

Appendix 8: Blind Trial Samples

Twenty blind trial samples were analysed using the multiplex and the initial mixtures, ratios and the analysis results can be found in Table A8.1. The blind trial results can be seen in Figures A8.1 through A8.20 and the negative control can be seen in Figure A8.21. Species were recorded as present if both peaks (one for hedgehog) were present. All trial samples were analysed correctly except for trial one, two, ten and 19 (see discussion Chapter 4).

Mixtures which might be expected in forensic investigations were included like a dog/badger mixture in Figure A8.5 which might be expected if badger baiting was suspected. Closely related species mixtures like donkey and horse were also tested in trial 17 (Figure A8.17). The final blind trial was a large mixture of ten species, all of which were correctly identified, and can be found in Figure A8.20. The PCR cycling protocol used was the same as for the validation: 35 cycles of 95 °C for 30 s, 60 °C for 30 s and 72 °C for 45 s followed by 72 °C for 20 minutes. The peak threshold was set at 100 rfu for each dye.

Table A8.1: Results for the 20 blind trial samples. Trial number, actual species components, ratio of animal components, detected species and in which figure the electropherogram can be seen is shown. Species which were present but were not detected and species which were erroneously detected are listed in bold and italics.

Trial	Contained	Ratio of Species	Detected	Figure
1	Dog/Harvest Mouse	1:1	Dog/ <i>House Mouse/Cat</i>	A8.1
2	Dog/Harvest Mouse	1:4	Dog/ <i>House Mouse</i>	A8.2
3	Red Deer/Sheep	1:1	Red Deer/Sheep	A8.3
4	Hedgehog/Dog/ <i>Llama</i>	3.33:1:UN	Hedgehog/Dog	A8.4
5	Badger/Dog	1:1	Badger/Dog	A8.5
6	Rat/Horse/Pig/Cow	1:1:1:1	Rat/Horse/Pig/Cow	A8.6
7	<i>Jaguar/American Bison</i> /Goat	UN:UN:1	Goat	A8.7
8	Fox/Cow	1:1	Fox/Cow	A8.8
9	House Mouse/Harvest Mouse/Dog	5:3:1	House Mouse/Harvest Mouse/Dog	A8.9

Trial	Contained	Ratio of Species	Detected	Figure
10	Pig	N/A	Pig/ <i>Rabbit</i>	A8.10
11	Sheep	N/A	Sheep	A8.11
12	Sheep	N/A	Sheep	A8.12
13	Dog/Cat	1:1	Dog/Cat	A8.13
14	Red Deer/Horse/Rat/Human	1:1:1:1	Red Deer/Horse/Rat/Human	A8.14
15	Hedgehog/Rat	2:3	Hedgehog/Rat	A8.15
16	Donkey	N/A	Donkey	A8.16
17	Donkey/Horse	11:3	Donkey/Horse	A8.17
18	Human	N/A	Human	A8.18
19	<i>Chinchilla</i> /Goat/ <i>Badger</i>	3.56:50:2.4	Goat	A8.19
	Hedgehog/Horse/Rat/Dog/		Hedgehog/Horse/Rat/Dog/	
20	Badger/Sheep/Fox/Cow/Pig/	0.6:1:1:1:1:1:1:1	Badger/Sheep/Fox/Cow/Pig/	A8.20
	Harvest Mouse		Harvest Mouse	

UN – refers to unknown concentration of sample so cannot give ratio figure

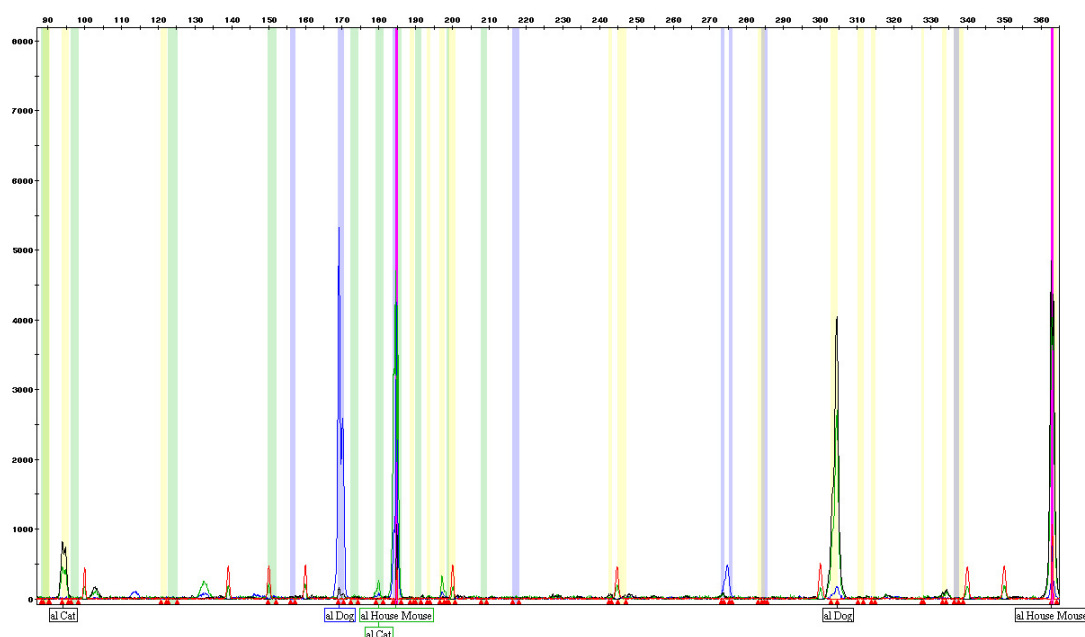


Figure A8.1: Blind trial one showing the detection of cat, dog and house mouse.

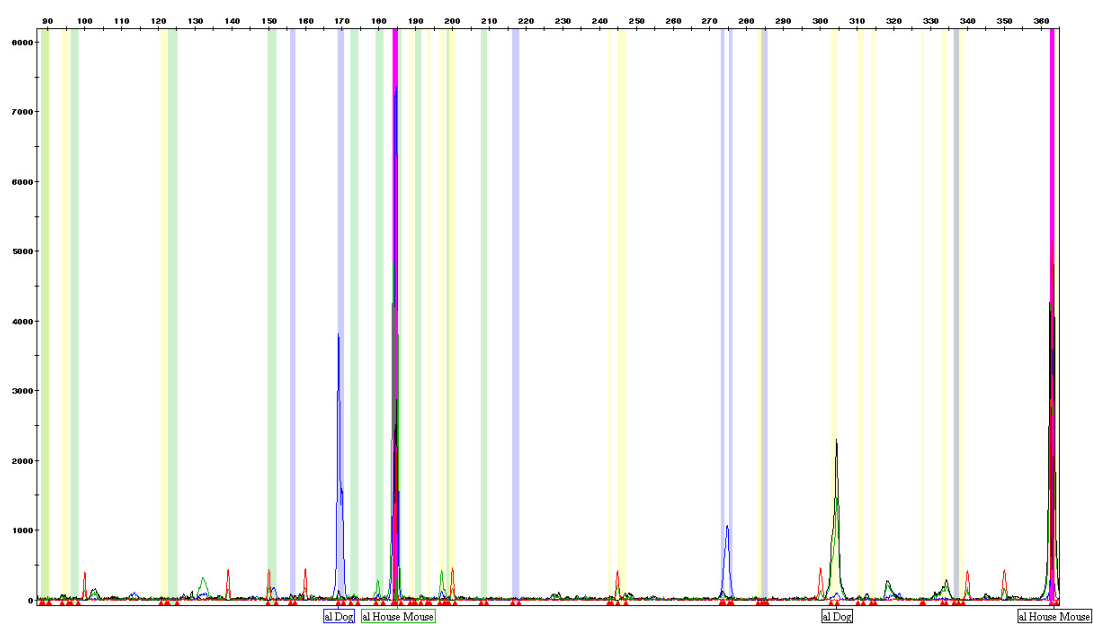


Figure A8.2: Blind trial two showing the detection of dog and house mouse.

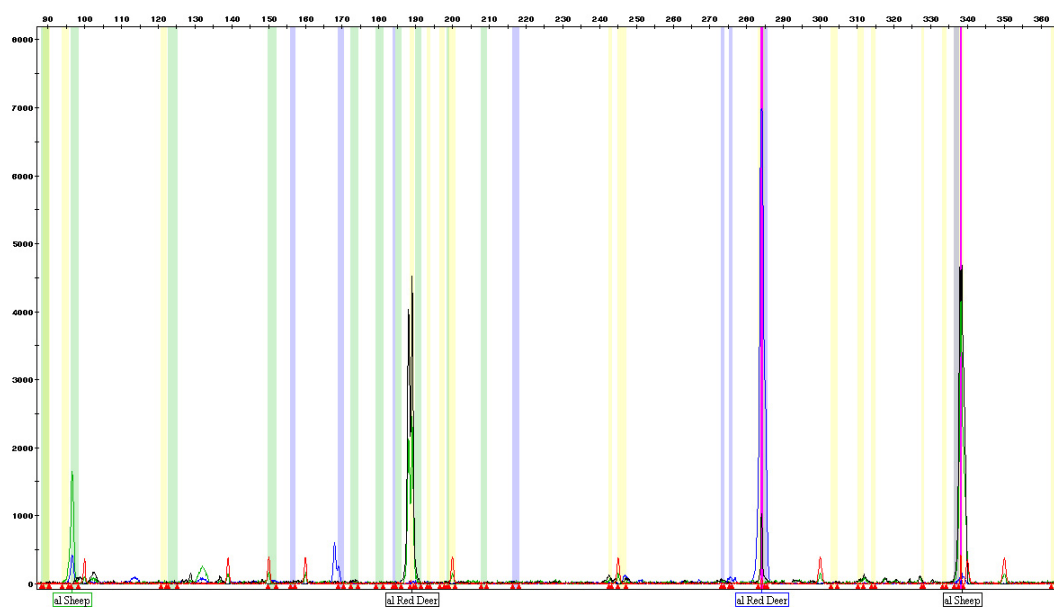


Figure A8.3: Blind trial three showing the detection of sheep and red deer.

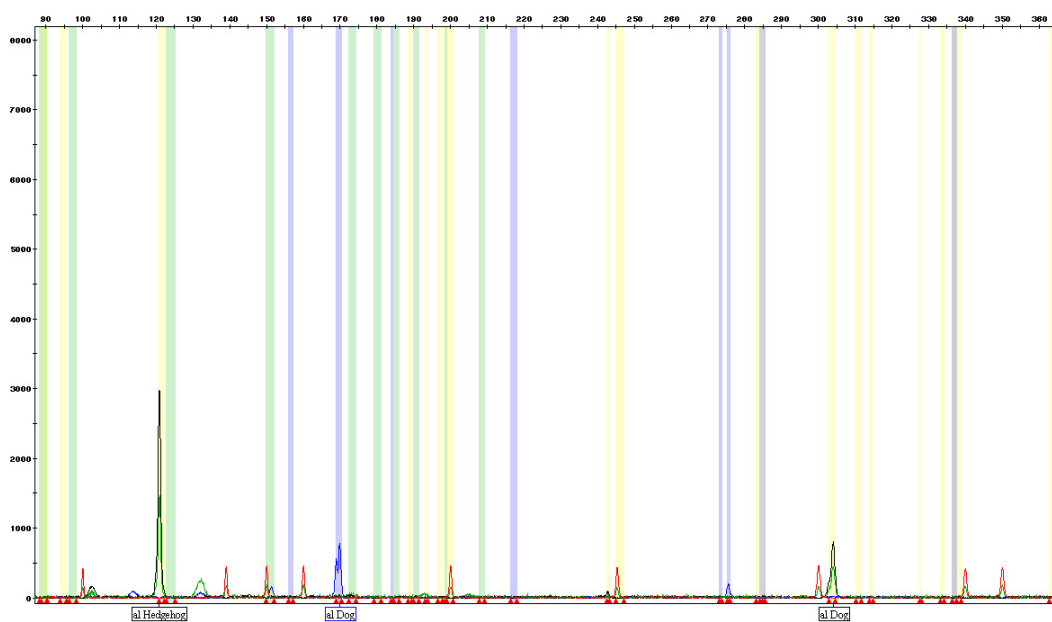


Figure A8.4: Blind trial four showing the detection of hedgehog and dog.

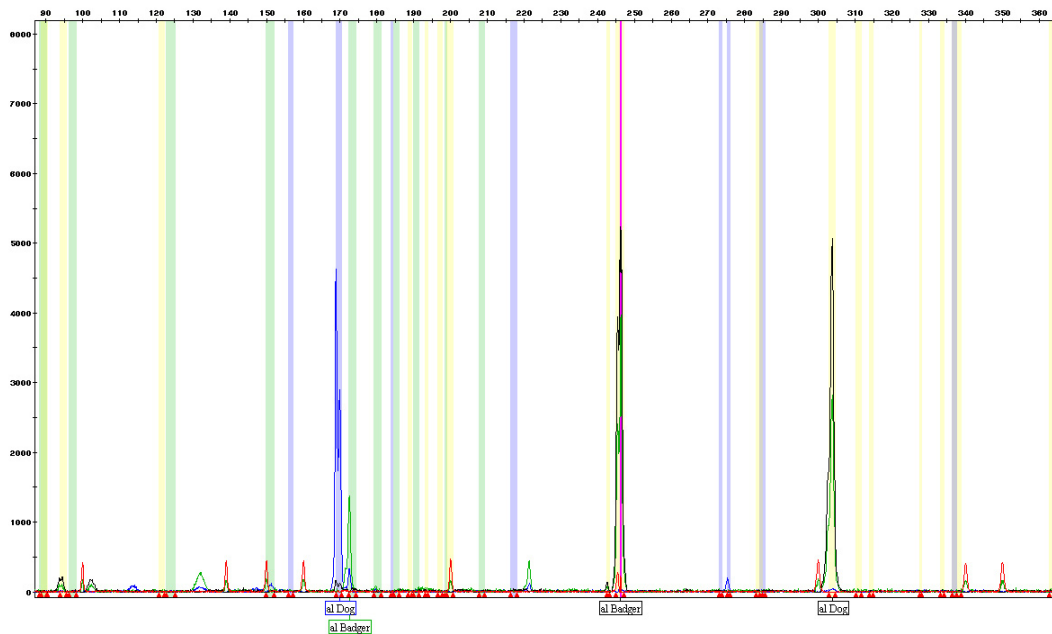


Figure A8.5: Blind trial five showing the detection of dog and badger.

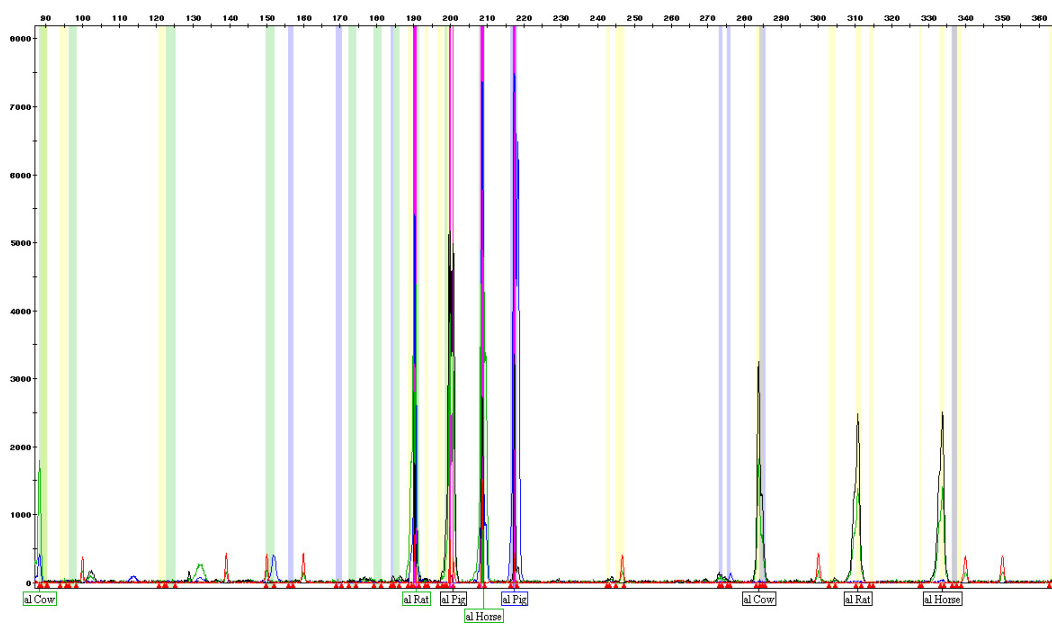


Figure A8.6: Blind trial six showing the detection of cow, rat, pig and horse.

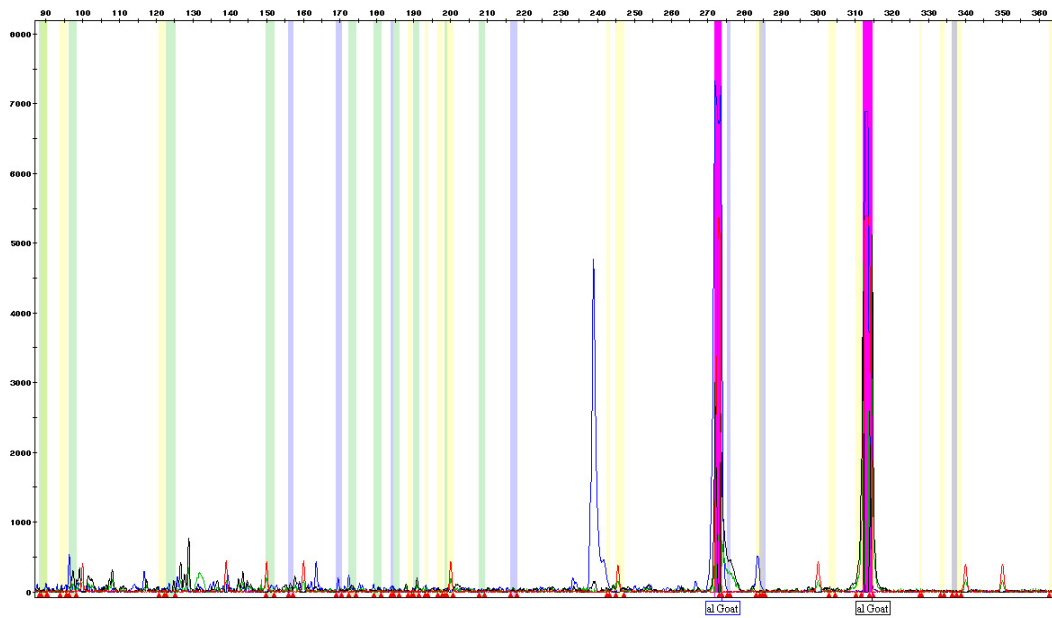


Figure A8.7: Blind trial seven showing the detection of goat.

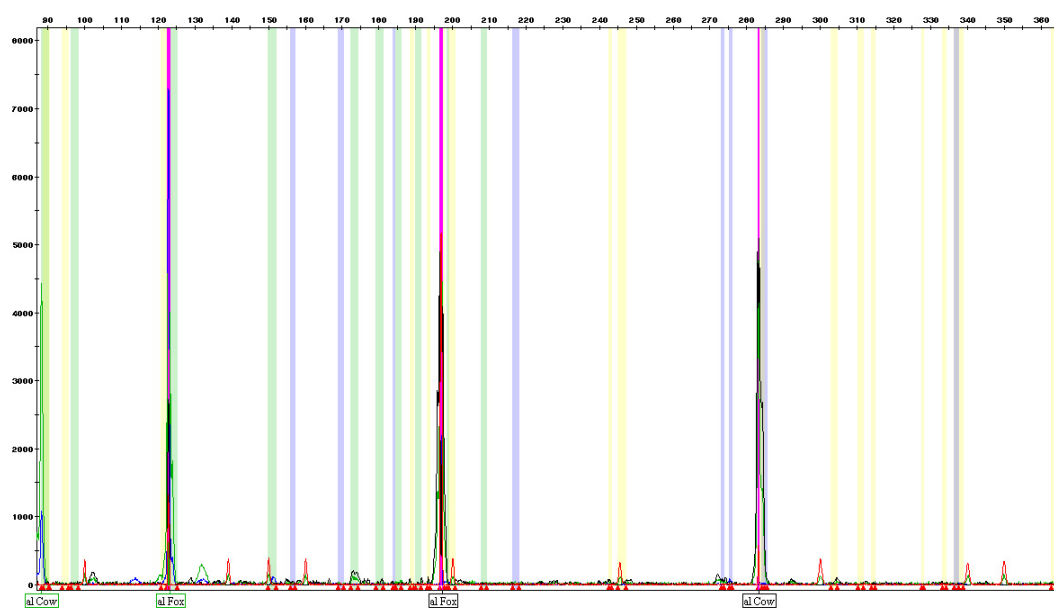


Figure A8.8: Blind trial eight showing the detection of cow and fox.

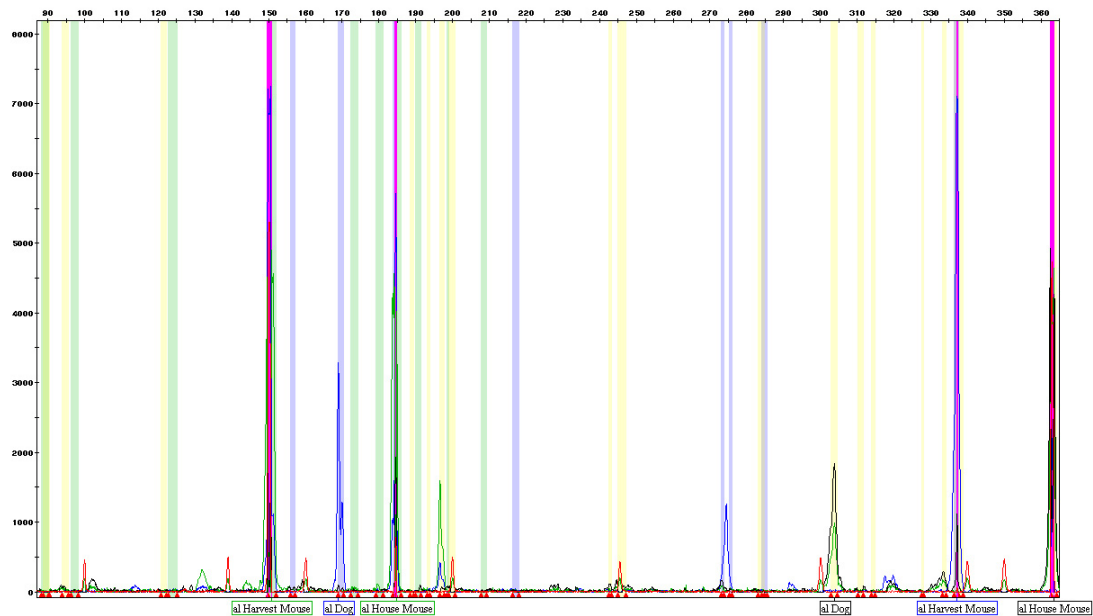


Figure A8.9: Blind trial nine showing the detection of harvest mouse, dog and house mouse.

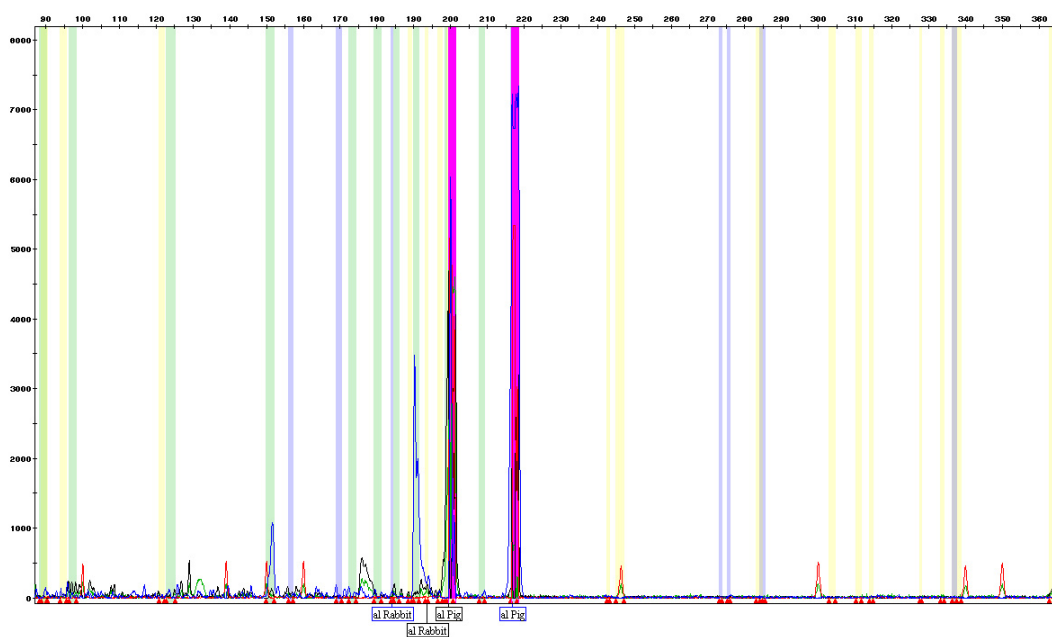


Figure A8.10: Blind trial ten showing the detection of pig and rabbit.

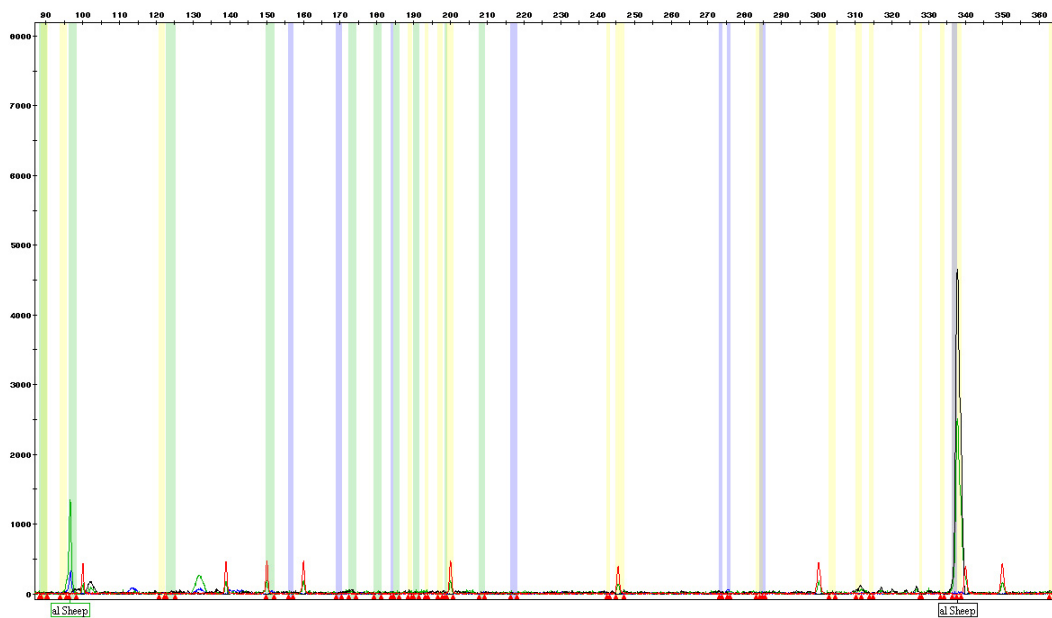


Figure A8.11: Blind trial 11 showing the detection of sheep.

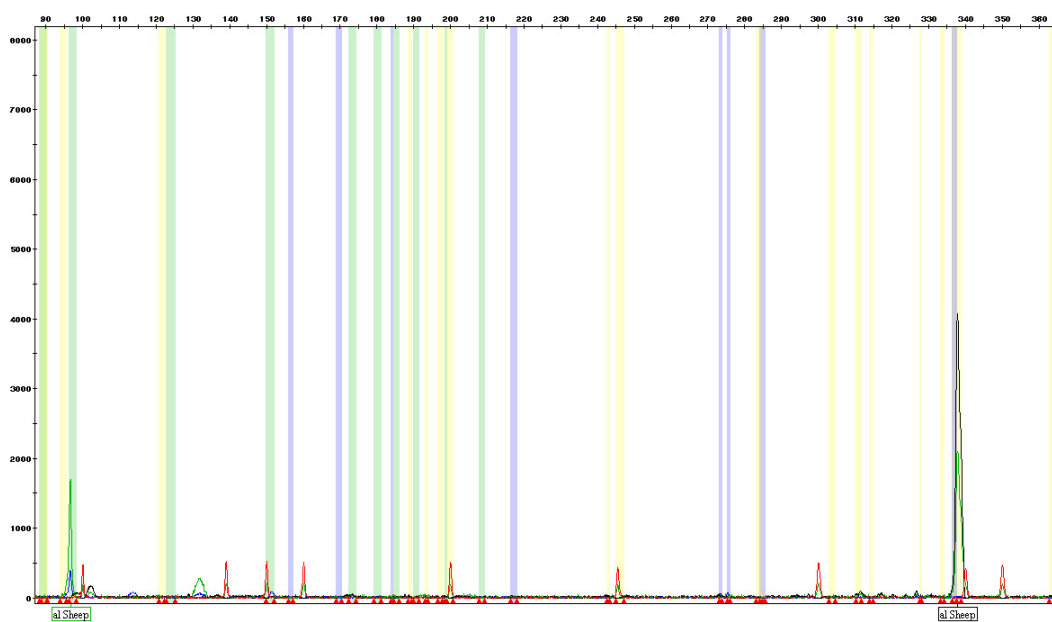


Figure A8.12: Blind trial 12 showing the detection of sheep.

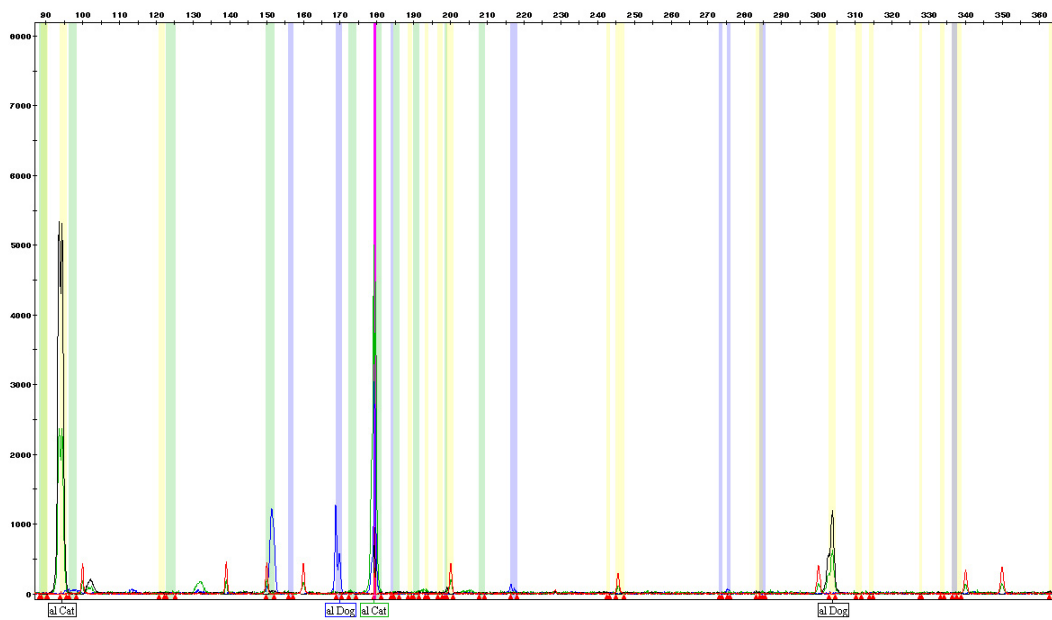


Figure A8.13: Blind trial 13 showing the detection of dog and cat.

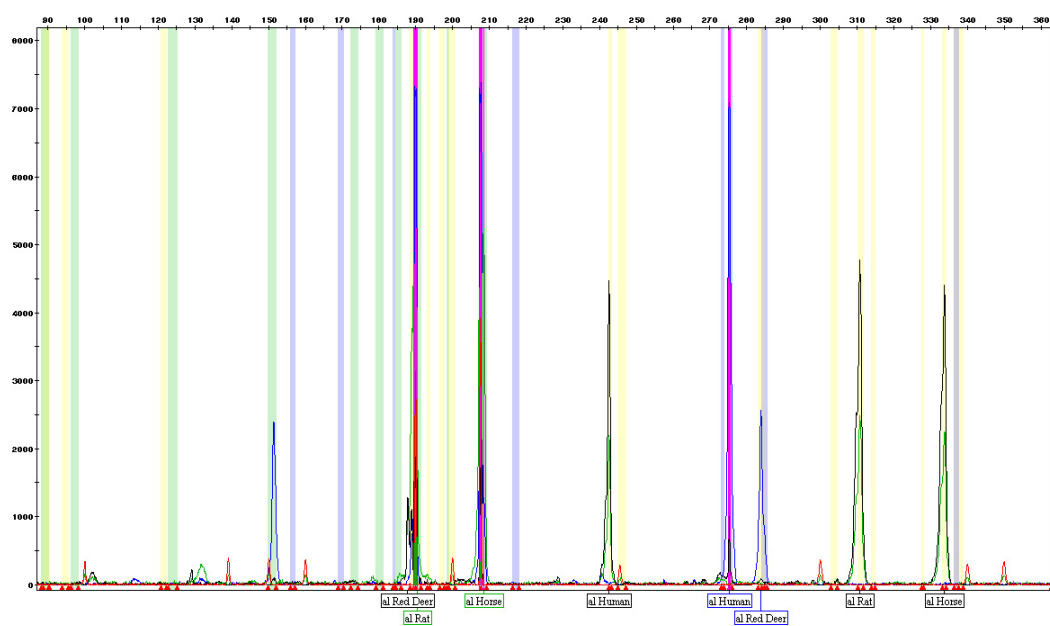


Figure A8.14: Blind trial 14 showing the detection of red deer, rat, horse and human.

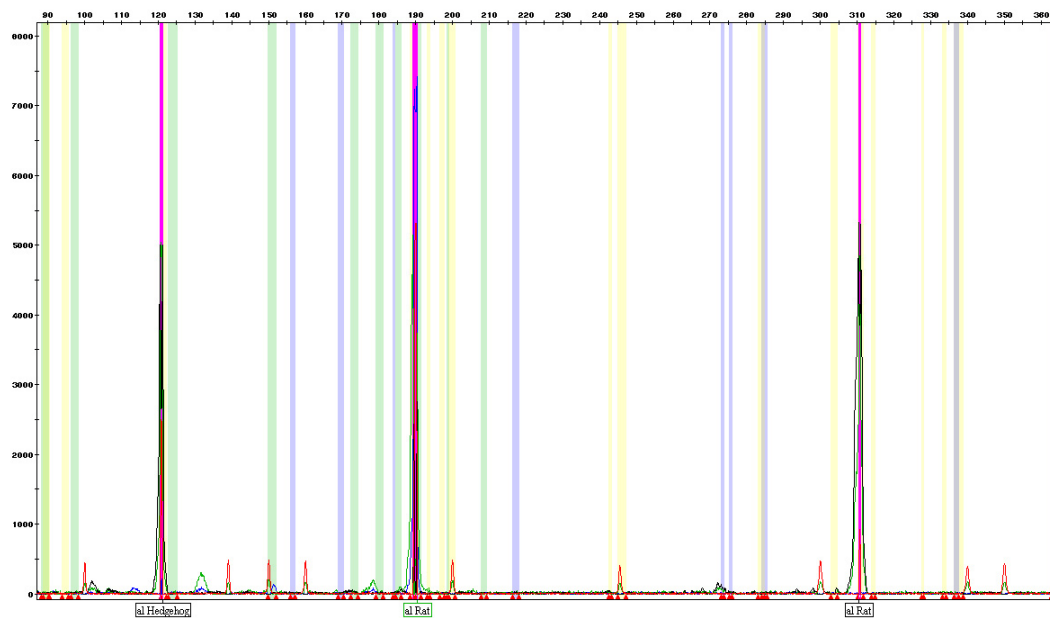


Figure A8.15: Blind trial 15 showing the detection of hedgehog and rat.

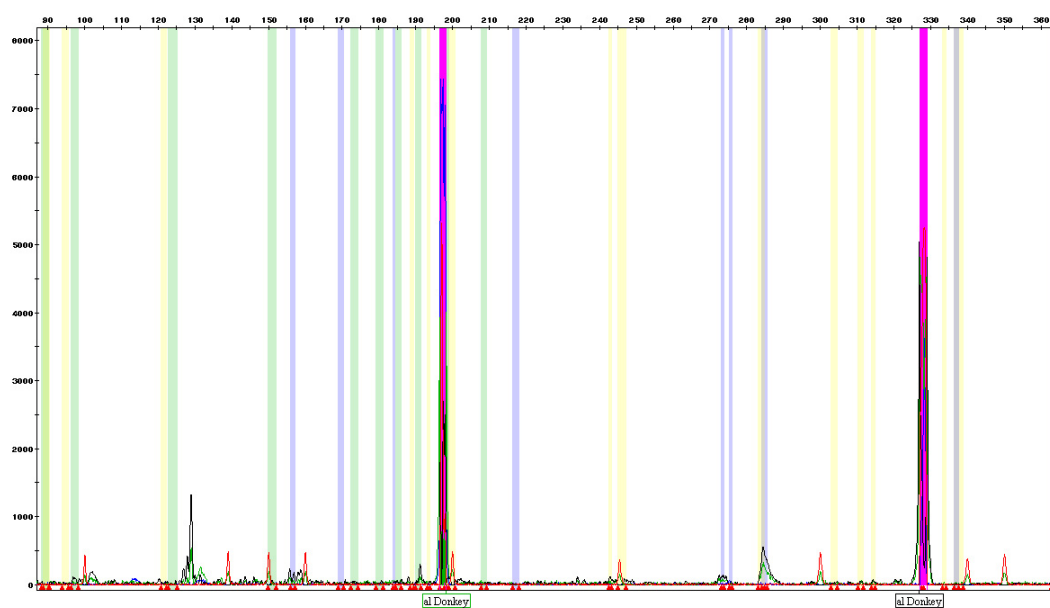


Figure A8.16: Blind trial 16 showing the detection of donkey.

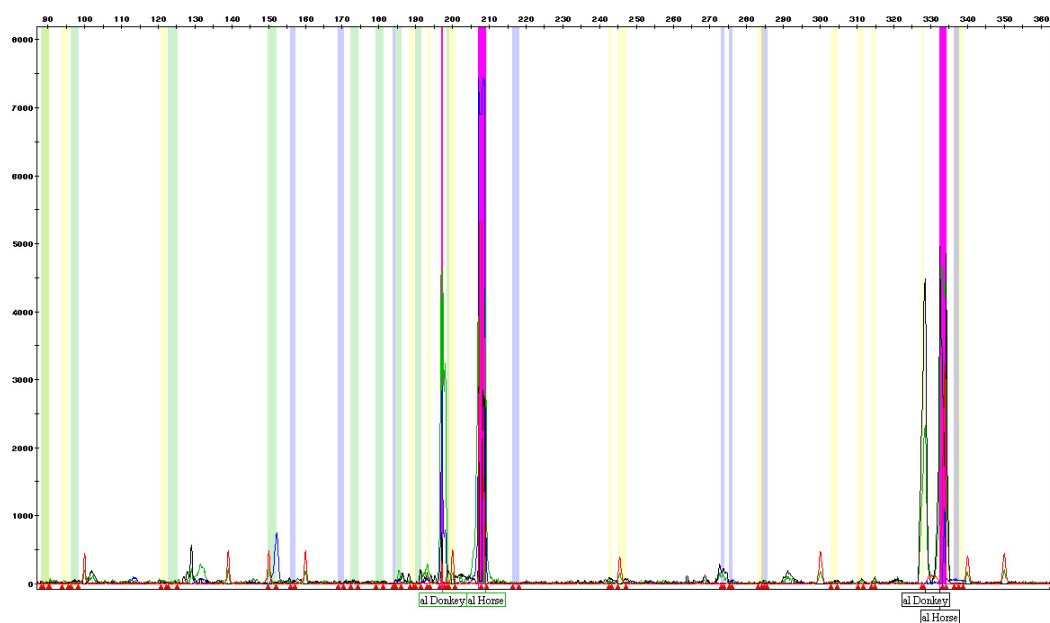


Figure A8.17: Blind trial 17 showing the detection of horse and donkey.

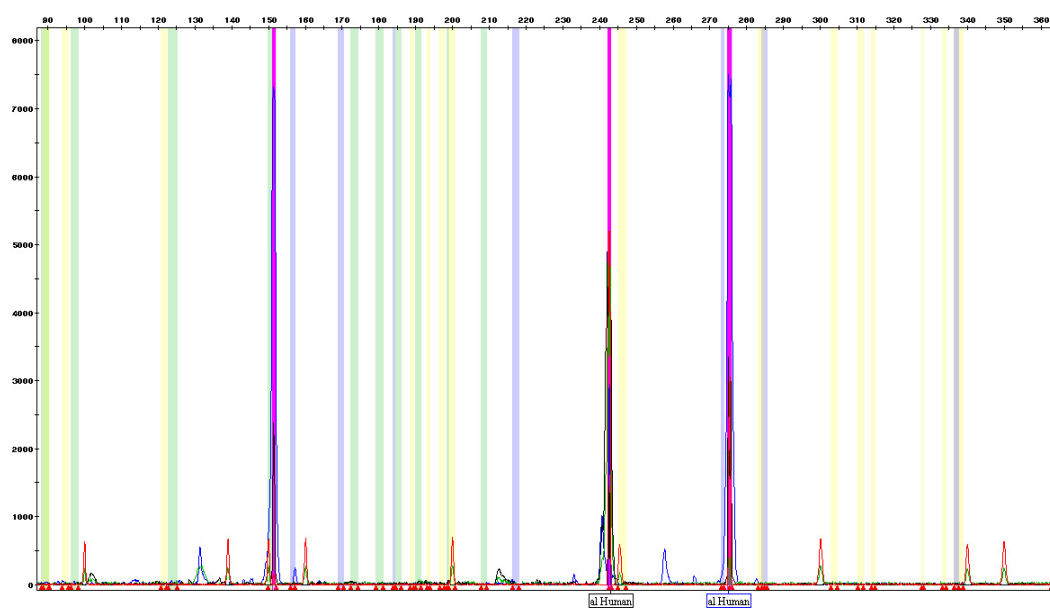


Figure A8.18: Blind trial 18 showing the detection of human.

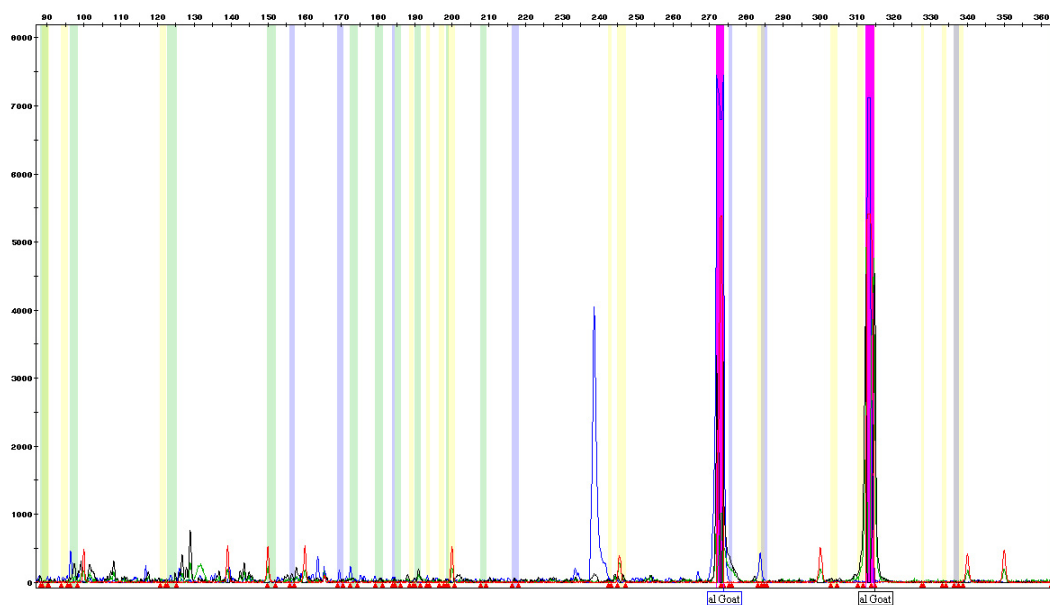


Figure A8.19: Blind trial 19 showing the detection of goat.

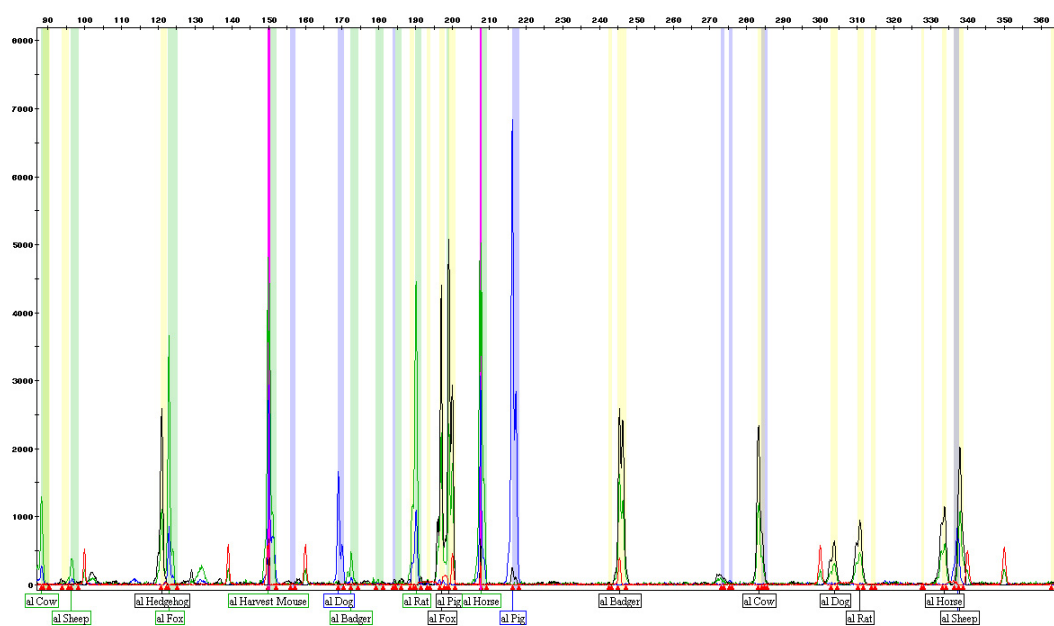


Figure A8.20: Blind trial 20 showing the detection of cow, sheep, hedgehog, harvest mouse, dog, badger, rat, fox, pig and horse.

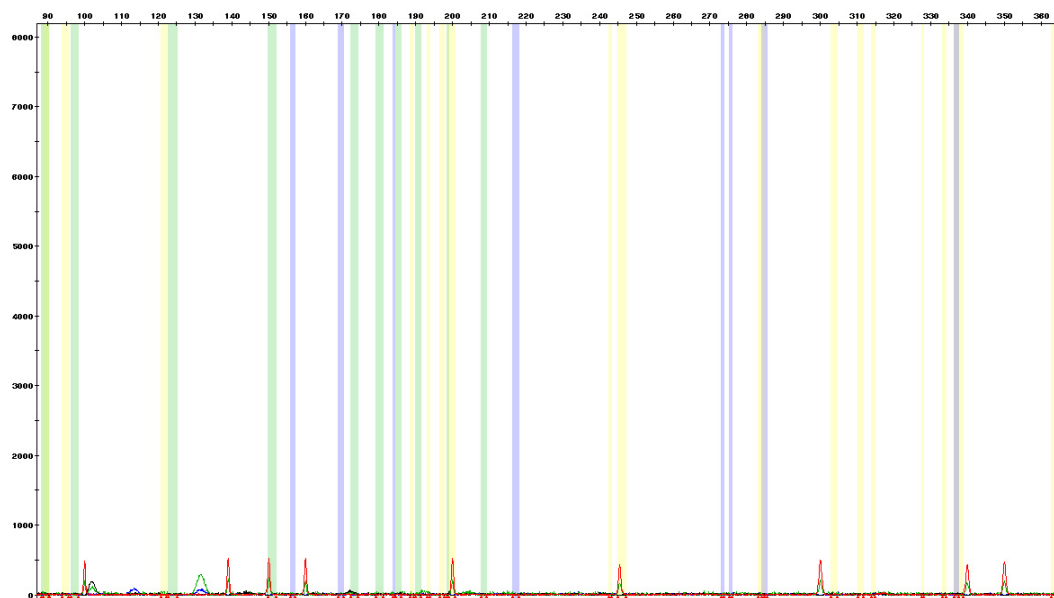


Figure A8.21: The negative control for the blind trial samples.