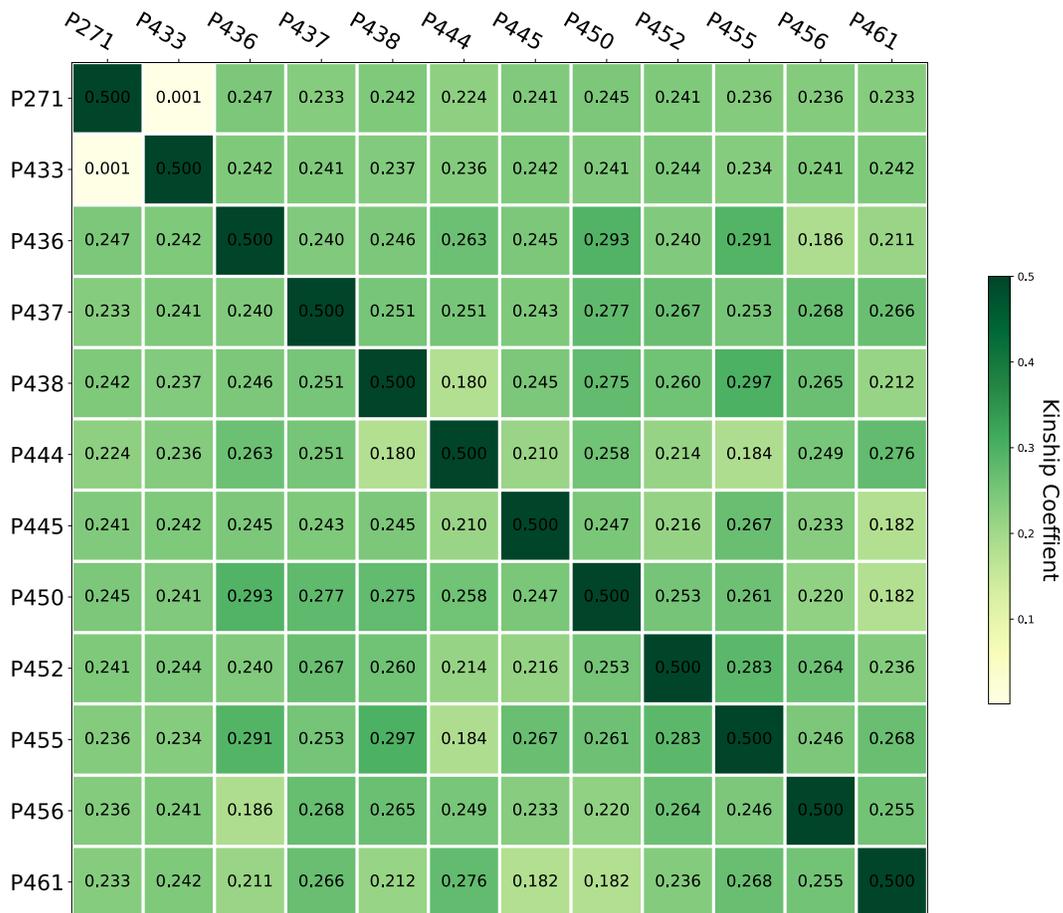
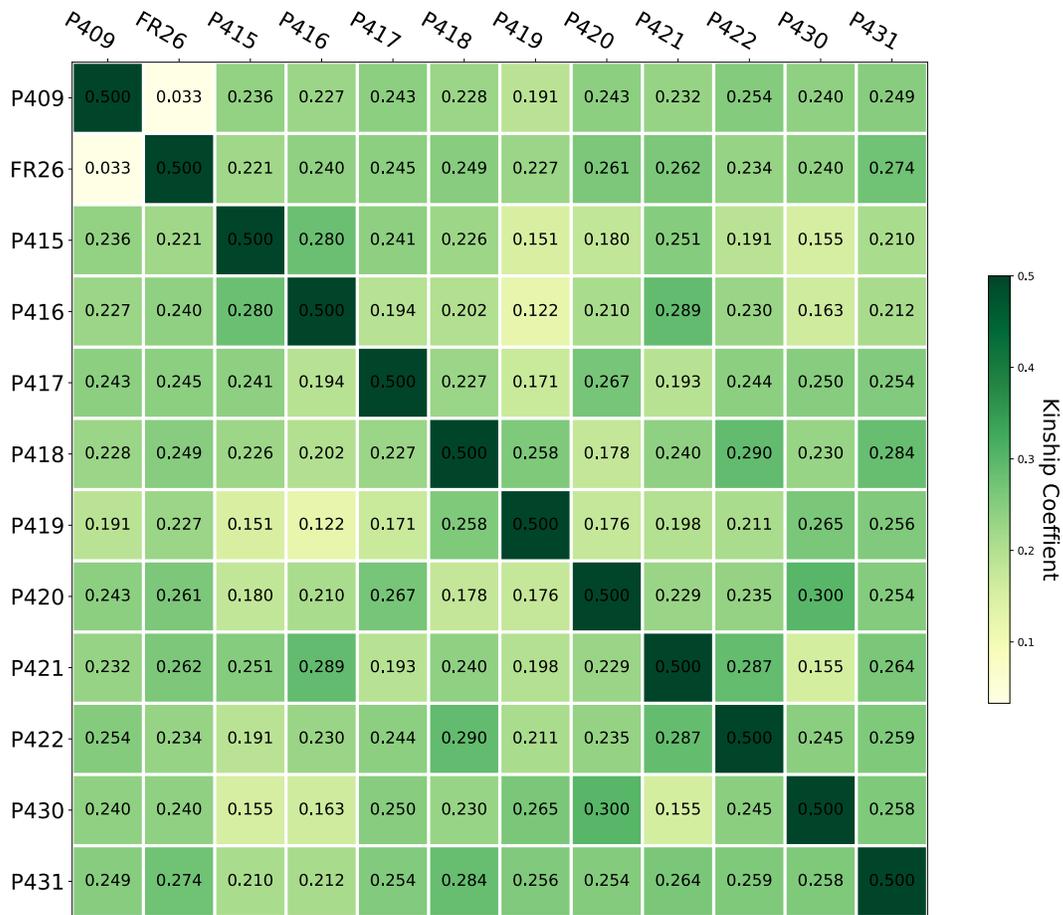


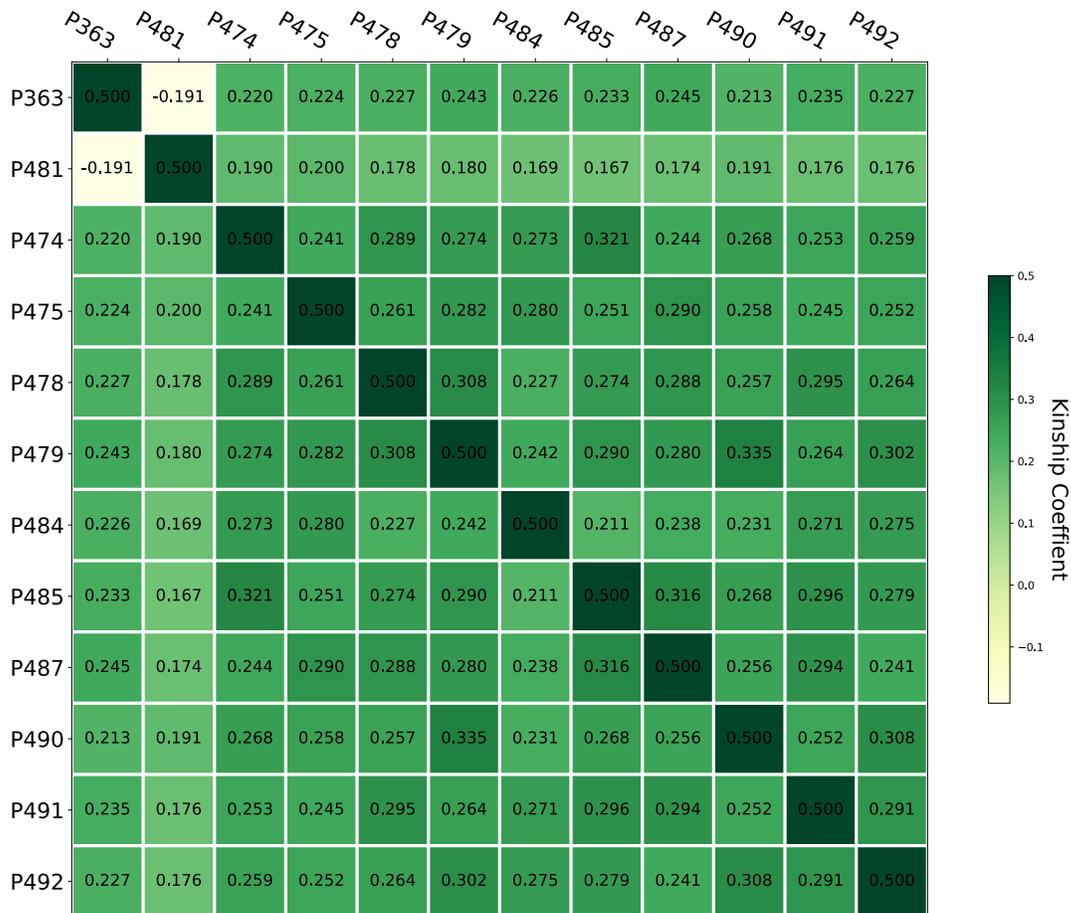
Supplementary material



Supplemental Figure S1. Kinship coefficients of Family 1. Father: P271; Mother: P433; other individuals are offspring in this family. Kinship coefficients among siblings indicate first-degree relationship and kinship coefficients between parents indicates an unrelated relationship.



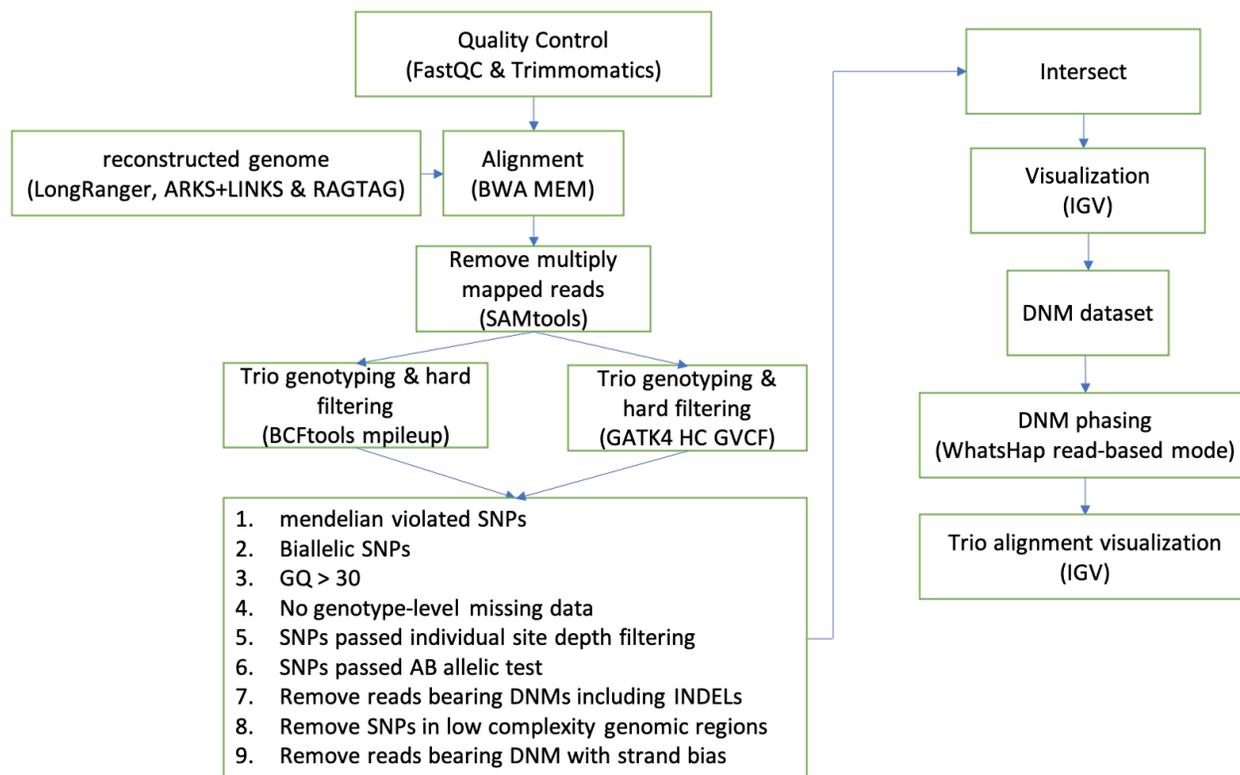
Supplemental Figure S2. Kinship coefficients of Family 2. Father: P409, Mother: FR26; other individuals are offspring in this family. Kinship coefficients among siblings indicate first-degree relationship and kinship coefficients between parents indicates an unrelated relationship.



Supplemental Figure S3. Kinship coefficients of Family 3. Father: P363, Mother: P481; other individuals are offspring in this family. Kinship coefficients among siblings indicate first-degree relationship and kinship coefficients between parents indicates an unrelated relationship.



Supplemental Figure S4. Kinship coefficients among parents in our three pedigrees.



Supplemental Figure S5. DNM detection pipeline. The software for each step is indicated in the brackets. Details are in Material and Methods.