTTAA

RR: TCCTCTTATGTCCAAC TAACACAGGATAAAATAGGTTTAA TCATGACTAACGTATAATAAAATTCGTAGAGATAAAAATTAGTGATTCCGTTTCGAAGAGGAAAAGAACTACTTATTCACGAAAGATTGAACTACGAATT

F2: 3 AACGTATAATAAATTCGTAGAGATAAAAAATTAGTGATTCCGTT 2

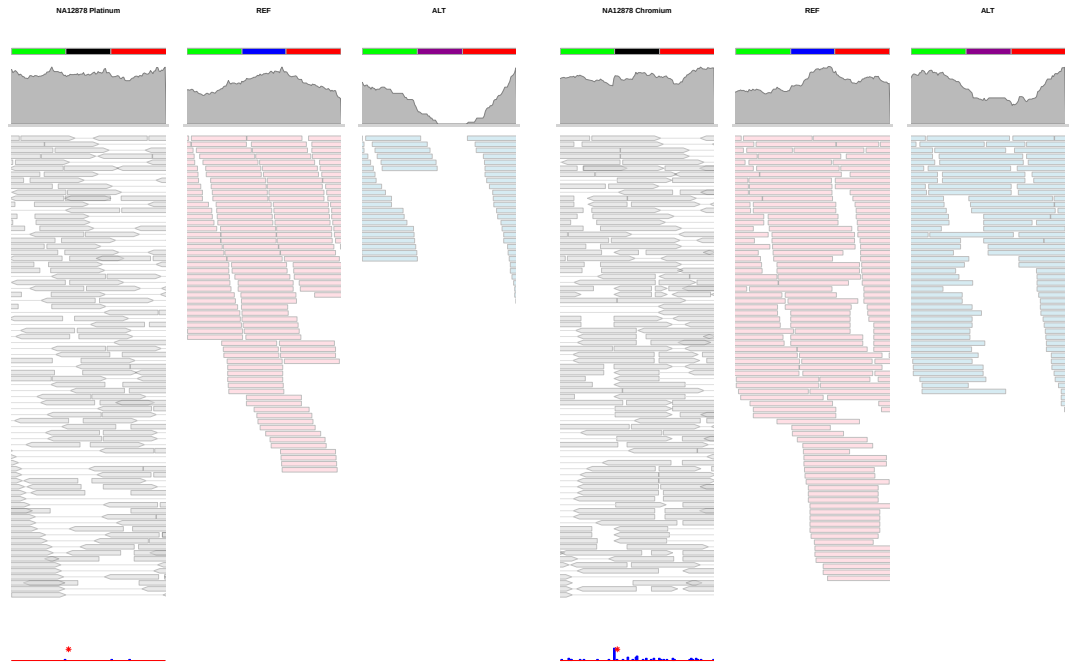
Template-switch alignment:

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AGGAGAATACAGGTGATGTGTGCTATTTATCCAAATAGTACTGA/TTGCCTTAGTGATTAATAAATAGAGATGCTTAAATATATGCAA/AGCTTCTCCTTCTTATGAATAAGTGCTTTCTAACTGTAGTCGCTAA

Maftt alignment:

AGGAGAATACAGGTGATTGTGTGCTATTTTATCCAAATAGTACTGATTGc-cTAgTgaTTAAaazATgagATgCTTAAaataA-T-AGCAaaAGCTCTCTCTTCTTATGAATAAGTGCTTTCTAACTGTAGCTCTAA
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chr1.170589067.170589149.170589068.170589150



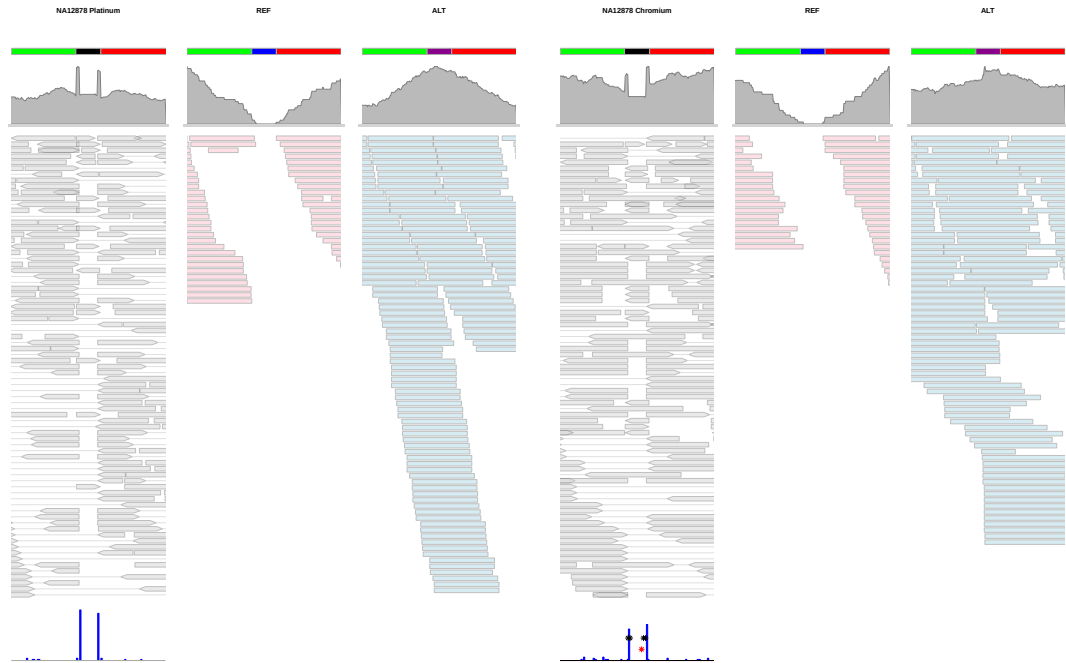
Platinum: 1 SNP, 0 INDEL; Chromium: 1 SNP, 0 INDEL
Ebert *et al.*: 2 SNP, 0 INDEL
dbSNP: -

Switch process:
F1: L AGTTTACATATTTACAAAGAGAAATCATGTATTTCTGCGAGT 1
F3: 4 CAGCAAAOCATTTTCTCTCTATTA R
REF: AGTTTACATATTTACAAAGAGAAATCATGTATTTCTGCGAGT TTTATTTCTCATAGGAGCTTCAACGAGATAGGAGTAAAGTGGCAATACATGATTTCTTTTAAATGAGCAACCATTTTCTCTCTATTA
SR: TCAATGTATAAATGTTTCTTTAGTACATAAAGAGGCTCAAAATAGAGGCTCTCTGAGGTTGGTCTATGAGGATCTCTATTTTCAAGGATTTATGCTGTTTAAATGAGGAGGAT
F2: 3 TAAATGTTTCTTTAGTACATAAAGAGGCTCAAAATAGAGGCTCTCTGAGGTTGGTCTATGAGGATCTCTATTT 2

Template-switch alignment:
AGTTTACATATTTACAAAGAGAAATCATGTATTTCTGCGAGT TTTATTTCTCATAGGAGCTTCAACGAGATAGGAGTAAAGTGGCAATACATGATTTCTTTTAAATGAGCAACCATTTTCTCTCTATTA
AGTTTACATATTTACAAAGAGAAATCATGTATTTCTGCGAGT TTTATTTCTCATAGGAGCTTCAACGAGATAGGAGTAAAGTGGCAATACATGATTTCTTTTAAATGAGCAACCATTTTCTCTCTATTA

Hapff alignment:
AGTTTACATATTTACAAAGAGAAATCATGTATTTCTGCGAGT TTTATTTCTCATAGGAGCTTCAACGAGATAGGAGTAAAGTGGCAATACATGATTTCTTTTAAATGAGCAACCATTTTCTCTCTATTA
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chr1.177645249.177645287.177645250.177645288

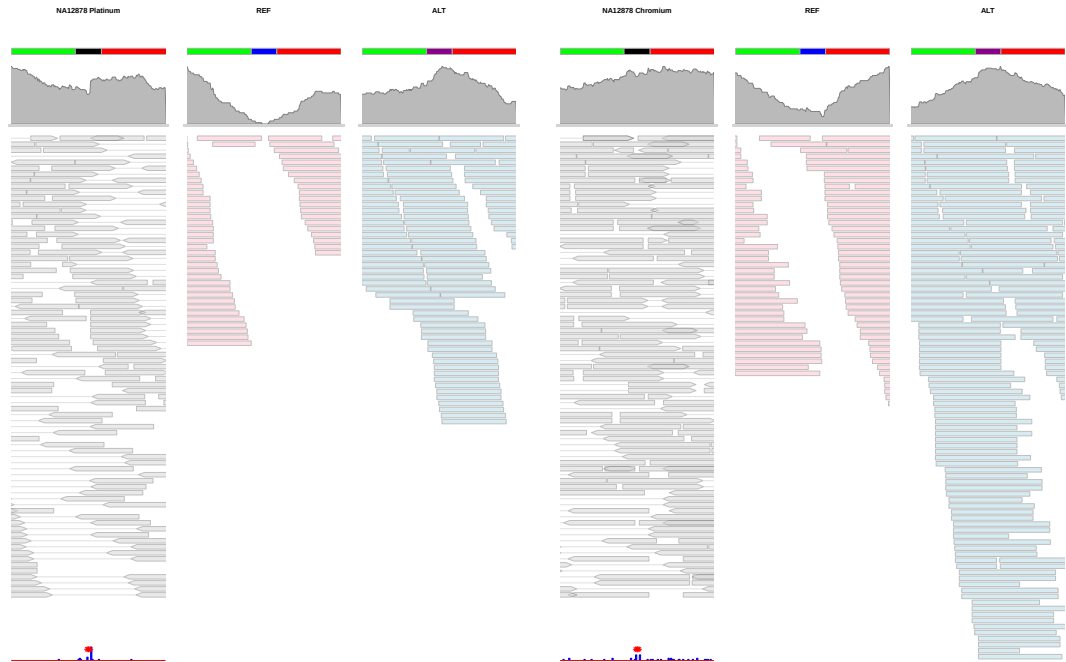


Platinum: 0 SNP, 0 INDEL; Chromium: 1 SNP, 4 INDEL
Ebert *et al.*: 0 SNP, 1 INDEL
dbSNP: rs386637069
alleles=CTTGTTTATTTGTTCCCTTAAAGAAGC,GCTTCTTAAAGGAACAAATAAACACAAG

Switch process:
F1: L ACAAACACAGGATCACTGTTGAATCTGTGTGGGTATAGAAAAGCAC 1 4 CACAAAACACAAAATGATTGTTGAATCCCTGGAGTCTGCTATA R
F3: ACAAACACAGGATCACTGTTGAATCTGTGTGGGTATAGAAAAGCAC|TTTGACTGTGTTTATTTGTTCTTTAAGAAGCTCAAA|CACAAAACACAAAATGATTGTTGAATCCCTGGAGTCTGCTATA
RF: ACAAACACAGGATCACTGTTGAATCTGTGTGGGTATAGAAAAGCAC|TTTGACTGTGTTTATTTGTTCTTTAAGAAGCTCAAA|CACAAAACACAAAATGATTGTTGAATCCCTGGAGTCTGCTATA
HR: TTTTGTGTTGCTAGTCACTGTATGACACACCCCATATCTTTGTGAACTGTAAGAAGTTCTGTTTATTGTTGTGAGTTGTGTTTATGTTTCTTAAACAACTTAAAGGACCTCAGACGATAT
F2: 3 AAACGTGAGGATTTCTGTTTATTGTTGTGAGTTT 2

Template-switch alignment:
ACAAAACACAGGATCACTGTTGAATCTGTGTGGGTATAGAAAAGCCTTTGACTGTGTTTATTTGTTCTTTAAGAAGCTCAAA|CACAAAACACAAAATGATTGTTGAATCCCTGGAGTCTGCTATA
ACAAAACACAGGATCACTGTTGAATCTGTGTGGGTATAGAAAAGCCTTTGACTGTGTTTATTTGTTCTTTAAGAAGCTCAAA|CACAAAACACAAAATGATTGTTGAATCCCTGGAGTCTGCTATA
Haff alignment:
ACAAAACACAGGATCACTGTTGAATCTGTGTGGGTATAGAAAAGCCTTTGACTGTGTTTATTTGTTCTTTAAGAAGCTCAAAATGATTGTTGAATCCCTGGAGTCTGCTATA
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chr1.201549660.201549700.201549661.201549701



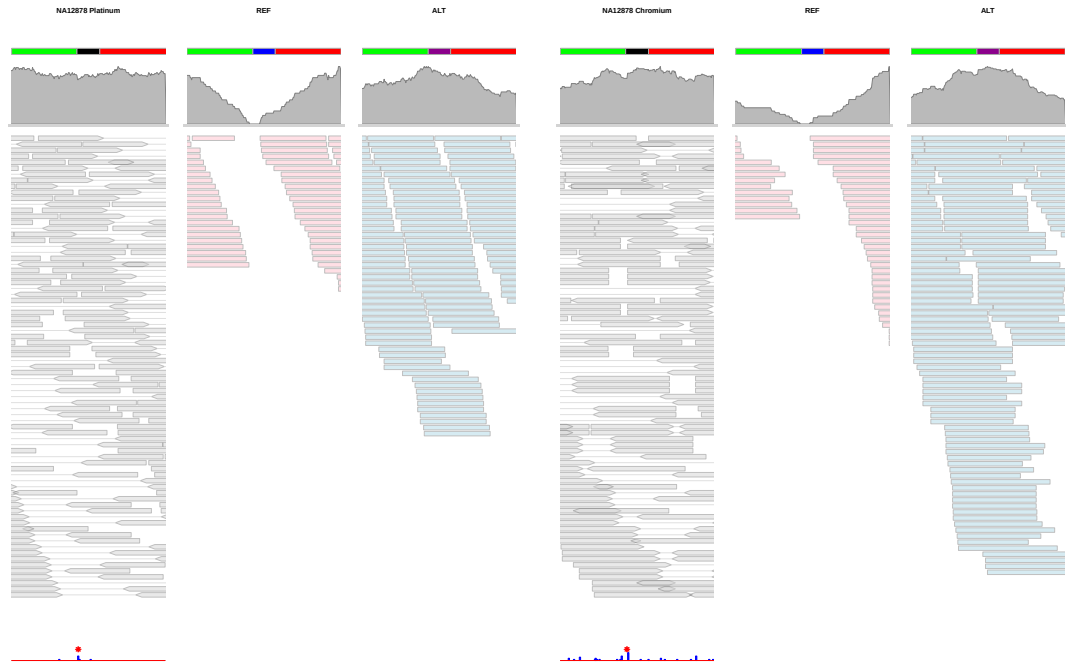
Platinum: 4 SNP, 0 INDEL; Chromium: 4 SNP, 0 INDEL
Ebert *et al.*: 4 SNP, 0 INDEL
dbSNP: rs796338361
alleles=TTACAG,CTGTAA

Switch process:
F1: L TGATAATCTTTAAGCAGAGCTCAATATACTTAGT 1 4 GAGAGGACTGTCTTAAGACTGGGTGCGGGCT R
F3: TGATAATCTTTAAGCAGAGCTCAATATACTTAGT 1 4 GAGAGGACTGTCTTAAGACTGGGTGCGGGCT R
REF: TGATAATCTTTAAGCAGAGCTCAATATACTTAGT 1 4 GAGAGGACTGTCTTAAGACTGGGTGCGGGCT R
HR: ACTATTAGAAATTTCTCTGAGTATATGAAATGAAACGACCAAGACCCCTGCGACATTGAGAGGGTGTGTTGTTCTCTCTCTGACGAAATCTGAGACCAAGGCGGGA
F2: 3 ACACCAAGACCCCTGCGACATTGAGAGGGTGTGTTGTTCTCTCTCTCTGACGAAATCTGAGACCAAGGCGGCT

Template-switch alignment:
TGATAATCTTTAAGCAGAGCTCAATATACTTAGT 1 4 GAGAGGACTGTCTTAAGACTGGGTGCGGGCT R
TGATAATCTTTAAGCAGAGCTCAATATACTTAGT 1 4 GAGAGGACTGTCTTAAGACTGGGTGCGGGCT R

Mafft alignment:
TGATAATCTTTAAGCAGAGCTCAATATACTTAGT 1 4 GAGAGGACTGTCTTAAGACTGGGTGCGGGCT R
TGATAATCTTTAAGCAGAGCTCAATATACTTAGT 1 4 GAGAGGACTGTCTTAAGACTGGGTGCGGGCT R

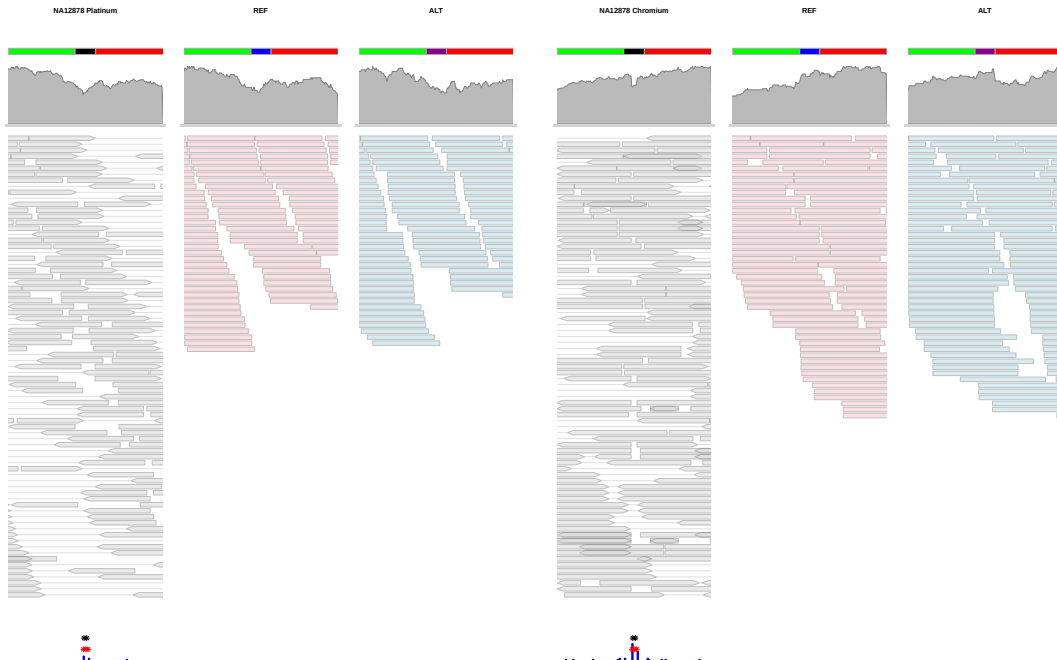
chr1.219336030.219336022.219335989.219336065



Platinum: 2 SNP, 0 INDEL; Chromium: 2 SNP, 0 INDEL
Ebert *et al.*: 2 SNP, 0 INDEL
dbSNP: rs796742948
alleles=TC,GA

Switch process:
F1: L ATAAGTGGGTGTTCTCTAGGTGAACAAACAGAAAGACATTCTCAGCAGAG 1
F3: 4 TTTTGACAACTTGCTCA R
RF: ATACTGGGTGTTCTCTAGGTGAACAAACAGAAAGACATTCTCAGCAGAGTGGATGTTCTCTGTTTGGTCACTAGAGAACTTTGACAACTTGCTCA
RR: TATGACCCACAGAGATGCTAGTCTGTTCTCTGTTTGGTCACTAGAGAACTTTGACAACTTGCTCA
F2: 3 ACAGAGATGCTAGTCTGTTCTCTGTTTGGTCACTAGAGAACTTTGACAACTTGCTCA
Template-switch alignment:
TAAGTGGGTGTTCTCTAGGTGAACAAACAGAAAGACATTCTCAGCAGAGGGAATGTTCTCTGTTTGGTCACTAGAGAACTTTGACAACTTGCTCA
TAAGTGGGTGTTCTCTAGGTGAACAAACAGAAAGACATTCTCAGCAGAGTGGATGTTCTCTGTTTGGTCACTAGAGAACTTTGACAACTTGCTCA
Mafft alignment:
TAAGTGGGTGTTCTCTAGGTGAACAAACAGAAAGACATTCTCAGCAGAGGGAATGTTCTCTGTTTGGTCACTAGAGAACTTTGACAACTTGCTCA
TAAGTGGGTGTTCTCTAGGTGAACAAACAGAAAGACATTCTCAGCAGAGTGGATGTTCTCTGTTTGGTCACTAGAGAACTTTGACAACTTGCTCA

chr1.223759884.223759914.223759885.223759915



Platinum: 3 SNP, 2 INDEL; Chromium: 3 SNP, 2 INDEL
Ebert *et al.*: 2 SNP, 0 INDEL
dbSNP: rs386639771
alleles=ATCTCAAC,GTTGAGAT

Switch process:

```
F: L TTTCAGGCCAAGCTGGCGTAGCAGGCCACCAAGGTTGA 1
R: 4 CCAGAACCTCTCCCTATTATAGTTGTCATGCCACAGCT R
FB: TTTCAGGCCAAGCTGGCGTAGCAGGCCACCAAGGTTGAAGTTGGGAACGTTGAGATGTTCCACCTCCAGAACTCCCTATTATAGTTGTCATGCCACAGCT
FR: AAAGGTCGCGTGAACGAGTGCTCGTGTTCCACCTCCAGCTTGGCAACTTCCACCAAGGTTGGAGGTTCTGGAGGGGATAATATCAACAGTACAGTGTGCGA
R2: 3 TCCACCTCAAGTCAAGCTTCCCAAGGTTGA 2
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Template-switch alignment:

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TTTCAGGCACCTGGGCTAGCAGACGCCACCAAGGGTGTA | AGGTGGGAACCATCTCAACGGTTCOCACCT | CCAGAACTCTCCCTATTATAGTTGTGTCATGTCACCAAGCT
TTTCAGGCACCTGGGCTAGCAGACGCCACCAAGGGTGTA | AGGTGGGAACCATCTCAACGGTTCOCACCT | CCAGAACTCTCCCTATTATAGTTGTGTCATGTCACCAAGCT

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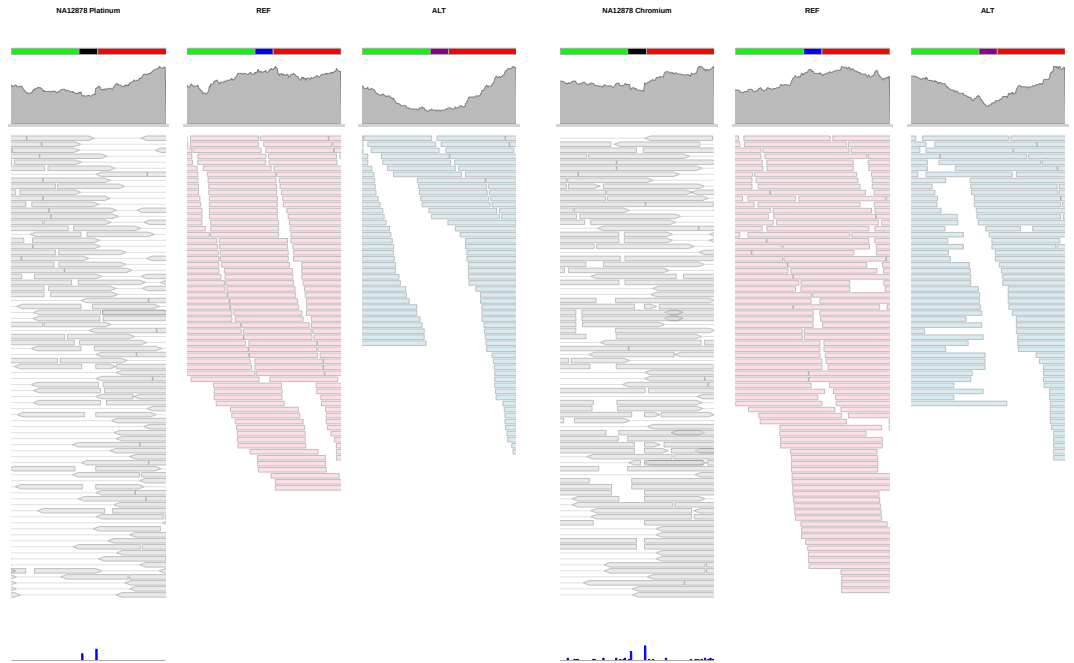
Mafft alignment:

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chr1.248437371.248437398.248437372.248437399

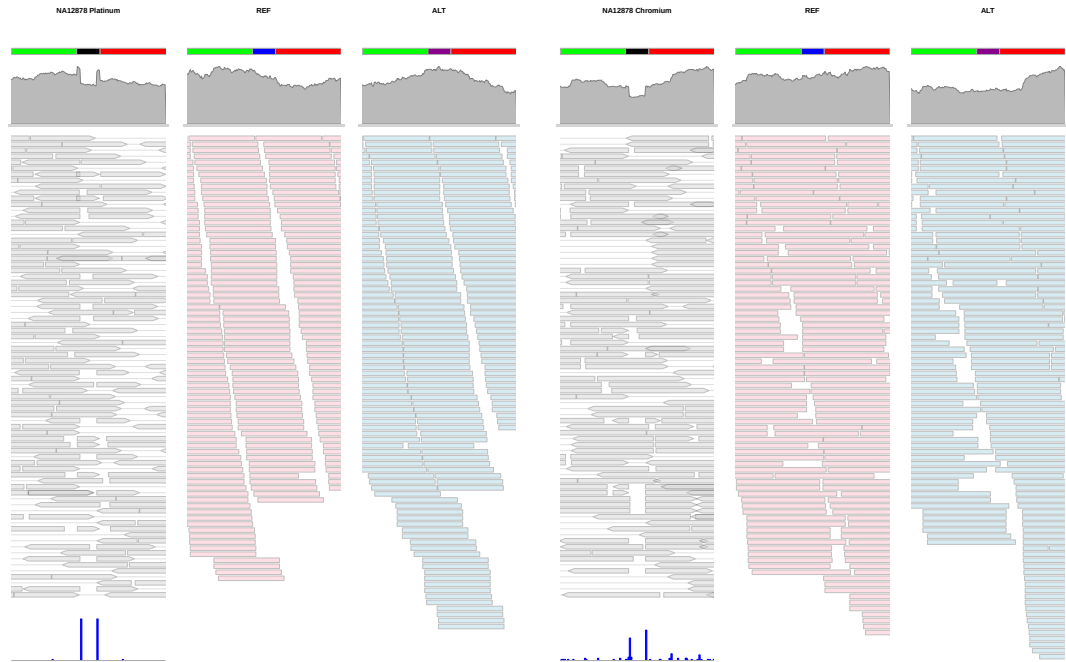


Switch process:
F1: L AATCGAAACCTCTCTATGTTCTAAAGATTCCOCAAAGTGATTTTACTT 1
F3: 4 GAAGTGACACTTCATGTGAAAATACTCTCTGGGAGGAAACATAATGA R
RF: AATCGAAACCTCTCTATGTTCTAAAGATTCCOCAAAGTGATTTTACTTGAAGAAATGCTTTCTTCACACTGGAAGTGACACTTCATGTGAAAATACTCTCTGGGAGGAAACATAATGA
RR: TTAGTTTGGAGAGATACGAGATTTCTAAGGGGTTCTAAATGGAATGAAATCTTTTAAGCGAAAGAGAGTGTGATCTTCACCTGTGAGTGACACTTTTATGAGCGACCTCTCTTTGATTTACT
F2: 3 ATCTTTTACCGAAGAGGTTGAT 2

Template-switch alignment:
AATCGAAACCTCTCTATGTTCTAAAGATTCCOCAAAGTGATTTTACTT/TAGTTTGGAGAGGAAAGCCATTTCTA/(GAAGTGACACTTCATGTGAAAATACTCTCTGGGAGGAAACATAATGA
AATCGAAACCTCTCTATGTTCTAAAGATTCCOCAAAGTGATTTTACTT/TAGTTTGGAGAGGAAAGCCATTTCTA/(GAAGTGACACTTCATGTGAAAATACTCTCTGGGAGGAAACATAATGA

Hafft alignment:
AATCGAAACCTCTCTATGTTCTAAAGATTCCOCAAAGTGATTTTACTTTAAGttggAgAaaDccaTTt-----CTAGAAGTGACACTTCATGTGAAAATACTCTCTGGGAGGAAACATAATGA
AATCGAAACCTCTCTATGTTCTAAAGATTCCOCAAAGTGATTTTACTTTAG-----AAATGCGCTTTCTTCACCAACTAGAAGTGACACTTCATGTGAAAATACTCTCTGGGAGGAAACATAATGA

chr1.248458096.248458131.248458097.248458132

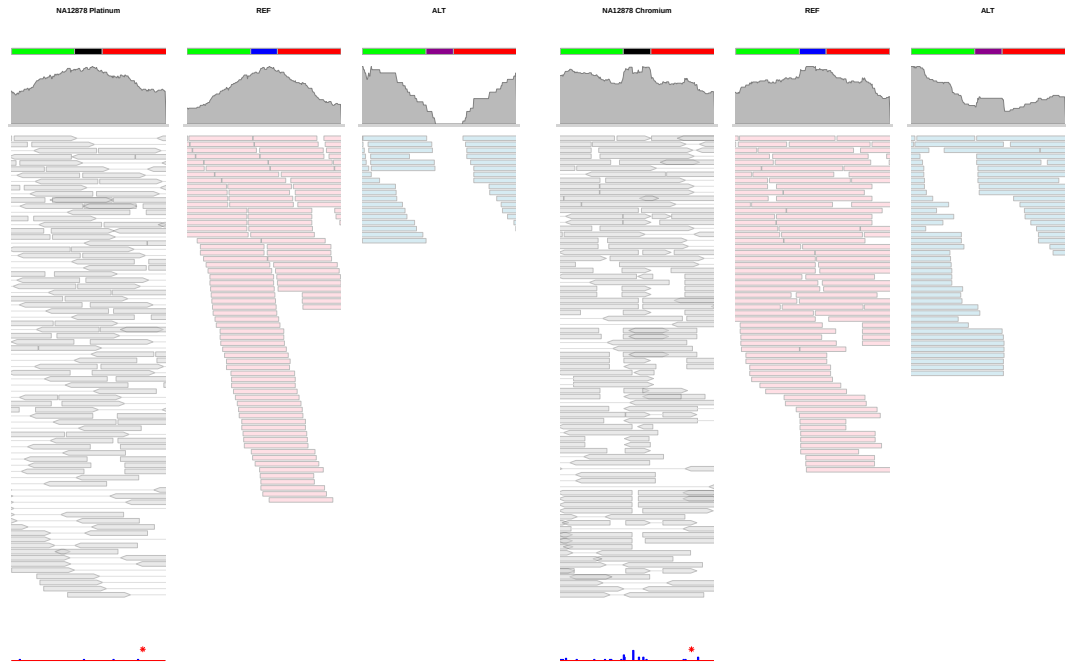


Switch process:
F1: L GAAGCAAAAAACACCAAAAACTAAATTTATTCAGCTTCACTG 1 4 GTAAAAAGTCATTGGCTTTGCTAGATTCCTCATATATTCCTC R
F3: GAAGCAAAAAACACCAAAAACTAAATTTATTCAGCTTCACTGATAAGCTCCATTTTAAATAGTTAAATCACTTGTAAAAAGTCATTGGCTTTGCTAGATTCCTCATATATTCCTC
RF: GAAGCAAAAAACACCAAAAACTAAATTTATTCAGCTTCACTGATAAGCTCCATTTTAAATAGTTAAATCACTTGTAAAAAGTCATTGGCTTTGCTAGATTCCTCATATATTCCTC
RR: CTTGCTTTTTTGTGGTTTTTTGATTTTAAAGGTCGAAGTCACTATTGGAGTTAAATTTTATCAATTTAGTGAATACATTTTTCAGTAAACCAAAACGATCTAAGAGTATATAGGAG
F2: 3 TATTCAGGTTAAAAATTTTATCAATTTGTGGAATA 2

Template-switch alignment:
GAAGCAAAAAACACCAAAAACTAAATTTATTCAGCTTCACTGATAAGCTCCATTTTAAATAGTTAAATCACTTGTAAAAAGTCATTGGCTTTGCTAGATTCCTCATATATTCCTC
GAAGCAAAAAACACCAAAAACTAAATTTATTCAGCTTCACTGATAAG-----CTCAATTTTAAATAGTTAAATCACTTGTAAAAAGTCATTGGCTTTGCTAGATTCCTCATATATTCCTC

Mafft alignment:
GAAGCAAAAAACACCAAAAACTAAATTTATTCAGCTTCACTGATAAG-----gagCTTATGTAAAAAGTCATTGGCTTTGCTAGATTCCTCATATATTCCTC
GAAGCAAAAAACACCAAAAACTAAATTTATTCAGCTTCACTGATAAG-----CTCAATTTTAAATAGTTAAATCACTTGTAAAAAGTCATTGGCTTTGCTAGATTCCTCATATATTCCTC

chr2.1412555.1412598.1412556.1412599

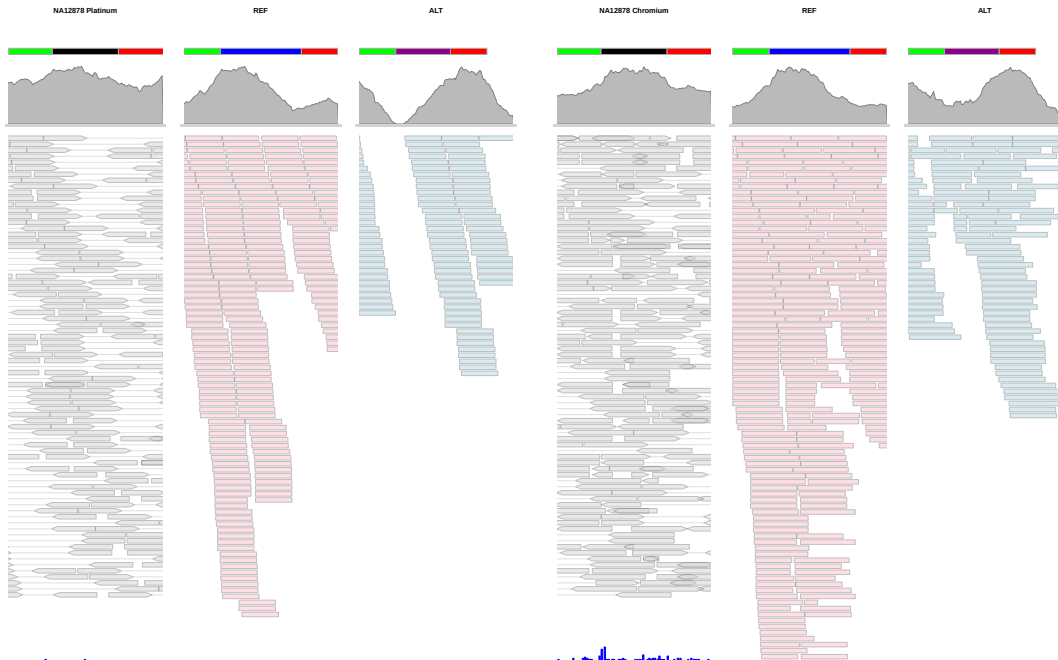


Switch process:
F1: L TGAAGGAGAAATGTTAAAGGCAATCATCATCTTT 1
F3: 4 TTGCATGTTGTTTGAACATTTGGTTTCAAATTAACCTAGAGGAAGCAT R
RF: TGAAGGAGAAATGTTAAAGGCAATCATCATCTTTGGGCTTCAGAACATTAATCTTTAGAGATGTTCTGAAGGCTTTCGATGTTGTTTGAACATTTGGTTTCAAATTAACCTAGAGGAAGCAT
RR: ACTGCGCTTTCACATTTGCTTTAGTAGTGTAGGAACCGAAGTCTGTGTAATTAGAACAACTCTTCACAGACTTGGGAAAGCTAGCAAAATGTTAAACCAAGTTTAATGATCTCCCTGTA
F2: 3 CGAAGTCTGTGTAATTAGAACAACTCTTCACAGACTTGGG 2

Template-switch alignment:
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TGAAGGAGAAATGTTAAAGGCAATCATCATCTTTGGGCTTCAGAACATTAATCTTTAGAGATGTTCTGAAGGCTTTCGATGTTGTTTGAACATTTGGTTTCAAATTAACCTAGAGGAAGCAT

Hapff alignment:
TGAAGGAGAAATGTTAAAGGCAATCATCATCTTTGGGCTTCAGAACATTAATCTTTAGAGATGTTCTGAAGGCTTTCGATGTTGTTTGAACATTTGGTTTCAAATTAACCTAGAGGAAGCAT
TGAAGGAGAAATGTTAAAGGCAATCATCATCTTTGGGCTTCAGAACATTAATCTTTAGAGATGTTCTGAAGGCTTTCGATGTTGTTTGAACATTTGGTTTCAAATTAACCTAGAGGAAGCAT

chr2.144450047.144450197.144450048.144450198



Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: -

[illegible]

Template-switch alignment:

```

TAGACTTGAGTAG|TAAGCTATGTGTTGATTTATGTGTTAATTCOCAGTGGAATACAATTCOCAGTGGAATACAATGTATTAAATTCOCAGGTATAOC|ACTGAGTCTACTATGGAAGAGGTTTGAG
TAGACTTGAGTAG|TAAGCTATGTGTTGATTTATGTGTTAATTCOCAGTGGAATACAATTCOCAGTGGAATACAATGTATTAAATTCOCAGGTATAOC|ACTGAGTCTACTATGGAAGAGGTTTGAG

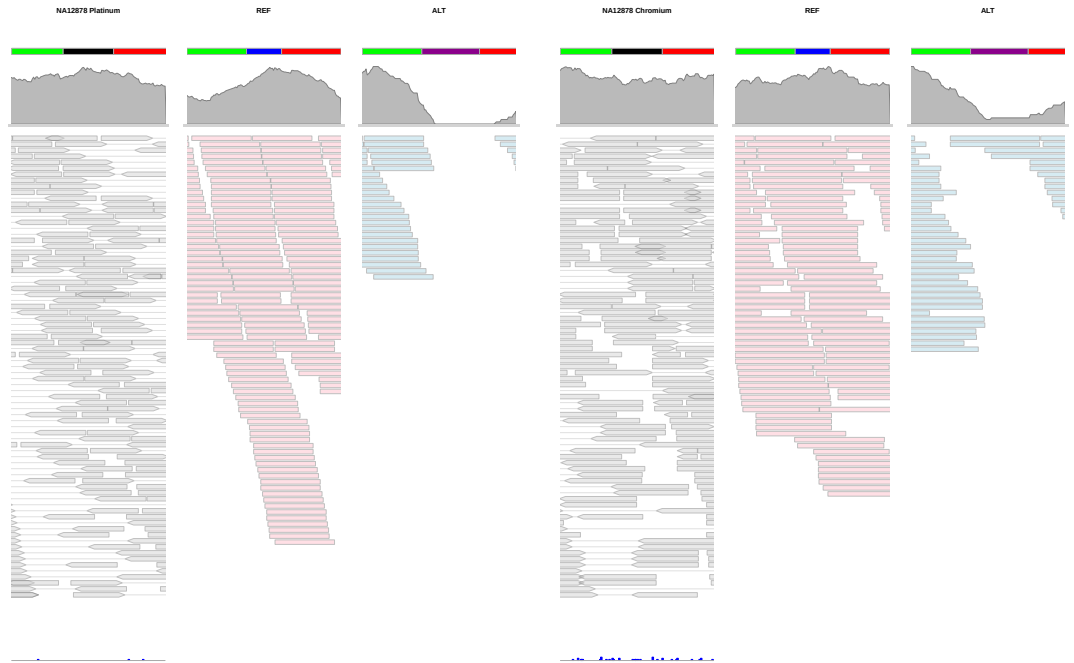
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NheII alignment:

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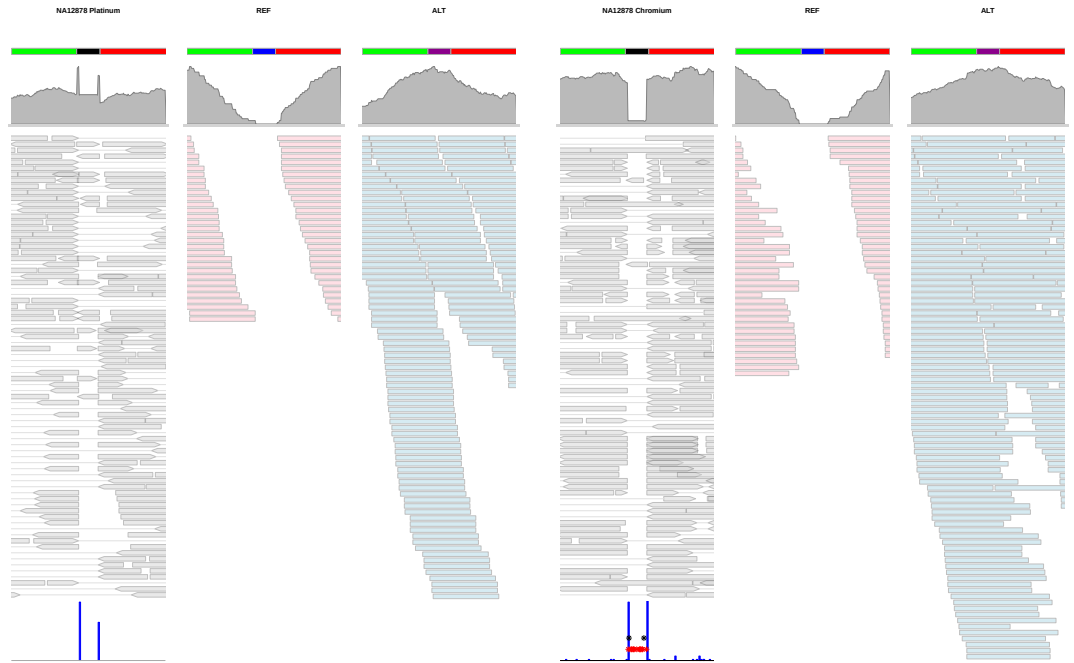
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chr2.178538798.178538895.178538799.178538896



Switch process:
F1: L CCACCTGTAGAGTGACACTATCTTTGGA 1
F3: 4 CCACACATGGCTGCTCTCTTAATTAAACC R
RF: CCACCTGTAGAGTGACACTATCTTTGGA1ATTGGAAGAAATCTCAAGTCTCTCTTTATTCACAGTAAAGCTGACCTCTTTTCAATTTTAAAAATATTCAGATAAACCAAGCAACGAGAGACTTGAATCTCTTCAATCTGTTGAAATAAAAAGACCAACATGGCTGCTCTCTTAATTAAACC
RF: GTTGACATCTCACTGTGTATGAGAACTATACTTCTTAGAGTTCAGAGGAAATAAAGTGTCTATTGCACTGAGGGGAAAAGTAAATAAATTTTATAAGTCTATTGGTGTGGTGTCTCTGACCTCTAAGAAAGTTATGACCATTTATTTCTGCTGTTGTACGGAACGAGAAATAAATTTGAG
RF: 3 AGGAAATTAAGTGTCTATTGCACTGAGGGGAAAAGTAAATAAATTTTATAAGTCTATTGGTGTGGTGTCTCTGACCTCTAAGAAAGTTAT 2
Template-switch alignment:
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CCACCTGTAGAGTGACACTATCTTTGGA1ATTGGAAGAAATCTCAAGTCTCTCTTTATTCACAGTAAAGCTGACCTCTTTTCAATTTTAAAAATATTCAGATAAACCAAGCAACGAGAGACTTGAATCTCTTCAATCTGTTGAAATAAAAAGACCAACATGGCTGCTCTCTTAATTAAACC
Haff alignment:
CCACCTGTAGAGTGACACTATCTTTGGA1ATTGGAAGAAATCTCAAGTCTCTCTTTATTCACAGTAAAGCTGACCTCTTTTCAATTTTAAAAATATTCAGATAAACCAAGCAACGAGAGACTTGAATCTCTTCAATCTGTTGAAATAAAAAGACCAACATGGCTGCTCTCTTAATTAAACC
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chr3.34666617.34666652.34666618.34666653

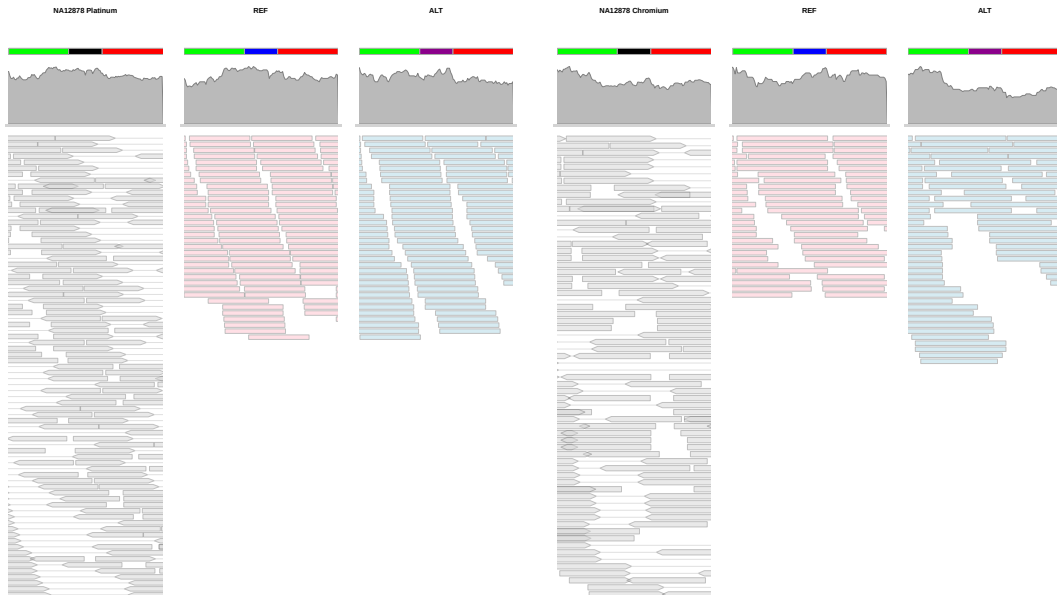


Platinum: 0 SNP, 0 INDEL; Chromium: 13 SNP, 2 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: rs756267491
alleles=AAACAATAAACCAATGGGCCAGAGTAGTA,TACTACTCTGGCCCATGGTTTATTGTTT

Switch process:
F1: L TTAGATCTCTACAGATGTTTCTCCAGGAAGTAGCATATACTTGACT 1 4 TCATTTTTTATAATAGAAAACCOCTAATTTTTATTATTGTTGAT R
F3: TTAGATCTCTACAGATGTTTCTCCAGGAAGTAGCATATACTTGACTCTGGCCCATGGTTTATTGTTTCTATCATTTTTTATAATAGAAAACCOCTAATTTTTATTATTGTTGAT
RF: AATCTAGAGAATGTTCTCCAGGAAGTAGCATATACTTGACTCTGGCCCATGGTTTATTGTTTCTATCATTTTTTATAATAGAAAACCOCTAATTTTTATTATTGTTGAT
SR: AATCTAGAGAATGTTCTCCAGGAAGTAGCATATACTTGACTCTGGCCCATGGTTTATTGTTTCTATCATTTTTTATAATAGAAAACCOCTAATTTTTATTATTGTTGAT
F2: 3 ATCATGATGAGACCGGGTAAACCAATAACCAAGAT 2

Template-switch alignment:
TTAGATCTCTACAGATGTTTCTCCAGGAAGTAGCATATACTTGACTCTGGCCCATGGTTTATTGTTTCTATCATTTTTTATAATAGAAAACCOCTAATTTTTATTATTGTTGAT
TTAGATCTCTACAGATGTTTCTCCAGGAAGTAGCATATACTTGACTCTGGCCCATGGTTTATTGTTTCTATCATTTTTTATAATAGAAAACCOCTAATTTTTATTATTGTTGAT
Mafft alignment:
TTAGATCTCTACAGATGTTTCTCCAGGAAGTAGCATATACTTGACTCTGGCCCATGGTTTATTGTTTCTATCATTTTTTATAATAGAAAACCOCTAATTTTTATTATTGTTGAT
TTAGATCTCTACAGATGTTTCTCCAGGAAGTAGCATATACTTGACTCTGGCCCATGGTTTATTGTTTCTATCATTTTTTATAATAGAAAACCOCTAATTTTTATTATTGTTGAT

chr3.56221132.56221187.56221133.56221188



Platinum: 3 SNP, 0 INDEL; Chromium: 3 SNP, 0 INDEL
Ebert *et al.*: 3 SNP, 0 INDEL
dbSNP: rs1553883955
alleles=GAA,TTC

```
Switch process:
F1: L GACACACAGTGAAGTAAGGAATTC 1
F3:
RF: GACACACAGTGAAGTAAGGAATTTCAAATCTATAATCTAAATTTGAAATTTTCAAATTTTCAAATAGATATAGATATTTTCAAGCTATTACATAGATCTCTT
FR: CTGTGTGTCACTTCATCTTCAAGTTTATAGATATAGATTAAGCTTTTAAAGGTAAGAAAGTTTAATCTAATATCTAAAAGGTGTGATATAGATCAATGAAGAA
F2: 3 TTTTAGATATAGATTAAGCTTTTAAAGGTAAGAAAGTTTAATCTAATATCTAAA 2
```

Template-switch alignment:

```

GACACACAGTGAAGTAAGGAATTC|AAAACTATAATCTAATTGAAAAATTGAAAAATTTTCAAATTAGATTATAGATTTT|TACAGCTATTACTATGATTCCTT
GACACACAGTGAAGTAAGGAATTC|AAAACTATAATCTAATTGAAAAATTGAAAAATTTTCAAATTAGATTATAGATTTT|TACAGCTATTACTATGATTCCTT

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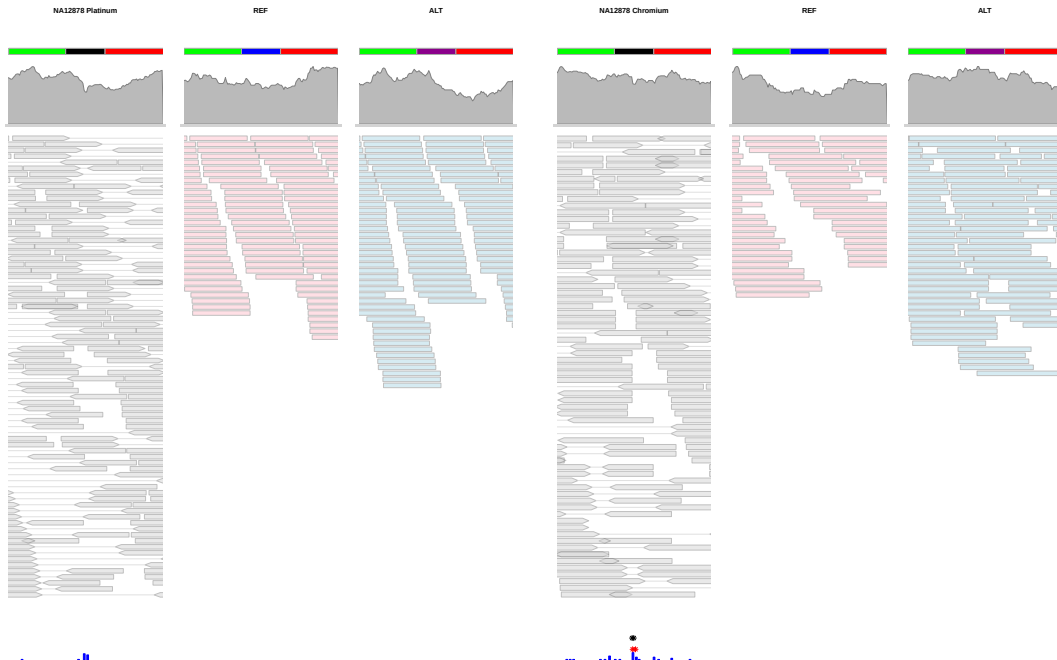
Mafft alignment:

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GACACACAGTGAAGTAAGGAATTTCAAAATCTATAATCTAATTTGAAAAATTTGAAATTTTCAAAATAGATTATAGATTTTACAGCTATTACTATGATTCCTT
GACACACAGTGAAGTAAGGAATTTCAAAATCTATAATCTAATTTGAAAAATTTTCAATTTTCAAAATAGATTATAGATTTTACAGCTATTACTATGATTCCTT

```


chr3.85028914.85028982.85028915.85028983



Platinum: 0 SNP, 0 INDEL; Chromium: 2 SNP, 2 INDEL
Ebert *et al.*: 1 SNP, 0 INDEL
dbSNP: - !

```
Switch process:
F1: L ATATGTATAGCTATTAAATG 1
F3:
RF: ATATGTATAGCTATTAAATGTGATATGCAATTTATGCACATACGTGTTTATTCGGTAAACAGTATGTGGAATAAATGGGAATGCAAAATTAATGTGTTTAAATA
RR: TATACATATGGAATAATTACACATATAAGGTTAAATAGGTGTATGACAAAATAAAGCCATTTTGTGCATACACTATTTTAACTTATAGTTTAAATACACAAAATAT
F2:
R2: 3 ACTATAAGGTTTAAATAAGTGTATGACAAAATAAAGCCATTTTGTGCATACACTATTTTAACTTATAGT 2
```

Template-switch alignment:

```

ATATGTATAGCTTTATTAATG/TGATATTCOAATTTTTCACATACTGTTTTACCGAAATAAAACAGTATGTGAATAAATTTGGAATATCA|AATTTAATGTGTTTTAATA
ATATGTATAGCTTTATTAATG/TGATATTCOAATTTTTCACATACTGTTTTACCGAAATAAAACAGTATGTGAATAAATTTGGAATATCA|AATTTAATGTGTTTTAATA

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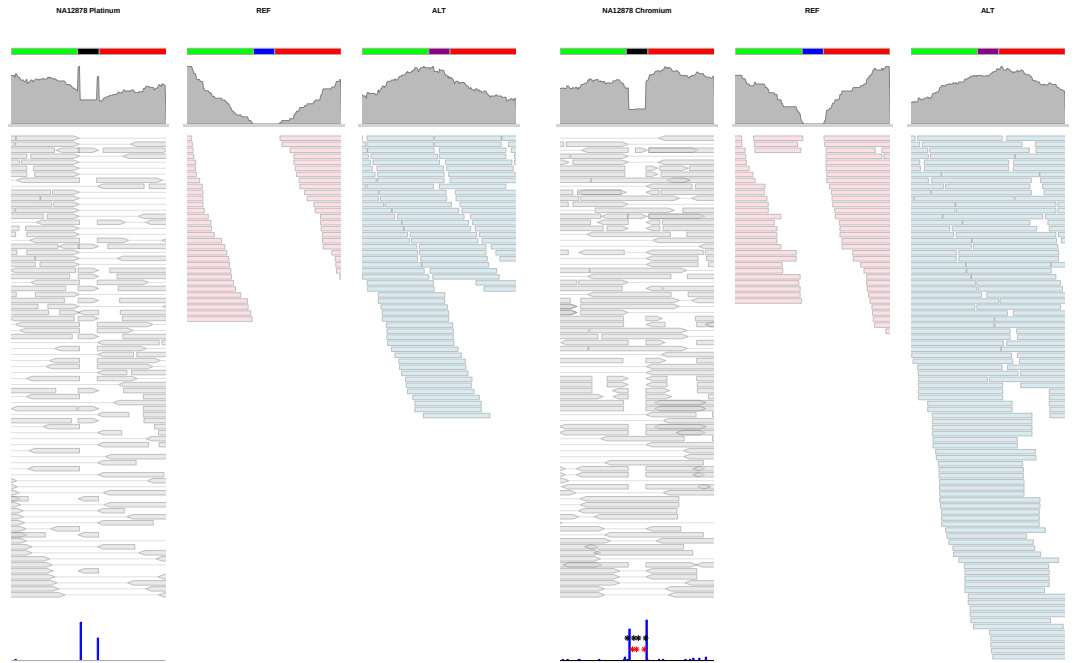
Mafft alignment:

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ATATGTATAGCTTATTAATGTGATATTCOAATTTATTCACATACTGTTTTAccgaaaTAAACAGTATGTGAATAAATGGAATATCAAATTTAATGTGTTTAAATA
ATATGTATAGCTTATTAATGTGATATTCOAATTTATTCACATACTGTTTTATTCGGTAAACAGTATGTGAATAAATGGAATATCAAATTTAATGTGTTTAAATA

```

chr3.171104059.171104091.171104060.171104092



Switch process:
F1: L TTTTGGCTCTGTGTACTAAAAAGCTCTCTGCGCTGAAACATTAGAAA 1
F3: 4 ACAGTTTGGAGGCGAGACATATACAGAGATCCCTATGAAAAGGTAAA 5
RF: TTTTGGCTCTGTGTACTAAAAAGCTCTCTGCGCTGAAACATTAGAAAATTTGAAAATTTCTTTAAGTTTAATTTGAAAGTTCCTATGAAAAGGTAAA
SR: AAAAGGAGGACGATGTGTTTGGAGAGCGGACCTTTGTAATCTTTATTAACCTTTTAAAGGAAATTCGAAATTAACAAATGTCMAAGCTGCGCTGTATATGCTTTAGGAGTACTTTCCATTT
F2: 3 ATTAACCTTTTAAAGGAAATTCGAAATTAACAAAT 2

Template-switch alignment:
TTTTTGGCTCTGTGTACTAAAAAGCTCTCTGCGCTGAAACATTAGAAAATTAACAAATTTGAAAATTTCTTTAAGTTTAATTTGAAAGTTCCTATGAAAAGGTAAA
TTTTTGGCTCTGTGTACTAAAAAGCTCTCTGCGCTGAAACATTAGAAAATTTGAAAATTTCTTTAAGTTTAATTTGAAAGTTCCTATGAAAAGGTAAA

Mafft alignment:
TTTTTGGCTCTGTGTACTAAAAAGCTCTCTGCGCTGAAACATTAGAAAATTAACAAATTTGAAAATTTCTTTAAGTTTAATTTGAAAGTTCCTATGAAAAGGTAAA
TTTTTGGCTCTGTGTACTAAAAAGCTCTCTGCGCTGAAACATTAGAAAATTTGAAAATTTCTTTAAGTTTAATTTGAAAGTTCCTATGAAAAGGTAAA

chr3.191912267.191912295.191912268.191912296



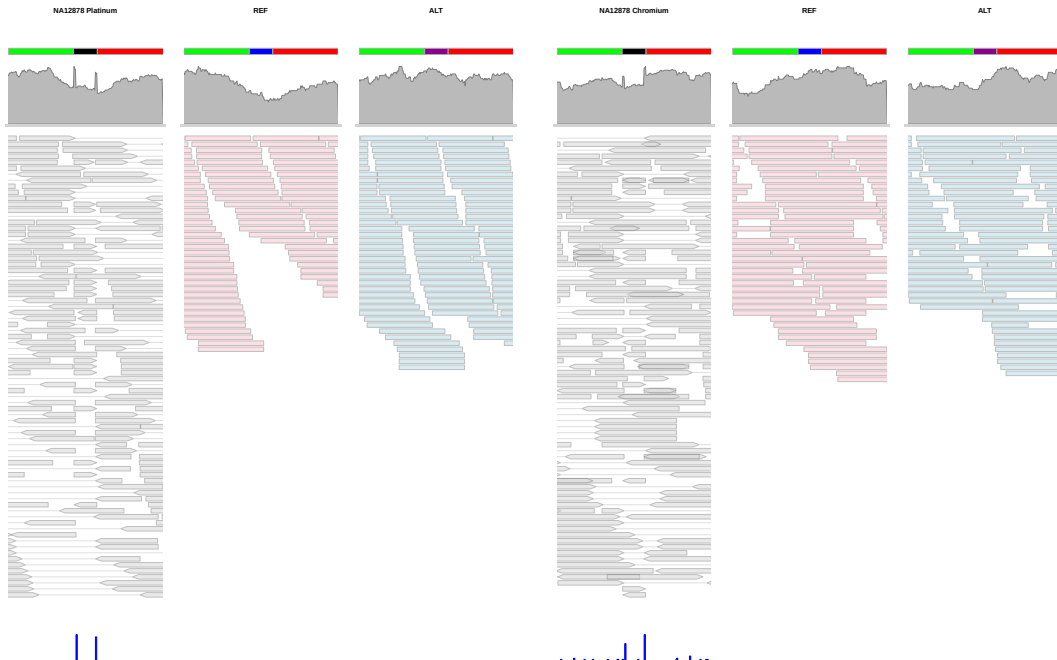
Platinum: 4 SNP, 2 INDEL; Chromium: 4 SNP, 2 INDEL
Ebert *et al.*: 5 SNP, 0 INDEL
dbSNP: - !

Switch process:
F1: L TGATCATGACTGCCAAAAAGGTTCTGCAAAATGTCCTCAAGAGTTTACTGA 1
F3: 4 CGGTGGTTTCAAATGTTTAAAAAGTCCAGAAAGATAGAACAGAGAGTG 5
RF: TGATCATGACTGCCAAAAAGGTTCTGCAAAATGTCCTCAAGAGTTTACTGAATTATGCGATTCCTAGAACATGCCATCACCGTGGTTTCAAATGTTTAAAAAGTCCAGAAAGATAGAACAGAGAGTG
RR: ACTATGACTGACGTTTTTTCAAAAGGTTTACAGAGTTCTCAAAATGACTAATACGTTAGGGATCTCTGTACGGTAGTGCACCAAGGTTTACAAATTTTTTCAGGGTCTTCTATCTGTTCTCTCAC
F2: 3 AATACGTTAGGGATCTCTGTACGGTAGT 2

Template-switch alignment:
TGATCATGACTGCCAAAAAGGTTCTGCAAAATGTCCTCAAGAGTTTACTGAATTATGCGATTCCTAGAACATGCCATCACCGTGGTTTCAAATGTTTAAAAAGTCCAGAAAGATAGAACAGAGAGTG
TGATCATGACTGCCAAAAAGGTTCTGCAAAATGTCCTCAAGAGTTTACTGAATTATGCGATTCCTAGAACATGCCATCACCGTGGTTTCAAATGTTTAAAAAGTCCAGAAAGATAGAACAGAGAGTG

Hap1 alignment:
TGATCATGACTGCCAAAAAGGTTCTGCAAAATGTCCTCAAGAGTTTACTGAATTATGCGATTCCTAGAACATGCCATCACCGTGGTTTCAAATGTTTAAAAAGTCCAGAAAGATAGAACAGAGAGTG
TGATCATGACTGCCAAAAAGGTTCTGCAAAATGTCCTCAAGAGTTTACTGAATTATGCGATTCCTAGAACATGCCATCACCGTGGTTTCAAATGTTTAAAAAGTCCAGAAAGATAGAACAGAGAGTG

chr4.23758315.23758351.23758316.23758352



Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL

Ebert *et al.*: 3 SNP, 1 INDEL

dbSNP: rs386672568

alleles=AGAATAGATCATGAAACAACAATAAAA,TTTATTGTTGTTGTTTCATGATCTATTCT

Switch process:

F1: L GATGAGAGATTGGGAATTAGGCCTGAGCCAGATAGAAATAAGAGTATGT 2

F3: 4 TCTTCCACAGGCAAGAAAAACCTGCTCTTGATAGTCTGCTGAATAGT R

RF: GATGAGAGATTGGGAATTAGGCCTGAGCCAGATAGAAATAAGAGTATGTTACTTTTATTGTTGTTGTTTCATGATCTATTCTGTATCTTCCACAGGCAAGAAAAACCTGCTCTTGATAGTCTGCTGAATAGT

RR: CTACTCTTAACCCCTTAATCCGGACTCGGTCTATCTTTATTCTCATACAATGAAAATAACAACAACAAAGTACTAGATAAGACATAGAAGGTGTCGGTCTTTTTGGACGAGAACTATCAGACGACTTATCA

F2: 3 ATGAAAATAACAACAACAAAGTACTAGATAAGACAT 2

Template-switch alignment:

GATGAGAGATTGGGAATTAGGCCTGAGCCAGATAGAAAATAAGAGTATGT|TACAGAATAGATCATGAAACAACAACATAAAAGTA|TCTTCCACAGGCAAGAAAAACCTGCTCTTGATAGTCTGCTGAATAGT

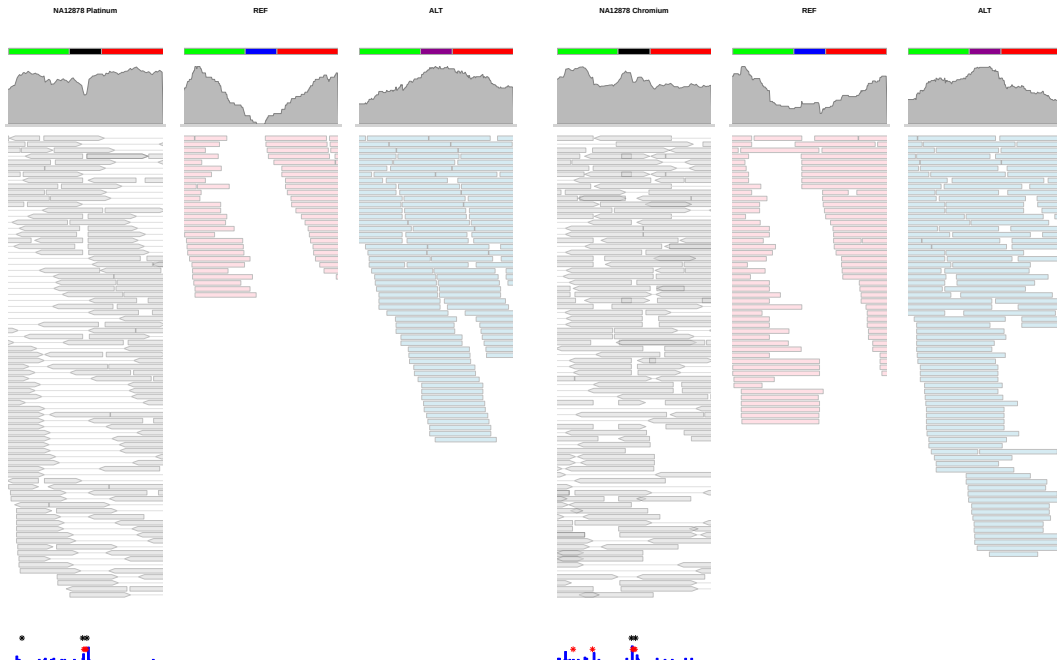
GATGAGAGATTGGGAATTAGGCCTGAGCCAGATAGAAAATAAGAGTATGT|TACAGAATAGATCATGAAACAACAACAATAAAAGTA|TCTTCCACAGGCAAGAAAAAOCCTGCTCTTGATAGTCTGCTGAATAGT

Maft alignment:

GATGAGAGATTGGGAATTAGGCCTGAGCCAGATAGAAATAAGAGTATGTTA-----CagaATagATcaTgaacaacaacaataaaaaGTATCTTCCACAGGCAAGAAAAACCTGCTCTTGATAGTCTGCTGAATAGT

GATGAGAGATTGGAATTAGGCCTGAGCCAGATAGAAATAAGAGTATGTTACTTTTATTGTTGTTGTTTCATGATCTATTCT-----GTA

chr4.99111503.99111555.99111504.99111556



Platinum: 3 SNP, 2 INDEL; Chromium: 3 SNP, 2 INDEL

Ebert *et al.*: 2 SNP, 2 INDEL

dbSNP: rs796863169

alleles=TAACTCAC,GTGAGTTA

Switch process:

F1: L CTGGATGCCACGAGCTGCCAAGGTGCTG 1
 4 TTGGGGGAATTTCCTATAGCAGTTCGA R
 RF: CTGGATGCCACGAGCTGCCAAGGTCTGGGAGGAAGTGAAGGAAGGTGTGAGTTAACTCTTCTCACTTCTCTCTCTGGGGGAATTTCCTATAGCAGTTCGA
 RR: GACCTAGGTTCTCGAGGTTTCACAGCACTCTCTCTCACTCTCTTCCACACTCAATTGAGAAGGAAGTGAAGGAAGGAAGAACCCCTTAAAGGATTTCCTCAAGTT
 F2: 3 CCTCTCTCACTTCTCTTCCACACTCAATTGAGAAGGAAGTGAAGGAAG 2
 3 CCTCTCTCACTTCTCTTCCACACTCAATTGAGAAGGAAGTGAAGGAAG 2

Template-switch alignment:

```

CTGGATCCCAGCAGGTCCCAAGGTGCTG|GGAGAGGAAGTGAAGGAAGAGTTAACTCACACTCTTCTTCACTTCTCTCTC|TTGGGGGAATTTCTCTATAAGCAGTTCAA
CTGGATCCCAGCAGGTCCCAAGGTGCTG|GGAGAGGAAGTGAAGGAAGAGTTAACTCACACTCTTCTTCACTTCTCTCTC|TTGGGGGAATTTCTCTATAAGCAGTTCAA

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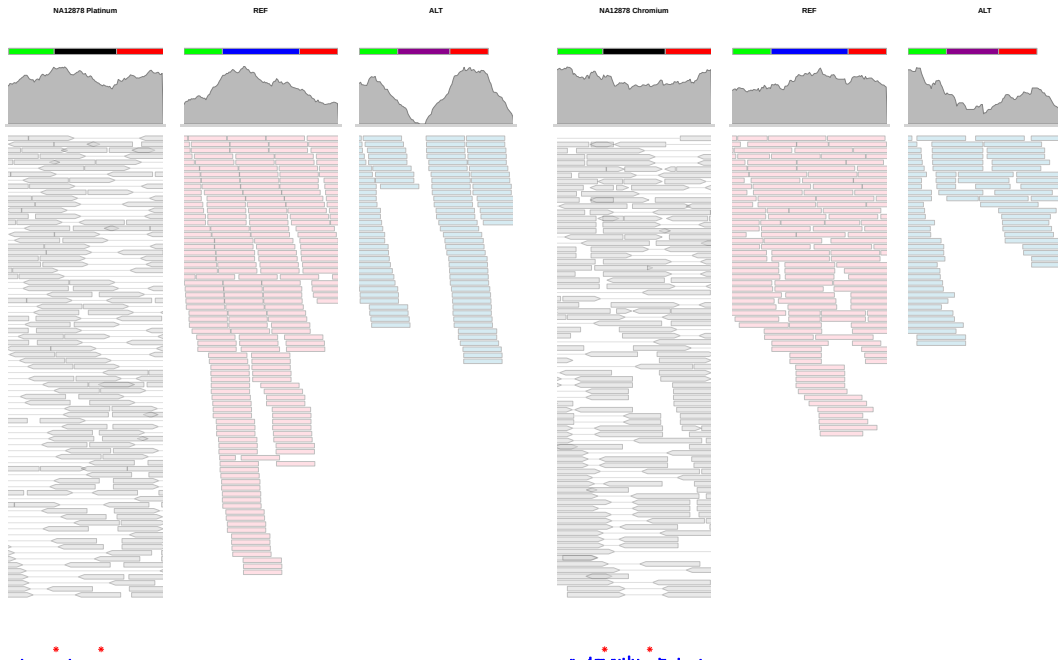
Mafft alignment:

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CTGGATCCCAGCAGGTCCCAAAGGTGCTGGGAGAGGAAGTGAAGGAAGAGTtaactcacACTCTTCTCTCACTTCTCTCTCTGGGGGAATTTCTATAAGCAGTTCAA
CTGGATCCCAGCAGGTCCCAAAGGTGCTGGGAGAGGAAGTGAAGGAAGAGTGTGAGTTAACTCTTCTCTCACTTCTCTCTCTGGGGGAATTTCTATAAGCAGTTCAA

```

chr4.114225983.114226119.114225984.114226120



Platinum: 2 SNP, 0 INDEL; Chromium: 2 SNP, 0 INDEL
Ebert *et al.*: 3 SNP, 0 INDEL
dbSNP: -

Switch process:

[illegible]

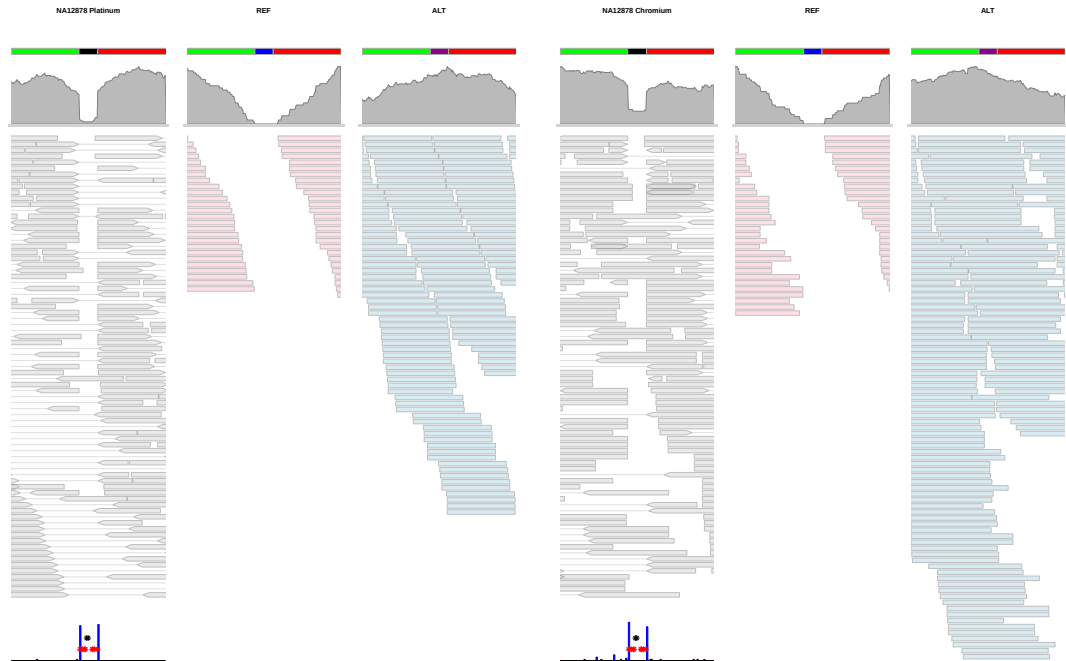
Template-switch alignment:

TTTGTCACTTCTCTCTGTTCAC/TTCCTTTGATGTAGAGGGAAACAGAGCAAGATACCAAGAAGGAATAATGCTTTCTCTTGA/GTCTTGAAGTGAACAGTGAAGCCAGG
TTTGTCACTTCTCTCTGTTCAC/TTCCTTTGATGTAGAGGGAAACAGAGCAAGATACCAAGAAGGAATAATGCTTTCTCTTGA/GTCTTGAAGTGAACAGTGAAGCCAGG

Maft alignment:

TTTGTCACTTCTCTCTGTTCACTTTCTTTGTAGATGTAGAGGGAACAGAgcAAAGATacCAAG-----AAGGAATATGCTTTCTCTCTTGAGTCTTGACCTGAACAAGTAGGCCAGG
TTTGTCACTTCTCTCTGTTCACTTTCTTTGTAGATGTAGAGGGAACAGAGAAAGATGTCAAGAAGGAAGGACATTATCTCTTGGTATCTTTGCTCTGTTTCCCTCTACATCTACAAAGAAATAGGAAGGAATATGCTTTCTCTCTTGAGTCTTGACCTGAACAAGTAGGCCAGG

chr4.181206443.181206470.181206444.181206471



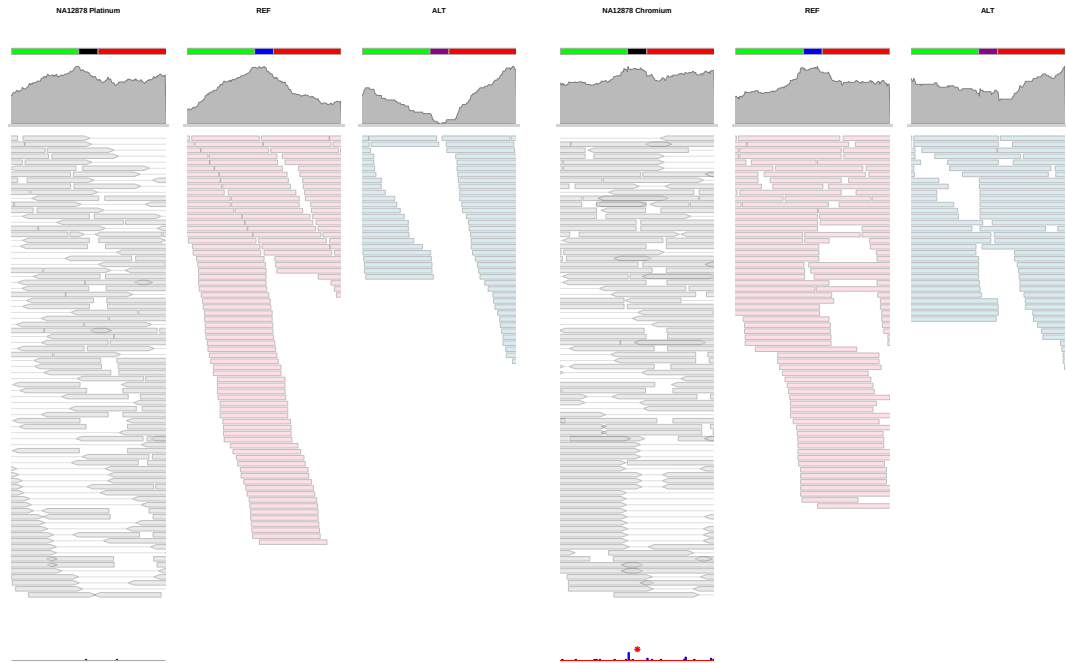
Platinum: 8 SNP, 2 INDEL; Chromium: 8 SNP, 2 INDEL
Ebert *et al.*: 8 SNP, 0 INDEL
dbSNP: rs796088816
alleles=AACATATATTTTATGGAAGGATCTGTA,TACAGATCCTTCCATAAAATATATGTT

Switch process:
F1: L CACTCTAAATGACGACAGACACACTCGAAGAGTGTCTCTATGAAAA 1
F3: 4 ATCTATTATAAAAATTTGTGTATCTAGTGCATTATGATATAGATAAGAAA 8
RF: CACTCTAAATGACGACAGACACACTCGAAGAGTGTCTCTATGAAAAATACAGATCTTCCATAAAATATATTTATCTATTATAAAAATTTGTGTATCTAGTGCATTATGATATAGATAAGAAA
HR: GTGAGAGTTTACCTGCTGTCTGTGTGAGTCTTCTCAGACAGATATCTTTATGTCTGAGGAAGTATTTATATAGATAGATAATATTTTAAACACATATGACTCAGTATATCTATCTATCTTT
F2: 3 ATGCTCTAGGAAGTATTTTATATACAA 2

Template-switch alignment:
AOCCTCTAAATGACGACAGACACACTCGAAGAGTGTCTCTATGAAAAaAcAtATeTtTatggAaggATcTGTaTCTATTATAAAAATTTGTGTATCTAGTGCATTATGATATAGATAAGAAA
AOCCTCTAAATGACGACAGACACACTCGAAGAGTGTCTCTATGAAAAATACAGATCTTCCATAAAATATATTTATCTATTATAAAAATTTGTGTATCTAGTGCATTATGATATAGATAAGAAA

Hafft alignment:
AOCCTCTAAATGACGACAGACACACTCGAAGAGTGTCTCTATGAAAAaAcAtATeTtTatggAaggATcTGTaTCTATTATAAAAATTTGTGTATCTAGTGCATTATGATATAGATAAGAAA
AOCCTCTAAATGACGACAGACACACTCGAAGAGTGTCTCTATGAAAAATACAGATCTTCCATAAAATATATTTATCTATTATAAAAATTTGTGTATCTAGTGCATTATGATATAGATAAGAAA

chr5.7754452.7754480.7754453.7754481



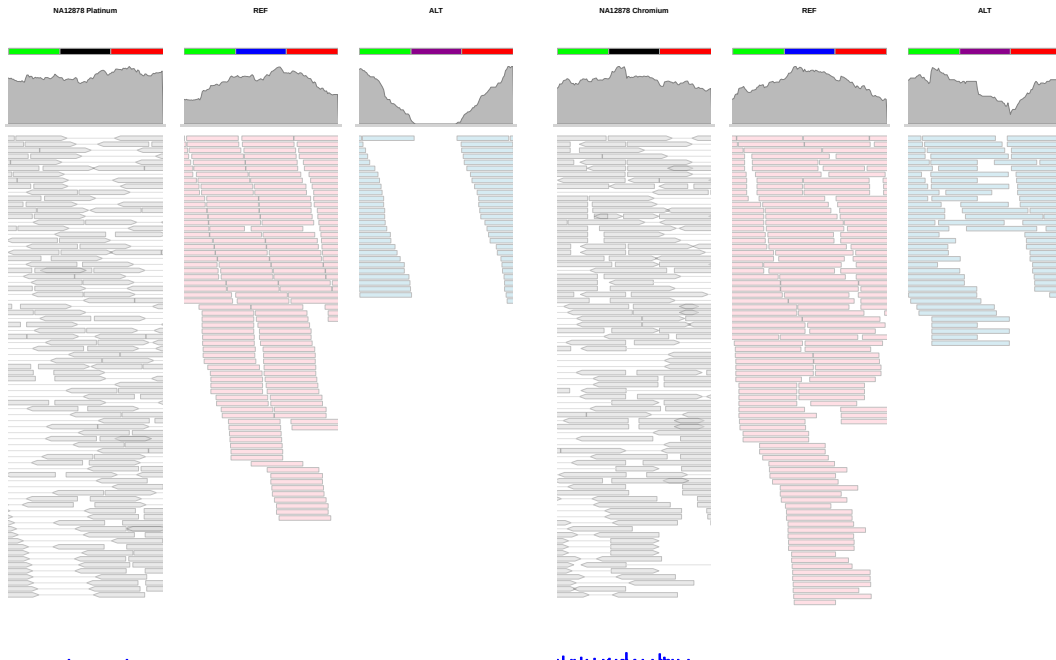
Platinum: 0 SNP, 0 INDEL; Chromium: 2 SNP, 0 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: -

Switch process:
F1: L AAATGTTCTACTGTTAAACATTTTCATTATCATCTAT 1
F3: 4 TAATTTCCACAAATATAAGAGCATTTGATTTTAATAATT R
RF: AAATGTTCTACTGTTAAACATTTTCATTATCATCTATTTGATTAATTTCTGACAGAAATTTATCTAATTTCCACAAATATAAGAGCATTTGATTTTAATAATT
SR: YTTACAGATGACATTTGTAAGATTAAGTATAGATAACTATTAAAGACATGTTCTTTAAATGATTAAGATTTTATATTTCTGTTAACTAAATTTATTA
F2: 3 ACTATTAAAGACATGTTCTTTAAATG 2

Template-switch alignment:
AAATGTTCTACTGTTAAACATTTTCATTATCATCTATTTGATTAATTTCTGACAGAAATTTATCTAATTTCCACAAATATAAGAGCATTTGATTTTAATAATT
AAATGTTCTACTGTTAAACATTTTCATTATCATCTATTTGATTAATTTCTGACAGAAATTTATCTAATTTCCACAAATATAAGAGCATTTGATTTTAATAATT

Hafft alignment:
AAATGTTCTACTGTTAAACATTTTCATTATCATCTATTTGATTAATTTCTGTTAAAGATTTATCTAATTTCCACAAATATAAGAGCATTTGATTTTAATAATT
AAATGTTCTACTGTTAAACATTTTCATTATCATCTATTTGATTAATTTCTGTTAAAGATTTATCTAATTTCCACAAATATAAGAGCATTTGATTTTAATAATT

chr5.111411626.111411724.111411627.111411725



Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: -

Switch process:

[illegible]

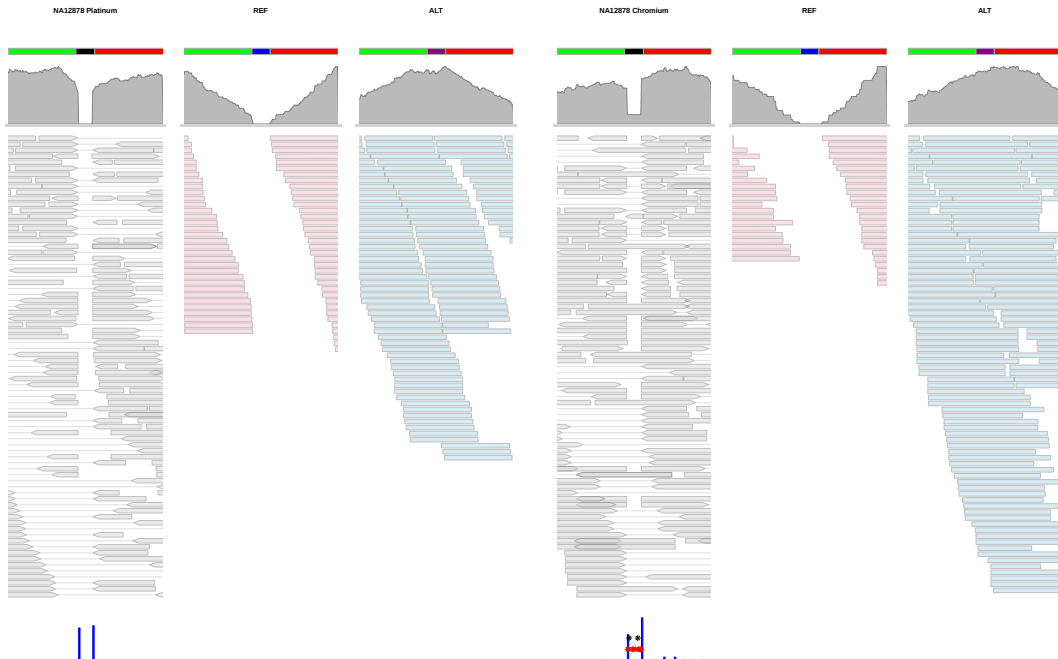
Template-switch alignment:

CAAGAACTGCTTCACTGGAACCTTCAGCATAGAAAACAGAC | AAGTGGATTCTCCTTTGTGATCATCACTATTTACAATTAAGGTAATGATGATTTACAATTAAGATAAATGGTGATGATCACAAAGAAGAATCCACTT | CTGTTTTCTATTGGCAAAACATTAGACTTGCCTAATCCC
CAAGAACTGCTTCACTGGAACCTTCAGCATAGAAAACAGAC | AAGTGGATTCTCCTTTGTGATCATCACTATTTACAATTAAGGTAATGATGATTTACAATTAAGATAAATGGTGATGATCACAAAGAAGAATCCACTT | CTGTTTTCTATTGGCAAAACATTAGACTTGCCTAATCCC

Maftt alignment:

[illegible]

chr6.4365474.4365501.4365475.4365502



Platinum: 0 SNP, 0 INDEL; Chromium: 9 SNP, 2 INDEL

Ebert *et al.*: 3 SNP, 2 INDEL

dbSNP: rs386696393

alleles=AGTGAGAGGTTAGTAAGAAAG,CTTTCTTACTAACCTCTCACT,CTTTCTTACTAACCTTTCACT

Switch process:

F1: L ATTCACGTATAGAGCAAAAAATTAATACCTACAGCAAGTGTAAGTACTAGA 1

F3: 4 ATATGTTTTGTTTTTATCTTATTCCTATTTCATAAATATGTATGAGAA R

RF: ATTCACGTATAGAGCAAAAAATTAATACCTACAGCAAGTGAAGTAGATACCTTTCTTACTAACCTCTCACTGTAATATGTTTTGTTTTATCTTATTOCTATTCATAAATATGTATGAGAA

RR: TAAGTGCATATCTCGTTTTTAAATTATGGATGTCGTTACATTGATCTATGGAAAGAATGATTGGAGAGTGACATTATACAAAACAAAAATAGAATAAGGATAAGTATTTATACATACTCTT

F2: 3 ATGGAAAGAATGATTGGAGAGTGACAT 2

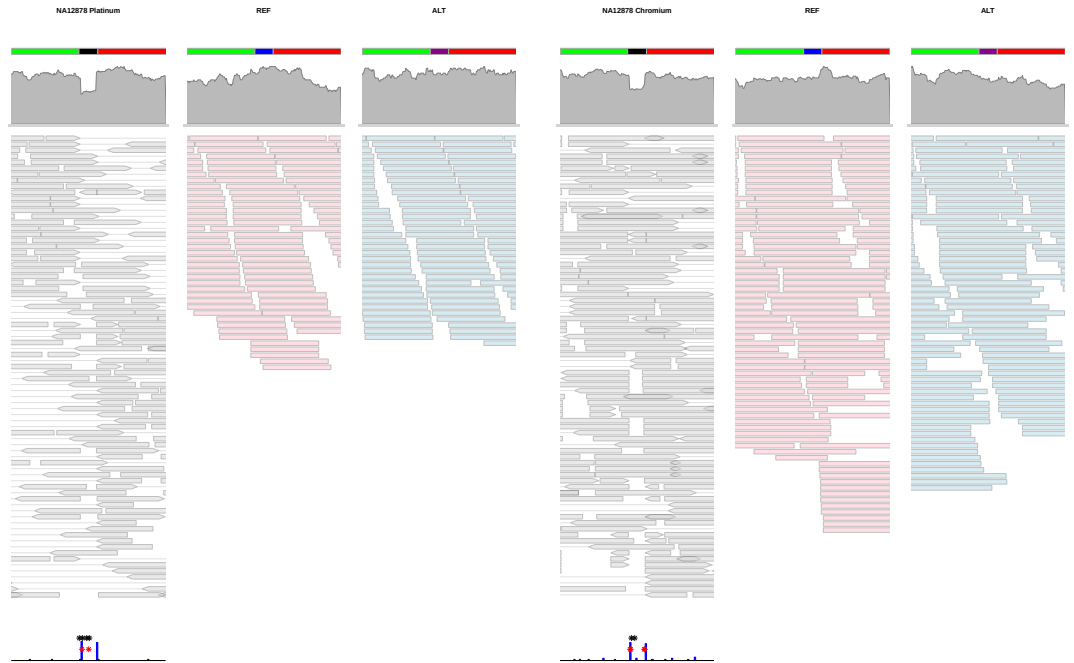
Template-switch alignment:

ATTCACGTTATAGAGCAAAAAAATAAATCTACAGCAAGTGTAAGTACA TAGACGTAGAGAGGTAGTAGAGAAAGGTA ATATGTTTTGTTTTATCTTATCTTATCATAAATATGTATGAGAA
ATTCACGTTATAGAGCAAAAAAATAAATCTACAGCAAGTGTAAGTACA TAGACGTAGAGAGGTAGTAGAGAAAGGTA ATATGTTTTGTTTTATCTTATCTTATCATAAATATGTATGAGAA

Maft alignment:

ATTCAAGCTATAGAGCAAAAAAATTAATACCTACAGCAAGTGTAAGTATAGATCagTgagaggTtAgtaagaAagGTAATATGTTTTGTTTTTATCTTATTCCTATTCTAAATATGTATGAGAA
ATTCAAGCTATAGAGCAAAAAAATTAATACCTACAGCAAGTGTAAGTATAGATCCTTCTTACTAACTCTCACTGTAATATGTTTTGTTTTTATCTTATTCCTATTCTAAATATGTATGAGAA

chr6.20824931.20824958.20824932.20824959



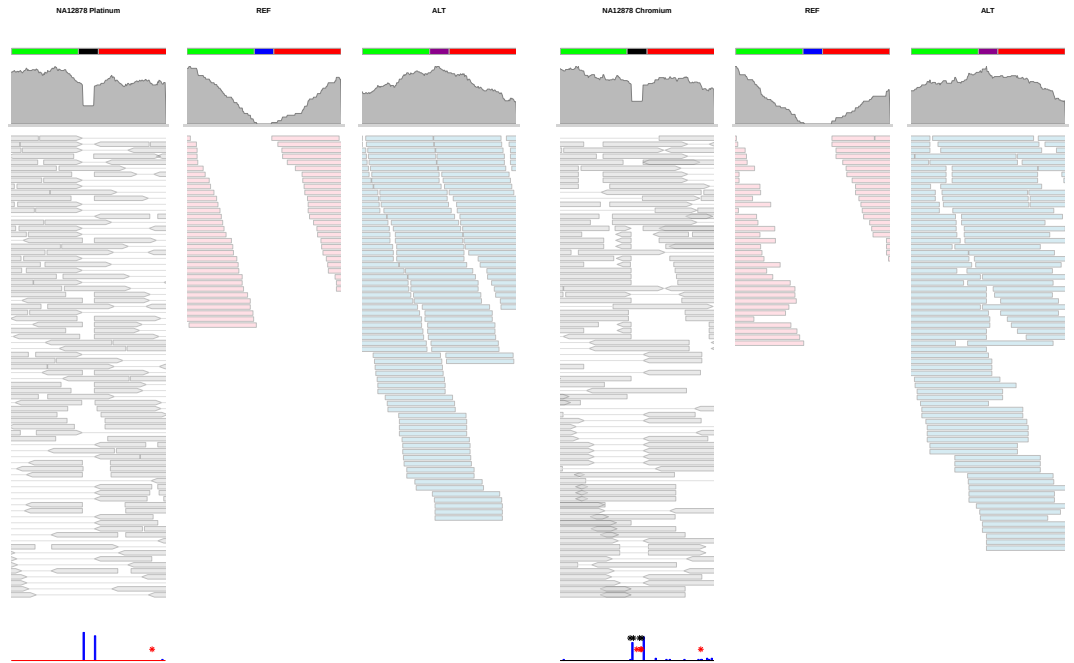
Platinum: 2 SNP, 4 INDEL; Chromium: 4 SNP, 2 INDEL
Ebert *et al.*: 2 SNP, 0 INDEL
dbSNP: rs386697798
alleles=CTAATATATCTTGCTTCTTTTTC,GAAAAAGAAGCAAGATATATTAG

Switch process:
F1: L TTGTATTTTAAAAATTTTGACTGTTAAAAAGGCATGTTTGTGATAATT 1
F3: 4 CTTATACGAGATAAGTTGTAGTTAAATTTAGTTAGTTCATGTTAAAGTTT R
RF: TTGTATTTTAAAAATTTTGACTGTTAAAAAGGCATGTTTGTGATAATTAGGAAAAAGCAAGATATATTAGTCTTTTAAAGCGATGTTGTATTAATTTAGTCAATTTAAAGTTT
RR: AACATAAAATTTTAAAGCATGCAATTTTACGATACCACTATTAATGCTTTTCTGTTCTATATAAGTGAATATGCTCTATTACACATCAATTAACATCAATGATTCAGAA
F2: 3 TCTTTTCTGTTCTATATAATGCA 2

Template-switch alignment:
TTGTATTTTAAAAATTTTGACTGTTAAAAAGGCATGTTTGTGATAATTAGGAAAAAGCAAGATATATTAGTCTTTTAAAGCGATGTTGTATTAATTTAGTCAATTTAAAGTTT
TTGTATTTTAAAAATTTTGACTGTTAAAAAGGCATGTTTGTGATAATTAGGAAAAAGCAAGATATATTAGTCTTTTAAAGCGATGTTGTATTAATTTAGTCAATTTAAAGTTT

Hafft alignment:
TTGTATTTTAAAAATTTTGACTGTTAAAAAGGCATGTTTGTGATAATTAGGAAAAAGCAAGATATATTAGTCTTTTAAAGCGATGTTGTATTAATTTAGTCAATTTAAAGTTT
TTGTATTTTAAAAATTTTGACTGTTAAAAAGGCATGTTTGTGATAATTAGGAAAAAGCAAGATATATTAGTCTTTTAAAGCGATGTTGTATTAATTTAGTCAATTTAAAGTTT

chr6.23710582.23710611.23710583.23710612



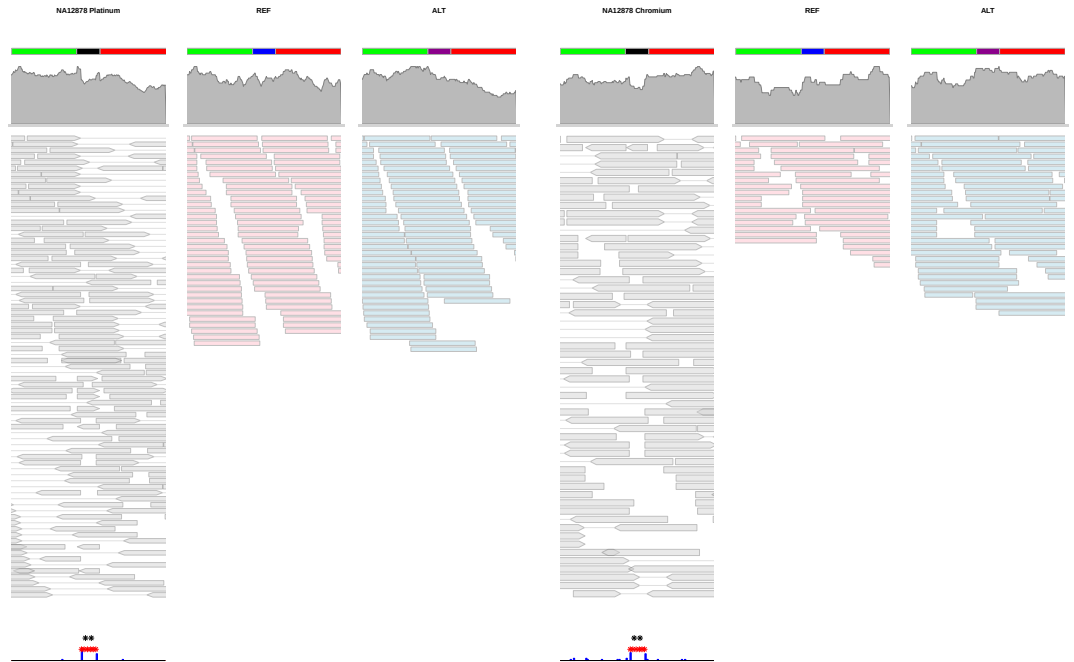
Platinum: 0 SNP, 0 INDEL; Chromium: 3 SNP, 4 INDEL
Ebert *et al.*: 1 SNP, 2 INDEL
dbSNP: rs386698030
alleles=TGGAATTAAATTTGGAC,GTCCAAATTTAATTCCA

Switch process:
F1: L AAATGACTATAGGATAATTTCTTCAATCACTTTTACTTTTAAAC 1
F3: 4 TACTCTCTGCTACTACTCTCAAAGGGGCATAGGAGTTGGGCATAT R
RF: AAATGACTATAGGATAATTTCTTCAATCACTTTTACTTTTAAACAGATTGTGCAAAATTTAATTCACAACTCTCTCTGCTACTACTCTCAAAGGGGCATAGGAGTTGGGCATAT
RR: TTTACTATGCTATTAATTAAGAAATTAATGAAATGAAATTTGCTTAAACAGATTGAAATTAAGGTTGTAAGATGAGAGAGGATGATGAGTTTCCCGTATCTCTCAACCGGTATA
F2: 3 TCTAACCCAGTTTAAATTAAGGTTTGA 2

Template-switch alignment:
AAATGACTATAGGATAATTTCTTCAATCACTTTTACTTTTAAACAGATTG--TGGAAATTAATTGGGCAATCTCTCTGCTACTACTCTCAAAGGGGCATAGGAGTTGGGCATAT
AAATGACTATAGGATAATTTCTTCAATCACTTTTACTTTTAAACAGATTGTGCAAAATTTAATTCACAACTCTCTCTGCTACTACTCTCAAAGGGGCATAGGAGTTGGGCATAT

Haft alignment:
AAATGACTATAGGATAATTTCTTCAATCACTTTTACTTTTAAACAGATTG--TGGAAATTAATTGGGCAATCTCTCTGCTACTACTCTCAAAGGGGCATAGGAGTTGGGCATAT
AAATGACTATAGGATAATTTCTTCAATCACTTTTACTTTTAAACAGATTGTGCAAAATTTAATTCACAACTCTCTCTGCTACTACTCTCAAAGGGGCATAGGAGTTGGGCATAT

chr6.150755920.150755955.150755921.150755956

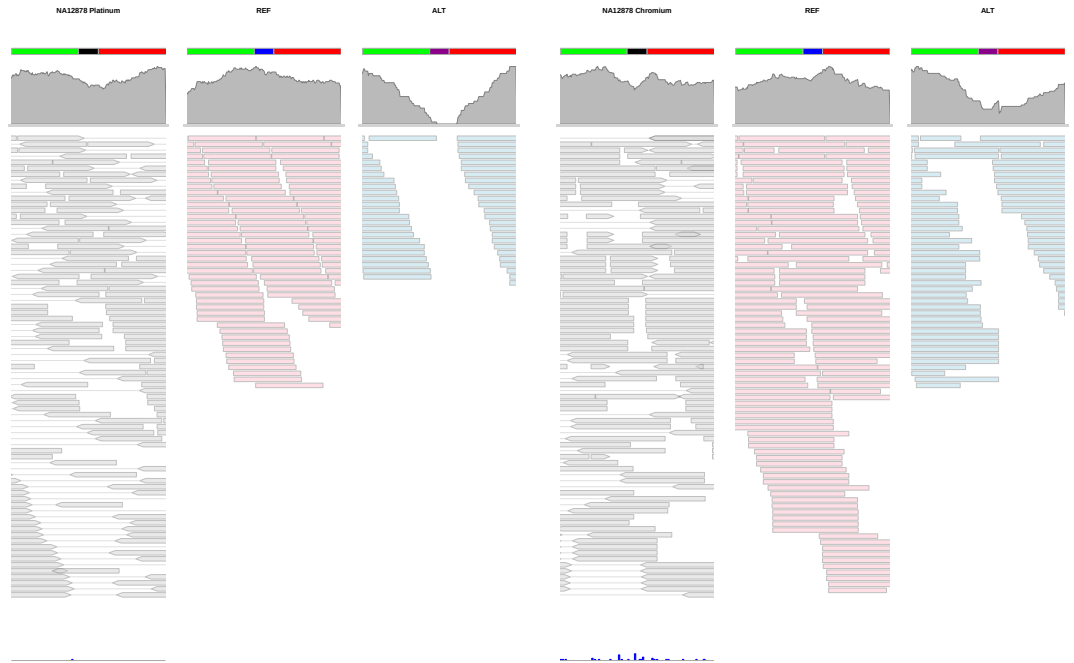


Platinum: 6 SNP, 2 INDEL; Chromium: 6 SNP, 2 INDEL
Ebert *et al.*: 6 SNP, 2 INDEL
dbSNP: rs1554268274
alleles=TGGTAGATAGAAAGCTGCATT TACT,T; rs1554268315;alleles=A,AGTAAATGCAGCTTCTATCTACCA !

Switch process:
F1: L TATTAAGATTAAATTTTAAATTTAAAAAATTTATTTTTTTOCA 1 4 AAAAGCAGAGGGCAGCTTCTGTCAGATTATAAAAATTOCTGCTUT R
F3: TATTAAGATTAAATTTTAAATTTAAAAAATTTATTTTTTTOCATCTGTTGTAATGACAGCTTCTATCTACACAGAAAAAGCAGAGGGCAGCTTCTGTCAGATTATAAAAATTOCTGCTUT
RF: ATATTTCTTAATTAAGAAATTAATTTTTTAAATTAAGAAAAAGGTAGAACATCATTTACGTGTAAGATAGATGCTGTTCTTTTCTGCTCCGTTAAGACAGCTCTAAATTTTAAAGACACAGA
HR: 3 AGAACATCATTTACGTGTAAGATAGATGCTGTTCT 2

Template-switch alignment:
TATTAAGATTAAATTTTAAATTTAAAAAATTTATTTTTTTOCATCTGTTGTAATGACAGCTTCTATCTACACAGAAAAAGCAGAGGGCAGCTTCTGTCAGATTATAAAAATTOCTGCTUT
TATTAAGATTAAATTTTAAATTTAAAAAATTTATTTTTTTOCATCTGTTGTAATGACAGCTTCTATCTACACAGAAAAAGCAGAGGGCAGCTTCTGTCAGATTATAAAAATTOCTGCTUT
Maff alignment:
TATTAAGATTAAATTTTAAATTTAAAAAATTTATTTTTTTOCATCTGTTGTAATGACAGCTTCTATCTACACAGAAAAAGCAGAGGGCAGCTTCTGTCAGATTATAAAAATTOCTGCTUT
TATTAAGATTAAATTTTAAATTTAAAAAATTTATTTTTTTOCATCTGTTGTAATGACAGCTTCTATCTACACAGAAAAAGCAGAGGGCAGCTTCTGTCAGATTATAAAAATTOCTGCTUT

chr6.164727430.164727459.164727431.164727460



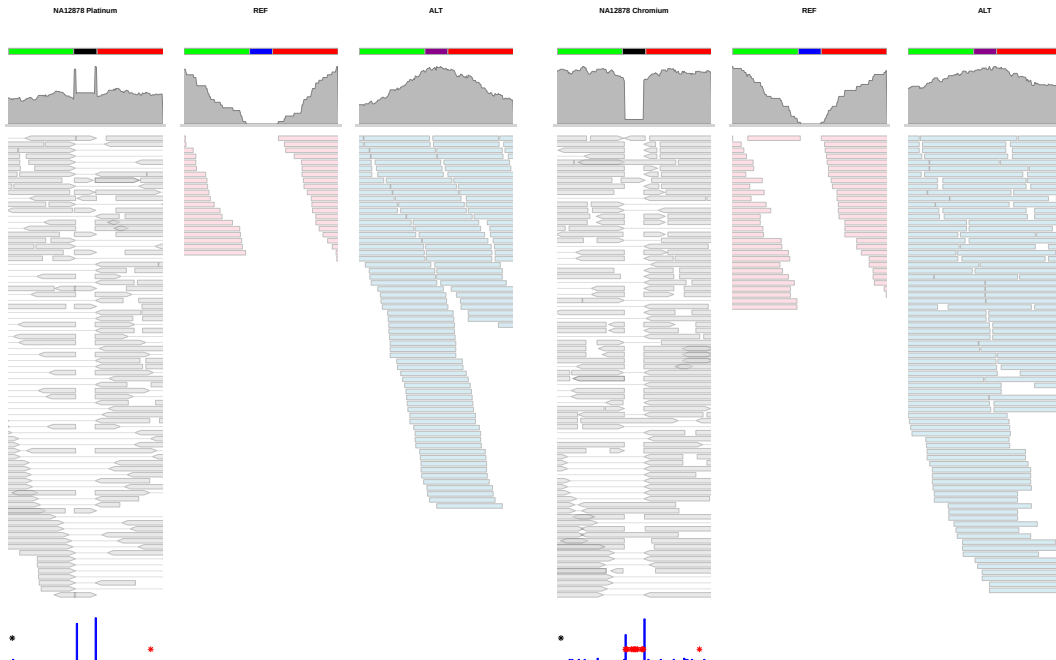
Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL
Ebert *et al.*: 1 SNP, 0 INDEL
dbSNP: -

Switch process:
F1: L ACACTAAGCTCAGATCAGAATATCTCAAGGAGCAAGACCTT 1 4 GAAAGCTTGGGCCATGAAGATTATACTTAACAAAGTAAGAG R
F3: ACACTAAGCTCAGATCAGAATATCTCAAGGAGCAAGACCTTCAATACTCCCTAGTATGTTGGAGATTGGAAGCTTGGGCCATGAAGATTATACTTAACAAAGTAAGAG
RF: ACACTAAGCTCAGATCAGAATATCTCAAGGAGCAAGACCTTCAATACTCCCTAGTATGTTGGAGATTGGAAGCTTGGGCCATGAAGATTATACTTAACAAAGTAAGAG
SR: TGTGATGGAGTCTAGTCTTATAGAGTCCCTGTTCTGGAAGTTATGAAGGATCATAGCAAGCTTCAAGCTTGGGCCATGAAGATTATACTTAACAAAGTAAGAG
F2: 3 GTTATGAAGGATCATAGCAAGCTTCAATAC 2

Template-switch alignment:
ACACTAAGCTCAGATCAGAATATCTCAAGGAGCAAGACCTTCAATACTCCCTAGTATGTTGGAGATTGGAAGCTTGGGCCATGAAGATTATACTTAACAAAGTAAGAG
ACACTAAGCTCAGATCAGAATATCTCAAGGAGCAAGACCTTCAATACTCCCTAGTATGTTGGAGATTGGAAGCTTGGGCCATGAAGATTATACTTAACAAAGTAAGAG

Hapf alignment:
ACACTAAGCTCAGATCAGAATATCTCAAGGAGCAAGACCTTCAATACTCCCTAGTATGTTGGAGATTGGAAGCTTGGGCCATGAAGATTATACTTAACAAAGTAAGAG
ACACTAAGCTCAGATCAGAATATCTCAAGGAGCAAGACCTTCAATACTCCCTAGTATGTTGGAGATTGGAAGCTTGGGCCATGAAGATTATACTTAACAAAGTAAGAG

chr7.9955914.9955949.9955915.9955950



Platinum: 0 SNP, 0 INDEL; Chromium: 17 SNP, 0 INDEL

Ebert *et al.*: 1 SNP, 0 INDEL

dbSNP: rs386710176

alleles=ACAG,TTTT; alleles=AGTGGGGAAGA,TCTTCCCCACT; rs386710178;alleles=AAAA,CTGT !

Switch process:

F1: L GTTAACATATTTAATCACACTAGTCAAATTCTACGTACCCAGTTTTGA 1

F3: 4 ACATTTATTGAGTACATGAACTCTGATAGATATTAATTGACACAAC T R

RF: GTTAACATATTTAATCACACTAGTCAAATTCTACGTACCCAGTTTTGATAATTTTCTTTGTCTTCCCACTCAAAGCTGTTTAACATTTATTGAGTACATGAACTCTGATAGATATTAATTGACACAAC

RR: CAATTGTATAAATTAGTGTGATCAGTTTAAGATGCATGGGTCAAAACTATTAAAAGAAACAGAAGGGGTGAGTTTCGACAAATTGTAATAACTCATGTACTTGAGACTATCTATAATTAACTGTGTTGA

F2: 3 ATTAAAAGAAACAGAAAGGGGTGAGTTTCGACAAAT 2

Template-switch alignment:

GTTAACATATTTAATCACACTAGTCAAATTTCTACGTACCCAGTTTTGA|TAAACAGCTTTGAGTGGGGAAGACAAAGAAAATTA|ACATTTATTGAGTACATGAACTCTGATAGATATTAATTGACACAAC

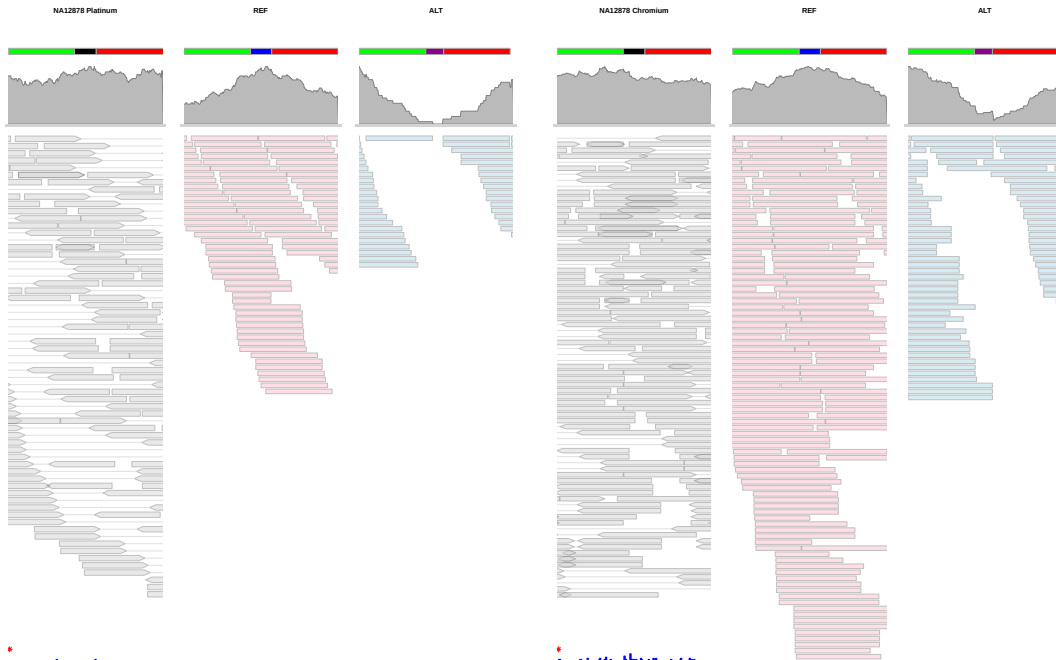
GTTAACATATTTTAAATCACACTAGTCAAATTCTACGTACCCAGTTTTGA | TAAACAGCTTTTGAGTGGGGAAGACAAAGAAAATTA | ACATTTATTGAGTACATGAACTCTGATAGATATTAATTGCACAACT

Maftt alignment:

GTTAACATATTTAATCACACTAGTCAAATTTCTACGTACCCAGTTTTGATAAacagCTTTGagTgggggAgaCAAAAGaaaTTAACATTTATTGAGTACATGAACTCTGATAGATATTAATTGACACAACT

GTTAACATATTTAATCACACTAGTCAAATTCTACGTACCCAGTTTTGATAATTTTCTTTGTCTTCCCACTCAAAGCTGTTTAAACATTTATTGAGTACATGAAGTCTGATAGATATTAATTGACACAAT

chr7.21909784.21909756.21909730.21909817



Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: -

Switch process:

F1: L ATGCAAGAGGCTCTCTTACAGATGTGGAACCTCACTAC 1 4 CACAGAGGCGCCAGATCAGACGCGAGAGAGCAACAGTGTAG R

F3: TACATCTCTCACTCATGCAAGGCGCTCTTCTTACAGATGTGGAACCTCACTACAGAGGCGTGAAGAGAAAGAACTTGTACACAGACGCGAGATCAGACGCGAGAGAGCAACAGTGTAG

RR: ATGTAGAGGATGAGTACTGTCCGAGAGAAAGTGTCTCAACCTGTGTGAGATGTTCCGAGACTCTCTCTCTCTGTTTACATGTGTGTGCGGGTCTTAGTCTGGGTCTTCTGTGTTCACTC

F2: 3 ATGTAGAGGATGAGTACTGTCCGAGAGAA 2

Template-switch alignment:

```

ATCGACAGGCCCTCTTTTACACAGATGTGGAAACAGCTCACTAC|AGAGGCGCTGTCGATGATGAGGATGGTA|CACAGCAGCCAGAATCAGACCCAAAGAGAAGGCACAAGTGTG
ATCGACAGGCCCTCTTTTACACAGATGTGGAAACAGCTCACTAC|AGAGGCGCTGTCGATGATGAGGATGGTA|CACAGCAGCCAGAATCAGACCCAAAGAGAAGGCACAAGTGTG

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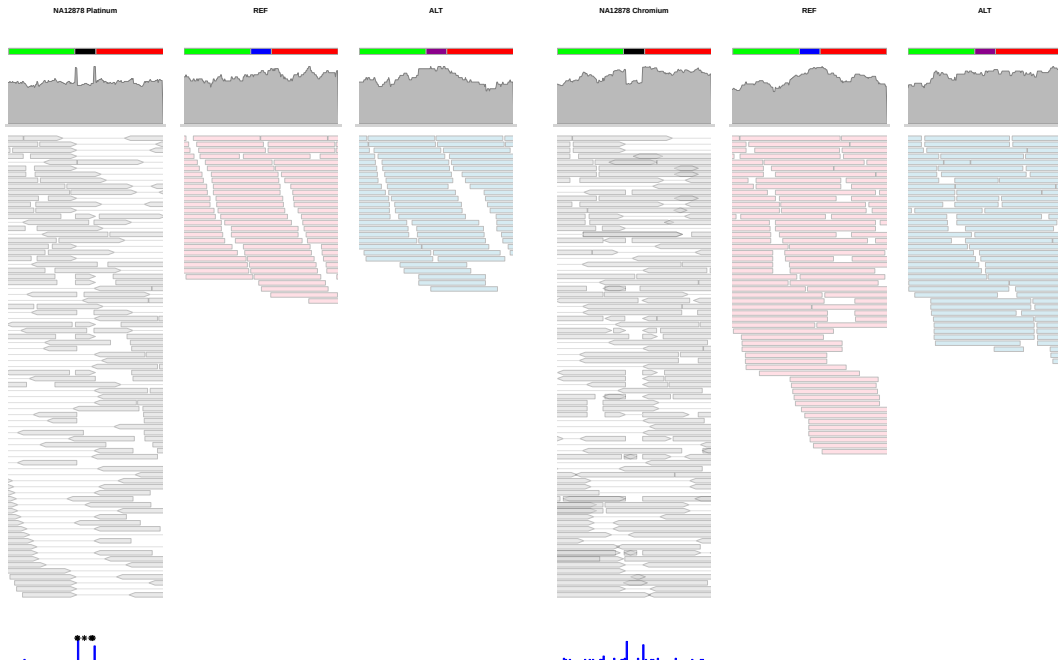
MAFFT alignment:

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ATCGACAGGCGTCTCTTTACCATGATGTGGAAACAGCTCACTACAGAGGCGCTGtcGatgatgAgG----ATGTGTACACAGCAGCCCGAATCAGACCCAGAGAGAAGCACCAGTGTG
ATCGACAGGCGTCTCTTTACCATGATGTGGAAACAGCTCACTACAGAGGCGCTGAAGGAAGGAAGAAACAAATGTGTACACAGCAGCCCGAATCAGACCCAGAGAGAAGCACCAGTGTG

```


chr7.28419452.28419483.28419453.28419484



Platinum: 0 SNP, 6 INDEL; Chromium: 0 SNP, 0 INDEL

Ebert *et al.*: 0 SNP, 0 INDEL

dbSNP: rs758242915

alleles=-,C,CACT,CACTATTAATCAACAGCTCACCC; rs1554317026;alleles=GGGTGAGCTGTTGATTAATAGTG,- !

Switch process:

F1: L GTGATACGTTGGCTTGGCCATTTCAGTCTCTGTCTGCATTTCCTGTGTCT 1

F3: 4 TTTTGACCAAGTCGCCAGGGGGGAGTATTTTGGATCTTCTTCTCCAA R
 RF: GTGATACGTTGGCTTGGCCATTTCAGCTCTCTGCTGCATTCTGTGCTTTGCACTTAATCAACAGCTCACCCATCAATTTTGGACAGTCGCCAGGGGGGAGTATTTTGGATCTTCTTCTCCAA
 RF: CACTATGCAACCGGACCGGTAAACGTCAGAGACAGAGCTAAAGACACAGAAAGCTGATAATTAGTTGTGAGTGGGTAGTTAAAGACTGGTCACAGTCCCCCGCTAAATAAACCTAAGAAAGAGGTT
 F2: 3 AACCTGATAATTAGTTGTGAGTGGGTAGTT 2

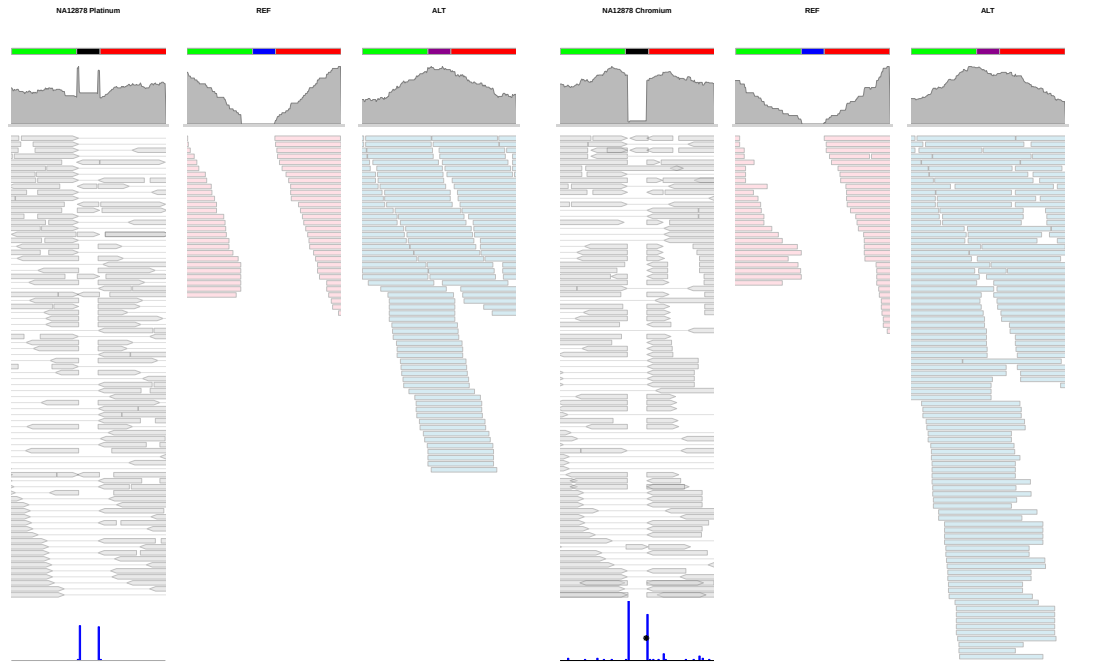
Template-switch alignment:

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Maftt alignment:

GTGATACGTGGCTGGCCATTGCAAGTCTGTCTGCATTTCTGTGCTTgatgggTgagCtgTgATtAatAGt-----GCAATTTTGCACCAAGTGCACGGGGGCGATTATTTGGATTCTTTCCTCCAA
GTGATACGTGGCTGGCCATTGCAAGTCTGTCTGCATTTCTGTGCTT-----TGCACATTAAATCAACAGCTCAOCCATCAATTTTGCACCAAGTGCACGGGGGCGATTATTTGGATTCTTTCCTCCAA

chr7.117716979.117717014.117716980.117717015



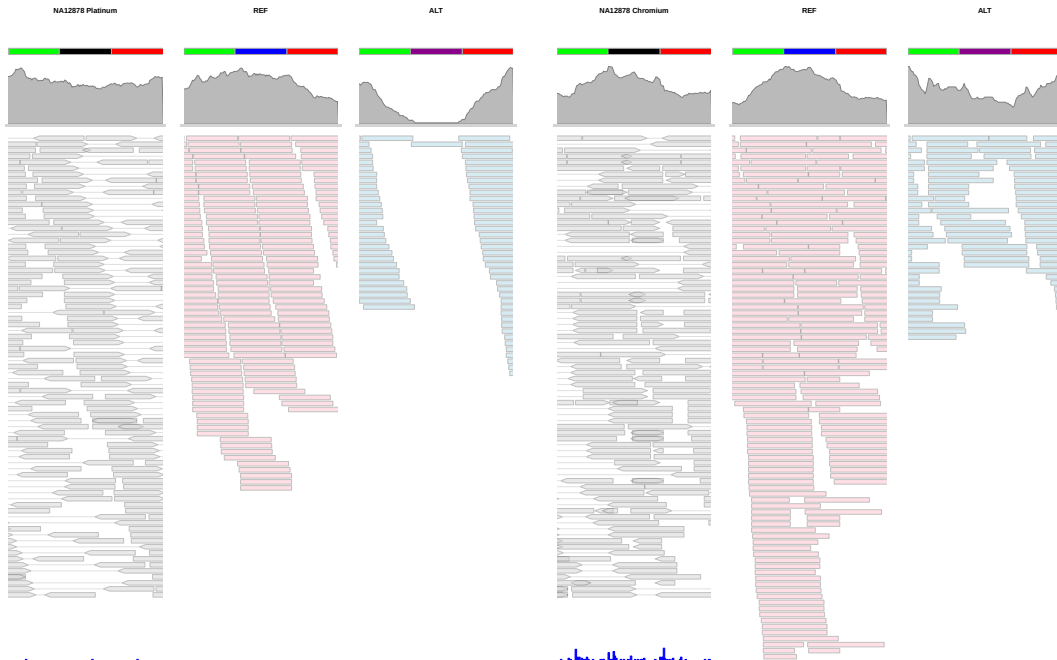
Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 2 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: rs386717124
alleles=CCGTTCTCATCTACTCCCAAGGTGGCTTA,TAAGCCACCTTGGGAGTAGATGAGAACGG,TAAGCCACCTTGGGAGTAGATGA

Switch process:
F1: L TTATAATCTGCTCTCTGCGGCCACCTTCCACCCACACACAGGTCT 1 4 TGAATCAGCATGTTTGGTGAACAAACATATATTACAAAGTGCTTC R
F3: TTATAATCTGCTCTCTGCGGCCACCTTCCACCCACACACAGGTCTTTGTAAGCCACCTTGGGAGTAGATGAGAACGGCAATCAATCAATGTTTGGTGAACAAACATATATTACAAAGTGCTTC
RF: TTATAATCTGCTCTCTGCGGCCACCTTCCACCCACACACAGGTCTTTGTAAGCCACCTTGGGAGTAGATGAGAACGGCAATCAATCAATGTTTGGTGAACAAACATATATTACAAAGTGCTTC
RR: AATATTAGGACAGAGACCGCGGTGGAAAGGGTGGTGTGTGTCGAGAACATTGCGTGGAAACCTCATCTCTCTGCGGCCACCTTGGTGAACAAACATATATTACAAAGTGCTTC
F2: 3 AACATTGGGTGAAACCTCATCTACTCTTGGGGT 2

Template-switch alignment:
TTATAATCTGCTCTCTGCGGCCACCTTCCACCCACACACAGGTCTTTGCGGTTCTCATCTACTCCCAAGGTGGCTTACAA TCAATCAACATGTTTGGTGAACAAACATATATTACAAAGTGCTTC
TTATAATCTGCTCTCTGCGGCCACCTTCCACCCACACACAGGTCTTTGCGGTTCTCATCTACTCCCAAGGTGGCTTACAA TCAATCAACATGTTTGGTGAACAAACATATATTACAAAGTGCTTC

Hapf alignment:
TTATAATCTGCTCTCTGCGGCCACCTTCCACCCACACACAGGTCTTTGCGGTTCTCATCTACTCCCAAGGTGGCTTACAA TCAATCAACATGTTTGGTGAACAAACATATATTACAAAGTGCTTC
TTATAATCTGCTCTCTGCGGCCACCTTCCACCCACACACAGGTCTTTGTAAGCCACCTTGGGAGTAGATGAGAACGGCAATCAATCAATGTTTGGTGAACAAACATATATTACAAAGTGCTTC

chr7.124723315.124723417.124723316.124723418



Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: -

Switch process:

[illegible]

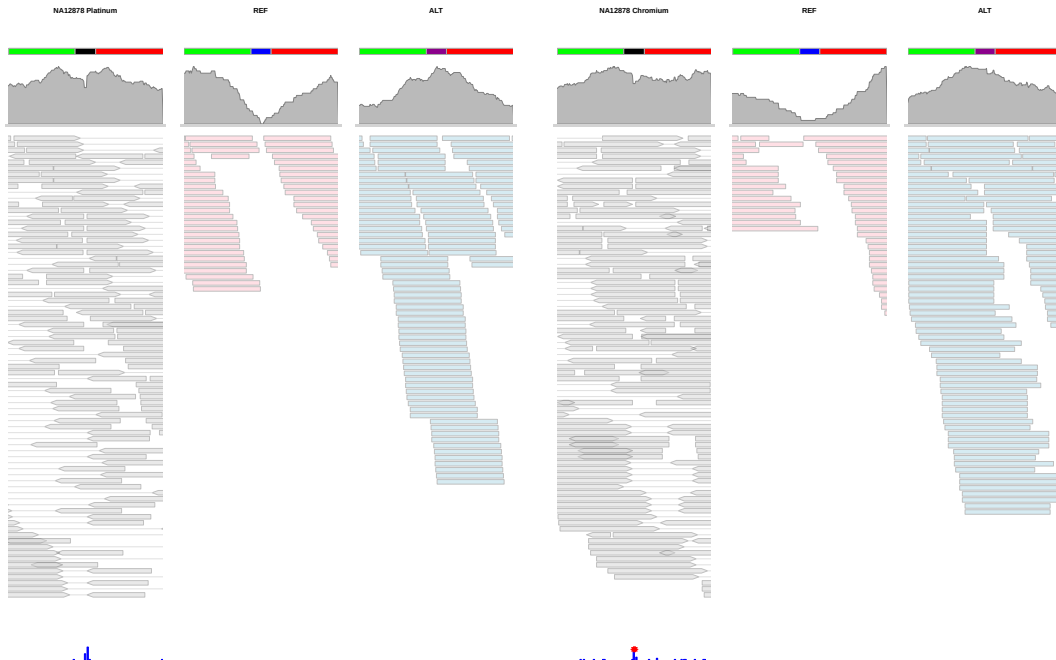
Template-switch alignment:

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ACATTCTTATCAGTCTCAGTCAGTCAGTTTGTCAATCCCA|GTCACAGGCCAAGGCCAAGACACAGATTTTGGAACTGTGCAAGTTCAACTCTGTGGTGAATCTTCTCTGATGGTAOCTCTGTTGAGCAGCATTTGGGCGCTGTGAC|CTTTATATTCAAAAAATGTCTACAATTTGTTAAATAAATA

Maft alignment:

ACATTCTTATCACATCTCAGTCAGTCAGTGTGTGCAATCCAGTCACAGGCCAaggCaagACaCaAGaTttggACtCttGtcAAgTcaACtctgtgGTgaatCTTtCttGaT---ggTAcCTcTGtTcaGcatTgGGCCTGTGACCTTTATATTCAAAAAATGTCTACAATTTGTTAAATAAATA
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chr7.142889266.142889296.142889267.142889297



Platinum: 0 SNP, 0 INDEL; Chromium: 4 SNP, 0 INDEL

Ebert *et al.*: 4 SNP, 0 INDEL

dbSNP: rs797012981

alleles=CAAA,TTTG;

Switch process:

F1: L GGGGCAGAGAGGTCACAGTTACACAGTCTGAGCTGGA 1

F3: 4 CCGATGTTTTCGCATTGTTGGGGCACAATTTCTCGACC R

RF: GGGGCAGAGAGGTCACAGTTACACAGTCTGAGCTGGAGGCCAGGAGCTCTTTGGAGCTCTGTGCCCCGATGTTTCGGCATTGGGGCACAAATTTCTCGAOC

RR: CCCCCTCTCTCCAGTGTCAATGTGTCTCAGGACTCGACCTCCGTGTCTCTCGAGAAACCTCGAGGACACGGGGGCTACAAAGGCGTAAACCCCGTGTAAAGAGCTGG

F2: 3 CCGTGTCTCTGAGAAACCTGAGGACACGG 2

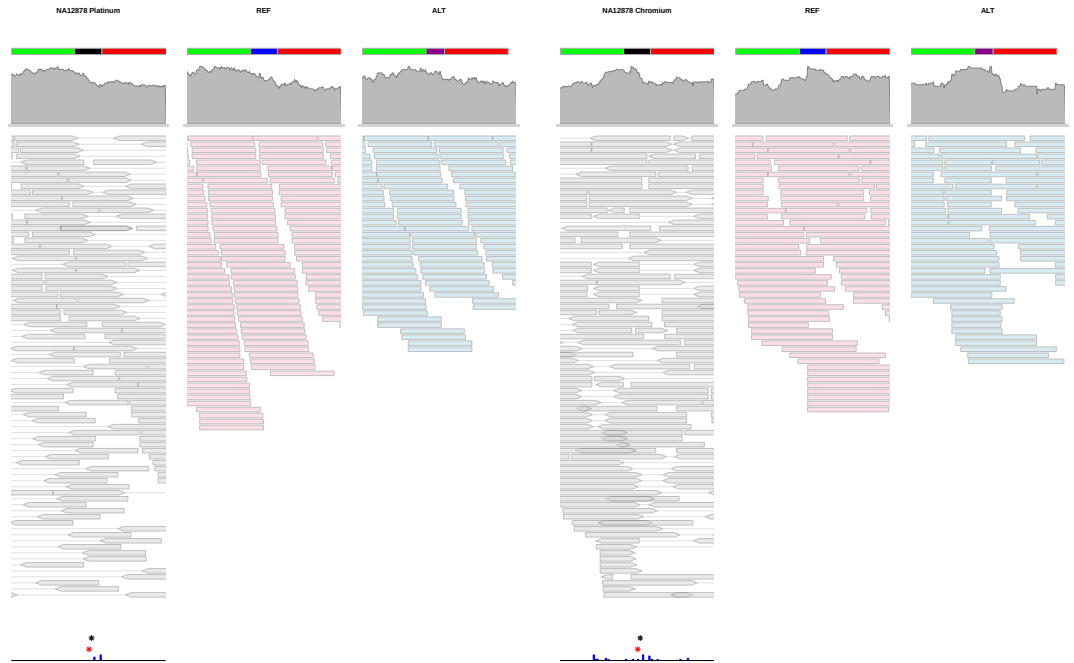
Template-switch alignment:

GGGGCAGAGAGGTACAGTTACACAGTCCTGAGCTGGA | GGCACAGGAGCTCCAAAGAGCTCTGTGCC | CCGCATGTTTCGCAATTGGGGCACAATTTCGCAAC
GGGGCAGAGAGGTACAGTTACACAGTCCTGAGCTGGA | GGCACAGGAGCTCCAAAGAGCTCTGTGCC | CCGCATGTTTCGCAATTGGGGCACAATTTCGCAAC

Maftt alignment:

GGGGCAGAGAGGTCACAGTTACACAGTCTGAGCTGGAGGCACAGGAGCTC^{caaa}GAGCTCTGTGCCCCCGATGTTTCGCGCAATTTGGGGCACAATTTCTCGAAC

chr8.31526297.31526340.31526312.31526340



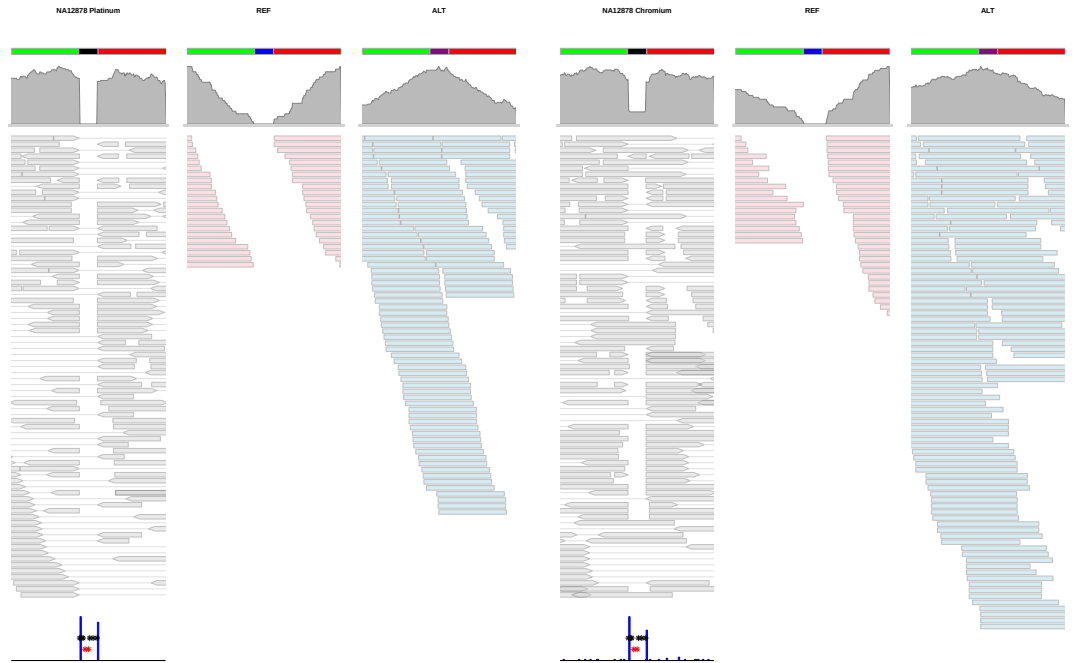
Platinum: 1 SNP, 1 INDEL; Chromium: 1 SNP, 1 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: rs115460829
alleles=A,G,T; rs142735229; alleles=ATTAGCAGTGGACATT,ATT !

Switch process:
F1: L ATATTTAAACATATAAATATTTAAACACATAAAATGTCAGTCT 1
F3: 4 GACTGCAAAATGGAGTAGAGCTGATTGTAACATTATATGCAAAATGAG R
RF: ATATTTAAACATATAAATATTTAAACACATAAAATGTCAGTCTAATTGCTGGCAATTTGACTGCAAAATGGAGTAGAGCTGATTGTAACATTATATGCAAAATGAG
RR: TATAAATTTGTATATTTATATAAATTTGTGTTATTTAGAGTAGAGCTAATGAGAGCTTTAAAGTAGAGCTGATTGTAACATTATATGCAAAATGAG
F2: 3 TTTACAGGTGAGGATTAAGGAGCTTTAA 2

Template-switch alignment:
ATATTTAAACATATAAATATTTAAACACATAAAATGTCAGTCTAATTGCTGGCAATTTGACTGCAAAATGGAGTAGAGCTGATTGTAACATTATATGCAAAATGAG
ATATTTAAACATATAAATATTTAAACACATAAAATGTCAGTCTAATTGCTGGCAATTTGACTGCAAAATGGAGTAGAGCTGATTGTAACATTATATGCAAAATGAG

Mafft alignment:
ATATTTAAACATATAAATATTTAAACACATAAAATGTCAGTCTAATTGCTGGCAATTTGACTGCAAAATGGAGTAGAGCTGATTGTAACATTATATGCAAAATGAG
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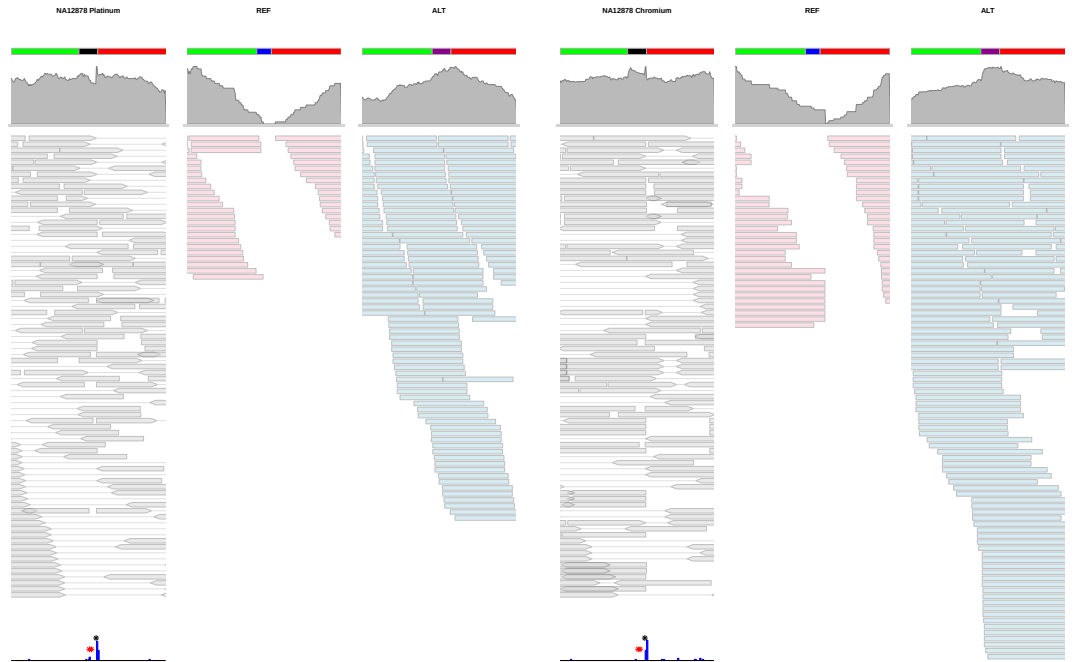
chr9.71177609.71177637.71177610.71177638



Platinum: 2 SNP, 6 INDEL; Chromium: 2 SNP, 6 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: rs386734885
alleles=GAGTCATTGATGATTAGGAAAACCT,AGGTTTTCCTAATACATGAATGACTC

Switch process:
F1: L CTAAGACTGTACATTAAAGACCTAAGTTTTCAACATGTAACAGAACTCT 1 4 TCTTTTCACATACCTAAATATTCAGCTTAAAGAAAGGCCCCAATATAT 8
F3: CTACAGCTGTACATTAAAGACCTAAGTTTTCAACATGTAACAGAACTCTTAAGTTTTCTTAATACATGAATGACTATCTTAAATATTCAGCTTAAAGAAAGGCCCCAATATAT 8
RF: GATCTGTACATGATTAATTTCTGAGTTCAAAAGTGTGATCTTGTCTAGATTCAAAAGGATTAATGATCTAGTGAAGTGAAGTGAATTTAATGATGATTTCTTCGCGGTGATATTA
CTACAGCTGTACATTAAAGACCTAAGTTTTCAACATGTAACAGAACTCTT 1 GAGTCATCTCATGTATTAGGAAAACCTA 1 TCTTTTCACATACCTAAATATTCAGCTTAAAGAAAGGCCCCAATATAT 8
F2: 3 ATCCAAAAGGATTAATGATCTAGT 2
Template-switch alignment:
CTACAGCTGTACATTAAAGACCTAAGTTTTCAACATGTAACAGAACTCTTGAAGTCAATCATGTATTAGGAAAACCTA 1 TCTTTTCACATACCTAAATATTCAGCTTAAAGAAAGGCCCCAATATAT 8
CTACAGCTGTACATTAAAGACCTAAGTTTTCAACATGTAACAGAACTCTTGAAGTCAATCATGTATTAGGAAAACCTA 1 TCTTTTCACATACCTAAATATTCAGCTTAAAGAAAGGCCCCAATATAT 8
Haff alignment:
CTACAGCTGTACATTAAAGACCTAAGTTTTCAACATGTAACAGAACTCTTGAAGTCAATCATGTATTAGGAAAACCTA 1 TCTTTTCACATACCTAAATATTCAGCTTAAAGAAAGGCCCCAATATAT 8
CTACAGCTGTACATTAAAGACCTAAGTTTTCAACATGTAACAGAACTCTTGAAGTCAATCATGTATTAGGAAAACCTA 1 TCTTTTCACATACCTAAATATTCAGCTTAAAGAAAGGCCCCAATATAT 8

chr9.119905030.119905057.119905031.119905058

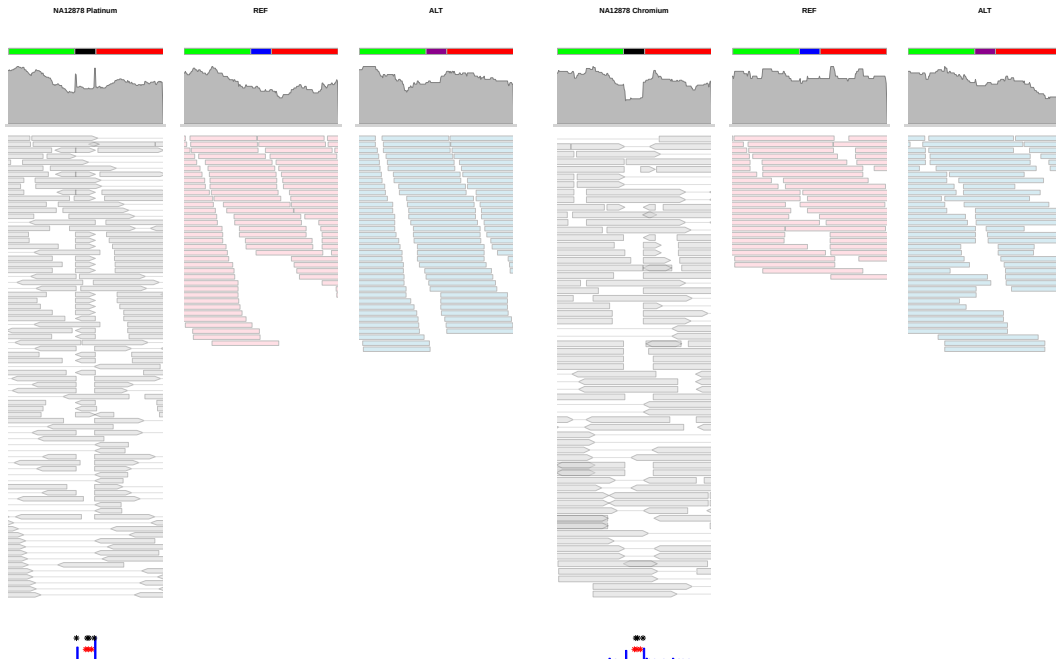


Platinum: 2 SNP, 1 INDEL; Chromium: 2 SNP, 1 INDEL
Ebert *et al.*: 2 SNP, 1 INDEL
dbSNP: rs7046056
alleles=T,A,C; rs62569069;alleles=T,A,C; rs1554743378;alleles=TATT,TATTCACTATT

Switch process:
F1: L TGGTTCACAAAGACCTGAGTTCACAAAGGGGCTCC 1
F3: 4 TCTATCCAGATCACTGACTGATGCCAGGCCAGGGCCCAAGGGCTCC R
RF: TGGTTCACAAAGACCTGAGTTCACAAAGGGGCTCCAGGTGATCTTCAATAGAAAGTATTCACTCTTCTATCCAGATCACTGATGCCAGGCCAGGGCCCAAGGGCTCC
RR: ACCAGTGGTTTCTCGACTCAAGTGTCTCCCGAGGGTCCACTTATGAAGTATCTCTTCAATAGTGAAGATAGGTTCTAGTCACTACTAGTCCAGGCCAGGGCCCAAGGGCTCC
F2: 3 TTATGAAAGTTATCTTCAATAGTGA 2

Template-switch alignment:
TGGTTCACAAAGACCTGAGTTCACAAAGGGGCTCCAGGTGATCTTCAATAGAAAGTATTCACTCTTCTATCCAGATCACTGACTGATGCCAGGCCAGGGCCCAAGGGCTCC
TGGTTCACAAAGACCTGAGTTCACAAAGGGGCTCCAGGTGATCTTCAATAGAAAGTATTCACTCTTCTATCCAGATCACTGACTGATGCCAGGCCAGGGCCCAAGGGCTCC
Maffi alignment:
TGGTTCACAAAGACCTGAGTTCACAAAGGGGCTCCAGGTGATCTTCAATAGAAAGTATTCACTCTTCTATCCAGATCACTGACTGATGCCAGGCCAGGGCCCAAGGGCTCC
TGGTTCACAAAGACCTGAGTTCACAAAGGGGCTCCAGGTGATCTTCAATAGAAAGTATTCACTCTTCTATCCAGATCACTGACTGATGCCAGGCCAGGGCCCAAGGGCTCC

chr10.3134417.3134448.3134418.3134449



Platinum: 3 SNP, 4 INDEL; Chromium: 3 SNP, 3 INDEL
Ebert *et al.*: 1 SNP, 3 INDEL
dbSNP: rs767449759
alleles=TTCTATTTAAACAGCAAAGTGTTACTGT,ACAGTAACACTTTGCTGTTAAATAGAA

[illegible]

Template-switch alignment

```
TATAGAAAGCTAGAAAATAAAACGATGAATTCGCAAAATAGAAAATGTC|ATTTCTATTAAACGAAAGTGTACTGTAT|AACTGGTATTTCATATACTCAATCAACGACGAGGTGGGCGACCTC
TATAGAAAGCTAGAAAATAAAACGATGAATTCGCAAAATAGAAAATGTC|ATTTCTATTAAACGAAAGTGTACTGTAT|AACTGGTATTTCATATACTCAATCAACGACGAGGTGGGCGACCTC
```

Heff's alignment

```
TATAGAAAGCTAGAAAATAAAACGATGAATTCGCAAAATAGAAAATGTC|ATTTCTATTAAACGAAAGTGTACTGTAT|AACTGGTATTTCATATACTCAATCAACGACGAGGTGGGCGACCTC
TATAGAAAGCTAGAAAATAAAACGATGAATTCGCAAAATAGAAAATGTC|ATTTCTATTAAACGAAAGTGTACTGTAT|AACTGGTATTTCATATACTCAATCAACGACGAGGTGGGCGACCTC
```


Switch process:

F1: L CATCAGAGTGAATGAATATATGTAATATCATATAAGATGTTT 1

F3: 4 TTCATGAGCAACCCATGAGATGAAGAGCTCAGAGAAGTCAAA 8

R1: CATCAGAGTGAATGAATATATGTAATATCATATAAGATGTTTATGATAAAATAGTGTATGATAGGGGTCTCTCTTCTTCATGAGCAACCCATGAGATGAAGAGCTCAGAGAAGTCAAA 8

R2: GTAGTGTCCACATACCTATTATTAACATATATAGATATTTACATCAATATTTTATTCATCATATATGTCATATGAGATAGATAGAGGATTAAGTGTGGGTACTTCTACTGCTCGAGTCTCTTCAGTTTC 8

F5: 3 GTATTATTTTATTCACATCTATGTCGACATGAGATG 6

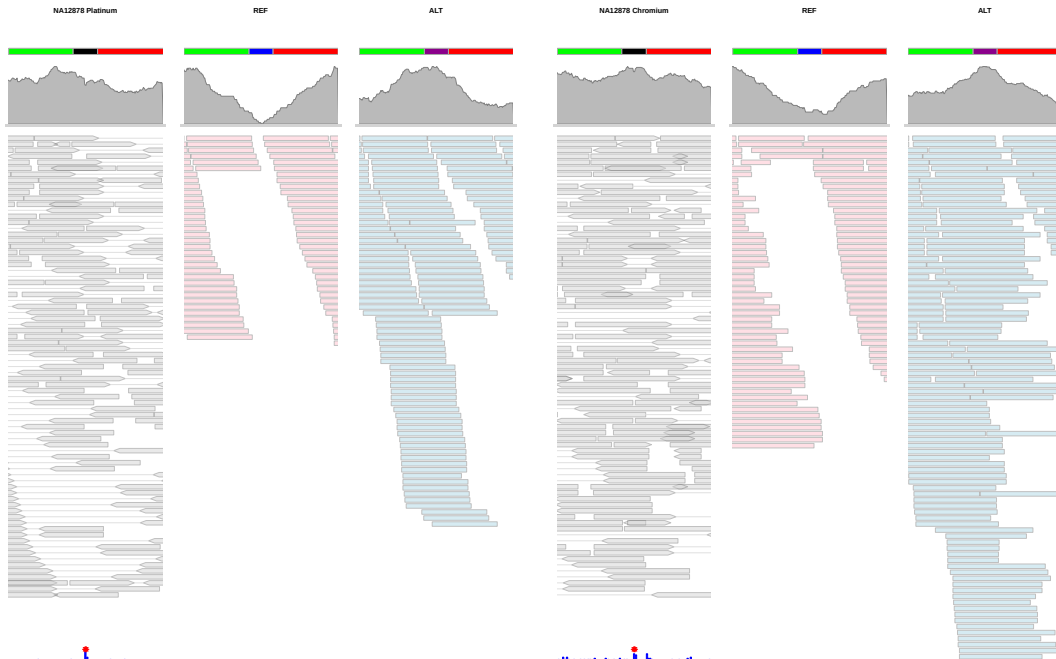
MaxDiff alignment:

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CATCAGAGTGTGAATGAATAATATTGTAATATCATATAAGATGTATTGTA-----AGATAGaccCTATCacactattttttTTATCTTCATAGGCACCOCATGAGAAATGACGAAGCTCAGAGAAGTCAAAAG
CATCAGAGTGTGAATGAATAATATTGTAATATCATATAAGATGTATTGTAATAATAAATAGTGTACATAGGGGCTCATC-----TTATCTTCATAGGCACCOCATGAGAAATGACGAAGCTCAGAGAAGTCAAAAG

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chr12.27113206.27113243.27113207.27113244



```
Platinum: 3 SNP, 0 INDEL; Chromium: 3 SNP, 0 INDEL
Ebert et al.: 3 SNP, 0 INDEL
dbSNP: rs71437321
alleles=AAA,TTT
```

Switch process:

F1: L TCATTACTGCCCTTGGATTAGTAAAAATGAGCT 1

F3: 4 CAGCGTCGAGCTGGAGGGTTGTATGAGCCGAG R

RF: TCATTACTGCCCTTGGATTAGTAAAAATGAGCTGATTTTATCAGCGTCGATTTTATCAGCGTGATAAAAATCAGCGTCGAGCTGGAGGGTTGTATGAGCCGAG

RR: AGTAATGAGCGGAAACCAACTCATTTTAACTCGAGCTAAAAATAGTCGAGCTAAAAATAGTCGAGCTATTTTATAGTCGAGCTCGAGCTCGCTCAACACTACTCGGGTCC

F2: 3 CTAAATAGTCGAGCTAAAAATAGTCGAGCTATTTAG 2

Template-switch alignment:

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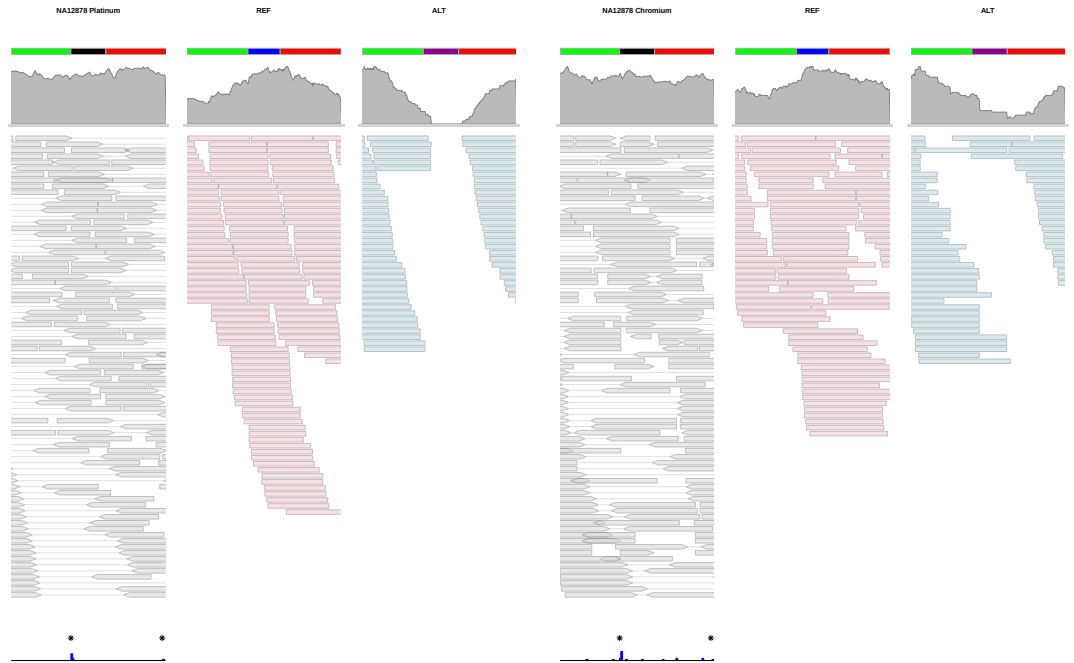
TCATTACTGCCTTTGGATTAGTAAAAATTGAGCT|GATTTTATCAGGCTGATAAAATCAGGCTGATAAAATC|CAGGCTGAGGCTGGAGGGTTGTATGAGCCACAG
TCATTACTGCCTTTGGATTAGTAAAAATTGAGCT|GATTTTATCAGGCTGATAAAATCAGGCTGATAAAATC|CAGGCTGAGGCTGGAGGGTTGTATGAGCCACAG

```

Maftt alignment:

```
TCATTACTGCGCTTTGGATTAGTAAAAATTGAGCTGATTTTATCAGGCTGAT2AAAAATCAGGCTGATAAAATCCAGGCTGAGGCTGGAGGGTTGTATGAGCCACAGG
TCATTACTGCGCTTTGGATTAGTAAAAATTGAGCTGATTTTATCAGGCTGATTTTATCAGGCTGATAAAATCCAGGCTGAGGCTGGAGGGTTGTATGAGCCACAGG
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chr12.76033767.76033825.76033768.76033826



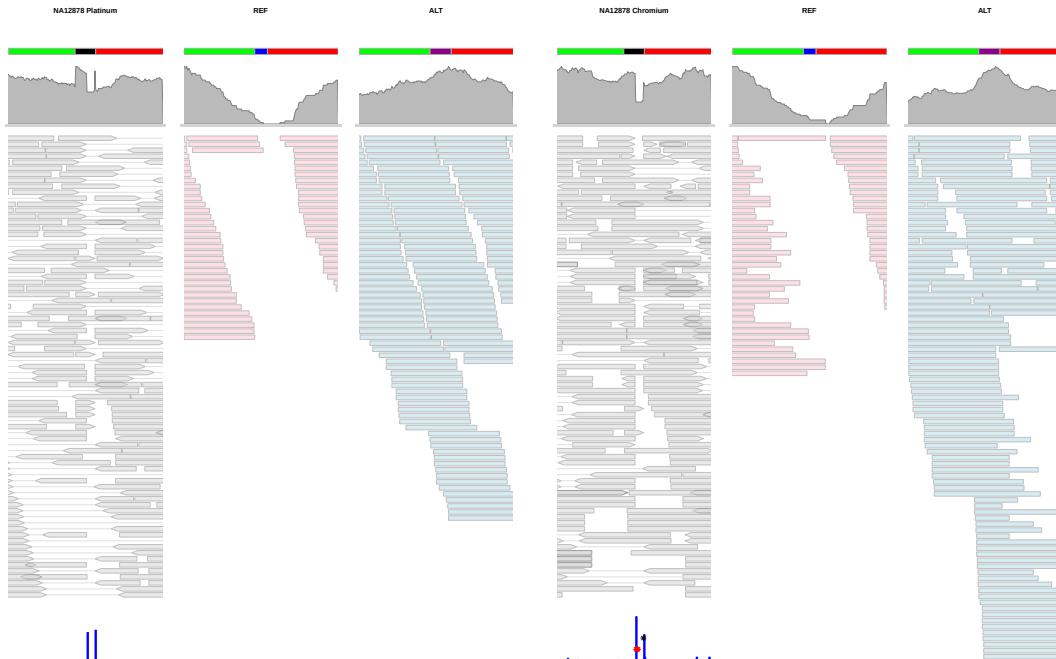
Platinum: 0 SNP, 1 INDEL; Chromium: 0 SNP, 1 INDEL
Ebert *et al.*: 0 SNP, 1 INDEL
dbSNP: -

Switch process:
F1: L TTGAAATATCAGTAGTGTAAAGGATCCCGATAGATTGGTGATAACTTGGCTC 1
F3: 4 GGCATATGCTCATATTTGGCAGATATGTCCAAATGGGCATATTGGC R
REF: TTGAAATATCAGTAGTGTAAAGGATCCCGATAGATTGGTGATAACTTGGCTCTTAATTTTAACTGACCAAGTTTGGATGCTATTTGGCAGATATGTCCAAATGGGCATATTGGC
SR: AACCTTTATAGTCATCAGCTTCTAGGCGCATCTAACGCACTATTAAGCAATTCAGTGGTGTGACACCCACCATTTGACCACTTTATTTGTTTCAAGCGTATACGAGTATTAACCGTTTATACCGGTATTAAGC
F2: 3 TTGATCGAGAAATTAACCAATTCAGTGGTGTGACACCCACCATTTGACCACTTTATTTGTT 2

Template-switch alignment:
TGAAATATCAGTAGTGTAAAGGATCCCGATAGATTGGTGATAACTTGGCTC-----TTGTTTATcTAaCAGtTcccacacAGtTGGTGAActTAACAAATTAAGAGCAaAGTGGGCATATGCTCATATTTGGCAGATATGTCCAAATGGGCATATTGGC
TGAAATATCAGTAGTGTAAAGGATCCCGATAGATTGGTGATAACTTGGCTCTTAATTTTAACTGACCAAGTTTGGATGCTATTTGGCAGATATGTCCAAATGGGCATATTGGC

HapT alignment:
TGAAATATCAGTAGTGTAAAGGATCCCGATAGATTGGTGATAACTTGGCTC-----TTGTTTATcTAaCAGtTcccacacAGtTGGTGAActTAACAAATTAAGAGCAaAGTGGGCATATGCTCATATTTGGCAGATATGTCCAAATGGGCATATTGGC
TGAAATATCAGTAGTGTAAAGGATCCCGATAGATTGGTGATAACTTGGCTCTTAATTTTAACTGACCAAGTTTGGATGCTATTTGGCAGATATGTCCAAATGGGCATATTGGC

chr12.133076335.133076365.133076336.133076366



Platinum: 0 SNP, 0 INDEL; Chromium: 4 SNP, 1 INDEL

Ebert *et al.*: 1 SNP, 0 INDEL

dbSNP: rs796744802

alleles=CTTT,AAAG; rs55634947;alleles=A,ACATTATTTTACACA,ACATTATTTTACACA,ATATTATTTTACACA

Switch process:

F1: L CATAGGACTCCTAATAGAAAAGTGATTCATAGCA 1

F3: 4 GAAGTAGACACTAGTCAATGATCAGTTTTCATATTATCATAAAAAGTAA R
RF: CATAGACTCTAATAGAAAAGTGATTATAGCAAAATAAGTTTCATAGCAAAAGGCTATGAACATTATTTACAGAGAGTAGACACTAGTCAATGATCAGTTTTCATATTATCATAAAAAGTAA
RF: GTATCTCGAGGATGATCTCTTTCTCAAGTAGTCGTTTATACAAAGTAGTTTTCGATACCTTGTAATAAGGTCTCTCTCATCTGTGATCAGTCTTCGATCGCAAAAGTATAATAGATTTTTCATT
F2: 3 AAAGTAGTCGTTTTCGATAGTCTTGTAATAA 2

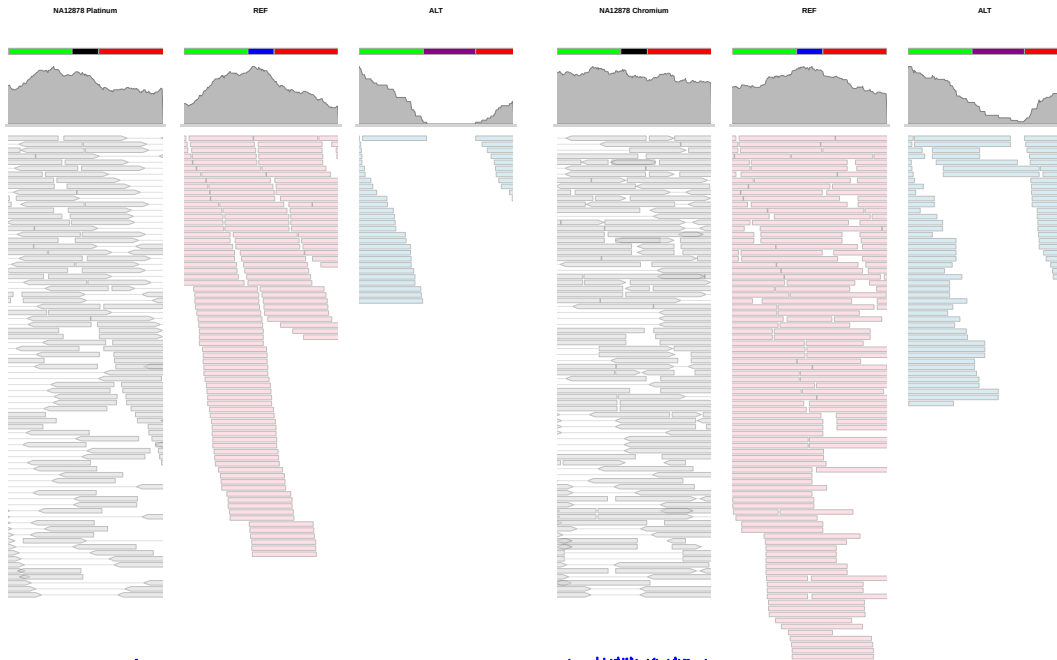
Template-switch alignment:

CATAGGACTCCTAATAGAAAAGTGATTTCATAGCA | AAATAATGTTTCATAGCCTTGCTATGAAA | GAAGATAGACACTAGTCAATGATCAGTTTCATATTATCATAAAAAGTAA

Maftt alignment:

CATAGGACTOCTAANTAGAAAAAGTGATTCATAGCAAAAATAATGTTTCATAGCcttGCTATGAA-----AGAAGATAGACACTAGTCAGTCACTCAGTTTCATATTATCATAAAAAGTAA
 CATAGGACTOCTAANTAGAAAAAGTGATTCATAGCAAAAATAATGTTTCATAGCAAAAGGCTATGAAACATTATTCACAGAAGATAGACACTAGTCAGTCACTCAGTTTCATATTATCATAAAAAGTAA

chr13.43768955.43769039.43768958.43768997



Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL

Ebert *et al.*: 0 SNP, 0 INDEL

dbSNP: -

Switch process:

[illegible]

Template-switch alignment:

GAATCTCTCCAATGCCATATCTCAATTTCAACTACTAACACTGTG/TTGCTTATTTCCTAGTATCAGTGAATAAATAAACAAATTCGCTATTAGTTAATTTCTATTGTAGGAGAGAAGAAGCAACA/TGGT
GAATCTCTCCAATGCCATATCTCAATTTCAACTACTAACACTGTG/TTGCTTATTTCCTAGTATCAGTGAATAAATAAACAAATTCGCTATTAGTTAATTTCTATTGTAGGAGAGAAGAAGCAACA/TGGT

Maftt alignment:

GAATCTCTCCAATGCCATATCTCAATTTCAACTACTTAACACTGTTGCTTATT-----TTCTAGTATCAGTGAaa--AtAAAAAaaCAAAATTGCTATTAGTTAATTTCTATTGAGGAGAGAAGAAGCAACATGGT
GAATCTCTCCAATGCCATATCTCAATTTCAACTACTTAACACTGTTGCTTCTCTCTCTCAAAATAGAAATTAACTAATAGCAATTTGTTTATTTTATTTTCTACTGATACTAGAAAAAAGCAAAATTGCTATTAGTTAATTTCTATTGAGGAGAGAAGAAGCAACATGGT

chr14.31223690.31223719.31223691.31223720



Switch process:

F1: L CCATACATTACCTGACACCTGTCTATAAACCAAGGT 1

F3: 4 TGAGATAAATTAGAGCCTGGGAAATAGTATTATATTT R

RF: CCATACATTACCTGACACCTGTCTATAAACCAAGGTGGATGAATAGTATTATTTCTAAATTTATCTGAGATAAATTAGAGCCTGGGAAATAGTATTATATTT

HR: GGTATGTAATGGACCTGTGACAGAGATTTTGGTTCACCTATTTAATCTTAAAGATTAATAGACCTCTATTAACTCTGGACCCCTTATCATATATATAA

F2: 3 CCTATTTAATCTTAAAGATTAAATAG 2

Template-switch alignment:

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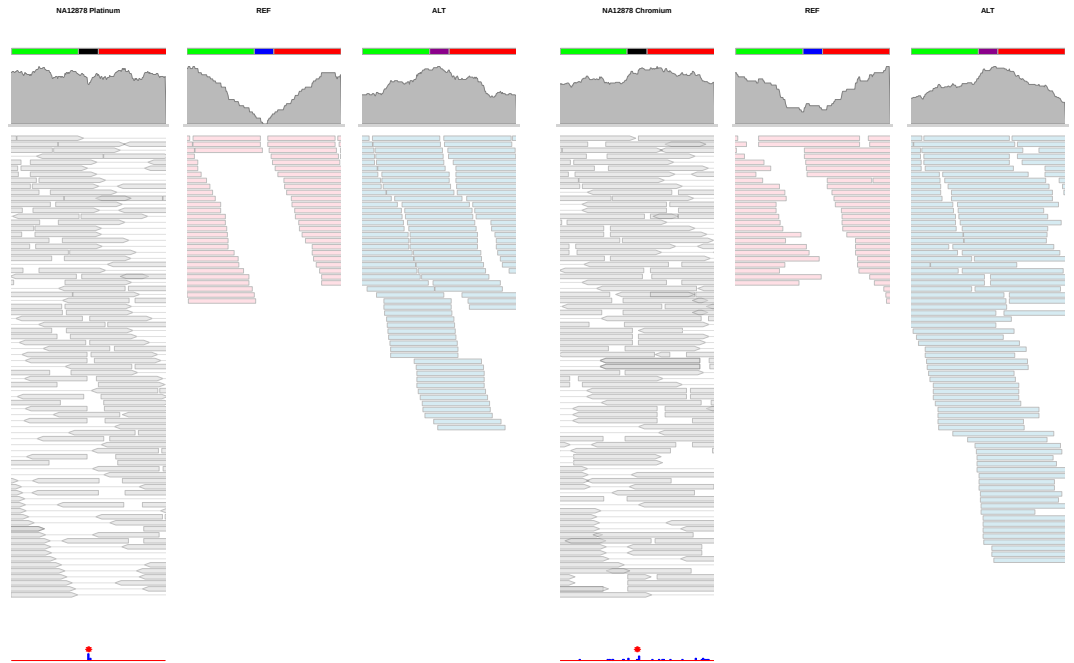
CCATACATTACCTGACACCTGTCTATAAACCAAGGTGGATGAATAGATAAATTCTAAATTTATCTGAGATAAATTAGAGCCTGGGAAATAGTATTATATTT

Mafft alignment:

CCATACATTACCTGACACCTGTCTATAAACCAAGGTGGATGAATAGATAAATTCTAAATTTATCTGAGATAAATTAGAGCCTGGGAAATAGTATTATATTT

CCATACATTACCTGACACCTGTCTATAAACCAAGGTGGATGAATAGATAAATTCTAAATTTATCTGAGATAAATTAGAGCCTGGGAAATAGTATTATATTT

chr15.29755973.29756002.29755974.29756003



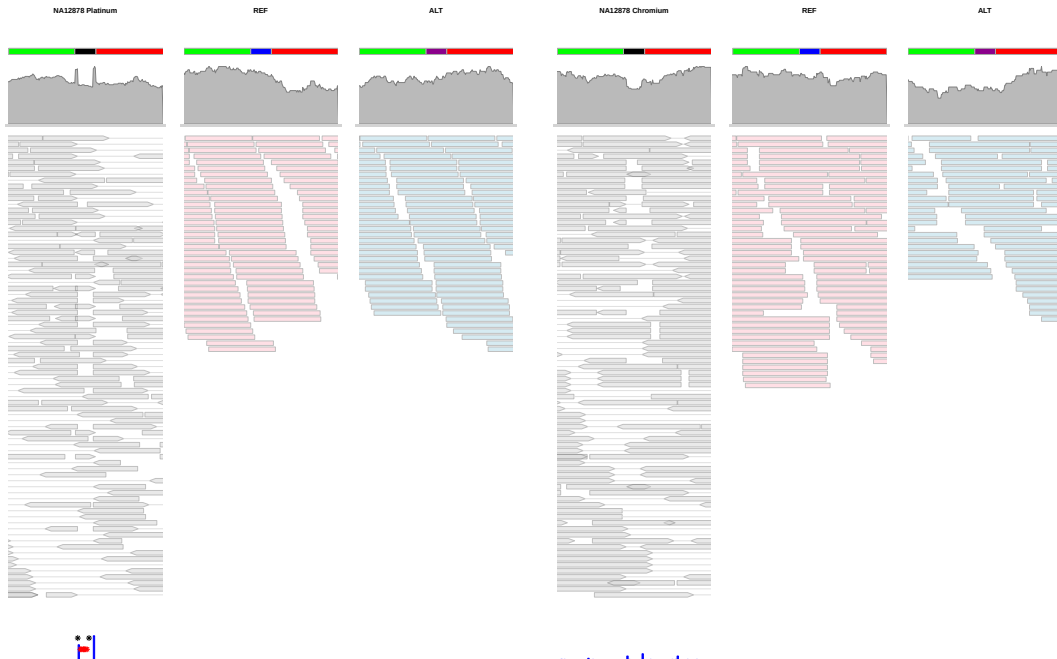
Platinum: 3 SNP, 0 INDEL; Chromium: 3 SNP, 0 INDEL
Ebert *et al.*: 3 SNP, 0 INDEL
dbSNP: rs35653384
alleles=ACA,TGT

Switch process:
F1: L ATAAAAATTTATAGATAAAAAAGGTAACACCTGTTG 1 4 ACATAAAATGGGCTCTGTTAAAAATAGCTGTAATATGAA 8
F3: ATAAAAATTTATAGATAAAAAAGGTAACACCTGTTGTTCCCTCTAACATGTTATGTTAGAGGGAAACATAAATGGGCTCTGTTAAAAATAGCTGTAATATGAA 8
RF: ATAAAAATTTATAGATAAAAAAGGTAACACCTGTTGTTCCCTCTAACATGTTATGTTAGAGGGAAACATAAATGGGCTCTGTTAAAAATAGCTGTAATATGAA 8
HR: TATTTTAAATATCTTATTTTTCATTTGTTGGCAACAGAGGAGATTGTAACATAGAACTGCTGTTATTTTACCCAGACAAATTTATGACATTTATAGT 2
F2: 3 AAGGGAGATTGTAACATAGAACTGCTGTTATTTTACCCAGACAAATTTATGACATTTATAGT 2

Template-switch alignment:
ATAAAAATTTATAGATAAAAAAGGTAACACCTGTTGTTCCCTCTAACATGTTATGTTAGAGGGAAACATAAATGGGCTCTGTTAAAAATAGCTGTAATATGAA 8
ATAAAAATTTATAGATAAAAAAGGTAACACCTGTTGTTCCCTCTAACATGTTATGTTAGAGGGAAACATAAATGGGCTCTGTTAAAAATAGCTGTAATATGAA 8

Haff alignment:
ATAAAAATTTATAGATAAAAAAGGTAACACCTGTTGTTCCCTCTAACATGTTATGTTAGAGGGAAACATAAATGGGCTCTGTTAAAAATAGCTGTAATATGAA 8
ATAAAAATTTATAGATAAAAAAGGTAACACCTGTTGTTCCCTCTAACATGTTATGTTAGAGGGAAACATAAATGGGCTCTGTTAAAAATAGCTGTAATATGAA 8

chr15.35967577.35967608.35967578.35967609



Platinum: 7 SNP, 2 INDEL; Chromium: 0 SNP, 0 INDEL

Ebert *et al.*: 0 SNP, 0 INDEL

rs386783006

alleles=CTTACACAAGGGGAAGTCAAAT,ATTTGACTTCCCCCTTGTGTAAG !!

Switch process:

F1: L TTGAAATGCAAAGGAATTACTTAAGAATAACACAAACCACCATGAA 1

F3: 4 AGTGGATTATATGAAGATTGATTTAGTTTGGTTATCAAATATCCTT R

REF: TTGAAATGCAAGGAATTACTTAAGAATAACACAAACCACCATGAACATGATTGACTTGGGCTTGTGTAAGCATGAGTGGATTATGAAGATTGATTAGTTTGGTTATCAAATATC

BB: AAGTTTACGTTTGCTTAATGAATTGCTATTGCTTTGCTGCTACTGTACTAACTGAAGGGGGGAACAGATTGCTACTCAGCTAATATACTTCTAAGTAAATCAAGCAATAGTTTATAGGA

E2: 3 GTACTAAACTGAAGGGGGGAACACATTTCGTAC 2

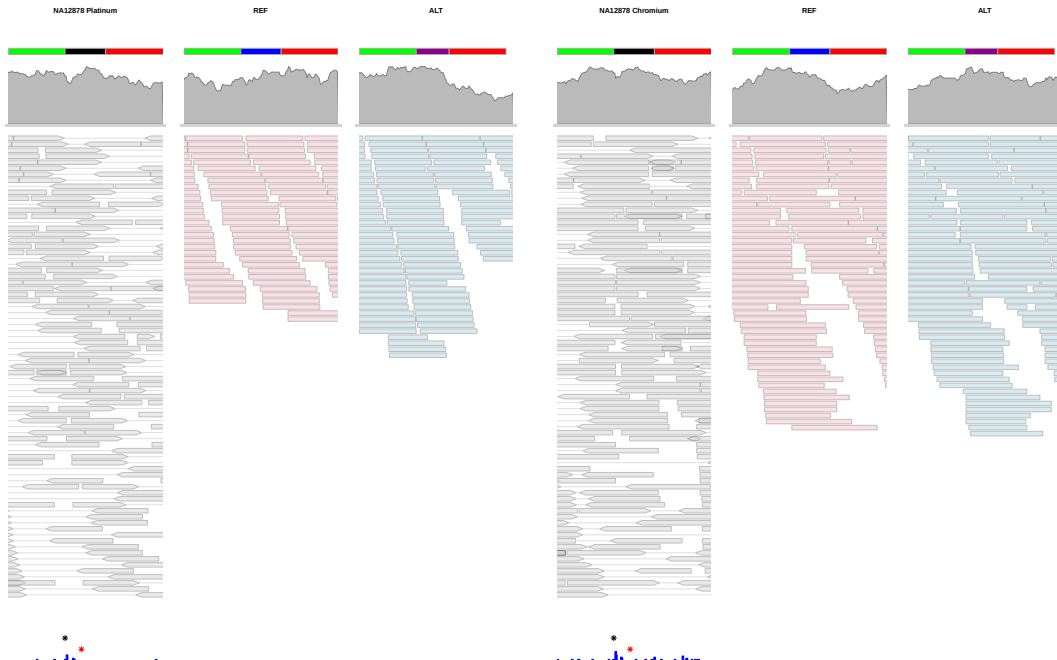
Template-switch alignment:

TTGAAAATGCAAAGGAATTACTTAAAGAATAACACAAACCACCATTGAA|CATGCTTACACAAAGGGGGAAGTCAAATCATG|AGTGGATTATATGAAGATTGATTAGTTTGGTTATCAAATATCCTT
TTGAAAATGCAAAGGAATTACTTAAAGAATAACACAAACCACCATTGAA|CATGCTTACACAAAGGGGGAAGTCAAATCATG|AGTGGATTATATGAAGATTGATTAGTTTGGTTATCAAATATCCTT

Maftt alignment:

TTGAAAATGCAAAGGAATTACTTGAAGATAACACAAACCACCATGAACATGCTTCAACAaggggggaGTCAaATCATGAGTGGAATTATAGAAGATTGATTAGTTGGTGTATCAAATATCCTT
TTGAAAATGCAAAGGAATTACTTGAAGATAACACAAACCACCATGAACATGATTGACTTCCCCCTTGTTGAAGCATGAGTGGAATTATAGAAGATTGATTAGTTGGTGTATCAAATATCCTT

chr15.52720987.52720989.52720932.52721059



Platinum: 1 SNP, 1 INDEL; Chromium: 1 SNP, 1 INDEL

Ebert *et al.*: 3 SNP, 1 INDEL

dbSNP: rs137966316

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alleles=CGTCAGTAGACAACG,CG,CGTCAGTAGACAACGTCAGTAGACAACG; !
```

Switch process:

F1: L AGTTCCTTTAGATTAGGAATGGTAGCATTGTCGACTACATCAGTAGTACAT 1

F3: 4 ATCGGTAT R

RF: GATGAAGTTCTTTAGATTAGGAATGGTAGGATTGTCGACTAGATCAGTAGTACATCGTCAGTAGACAAGGATGTACTACTGATATAGTCGACAATGCTAGCATTGCTAATCTAAAAGAACTTCATCATCGGTAT

RR: CTACTTCAAGAAAATCTAATGCTTACCATGCTAAGAGCTGATGTACTGATCATGTAGGAGTCACTGTGTTGCTACATGATGACTATATCAGCTTTACGATGCTAAGGATTAGATTTTCTTGAGTAGTAGCCATA

E2: 3 CTACTTCAAGAAAAATCTAATCCTTACCATCGTAACAGCTGATGTAGTCATCATGTAGC 2

Template-switch alignment:

GTTCCTTTTAGATTAGGAATGGTAGCATTGTCGACTACATCAGTAGTACAT|CGATGTACTACTGATGTAGTCGACAATGCTACCATTCCTAATCTAAAAGAACTTCATC|ATGGGTAT

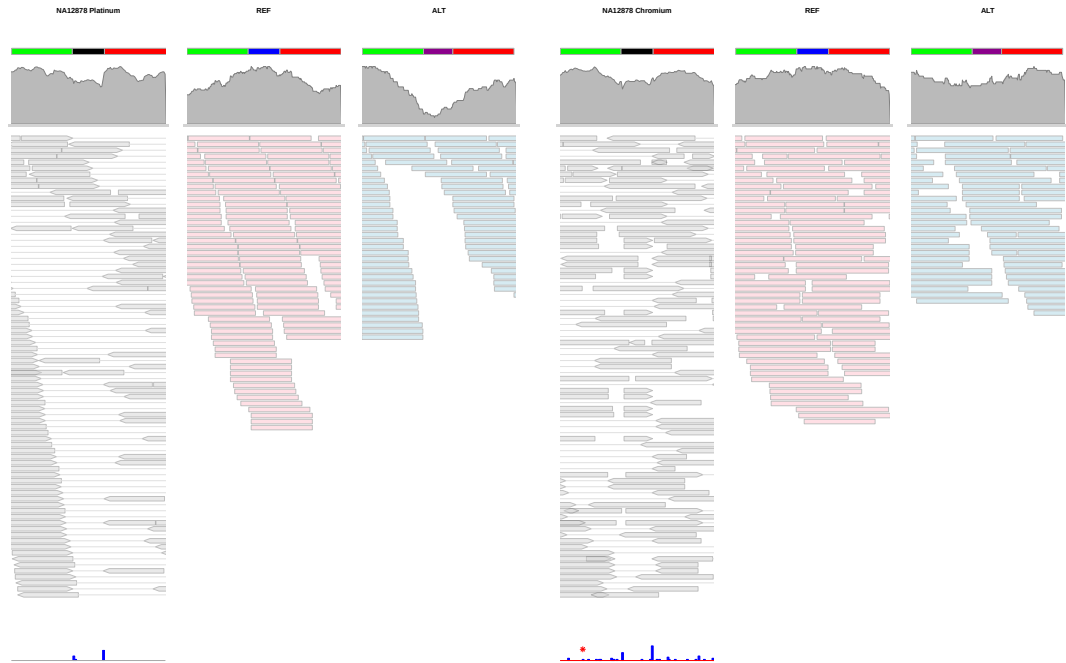
GTTCTTTTAGATTAGGAATGGTAGCATTGTCGACTACATCAGTAGTACAT|CGATGTACTACTGATGTAGTCGACAATGCTACCAATTCCTAATCTAAAAAGAACTTCATC|ATGGGTAT

Maftt alignment:

GTTCCTTTAGATTAGGAATGGTAGCATTGTCGACTACATCAGTAGTACAT-----CGATGTACTACTGAT-TAGTCGACAATGCTACCATTOCTAATCTAAAAGAACTTCATCATGGGTAT

GTTCTTTTAGATTAGGAATGGTAGCATTGTCGACTACATCAGTAGTACATCGTCAGTAGACAAACGATGTACTACTGATATAGTCGACAATGCTACCATTOCTAATCTAAAAGAACTTCATCATGGGTAT

chr17.36167846.36167898.36167851.36167899



Switch process:

F1: L TTTTGTGGCCACCCCAAGTGTCCAGATATACACAGGAGACTGTGGCTGGG 1

F3: 4 ATGTGAGGGATGGGCTGGTGTTCACAGTGTCTCTGCCAGGCCACTGG R

RF: TTTTGTGGCCACCCCAAGTGTCCAGATATACACAGGAGACTGTGGCTGGGCGATCCCGACAGGAAAGTGTCTCACACACTCTCGACTTTCATCTGGTGTATGTGAGGGATGGGCTGGTGTTCACAGTGTCTCTGCCAGGCCACTGG

HR: AAAACACCGTGGGTCCACAGTCTATATGTCTCTGACACGAGCCCGCTAGGCGCTTCCACAGAGTGTGTGAGAGCTGAAAGTGAAGCCAGTACCTCTCTACCCGAGCTCACAGTGTCTCTGCCAGGCCACTGG

F2: 3 CTAGGCGTCTCTCTCACAGAGTGTGTGAGAGCTGAAAGTGAAGCCAG 2

Template-switch alignment:

TTTTTGTGGCCACCCCAAGTGTCCAGATATACACAGGAGACTGTGGCTGGGCGATCCCGACAGGAAAGTGTGTGGCACTTCTCTCTCGGATCTATGTGAGGGATGGGCTGGTGTTCACAGTGTCTCTGCCAGGCCACTGG

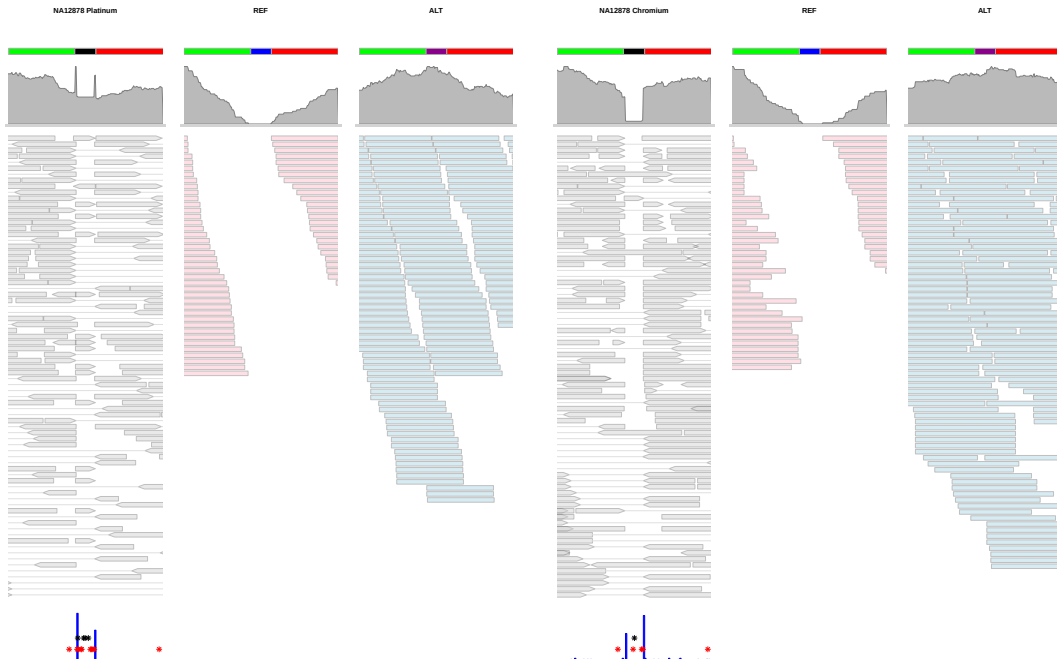
TTTTTGTGGCCACCCCAAGTGTCCAGATATACACAGGAGACTGTGGCTGGGCGATCCCGACAGGAAAGTGTGTGGCACTTCTCTCTCGGATCTATGTGAGGGATGGGCTGGTGTTCACAGTGTCTCTGCCAGGCCACTGG

Half alignment:

TTTTTGTGGCCACCCCAAGTGTCCAGATATACACAGGAGACTGTGGCTGGGCGATCCCGACAGGAAAGTGTGTGGCACTTCTCTCTCGGATCTATGTGAGGGATGGGCTGGTGTTCACAGTGTCTCTGCCAGGCCACTGG

TTTTTGTGGCCACCCCAAGTGTCCAGATATACACAGGAGACTGTGGCTGGGCGATCCCGACAGGAAAGTGTGTGGCACTTCTCTCTCGGATCTATGTGAGGGATGGGCTGGTGTTCACAGTGTCTCTGCCAGGCCACTGG

chr17.61667231.61667262.61667232.61667263



Platinum: 8 SNP, 4 INDEL; Chromium: 3 SNP, 1 INDEL
Ebert *et al.*: 3 SNP, 0 INDEL
dbSNP: s386798222
alleles=GTGATTGCATGTAACCATAGAATTTAT,ATAAATTCTATGGTTACATGCAATCAC

Switch process:

F1: L TAAAGATTATTCAATTAATCTTATTACACACCAAGTAGCTGCTCTCA 1

F3: 4 AGAATGTGACTGAGTGCGTCTTTTTTTTGAGAGAGTCTGCTCTGTCG R

RP: TAAAGATTATTCAATTAATCTTATTACACACCAAGTAGCTGCTCTCAATTAATCTATGTTACATGCATCAAGAAAGTGTGACTGAGTGCGTCTTTTTTTTGAGAGAGTCTGCTCTGTCG

RR: ATTTCATAATAGTAAATTAAGATAATGTGTGTGTTGATCGAAGAGAGTAAATTAAGATCAAGTGTAACTGATGTTCTCTCACTCACTGACGACGAAAAAAACTCTCGAAGACGACCAAG

F2: 3 AATTAATGATGACCAAGTGTAGTGTAGTGT 2

Template-switch alignment:

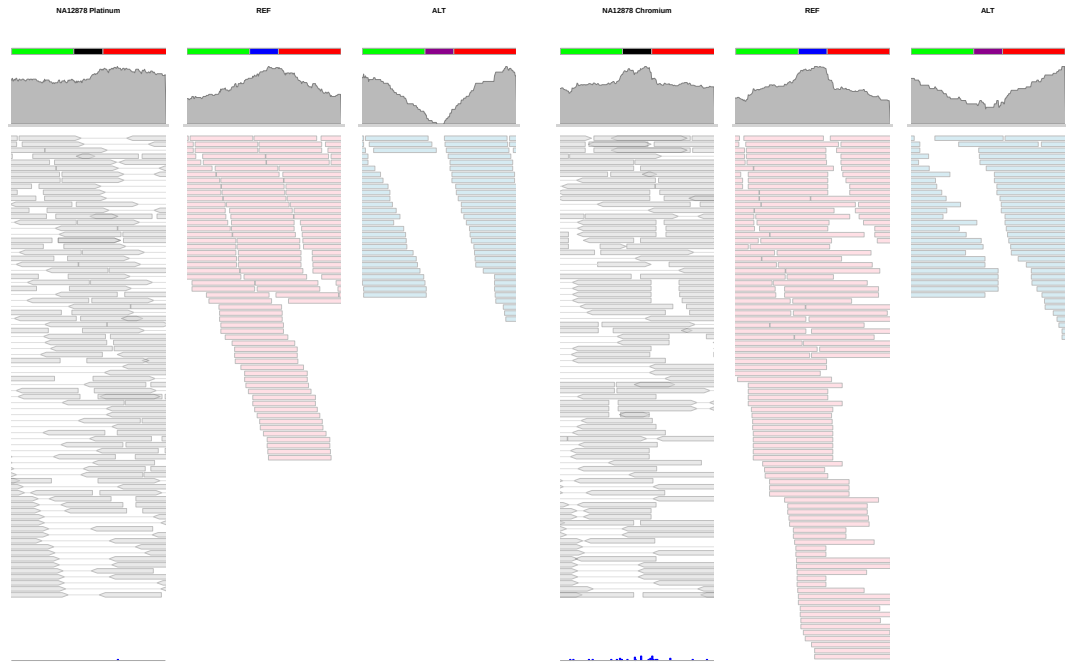
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TAAAGATATTATCATTTAAATCTATTACCAACCAAGTACTGCTTCTCA | TTGTGATTGCATGTAAACCATAGAATTATAA | AGAATGTGACTGAGTGCGCTTTTTTTTGAGAGAGTCTTGCTCTGTTCG
TAAAGATATTATCATTTAAATCTATTACCAACCAAGTACTGCTTCTCA | TTGTGATTGCATGTAAACCATAGAATTATAA | AGAATGTGACTGAGTGCGCTTTTTTTTGAGAGAGTCTTGCTCTGTTCG

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Hafft alignment:
 TAAAGATTATTCATTAATAATCTATTACCACCACCAAGTACTGCTTCTCAT-----TgTgTtGcATGtAaAcatagaatTtAtAAAGAAATGTGACTGAGTGCGCTTTTTTTTTGAGAGAGTCTTGCTCTGTGC
 TAAAGATTATTCATTAATAATCTATTACCACCACCAAGTACTGCTTCTCATTAATAAATCTATGGTTACATGCA-----TCACAAAGAAATGTGACTGAGTGCGCTTTTTTTTTGAGAGAGTCTTGCTCTGTGC

chr18.5491352.5491398.5491353.5491399



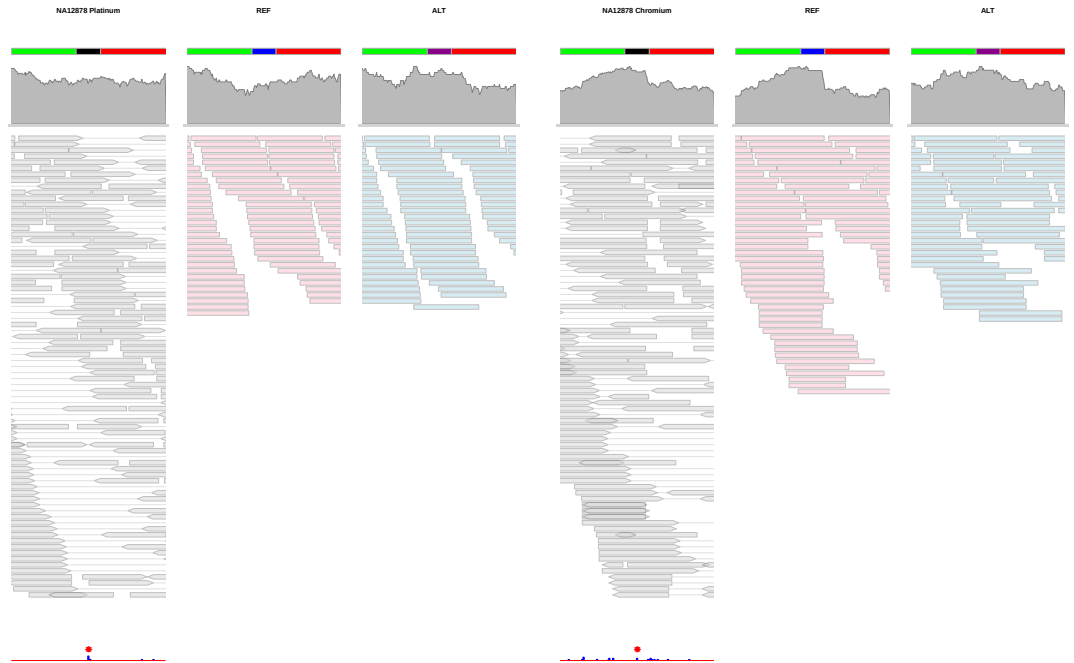
Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL
Ebert *et al.*: 1 SNP, 0 INDEL
dbSNP: -

Switch process:
F1: L AC0TAAAGCAGAAATCAACACCTTTAGCTTGTG 1
F3: 4 TAT0CCATGATTTTAGTGTTATCAG0CTAGTC R
RF: AC0TAAAGCAGAAATCAACACCTTTAGCTTGTGTTTCATTGCTCAG0AAATGAAATAGCAATTTCTCAG0CAATGAAATAT0CCATGATTTTAGTGTTATCAG0CTAGTC
RR: T0CATTT00CTCTTAGTGTTGTGAAAT0GAAACAGAGTAAAG0AGT0CTTTATGTTATAT0GTTAAAG0AGT0CTTTACTTATAG0GTACTAAATGCAATAGT0GATCAG
F2: 3 AAGTAAAG0AGT0CTTTATGTTATAT0GTTAAAG0AGT0CTTTACTT 2

Template-switch alignment:
AC0TAAAGCAGAAATCAACACCTTTAGCTTGTGTTTCATTGCTCAG0AAATGCTTATGTTCTTTCTCAG0CAATGAAATAT0CCATGATTTTAGTGTTATCAG0CTAGTC
AC0TAAAGCAGAAATCAACACCTTTAGCTTGTGTTTCATTGCTCAG0AAATGCTTATGTTCTTTCTCAG0CAATGAAATAT0CCATGATTTTAGTGTTATCAG0CTAGTC

Hafft alignment:
AC0TAAAGCAGAAATCAACACCTTTAGCTTGTGTTTCATTGCTCAG0AAATGctTAtCtATTCTCAG0CAATGAAATAT0CCATGATTTTAGTGTTATCAG0CTAGTC
AC0TAAAGCAGAAATCAACACCTTTAGCTTGTGTTTCATTGCTCAG0AAATAGAAATAGCAATTTCTCAG0CAATGAAATAT0CCATGATTTTAGTGTTATCAG0CTAGTC

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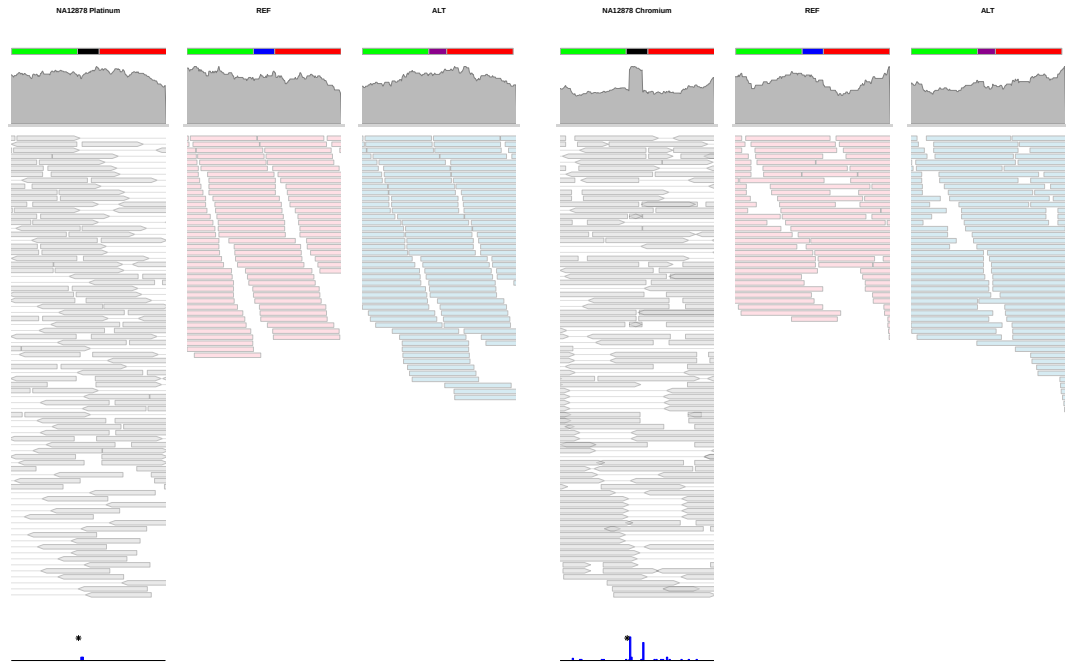


Platinum: 3 SNP, 0 INDEL; Chromium: 3 SNP, 0 INDEL
Ebert *et al.*: 4 SNP, 0 INDEL
dbSNP: rs796501378
alleles=GAA,TTC

Switch process:
F1: L GTATAAGTTTCTGAGATGAAAGCCTGCGTGC 1
F3: 4 TAACGGTGTGCGTGTCTTCATACACGAG R
RF: GTATAAGTTTCTGAGATGAAAGCCTGCGTGCAGAGTGTTCACACTCTCACTGTCTCATACCGTGTGCTTCTTCATACACGAG
RR: CATATTCAAGACTCTCACTTTGGAACCGACGACTGTCTCACTCTCAAGAGTGTGAGGTGAGCAGTATGATGCTGTCTC
F2: 3 ACTGTCTCACTCTCAAGAGTGTGAGGTGAGCAGT 2

Template-switch alignment:
GTATAAGTTTCTGAGATGAAAGCCTGCGTGCAGAGTGTTCACACTCTCACTGTCTCATACCGTGTGCTTCTTCATACACGAG
GTATAAGTTTCTGAGATGAAAGCCTGCGTGCAGAGTGTTCACACTCTCACTGTCTCATACCGTGTGCTTCTTCATACACGAG
Maff alignment:
GTATAAGTTTCTGAGATGAAAGCCTGCGTGCAGAGTGTTCACACTCTCACTGTCTCATACCGTGTGCTTCTTCATACACGAG
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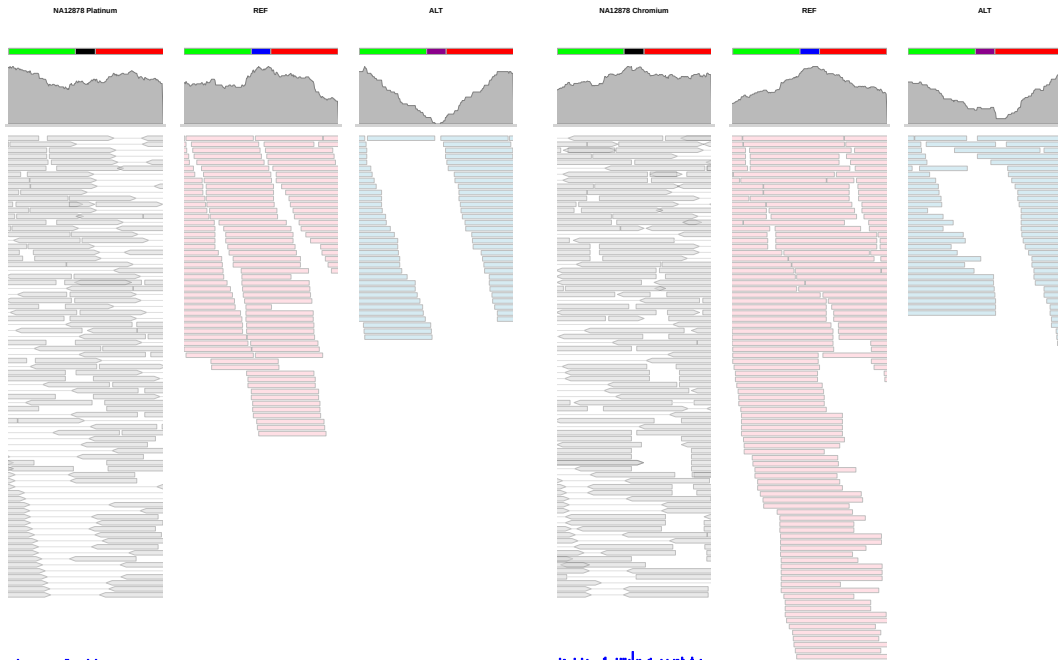


Platinum: 0 SNP, 1 INDEL; Chromium: 0 SNP, 1 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: rs138512433
alleles=ATTACATT,ATT

Switch process:
F1: L GAAACTCAGACTTCAGATAACTGOCCTTTTUTTAAUTGACACAGATG 1 4 TGACTCATTTAAAAATGAGTCTAA R
F3: GAAACTCAGACTTCAGATAACTGOCCTTTTUTTAAUTGACACAGATGAATTACATTCATCTGUTGACATTAACAAAAATGACTCATTTAAAAATGAGTCTAA
RF: CTTTGAGTGTGAAGTCTTGAAGGAAAAAGCAATTACAGCTGTGTTACTTAATGAATGACACAGATGTAATGTTTCTAGTGAATTTTACTCAGGATT
F2: 3 AAAACAATTACACTGTGTTACTTAA 2

Template-switch alignment:
GAAACTCAGACTTCAGATAACTGOCCTTTTUTTAAUTGACACAGATG|AATTCATCTGTGTCACATTAACAAAA|TGACTCATTTAAAAATGAGTCTAA
GAAACTCAGACTTCAGATAACTGOCCTTTTUTTAAUTGACACAGATG|AATTCATCTGTGTCACATTAACAAAA|TGACTCATTTAAAAATGAGTCTAA
Hafft alignment:
GAAACTCAGACTTCAGATAACTGOCCTTTTUTTAAUTGACACAGATGA----ATTCACTGTGTCACATTAACAAAAATGACTCATTTAAAAATGAGTCTAA
GAAACTCAGACTTCAGATAACTGOCCTTTTUTTAAUTGACACAGATGAATTACATTCATCTGTGTCACATTAACAAAAATGACTCATTTAAAAATGAGTCTAA

chr22.40959286.40959315.40959287.40959316



Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: -

Switch process:

F1: L TTCTGCGCTTGGCAGGGGTGTGACATGAACCGTATTGTGC 1
F3: 4 AACAGTTCTGCGCCCTTTAAACTAATCGACTCAACCC R
RF: TTCTGCGCTTGGCAGGGGTGTGACATGAACCGTATTGTGCCACTGTCAACCCAGACAGGTGTGACATGAACAGTCTCTGCGCCCTTTAAACTAATCGACTCAACCCC
RR: AAGACGGAAACGTCGCCCACTGTACTTGGGCAATACAGCGGTGACAGTGGGCTTGTGCACACTGTCACTGTCAAGACGCGGCCAAATTGATTGACCTGAGTTGGGG
F2: 3 GTGACAGTTGGGCTCTGTGCACACTGTGC 2

Template-switch alignment:

```

TTCTGCCTTGGCAGGGGGTGTGACATGAACCCGTTATGTGC / CACTGTCAACCTGTTCTGGGTTGACAGTGAACAGTTCTCGCCCGTTAACTAACTGGACTCAACCCC
TTCTGCCTTGGCAGGGGGTGTGACATGAACCCGTTATGTGC / CACTGTCAACCTGTTCTGGGTTGACAGTGAACAGTTCTCGCCCGTTAACTAACTGGACTCAACCCC

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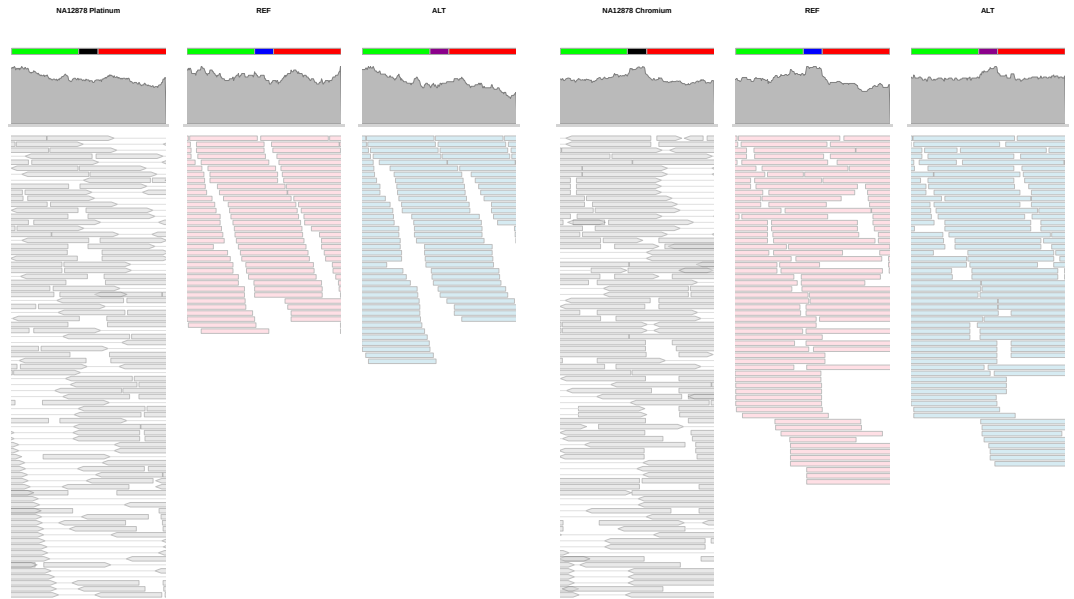
Mafft alignment:

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TTC TGCCTGGCAGGGGTGTGACATGAACCGTTATGTGCCACTGTCAACCTgttctgGGTTGACAGTGAACAGTTCCTGDCCGTTTAAACTAACTGGACTCAACCC
TTC TGCCTGGCAGGGGTGTGACATGAACCGTTATGTGCCACTGTCAACCCGAGAACAGGTTGACAGTGAACAGTTCCTGDCCGTTTAAACTAACTGGACTCAACCC

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chrX.91751364.91751392.91751365.91751393

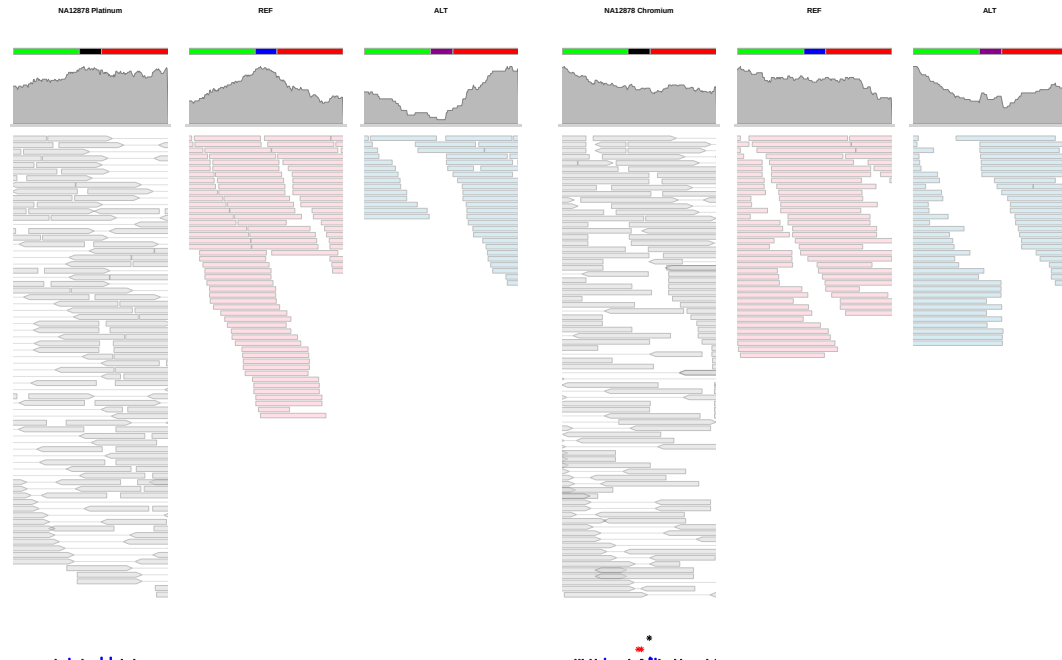


Platinum: 2 SNP, 0 INDEL; Chromium: 2 SNP, 0 INDEL
Ebert *et al.*: 2 SNP, 0 INDEL
dbSNP: rs73242589
alleles=G,A,T; rs73242590;alleles=T,C !

Switch process:
F1: L TACAAATTCCTATTTCCTATGATCCCTGACTAGGAA 1 4 AACCAAGTCTCTGCTTATTCGATTTATTTGTCACCTCT R
F3: TCTACAAATTCCTATTTCCTATGATCCCTGACTAGGAACAGGTTATCTATACAGAATAAOCCTGAAACAGGTCCTGCTTATTCGATTTATTTGTCACCTCT
RF: AGATGTTTAAGGAATTAAGGAATACTAGGGACTGATCTCTGCTGCTCAATAGGATATGCTTTATTTGGAACCTTGCTCAGGAGGGAATAGGTTAAATTAACAGGTTGAGA
HR: 3 GGTCCAAATAGATATGCTTTATTGGAAC 2
F2:

Template-switch alignment:
TCTACAAATTCCTATTTCCTATGATCCCTGACTAGGAA(OCAGGTTATTCGTATAGAATAAOCCTGG)AACCAAGTCTCTGCTTATTCGATTTATTTGTCACCTCT
TCTACAAATTCCTATTTCCTATGATCCCTGACTAGGAA(OCAGGTTATTCGTATAGAATAAOCCTGG)AACCAAGTCTCTGCTTATTCGATTTATTTGTCACCTCT
Hafft alignment:
TCTACAAATTCCTATTTCCTATGATCCCTGACTAGGAACAGGTTATTCGTAAGAAATTAACCTGGAACAGGTCCTGCTTATTCGATTTATTTGTCACCTCT
TCTACAAATTCCTATTTCCTATGATCCCTGACTAGGAACAGGTTATTCATACAGAATAAOCCTGGAACAGGTCCTGCTTATTCGATTTATTTGTCACCTCT

chrX.95668993.95669027.95668994.95669027



Platinum: 0 SNP, 0 INDEL; Chromium: 2 SNP, 1 INDEL

Ebert *et al.*: 0 SNP, 1 INDEL

dbSNP: -

Switch process:

F1: 1. AAACCGGAAGCTGAAGTAATAAAGACAACAAAACAC 1
 4 AAAAAAAAAAAAAAGTAAATAGCAACACTAGCTAGGCTATGAGAAAAA R
 RF: AAACCGGAAGCTGAAGTAATAAAGACAACAAAACACTTCAAAAATAGCTCCGGGAAGCTATTTTTTGAAAAAATAAAAAAGATGAATAGCAACACTAGCTAGGCTATGAGAAAAA
 RR: TTGGCGCTGCACTTCATTATTTCTGTGTTGTTTGTAAGAGTTTTTATGAGGGGCTCGATAGAAAGCTTTTTTTTTTTTCATTATCTGCTGATGATGATGATGCTCTGTT
 F2: 3 AAAAAAAAAAAAAAGTAAATAGCAACACTAGCTAGGCTATGAGAAAAA 2

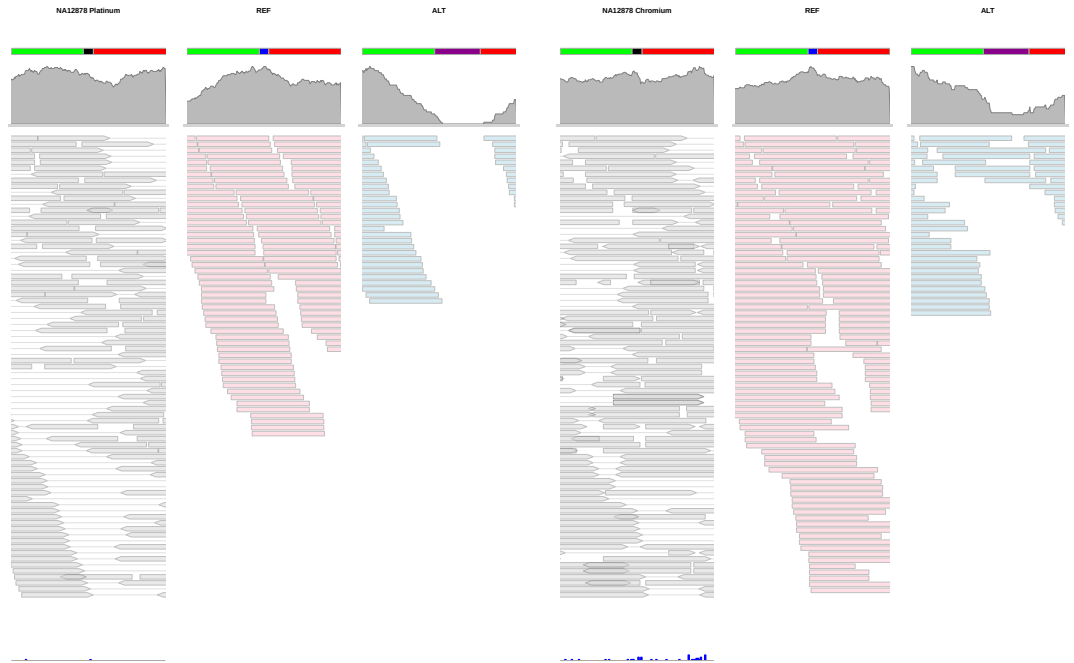
Template-switch alignment:

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AAACCGGAATGAAAGTAATAAGACACAAAAACAC/TTCAAAAAATAGCTTCGGGAGCTATTTTTTGA/AAAAAAAAAAGTAAATAGACCCTAGCTAGGCTAATGAGAAAAA

Maftt alignment:

AAACCGGAAGCTGAAAGTAATAAAGACACAAAAACACTTCAAAAATAGCTcCGGgAGCTATTTTTTG-AAAAAAAAAAAAAAAAAGTAAAAAGAACCTAGCTAGGCTAATGAGAAAAAA
AAACCGGAAGCTGAAAGTAATAAAGACACAAAAACACTTCAAAAATAGCTCCCGGAAGCTATTTTTGAAAAAAAAAAAAAAAAAGTAAAAAGAACCTAGCTAGGCTAATGAGAAAAAA

chrX.98980882.98980970.98980908.98980896



Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: -

Switch process:

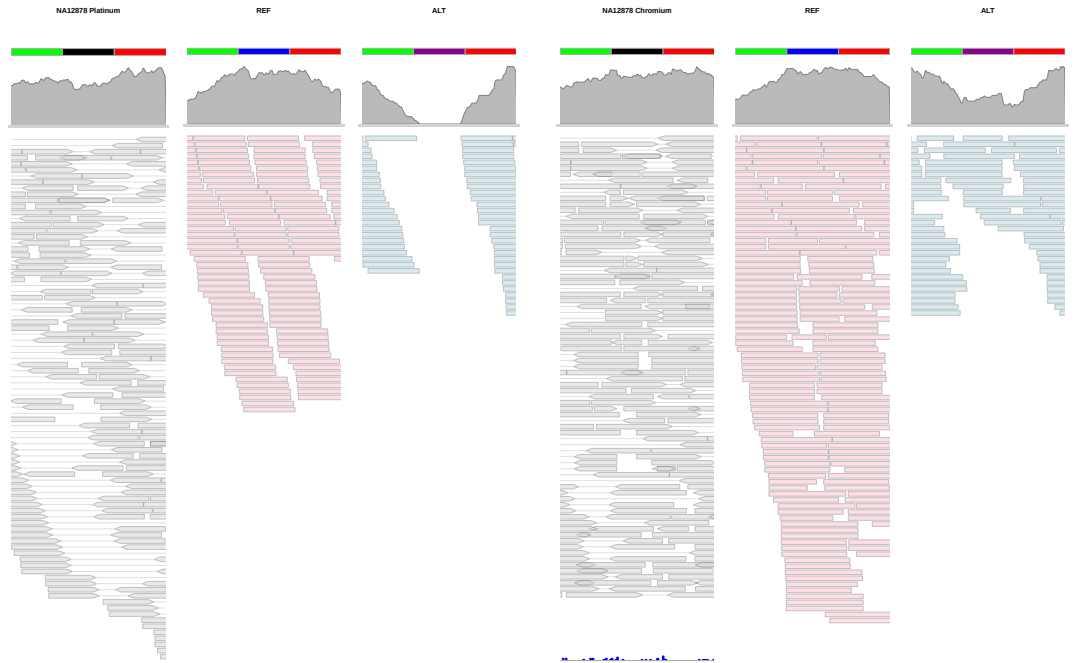
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F1: L ACTCCCATGAAACATGACCCAAATCAGACAAATGAACATATTC 1
F3: 4 TTTTATGTGACCTTTGGTAGCCCAACCTTCCTCACTCAGAA 8
RF: ACTCCCATGAAACATGACCCAAATCAGACAAATGAACATATTCATCTTCCAAAGTTTATGTGACCTTTGGTAGCCCAACCTTCCTCACTCAGAA
SR: TGAAGGTACTTTGTAGTGGTTAGTTCTGTCTACTGTATAGTAGTAAGGGTTTCAAAAATACACTGGAAACCTCGGGGTGGAAAGGATGAGTCTTTTGTGACTATATGAAAAATACCTTACTA
F2: 3 GAAAGCATCGGGGTGGAAAGGATGAGTCTTTTGTGACTATATGAAAAATACCTTACTA 2
```

Template-switch alignment:

```
ACTCCCATGAAACATGACCCAAATCAGACAAATGAACATATTCATCTTCCAAAGTTTATGTGACCTTTGGTAGCCCAACCTTCCTCACTCAGAA
ACTCCCATGAAACATGACCCAAATCAGACAAATGAACATATTCATCTTCCAAAGTTTATGTGACCTTTGGTAGCCCAACCTTCCTCACTCAGAA
```

Haplot alignment:

```
ACTCCCATGAAACATGACCCAAATCAGACAAATGAACATATTCATCTTCCAAAGTTTATGTGACCTTTGGTAGCCCAACCTTCCTCACTCAGAA
ACTCCCATGAAACATGACCCAAATCAGACAAATGAACATATTCATCTTCCAAAGTTTATGTGACCTTTGGTAGCCCAACCTTCCTCACTCAGAA
```



Platinum: 0 SNP, 0 INDEL; Chromium: 0 SNP, 0 INDEL
Ebert *et al.*: 0 SNP, 0 INDEL
dbSNP: -

Switch process:
F1: L GACATTTGGTATAAAGCCTATATGGCATGTGTGTGAATTAA 1
F3: 4 GTTTGGTTTTTGTGCATTAATGTGAGCTTCTTAATGATA R
REF: GACATTTGGTATAAAGCCTATATGGCATGTGTGTGAATTAAATATGGCTCAACTGACTGCATTATTCATGAATCTCATTACACTTTGTTCTGAGGAAGTGGTTTCTGCTCTATCTGTCACTTGTTTTGGAGCATTTTGGTTTGTGATTAATGTGAGCTTCTTAATGATA
HR: CTGTAAACCATATTTGGGATATACGTTACACACTTAATTTACCGGTTTGACTGAGTAAATAGTACTTAGAGTAATATGTGAACAGAGTCTCTTCACCAAGAGGAGGAGATAGGACATGAACCAACAACTGGATCAACCAACAACTGGAT
F2: 3 TACCGAGTTTGACTGAGTAAATAGTACTTAGAGTAATATGTGAACAGAGTCTCTTCACCAAGAGGAGGAGATAGGACATGAACCAACAACTGGAT 2
Template-switch alignment:
GACATTTGGTATAAAGCCTATATGGCATGTGTGTGAATTAAATATGGCTCAACAAcAaagtcagcagctagagggggaagaaCaCttccTgcagAcaAgtgTcaTgAggaTTCaTggttaaatg0-----aGTcaGTTTGAGGCATGTTTGGTTTTTGTGCATTAATGTGAGCTTCTTAATGATA
GACATTTGGTATAAAGCCTATATGGCATGTGTGAATTAAATATGGCTCAACAACTGA-----CTGCATTTATCCATGAATCTGCATTACACTTTGTCTGAGGAAGTGGTTTCTGCTCTATCTGTCACTTGTTTTGGAGCATGTTTGGTTTTTGTGCATTAATGTGAGCTTCTTAATGATA
Haff alignment:
GACATTTGGTATAAAGCCTATATGGCATGTGTGTGAATTAAATATGGCTCAACAAcAaagtcagcagctagagggggaagaaCaCttccTgcagAcaAgtgTcaTgAggaTTCaTggttaaatg0-----aGTcaGTTTGAGGCATGTTTGGTTTTTGTGCATTAATGTGAGCTTCTTAATGATA
GACATTTGGTATAAAGCCTATATGGCATGTGTGAATTAAATATGGCTCAACAACTGA-----CTGCATTTATCCATGAATCTGCATTACACTTTGTCTGAGGAAGTGGTTTCTGCTCTATCTGTCACTTGTTTTGGAGCATGTTTGGTTTTTGTGCATTAATGTGAGCTTCTTAATGATA