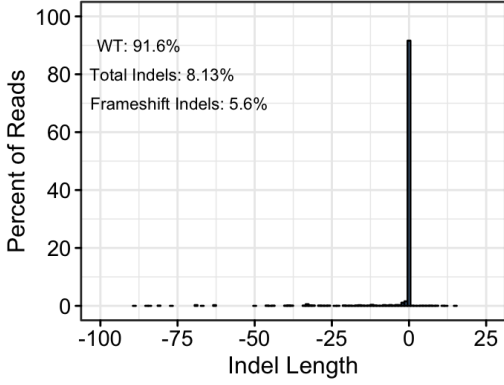


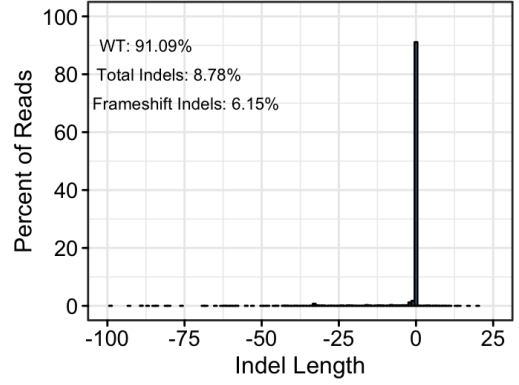
# Highly efficient multiplex human T cell engineering without double-strand breaks using Cas9 base editors

Appendix III - Indel Distribution Plots of Next Generation Sequencing

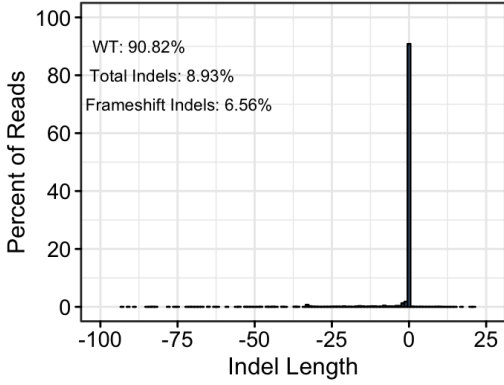
1. A PDCD1 Ex.1 SD + BE3 unconc. mRNA 1.5 µg



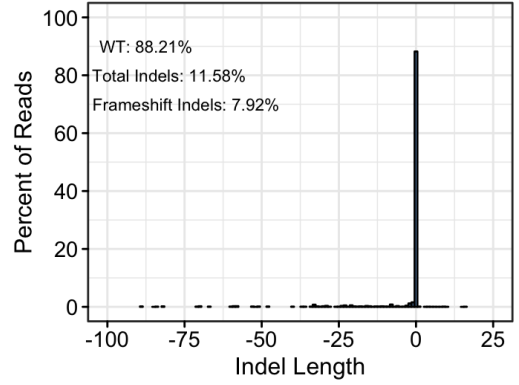
2. B PDCD1 Ex.1 SD + BE3 unconc. mRNA 1.5 µg



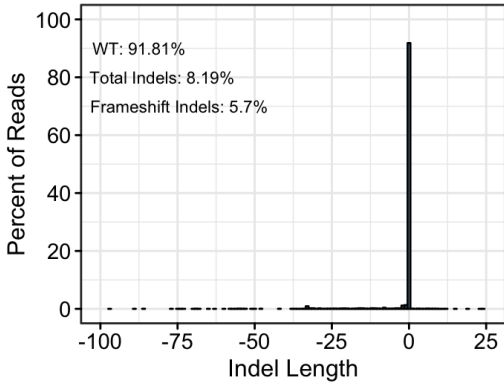
3. C PDCD1 Ex.1 SD + BE3 unconc. mRNA 1.5 µg



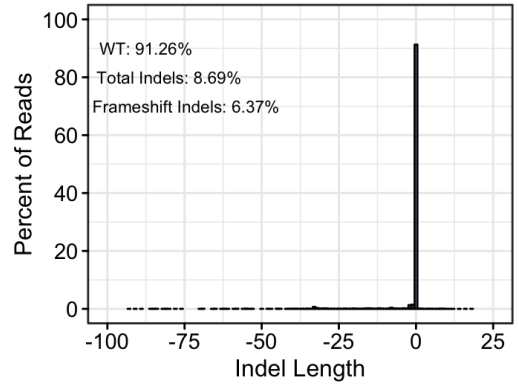
4. A PDCD1 Ex.1 SD + BE4 unconc. mRNA 1.5 µg



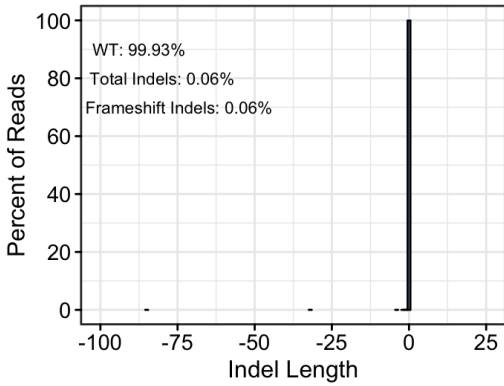
5. B PDCD1 Ex.1 SD + BE4 unconc. mRNA 1.5 µg



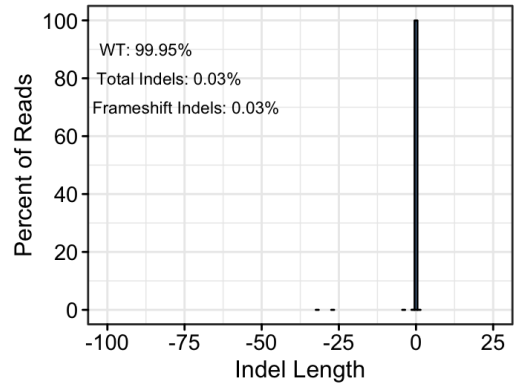
6. C PDCD1 Ex.1 SD + BE4 unconc. mRNA 1.5 µg



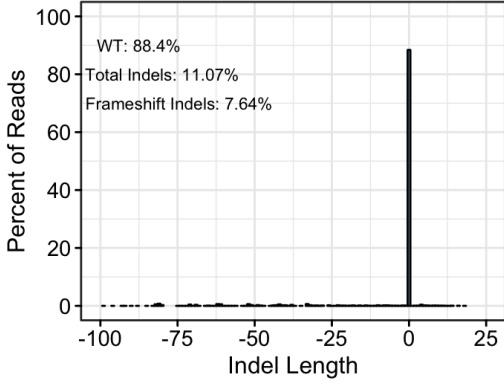
7. D PDCD1 Ex.1 SD + Pulse



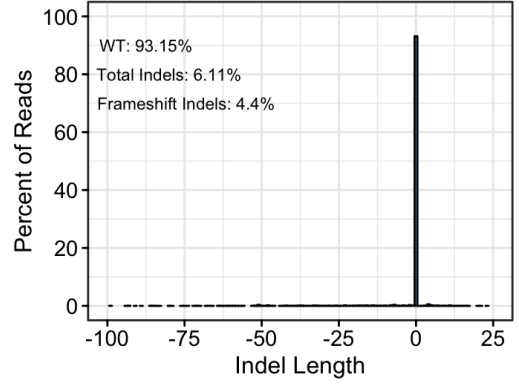
8. A PDCD1 Ex.1 SD + Pulse



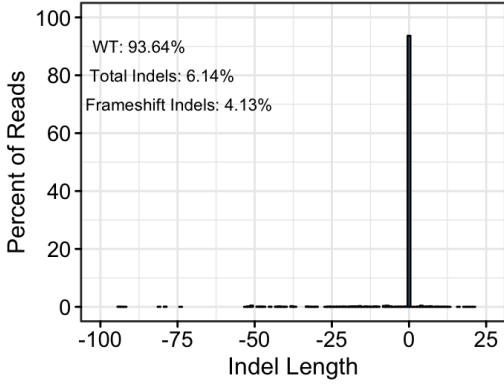
9. A PDCD1 Ex.2 SA + BE3 unconc. mRNA 1.5  $\mu$ g



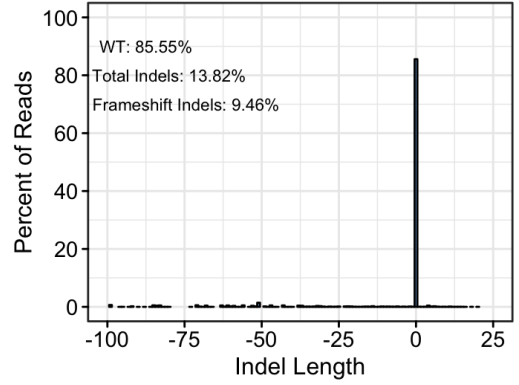
10. B PDCD1 Ex.2 SA + BE3 unconc. mRNA 1.5  $\mu$ g



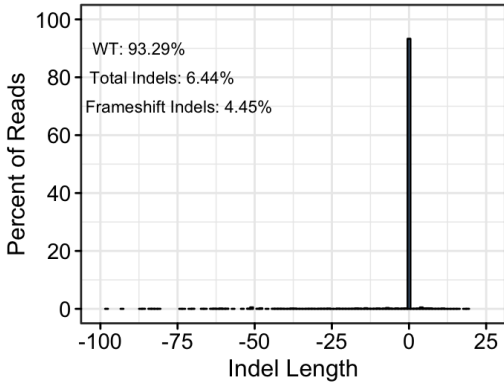
11. C PDCD1 Ex.2 SA + BE3 unconc. mRNA 1.5  $\mu$ g



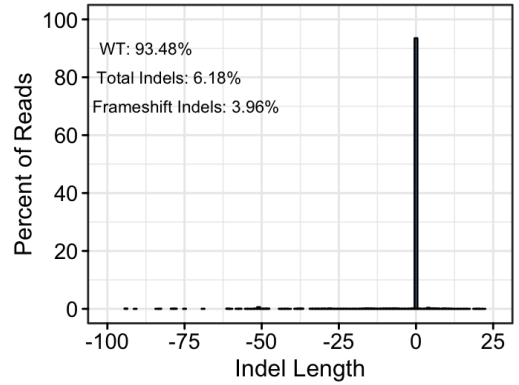
12. A PDCD1 Ex.2 SA + BE4 unconc. mRNA 1.5  $\mu$ g



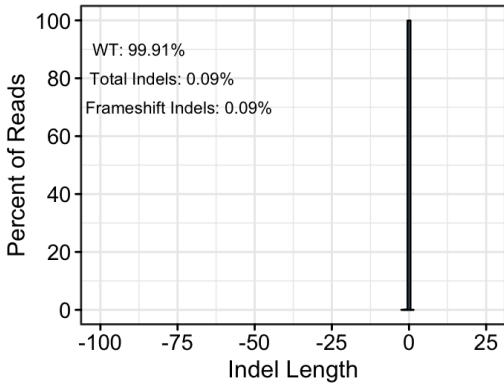
13. B PDCD1 Ex.2 SA + BE4 unconc. mRNA 1.5  $\mu$ g



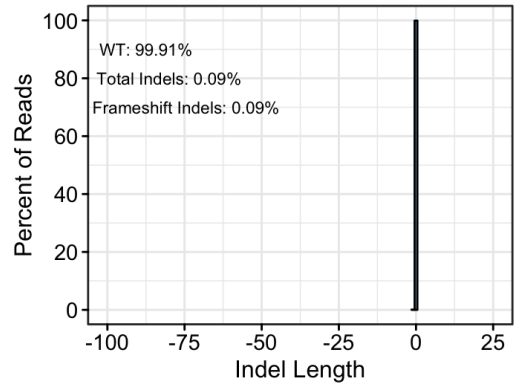
14. C PDCD1 Ex.2 SA + BE4 unconc. mRNA 1.5  $\mu$ g



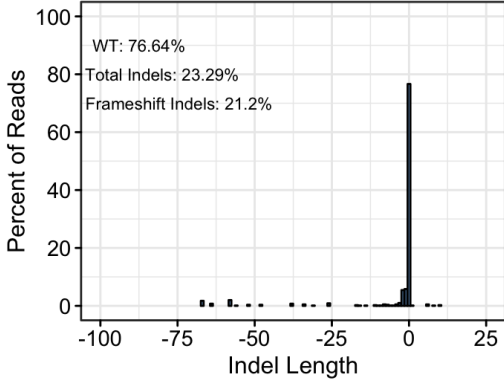
15. D PDCD1 Ex.2 SA + Pulse



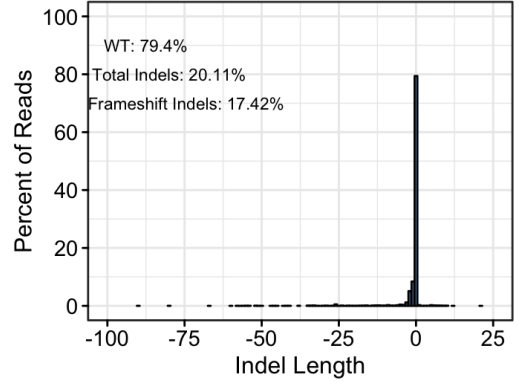
16. A PDCD1 Ex.2 SA + Pulse



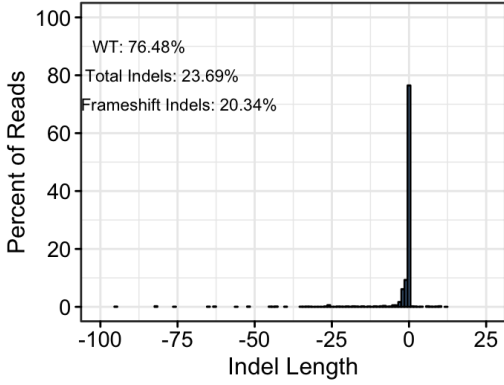
17. A PDCD1 Ex.3 SA + BE3 unconc. mRNA 1.5 µg



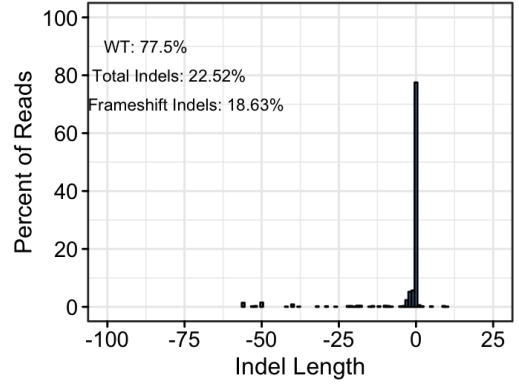
18. B PDCD1 Ex.3 SA + BE3 unconc. mRNA 1.5 µg



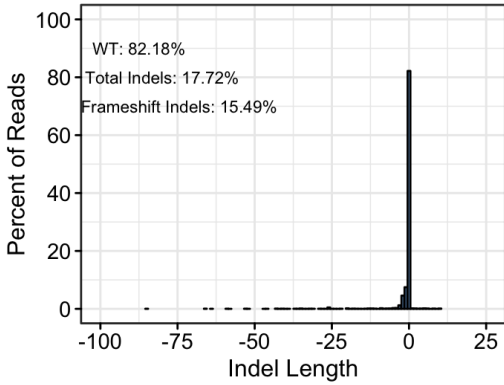
19. C PDCD1 Ex.3 SA + BE3 unconc. mRNA 1.5 µg



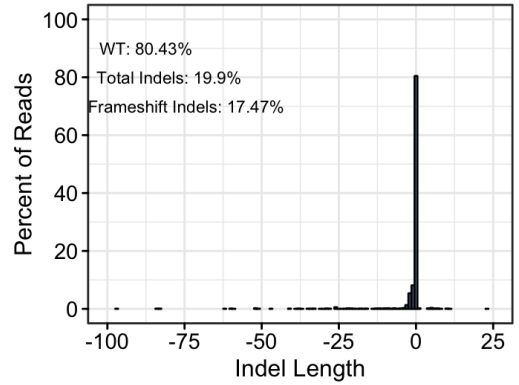
20. A PDCD1 Ex.3 SA + BE4 unconc. mRNA 1.5 µg



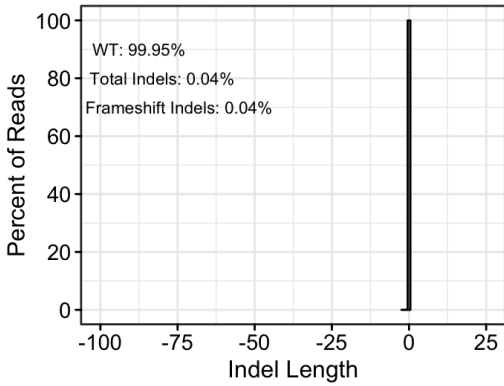
21. B PDCD1 Ex.3 SA + BE4 unconc. mRNA 1.5 µg



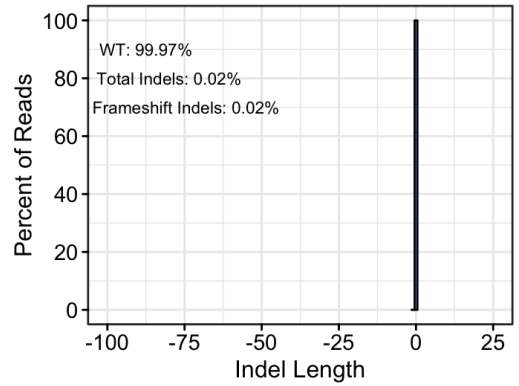
22. C PDCD1 Ex.3 SA + BE4 unconc. mRNA 1.5 µg

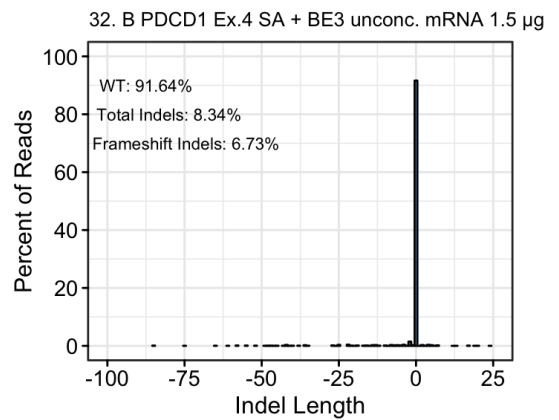
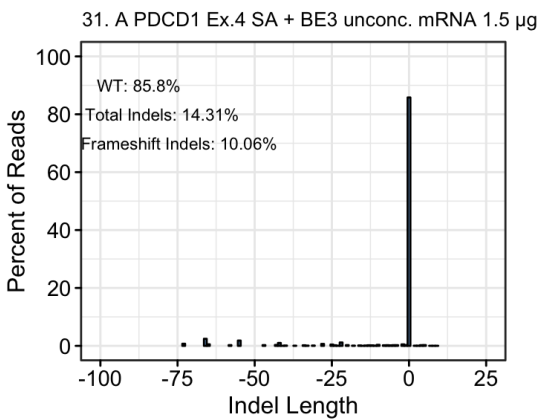
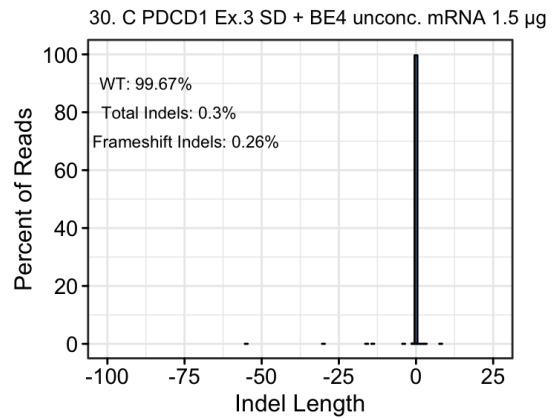
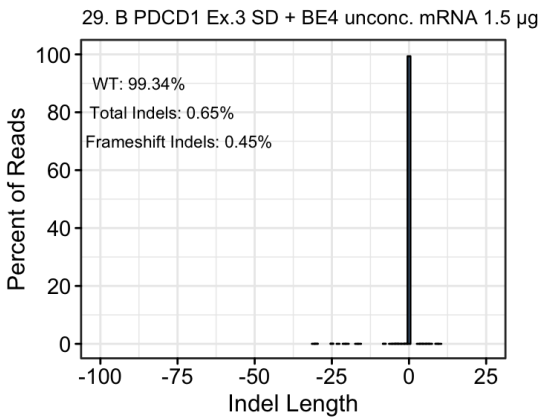
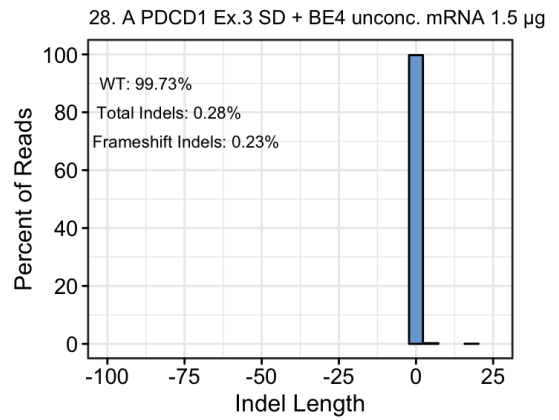
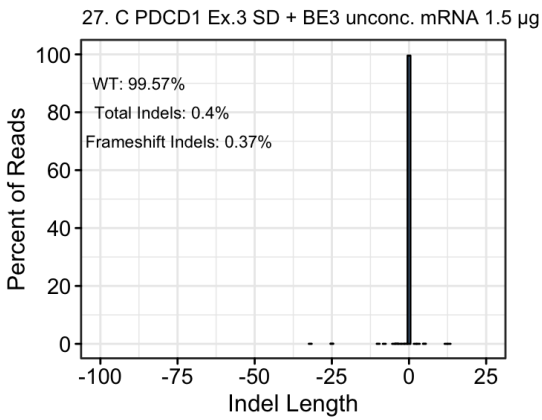
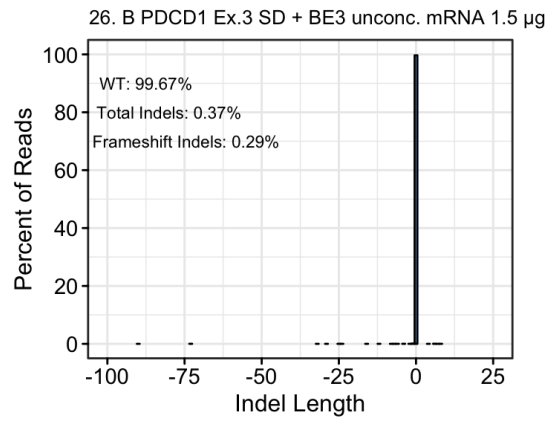
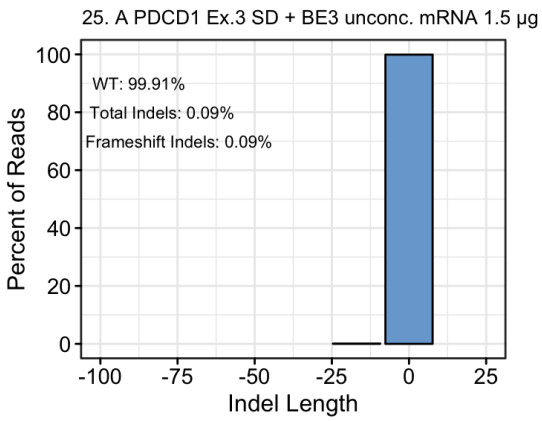


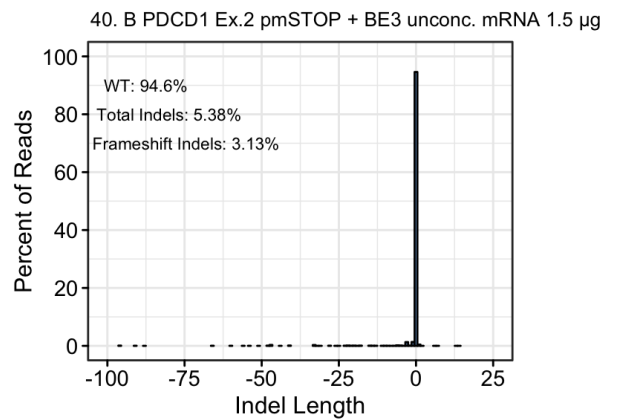
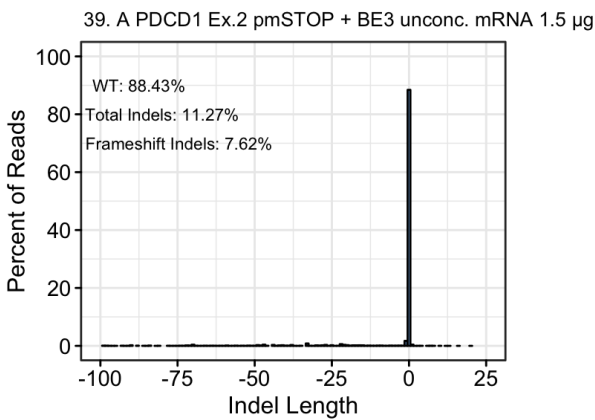
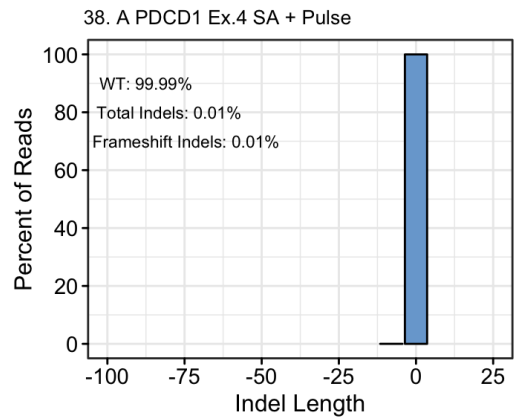
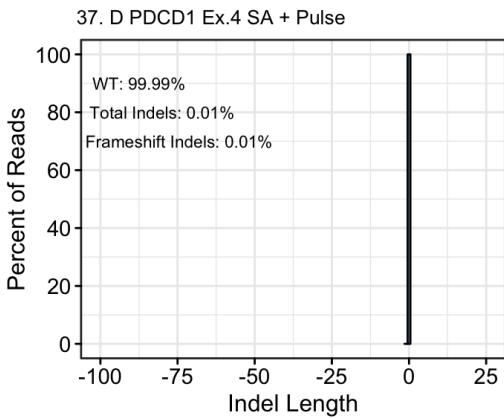
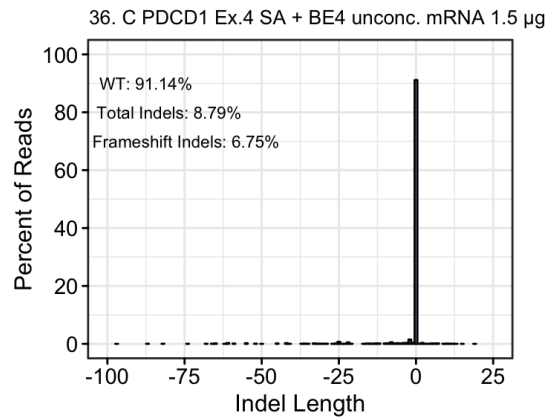
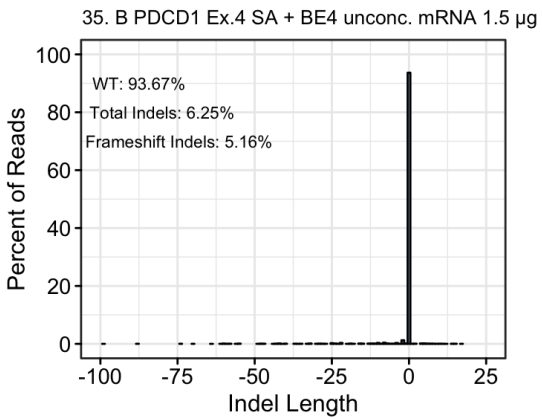
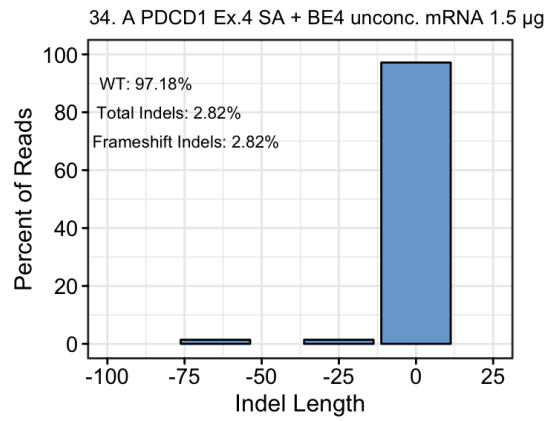
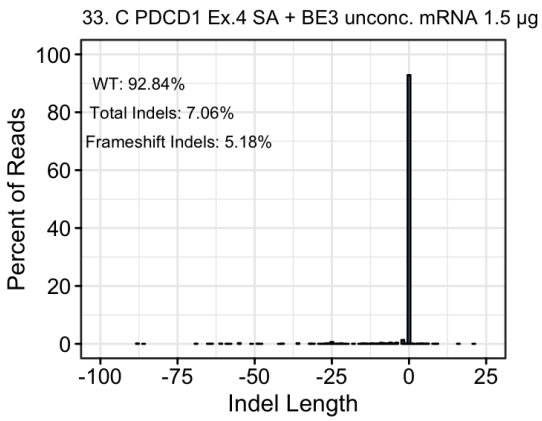
23. D PDCD1 Ex.3 SA + Pulse

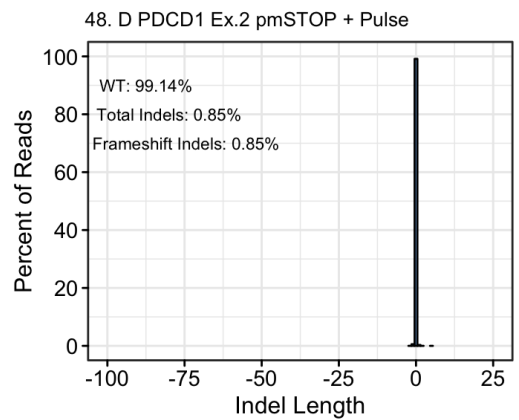
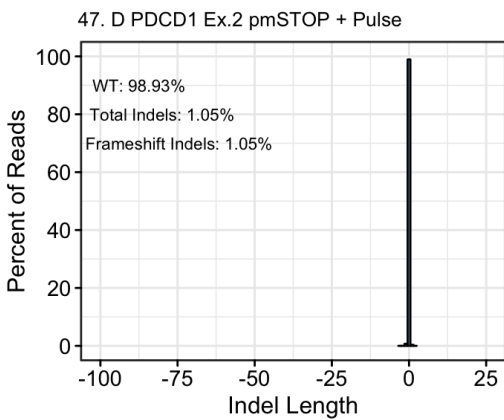
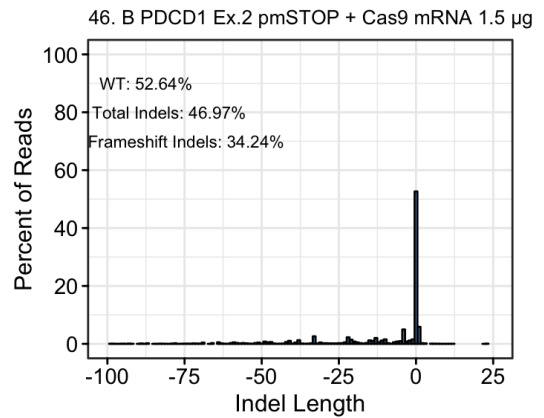
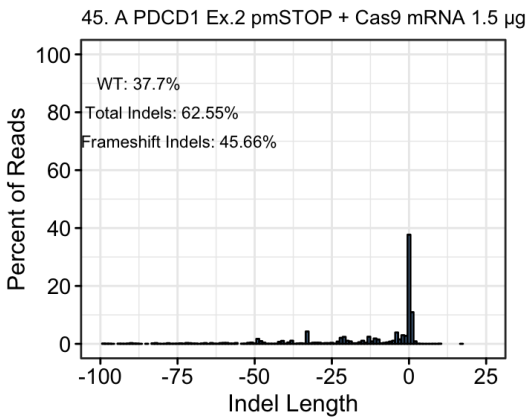
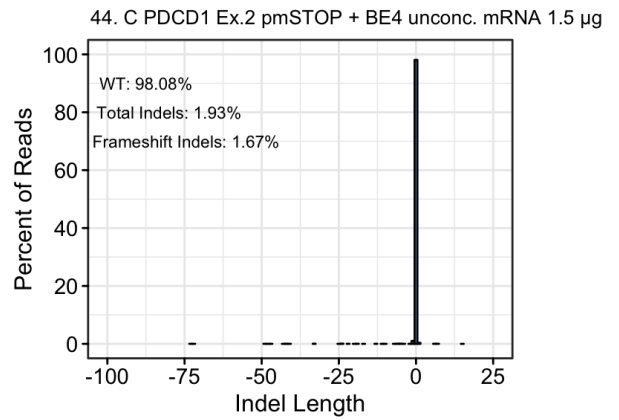
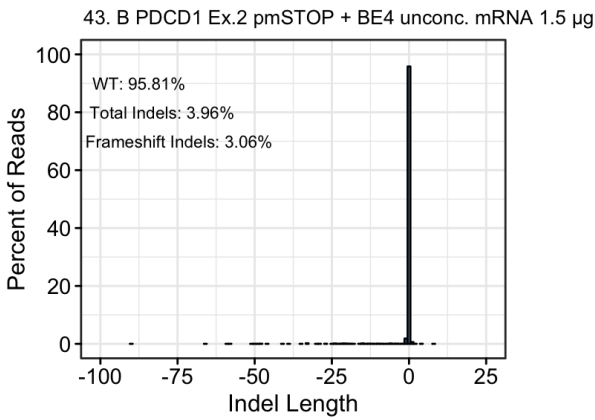
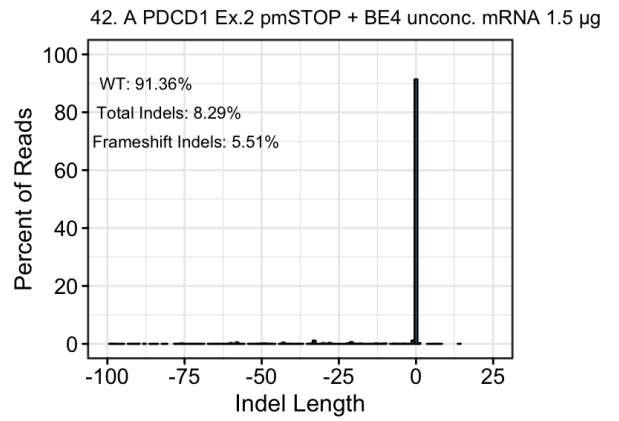
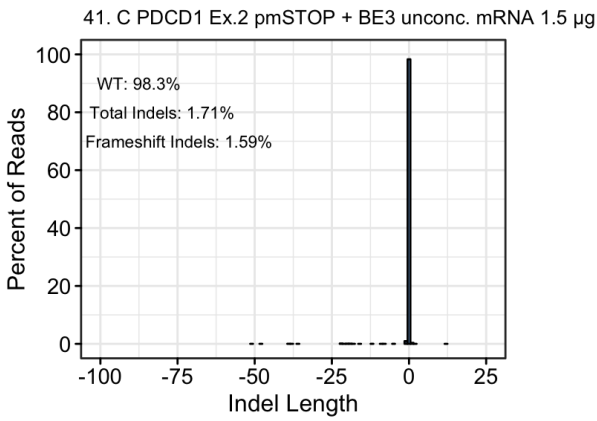


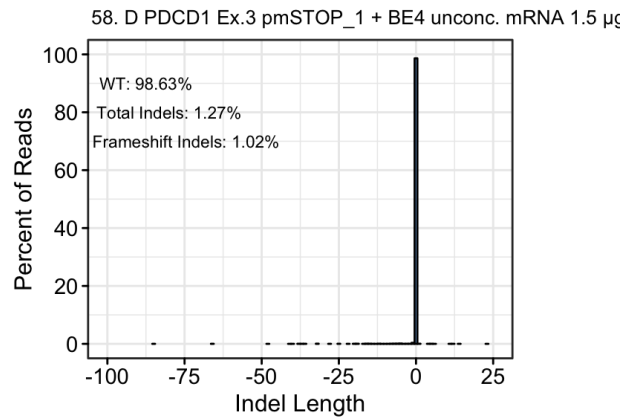
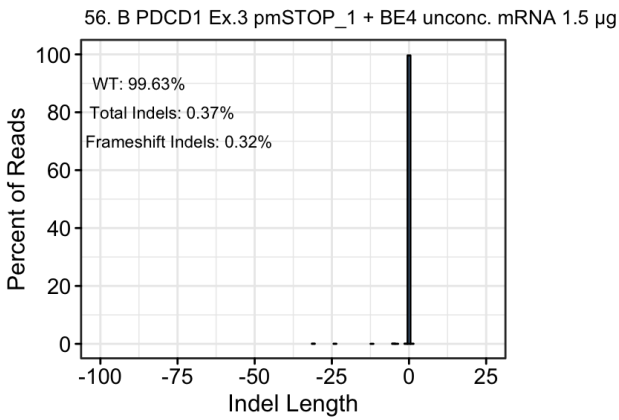
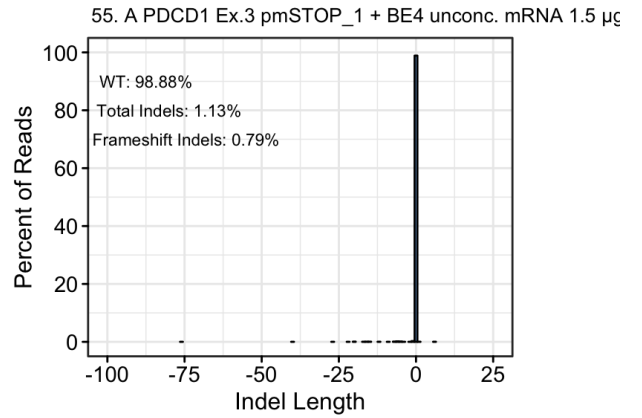
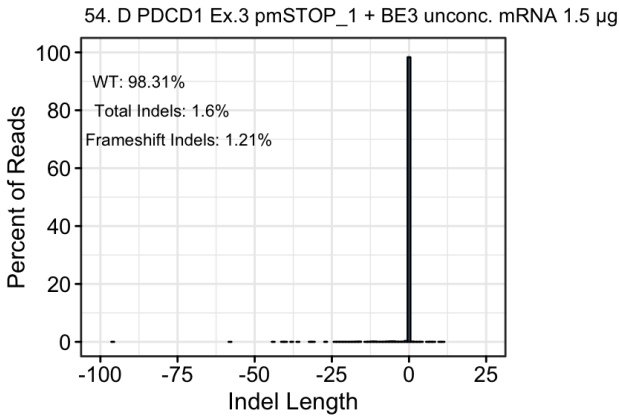
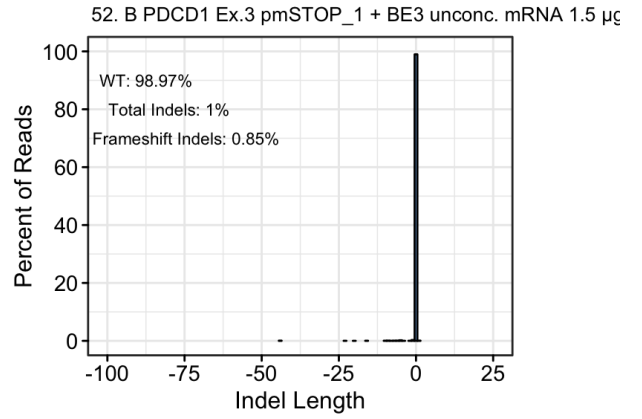
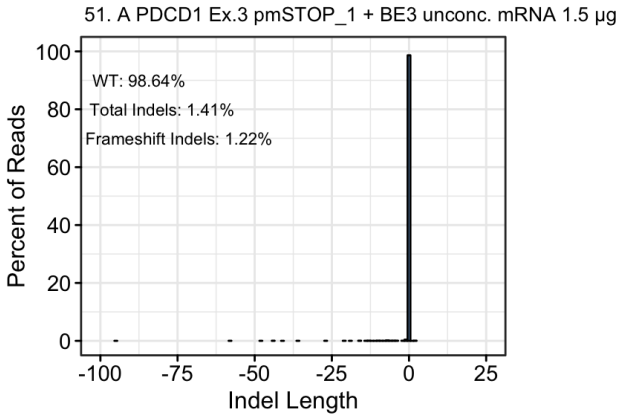
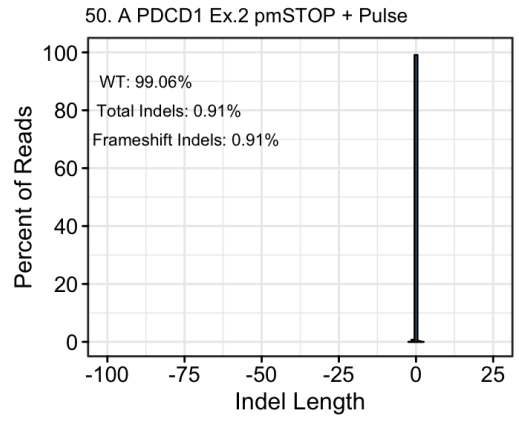
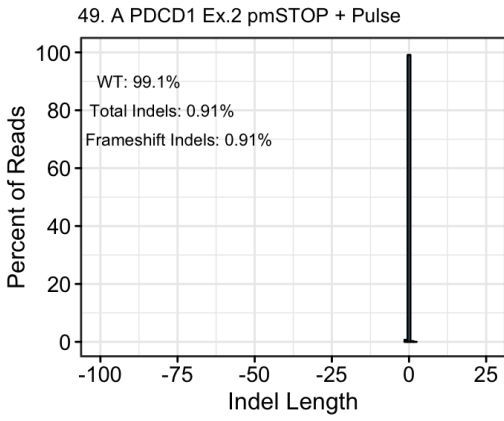
24. A PDCD1 Ex.3 SA + Pulse



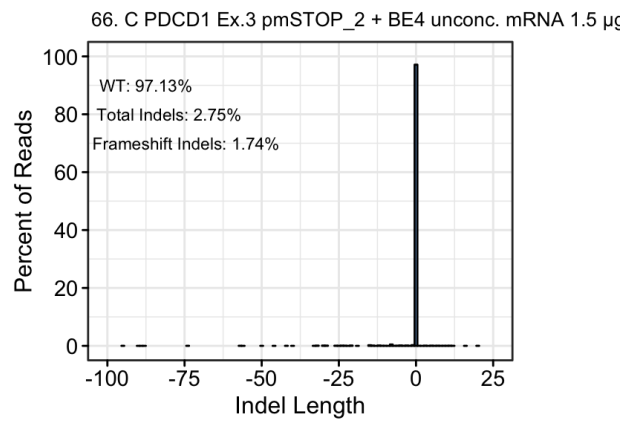
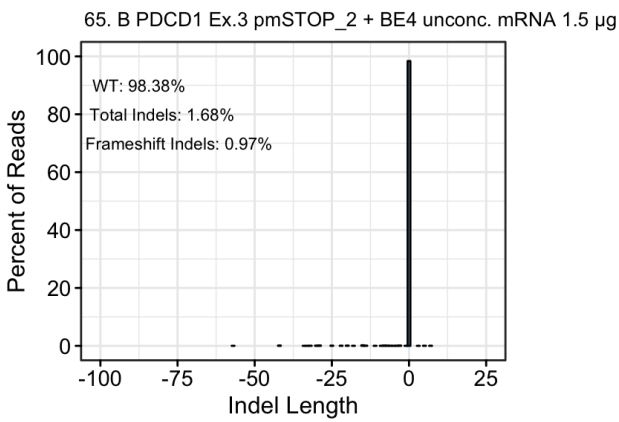
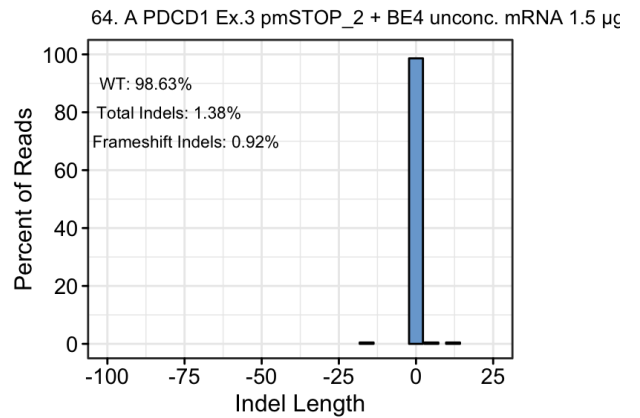
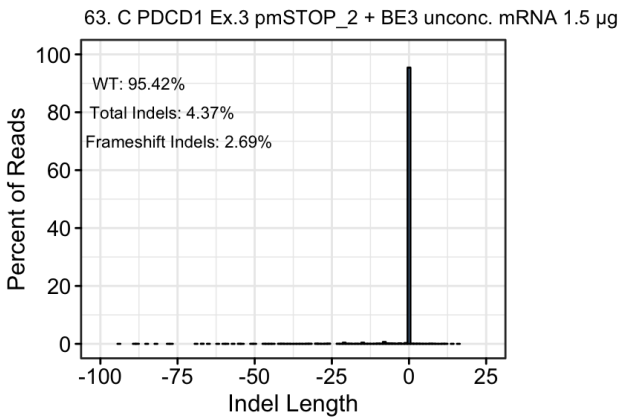
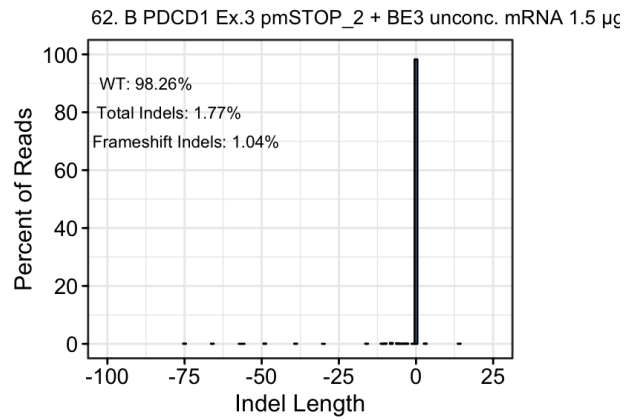
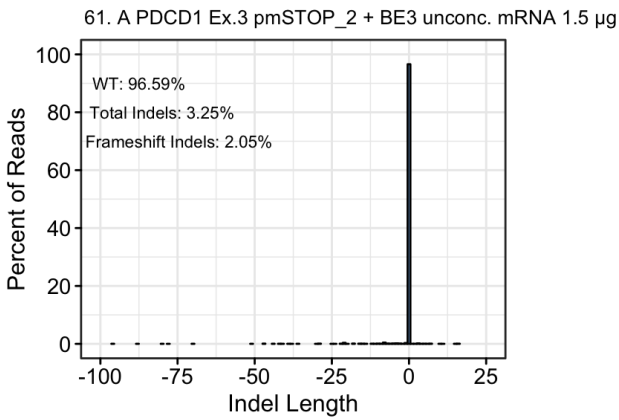
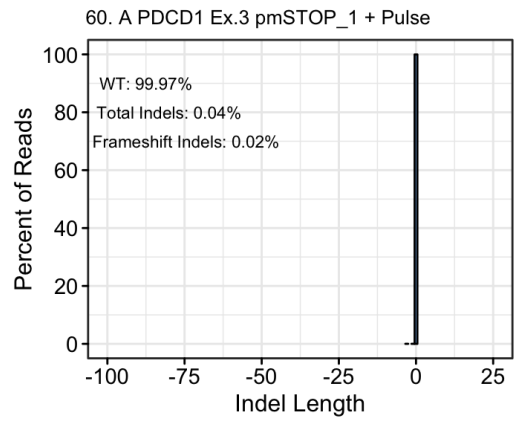
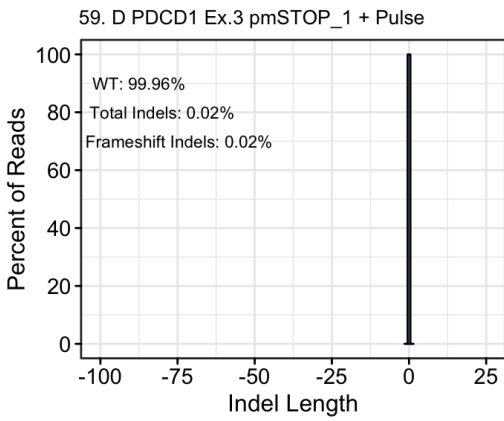


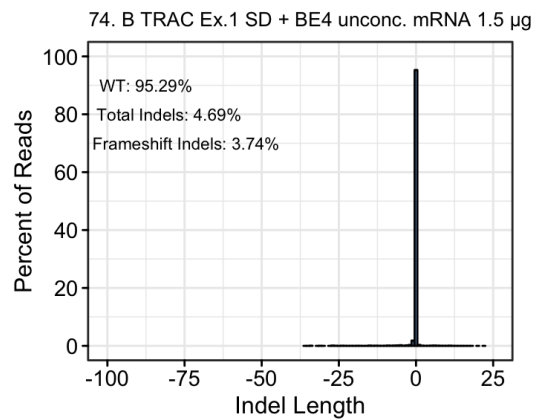
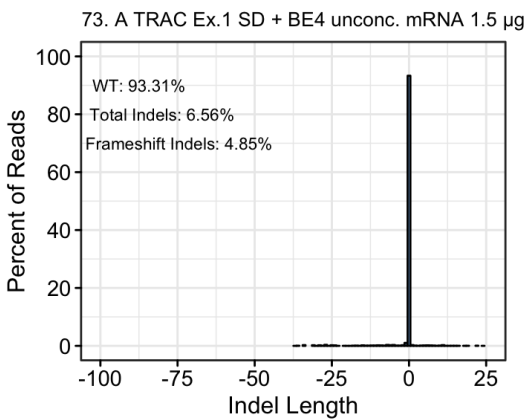
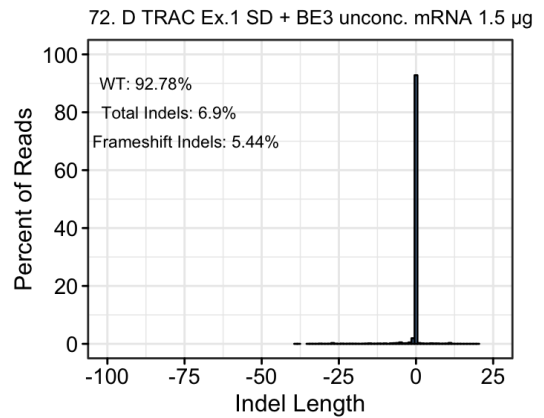
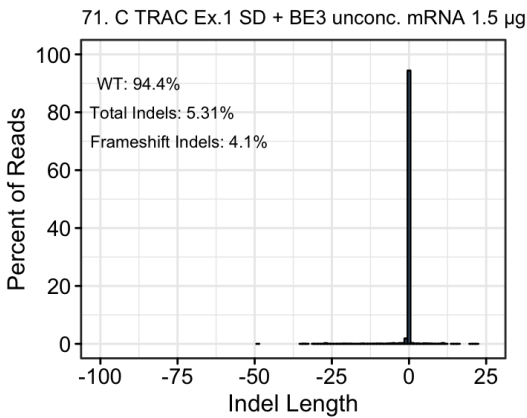
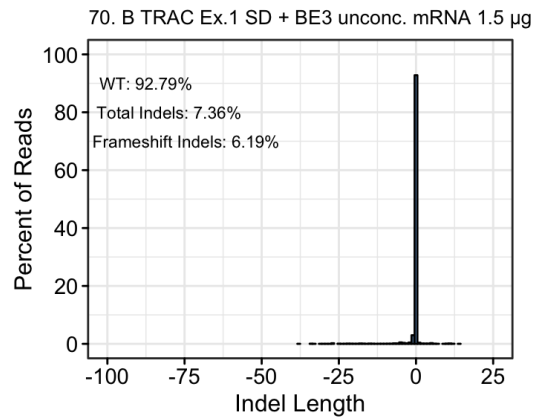
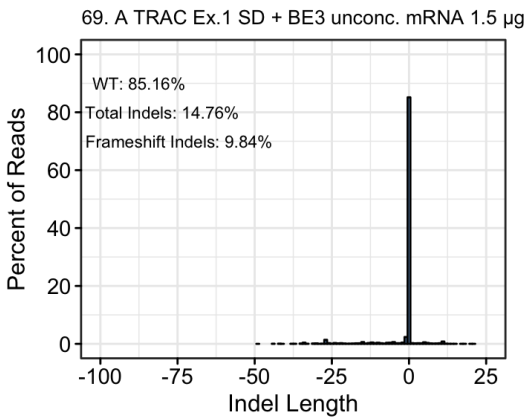
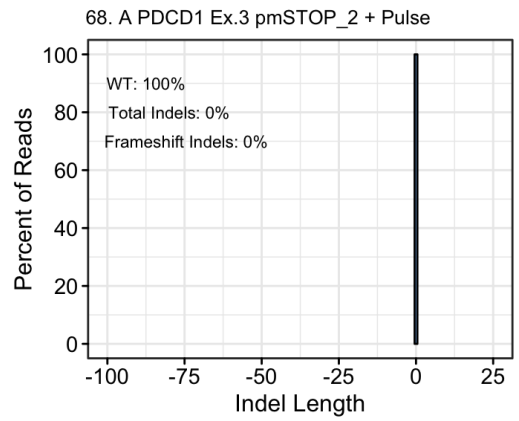
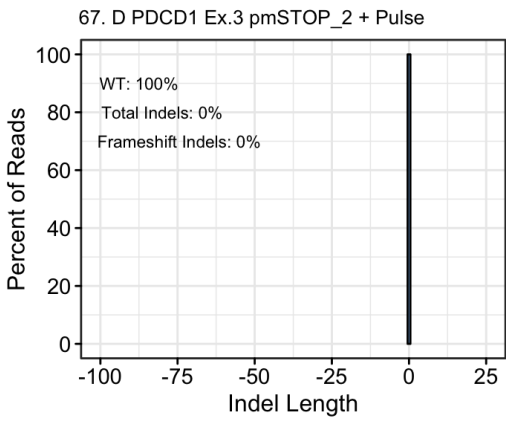


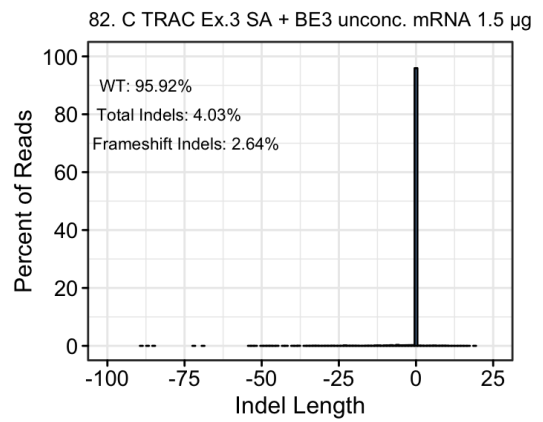
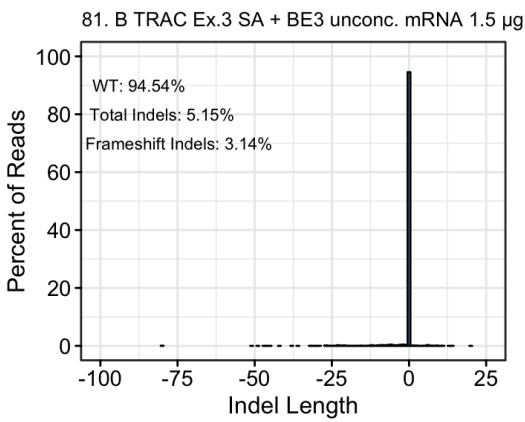
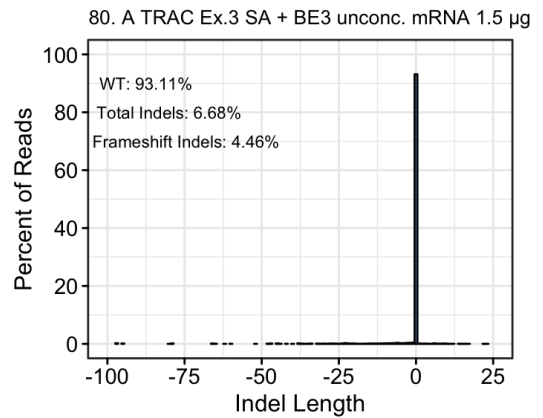
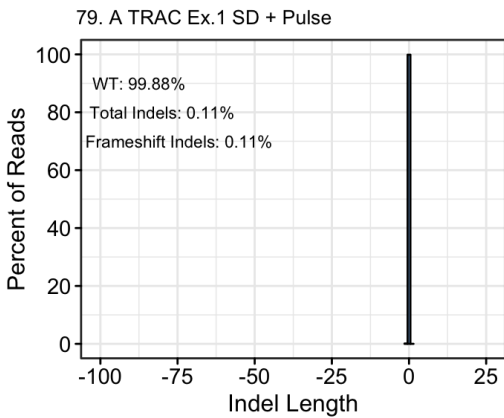
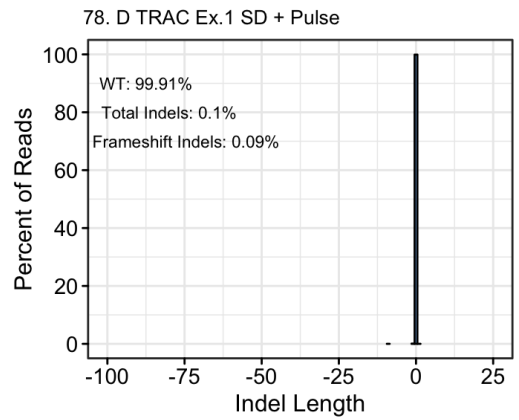
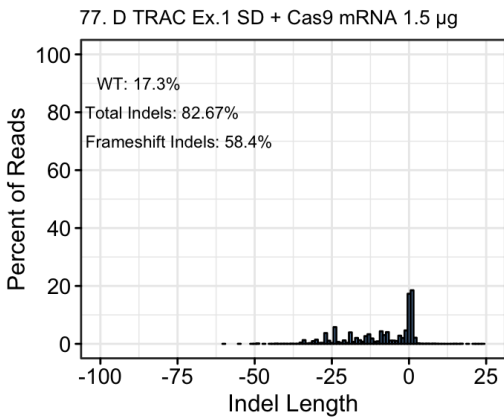
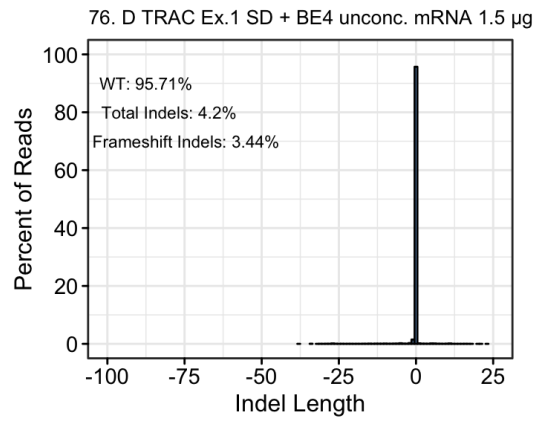
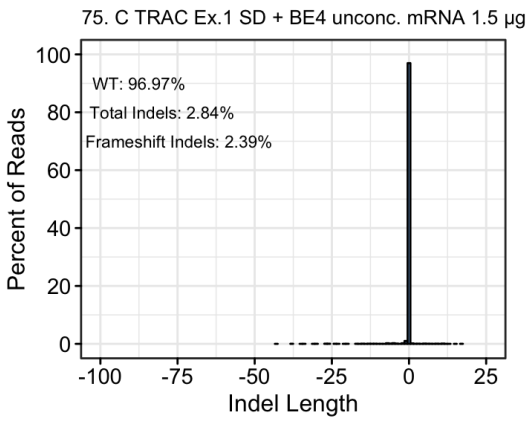


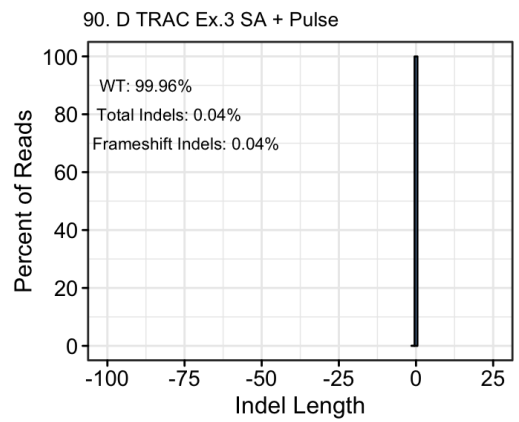
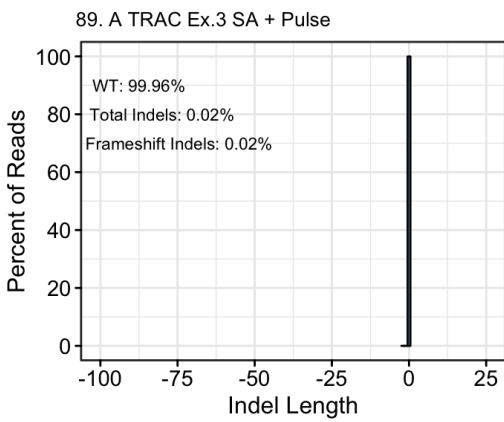
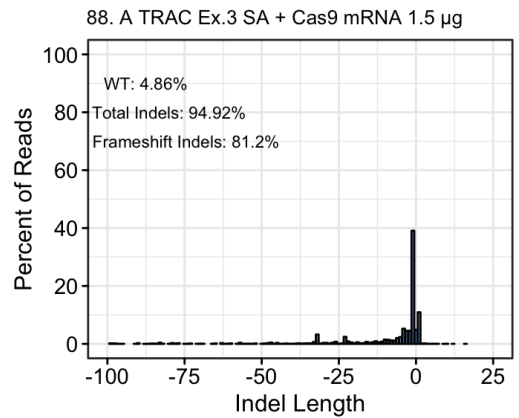
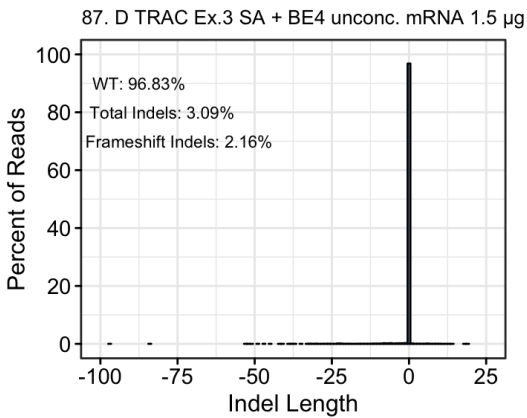
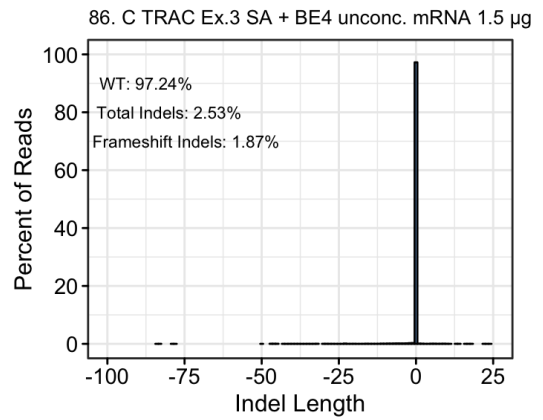
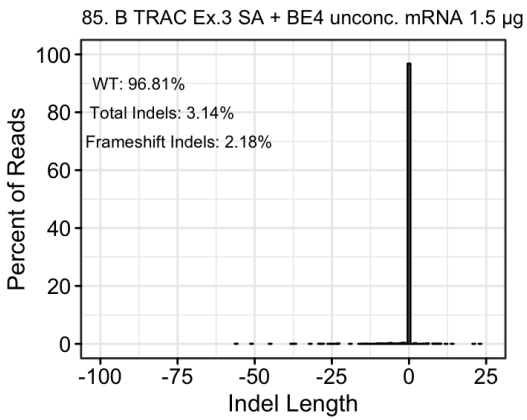
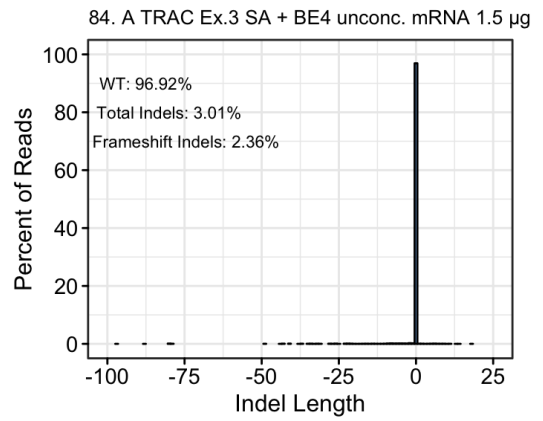
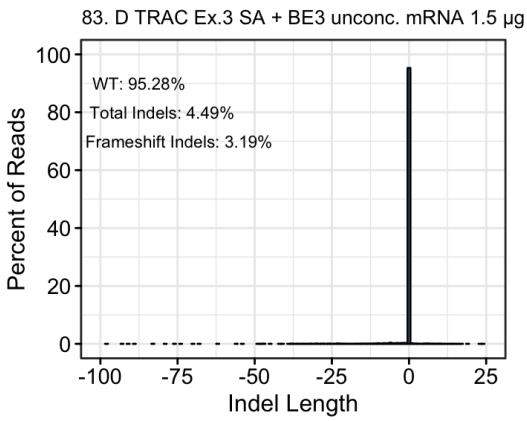




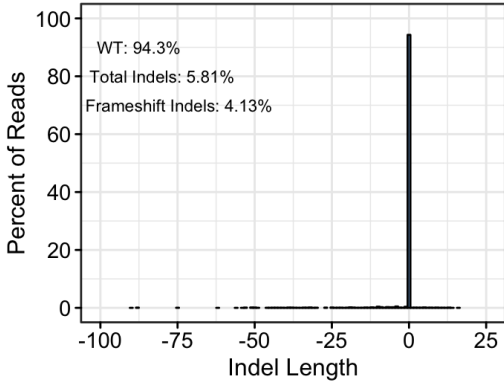




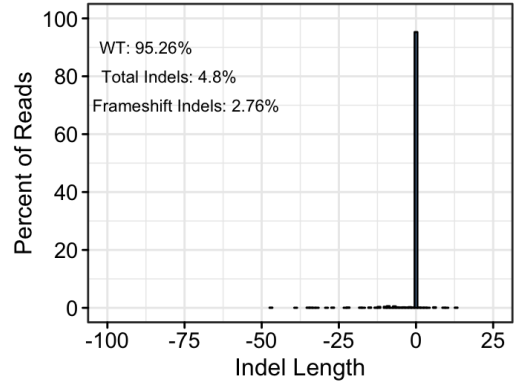




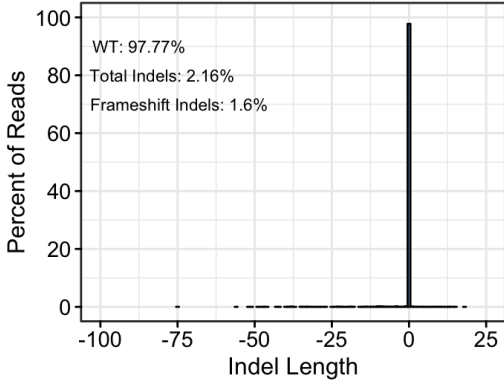
91. A TRAC Ex.3 pmSTOP\_1 + BE3 unconc. mRNA 1.5 µg



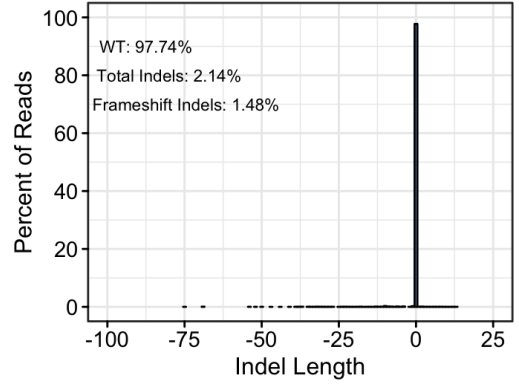
92. B TRAC Ex.3 pmSTOP\_1 + BE3 unconc. mRNA 1.5 µg



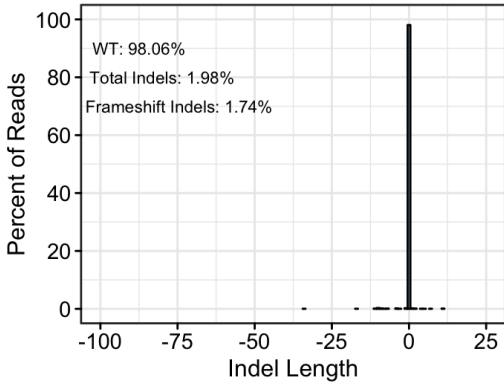
93. C TRAC Ex.3 pmSTOP\_1 + BE3 unconc. mRNA 1.5 µg



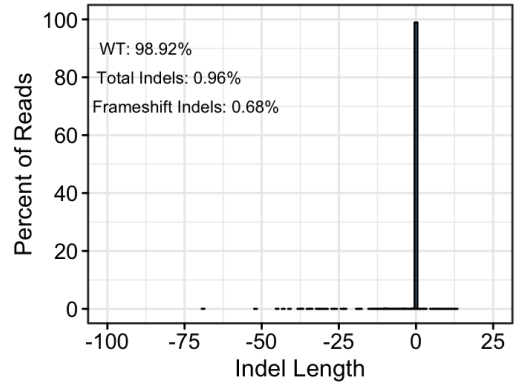
94. A TRAC Ex.3 pmSTOP\_1 + BE4 unconc. mRNA 1.5 µg



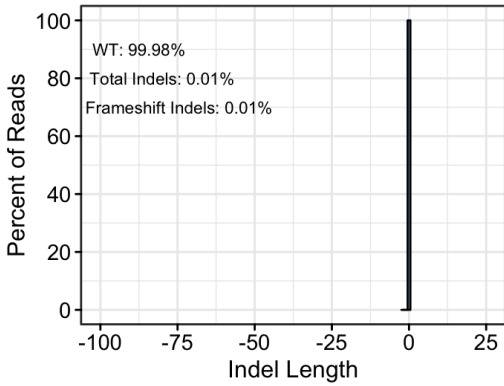
95. B TRAC Ex.3 pmSTOP\_1 + BE4 unconc. mRNA 1.5 µg



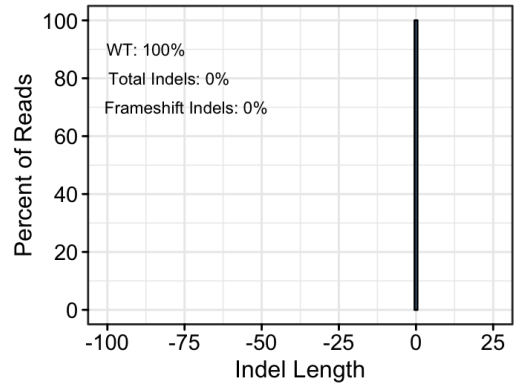
96. C TRAC Ex.3 pmSTOP\_1 + BE4 unconc. mRNA 1.5 µg



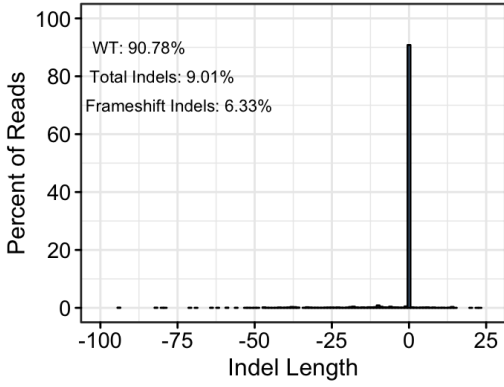
97. D TRAC Ex.3 pmSTOP\_1 + Pulse



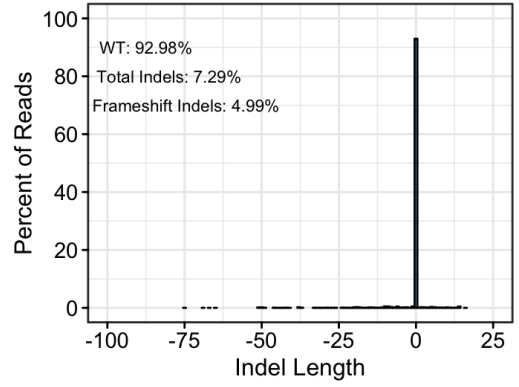
98. A TRAC Ex.3 pmSTOP\_1 + Pulse



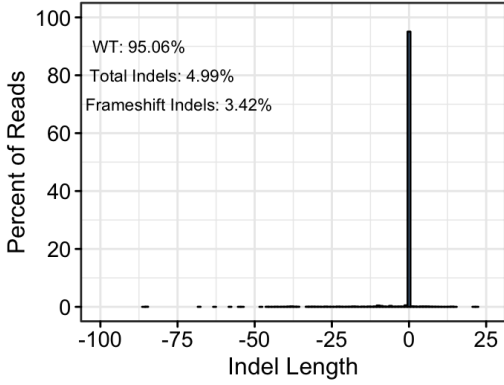
99. A TRAC Ex.3 pmSTOP\_2 + BE3 unconc. mRNA 1.5 µg



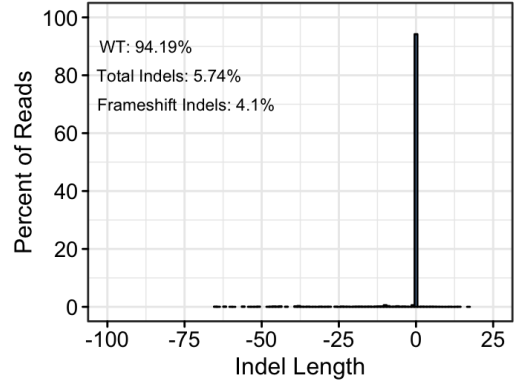
100. B TRAC Ex.3 pmSTOP\_2 + BE3 unconc. mRNA 1.5 µg



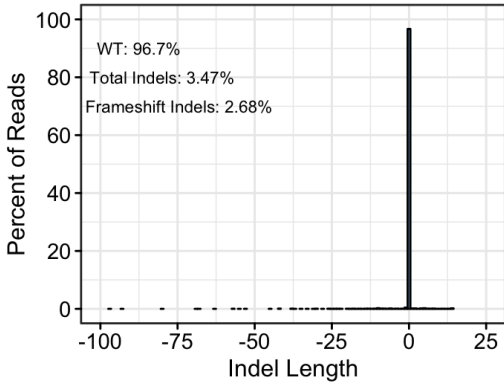
101. C TRAC Ex.3 pmSTOP\_2 + BE3 unconc. mRNA 1.5 µg



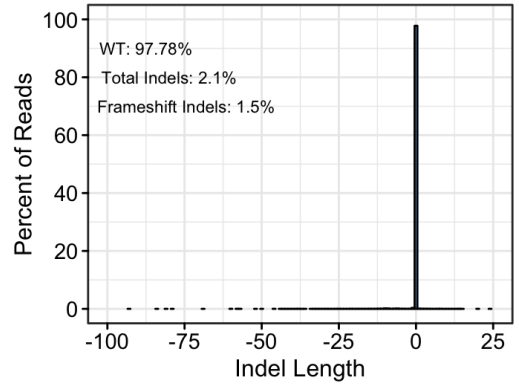
102. A TRAC Ex.3 pmSTOP\_2 + BE4 unconc. mRNA 1.5 µg



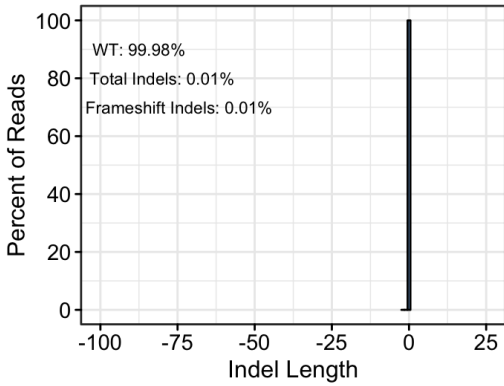
103. B TRAC Ex.3 pmSTOP\_2 + BE4 unconc. mRNA 1.5 µg



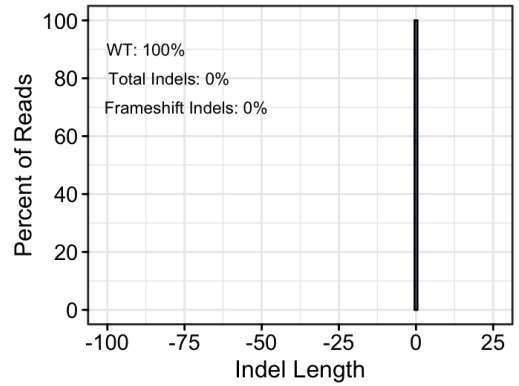
104. C TRAC Ex.3 pmSTOP\_2 + BE4 unconc. mRNA 1.5 µg

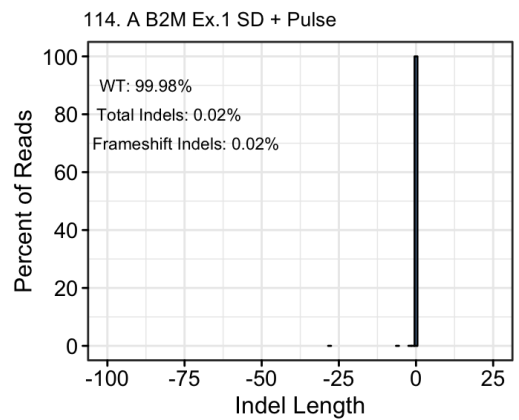
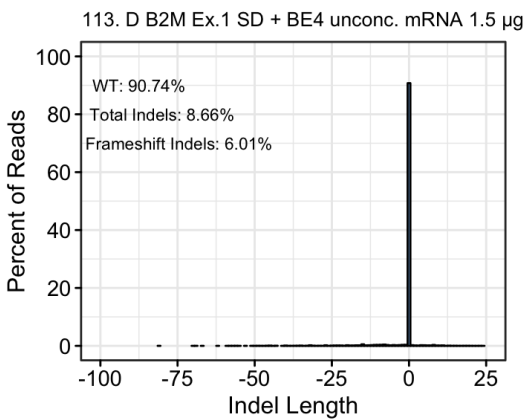
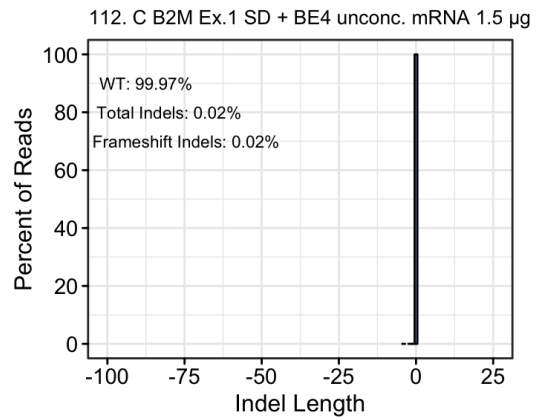
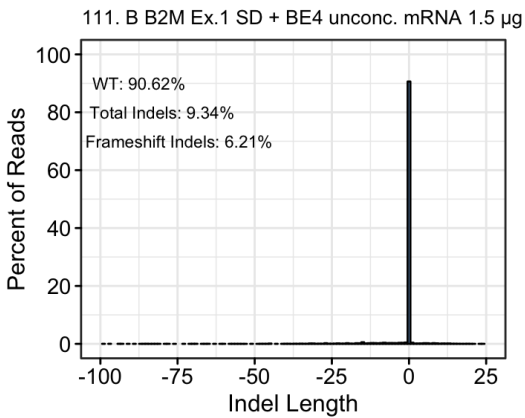
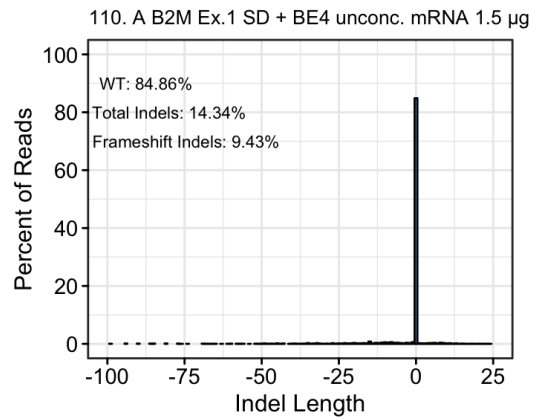
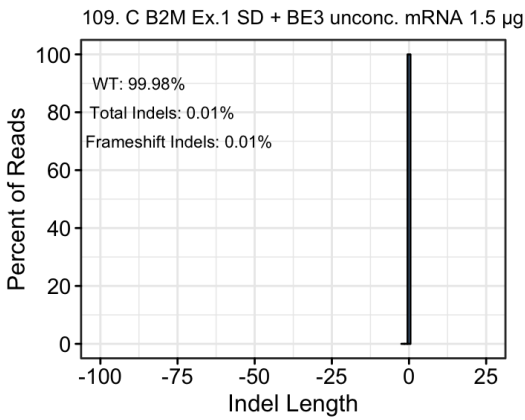
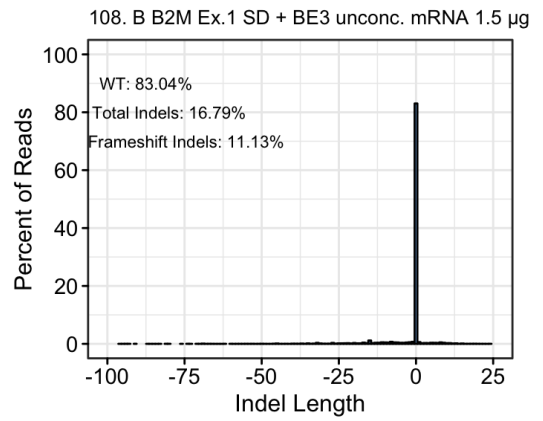
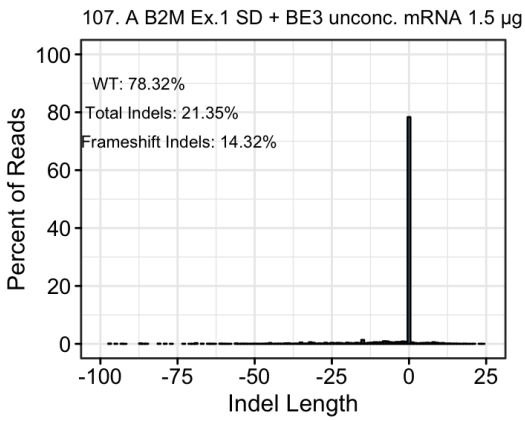


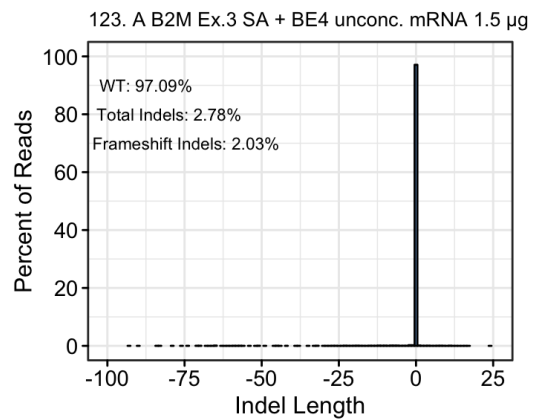
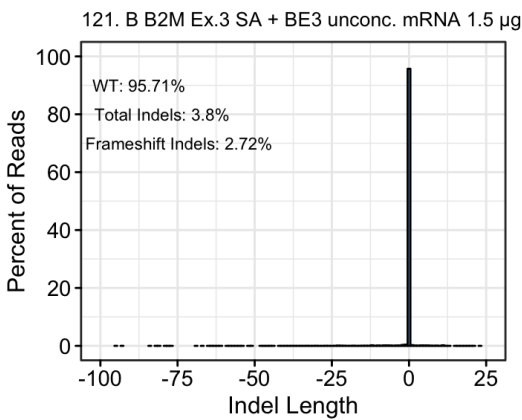
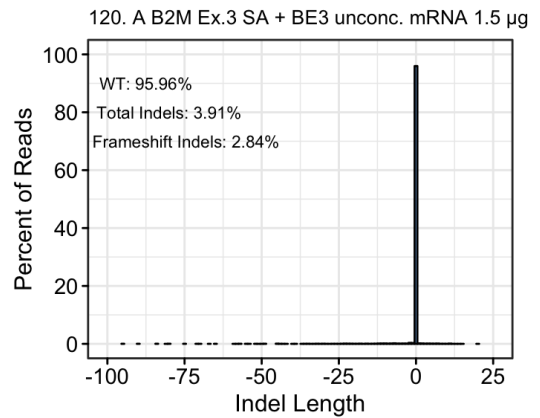
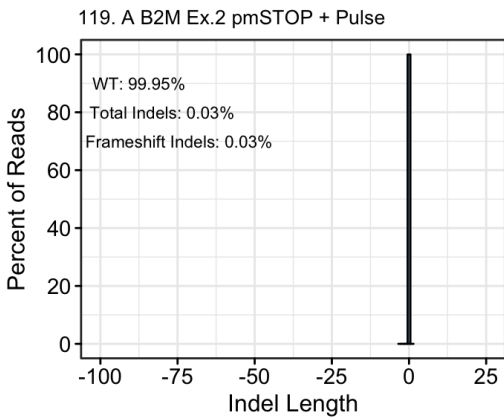
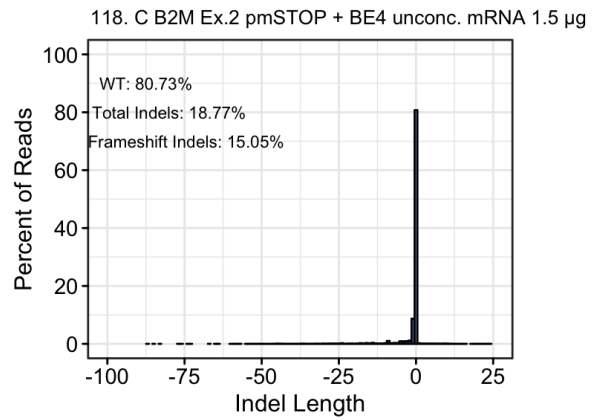
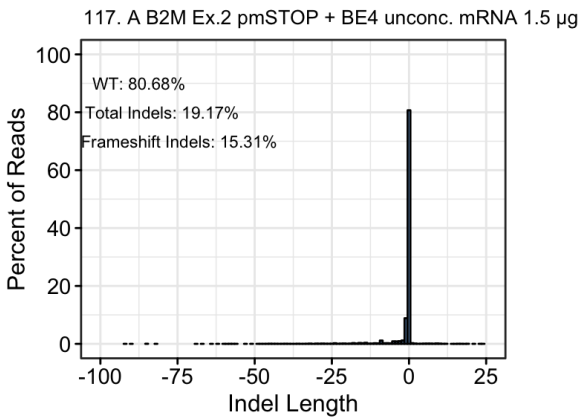
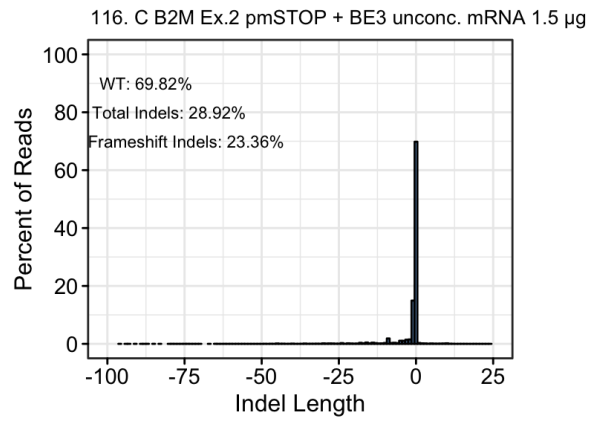
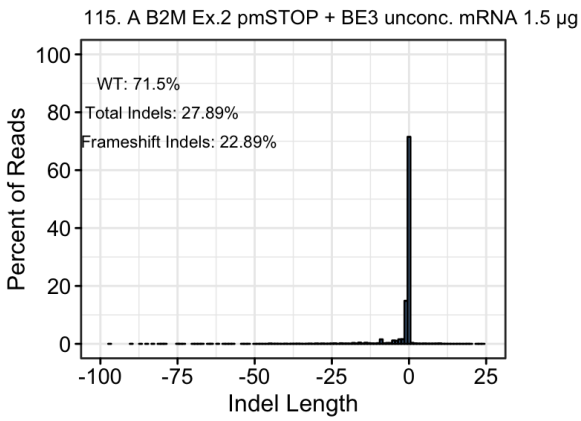
105. D TRAC Ex.3 pmSTOP\_2 + Pulse



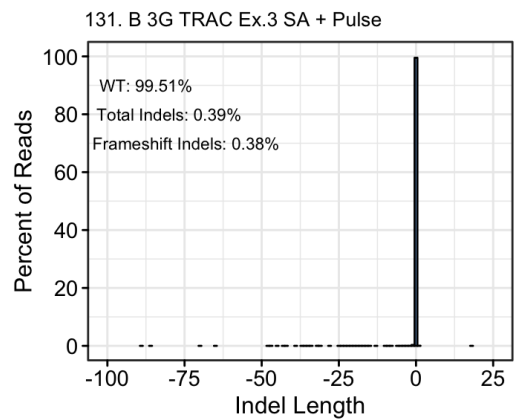
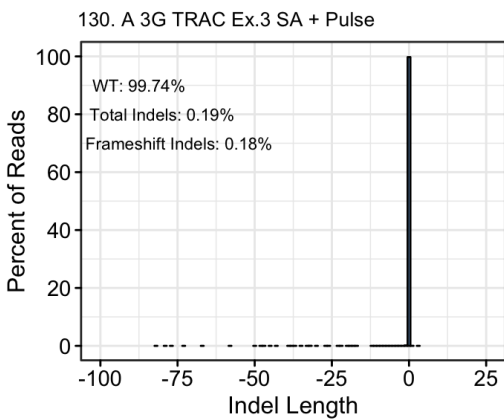
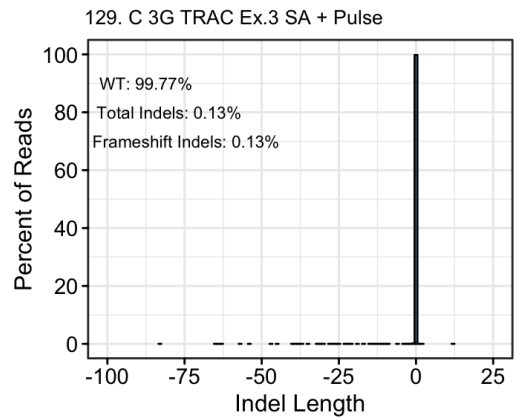
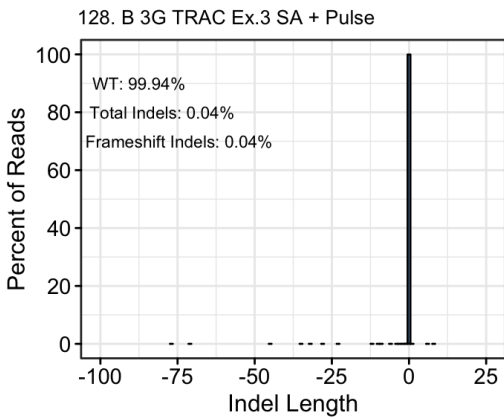
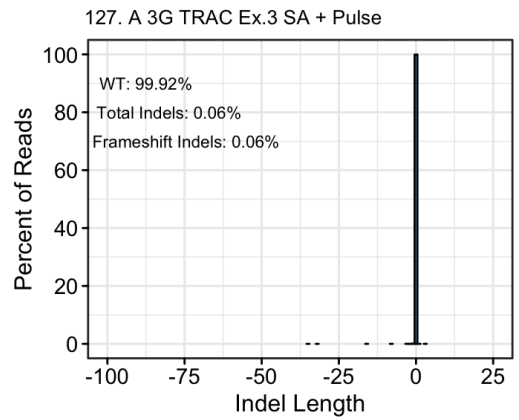
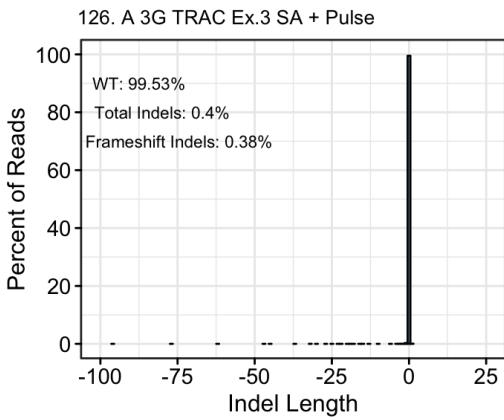
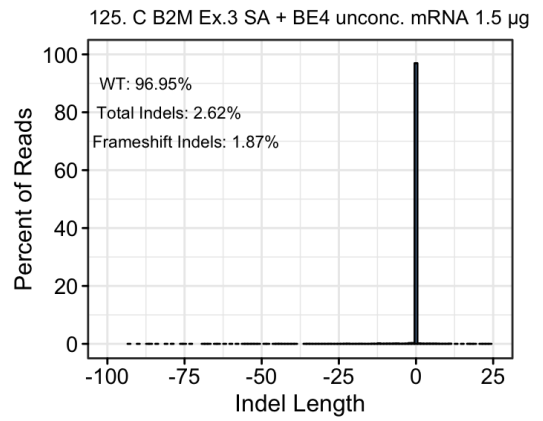
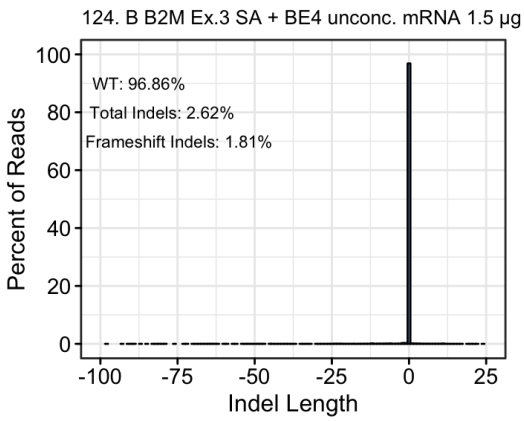
106. A TRAC Ex.3 pmSTOP\_2 + Pulse

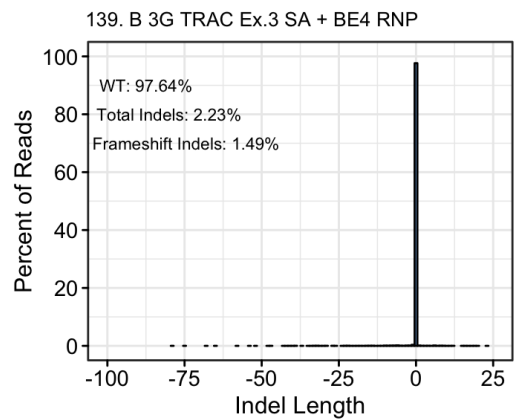
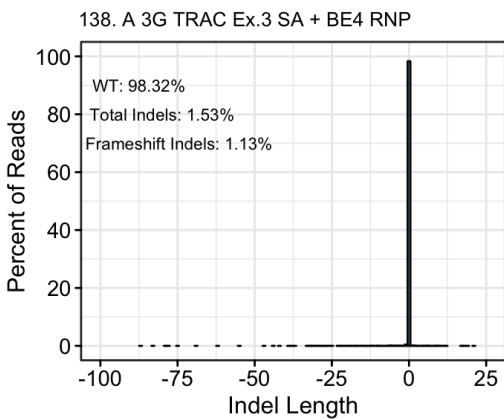
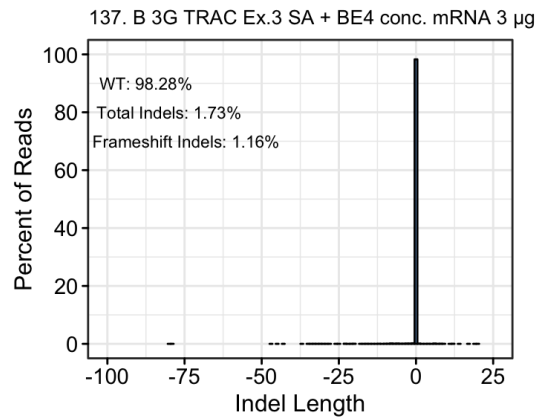
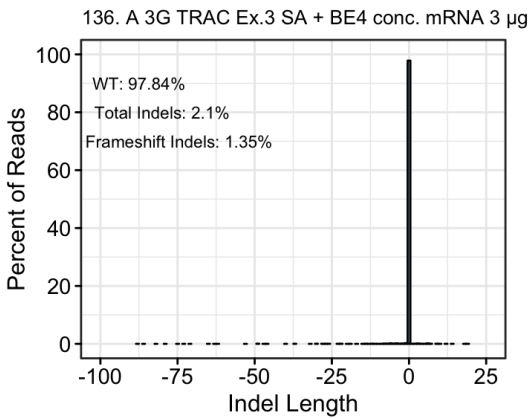
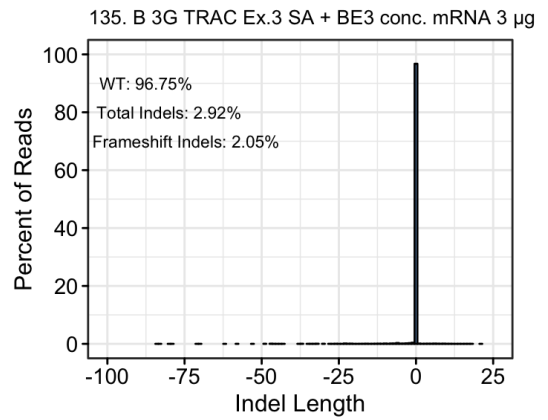
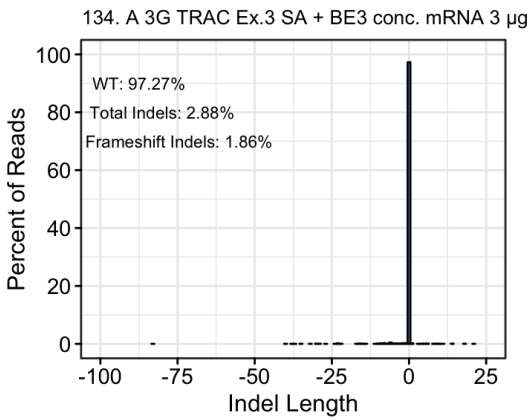
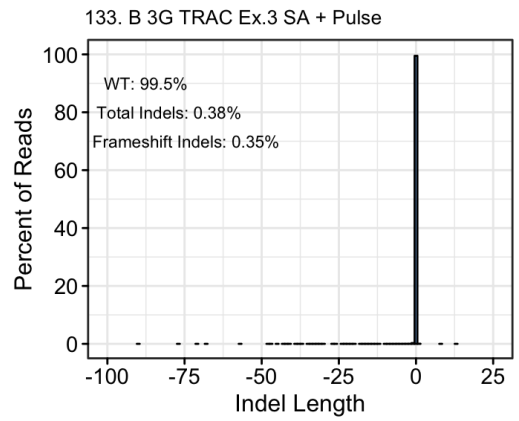
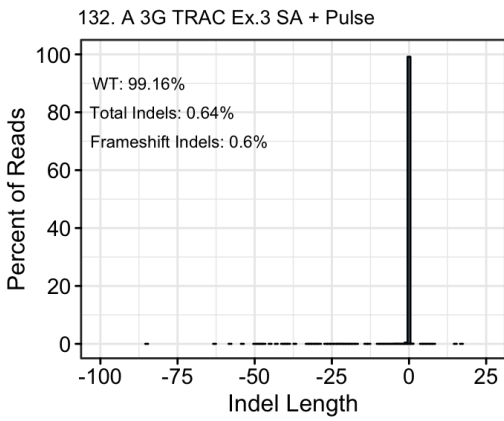


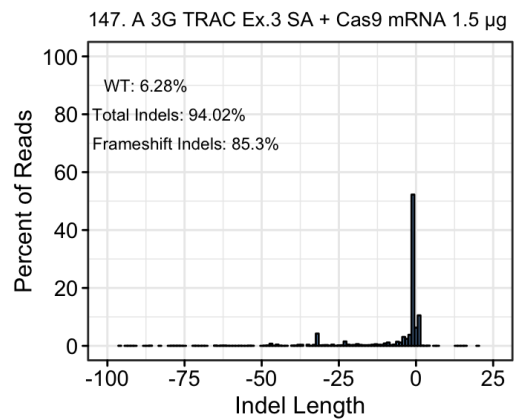
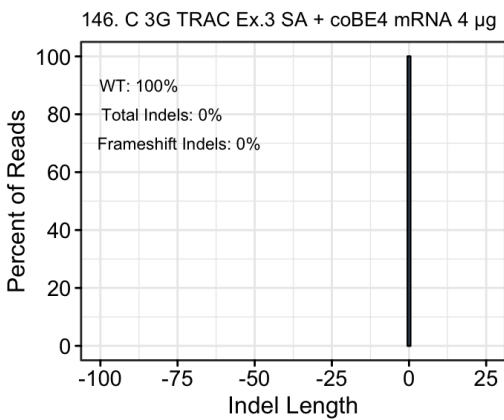
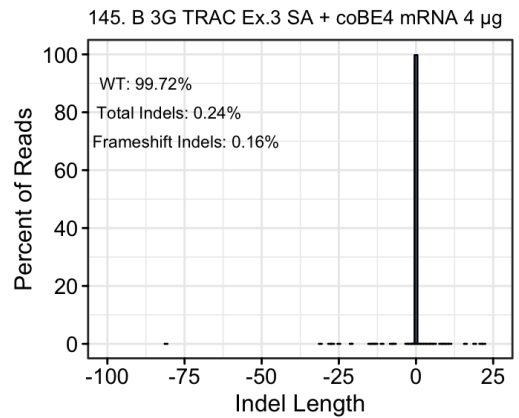
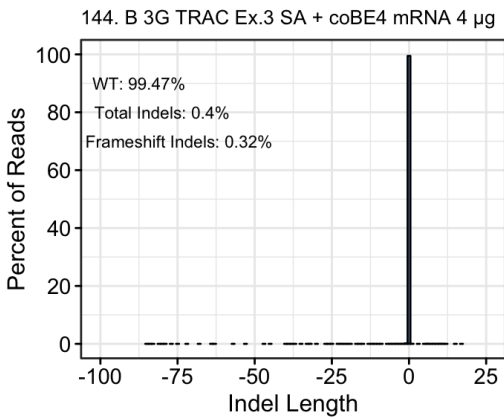
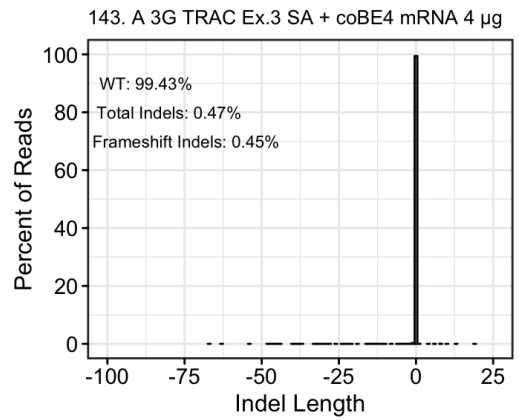
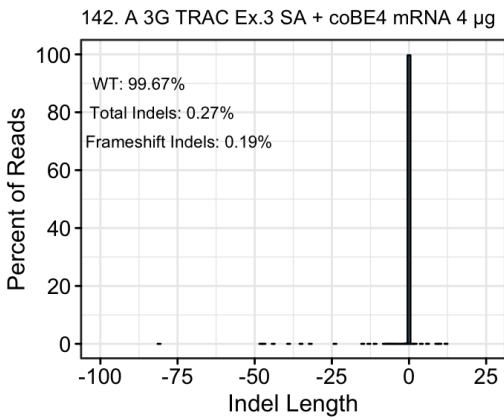
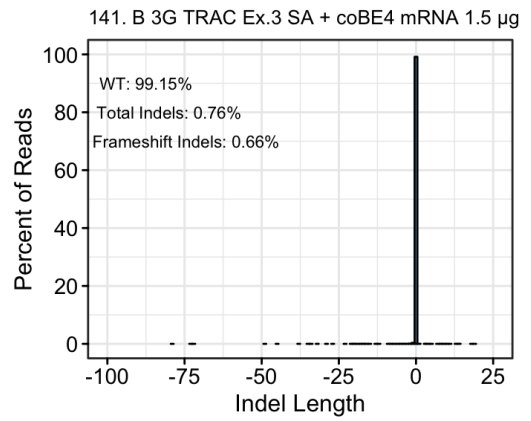
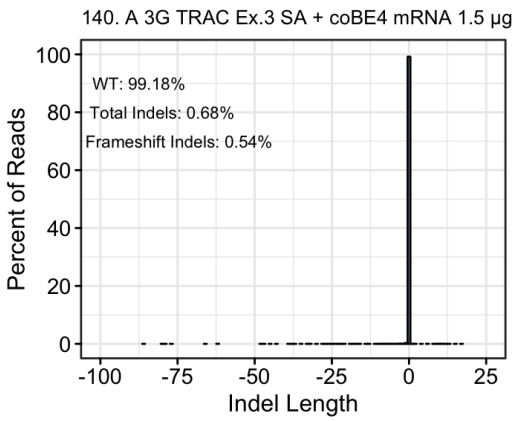


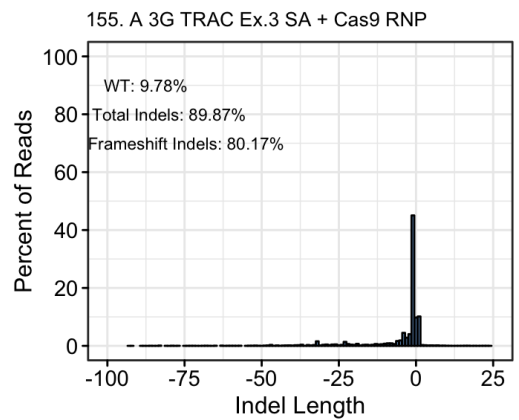
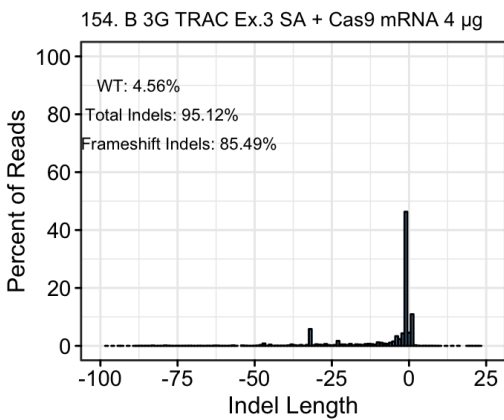
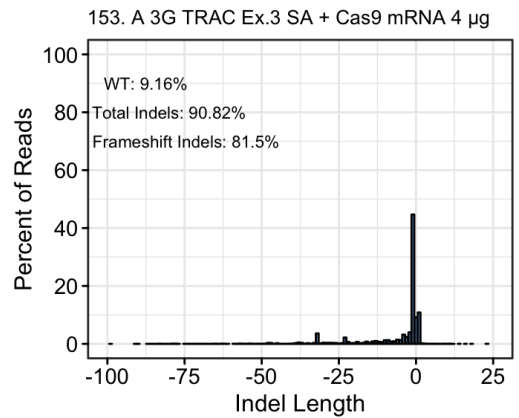
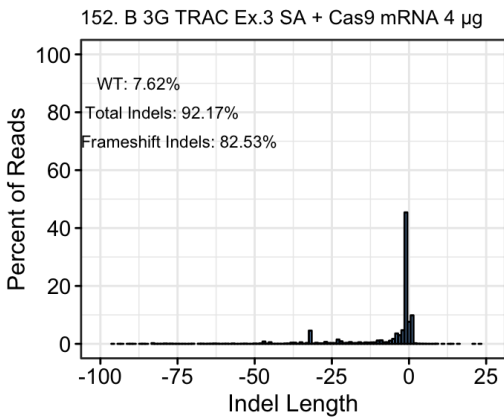
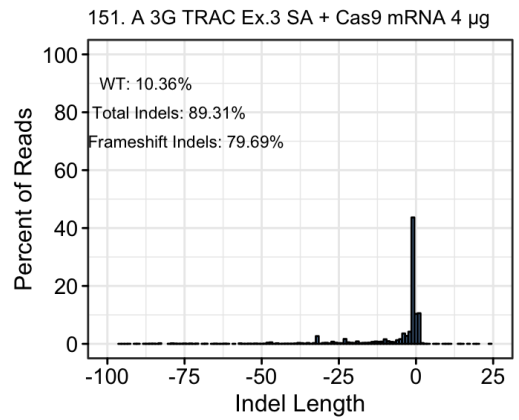
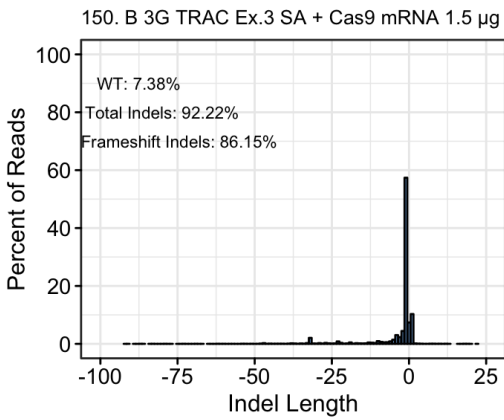
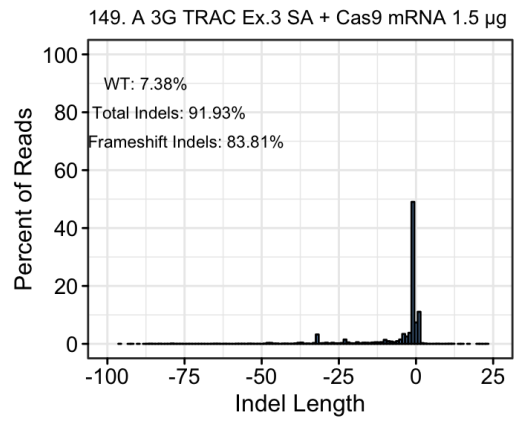
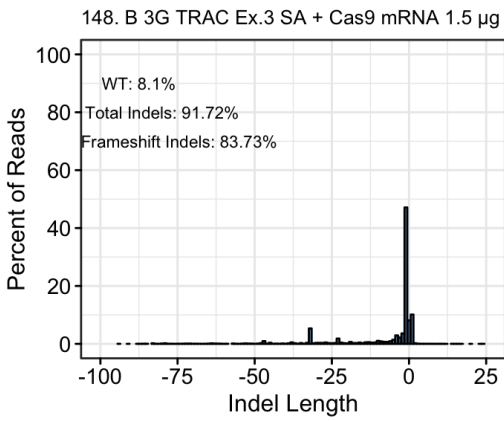


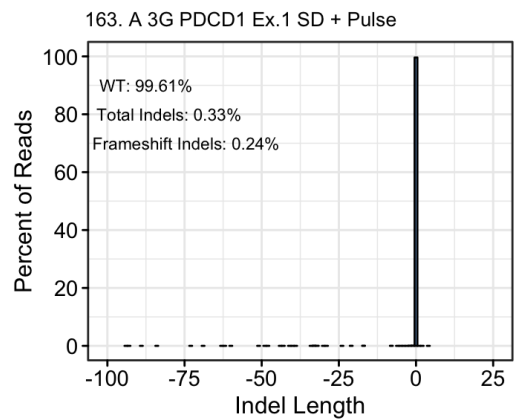
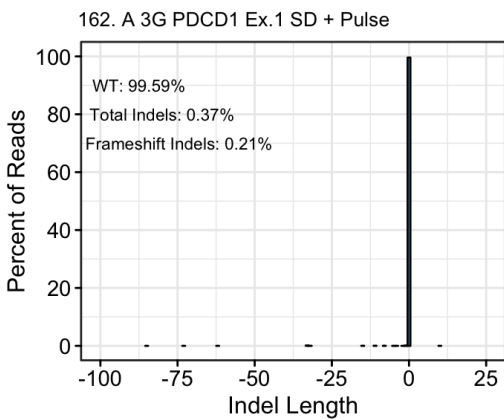
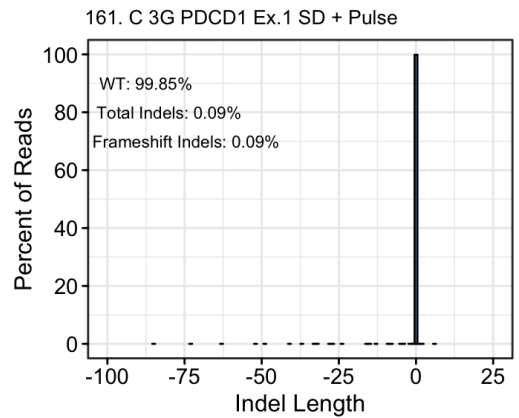
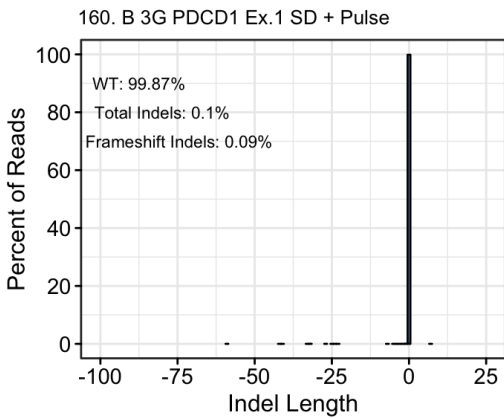
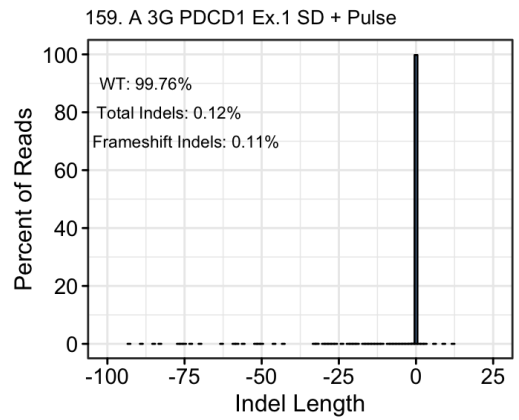
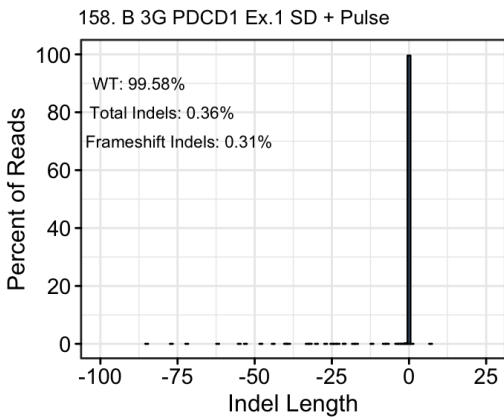
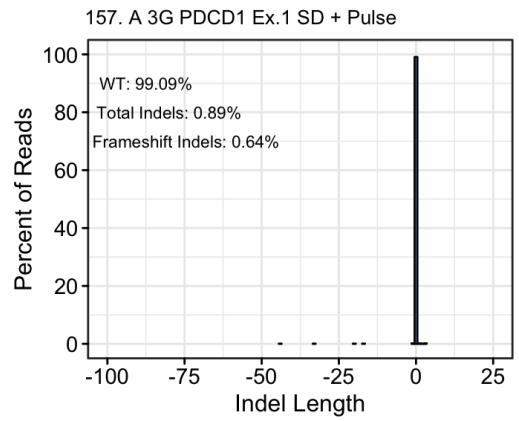
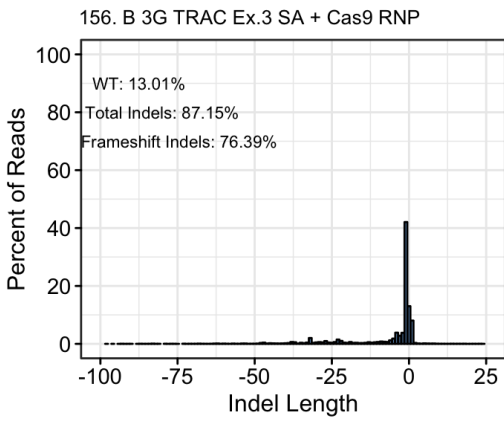


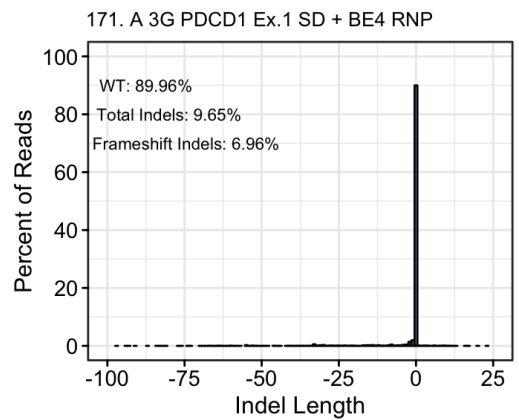
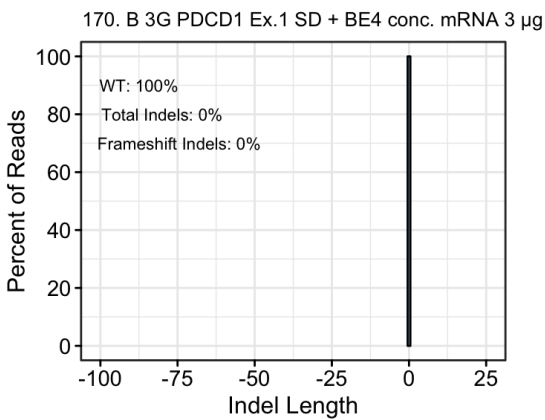
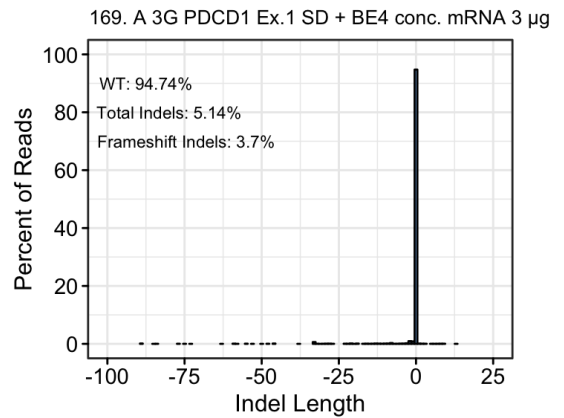
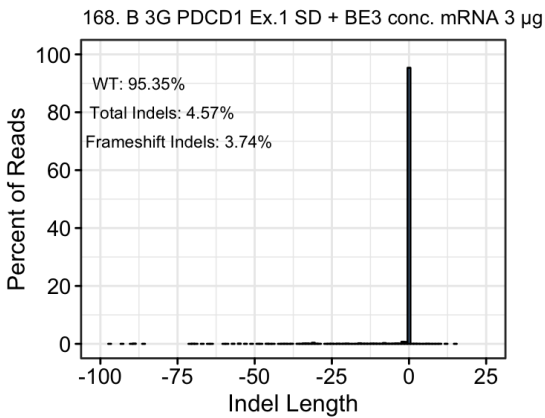
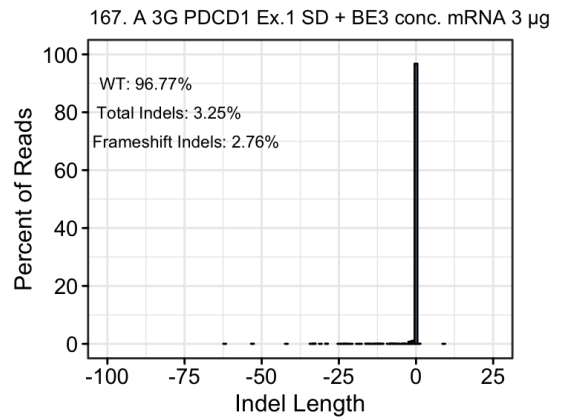
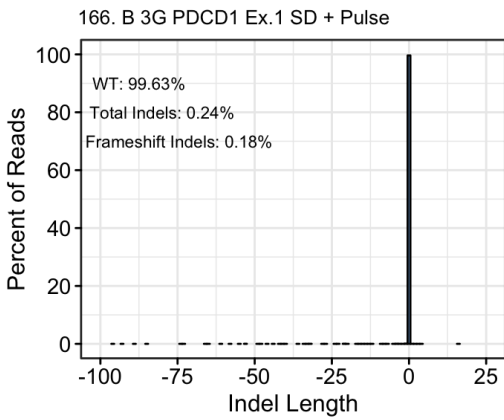
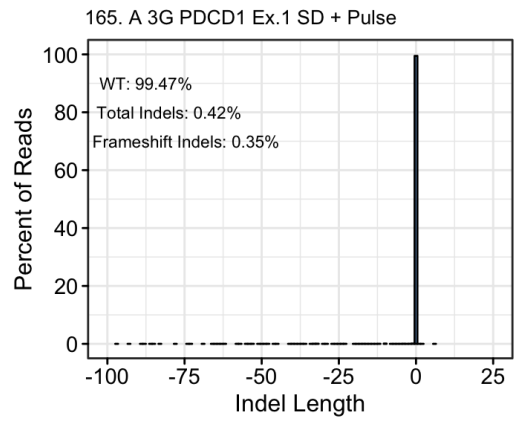
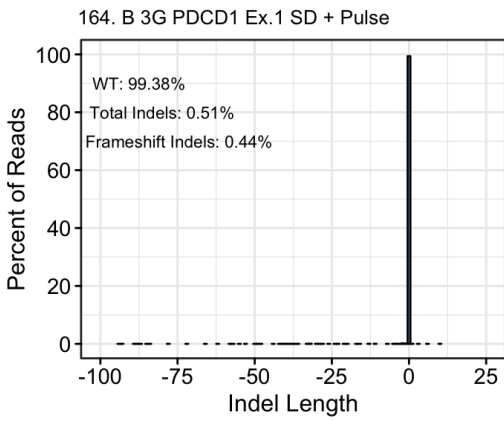


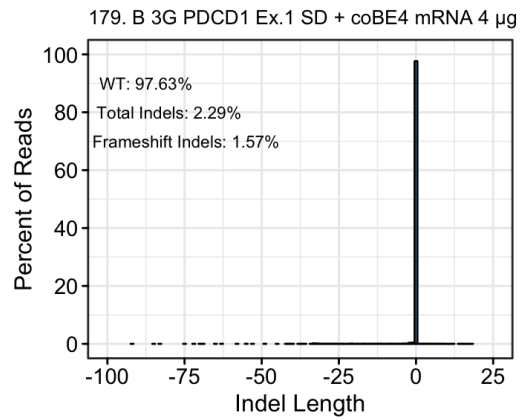
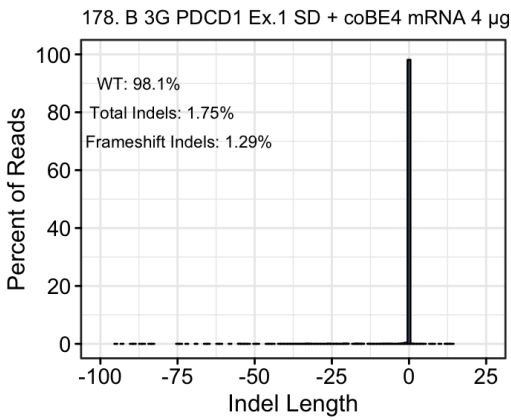
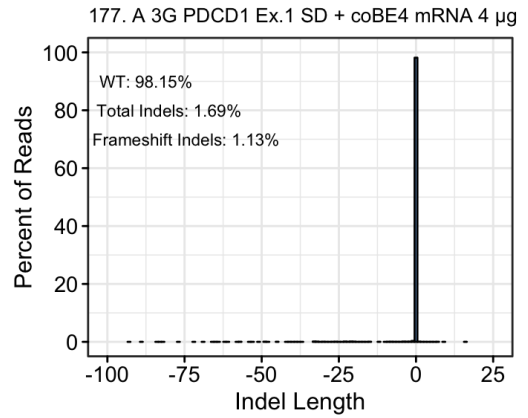
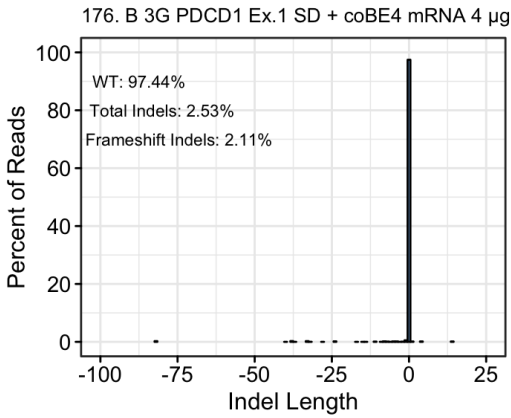
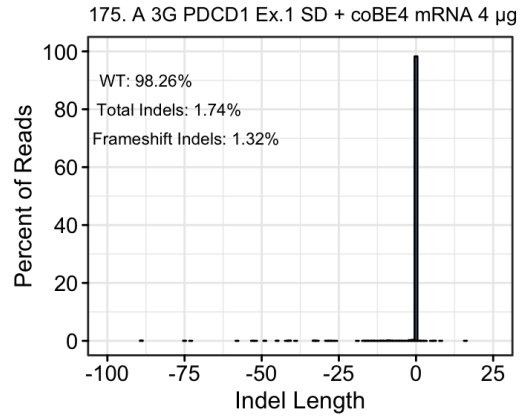
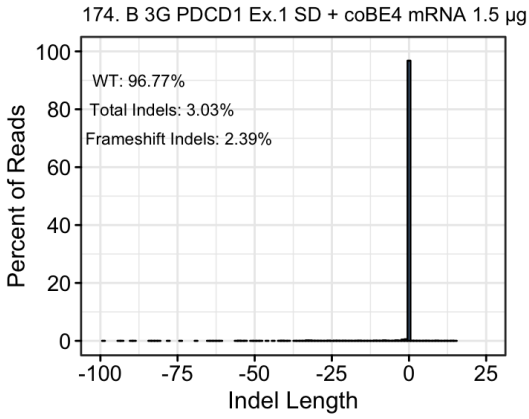
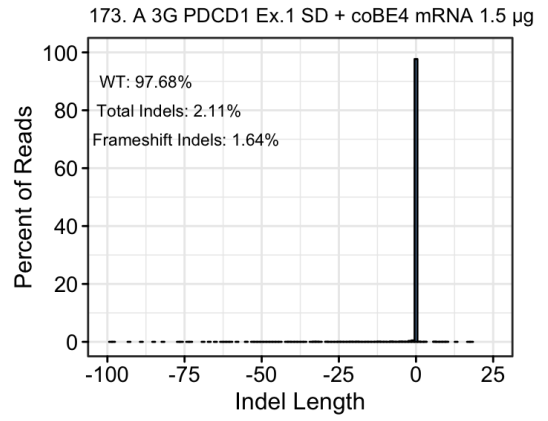
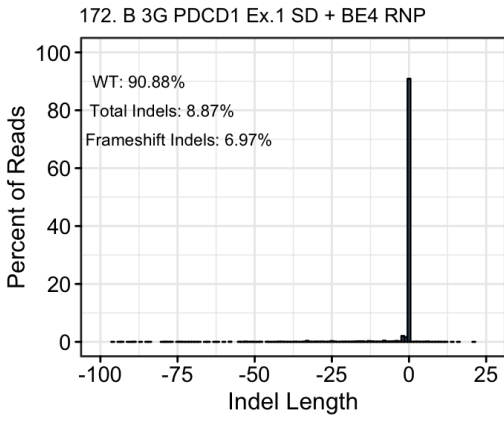


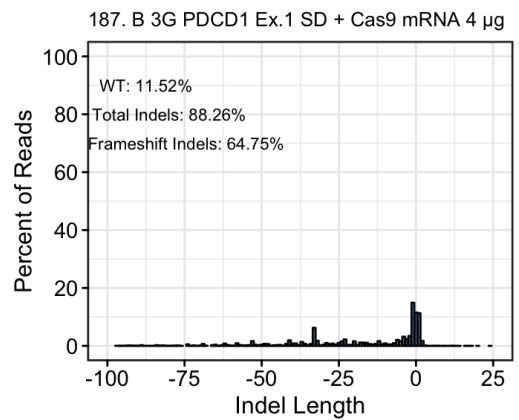
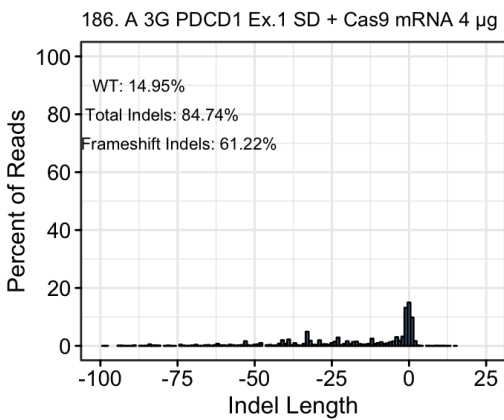
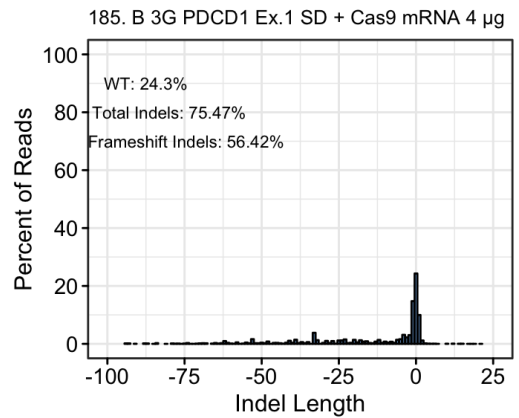
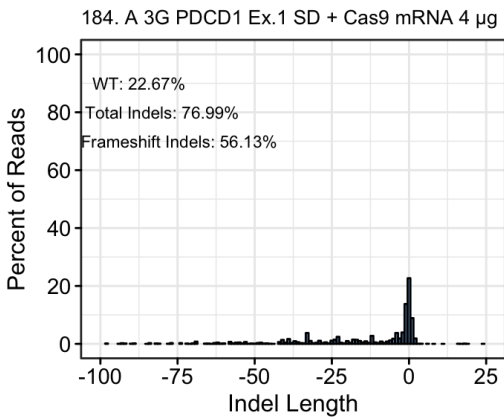
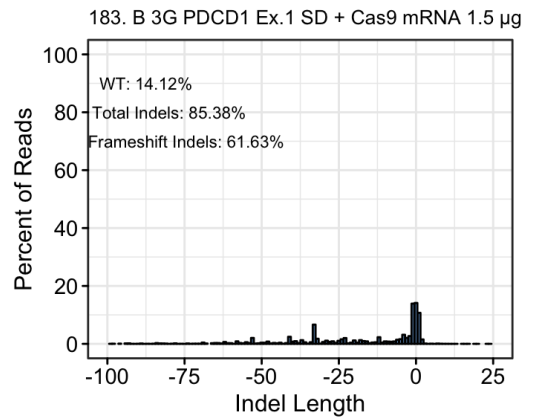
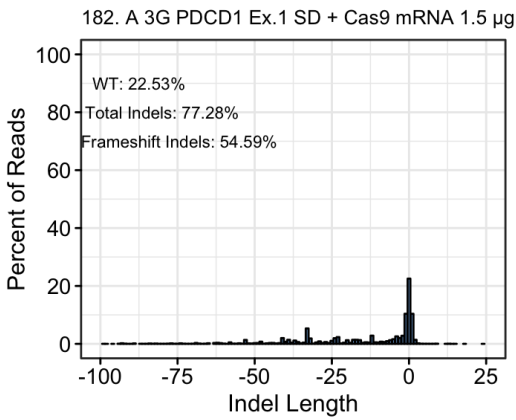
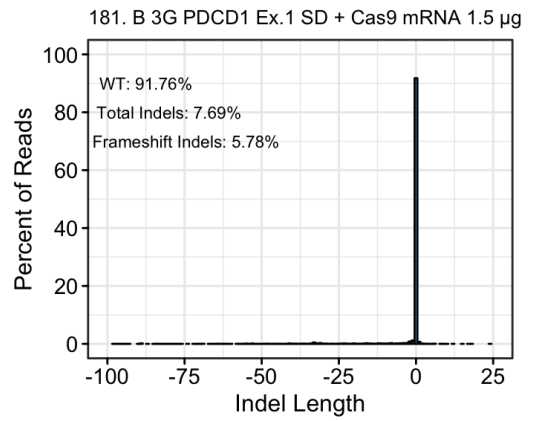
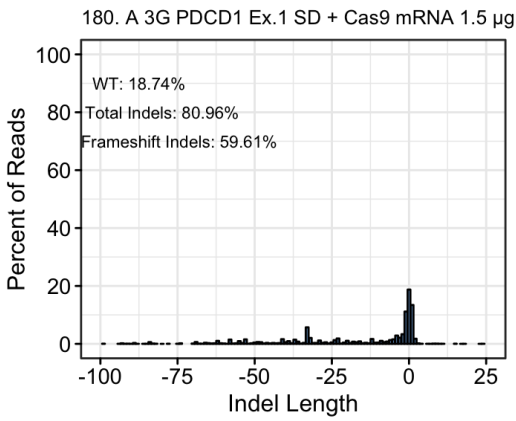




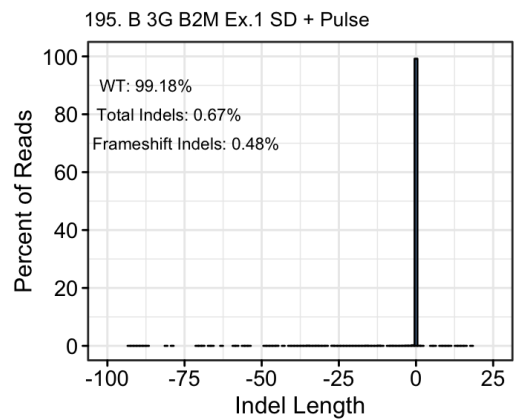
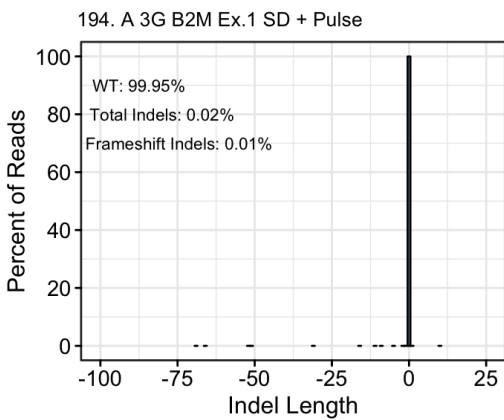
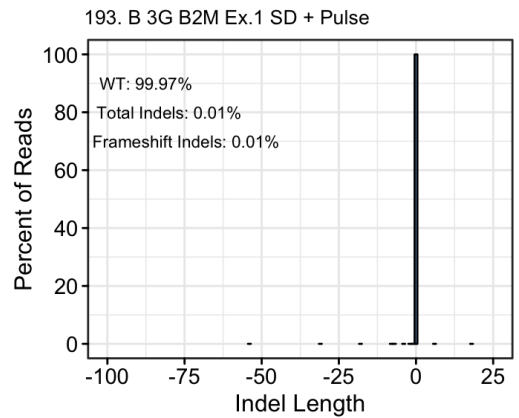
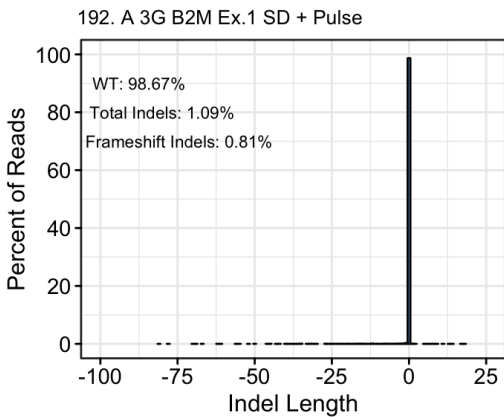
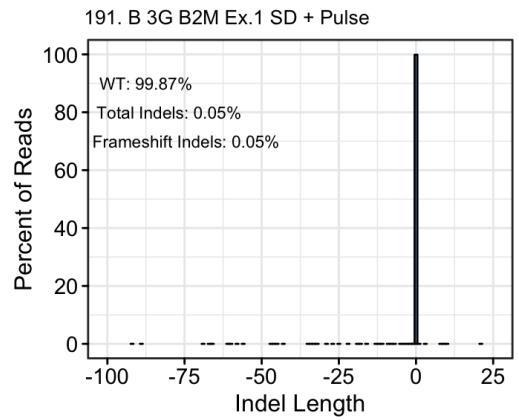
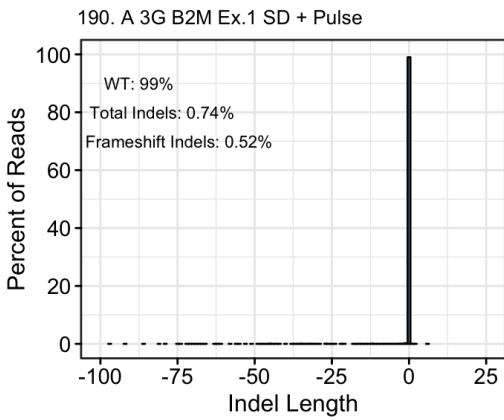
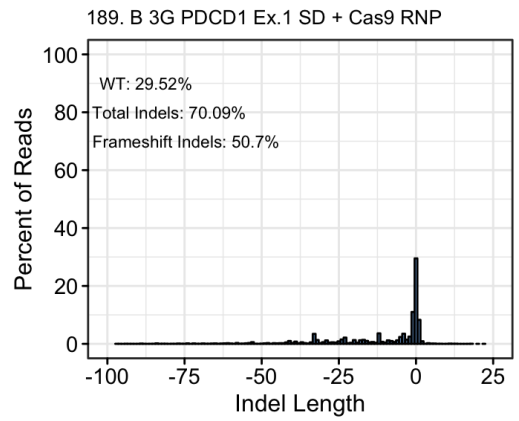
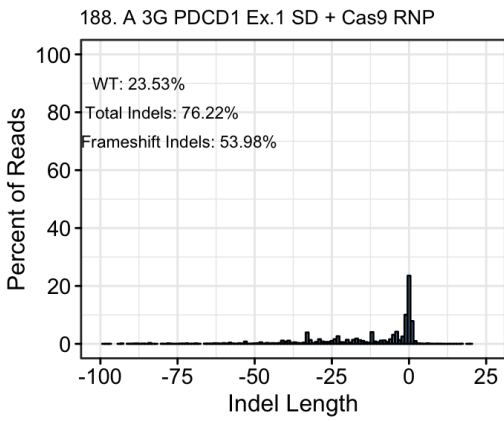


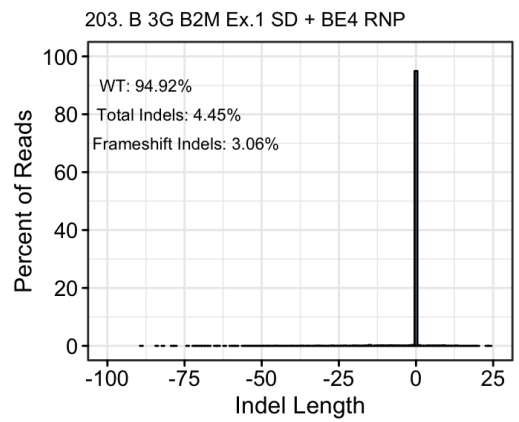
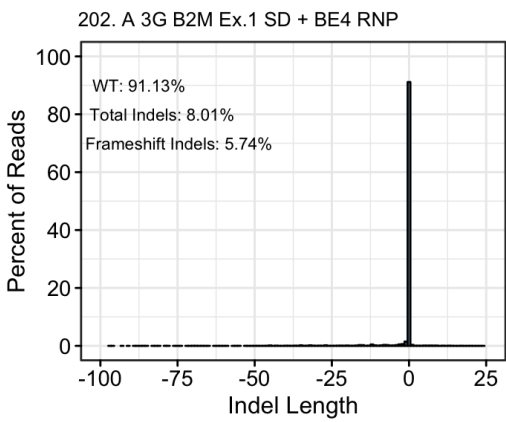
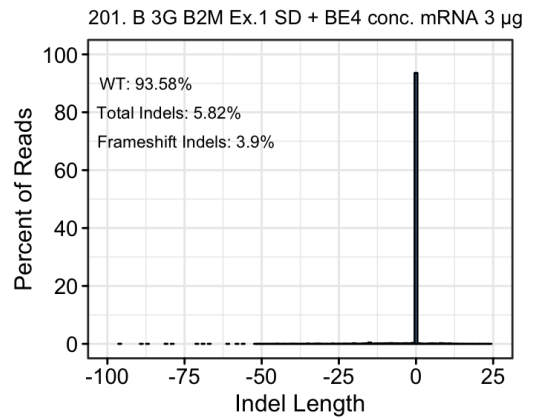
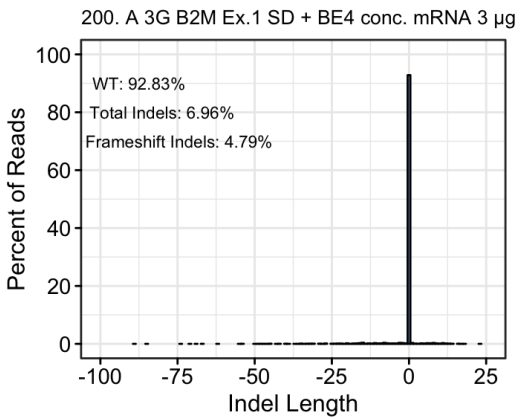
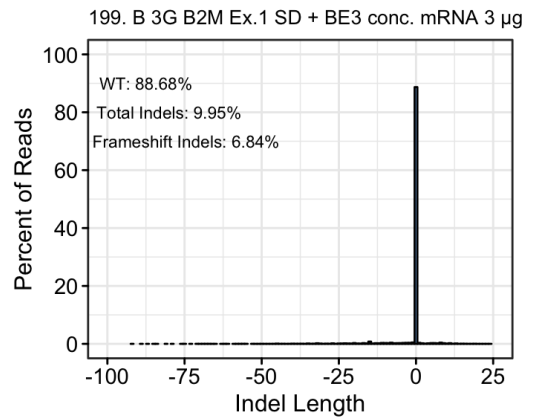
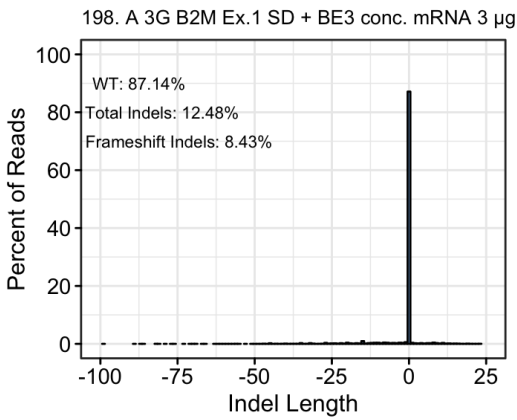
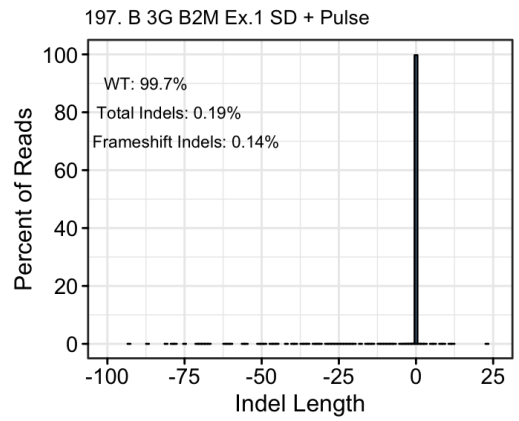
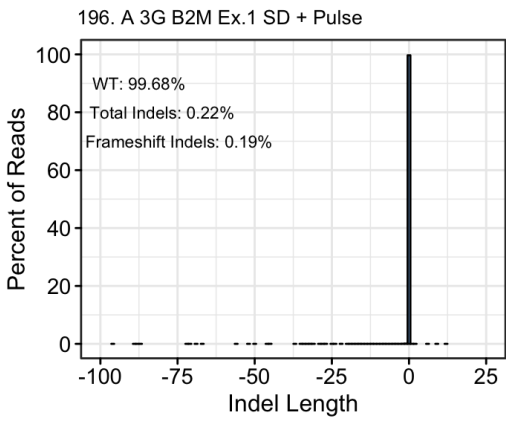


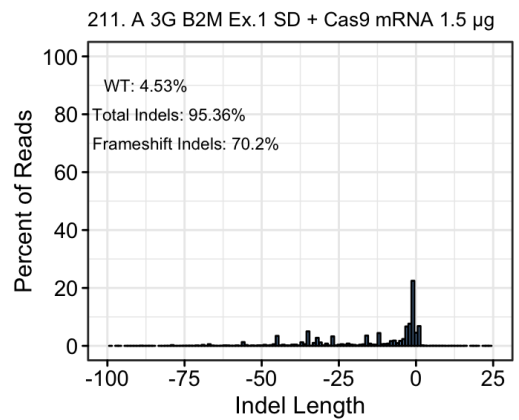
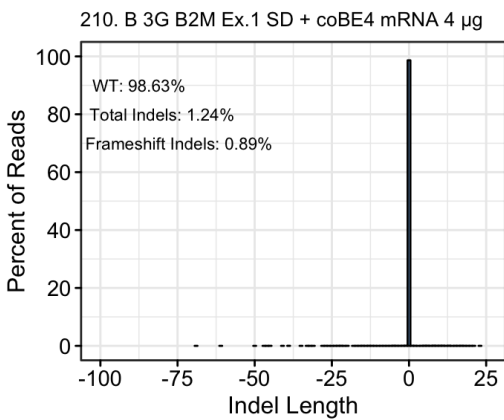
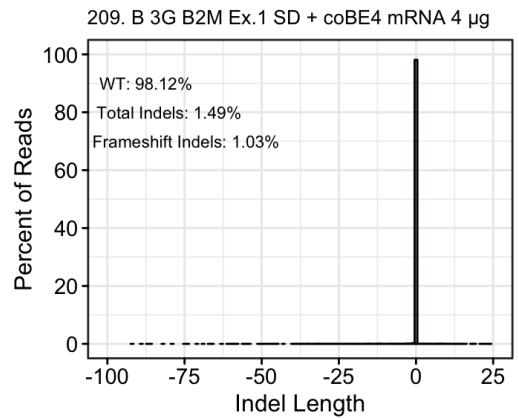
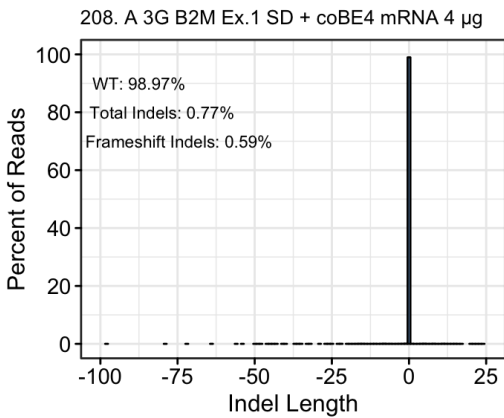
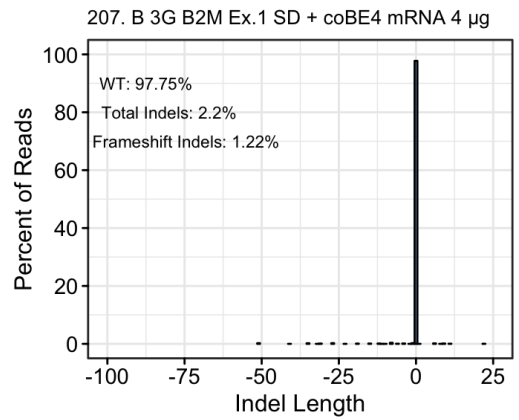
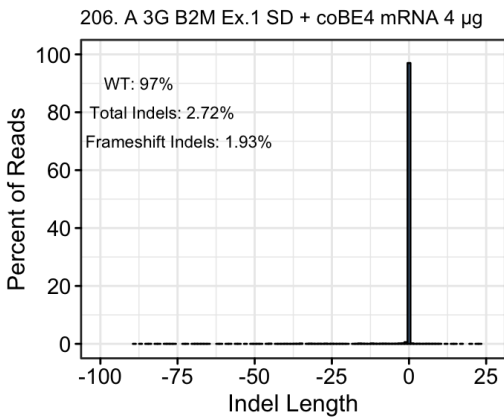
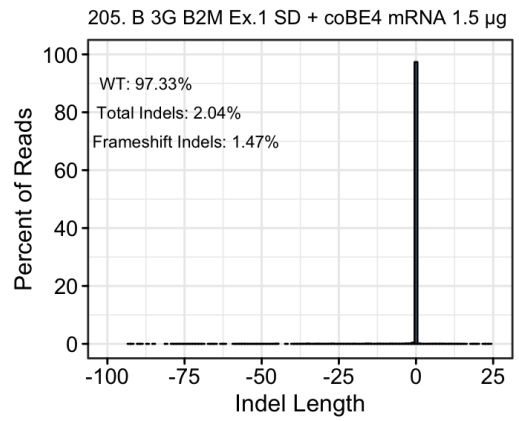
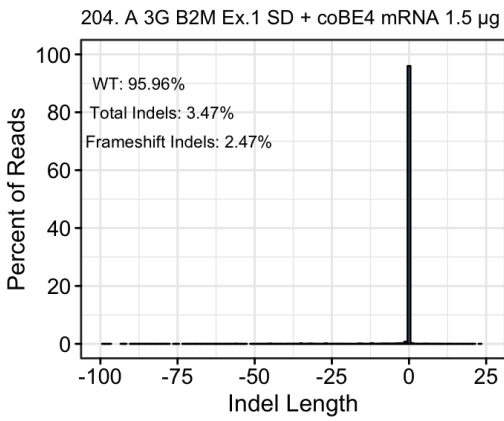


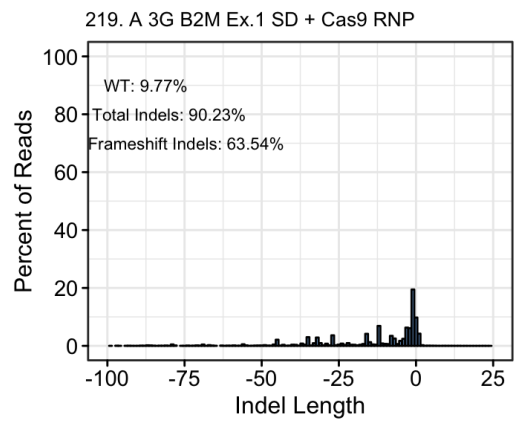
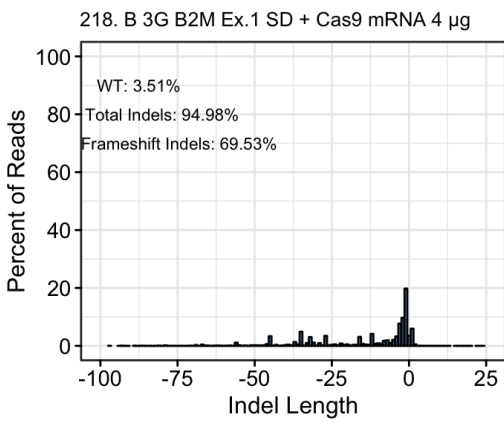
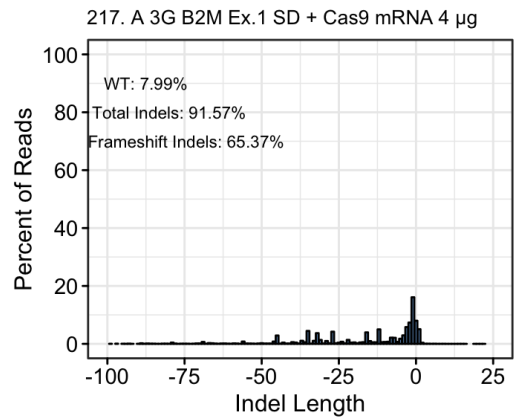
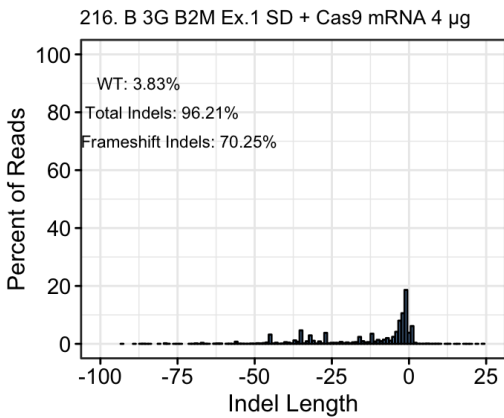
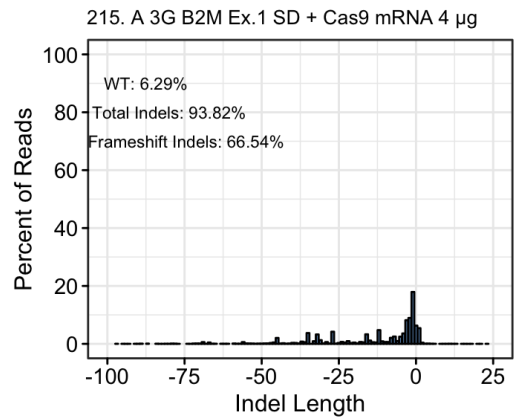
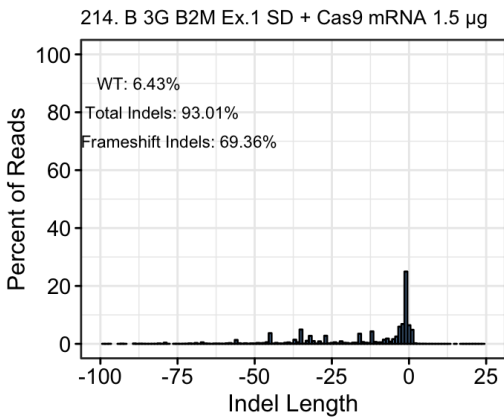
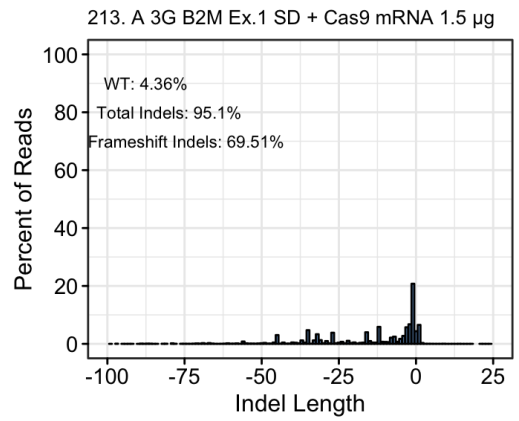
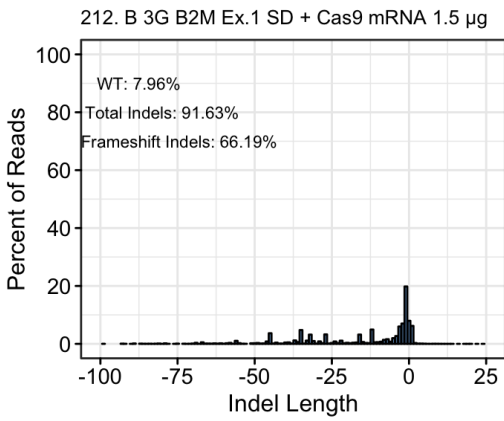


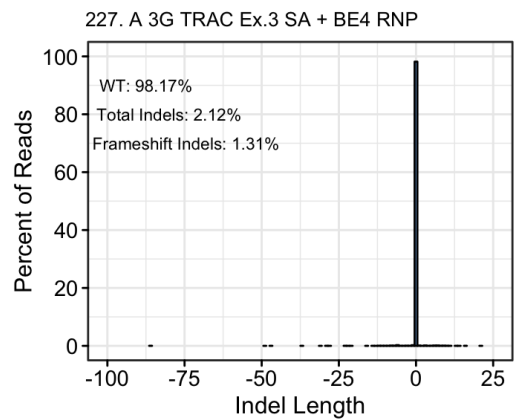
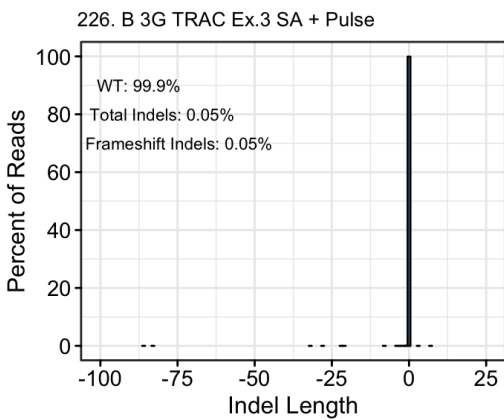
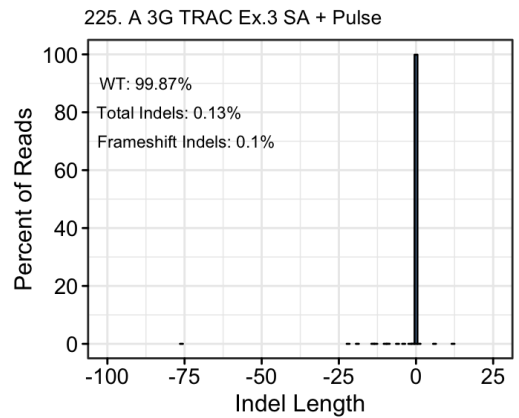
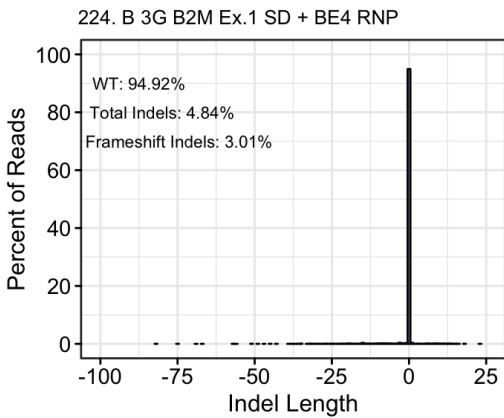
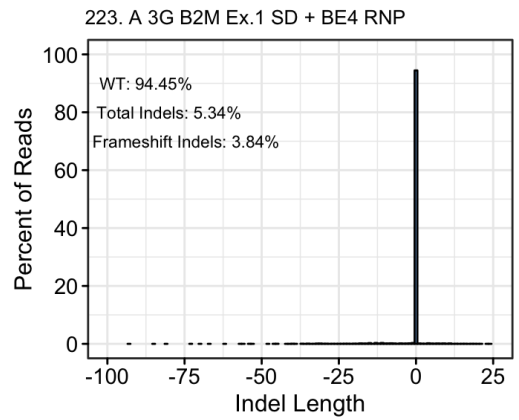
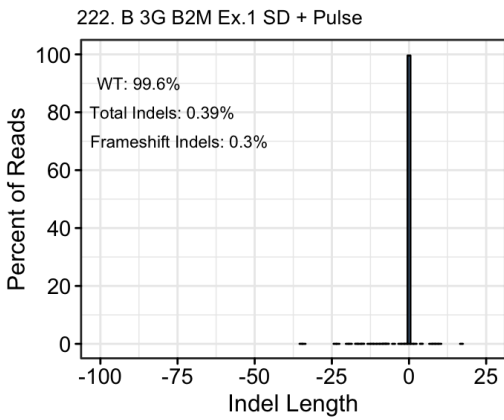
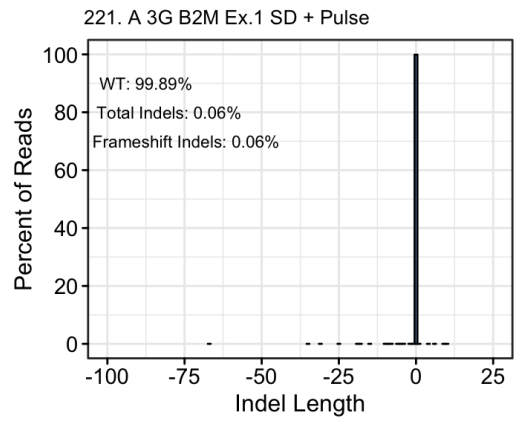
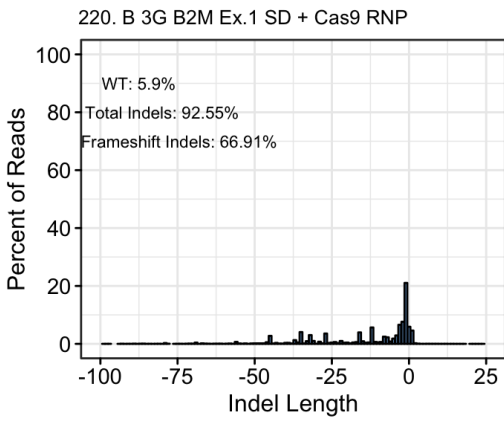


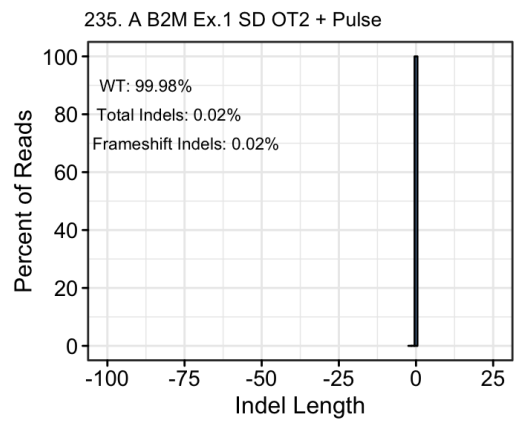
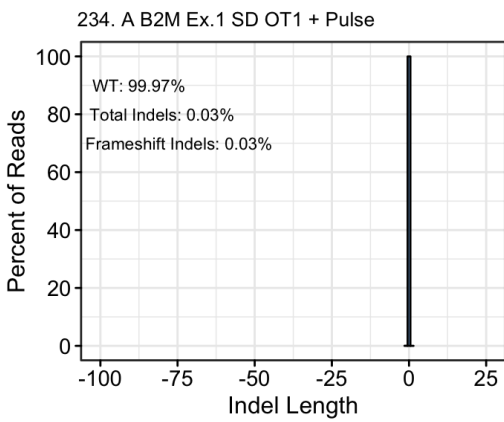
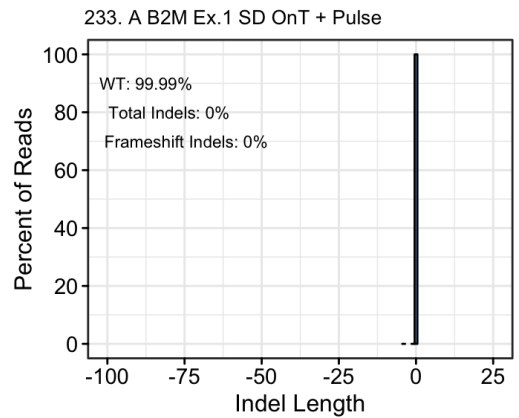
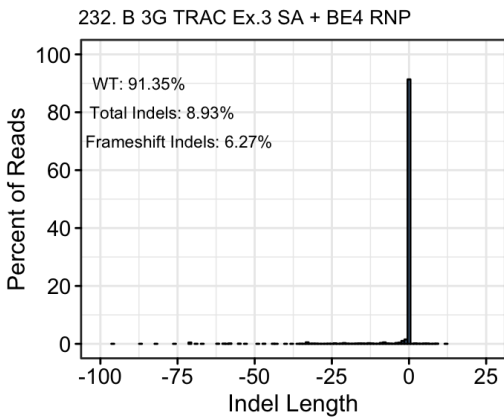
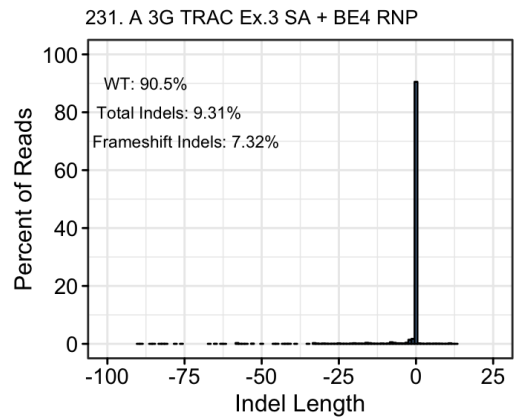
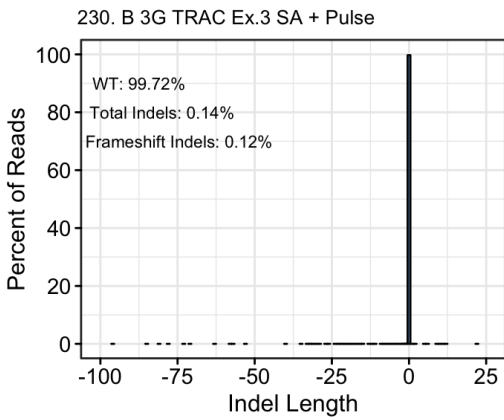
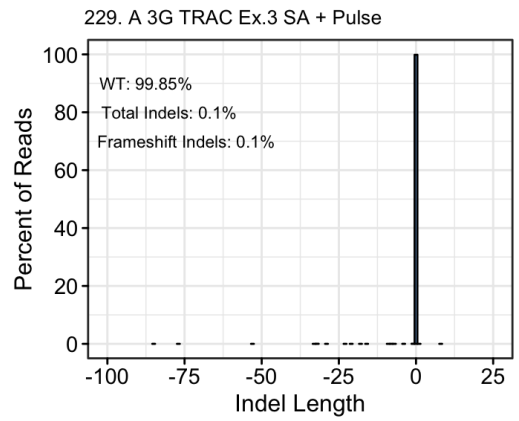
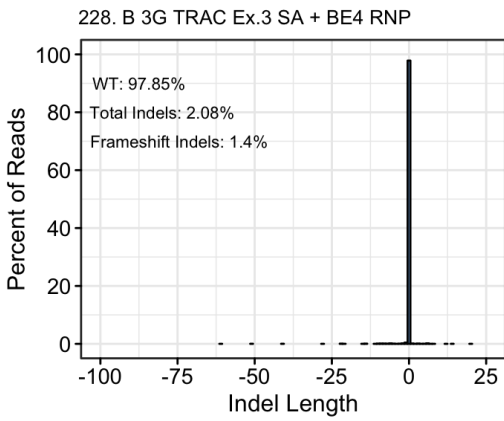




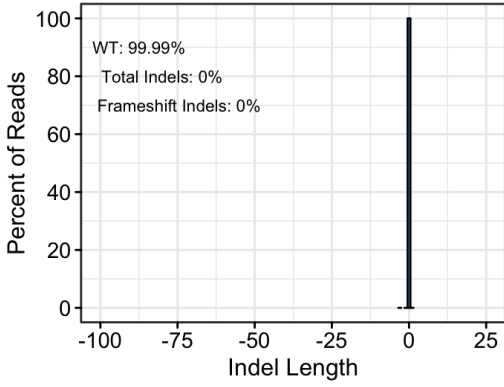




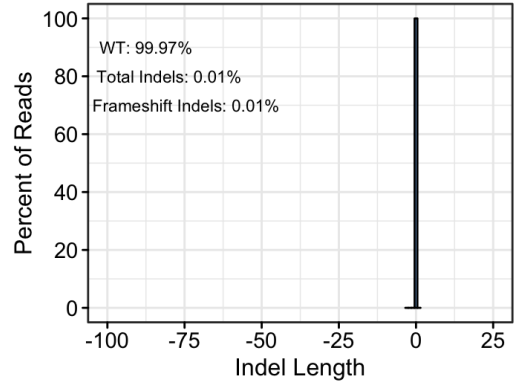




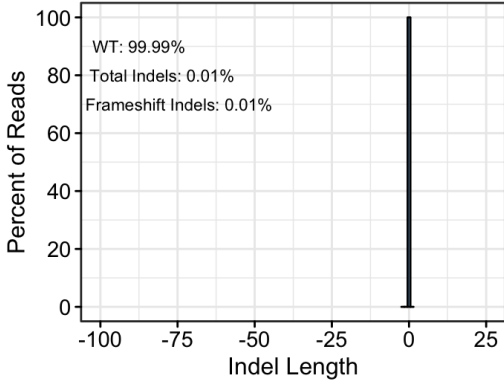
236. A B2M Ex.1 SD OT3 + Pulse



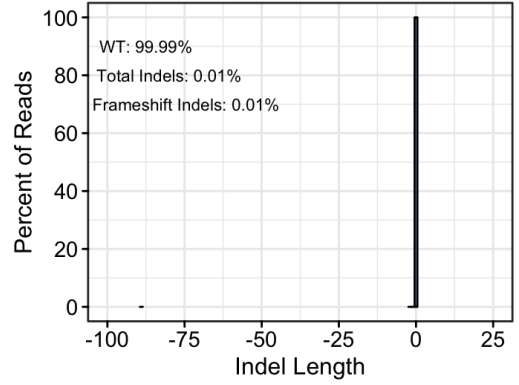
237. A B2M Ex.1 SD OT4 + Pulse



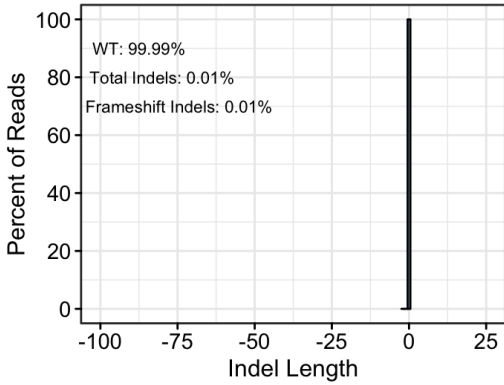
238. A B2M Ex.1 SD OT5 + Pulse



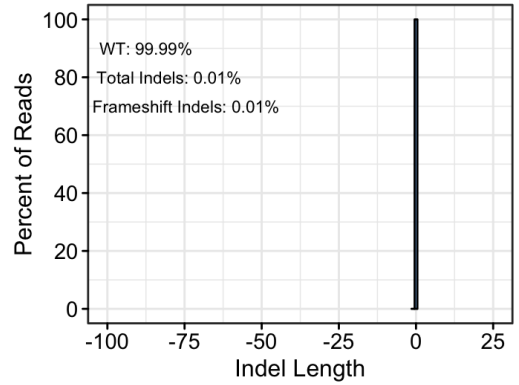
239. A B2M Ex.1 SD OT6 + Pulse



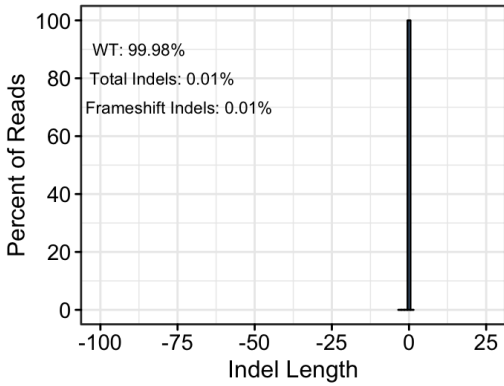
240. A B2M Ex.1 SD OT7 + Pulse



241. A B2M Ex.1 SD OT8 + Pulse



242. A B2M Ex.1 SD OT9 + Pulse



243. A B2M Ex.1 SD OT10 + Pulse

