

Figure 4.1: The relevant graphs showing the optimised HRM real-time PCR results for exon two. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

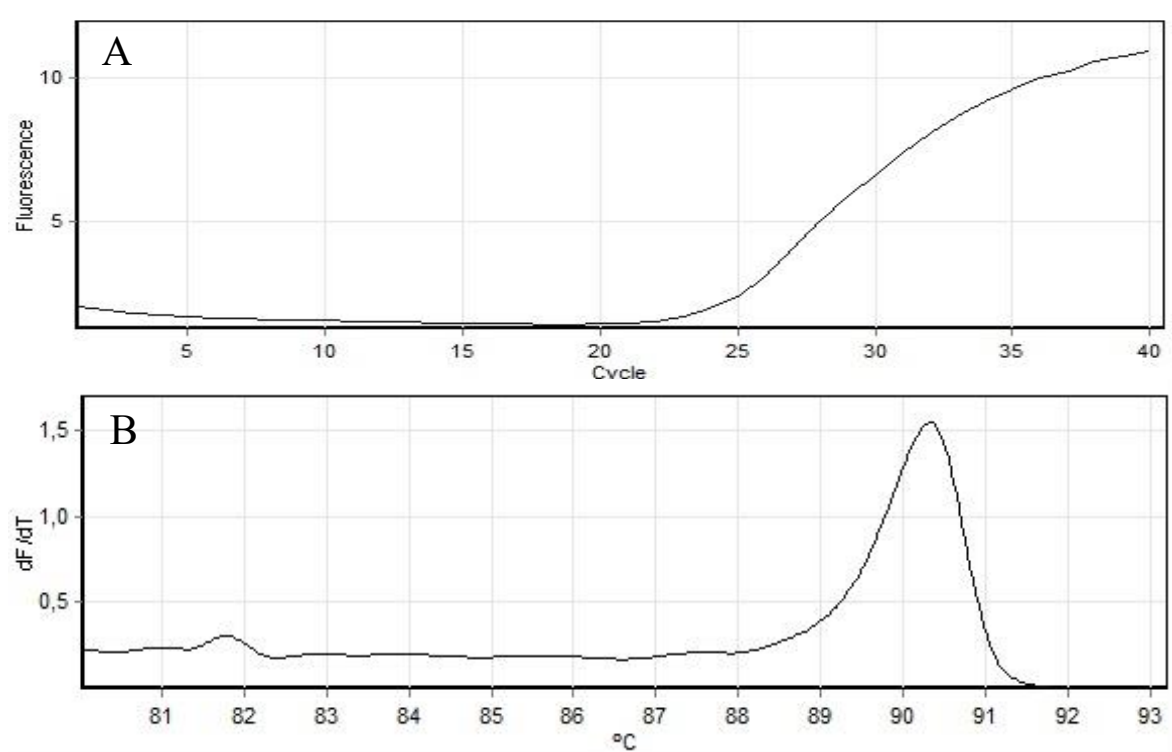


Figure 4.2: The relevant graphs showing the optimised HRM real-time PCR results for exon three. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

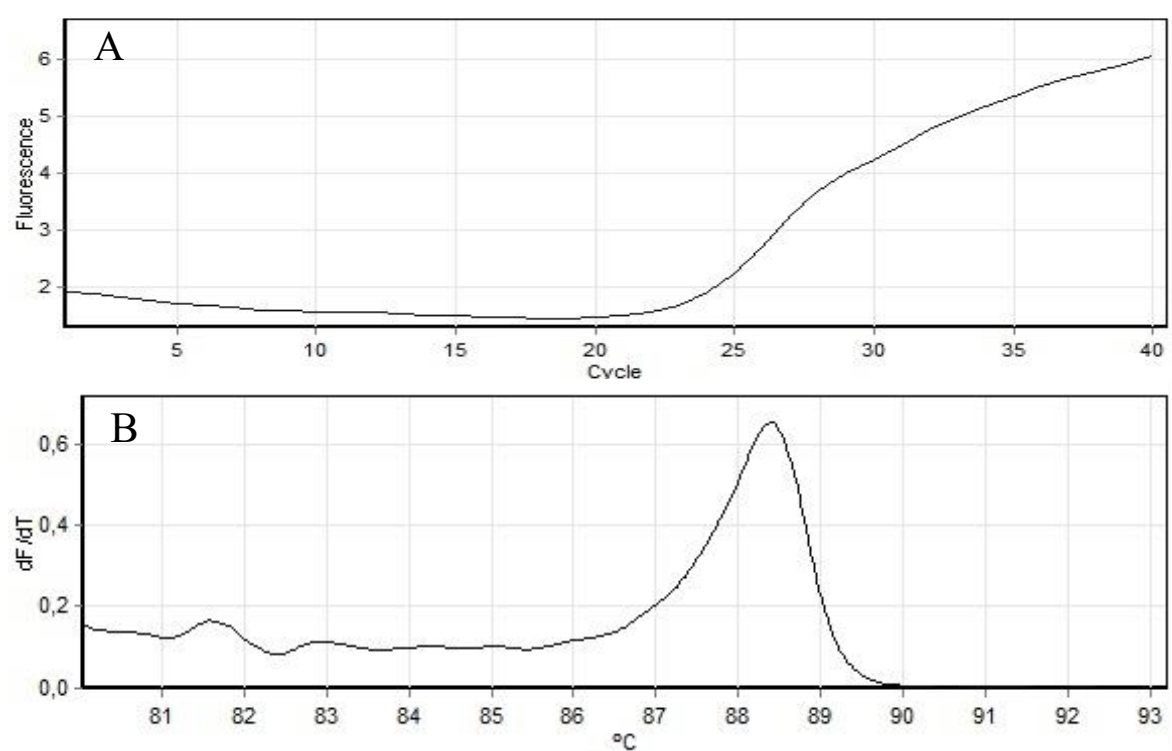


Figure 4.3: The relevant graphs showing the optimised HRM real-time PCR results for exon four. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

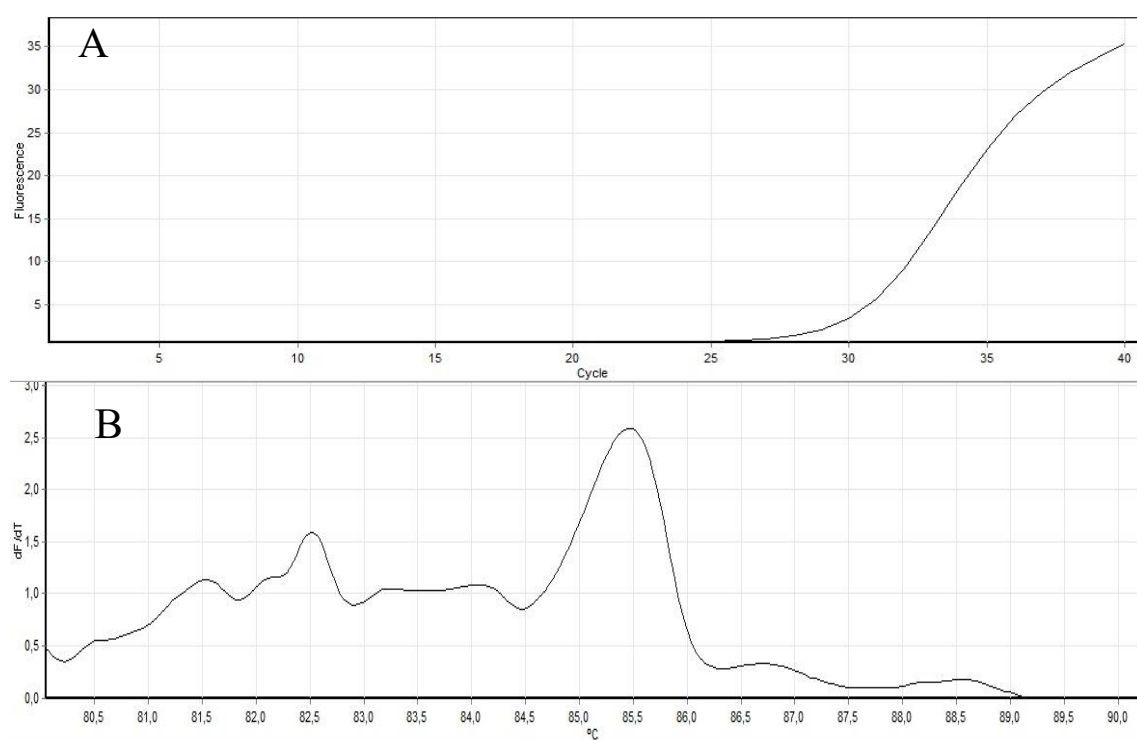


Figure 4.4: The relevant graphs showing the attempted optimisation HRM real-time PCR results for exon five. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

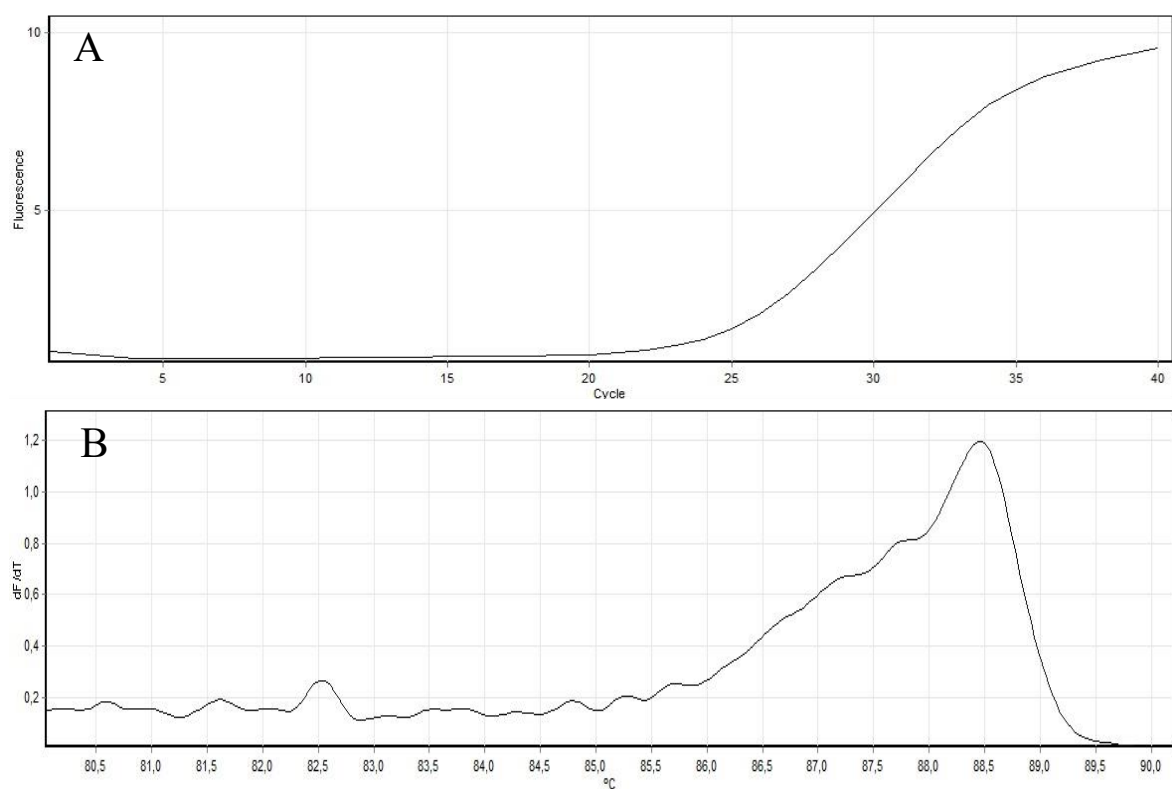


Figure 4.5: The relevant graphs showing the optimised HRM real-time PCR results for exon six. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

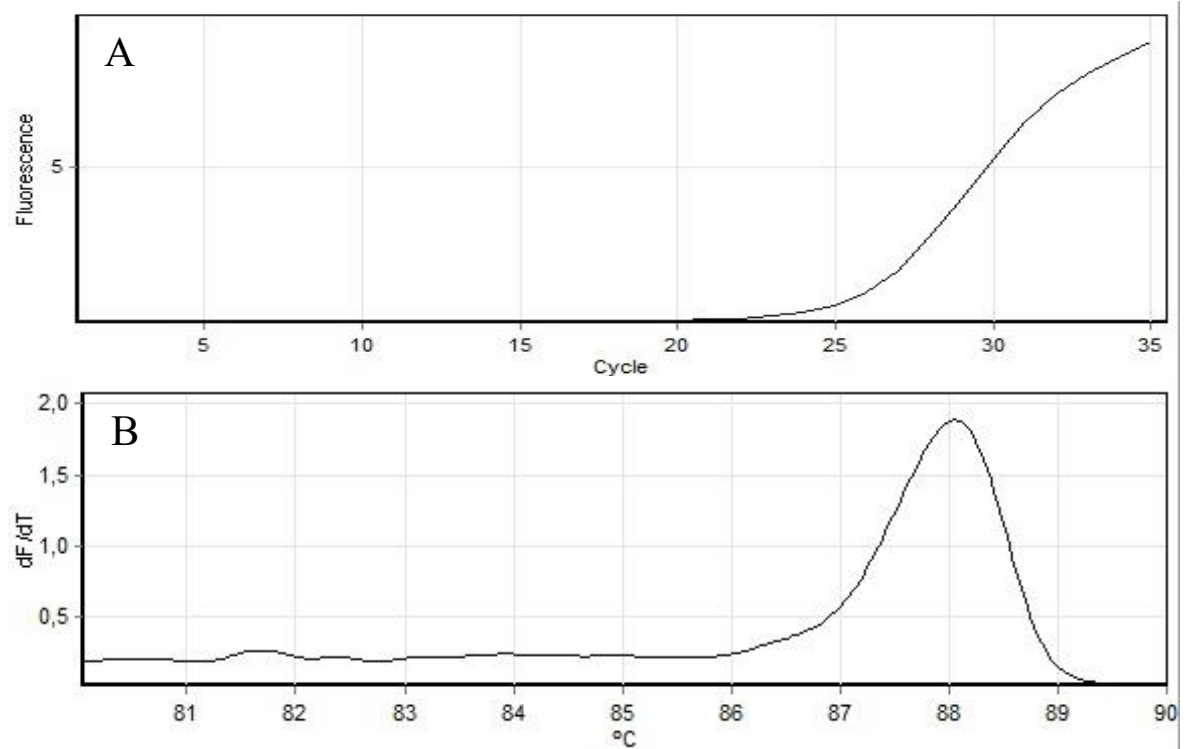


Figure 4.6: The relevant graphs showing the optimised HRM real-time PCR results for exon seven. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

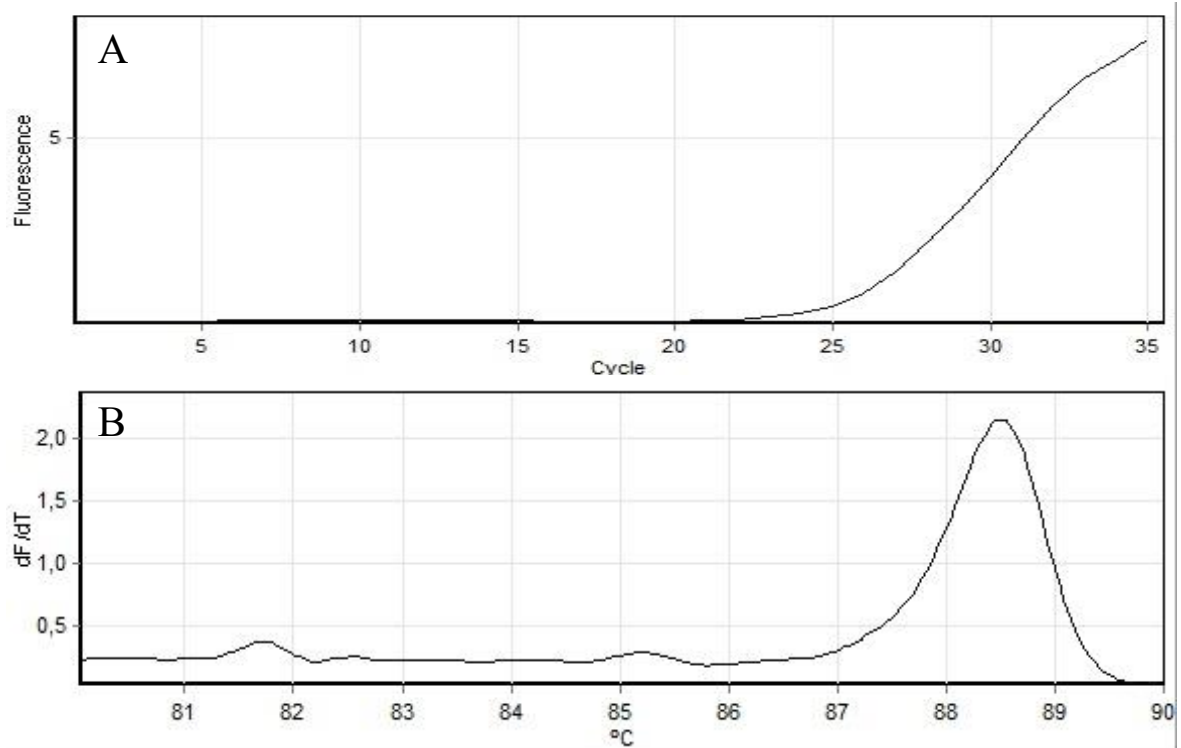


Figure 4.7: The relevant graphs showing the optimised HRM real-time PCR results for exon eight. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

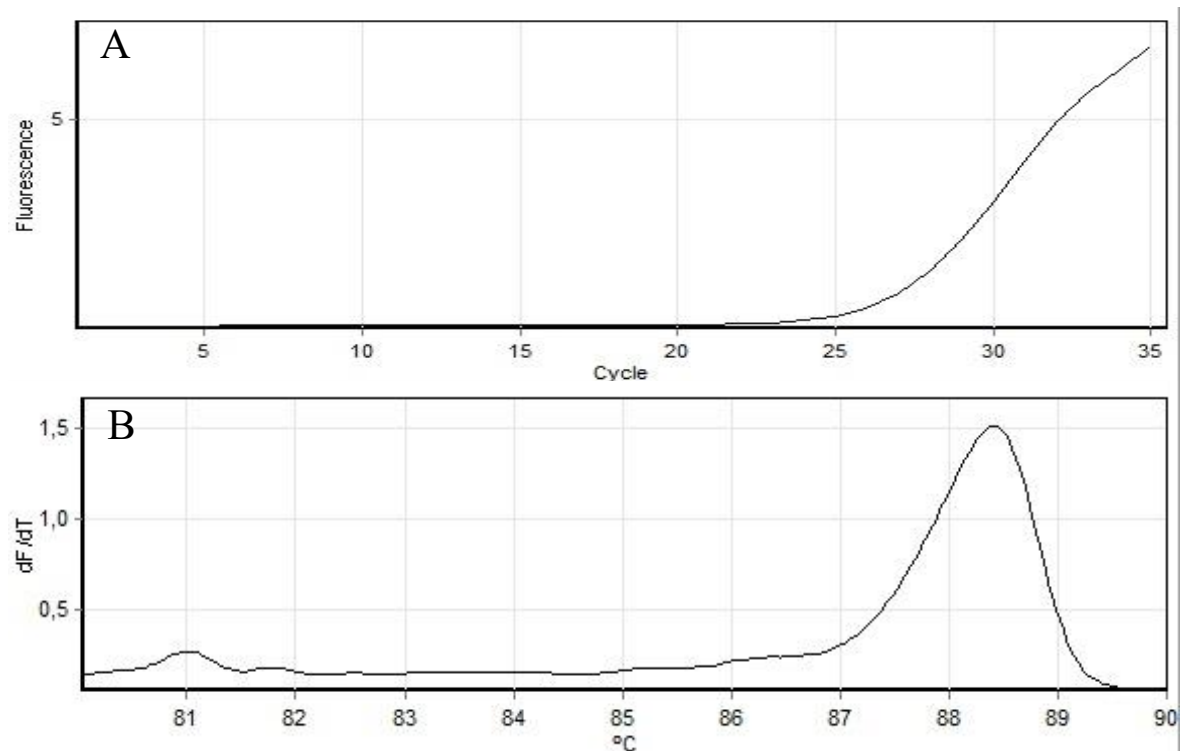


Figure 4.8: The relevant graphs showing the optimised HRM real-time PCR results for exon nine. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.



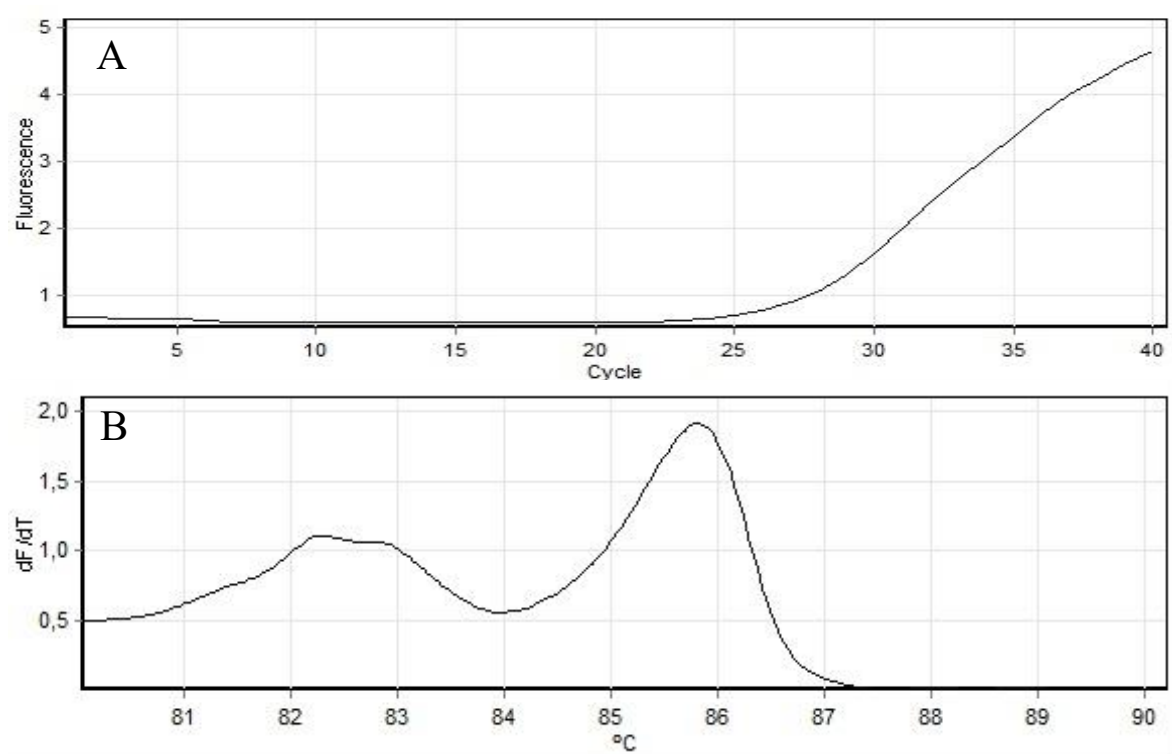


Figure 4.9: The relevant graphs showing the optimised HRM real-time PCR results for exon 10. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon. 4.3.14. Exon 12

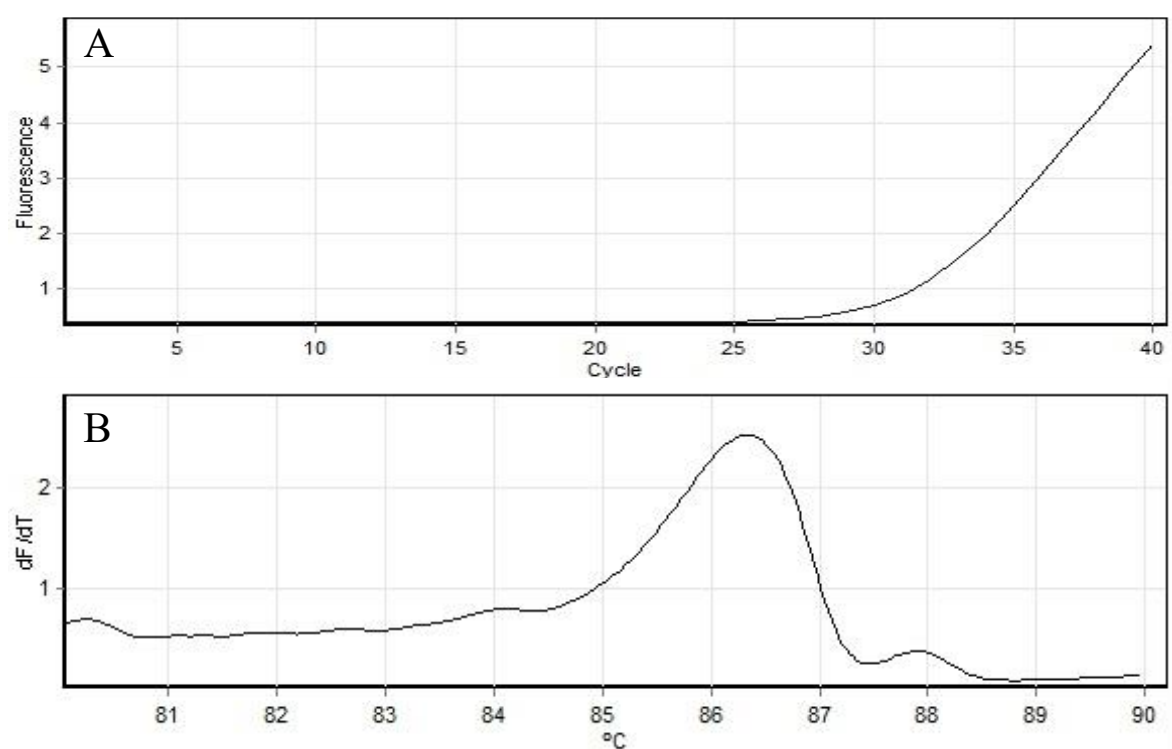


Figure 4.10: The relevant graphs showing the optimised HRM real-time PCR results for exon 11. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

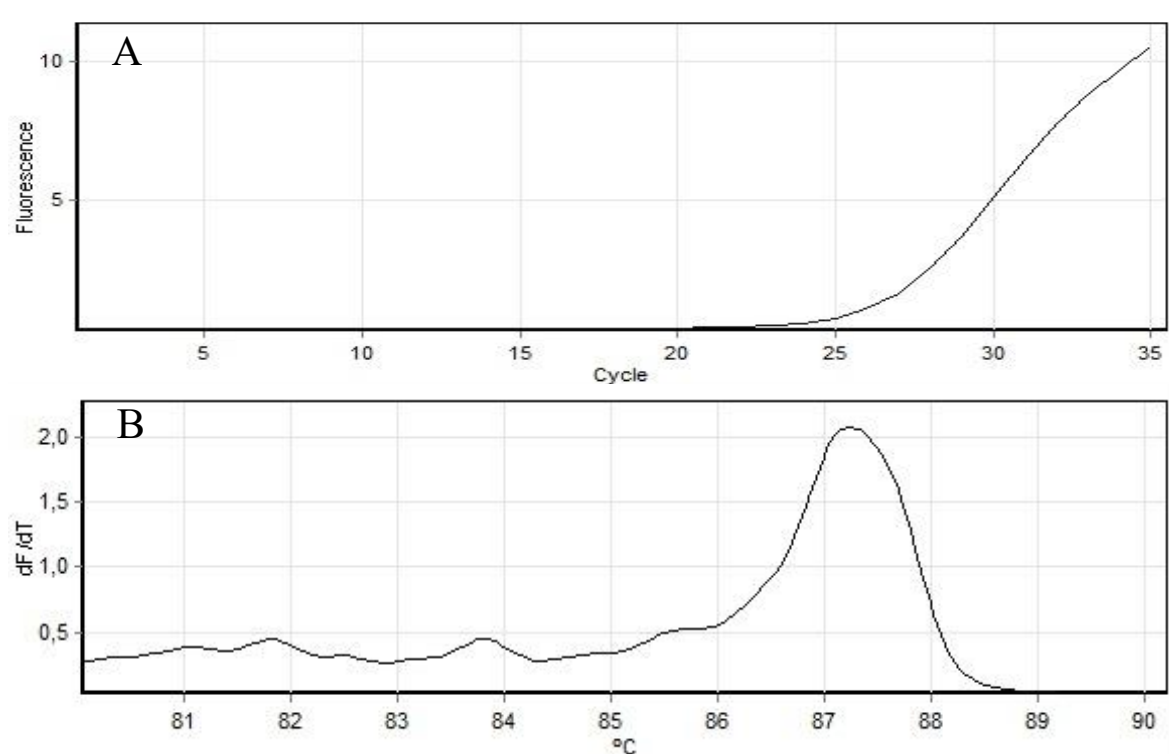


Figure 4.11: The relevant graphs showing the optimised HRM real-time PCR results for exon 12. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

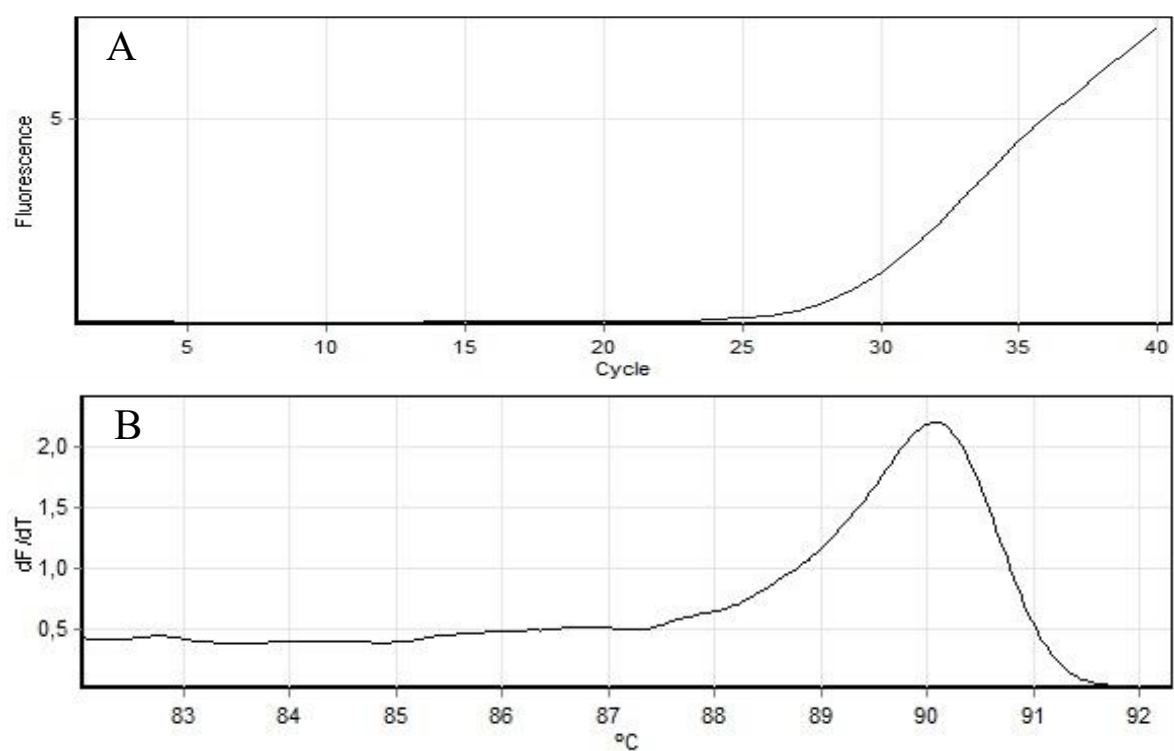


Figure 4.12: The relevant graphs showing the optimised HRM real-time PCR results for exon 13. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}\text{C}$ ) showing the melting temperature of the exon.

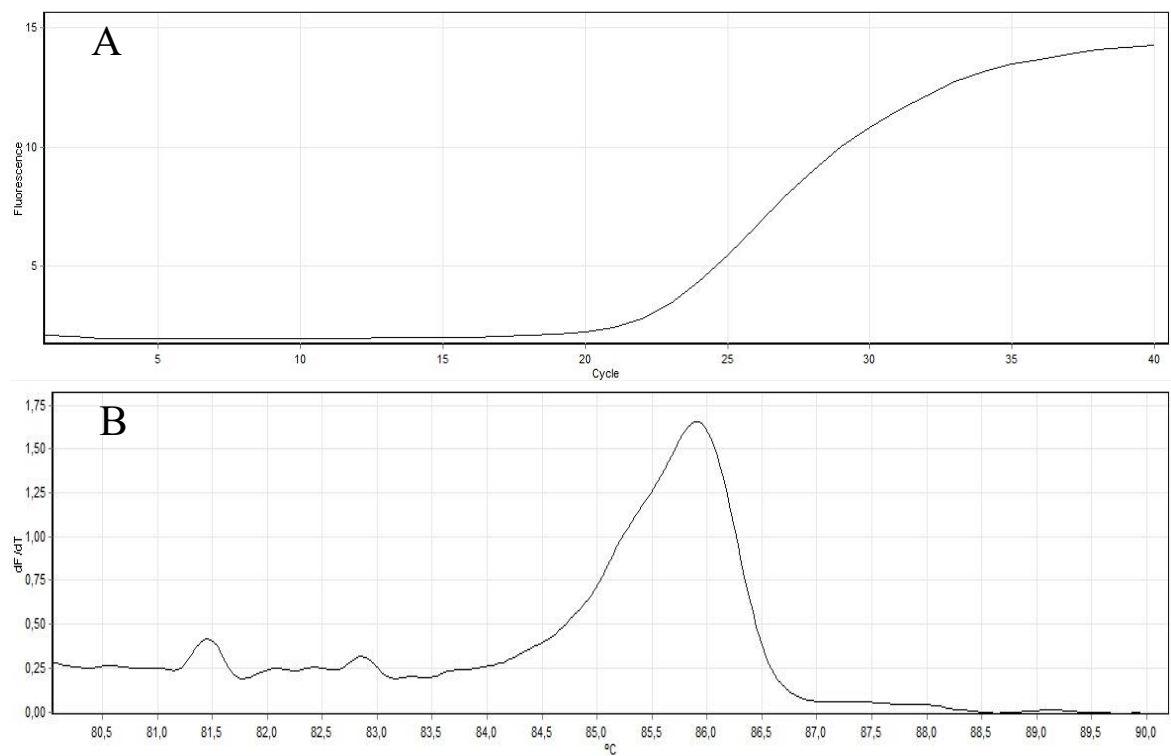


Figure 4.13: The relevant graphs showing the optimised HRM real-time PCR results for exon 14. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

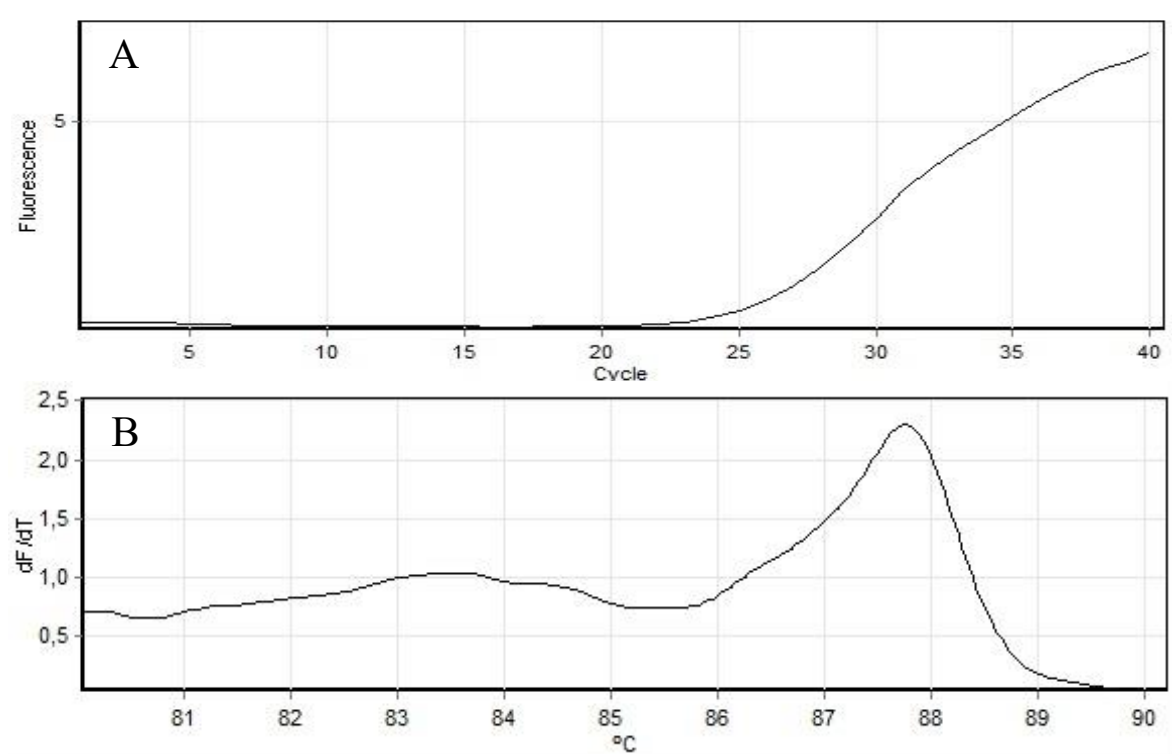


Figure 4.14: The relevant graphs showing the optimised HRM real-time PCR results for exon 15. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

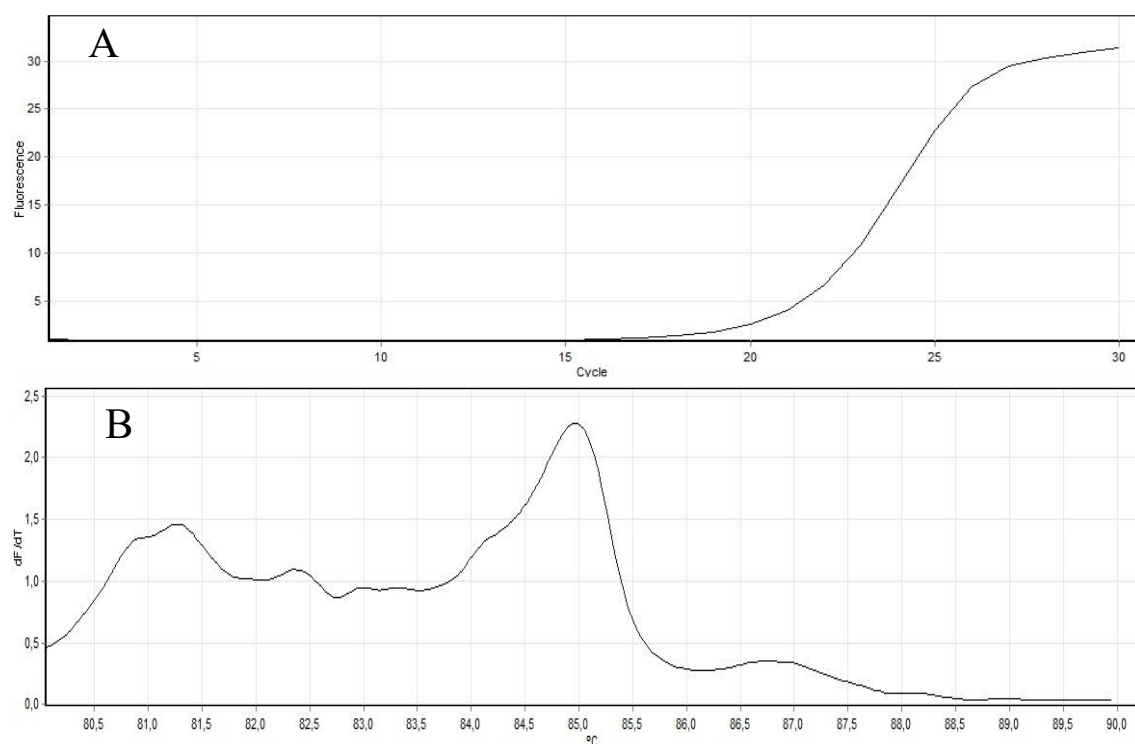


Figure 4.15: The relevant graphs showing the attempted optimisation HRM real-time PCR results for exon 16. (A) The fluorescence vs cycle number curve showing the amplification of the exon. (B) The HRM melt peak curve ( $dF/dT$  vs  $^{\circ}C$ ) showing the melting temperature of the exon.

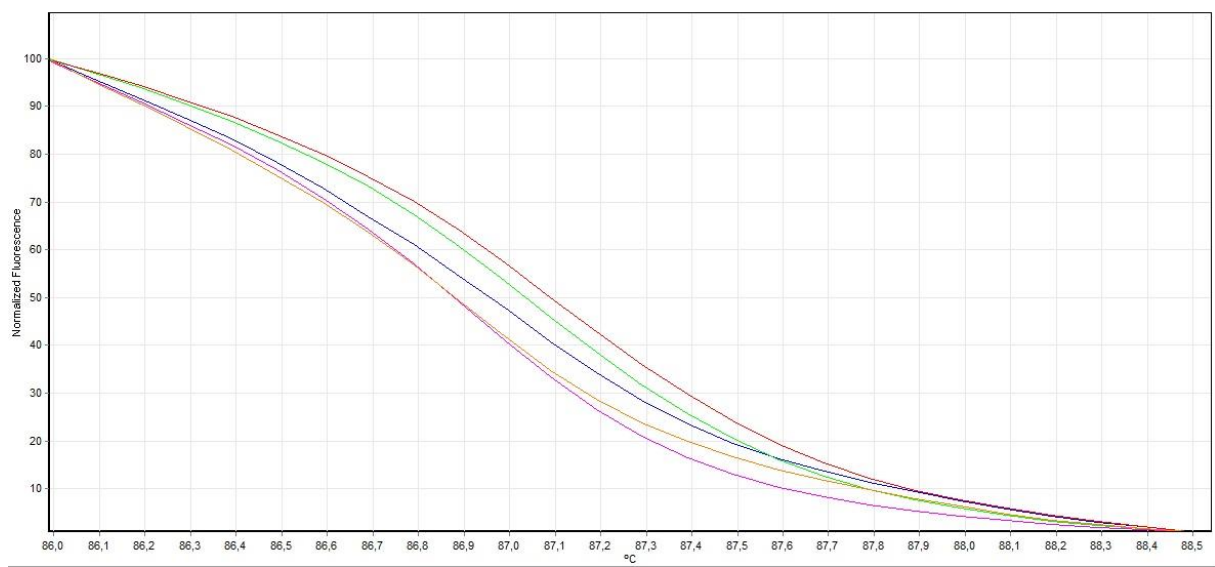


Figure 4.16: A normalised curve of the similarity groups found after HRM analysis for exon two. Group 1 is red, group 2 is blue, group 3 is green, group 4 is pink and group 5 is orange.



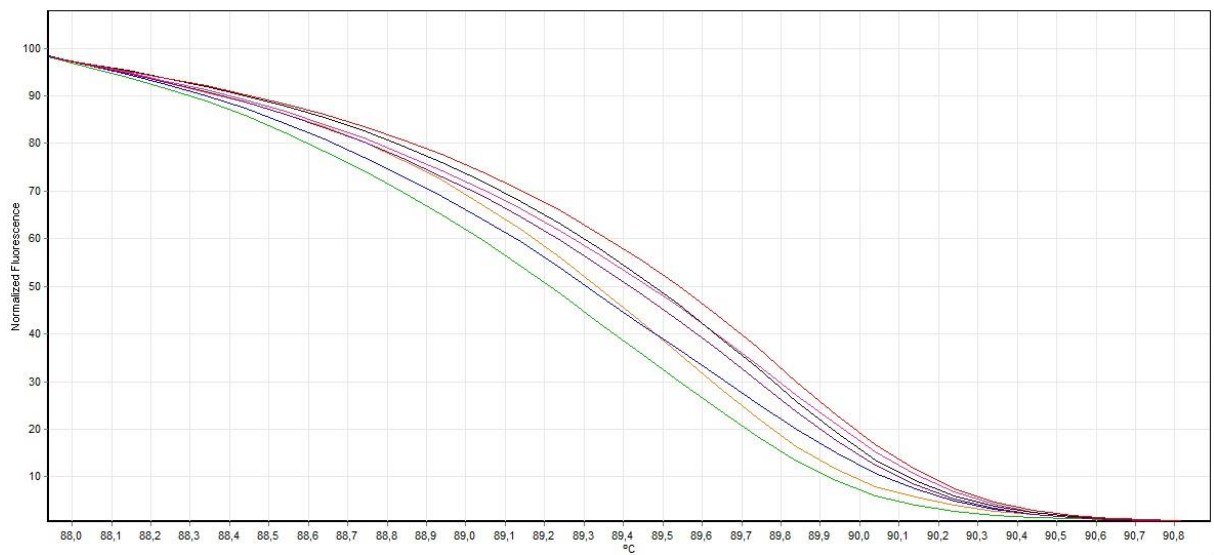


Figure 4.17: A normalised curve of the similarity groups found after HRM analysis for exon three. Group 1 is black, group 2 is pink, group 3 is blue, group 4 is purple, group 5 is red, group 6 is green, and group 7 is orange.

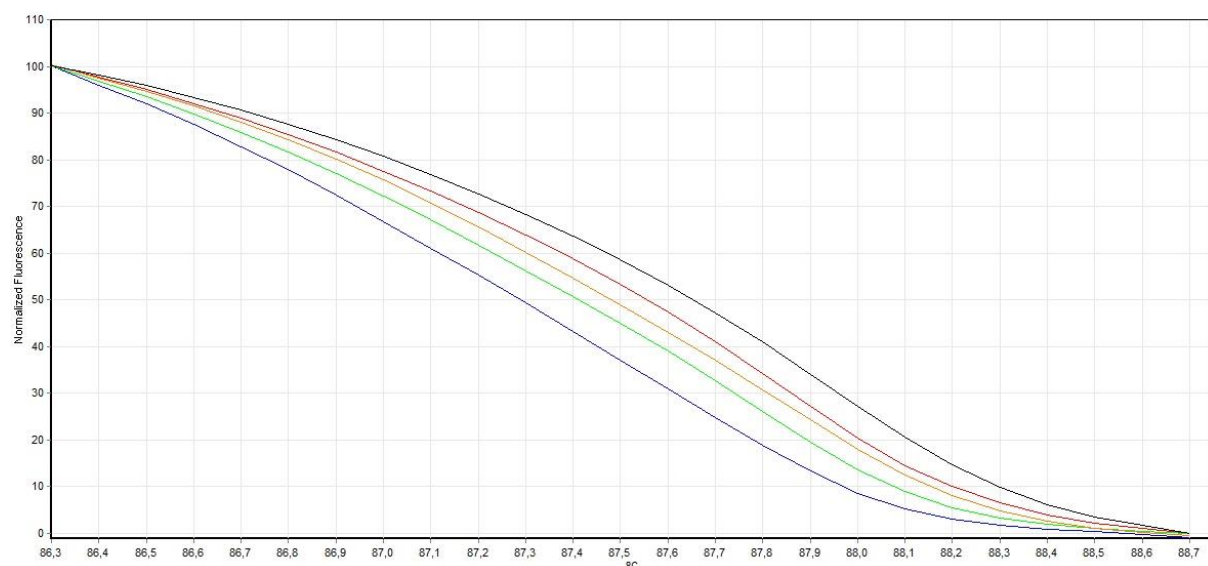


Figure 4.18: A normalised curve of the similarity groups found after HRM analysis for exon four. Group 1 is red, group 2 is blue, group 3 is green and the two control samples are orange (C1) and black (C4).

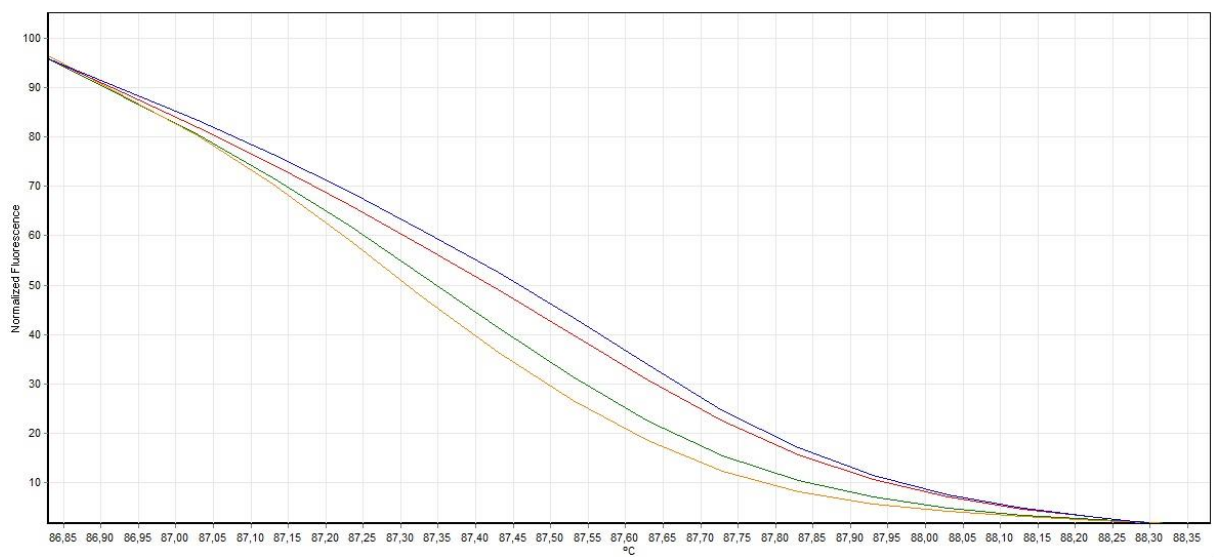


Figure 4.19: A normalised curve of the similarity groups found after HRM analysis for exon six. Group 1 is red, group 2 is blue, group 3 is green, and group 4 is orange.

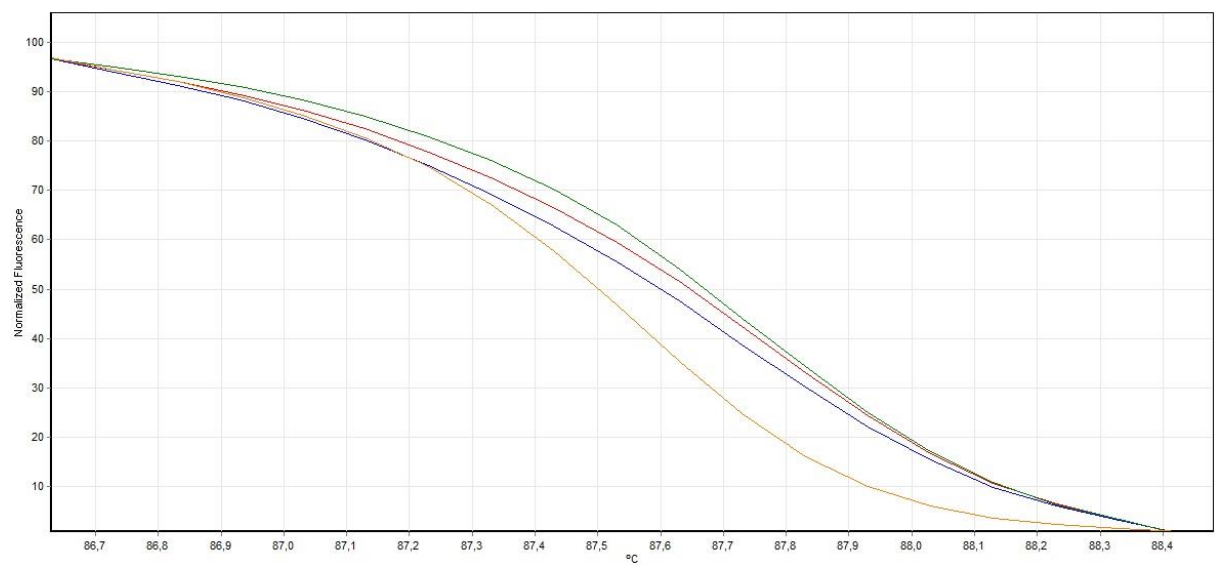


Figure 4.20: A normalised curve of the similarity groups found after HRM analysis for exon seven. Group 1 is red, group 2 is blue, group 3 is green, and group 4 is orange.

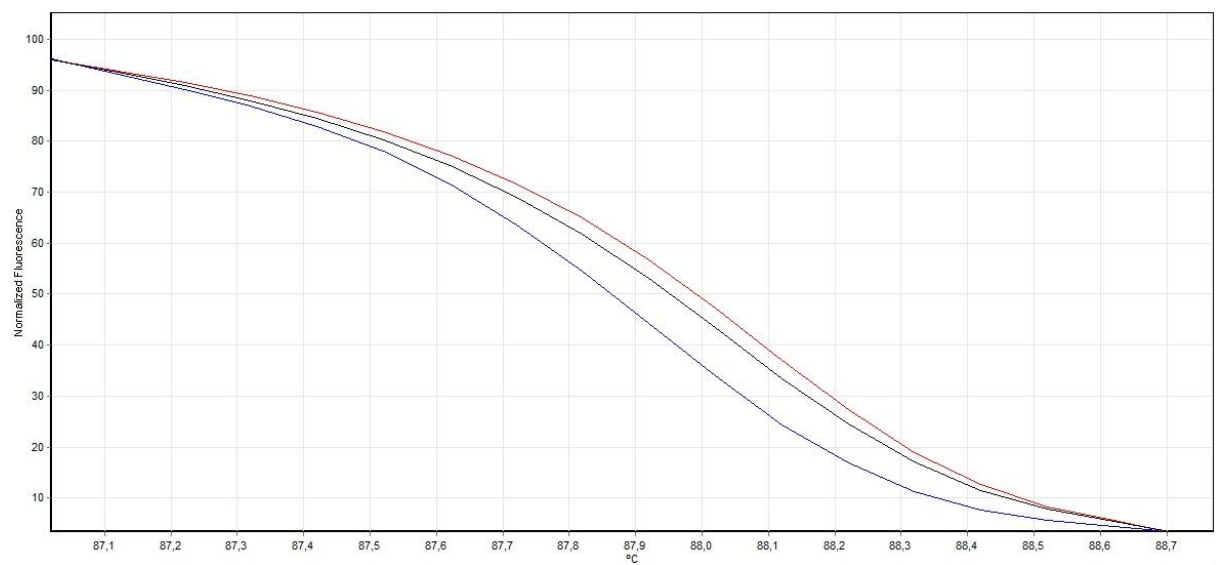


Figure 4.21: A normalised curve of the similarity groups found after HRM analysis for exon eight. Group 1 is red, group 2 is blue, group 3 is black.

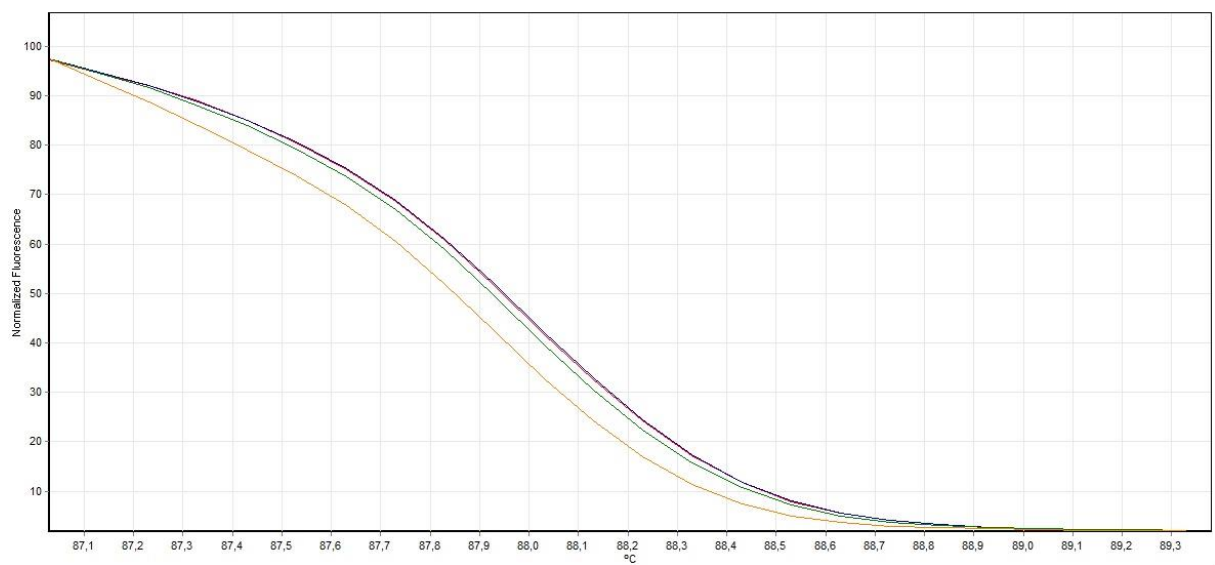


Figure 4.22: A normalised curve of the similarity groups found after HRM analysis for exon eight, showing control 13 (orange) compared to the original three genotypes.

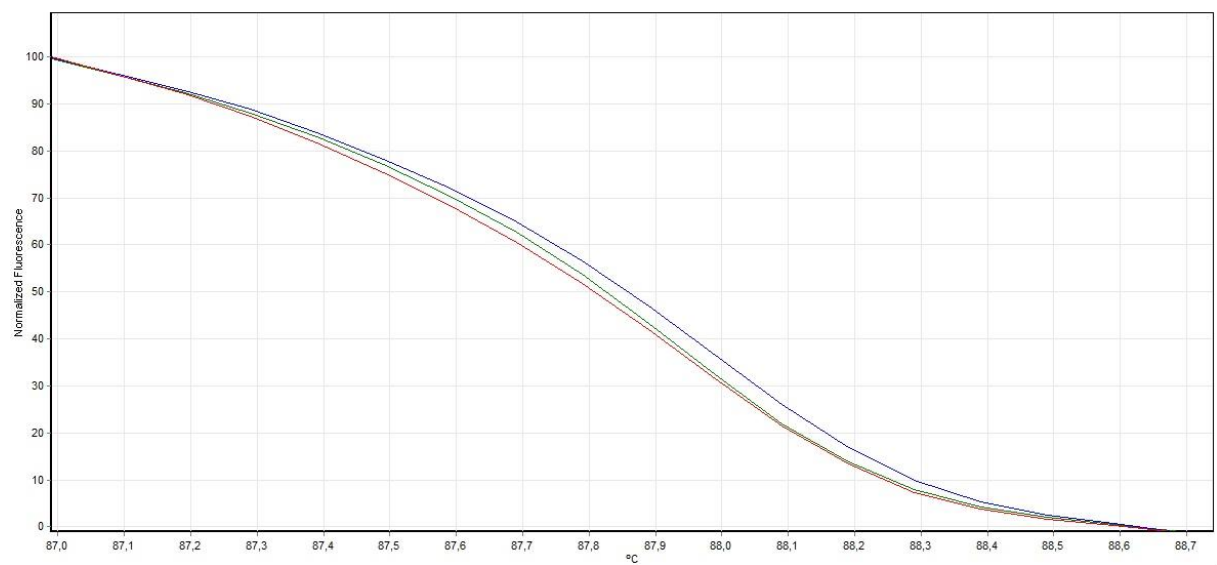


Figure 4.23: A normalised curve of the similarity groups found after HRM analysis for exon nine. Group 1 is red, group 2 is blue and group 3 is green.

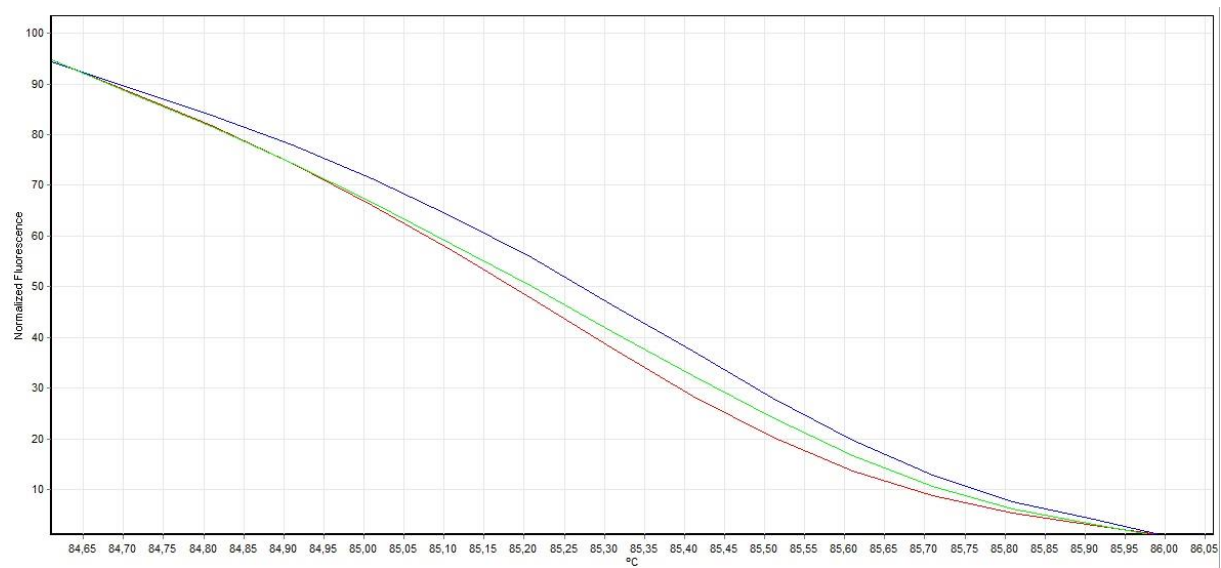


Figure 4.24: A normalised curve of the similarity groups found after HRM analysis for exon 10. Group 1 is red, group 2 is blue, group 3 is green.



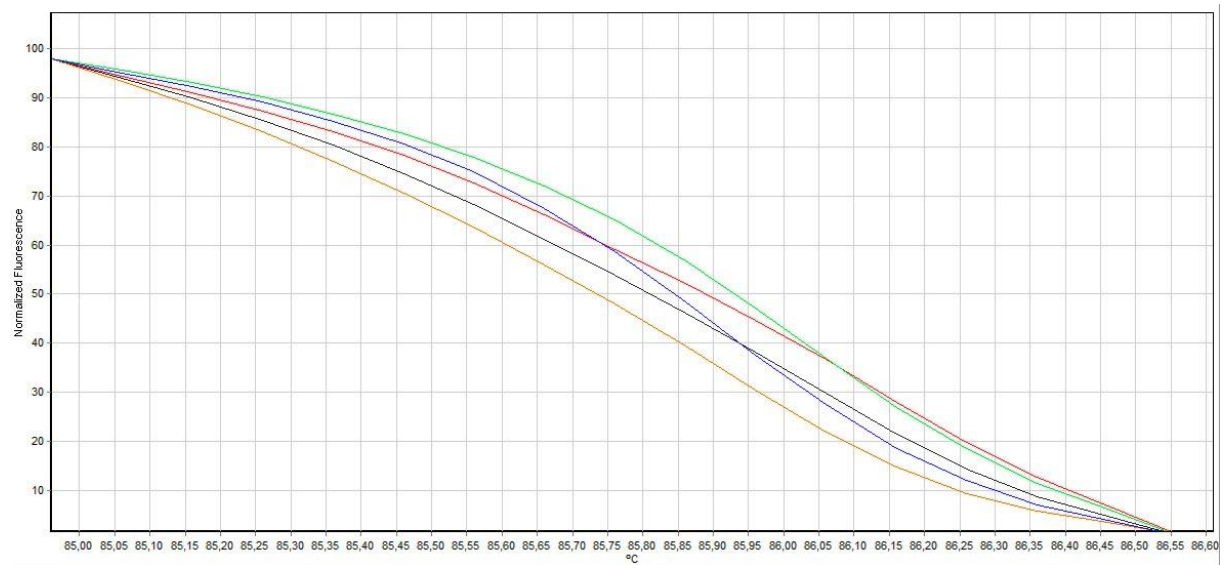


Figure 4.25: A normalised curve of the similarity groups found after HRM analysis for exon 11. Group 1 is red, group 2 is blue, group 3 is green, group 4 is pink and group 5 is orange.

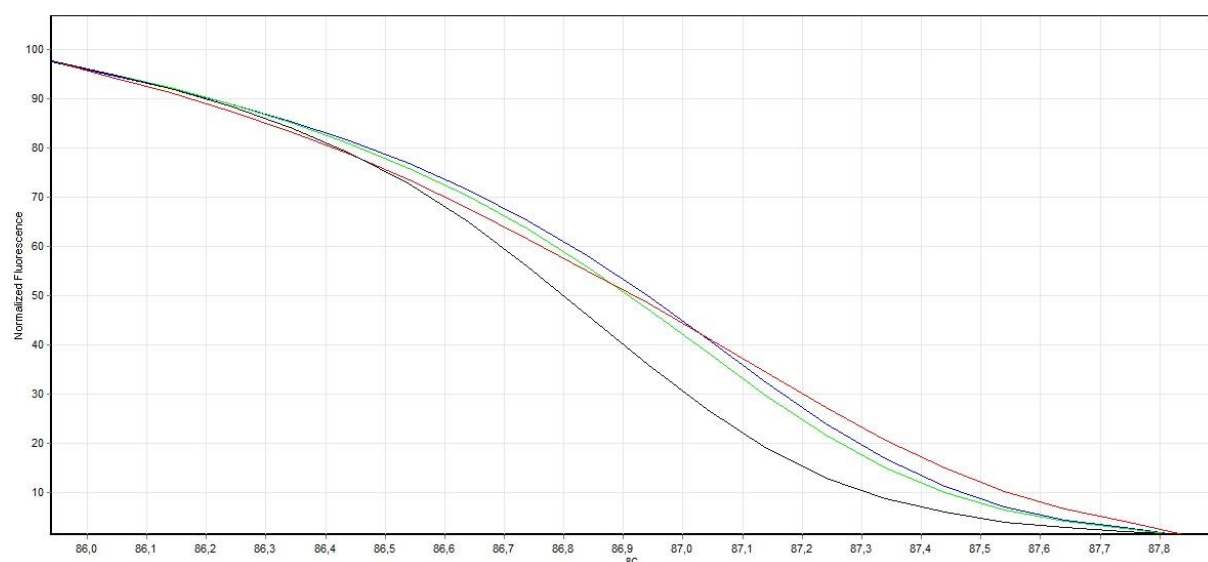


Figure 4.26: A normalised curve of the similarity groups found after HRM analysis for exon 12. Group 1 is blue, group 2 is green, group 3 is red, and group 4 is black.

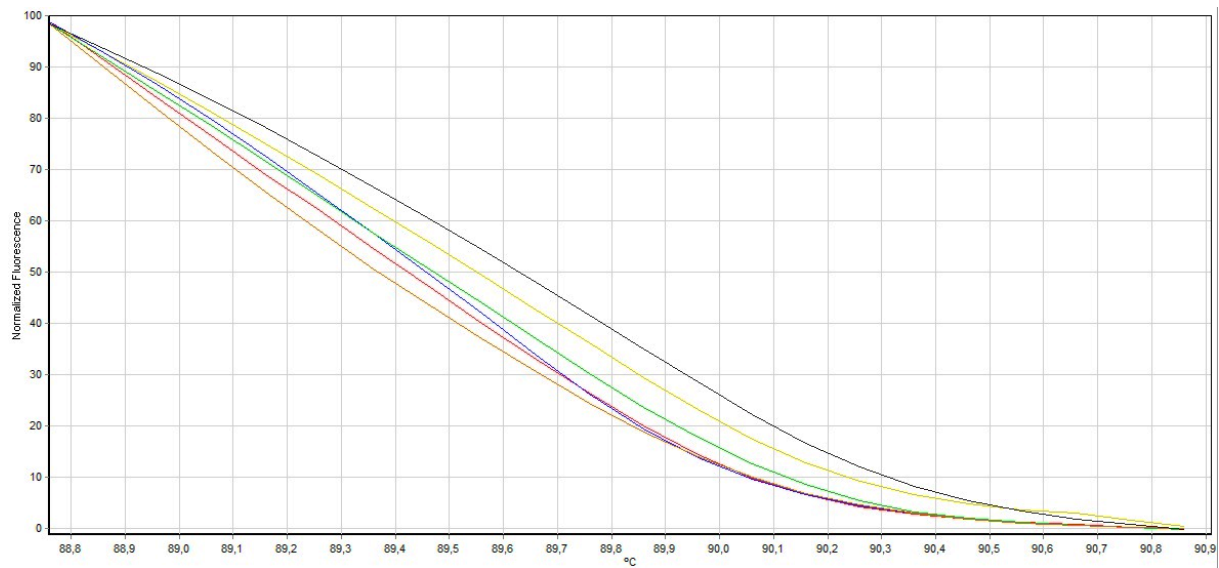


Figure 4.27: A normalised curve of the similarity groups found after HRM analysis for exon 13.

Group 1 is red, group 2 is yellow, group 3 is blue, group 4 is green, group 5 is orange and group 6 is black.

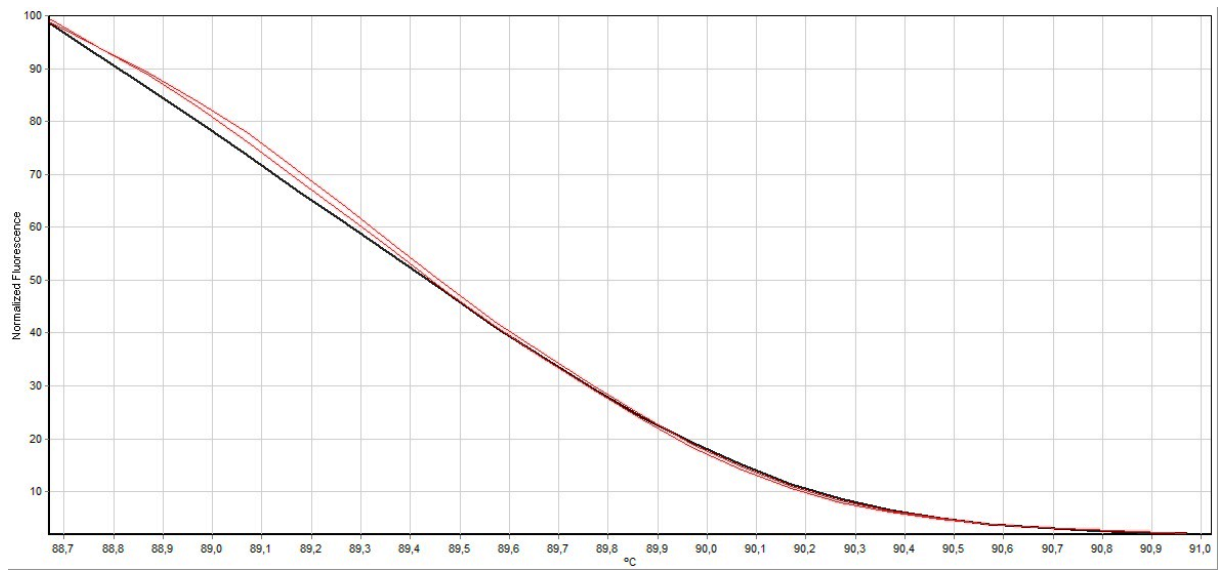


Figure 4.28: A normalised curve of the similarity groups found after HRM analysis for exon 13. The black line is Control 19 and the red lines are the case 24 duplicates.

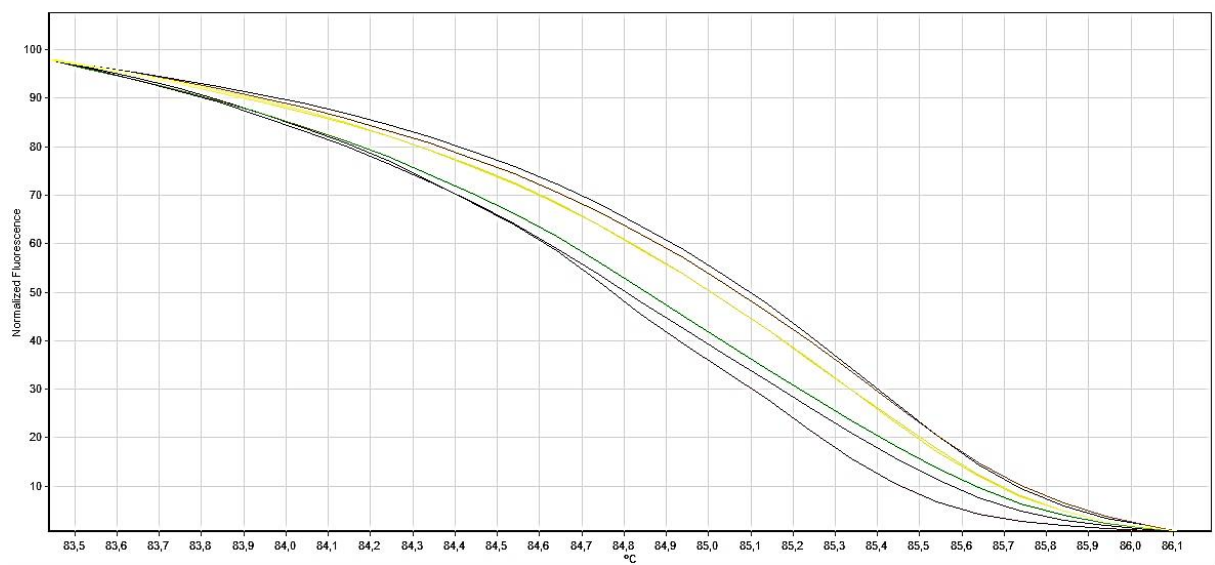


Figure 4.29: A normalised curve of the similarity groups found after HRM analysis for exon 14. Group 1 is red, group 2 is blue, group 3 is green, group 4 is orange, group 5 is black and group 6 is yellow.

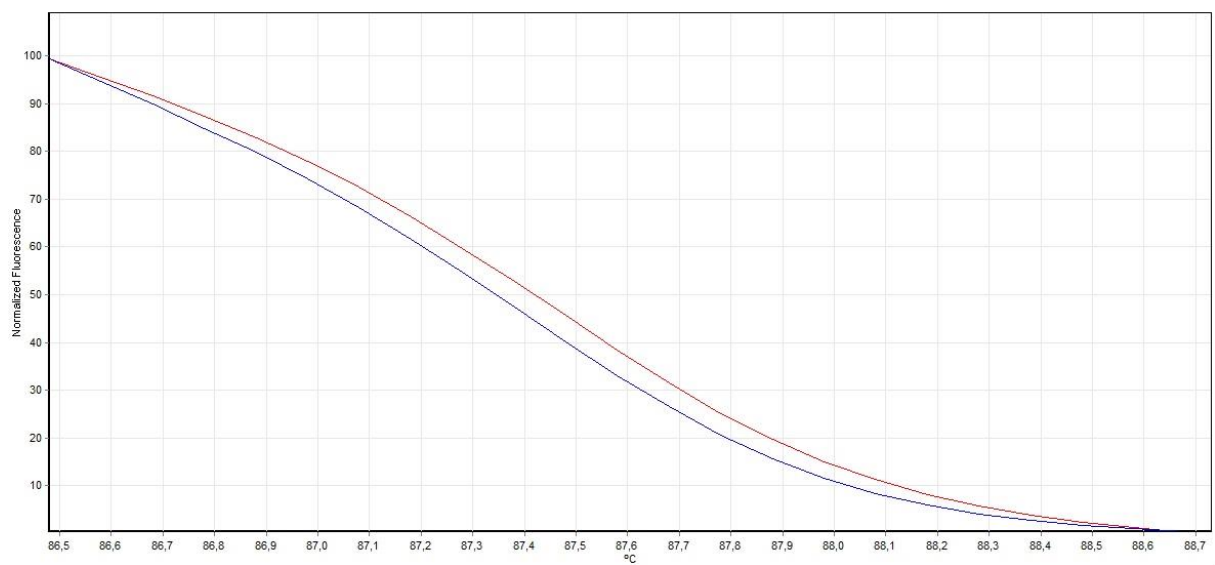


Figure 4.30: A normalised curve of the similarity groups found after HRM analysis for exon 15. Group 1 is red, group 2 is blue, and control 7 is green.