

*Approved by Director: Dr. Guy Vallaro***Fusion 6C Appendices****Appendix 1: Stutter Percentages****Fusion 6C Stutter Thresholds (≤29 cycles)**

Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D3S1358	8	9.3	2.7	0	D3S1358	16	12.7	2.7	0
	8.1	9.3	2.7	0		16.1	12.7	2.7	0
	8.2	9.3	2.7	0		16.2	12.7	2.7	0
	8.3	9.3	2.7	0		16.3	12.7	2.7	0
	9	9.3	2.7	0		17	13.3	2.7	0
	9.1	9.3	2.7	0		17.1	13.3	2.7	0
	9.2	9.3	2.7	0		17.2	13.3	2.7	0
	9.3	9.3	2.7	0		17.3	13.3	2.7	0
	10	9.3	2.7	0		18	14	2.7	0
	10.1	9.3	2.7	0		18.1	14	2.7	0
	10.2	9.3	2.7	0		18.2	14	2.7	0
	10.3	9.3	2.7	0		18.3	14	2.7	0
	11	9.3	2.7	0		19	14.7	2.7	0
	11.1	9.3	2.7	0		19.1	14.7	2.7	0
	11.2	9.3	2.7	0		19.2	14.7	2.7	0
	11.3	9.3	2.7	0		19.3	14.7	2.7	0
	12	10	2.7	0		20	15.3	2.7	0
	12.1	10	2.7	0		20.1	15.3	2.7	0
	12.2	10	2.7	0		20.2	15.3	2.7	0
	12.3	10	2.7	0		20.3	15.3	2.7	0
	13	10.7	2.7	0		21	16	2.7	0
	13.1	10.7	2.7	0					
	13.2	10.7	2.7	0					
	13.3	10.7	2.7	0					
	14	11.3	2.7	0					
	14.1	11.3	2.7	0					
	14.2	11.3	2.7	0					
	14.3	11.3	2.7	0					
	15	12	2.7	0					
	15.1	12	2.7	0					
	15.2	12	2.7	0					
	15.3	12	2.7	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D1S1656	8	8.7	2.7	3.8	D1S1656	17	14.9	2.7	3.8
	8.1	8.7	2.7	3.8		17.1	14.9	2.7	3.8
	8.2	8.7	2.7	3.8		17.2	14.9	2.7	3.8
	8.3	9.9	2.7	3.8		17.3	11.7	2.7	3.8
	9	8.7	2.7	3.8		18	15.9	2.7	3.8
	9.1	8.7	2.7	3.8		18.1	15.9	2.7	3.8
	9.2	8.7	2.7	3.8		18.2	15.9	2.7	3.8
	9.3	9.9	2.7	3.8		18.3	12.6	2.7	3.8
	10	8.7	2.7	3.8		19	17	2.7	3.8
	10.1	8.7	2.7	3.8		19.1	17	2.7	3.8
	10.2	8.7	2.7	3.8		19.2	17	2.7	3.8
	10.3	9.9	2.7	3.8		19.3	13.5	2.7	3.8
	11	8.7	2.7	3.8		20	18	2.7	3.8
	11.1	8.7	2.7	3.8		20.1	18	2.7	3.8
	11.2	8.7	2.7	3.8		20.2	18	2.7	3.8
	11.3	9.9	2.7	3.8		20.3	14.4	2.7	3.8
	12	9.8	2.7	3.8		21	19	2.7	3.8
	12.1	9.8	2.7	3.8					
	12.2	9.8	2.7	3.8					
	12.3	9.9	2.7	3.8					
	13	10.8	2.7	3.8					
	13.1	10.8	2.7	3.8					
	13.2	10.8	2.7	3.8					
	13.3	9.9	2.7	3.8					
	14	11.8	2.7	3.8					
	14.1	11.8	2.7	3.8					
	14.2	11.8	2.7	3.8					
	14.3	9.9	2.7	3.8					
	15	12.9	2.7	3.8					
	15.1	12.9	2.7	3.8					
	15.2	12.9	2.7	3.8					
	15.3	9.9	2.7	3.8					
	16	13.9	2.7	3.8					
	16.1	13.9	2.7	3.8					
	16.2	13.9	2.7	3.8					
	16.3	10.8	2.7	3.8					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D2S441	8	7.7	2.1	0	D2S441	16	8.2	2.1	0
	8.1	5.2	2.1	0		16.1	9.1	2.1	0
	8.2	7.7	2.1	0		16.2	8.2	2.1	0
	8.3	5.2	2.1	0		16.3	9.5	2.1	0
	9	7.7	2.1	0		17	9.1	2.1	0
	9.1	5.2	2.1	0					
	9.2	7.7	2.1	0					
	9.3	5.2	2.1	0					
	10	7.7	2.1	0					
	10.1	5.2	2.1	0					
	10.2	7.7	2.1	0					
	10.3	5.2	2.1	0					
	11	9.3	2.1	0					
	11.1	5.2	2.1	0					
	11.2	9.3	2.1	0					
	11.3	5.2	2.1	0					
	12	10.9	2.1	0					
	12.1	5.7	2.1	0					
	12.2	10.9	2.1	0					
	12.3	6.1	2.1	0					
	13	5.5	2.1	0					
	13.1	6.5	2.1	0					
	13.2	5.5	2.1	0					
	13.3	6.9	2.1	0					
	14	6.4	2.1	0					
	14.1	7.4	2.1	0					
	14.2	6.4	2.1	0					
	14.3	7.8	2.1	0					
	15	7.3	2.1	0					
	15.1	8.2	2.1	0					
	15.2	7.3	2.1	0					
	15.3	8.6	2.1	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D10S1248	8	7.1	1.3	0	D10S1248	17	14.5	1.3	0
	8.1	7.1	1.3	0		17.1	14.5	1.3	0
	8.2	7.1	1.3	0		17.2	14.5	1.3	0
	8.3	7.1	1.3	0		17.3	14.5	1.3	0
	9	7.1	1.3	0		18	15.5	1.3	0
	9.1	7.1	1.3	0		18.1	15.5	1.3	0
	9.2	7.1	1.3	0		18.2	15.5	1.3	0
	9.3	7.1	1.3	0		18.3	15.5	1.3	0
	10	7.1	1.3	0		19	16.6	1.3	0
	10.1	7.1	1.3	0					
	10.2	7.1	1.3	0					
	10.3	7.1	1.3	0					
	11	8.2	1.3	0					
	11.1	8.2	1.3	0					
	11.2	8.2	1.3	0					
	11.3	8.2	1.3	0					
	12	9.2	1.3	0					
	12.1	9.2	1.3	0					
	12.2	9.2	1.3	0					
	12.3	9.2	1.3	0					
	13	10.3	1.3	0					
	13.1	10.3	1.3	0					
	13.2	10.3	1.3	0					
	13.3	10.3	1.3	0					
	14	11.3	1.3	0					
	14.1	11.3	1.3	0					
	14.2	11.3	1.3	0					
	14.3	11.3	1.3	0					
	15	12.4	1.3	0					
	15.1	12.4	1.3	0					
	15.2	12.4	1.3	0					
	15.3	12.4	1.3	0					
	16	13.4	1.3	0					
	16.1	13.4	1.3	0					
	16.2	13.4	1.3	0					
	16.3	13.4	1.3	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D13S317	5	6.3	2.3	0	D13S317	14	11.8	2.3	0
	5.1	6.3	2.3	0		14.1	11.8	2.3	0
	5.2	6.3	2.3	0		14.2	11.8	2.3	0
	5.3	6.3	2.3	0		14.3	11.8	2.3	0
	6	6.3	2.3	0		15	12.7	2.3	0
	6.1	6.3	2.3	0		15.1	12.7	2.3	0
	6.2	6.3	2.3	0		15.2	12.7	2.3	0
	6.3	6.3	2.3	0		15.3	12.7	2.3	0
	7	6.3	2.3	0		16	13.6	2.3	0
	7.1	6.3	2.3	0		16.1	13.6	2.3	0
	7.2	6.3	2.3	0		16.2	13.6	2.3	0
	7.3	6.3	2.3	0		16.3	13.6	2.3	0
	8	6.3	2.3	0		17	14.6	2.3	0
	8.1	6.3	2.3	0					
	8.2	6.3	2.3	0					
	8.3	6.3	2.3	0					
	9	7.2	2.3	0					
	9.1	7.2	2.3	0					
	9.2	7.2	2.3	0					
	9.3	7.2	2.3	0					
	10	8.1	2.3	0					
	10.1	8.1	2.3	0					
	10.2	8.1	2.3	0					
	10.3	8.1	2.3	0					
	11	9	2.3	0					
	11.1	9	2.3	0					
	11.2	9	2.3	0					
	11.3	9	2.3	0					
	12	10	2.3	0					
	12.1	10	2.3	0					
	12.2	10	2.3	0					
	12.3	10	2.3	0					
	13	10.9	2.3	0					
	13.1	10.9	2.3	0					
	13.2	10.9	2.3	0					
	13.3	10.9	2.3	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
Penta E	4	3.1	1.9	0	Penta E	15	6.8	1.9	0
	4.1	3.1	1.9	0		15.1	6.8	1.9	0
	4.2	3.1	1.9	0		15.2	6.8	1.9	0
	4.3	3.1	1.9	0		15.3	6.8	1.9	0
	4.4	3.1	1.9	0		15.4	6.8	1.9	0
	5	3.1	1.9	0		16	7.3	1.9	0
	5.1	3.1	1.9	0		16.1	7.3	1.9	0
	5.2	3.1	1.9	0		16.2	7.3	1.9	0
	5.3	3.1	1.9	0		16.3	7.3	1.9	0
	5.4	3.1	1.9	0		16.4	7.3	1.9	0
	6	3.1	1.9	0		17	7.7	1.9	0
	6.1	3.1	1.9	0		17.1	7.7	1.9	0
	6.2	3.1	1.9	0		17.2	7.7	1.9	0
	6.3	3.1	1.9	0		17.3	7.7	1.9	0
	6.4	3.1	1.9	0		17.4	7.7	1.9	0
	7	3.1	1.9	0		18	8.2	1.9	0
	7.1	3.1	1.9	0		18.1	8.2	1.9	0
	7.2	3.1	1.9	0		18.2	8.2	1.9	0
	7.3	3.1	1.9	0		18.3	8.2	1.9	0
	7.4	3.1	1.9	0		18.4	8.2	1.9	0
	8	3.6	1.9	0		19	8.7	1.9	0
	8.1	3.6	1.9	0		19.1	8.7	1.9	0
	8.2	3.6	1.9	0		19.2	8.7	1.9	0
	8.3	3.6	1.9	0		19.3	8.7	1.9	0
	8.4	3.6	1.9	0		19.4	8.7	1.9	0
	9	4.1	1.9	0		20	9.1	1.9	0
	9.1	4.1	1.9	0		20.1	9.1	1.9	0
	9.2	4.1	1.9	0		20.2	9.1	1.9	0
	9.3	4.1	1.9	0		20.3	9.1	1.9	0
	9.4	4.1	1.9	0		20.4	9.1	1.9	0
	10	4.5	1.9	0		21	9.6	1.9	0
	10.1	4.5	1.9	0		21.1	9.6	1.9	0
	10.2	4.5	1.9	0		21.2	9.6	1.9	0
	10.3	4.5	1.9	0		21.3	9.6	1.9	0
	10.4	4.5	1.9	0		21.4	9.6	1.9	0
	11	5	1.9	0		22	10	1.9	0

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
Penta E	11.1	5	1.9	0	Penta E	22.1	10	1.9	0
	11.2	5	1.9	0		22.2	10	1.9	0
	11.3	5	1.9	0		22.3	10	1.9	0
	11.4	5	1.9	0		22.4	10	1.9	0
	12	5.4	1.9	0		23	10.5	1.9	0
	12.1	5.4	1.9	0		23.1	10.5	1.9	0
	12.2	5.4	1.9	0		23.2	10.5	1.9	0
	12.3	5.4	1.9	0		23.3	10.5	1.9	0
	12.4	5.4	1.9	0		23.4	10.5	1.9	0
	13	5.9	1.9	0		24	11	1.9	0
	13.1	5.9	1.9	0		24.1	11	1.9	0
	13.2	5.9	1.9	0		24.2	11	1.9	0
	13.3	5.9	1.9	0		24.3	11	1.9	0
	13.4	5.9	1.9	0		24.4	11	1.9	0
	14	6.4	1.9	0		25	11.4	1.9	0
	14.1	6.4	1.9	0		25.1	11.4	1.9	0
	14.2	6.4	1.9	0		25.2	11.4	1.9	0
	14.3	6.4	1.9	0		25.3	11.4	1.9	0
	14.4	6.4	1.9	0		25.4	11.4	1.9	0
						26	11.9	1.9	0

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D16S539	4	5.9	3.3	0	D16S539	13	11.6	3.3	0
	4.1	5.9	3.3	0		13.1	11.6	3.3	0
	4.2	5.9	3.3	0		13.2	11.6	3.3	0
	4.3	5.9	3.3	0		13.3	11.6	3.3	0
	5	5.9	3.3	0		14	12.7	3.3	0
	5.1	5.9	3.3	0		14.1	12.7	3.3	0
	5.2	5.9	3.3	0		14.2	12.7	3.3	0
	5.3	5.9	3.3	0		14.3	12.7	3.3	0
	6	5.9	3.3	0		15	13.8	3.3	0
	6.1	5.9	3.3	0		15.1	13.8	3.3	0
	6.2	5.9	3.3	0		15.2	13.8	3.3	0
	6.3	5.9	3.3	0		15.3	13.8	3.3	0
	7	5.9	3.3	0		16	15	3.3	0
	7.1	5.9	3.3	0					
	7.2	5.9	3.3	0					
	7.3	5.9	3.3	0					
	8	5.9	3.3	0					
	8.1	5.9	3.3	0					
	8.2	5.9	3.3	0					
	8.3	5.9	3.3	0					
	9	7	3.3	0					
	9.1	7	3.3	0					
	9.2	7	3.3	0					
	9.3	7	3.3	0					
	10	8.2	3.3	0					
	10.1	8.2	3.3	0					
	10.2	8.2	3.3	0					
	10.3	8.2	3.3	0					
	11	9.3	3.3	0					
	11.1	9.3	3.3	0					
	11.2	9.3	3.3	0					
	11.3	9.3	3.3	0					
	12	10.4	3.3	0					
	12.1	10.4	3.3	0					
	12.2	10.4	3.3	0					
	12.3	10.4	3.3	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D18S51	7	6.9	3.7	0	D18S51	17	12.2	3.7	0
	7.1	6.9	3.7	0		17.1	12.2	3.7	0
	7.2	6.9	3.7	0		17.2	12.2	3.7	0
	7.3	6.9	3.7	0		17.3	12.2	3.7	0
	8	6.9	3.7	0		18	12.9	3.7	0
	8.1	6.9	3.7	0		18.1	12.9	3.7	0
	8.2	6.9	3.7	0		18.2	12.9	3.7	0
	8.3	6.9	3.7	0		18.3	12.9	3.7	0
	9	6.9	3.7	0		19	13.7	3.7	0
	9.1	6.9	3.7	0		19.1	13.7	3.7	0
	9.2	6.9	3.7	0		19.2	13.7	3.7	0
	9.3	6.9	3.7	0		19.3	13.7	3.7	0
	10	6.9	3.7	0		20	14.5	3.7	0
	10.1	6.9	3.7	0		20.1	14.5	3.7	0
	10.2	6.9	3.7	0		20.2	14.5	3.7	0
	10.3	6.9	3.7	0		20.3	14.5	3.7	0
	11	7.6	3.7	0		21	15.2	3.7	0
	11.1	7.6	3.7	0		21.1	15.2	3.7	0
	11.2	7.6	3.7	0		21.2	15.2	3.7	0
	11.3	7.6	3.7	0		21.3	15.2	3.7	0
	12	8.4	3.7	0		22	16	3.7	0
	12.1	8.4	3.7	0		22.1	16	3.7	0
	12.2	8.4	3.7	0		22.2	16	3.7	0
	12.3	8.4	3.7	0		22.3	16	3.7	0
	13	9.1	3.7	0		23	16.7	3.7	0
	13.1	9.1	3.7	0		23.1	16.7	3.7	0
	13.2	9.1	3.7	0		23.2	16.7	3.7	0
	13.3	9.1	3.7	0		23.3	16.7	3.7	0
	14	9.9	3.7	0		24	17.5	3.7	0
	14.1	9.9	3.7	0		24.1	17.5	3.7	0
	14.2	9.9	3.7	0		24.2	17.5	3.7	0
	14.3	9.9	3.7	0		24.3	17.5	3.7	0
	15	10.7	3.7	0		25	18.3	3.7	0
	15.1	10.7	3.7	0		25.1	18.3	3.7	0
	15.2	10.7	3.7	0		25.2	18.3	3.7	0
	15.3	10.7	3.7	0		25.3	18.3	3.7	0

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D18S51	16	11.4	3.7	0	D18S51	26	19	3.7	0
	16.1	11.4	3.7	0		26.1	19	3.7	0
	16.2	11.4	3.7	0		26.2	19	3.7	0
	16.3	11.4	3.7	0		26.3	19	3.7	0
						27	19.8	3.7	0

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D2S1338	10	9.4	2.2	0	D2S1338	20	12.3	2.2	0
	10.1	9.4	2.2	0		20.1	12.3	2.2	0
	10.2	9.4	2.2	0		20.2	12.3	2.2	0
	10.3	9.4	2.2	0		20.3	12.3	2.2	0
	11	9.4	2.2	0		21	13	2.2	0
	11.1	9.4	2.2	0		21.1	13	2.2	0
	11.2	9.4	2.2	0		21.2	13	2.2	0
	11.3	9.4	2.2	0		21.3	13	2.2	0
	12	9.4	2.2	0		22	13.7	2.2	0
	12.1	9.4	2.2	0		22.1	13.7	2.2	0
	12.2	9.4	2.2	0		22.2	13.7	2.2	0
	12.3	9.4	2.2	0		22.3	13.7	2.2	0
	13	9.4	2.2	0		23	14.4	2.2	0
	13.1	9.4	2.2	0		23.1	14.4	2.2	0
	13.2	9.4	2.2	0		23.2	14.4	2.2	0
	13.3	9.4	2.2	0		23.3	14.4	2.2	0
	14	9.4	2.2	0		24	15.1	2.2	0
	14.1	9.4	2.2	0		24.1	15.1	2.2	0
	14.2	9.4	2.2	0		24.2	15.1	2.2	0
	14.3	9.4	2.2	0		24.3	15.1	2.2	0
	15	9.4	2.2	0		25	15.9	2.2	0
	15.1	9.4	2.2	0		25.1	15.9	2.2	0
	15.2	9.4	2.2	0		25.2	15.9	2.2	0
	15.3	9.4	2.2	0		25.3	15.9	2.2	0
	16	9.4	2.2	0		26	16.6	2.2	0
	16.1	9.4	2.2	0		26.1	16.6	2.2	0
	16.2	9.4	2.2	0		26.2	16.6	2.2	0
	16.3	9.4	2.2	0		26.3	16.6	2.2	0
	17	10.1	2.2	0		27	17.3	2.2	0
	17.1	10.1	2.2	0		27.1	17.3	2.2	0
	17.2	10.1	2.2	0		27.2	17.3	2.2	0
	17.3	10.1	2.2	0		27.3	17.3	2.2	0
	18	10.8	2.2	0		28	18	2.2	0
	18.1	10.8	2.2	0		28.1	18	2.2	0
	18.2	10.8	2.2	0		28.2	18	2.2	0
	18.3	10.8	2.2	0		28.3	18	2.2	0

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D2S1338	19	11.5	2.2	0	D2S1338	29	18.7	2.2	0
	19.1	11.5	2.2	0					
	19.2	11.5	2.2	0					
	19.3	11.5	2.2	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
CSF1PO	5	3.7	4.3	0	CSF1PO	14	13.1	4.3	0
	5.1	3.7	4.3	0		14.1	13.1	4.3	0
	5.2	3.7	4.3	0		14.2	13.1	4.3	0
	5.3	3.7	4.3	0		14.3	13.1	4.3	0
	6	3.7	4.3	0		15	14.5	4.3	0
	6.1	3.7	4.3	0		15.1	14.5	4.3	0
	6.2	3.7	4.3	0		15.2	14.5	4.3	0
	6.3	3.7	4.3	0		15.3	14.5	4.3	0
	7	3.7	4.3	0		16	15.8	4.3	0
	7.1	3.7	4.3	0					
	7.2	3.7	4.3	0					
	7.3	3.7	4.3	0					
	8	5	4.3	0					
	8.1	5	4.3	0					
	8.2	5	4.3	0					
	8.3	5	4.3	0					
	9	6.4	4.3	0					
	9.1	6.4	4.3	0					
	9.2	6.4	4.3	0					
	9.3	6.4	4.3	0					
	10	7.7	4.3	0					
	10.1	7.7	4.3	0					
	10.2	7.7	4.3	0					
	10.3	7.7	4.3	0					
	11	9.1	4.3	0					
	11.1	9.1	4.3	0					
	11.2	9.1	4.3	0					
	11.3	9.1	4.3	0					
	12	10.4	4.3	0					
	12.1	10.4	4.3	0					
	12.2	10.4	4.3	0					
	12.3	10.4	4.3	0					
	13	11.8	4.3	0					
	13.1	11.8	4.3	0					
	13.2	11.8	4.3	0					
	13.3	11.8	4.3	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
Penta D	2.2	3.9	3.7	0	Penta D	11	4.5	3.7	0
	2.3	3.9	3.7	0		11.1	4.5	3.7	0
	2.4	3.9	3.7	0		11.2	4.5	3.7	0
	3	3.9	3.7	0		11.3	4.5	3.7	0
	3.1	3.9	3.7	0		11.4	4.5	3.7	0
	3.2	3.9	3.7	0		12	4.8	3.7	0
	3.3	3.9	3.7	0		12.1	4.8	3.7	0
	3.4	3.9	3.7	0		12.2	4.8	3.7	0
	4	3.9	3.7	0		12.3	4.8	3.7	0
	4.1	3.9	3.7	0		12.4	4.8	3.7	0
	4.2	3.9	3.7	0		13	5.1	3.7	0
	4.3	3.9	3.7	0		13.1	5.1	3.7	0
	4.4	3.9	3.7	0		13.2	5.1	3.7	0
	5	3.9	3.7	0		13.3	5.1	3.7	0
	5.1	3.9	3.7	0		13.4	5.1	3.7	0
	5.2	3.9	3.7	0		14	5.4	3.7	0
	5.3	3.9	3.7	0		14.1	5.4	3.7	0
	5.4	3.9	3.7	0		14.2	5.4	3.7	0
	6	3.9	3.7	0		14.3	5.4	3.7	0
	6.1	3.9	3.7	0		14.4	5.4	3.7	0
	6.2	3.9	3.7	0		15	5.8	3.7	0
	6.3	3.9	3.7	0		15.1	5.8	3.7	0
	6.4	3.9	3.7	0		15.2	5.8	3.7	0
	7	3.9	3.7	0		15.3	5.8	3.7	0
	7.1	3.9	3.7	0		15.4	5.8	3.7	0
	7.2	3.9	3.7	0		16	6.1	3.7	0
	7.3	3.9	3.7	0		16.1	6.1	3.7	0
	7.4	3.9	3.7	0		16.2	6.1	3.7	0
	8	3.9	3.7	0		16.3	6.1	3.7	0
	8.1	3.9	3.7	0		16.4	6.1	3.7	0
	8.2	3.9	3.7	0		17	6.4	3.7	0
	8.3	3.9	3.7	0		17.1	6.4	3.7	0
	8.4	3.9	3.7	0		17.2	6.4	3.7	0
	9	3.9	3.7	0		17.3	6.4	3.7	0
	9.1	3.9	3.7	0		17.4	6.4	3.7	0
	9.2	3.9	3.7	0		18	6.7	3.7	0

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
Penta D	9.3	3.9	3.7	0					
	9.4	3.9	3.7	0					
	10	4.2	3.7	0					
	10.1	4.2	3.7	0					
	10.2	4.2	3.7	0					
	10.3	4.2	3.7	0					
	10.4	4.2	3.7	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
TH01	3	5.3	1.5	0	TH01	12	8.6	1.5	0
	3.1	5.3	1.5	0		12.1	8.6	1.5	0
	3.2	5.3	1.5	0		12.2	8.6	1.5	0
	3.3	5.3	1.5	0		12.3	7	1.5	0
	4	5.3	1.5	0		13	9.1	1.5	0
	4.1	5.3	1.5	0		13.1	9.1	1.5	0
	4.2	5.3	1.5	0		13.2	9.1	1.5	0
	4.3	5.3	1.5	0		13.3	7.5	1.5	0
	5	5.3	1.5	0					
	5.1	5.3	1.5	0					
	5.2	5.3	1.5	0					
	5.3	5.3	1.5	0					
	6	5.3	1.5	0					
	6.1	5.3	1.5	0					
	6.2	5.3	1.5	0					
	6.3	5.3	1.5	0					
	7	5.9	1.5	0					
	7.1	5.9	1.5	0					
	7.2	5.9	1.5	0					
	7.3	5.3	1.5	0					
	8	6.4	1.5	0					
	8.1	6.4	1.5	0					
	8.2	6.4	1.5	0					
	8.3	5.3	1.5	0					
	9	7	1.5	0					
	9.1	7	1.5	0					
	9.2	7	1.5	0					
	9.3	5.3	1.5	0					
	10	7.5	1.5	0					
	10.1	7.5	1.5	0					
	10.2	7.5	1.5	0					
	10.3	5.9	1.5	0					
	11	8	1.5	0					
	11.1	8	1.5	0					
	11.2	8	1.5	0					
	11.3	6.4	1.5	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
vWA	10	9.1	2.7	0	vWA	19	14.6	2.7	0
	10.1	9.1	2.7	0		19.1	14.6	2.7	0
	10.2	9.1	2.7	0		19.2	14.6	2.7	0
	10.3	9.1	2.7	0		19.3	14.6	2.7	0
	11	9.1	2.7	0		20	15.7	2.7	0
	11.1	9.1	2.7	0		20.1	15.7	2.7	0
	11.2	9.1	2.7	0		20.2	15.7	2.7	0
	11.3	9.1	2.7	0		20.3	15.7	2.7	0
	12	9.1	2.7	0		21	16.8	2.7	0
	12.1	9.1	2.7	0		21.1	16.8	2.7	0
	12.2	9.1	2.7	0		21.2	16.8	2.7	0
	12.3	9.1	2.7	0		21.3	16.8	2.7	0
	13	9.1	2.7	0		22	17.8	2.7	0
	13.1	9.1	2.7	0		22.1	17.8	2.7	0
	13.2	9.1	2.7	0		22.2	17.8	2.7	0
	13.3	9.1	2.7	0		22.3	17.8	2.7	0
	14	9.1	2.7	0		23	18.9	2.7	0
	14.1	9.1	2.7	0		23.1	18.9	2.7	0
	14.2	9.1	2.7	0		23.2	18.9	2.7	0
	14.3	9.1	2.7	0		23.3	18.9	2.7	0
	15	10.2	2.7	0		24	20	2.7	0
	15.1	10.2	2.7	0		24.1	20	2.7	0
	15.2	10.2	2.7	0		24.2	20	2.7	0
	15.3	10.2	2.7	0		24.3	20	2.7	0
	16	11.3	2.7	0		25	21.1	2.7	0
	16.1	11.3	2.7	0					
	16.2	11.3	2.7	0					
	16.3	11.3	2.7	0					
	17	12.4	2.7	0					
	17.1	12.4	2.7	0					
	17.2	12.4	2.7	0					
	17.3	12.4	2.7	0					
	18	13.5	2.7	0					
	18.1	13.5	2.7	0					
	18.2	13.5	2.7	0					
	18.3	13.5	2.7	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D21S11	23.2	9.4	3.5	0	D21S11	32	14.3	3.5	0
	23.3	9.7	3.5	0		32.1	14.3	3.5	0
	24	9.7	3.5	0		32.2	12.2	3.5	0
	24.1	9.7	3.5	0		32.3	14.3	3.5	0
	24.2	9.4	3.5	0		33	15.3	3.5	0
	24.3	9.7	3.5	0		33.1	15.3	3.5	0
	25	9.7	3.5	0		33.2	13.1	3.5	0
	25.1	9.7	3.5	0		33.3	15.3	3.5	0
	25.2	9.4	3.5	0		34	16.2	3.5	0
	25.3	9.7	3.5	0		34.1	16.2	3.5	0
	26	9.7	3.5	0		34.2	14.1	3.5	0
	26.1	9.7	3.5	0		34.3	16.2	3.5	0
	26.2	9.4	3.5	0		35	17.1	3.5	0
	26.3	9.7	3.5	0		35.1	17.1	3.5	0
	27	9.7	3.5	0		35.2	15	3.5	0
	27.1	9.7	3.5	0		35.3	17.1	3.5	0
	27.2	9.4	3.5	0		36	18.1	3.5	0
	27.3	9.7	3.5	0		36.1	18.1	3.5	0
	28	10.6	3.5	0		36.2	16	3.5	0
	28.1	10.6	3.5	0		36.3	18.1	3.5	0
	28.2	9.4	3.5	0		37	19	3.5	0
	28.3	10.6	3.5	0		37.1	19	3.5	0
	29	11.6	3.5	0		37.2	16.9	3.5	0
	29.1	11.6	3.5	0		37.3	19	3.5	0
	29.2	9.4	3.5	0		38	19.9	3.5	0
	29.3	11.6	3.5	0		38.1	19.9	3.5	0
	30	12.5	3.5	0		38.2	17.8	3.5	0
	30.1	12.5	3.5	0		38.3	19.9	3.5	0
	30.2	10.3	3.5	0		39	20.9	3.5	0
	30.3	12.5	3.5	0					
	31	13.4	3.5	0					
	31.1	13.4	3.5	0					
	31.2	11.3	3.5	0					
	31.3	13.4	3.5	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D7S820	5	4.3	1.8	0	D7S820	14	11.6	1.8	0
	5.1	4.3	1.8	0		14.1	11.6	1.8	0
	5.2	4.3	1.8	0		14.2	11.6	1.8	0
	5.3	4.3	1.8	0		14.3	11.6	1.8	0
	6	4.3	1.8	0		15	12.7	1.8	0
	6.1	4.3	1.8	0		15.1	12.7	1.8	0
	6.2	4.3	1.8	0		15.2	12.7	1.8	0
	6.3	4.3	1.8	0		15.3	12.7	1.8	0
	7	4.3	1.8	0		16	13.7	1.8	0
	7.1	4.3	1.8	0					
	7.2	4.3	1.8	0					
	7.3	4.3	1.8	0					
	8	5.3	1.8	0					
	8.1	5.3	1.8	0					
	8.2	5.3	1.8	0					
	8.3	5.3	1.8	0					
	9	6.4	1.8	0					
	9.1	6.4	1.8	0					
	9.2	6.4	1.8	0					
	9.3	6.4	1.8	0					
	10	7.4	1.8	0					
	10.1	7.4	1.8	0					
	10.2	7.4	1.8	0					
	10.3	7.4	1.8	0					
	11	8.5	1.8	0					
	11.1	8.5	1.8	0					
	11.2	8.5	1.8	0					
	11.3	8.5	1.8	0					
	12	9.5	1.8	0					
	12.1	9.5	1.8	0					
	12.2	9.5	1.8	0					
	12.3	9.5	1.8	0					
	13	10.6	1.8	0					
	13.1	10.6	1.8	0					
	13.2	10.6	1.8	0					
	13.3	10.6	1.8	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D5S818	5	5	2.4	0	D5S818	14	12.5	2.4	0
	5.1	5	2.4	0		14.1	12.5	2.4	0
	5.2	5	2.4	0		14.2	12.5	2.4	0
	5.3	5	2.4	0		14.3	12.5	2.4	0
	6	5	2.4	0		15	13.5	2.4	0
	6.1	5	2.4	0		15.1	13.5	2.4	0
	6.2	5	2.4	0		15.2	13.5	2.4	0
	6.3	5	2.4	0		15.3	13.5	2.4	0
	7	5	2.4	0		16	14.6	2.4	0
	7.1	5	2.4	0		16.1	14.6	2.4	0
	7.2	5	2.4	0		16.2	14.6	2.4	0
	7.3	5	2.4	0		16.3	14.6	2.4	0
	8	6	2.4	0		17	15.7	2.4	0
	8.1	6	2.4	0		17.1	15.7	2.4	0
	8.2	6	2.4	0		17.2	15.7	2.4	0
	8.3	6	2.4	0		17.3	15.7	2.4	0
	9	7.1	2.4	0		18	16.7	2.4	0
	9.1	7.1	2.4	0		18.1	16.7	2.4	0
	9.2	7.1	2.4	0		18.2	16.7	2.4	0
	9.3	7.1	2.4	0		18.3	16.7	2.4	0
	10	8.2	2.4	0		19	17.8	2.4	0
	10.1	8.2	2.4	0					
	10.2	8.2	2.4	0					
	10.3	8.2	2.4	0					
	11	9.3	2.4	0					
	11.1	9.3	2.4	0					
	11.2	9.3	2.4	0					
	11.3	9.3	2.4	0					
	12	10.3	2.4	0					
	12.1	10.3	2.4	0					
	12.2	10.3	2.4	0					
	12.3	10.3	2.4	0					
	13	11.4	2.4	0					
	13.1	11.4	2.4	0					
	13.2	11.4	2.4	0					
	13.3	11.4	2.4	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
TPOX	4	4.1	1.1	0	TPOX	13	7.8	1.1	0
	4.1	4.1	1.1	0		13.1	7.8	1.1	0
	4.2	4.1	1.1	0		13.2	7.8	1.1	0
	4.3	4.1	1.1	0		13.3	7.8	1.1	0
	5	4.1	1.1	0		14	8.6	1.1	0
	5.1	4.1	1.1	0		14.1	8.6	1.1	0
	5.2	4.1	1.1	0		14.2	8.6	1.1	0
	5.3	4.1	1.1	0		14.3	8.6	1.1	0
	6	4.1	1.1	0		15	9.3	1.1	0
	6.1	4.1	1.1	0		15.1	9.3	1.1	0
	6.2	4.1	1.1	0		15.2	9.3	1.1	0
	6.3	4.1	1.1	0		15.3	9.3	1.1	0
	7	4.1	1.1	0		16	10.1	1.1	0
	7.1	4.1	1.1	0					
	7.2	4.1	1.1	0					
	7.3	4.1	1.1	0					
	8	4.1	1.1	0					
	8.1	4.1	1.1	0					
	8.2	4.1	1.1	0					
	8.3	4.1	1.1	0					
	9	4.8	1.1	0					
	9.1	4.8	1.1	0					
	9.2	4.8	1.1	0					
	9.3	4.8	1.1	0					
	10	5.6	1.1	0					
	10.1	5.6	1.1	0					
	10.2	5.6	1.1	0					
	10.3	5.6	1.1	0					
	11	6.3	1.1	0					
	11.1	6.3	1.1	0					
	11.2	6.3	1.1	0					
	11.3	6.3	1.1	0					
	12	7.1	1.1	0					
	12.1	7.1	1.1	0					
	12.2	7.1	1.1	0					
	12.3	7.1	1.1	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D8S1179	6	10.6	3.4	0	D8S1179	15	13	3.4	0
	6.1	10.6	3.4	0		15.1	13	3.4	0
	6.2	10.6	3.4	0		15.2	13	3.4	0
	6.3	10.6	3.4	0		15.3	13	3.4	0
	7	10.6	3.4	0		16	13.3	3.4	0
	7.1	10.6	3.4	0		16.1	13.3	3.4	0
	7.2	10.6	3.4	0		16.2	13.3	3.4	0
	7.3	10.6	3.4	0		16.3	13.3	3.4	0
	8	10.6	3.4	0		17	13.7	3.4	0
	8.1	10.6	3.4	0		17.1	13.7	3.4	0
	8.2	10.6	3.4	0		17.2	13.7	3.4	0
	8.3	10.6	3.4	0		17.3	13.7	3.4	0
	9	11	3.4	0		18	14	3.4	0
	9.1	11	3.4	0		18.1	14	3.4	0
	9.2	11	3.4	0		18.2	14	3.4	0
	9.3	11	3.4	0		18.3	14	3.4	0
	10	11.3	3.4	0		19	14.4	3.4	0
	10.1	11.3	3.4	0		19.1	14.4	3.4	0
	10.2	11.3	3.4	0		19.2	14.4	3.4	0
	10.3	11.3	3.4	0		19.3	14.4	3.4	0
	11	11.6	3.4	0		20	14.7	3.4	0
	11.1	11.6	3.4	0					
	11.2	11.6	3.4	0					
	11.3	11.6	3.4	0					
	12	12	3.4	0					
	12.1	12	3.4	0					
	12.2	12	3.4	0					
	12.3	12	3.4	0					
	13	12.3	3.4	0					
	13.1	12.3	3.4	0					
	13.2	12.3	3.4	0					
	13.3	12.3	3.4	0					
	14	12.7	3.4	0					
	14.1	12.7	3.4	0					
	14.2	12.7	3.4	0					
	14.3	12.7	3.4	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D12S391	13	8.8	2.7	0	D12S391	22	15.9	2.7	0
	13.1	8.8	2.7	0		22.1	15.9	2.7	0
	13.2	8.8	2.7	0		22.2	15.9	2.7	0
	13.3	8.8	2.7	0		22.3	15.9	2.7	0
	14	8.8	2.7	0		23	17	2.7	0
	14.1	8.8	2.7	0		23.1	17	2.7	0
	14.2	8.8	2.7	0		23.2	17	2.7	0
	14.3	8.8	2.7	0		23.3	17	2.7	0
	15	8.8	2.7	0		24	18	2.7	0
	15.1	8.8	2.7	0		24.1	18	2.7	0
	15.2	8.8	2.7	0		24.2	18	2.7	0
	15.3	8.8	2.7	0		24.3	18	2.7	0
	16	9.8	2.7	0		25	19	2.7	0
	16.1	9.8	2.7	0		25.1	19	2.7	0
	16.2	9.8	2.7	0		25.2	19	2.7	0
	16.3	9.8	2.7	0		25.3	19	2.7	0
	17	10.8	2.7	0		26	20	2.7	0
	17.1	10.8	2.7	0		26.1	20	2.7	0
	17.2	10.8	2.7	0		26.2	20	2.7	0
	17.3	10.8	2.7	0		26.3	20	2.7	0
	18	11.9	2.7	0		27	21	2.7	0
	18.1	11.9	2.7	0					
	18.2	11.9	2.7	0					
	18.3	11.9	2.7	0					
	19	12.9	2.7	0					
	19.1	12.9	2.7	0					
	19.2	12.9	2.7	0					
	19.3	12.9	2.7	0					
	20	13.9	2.7	0					
	20.1	13.9	2.7	0					
	20.2	13.9	2.7	0					
	20.3	13.9	2.7	0					
	21	14.9	2.7	0					
	21.1	14.9	2.7	0					
	21.2	14.9	2.7	0					
	21.3	14.9	2.7	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D19S433	5.2	7.8	2.6	0	D19S433	14	10.7	2.6	0
	5.3	7.8	2.6	0		14.1	10.7	2.6	0
	6	7.8	2.6	0		14.2	11.1	2.6	0
	6.1	7.8	2.6	0		14.3	10.7	2.6	0
	6.2	7.8	2.6	0		15	11.6	2.6	0
	6.3	7.8	2.6	0		15.1	11.6	2.6	0
	7	7.8	2.6	0		15.2	12.1	2.6	0
	7.1	7.8	2.6	0		15.3	11.6	2.6	0
	7.2	7.8	2.6	0		16	12.5	2.6	0
	7.3	7.8	2.6	0		16.1	12.5	2.6	0
	8	7.8	2.6	0		16.2	13	2.6	0
	8.1	7.8	2.6	0		16.3	12.5	2.6	0
	8.2	7.8	2.6	0		17	13.5	2.6	0
	8.3	7.8	2.6	0		17.1	13.5	2.6	0
	9	7.8	2.6	0		17.2	14	2.6	0
	9.1	7.8	2.6	0		17.3	13.5	2.6	0
	9.2	7.8	2.6	0		18	14.4	2.6	0
	9.3	7.8	2.6	0		18.1	14.4	2.6	0
	10	7.8	2.6	0		18.2	14.9	2.6	0
	10.1	7.8	2.6	0		18.3	14.4	2.6	0
	10.2	7.8	2.6	0		19	15.4	2.6	0
	10.3	7.8	2.6	0		19.1	15.4	2.6	0
	11	7.8	2.6	0		19.2	15.8	2.6	0
	11.1	7.8	2.6	0					
	11.2	8.3	2.6	0					
	11.3	7.8	2.6	0					
	12	8.8	2.6	0					
	12.1	8.8	2.6	0					
	12.2	9.3	2.6	0					
	12.3	8.8	2.6	0					
	13	9.7	2.6	0					
	13.1	9.7	2.6	0					
	13.2	10.2	2.6	0					
	13.3	9.7	2.6	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
SE33	4.2	11.6	3.3	8.7	SE33	22	17.5	3.3	8.7
	4.3	10.8	3.3	8.7		22.1	17.5	3.3	8.7
	5	10.8	3.3	8.7		22.2	13.5	3.3	8.7
	5.1	10.8	3.3	8.7		22.3	17.5	3.3	8.7
	5.2	11.6	3.3	8.7		23	18.3	3.3	8.7
	5.3	10.8	3.3	8.7		23.1	18.3	3.3	8.7
	6	10.8	3.3	8.7		23.2	14.1	3.3	8.7
	6.1	10.8	3.3	8.7		23.3	18.3	3.3	8.7
	6.2	11.6	3.3	8.7		24	19	3.3	8.7
	6.3	10.8	3.3	8.7		24.1	19	3.3	8.7
	7	10.8	3.3	8.7		24.2	14.7	3.3	8.7
	7.1	10.8	3.3	8.7		24.3	19	3.3	8.7
	7.2	11.6	3.3	8.7		25	19.8	3.3	8.7
	7.3	10.8	3.3	8.7		25.1	19.8	3.3	8.7
	8	10.8	3.3	8.7		25.2	15.3	3.3	8.7
	8.1	10.8	3.3	8.7		25.3	19.8	3.3	8.7
	8.2	11.6	3.3	8.7		26	20.5	3.3	8.7
	8.3	10.8	3.3	8.7		26.1	20.5	3.3	8.7
	9	10.8	3.3	8.7		26.2	15.9	3.3	8.7
	9.1	10.8	3.3	8.7		26.3	20.5	3.3	8.7
	9.2	11.6	3.3	8.7		27	21.3	3.3	8.7
	9.3	10.8	3.3	8.7		27.1	21.3	3.3	8.7
	10	10.8	3.3	8.7		27.2	16.5	3.3	8.7
	10.1	10.8	3.3	8.7		27.3	21.3	3.3	8.7
	10.2	11.6	3.3	8.7		28	22	3.3	8.7
	10.3	10.8	3.3	8.7		28.1	22	3.3	8.7
	11	10.8	3.3	8.7		28.2	17.1	3.3	8.7
	11.1	10.8	3.3	8.7		28.3	22	3.3	8.7
	11.2	11.6	3.3	8.7		29	22.8	3.3	8.7
	11.3	10.8	3.3	8.7		29.1	22.8	3.3	8.7
	12	10.8	3.3	8.7		29.2	17.7	3.3	8.7
	12.1	10.8	3.3	8.7		29.3	22.8	3.3	8.7
	12.2	11.6	3.3	8.7		30	23.5	3.3	8.7
	12.3	10.8	3.3	8.7		30.1	23.5	3.3	8.7
	13	10.8	3.3	8.7		30.2	18.4	3.3	8.7
	13.1	10.8	3.3	8.7		30.3	23.5	3.3	8.7

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
SE33	13.2	11.6	3.3	8.7	SE33	31	24.3	3.3	8.7
	13.3	10.8	3.3	8.7		31.1	24.3	3.3	8.7
	14	11.5	3.3	8.7		31.2	19	3.3	8.7
	14.1	11.5	3.3	8.7		31.3	24.3	3.3	8.7
	14.2	11.6	3.3	8.7		32	25	3.3	8.7
	14.3	11.5	3.3	8.7		32.1	25	3.3	8.7
	15	12.3	3.3	8.7		32.2	19.6	3.3	8.7
	15.1	12.3	3.3	8.7		32.3	25	3.3	8.7
	15.2	11.6	3.3	8.7		33	25.8	3.3	8.7
	15.3	12.3	3.3	8.7		33.1	25.8	3.3	8.7
	16	13	3.3	8.7		33.2	20.2	3.3	8.7
	16.1	13	3.3	8.7		33.3	25.8	3.3	8.7
	16.2	11.6	3.3	8.7		34	26.5	3.3	8.7
	16.3	13	3.3	8.7		34.1	26.5	3.3	8.7
	17	13.8	3.3	8.7		34.2	20.8	3.3	8.7
	17.1	13.8	3.3	8.7		34.3	26.5	3.3	8.7
	17.2	11.6	3.3	8.7		35	27.3	3.3	8.7
	17.3	13.8	3.3	8.7		35.1	27.3	3.3	8.7
	18	14.5	3.3	8.7		35.2	21.4	3.3	8.7
	18.1	14.5	3.3	8.7		35.3	27.3	3.3	8.7
	18.2	11.6	3.3	8.7		36	28	3.3	8.7
	18.3	14.5	3.3	8.7		36.1	28	3.3	8.7
	19	15.3	3.3	8.7		36.2	22	3.3	8.7
	19.1	15.3	3.3	8.7		36.3	28	3.3	8.7
	19.2	11.6	3.3	8.7		37	28.8	3.3	8.7
	19.3	15.3	3.3	8.7		37.1	28.8	3.3	8.7
	20	16	3.3	8.7		37.2	22.6	3.3	8.7
	20.1	16	3.3	8.7		37.3	28.8	3.3	8.7
	20.2	12.3	3.3	8.7		38	29.5	3.3	8.7
	20.3	16	3.3	8.7		38.1	29.5	3.3	8.7
	21	16.8	3.3	8.7		38.2	23.2	3.3	8.7
	21.1	16.8	3.3	8.7		38.3	29.5	3.3	8.7
	21.2	12.9	3.3	8.7		39	30.3	3.3	8.7
	21.3	16.8	3.3	8.7		39.1	30.3	3.3	8.7
						39.2	23.8	3.3	8.7

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
D22S1045	6	6.9	5.2	0	D22S1045	17	15.6	10.2	0
	6.1	6.9	5.2	0		17.1	15.6	10.2	0
	6.2	6.9	5.2	0		17.2	15.6	10.2	0
	7	6.9	5.2	0		18	17	11	0
	7.1	6.9	5.2	0		18.1	17	11	0
	7.2	6.9	5.2	0		18.2	17	11	0
	8	6.9	5.2	0		19	18.5	11.9	0
	8.1	6.9	5.2	0		19.1	18.5	11.9	0
	8.2	6.9	5.2	0		19.2	18.5	11.9	0
	9	6.9	5.2	0		20	19.9	12.7	0
	9.1	6.9	5.2	0					
	9.2	6.9	5.2	0					
	10	6.9	5.2	0					
	10.1	6.9	5.2	0					
	10.2	6.9	5.2	0					
	11	6.9	5.2	0					
	11.1	6.9	5.2	0					
	11.2	6.9	5.2	0					
	12	8.3	6	0					
	12.1	8.3	6	0					
	12.2	8.3	6	0					
	13	9.8	6.8	0					
	13.1	9.8	6.8	0					
	13.2	9.8	6.8	0					
	14	11.2	7.7	0					
	14.1	11.2	7.7	0					
	14.2	11.2	7.7	0					
	15	12.7	8.5	0					
	15.1	12.7	8.5	0					
	15.2	12.7	8.5	0					
	16	14.1	9.4	0					
	16.1	14.1	9.4	0					
	16.2	14.1	9.4	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
DYS391	5	11	2	0	DYS391	14	14.9	2	0
	5.1	11	2	0		14.1	14.9	2	0
	5.2	11	2	0		14.2	14.9	2	0
	5.3	11	2	0		14.3	14.9	2	0
	6	11	2	0		15	15.7	2	0
	6.1	11	2	0		15.1	15.7	2	0
	6.2	11	2	0		15.2	15.7	2	0
	6.3	11	2	0		15.3	15.7	2	0
	7	11	2	0		16	16.5	2	0
	7.1	11	2	0					
	7.2	11	2	0					
	7.3	11	2	0					
	8	11	2	0					
	8.1	11	2	0					
	8.2	11	2	0					
	8.3	11	2	0					
	9	11	2	0					
	9.1	11	2	0					
	9.2	11	2	0					
	9.3	11	2	0					
	10	11.8	2	0					
	10.1	11.8	2	0					
	10.2	11.8	2	0					
	10.3	11.8	2	0					
	11	12.6	2	0					
	11.1	12.6	2	0					
	11.2	12.6	2	0					
	11.3	12.6	2	0					
	12	13.4	2	0					
	12.1	13.4	2	0					
	12.2	13.4	2	0					
	12.3	13.4	2	0					
	13	14.2	2	0					
	13.1	14.2	2	0					
	13.2	14.2	2	0					
	13.3	14.2	2	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
FGA	12.2	8.2	2.9	0	FGA	29	15.9	2.9	0
	12.3	8.2	2.9	0		29.1	15.9	2.9	0
	13	8.2	2.9	0		29.2	15.9	2.9	0
	13.1	8.2	2.9	0		29.3	15.9	2.9	0
	13.2	8.2	2.9	0		30	16.6	2.9	0
	13.3	8.2	2.9	0		30.1	16.6	2.9	0
	14	8.2	2.9	0		30.2	16.6	2.9	0
	14.1	8.2	2.9	0		30.3	16.6	2.9	0
	14.2	8.2	2.9	0		31	17.3	2.9	0
	14.3	8.2	2.9	0		31.1	17.3	2.9	0
	15	8.2	2.9	0		31.2	17.3	2.9	0
	15.1	8.2	2.9	0		31.3	17.3	2.9	0
	15.2	8.2	2.9	0		32	18	2.9	0
	15.3	8.2	2.9	0		32.1	18	2.9	0
	16	8.2	2.9	0		32.2	18	2.9	0
	16.1	8.2	2.9	0		32.3	18	2.9	0
	16.2	8.2	2.9	0		33	18	2.9	0
	16.3	8.2	2.9	0		33.1	18	2.9	0
	17	8.2	2.9	0		33.2	18	2.9	0
	17.1	8.2	2.9	0		33.3	18	2.9	0
	17.2	8.2	2.9	0		34	18	2.9	0
	17.3	8.2	2.9	0		34.1	18	2.9	0
	18	8.2	2.9	0		34.2	18	2.9	0
	18.1	8.2	2.9	0		41.2	18	2.9	0
	18.2	8.2	2.9	0		41.3	18	2.9	0
	18.3	8.2	2.9	0		42	18	2.9	0
	19	8.9	2.9	0		42.1	18	2.9	0
	19.1	8.9	2.9	0		42.2	18	2.9	0
	19.2	8.9	2.9	0		42.3	18	2.9	0
	19.3	8.9	2.9	0		43	18	2.9	0
	20	9.6	2.9	0		43.1	18	2.9	0
	20.1	9.6	2.9	0		43.2	18	2.9	0
	20.2	9.6	2.9	0		43.3	18	2.9	0
	20.3	9.6	2.9	0		44	18	2.9	0
	21	10.3	2.9	0		44.1	18	2.9	0
	21.1	10.3	2.9	0		44.2	18	2.9	0

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
FGA	21.2	10.3	2.9	0	FGA	44.3	18	2.9	0
	21.3	10.3	2.9	0		45	18	2.9	0
	22	11	2.9	0		45.1	18	2.9	0
	22.1	11	2.9	0		45.2	18	2.9	0
	22.2	11	2.9	0		45.3	18	2.9	0
	22.3	11	2.9	0		46	18	2.9	0
	23	11.7	2.9	0		46.1	18	2.9	0
	23.1	11.7	2.9	0		46.2	18	2.9	0
	23.2	11.7	2.9	0		46.3	18	2.9	0
	23.3	11.7	2.9	0		47	18	2.9	0
	24	12.4	2.9	0		47.1	18	2.9	0
	24.1	12.4	2.9	0		47.2	18	2.9	0
	24.2	12.4	2.9	0		47.3	18	2.9	0
	24.3	12.4	2.9	0		48	18	2.9	0
	25	13.1	2.9	0		48.1	18	2.9	0
	25.1	13.1	2.9	0		48.2	18	2.9	0
	25.2	13.1	2.9	0		48.3	18	2.9	0
	25.3	13.1	2.9	0		49	18	2.9	0
	26	13.8	2.9	0		49.1	18	2.9	0
	26.1	13.8	2.9	0		49.2	18	2.9	0
	26.2	13.8	2.9	0		49.3	18	2.9	0
	26.3	13.8	2.9	0		50	18	2.9	0
	27	14.5	2.9	0		50.1	18	2.9	0
	27.1	14.5	2.9	0		50.2	18	2.9	0
	27.2	14.5	2.9	0		50.3	18	2.9	0
	27.3	14.5	2.9	0		51	18	2.9	0
	28	15.2	2.9	0		51.1	18	2.9	0
	28.1	15.2	2.9	0		51.2	18	2.9	0
	28.2	15.2	2.9	0					
	28.3	15.2	2.9	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
DYS576	10	10.4	5.1	0	DYS576	19	13.2	5.1	0
	10.1	10.4	5.1	0		19.1	13.2	5.1	0
	10.2	10.4	5.1	0		19.2	13.2	5.1	0
	10.3	10.4	5.1	0		19.3	13.2	5.1	0
	11	10.4	5.1	0		20	14.1	5.1	0
	11.1	10.4	5.1	0		20.1	14.1	5.1	0
	11.2	10.4	5.1	0		20.2	14.1	5.1	0
	11.3	10.4	5.1	0		20.3	14.1	5.1	0
	12	10.4	5.1	0		21	15	5.1	0
	12.1	10.4	5.1	0		21.1	15	5.1	0
	12.2	10.4	5.1	0		21.2	15	5.1	0
	12.3	10.4	5.1	0		21.3	15	5.1	0
	13	10.4	5.1	0		22	15.9	5.1	0
	13.1	10.4	5.1	0		22.1	15.9	5.1	0
	13.2	10.4	5.1	0		22.2	15.9	5.1	0
	13.3	10.4	5.1	0		22.3	15.9	5.1	0
	14	10.4	5.1	0		23	16.9	5.1	0
	14.1	10.4	5.1	0		23.1	16.9	5.1	0
	14.2	10.4	5.1	0		23.2	16.9	5.1	0
	14.3	10.4	5.1	0		23.3	16.9	5.1	0
	15	10.4	5.1	0		24	17.8	5.1	0
	15.1	10.4	5.1	0					
	15.2	10.4	5.1	0					
	15.3	10.4	5.1	0					
	16	10.4	5.1	0					
	16.1	10.4	5.1	0					
	16.2	10.4	5.1	0					
	16.3	10.4	5.1	0					
	17	11.3	5.1	0					
	17.1	11.3	5.1	0					
	17.2	11.3	5.1	0					
	17.3	11.3	5.1	0					
	18	12.3	5.1	0					
	18.1	12.3	5.1	0					
	18.2	12.3	5.1	0					
	18.3	12.3	5.1	0					

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Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat	Locus	Allele	N-1 repeat	N+1 repeat	N-0.5 repeat
DYS570	9	12.2	2.4	0	DYS570	18	13.5	2.4	0
	9.1	12.2	2.4	0		18.1	13.5	2.4	0
	9.2	12.2	2.4	0		18.2	13.5	2.4	0
	9.3	12.2	2.4	0		18.3	13.5	2.4	0
	10	12.2	2.4	0		19	14.2	2.4	0
	10.1	12.2	2.4	0		19.1	14.2	2.4	0
	10.2	12.2	2.4	0		19.2	14.2	2.4	0
	10.3	12.2	2.4	0		19.3	14.2	2.4	0
	11	12.2	2.4	0		20	14.9	2.4	0
	11.1	12.2	2.4	0		20.1	14.9	2.4	0
	11.2	12.2	2.4	0		20.2	14.9	2.4	0
	11.3	12.2	2.4	0		20.3	14.9	2.4	0
	12	12.2	2.4	0		21	15.6	2.4	0
	12.1	12.2	2.4	0		21.1	15.6	2.4	0
	12.2	12.2	2.4	0		21.2	15.6	2.4	0
	12.3	12.2	2.4	0		21.3	15.6	2.4	0
	13	12.2	2.4	0		22	16.3	2.4	0
	13.1	12.2	2.4	0		22.1	16.3	2.4	0
	13.2	12.2	2.4	0		22.2	16.3	2.4	0
	13.3	12.2	2.4	0		22.3	16.3	2.4	0
	14	12.2	2.4	0		23	16.9	2.4	0
	14.1	12.2	2.4	0		23.1	16.9	2.4	0
	14.2	12.2	2.4	0		23.2	16.9	2.4	0
	14.3	12.2	2.4	0		23.3	16.9	2.4	0
	15	12.2	2.4	0		24	17.6	2.4	0
	15.1	12.2	2.4	0		24.1	17.6	2.4	0
	15.2	12.2	2.4	0		24.2	17.6	2.4	0
	15.3	12.2	2.4	0		24.3	17.6	2.4	0
	16	12.2	2.4	0		25	18.3	2.4	0
	16.1	12.2	2.4	0		25.1	18.3	2.4	0
	16.2	12.2	2.4	0		25.2	18.3	2.4	0
	16.3	12.2	2.4	0		25.3	18.3	2.4	0
	17	12.9	2.4	0		26	19	2.4	0
	17.1	12.9	2.4	0					
	17.2	12.9	2.4	0					
	17.3	12.9	2.4	0					

*Approved by Director: Dr. Guy Vallaro***Appendix 2: Fusion 6C Control Profiles****EP1**

Dye	Loci						
FL-6C	AMEL	D3S1358	D1S1656	D2S441	D10S1248	D13S317	Penta E
	X,Y	14,18	15,15.3	14	14,16	10,11	7,15
JOE-6C	D16S539	D18S51	D2S1338		CSF1PO	Penta D	
	12,13	14,16	17,23		10,11	9	
TMR-6C	TH01	vWA	D21S11	D7S820	D5S818		TPOX
	7,9.3	16,18	30	8,9	9,11		8,10
CXR-6C	D8S1179	D12S391	D19S433	SE33		D22S1045	
	10,14	17,22	14,15	17,28.2		16	
TOM-6C	DYS391	FGA		DYS576	DYS570		
	11	20,22		18	18		

POS (2800M)

Dye	Loci						
FL-6C	AMEL	D3S1358	D1S1656	D2S441	D10S1248	D13S317	Penta E
	X,Y	17,18	12,13	10,14	13,15	9,11	7,14
JOE-6C	D16S539	D18S51	D2S1338		CSF1PO	Penta D	
	9,13	16,18	22,25		12	12,13	
TMR-6C	TH01	vWA	D21S11	D7S820	D5S818		TPOX
	6,9.3	16,19	29,31.2	8,11	12		11
CXR-6C	D8S1179	D12S391	D19S433	SE33		D22S1045	
	14,15	18,23	13,14	15,16		16	
TOM-6C	DYS391	FGA		DYS576		DYS570	
	10	20,23		18		17	

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Appendix 3: Fusion 6C Common Dye Artifacts
from PowerPlex Fusion 6C System Technical Manual

DNA-Dependent Artifacts Observed with the PowerPlex Fusion 6C System

Locus	Artifact Size (bp)
Amelogenin	n-1
D1S1656	n-1, n-2
D13S317	n-2
D18S51	n-2
vWA	n-2, elevated baseline in locus
D7S820	n-2
D5S818	n-2
D19S433	n-2
SE33	n-2
DYS391	n-1
FGA	n-1, n-2

DNA-Independent Artifacts Observed with the PowerPlex Fusion 6C System

Dye Label	Artifact Size ¹
FL-6C	~65-75bp ~113-120bp ~137-145bp
JOE-6C	~60-66bp
TMR-6C	~57-62bp

¹Artifact sizes may vary depending on CE instrumentation and environmental conditions in the laboratory.