SUPPLEMENTARY MATERIALS

Supplemental Table 1: The average peak height with different cycles

Locus	Allele	Average Peak Height				
		26 Cycle	28 Cycle	29 Cycle	30 Cycle	32 Cycle
D3S1358	17	402.7	1998.3	2505.7	4567.3	18298.3
	18	321.7	1634.0	2050.3	5659.3	16503.0
D13S317	9	203.3	1397.3	1649.7	3527.3	13812.0
	11	196.3	873.3	1618.0	3386.0	11398.0
D7S820	8	355.3	1121.0	2152.7	5385.3	17252.0
	11	327.3	764.7	1605.7	3972.3	12618.7
D16S539	9	297.3	1549.7	2173.0	4710.3	12665.0
	13	265.0	1598.7	1871.3	3127.3	13373.7
D2S1338	22	509.3	2155.3	3049.7	7931.7	17361.0
	25	322.0	1925.7	2968.3	4429.0	15638.3
TH01	6	731.0	2226.7	3581.0	7088.7	23073.0
	9.3	627.3	1915.3	4139.0	6621.0	21554.0
D18S51	16	470.0	2313.3	2798.7	5699.3	16478.0
	18	574.3	1840.3	2986.7	3830.0	23960.3
TPOX	11	377.3	1463.7	2410.7	3543.7	18567.0
vWA	16	202.0	965.3	1530.0	2797.7	7610.0
	19	170.0	822.7	1362.3	2585.0	7109.0
D21S11	29	302.7	785.0	922.7	2535.3	9524.7
	31.2	231.7	1072.3	1101.3	1939.3	6914.0
DYS391	10	480.0	1524.3	3029.3	4308.0	17141.3
D8S1179	14	297.0	1098.3	2014.0	3258.3	14475.3
	15	204.0	1024.0	1990.3	4152.7	10265.7
D5S818	12	605.3	2456.3	4406.7	8878.0	27478.7
CSF1PO	12	627.3	3526.7	6212.7	8036.3	27560.0
D19S433	13	495.7	3185.0	3652.3	6063.3	21382.0
	14	547.0	1449.3	2608.7	7624.7	20435.0
FGA	20	250.7	1587.3	2884.3	6734.3	20187.7
	23	258.0	1711.0	3047.3	5271.7	19555.7

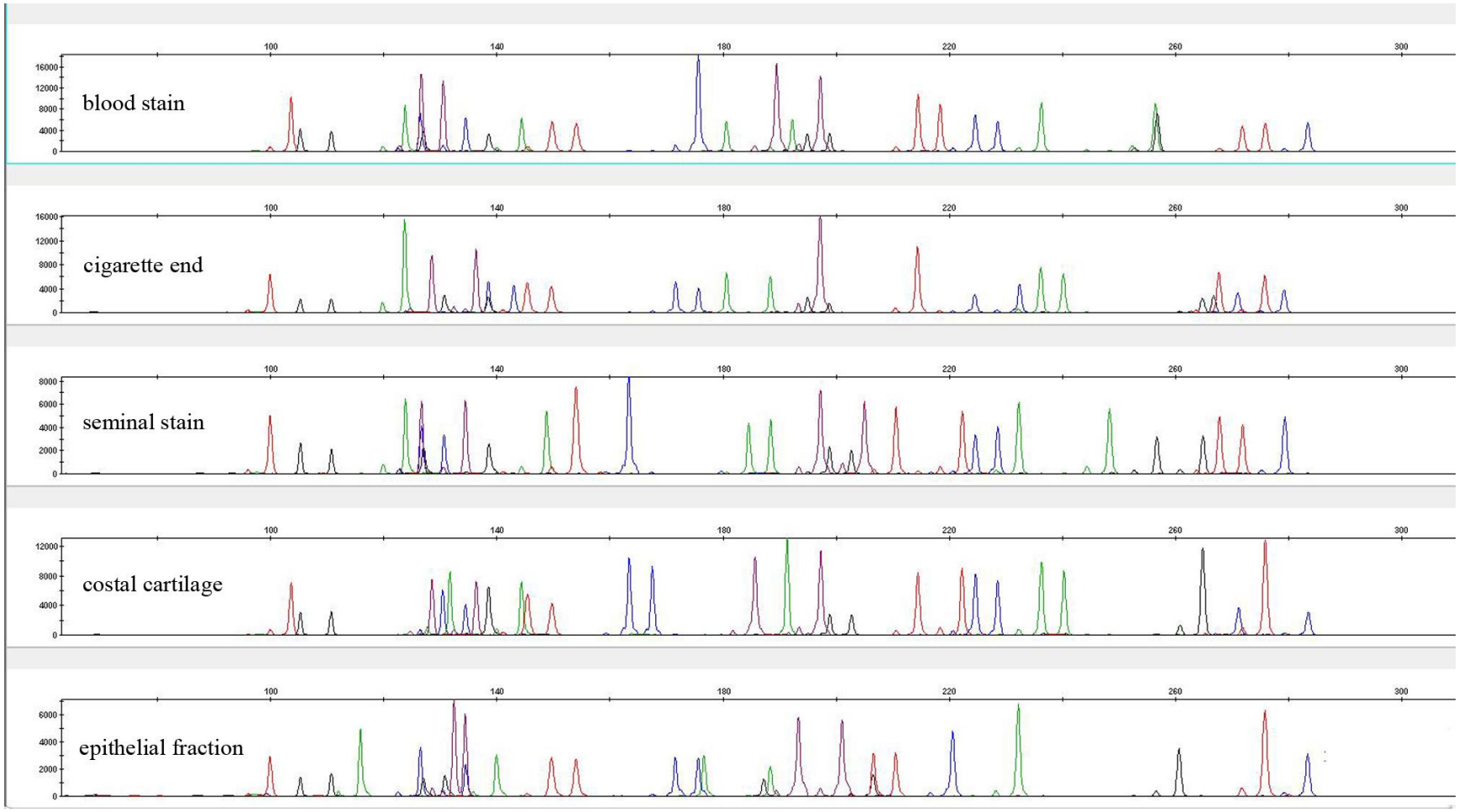
Supplemental Table 2: Allele frequencies of 15 autosomal STR loci in Guangdong Han population

D3S1358		D13S317		D7S820		D16S539		D2S1338	
14	0.0457	7	0.0051	7	0.0126	6	0.0025	16	0.0127
15	0.3553	8	0.2985	8	0.1136	9	0.2386	17	0.0482
16	0.2970	9	0.1607	9	0.0682	10	0.1320	18	0.0964
17	0.2360	10	0.1276	9.1	0.0051	11	0.2538	19	0.1904
18	0.0635	11	0.1990	10	0.1843	12	0.2360	20	0.1244
19	0.0025	12	0.1505	11	0.3232	13	0.1117	21	0.0533
		13	0.0485	12	0.2424	14	0.0254	22	0.0533
		14	0.0102	13	0.0404			23	0.1701
				14	0.0101			24	0.1650
								25	0.0838
								26	0.0025
TH01		D5S818		TPOX		vWA		CSF1PO	
6	0.1010	7	0.0178	5	0.0025	14	0.3046	7	0.0025
7	0.3157	8	0.0076	7	0.0025	15	0.0330	9	0.0457
8	0.0556	9	0.0508	8	0.5480	16	0.1650	10	0.1878
9	0.4343	10	0.2183	9	0.1086	17	0.2234	11	0.2893
9.3	0.0328	11	0.3299	10	0.0303	18	0.1853	12	0.3858
10	0.0606	12	0.2157	11	0.2778	19	0.0736	13	0.0761
		13	0.1548	12	0.0303	20	0.0152	14	0.0127
		14	0.0051						
D8S1179		D18S51		D21S11		D19S433		FGA	
9	0.0025	8	0.0025	27	0.0052	11	0.0076	13	0.0026
10	0.1389	10	0.0152	28	0.0570	12	0.0330	18	0.0129
11	0.1187	11	0.0354	28.2	0.0104	13	0.3071	19	0.0490
12	0.1237	12	0.0657	29	0.2694	13.2	0.0406	20	0.0567
13	0.1616	13	0.2020	29.2	0.0026	14	0.2208	21	0.1237
14	0.1338	14	0.1919	30	0.2409	14.2	0.1142	21.2	0.0026
15	0.2121	15	0.1641	30.2	0.0078	15	0.0685	22	0.2216
16	0.0859	16	0.1086	30.3	0.0078	15.2	0.1421	22.2	0.0103
17	0.0177	17	0.0606	31	0.0907	16	0.0178	23	0.1830
18	0.0051	18	0.0480	31.2	0.1036	16.2	0.0457	23.2	0.0129
		19	0.0530	32	0.0311	17.2	0.0025	24	0.1881
		20	0.0177	32.2	0.1295			24.2	0.0155
		21	0.0126	33.2	0.0363			25	0.0619
		22	0.0202	34	0.0026			26	0.0464
		23	0.0025	34.2	0.0052			27	0.0052
								27.2	0.0052
								28	0.0026

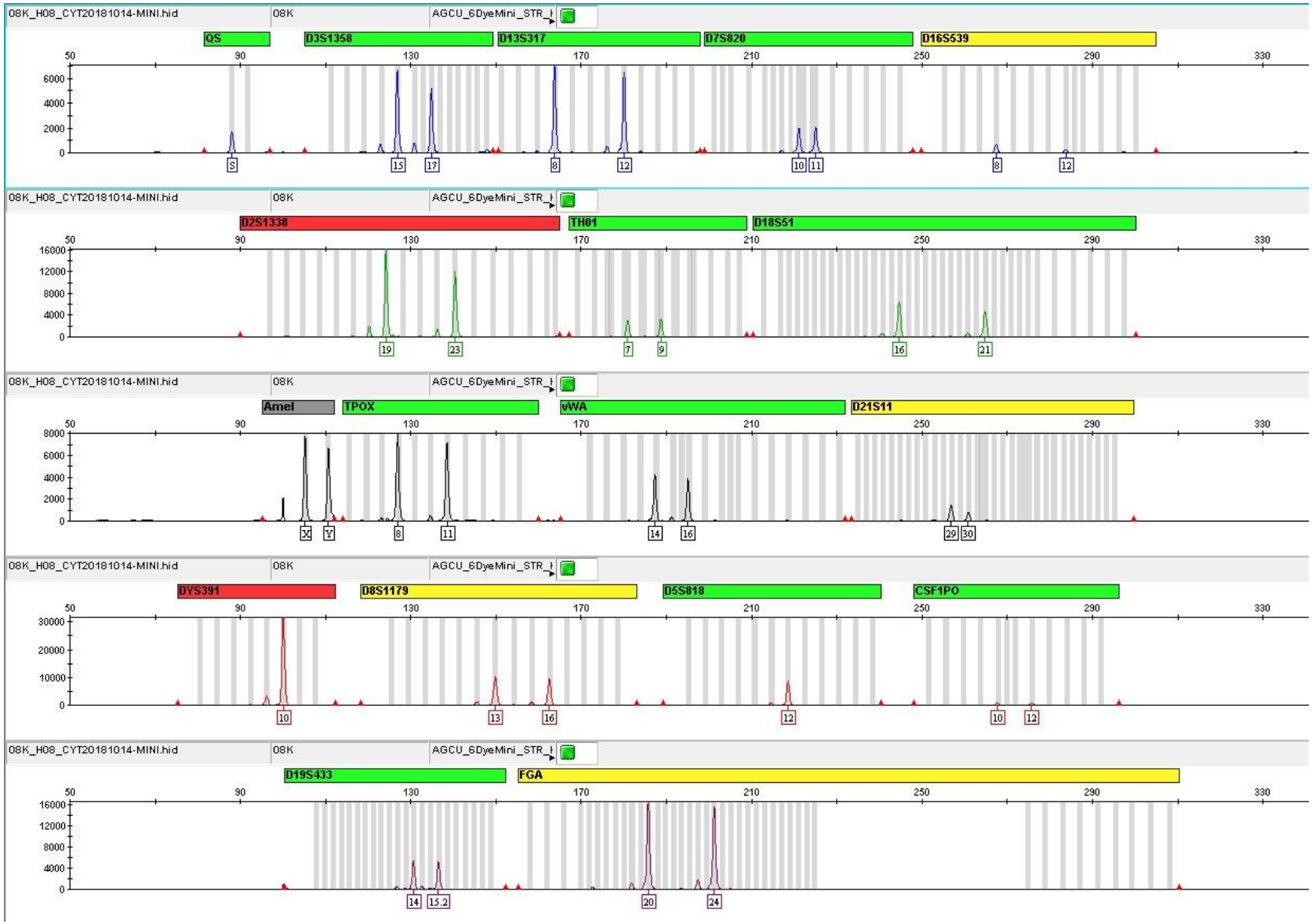
Supplemental Table 3: The forensic parameters of 15 autosomal STR loci

Marker	DP	PE	PIC	H
D3S1358	0.868	0.503	0.674	0.746
D13S317	0.936	0.545	0.777	0.770
D7S820	0.921	0.586	0.752	0.793
D16S539	0.924	0.566	0.760	0.782
D2S1338	0.965	0.651	0.853	0.827
TH01	0.857	0.447	0.645	0.712
D18S51	0.963	0.568	0.855	0.783
TPOX	0.793	0.236	0.552	0.551
vWA	0.918	0.641	0.758	0.822
D21S11	0.94	0.654	0.807	0.829
D8S1179	0.958	0.624	0.837	0.813
D5S818	0.913	0.486	0.734	0.736
CSF1PO	0.862	0.478	0.678	0.731
D19S433	0.942	0.680	0.791	0.843
FGA	0.957	0.800	0.838	0.902

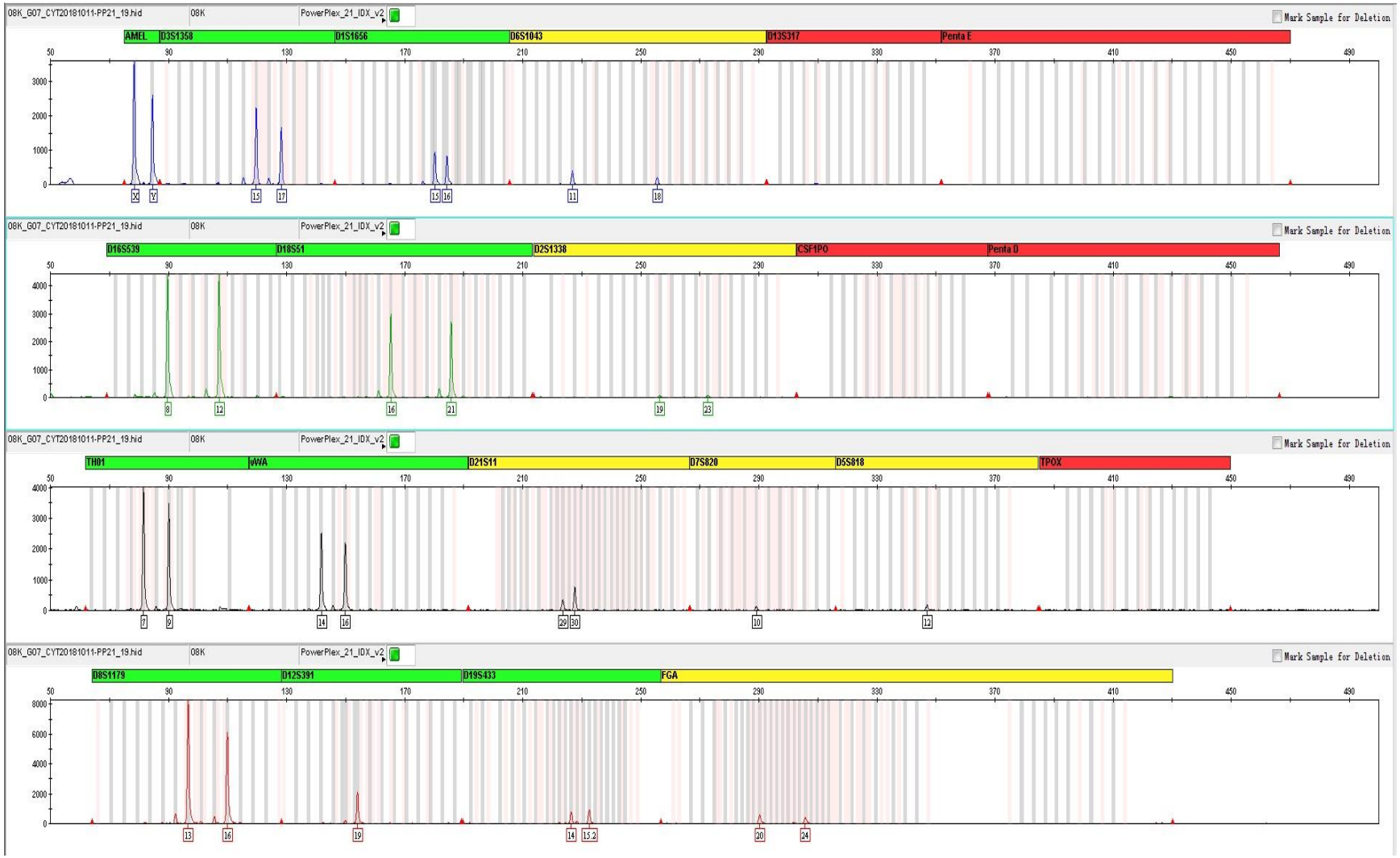
Supplemental Figure 1: The profiles of casework samples



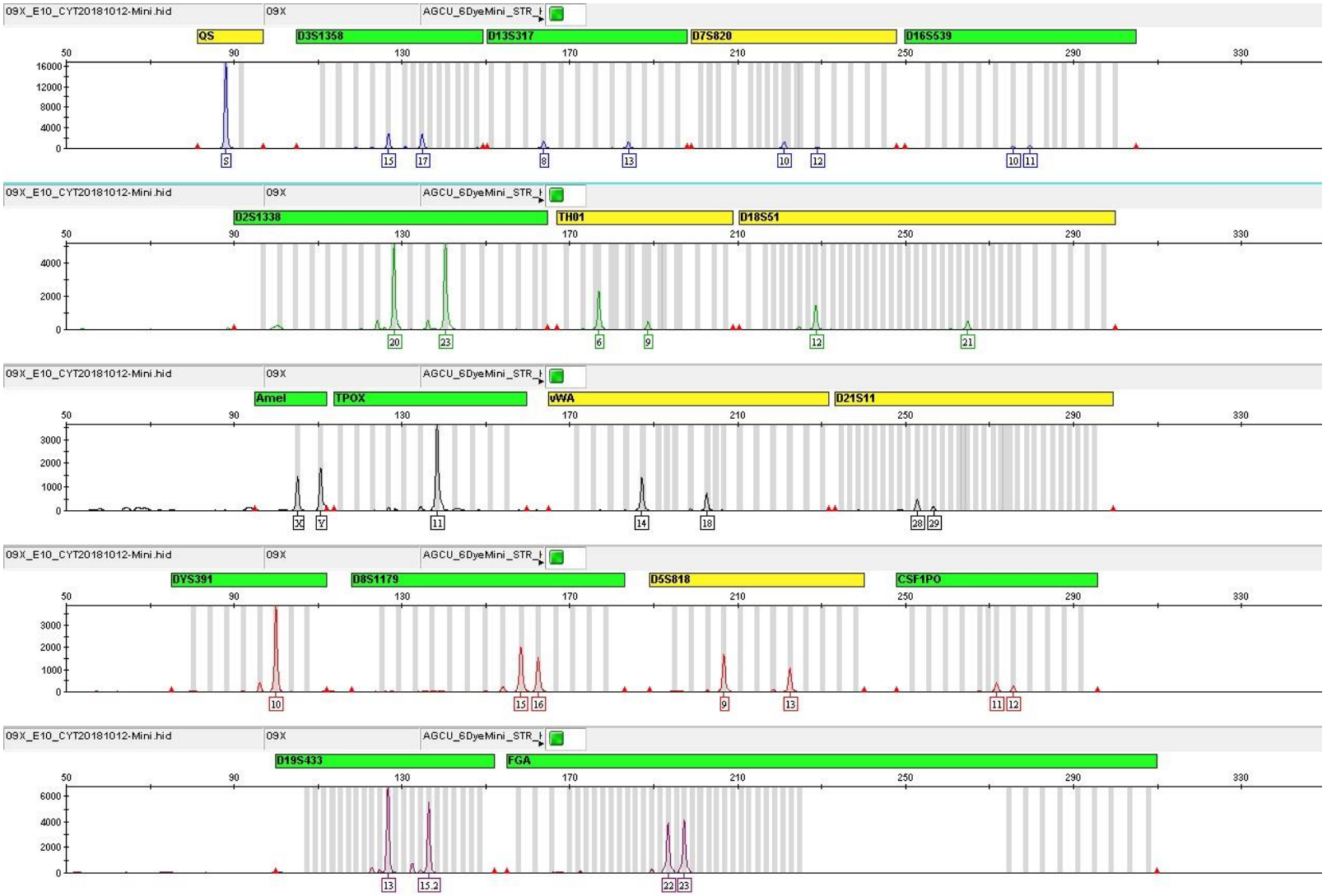
Supplemental Figure 2: The profile of an oral epithelial fraction swab that had been kept for 10 years amplified with AGCU Mini



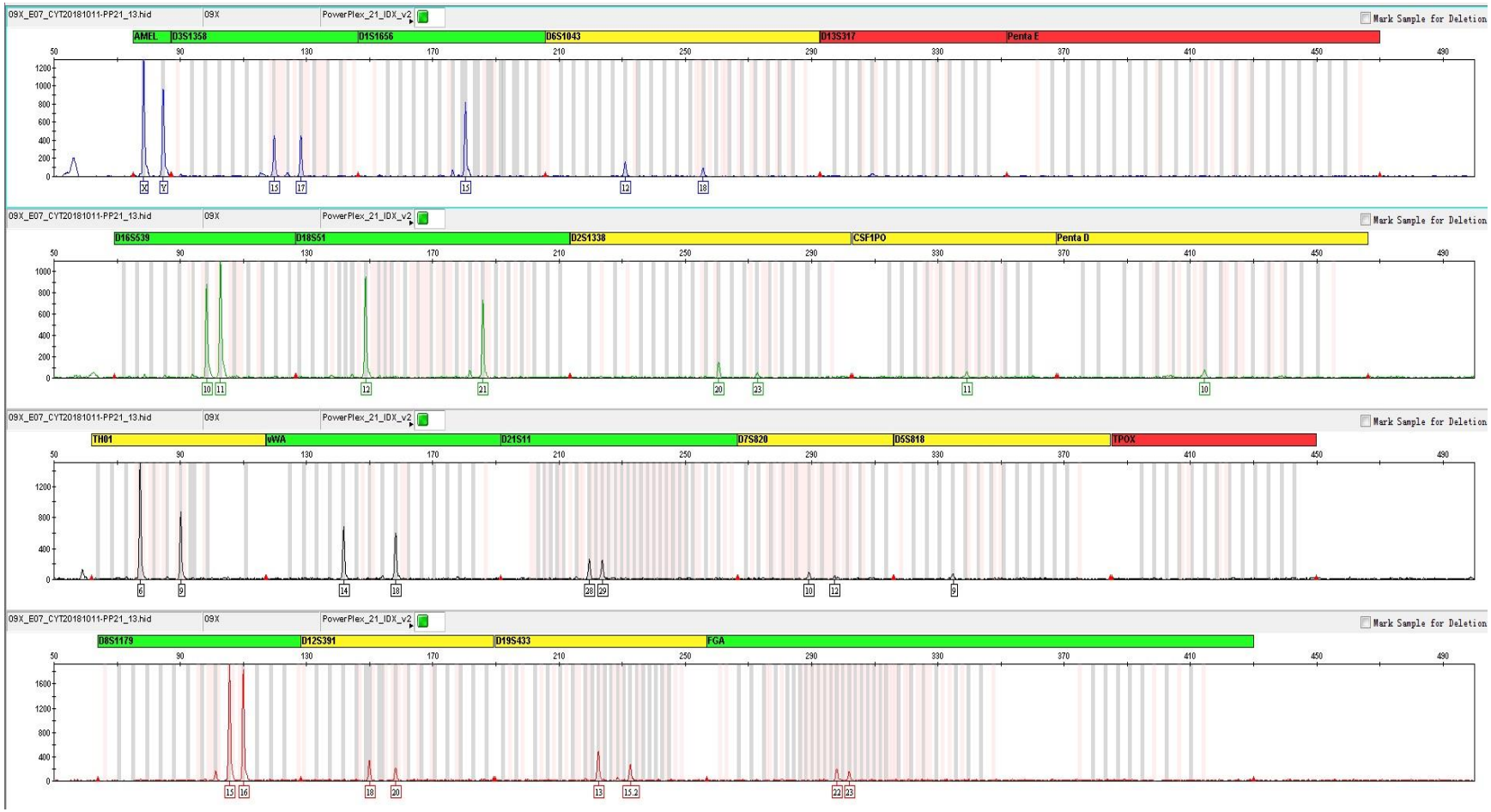
Supplemental Figure 3: The profile of an oral epithelial fraction swab that had been kept for 10 years amplified with PP21



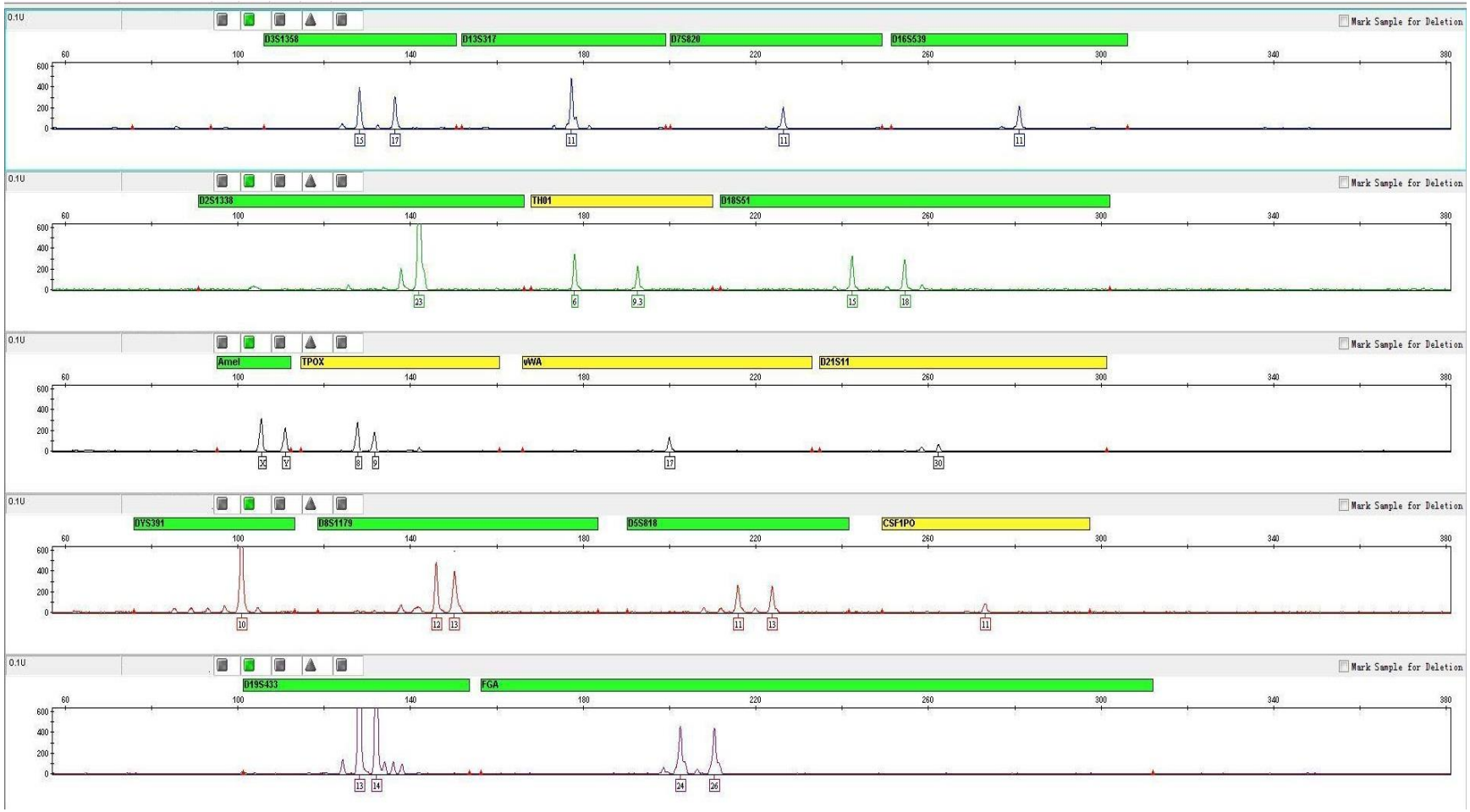
Supplemental Figure 4: The profile of a blood swab that had been kept for 9 years amplified with AGCU Mini



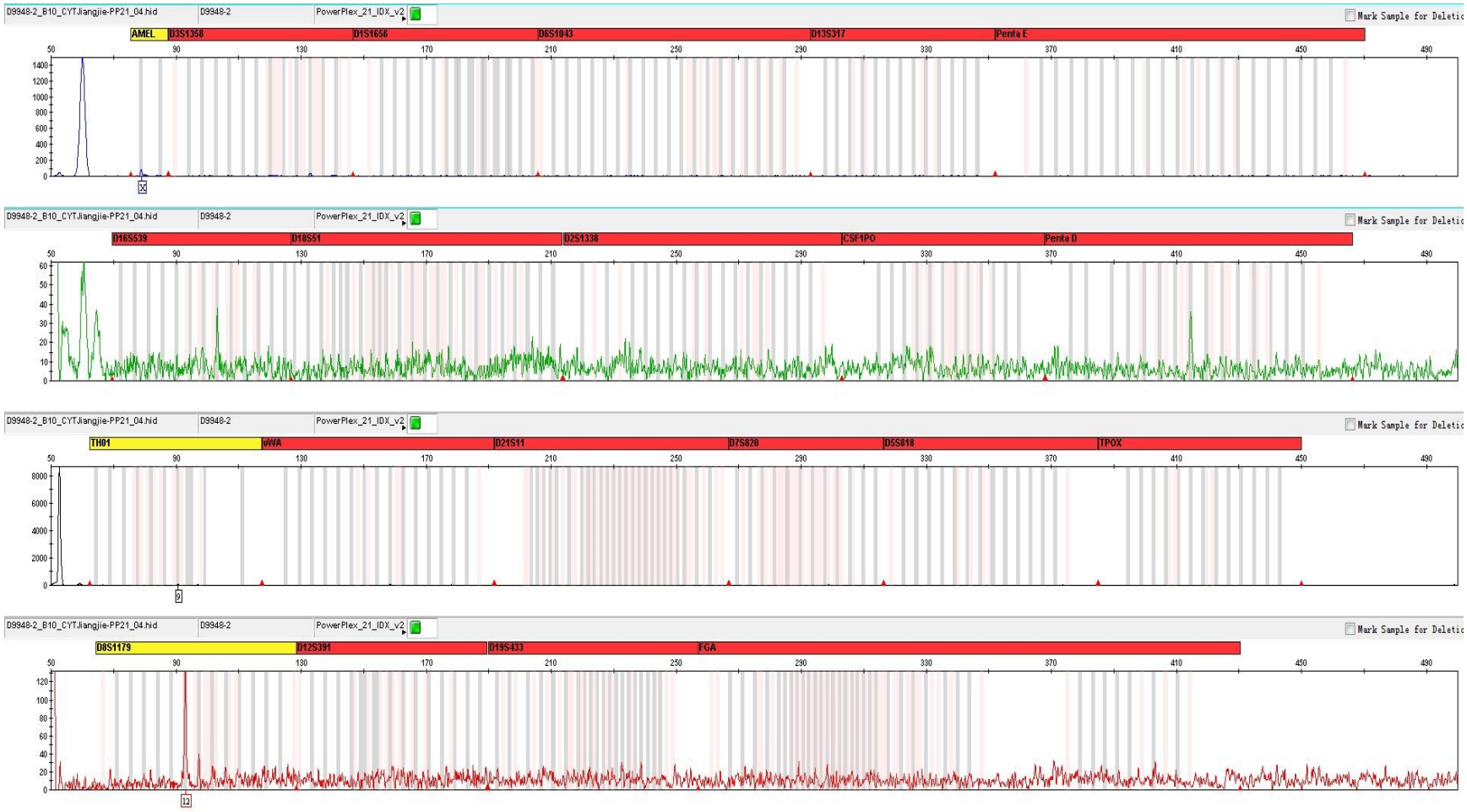
Supplemental Figure 5: The profile of a blood swab that had been kept for 9 years amplified with PP21



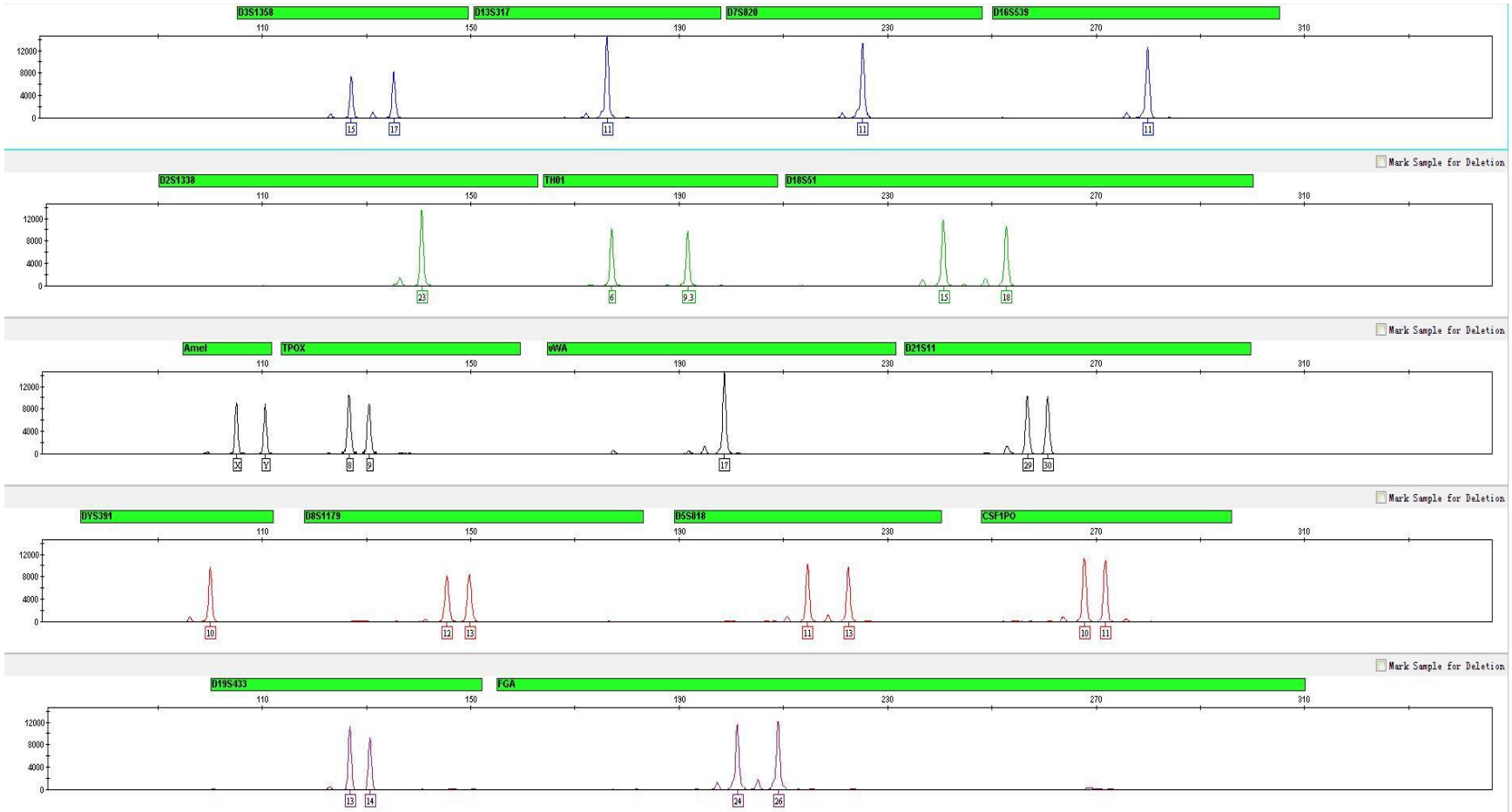
Supplemental Figure 6: The profile of 9948 disposed with 1U DNase I amplified with AGCU Mini



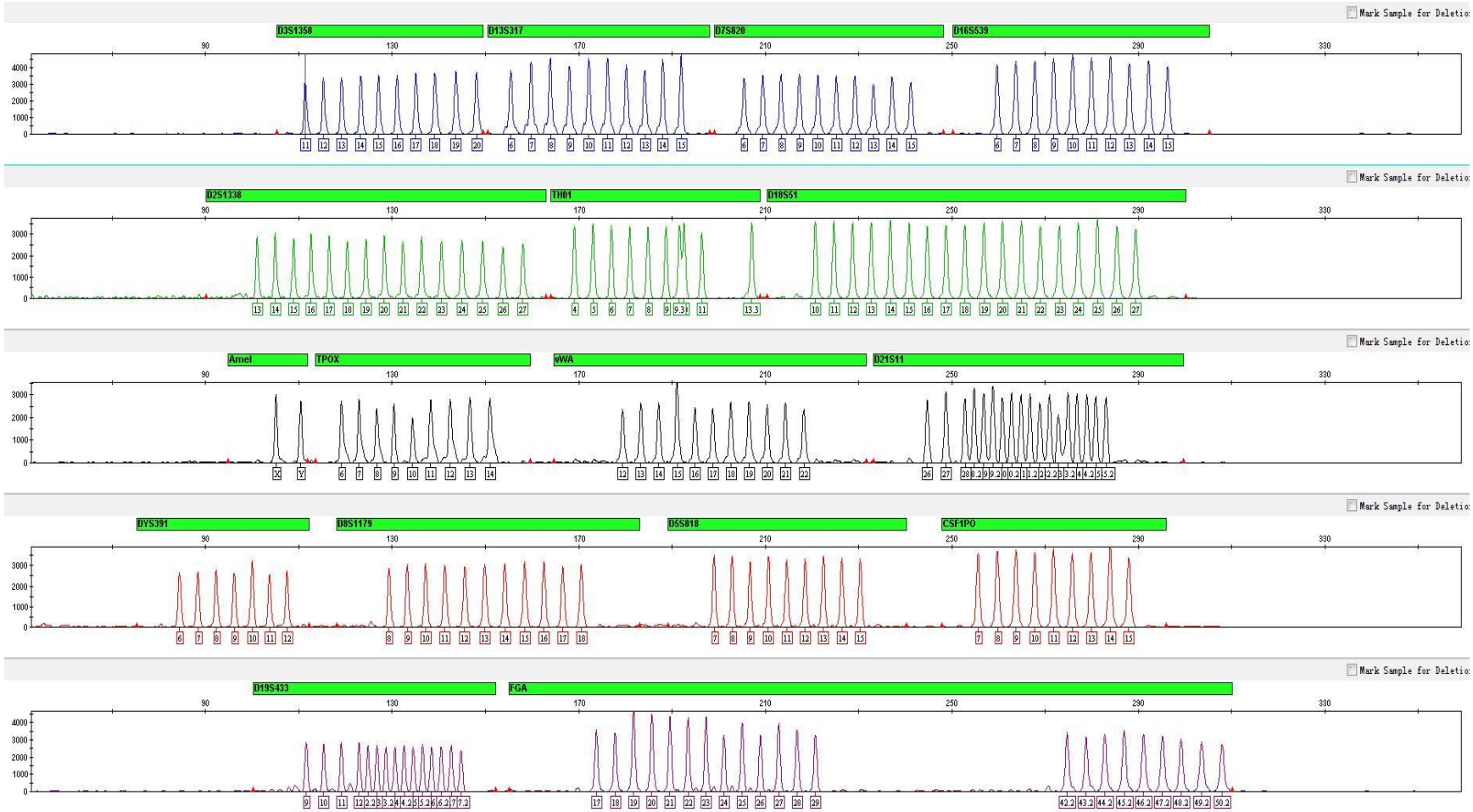
Supplemental Figure 7: The profile of 9948 disposed with 1U DNase I amplified with PP21



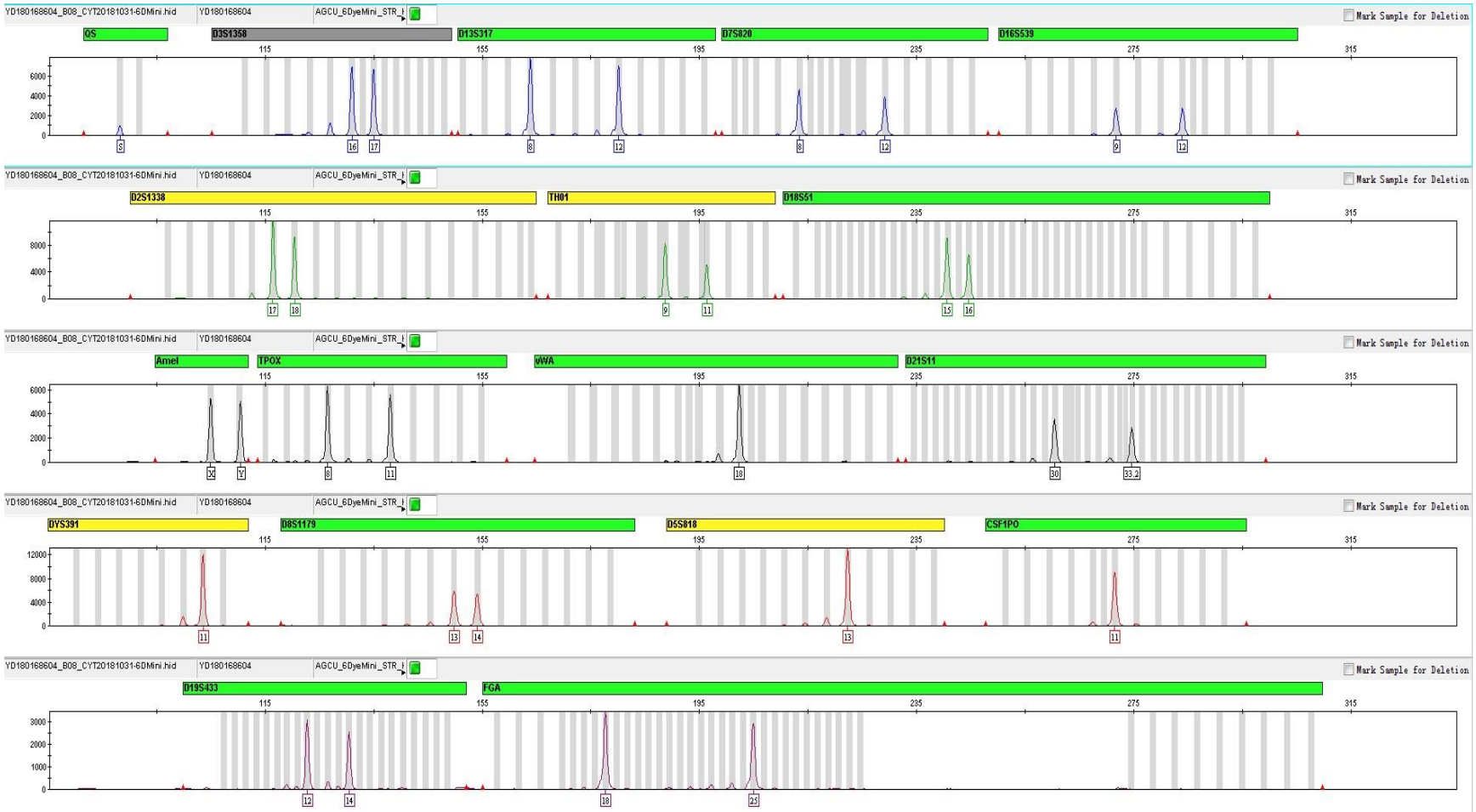
Supplemental Figure 8: The profile of 9948 human genomic DNA



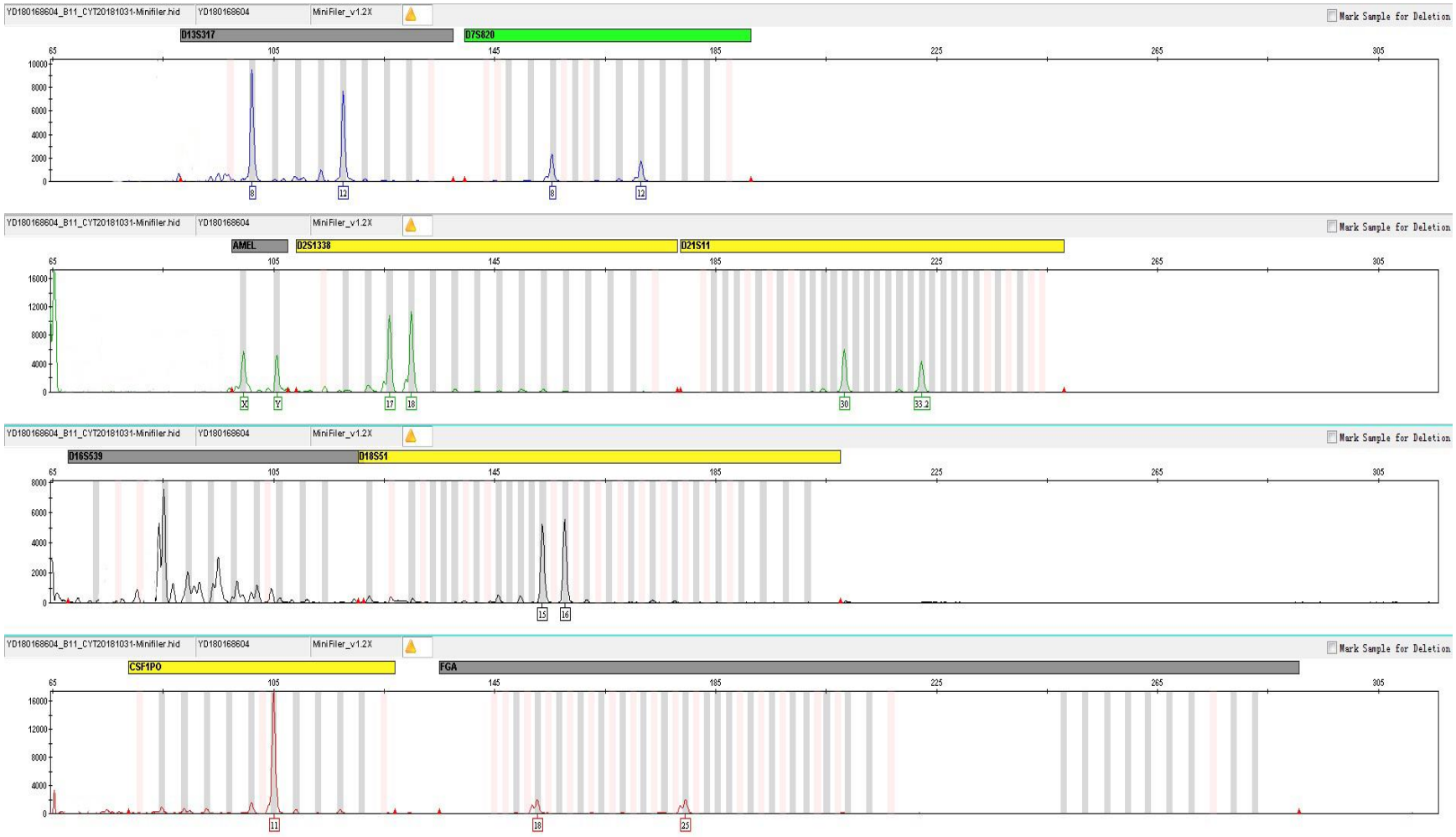
Supplemental Figure 9: The profile of 6 Dye Mini Allelic Ladder



Supplemental Figure 10: The profile of an epithelial fraction swab amplified with AGCU Mini



Supplemental Figure 11: The profile of an epithelial fraction swab amplified with Minifiler



Supplemental Figure 12: The profile of 9948 disposed with 1U DNase I amplified with MiniFiler