



DNA Interpretation Test No. 21-5882

Summary Report

Each participant received a sample pack consisting of a digital download packet through the CTS portal containing electropherograms and raw data files which they were requested to evaluate using their existing protocols. Data were returned from 32 participants and are compiled into the following tables:

	<u>Page</u>
<u>Manufacturer's Information</u>	<u>2</u>
<u>Summary Comments</u>	<u>5</u>
<u>Table 1: Interpretation Guidelines</u>	<u>6</u>
<u>Table 2: STR & Amelogenin Results</u>	<u>8</u>
<u>Table 3: YSTR Results</u>	<u>36</u>
<u>Table 4: DNA Conclusions</u>	<u>49</u>
<u>Table 5: Statistical Analysis for Item 3</u>	<u>51</u>
<u>Table 6: Statistical Analysis for Item 4</u>	<u>55</u>
<u>Table 7: Databases Used</u>	<u>59</u>
<u>Table 8: Amplification Kit Survey</u>	<u>61</u>
<u>Table 9: Additional Comments</u>	<u>62</u>
<u>Appendix: Data Sheet</u>	

This report contains the data received from the participants in this test. Since these participants are located in many countries around the world, and it is their option how the samples are to be used (e.g., training exercise, known or blind proficiency testing, research and development of new techniques, etc.), the results compiled in the Summary Report are not intended to be an overview of the quality of work performed in the profession and cannot be interpreted as such. The Summary Comments are included for the benefit of participants to assist with maintaining or enhancing the quality of their results. These comments are not intended to reflect the general state of the art within the profession.

Participant results are reported using a randomly assigned "WebCode". This code maintains participant's anonymity, provides linking of the various report sections, and will change with every report.

Manufacturer's Information

Each sample pack contained digital files consisting of electropherograms from DNA profiles of two known samples (Items 1 & 2) and two questioned samples (Items 3 & 4). Participants were requested to evaluate the electropherograms and interpret the data using their existing protocols.

SAMPLE PREPARATION: Item 1 was created using blood collected from a male donor. Item 2 was created using blood collected from a male donor. The Item 3 mixture was created by combining one part of blood from the Item 1 male donor and three parts of blood from the Item 2 male donor. The Item 4 mixture was created by combining two parts of blood from the Item 2 male donor and one part of blood from a 3rd-party female donor.

SAMPLE SET ASSEMBLY: Once sample preparation and verification was completed, the digital upload was checked to ensure all items were accessible.

VERIFICATION: Laboratories that conducted predistribution testing of the electropherograms reported consistent results for all loci. All associations were consistent amongst the predistribution laboratories.

Consensus results on the following pages were determined by ensuring at least 10 participants returned results for the locus. Each allele listed was determined by ensuring that at least 75% of participants that returned data for that specific locus and item had reported the same allele.

Amelogenin and STR Results

Results compiled by predistribution laboratories and a consensus of participants.

Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
1	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
	12,15	29,30	11,15	X,Y	12,12	22,23
	11,11	10,19	18,19	7,9.3	8,11	14,19
	12	17	18	2		
2	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
	12,13	11,12	27.2,28.2	7,7	10,10	16,17
	11	18	18	2		
3	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
	12,13,2,15†	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18	2		
3major	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
	*	*	27.2,28.2	7,7	10,10	16,17
	11	*	*	2		
3minor	12,18	23†	11,11	13,18	12†	11,12
	13†	16†	18,18	12†	12†	21†
	12†	30†	11,15	*	*	23†
	*	*	18,19	9.3†	8,11	14,19
	12	*	*	*		
4	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
	13,13,2,15†	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18	16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18	2		
4major	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
	13,2,15	29,31.2	14,16	*	12,13	21,22
	*	*	27.2,28.2	7,7	10,10	16,17
	*	*	*	*		
4minor	10,14	17,27	10†	16†	*	*
	*	12,16	18,19.1	12†	14†	16,17
	13†	*	11†	*	10,11	23†
	*	*	16†	8,9	11†	*
	*	*	*	*		

* Results were not received from a minimum of 10 participants for the loci indicated.

† Additional alleles may be present depending on laboratory thresholds and/or amplification kit used.

YSTR Results*Results compiled from predistribution laboratories and a consensus of participants.*

Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
1	35,36	14	11,14	13	29	24	12	12	13
	15	12	13	19	29	15	17	10	21
	43	12	14	17	18	21	23	10	12
2	36,37	14	11,13	13	29	23	11	13	13
	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
3	*	14	11,13,14	13	29	23,24	11,12	12,13	13
	15	12	12,13	19	*	15,17	17	*	21,24
	*	12	*	18†	18	*	23,24	*	12,13
3major	36,37	14	11,13	13	29	23	11	13	13
	15	12	12	19	31	17	17	9	24
	37	12	*	18	18	*	24	*	13
3minor	35†	*	14†	*	*	24	12	12	*
	*	*	13	*	29	15	*	10	21
	43	*	*	17	*	*	23	*	12
4	36,37	14	11,13	13	29	23	11	13	13
	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13

* Results were not received from a minimum of 10 participants for the loci indicated.

† Additional alleles may be present depending on laboratory thresholds and/or amplification kit used.

Summary Comments

This test was designed to allow participants to assess their proficiency in evaluating electropherograms (EPGs) and interpreting data. Each participant received electropherograms (in HID and PDF formats, as available) of two reference items and two evidence items. The EPG data included were produced from the following amplification kits: GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C, YFiler™ Plus, PowerPlex® Y23.

Item 1 was the male victim's reference sample. Item 2 was the male suspect's reference sample. Item 3 was a mixture of samples from two individuals including the male victim and the male suspect (1:3 ratio respectively). Item 4 was a mixture of samples from two individuals including the male suspect and a third-party female donor for whom no reference sample was provided (2:1 ratio respectively).

Consensus results for each item were determined per allele for each locus. Allele determinations were identified by ensuring that at least 10 participants reported results for the locus and that of these participants, 75% of them reported the same allele(s). Results that differed from the consensus were further compared to the participant's reported interpretation guidelines.

STR Data

Thirty two participants evaluated the provided STR data. The most frequently reported amplification kit utilized was GlobalFiler™. For reference Items 1 and 2, all participants reported data that were concordant with the consensus.

For questioned Item 3, 21 participants attempted the deconvolution of this mixture. A consensus was formed for both major and minor profiles. Consistent results were reported by all but one participant who was missing an allele at D3S1358 for the minor profile. All participants reported results in line with the consensus for the full Item 3 profile (unseparated) except for one participant, who was missing an allele at both D5S818 and D22S1045.

For questioned Item 4, 14 participants attempted the deconvolution of this mixture. A consensus was formed for both major and minor profiles. All participants reported results in line with the consensus for the major profile, minor profile, and the full Item 4 profile (unseparated).

YSTR Data

Twenty two participants reported YSTR results.

For reference Items 1 and 2, all participants reported allelic responses that were concordant with the consensus.

For questioned Item 3, 15 participants attempted the deconvolution of this mixture. A consensus was formed for both major and minor profiles. All participants reported results in line with the consensus. For the full Item 3 profile (unseparated), all participants reported results that were concordant with the consensus except for one participant who reported inconsistent results at four loci.

For questioned Item 4, only one participant attempted the deconvolution of this mixture. Due to the lack of reported data, no consensus was formed for major and minor profiles. For the full Item 4 profile (unseparated), all participants reported results that were concordant with the consensus.

Conclusions

For Item 3, 31 participants reported two (or at least two) individuals contributed to the mixture and one participant reported greater than two contributors. When comparing the Item 3 mixture profile with the Item 1 (victim) reference profile, 31 participants reported that the victim was included as a component of the mixture and one reported inconclusive/uninterpretable. When comparing the Item 3 mixture profile with the Item 2 (suspect) reference profile, all 32 participants reported that the suspect was included as a component of the mixture.

For Item 4, 31 participants reported that two (or at least two) individuals contributed to the mixture and one participant reported greater than two contributors. When comparing the Item 4 mixture profile with the Item 1 (victim) reference profile, 30 participants reported that the victim was excluded as a component of the mixture and one reported that the victim was included. When comparing the Item 4 mixture profile with the Item 2 (suspect) reference profile, 31 participants reported that the suspect was included as a component of the mixture. One participant did not provide a response to whether Item 1 or Item 2 was a contributor to the Item 4 mixture.

Interpretation Guidelines

TABLE 1

WebCode	Analytical Threshold (rfu)	Peak Height Ratio (%)	Stochastic Threshold (rfu)
46BBHC	75 rfu	60%, 50%	
4LYNUH	125	60	600
4VZ9WB	150	60	700
7ZUPMA	GF: 75 rfu, YF+: 75 rfu	GF: 60%, YF +: 50%	GF: 100 rfu, YF+: 75 rfu
8NDLF3	75	60	75
9TL6CA	85 rfu	65%	500 rfu
ANKHXC	125rfu	60%	600rfu
AQRX84	[Participant did not provide interpretation guidelines]		
B8QBF6	100	60%	100
CGXCEB	[Participant did not provide interpretation guidelines]		
DJFQKW	125 blue, 150 green & yellow, 175 purple, 225 red & orange		
DVA89X	[Participant did not provide interpretation guidelines]		
EAMZBA	50	60	230
EBL6R4	120	60	360
EBYURU	100	65	600
EEY7NU	Dye channel specific, Blue: 345RFU; Green: 125RFU; Yellow: 240RFU; Red: 155RFU; Purple: 130RFU	Locus specific, Min: 61.1%, Max: 81.3%	Dye channel specific, Blue: 820RFU; Green: 430RFU; Yellow: 735RFU; Red: 650RFU; Purple: 500RFU
FF9FE7	125rfu	60%	600rfu
GNYCGZ	[Participant did not provide interpretation guidelines]		
KBGYRU	BLUE 41 RFU, GREEN 76 RFU, YELLOW 30 RFU, RED 73 RFU, PURPLE 43 RFU, ORANGE 81 RFU	60%	200%
LQCGGT	F6C= B:61, G:95, Y:60, R:97, P:86. Y23: B:28, G:60, Y:91, R:109	60	F6C: 721
MAJ78V	50	65%	100 rfu
MBDUPQ	225 rfu	50%	1000 rfu
N944ZM	112	60%	644
PFJ4VP	GlobalFiler (B:100rfu, G:100rfu, Y:70rfu, R:70rfu, P:70rfu, O:100rfu)	60%	GlobalFiler 600 rfu
PJX4PW	50	60	100
PMWFLV	[Participant did not provide interpretation guidelines]		
Q432NH	75	60	NA

TABLE 1

WebCode	Analytical Threshold (rfu)	Peak Height Ratio (%)	Stochastic Threshold (rfu)
TFMX3L	[Participant did not provide interpretation guidelines]		
UQKK8M	STR 185, Y-STR 90	60	STR 500, Y-STR 200
UUJW4M	130	n/a for probabilistic genotyping	n/a for probabilistic genotyping
WGQUZL	120	60	360
ZGWF2J	75 rfu	60% (STR), 50% (YSTR)	100 rfu (STR), 75 rfu (YSTR)

STR & Amelogenin Results

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
Item	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 1 - STR Results

46BBHC	PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
	11	10,19	18,19	7,9.3	8,11	14,19
	12	17	18			
4LYNUH	GlobalFiler™ (PDF Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
4VZ9WB	GlobalFiler™ (HID Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
7ZUPMA	GlobalFiler™ (PDF Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
	N/A	N/A	18,19	7,9.3	8,11	14,19
	12	N/A	N/A	2		
8NDLF3	GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
	11	10,19	18,19	7,9.3	8,11	14,19
	12	17	18	2		
9TL6CA	GlobalFiler™					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12	17	18	2		

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 1 - STR Results

ANKHXC	GlobalFiler™ (PDF Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
AQRX84	GlobalFiler™ (PDF Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
B8QBF6	GlobalFiler™ (PDF Format), (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
CGXCEB	GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
	11	10,19	18,19	7,9.3	8,11	14,19
	12	17	18	2		
DJFQKW	GlobalFiler™ (HID Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
DVA89X	GlobalFiler™, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
	11	10,19	18,19	7,9.3	8,11	14,19
	12	17	18	2		
EAMZBA	PowerPlex® Fusion 6C					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
	11	10,19	18,19	7,9.3	8,11	14,19
	12	17	18			

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 1 - STR Results

EBL6R4	GlobalFiler™ (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12		2			
EBYURU	Investigator® 24plex (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12					
EEY7NU	PowerPlex® Fusion 6C (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
	12,15	29,30	11,15	X,Y	12	22,23
		11	10,19	18,19	7,9.3	8,11
	12	17	18			
FF9FE7	GlobalFiler™ (PDF Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
	12,15	29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12		2			
GNYCGZ	GlobalFiler™ (PDF Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12		2			
KBGYRU	GlobalFiler™					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
	12,15	29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12		2			
LQCGGT	PowerPlex® Fusion 6C (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
	12,15	29,30	11,15	X,Y	12	22,23
		11	10,19	18,19	7,9.3	8,11
	12	17	18			

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 1 - STR Results

MAJ78V	PowerPlex® Fusion 5C (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
	11	10,19		7,9.3	8,11	14,19
	12					
MBDUPQ	GlobalFiler™ (PDF Format), (HID Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
N944ZM	GlobalFiler™, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
	11	10,19	18,19	7,9.3	8,11	14,19
	12	17	18	2		
PFJ4VP	GlobalFiler™ (HID Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
PJX4PW	PowerPlex® Fusion 5C (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
	11	10,19		7,9.3	8,11	14,19
	12					
PMWFLV	GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
	11,11	10,19	18,19	7,9.3	8,11	14,19
	12	17	18	2		
Q432NH	PowerPlex® Fusion 6C					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
	11	10,19	18,19	7,9.3	8,11	14,19
	12	17	18			

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 1 - STR Results

TFMX3L	GlobalFiler™, PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12,12	22,23
	11,11	10,19	18,19	7,9.3	8,11	14,19
	12	17	18	2		
UQKK8M	GlobalFiler™ (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
UUJW4M	GlobalFiler™ (PDF Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
WGQUZL	GlobalFiler™ (HID Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
ZGWF2J	GlobalFiler™ (PDF Format)					
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
1	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 2 - STR Results

46BBHC	PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18			
4LYNUH	GlobalFiler™ (PDF Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11			2		
4VZ9WB	GlobalFiler™ (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11			2		
7ZUPMA	GlobalFiler™ (PDF Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
	N/A	N/A	27.2,28.2	7,7	10,10	16,17
	11	N/A	N/A	2		
8NDLF3	GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18	2		
9TL6CA	GlobalFiler™					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11	18	18	2		
ANKHXC	GlobalFiler™ (PDF Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11			2		

TABLE 2

WebCode	Amplification Kits (File Format)					
	D151656	D251338	D25441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 2 - STR Results

AQRX84	GlobalFiler™ (PDF Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11			2		
B8QBF6	GlobalFiler™ (PDF Format), (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
CGXCEB	GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18	2		
DJFQKW	GlobalFiler™ (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11			2		
DVA89X	GlobalFiler™, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18	2		
EAMZBA	PowerPlex® Fusion 6C					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18			
EBL6R4	GlobalFiler™ (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 2 - STR Results

EBYURU	Investigator® 24plex (HID Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
				27.2,28.2	7	10	16,17
11							
EY7NU	PowerPlex® Fusion 6C (HID Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
		12,13	11,12	27.2,28.2	7	10	16,17
11	18	18					
FF9FE7	GlobalFiler™ (PDF Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
				27.2,28.2	7,7	10,10	16,17
11				2			
GNYCGZ	GlobalFiler™ (PDF Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
				27.2,28.2	7	10	16,17
11				2			
KBGYRU	GlobalFiler™						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
				27.2,28.2	7,7	10,10	16,17
11				2			
LQCGGT	PowerPlex® Fusion 6C (HID Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
		12,13	11,12	27.2,28.2	7	10	16,17
11	18	18					
MAJ78V	PowerPlex® Fusion 5C (HID Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
		12,13	11,12		7	10	16,17
11							

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 2 - STR Results

MBDUPQ	GlobalFiler™ (PDF Format), (HID Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
				27.2,28.2	7,7	10,10	16,17
	11			2			
N944ZM	GlobalFiler™, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
		12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18	2			
PFJ4VP	GlobalFiler™ (HID Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
				27.2,28.2	7,7	10,10	16,17
	11			2			
PJX4PW	PowerPlex® Fusion 5C (HID Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
		12,13	11,12		7	10	16,17
	11						
PMWFLV	GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
		12,13	11,12	27.2,28.2	7,7	10,10	16,17
	11	18	18	2			
Q432NH	PowerPlex® Fusion 6C						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
		12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18				
TFMX3L	GlobalFiler™, PowerPlex® Fusion 6C (PDF Format), (HID Format)						
	11,15	19,20	12,14	15,17	11,13	9,10	
	14,15	14,15	22,23	11,13	11,13	12,15	
	2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
		12,13	11,12	27.2,28.2	7,7	10,10	16,17
	11	18	18	2			

TABLE 2

WebCode	Amplification Kits (File Format)		D2S441	D3S1358	D5S818	D7S820
	D1S1656	D2S1338				
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 2 - STR Results

UQKK8M	GlobalFiler™ (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
UUJW4M	GlobalFiler™ (PDF Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
WGQUZL	GlobalFiler™ (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
ZGWF2J	GlobalFiler™ (PDF Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
2	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		

TABLE 2

WebCode	Amplification Kits (File Format)		D25441	D3S1358	D5S818	D7S820
	D1S1656	D2S1338				
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 3 - STR Results

46BBHC	PowerPlex® Fusion 6C (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18			
4LYNUH	GlobalFiler™ (PDF Format)					
	11,(12),15,(18)	19,20,(23)	(11),12,14	(13),15,17,(18)	11,(12),13	9,10,(11),(12)
	(13),14,15	14,15,(16)	(18),22,23	11,(12),13	11,(12),13	12,15,(21)
3	(12),13,2,15	29,(30),31.2	(11),14,(15),16	X,Y	12,13	21,22,(23)
			(18),(19),27.2,28.2	7,(9.3)	(8),10,(11)	(14),16,17,(19)
	11,(12)			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	N/A			N/A		
4VZ9WB	GlobalFiler™ (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
			18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11			2		
	12,18		11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12		12,21
3minor		29,30	11,15	X,Y	12,12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
7ZUPMA	GlobalFiler™ (PDF Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	INC
3	INC	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	N/A	N/A	18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	N/A	N/A	2		

TABLE 2

WebCode	Amplification Kits (File Format)		D25441	D3S1358	D5S818	D7S820
	D1S1656	D2S1338				
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 3 - STR Results

8NDLF3 GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format), (HID Format)

	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3		29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18	2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major		29,31.2	14,16		12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18	2		
	12,18	23	11	13,18	12	11,12
	13	16	18	12	12	21
3minor		30	11,15			23
	11	10,19	18,19	9.3	8,11	14,19
	12	17				

9TL6CA GlobalFiler™

	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13.2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
			18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18	2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13.2,15	29,31.2	14,16		12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11	18	18	2		
	12,18	20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12	11,12	12,21
3minor	12,15	29,30	11,15		12,12	22,23
			18,19	7,9.3	8,11	14,19
	12	17	18	2		

ANKHXC GlobalFiler™ (PDF Format)

	11,(12),15,(18)	19,20,(23)	(11),12,14	(13),15,17,(18)	11,(12),13	9,10,(11),(12)
	(13),14,15	14,15,(16)	(18),22,23	11,(12),13	11,(12),13	12,15,(21)
3	(12),13.2,15	29,(30),31.2	(11),14,(15),16	X,Y	12,13	21,22,(23)
			(18),(19),27.2,28.2	7,(9.3)	(8),10,(11)	(14),16,17,(19)
	11,(12)			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13.2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	N/A			N/A		

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 3 - STR Results

AQRX84	GlobalFiler™ (PDF Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27,2,28.2	7,7	10,10	16,17
	11			2		
	12,18	23	11	18	12	11,12
	13	16	18	12	12	21
3minor	12,16	30	11,15			23
			18,19	9.3	8,11	14,19
	12					
B8QBF6	GlobalFiler™ (PDF Format), (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15,16	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
			18,19,27,2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27,2,28.2	7	10	16,17
	11			2		
	12,18	23	11	13,18	12	11,12
	13	16	18	12	12	21
3minor	12,16	30	11,15			23
			18,19	9.3	8,11	14,19
	12					
CGXCEB	GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27,2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18	2		
DJFQKW	GlobalFiler™ (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
			18,19,27,2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12			2		

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 3 - STR Results

DVA89X	GlobalFiler™, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3		29,30,31.2		X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18	2		
EAMZBA	PowerPlex® Fusion 6C					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18			
	11,15	19,20		15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16		12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	12,18	23		13,18	12	11,12
	13	16	18	12	12	21
3minor	12	30	11,15			23
	11	10,19	18,19	9.3	8,11	14,19
EBL6R4	GlobalFiler™ (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
3minor	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
EBYURU	Investigator® 24plex (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	-
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11					

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 3 - STR Results

EEY7NU	PowerPlex® Fusion 6C (HID Format)					
	11,12,15	19,20,23	11,12,14	13,15,17	11,12,13	9,10,11,12
	13,14,15	14,15	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27.2,28.2	7	10	14,16,17,19
	11,12	17,18	18			
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18			
	12	23	11	13	12	11,12
	13		18	12	12	21
3minor	12	30	11,15			23
	11	10,19	18,19			14,19
	12	17				

FF9FE7	GlobalFiler™ (PDF Format)					
	11,(12),15,(18)	19,20,(23)	(11),12,14	(13),15,17,(18)	11,(12),13	9,10,(11),(12)
	(13),14,15	14,15,(16)	(18),22,23	11,(12),13	11,(12),13	12,15,(21)
3	(12),13,2,15	29,(30),31.2	(11),14,(15),16	X,Y	12,13	21,22,(23)
			(18),(19),27.2,28.2	7,(9.3)	(8),10,(11)	(14),16,17,(19)
	11,(12)			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	N/A			N/A		

GNYCGZ	GlobalFiler™ (PDF Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
3minor	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 3 - STR Results

KBGYRU	GlobalFiler™					
3	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
	12,13,2,15,16	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
			18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12			2		
3major	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11			2		
3minor	12,18	19,23/20,23	11,11	13,18	12,13	11,12
	13,14	15,16	18,18	11,12/12,13	11,12	12,21
	12,15/12,13.2	29,30/30,30	11,15	X,Y	12,12/ 12,13	22,23
			18,19	7,9.3/9.3,9.3	8,11	14,19
	12			2		
LQCGGT	PowerPlex® Fusion 6C (HID Format)					
3	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
	12,13,2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18			
MAJ78V	PowerPlex® Fusion 5C (HID Format)					
3	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
	12,13,2,15,16	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19		7,9.3	8,10,11	14,16,17,19
	11,12					
3major	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
	13,2,15	29,31.2	14,16		12,13	21,22
	12,13	11,12		7	10	16,17
	11					
3minor	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
	12,15	29,30	11,15		12	22,23
	11	10,19		7,9.3	8,11	14,19
	12					

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 3 - STR Results

MBDUPQ	GlobalFiler™ (PDF Format), (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15	29,30,31.2	11,14,16	X,Y	12,13	21,22,23
			18,19,27.2,28.2	7,9.3	8,10,11	16,17,19
	11,12			2		
N944ZM	GlobalFiler™, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15		11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18	2		
PFJ4VP	GlobalFiler™ (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
	12,18	23	11	13,18	12	11,12
	13	16	18	12	12	21
3minor	12	30	11,15			23
			18,19	9.3	8,11	14,19
	12					
PJX4PW	PowerPlex® Fusion 5C (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19		7,9.3	8,10,11	14,16,17,19
	11,12					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16		12,13	21,22
	12,13	11,12		7	10	16,17
	11					
	12,18	23	11	13,18	12	11,12
	13	16	18	12	12	21
3minor	12	30	11,15			23
	11	10,19		9.3	8,11	14,19
	12					

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 3 - STR Results

PMWFLV	GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18	2		
Q432NH	PowerPlex® Fusion 6C					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18			
	12,18	23	11	13,18	12	11,12
	13+,14	16	18	11,12+	11,12+	12,21+
3minor	12	29,30+	11,15	X,Y	12	23
	11	10,19	18,19	7,9.3+	8,11	14,19
	12	17	18			
TFMX3L	GlobalFiler™, PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15,16*	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
	11,12,13	10,11,12,19	18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12	17,18	18	2		
UQKK8M	GlobalFiler™ (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
			18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
	12,18	23	11	13,18	12	11,12
	13	16	18	12	12	21
3minor	12	30	11,15			23
			18,19	9.3	8,11	14,19
	12					

TABLE 2

WebCode	Amplification Kits (File Format)		D2S441	D3S1358	D5S818	D7S820
	D1S1656	D2S1338				
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 3 - STR Results

UUJW4M	GlobalFiler™ (HID Format)					
	11,12,15,18	19,20,23	11,12,14	13,15,17,18	11,12,13	9,10,11,12
	13,14,15	14,15,16	18,22,23	11,12,13	11,12,13	12,15,21
3	12,13,2,15,16	29,30,31.2	11,14,15,16	X,Y	12,13	21,22,23
			18,19,27.2,28.2	7,9.3	8,10,11	14,16,17,19
	11,12			2		
WGQUZL	GlobalFiler™ (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
3minor	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		
ZGWF2J	GlobalFiler™ (PDF Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
3major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
	12,18	20,23	11	13,18	12,13	11,12
	13,14	15,16	18	11,12	11,12	12,21
3minor	12,15	29,30	11,15	X,Y	12	22,23
			18,19	7,9.3	8,11	14,19
	12			2		

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 4 - STR Results

46BBHC	PowerPlex® Fusion 6C (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18	16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18			
4LYNUH	GlobalFiler™ (PDF Format)					
	(10),11,(14),15	(17),19,20,(27)	(10),12,14	15,(16),17	11,13	9,10
	14,15	(12),14,15,(16)	(18),(19.1),22,23	11,(12),13	11,13,(14)	12,15,(16),(17)
4	(13),13.2,15	29,31.2	(11),14,16	X,Y	(10),(11),12,13	21,22,(23)
			(16),27.2,28.2	7,(8),(9)	10,(11)	16,17
	11			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13.2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	N/A			N/A		
	10,14	17,27	10,---	16,---	Inc	Inc
	Inc	12,16	18,19.1	12,---	14,---	16,17
4minor	13,---	Inc	11,---	X,---	10,11	23,---
			16,---	8,9	11,---	Inc
	N/A			N/A		
4VZ9WB	GlobalFiler™ (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13.2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11			2		
	10,14	17,27	10,10	16,16		
		12,16	18,19.1	11,12	11,14	16,17
4minor	13,13	29,29	11,11	X,X	10,11	22,23
			16,27.2	8,9	11,11	

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 4 - STR Results

7ZUPMA	GlobalFiler™ (PDF Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	INC	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	N/A	N/A	16,27.2,28.2	7,8,9	10,11	16,17
	11	N/A	N/A	2		
8NDLF3	GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18	16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18	2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13.2,15	29,31.2	14,16		12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18	2		
	10,14	17,27	10	16		
		12,16	18,19.1	12	14	16,17
4minor	13		11		10,11	23
	9	15,18	16	8,9	11	
9TL6CA	GlobalFiler™					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15,16	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18	2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13.2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10	16,17
	11	18	18	2		
	10,14	17,27	10,14	16,16	11,13	9,10
	15,15	12,16	18,19.1	11,12	11,14	16,17
4minor	13,16	29,29	11,11	X,X	10,11	22,23
			16,27.2	8,9	10,11	16,16

TABLE 2

WebCode	Amplification Kits (File Format)		D25441	D3S1358	D5S818	D7S820
	D1S1656	D2S1338				
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 4 - STR Results

ANKHXC	GlobalFiler™ (PDF Format)					
	(10),11,(14),15	(17),19,20,(27)	(10),12,14	15,(16),17	11,13	9,10
	14,15	(12),14,15,(16)	(18),(19.1),22,23	11,(12),13	11,13,(14)	12,15,(16),(17)
4	(13),13.2,15	29,31.2	(11),14,16	X,Y	(10),(11),12,13	21,22,(23)
			(16),27.2,28.2	7,(8),(9)	10,(11)	16,17
	11			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13.2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	N/A			N/A		
	10,14	17,27	10,---	16,---	Inc	Inc
	Inc	12,16	18,19.1	12,---	14,---	16,17
4minor	13,---	Inc	11,---	X,---	10,11	23,---
			16,---	8,9	11,---	Inc
	N/A			N/A		

AQRX84	GlobalFiler™ (PDF Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13.2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11			2		
	10,14	17,27	10	16		
		12,16	18,19.1	12	14	16,17
4minor	13,16		11		10,11	23
			16	8,9	11	

B8QBF6	GlobalFiler™ (PDF Format), (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15,16	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13.2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
	10,14	17,27	10	16		
		12,16	18,19.1	12	14	16,17
4minor	13,16		11		10,11	23
			16	8,9	11	

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 4 - STR Results

CGXCEB GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format), (HID Format)

	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18	16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18	2		

DJFQKW GlobalFiler™ (HID Format)

	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11		2			

DVA89X GlobalFiler™, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (HID Format)

	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18	16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18	2		

EAMZBA PowerPlex® Fusion 6C

	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18	16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18			

	11,15	19,20	12,14		11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major		29,31.2			12,13	21,22
	12,13	11,12	27.2,28.2	7		16,17

	10,14	17,27	10			
		12,16	18,19.1	12	14	16,17
4minor					10,11	23
	9	15,18	16	8,9		

EBL6R4 GlobalFiler™ (HID Format)

	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11		2			

EBYURU Investigator® 24plex (HID Format)

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 4 - STR Results

EEY7NU	PowerPlex® Fusion 6C (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18	16,27.2,28.2	7	10,11	16,17
	11	18	18			
FF9FE7	GlobalFiler™ (PDF Format)					
	(10),11,(14),15	(17),19,20,(27)	(10),12,14	15,(16),17	11,13	9,10
	14,15	(12),14,15,(16)	(18),(19.1),22,23	11,(12),13	11,13,(14)	12,15,(16),(17)
4	(13),13.2,15	29,31.2	(11),14,16	X,Y	(10),(11),12,13	21,22,(23)
			(16),27.2,28.2	7,(8),(9)	10,(11)	16,17
	11			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13.2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	N/A			N/A		
	10,14	17,27	10,---	16,---	Inc	Inc
	Inc	12,16	18,19.1	12,---	14,---	16,17
4minor	13,---	Inc	11,---	X,---	10,11	23,---
			16,---	8,9	11,---	Inc
	N/A			N/A		
GNYCGZ	GlobalFiler™ (PDF Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11			2		

TABLE 2

WebCode	Amplification Kits (File Format)		D2S441	D3S1358	D5S818	D7S820
	D1S1656	D2S1338				
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 4 - STR Results

KBGYRU	GlobalFiler™					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15,16	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11			2		
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7,7	10,10	16,17
	11			2		
	10,14	17,27	10,10/10,12	16,16/16,17	11,13	9,10
	14,15	12,16	18,19.1	11,12/12,12	11,14/14,14	16,17
4minor	13,13	29,31.2	11,11/11,14	X,X	10,11	22,23
			16,27.2	8,9	11,11	16,17

LQCGGT	PowerPlex® Fusion 6C (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18	16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18			

MAJ78V	PowerPlex® Fusion 5C (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15,16	29,31.2	11,14,15,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18		7,8,9	10,11	16,17
	11					
	11,15	19,20	12,14	15,17		
		14,15	22,23	11,13	11,13	12,15
4major	13,2,15		14,16		12,13	21,22
	12,13	11,12		7	10	
	10,14	17,27	10	16		
		12,16	18,19.1	12	14	16,17
4minor	13,16		11,15		10,11	23
	9	15,18		8,9	11	

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 4 - STR Results

MBDUPQ	GlobalFiler™ (PDF Format), (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11			2		
N944ZM	GlobalFiler™, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2		X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18	2		
PFJ4VP	GlobalFiler™ (HID Format)					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13,2,15	29,31.2	14,16	X,Y	12,13	21,22
			27.2,28.2	7	10	16,17
	11			2		
	10,14	17,27	10	16		
		12,16	18,19.1	12	14	16,17
4minor	13		11		10,11	23
			16	8,9	11	
PJX4PW	PowerPlex® Fusion 5C (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
				7,8,9	10,11	16,17
	11					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13,2,15	29,31.2	14,16	X	12,13	21,22
				7	10	16,17
	11					
	10,14	17,27	10	16		
		12,16	18,19.1	12	14	16,17
4minor	13		11	Y	10,11	23
				8,9	11	

TABLE 2

WebCode	Amplification Kits (File Format)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 4 - STR Results

PMWFLV	GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18	16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18	2		
Q432NH	PowerPlex® Fusion 6C					
	11,15	19,20	12,14	15,17	11,13	9,10
	14,15	14,15	22,23	11,13	11,13	12,15
4major	13.2,15	29,31.2	14,16		12,13	21,22
	12,13	11,12	27.2,28.2	7	10	16,17
	11	18	18			
	10,14	17,27	10+,14	16		
	15	12,16	18,19.1	11,12+	14	16,17
4minor	13	29	11		10,11	23
	9+,13	15,18	16+,27.2	8,9	10,11+	16
TFMX3L	GlobalFiler™, PowerPlex® Fusion 6C (PDF Format), (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15,16*	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
	9,12,13	11,12,15,18	16,27.2,28.2	7,8,9	10,11	16,17
	11	18	18	2		
UQKK8M	GlobalFiler™ (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11			2		
UUJW4M	GlobalFiler™ (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15,16	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11			2		
WGQUZL	GlobalFiler™ (HID Format)					
	10,11,14,15	17,19,20,27	10,12,14	15,16,17	11,13	9,10
	14,15	12,14,15,16	18,19.1,22,23	11,12,13	11,13,14	12,15,16,17
4	13,13.2,15	29,31.2	11,14,16	X,Y	10,11,12,13	21,22,23
			16,27.2,28.2	7,8,9	10,11	16,17
	11			2		

TABLE 2

WebCode	Amplification Kits (File Format)		D2S441	D3S1358	D5S818	D7S820
	D1S1656	D2S1338				
Item	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		

Item 4 - STR Results

WebCode	Amplification Kits (File Format)	D2S441	D3S1358	D5S818	D7S820
ZGWF2J	GlobalFiler™ (PDF Format)	10,11,14,15	17,19,20,27	10,12,14	15,16,17
		14,15	12,14,15,16	18,19.1,22,23	11,12,13
4		13,13.2,15	29,31.2	11,14,16	X,Y
				16,27.2,28.2	7,8,9
		11			10,11
					16,17
					2

YSTR Results

TABLE 3

WebCode	Amplification Kits (File Format)								
Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4

Item 1 - YSTR Results

46BBHC	PowerPlex® Y23 (PDF Format), (HID Format)									
		14	11,14	13	29	24	12	12	13	
	1	15	12	13	19	15	17		21	
		12	14	17	18		23	10	12	
7ZUPMA	Yfiler™ Plus (PDF Format)									
		35,36	14	11,14	13	29	24	12	12	13
	1	15	12	13	19	29	15	17	10	21
		43	12	N/A	17	18	21	23	N/A	12
8NDLF3	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)									
		35,36	14	11,14	13	29	24	12	12	13
	1	15	12	13	19	29	15	17	10	21
		43	12	14	17	18	21	23	10	12
9TL6CA	Yfiler™ Plus									
		35,36	14	11,14	13	29	24	12	12	13
	1	15	12	13	19	29	15	17	10	21
		43	12		17	18	21	23		12
AQRX84	Yfiler™ Plus (PDF Format)									
			14	11,14	13	29	24	12	12	13
	1	15	12	13	19		15	17		21
		12	14	17	18		23	10	12	
B8QBF6	PowerPlex® Y23 (PDF Format), (HID Format)									
			14	11,14	13	29	24	12	12	13
	1	15	12	13	19		15	17		21
		12	14	17	18		23	10	12	
CGXCEB	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)									
		35,36	14	11,14	13	29	24	12	12	13
	1	15	12	13	19	29	15	17	10	21
		43	12	14	17	18	21	23	10	12
DVA89X	Yfiler™ Plus, PowerPlex® Y23 (HID Format)									
		35,36	14	11,14	13	29	24	12	12	13
	1	15	12	13	19	29	15	17	10	21
		43	12	14	17	18	21	23	10	12
EBL6R4	Yfiler™ Plus (PDF Format)									
		35,36	14	11,14	13	29	24	12	12	13
	1	15	12	13	19	29	15	17	10	21
		43	12		17	18	21	23		12
GNYCGZ	Yfiler™ Plus (PDF Format)									
		35,36	14	11,14	13	29	24	12	12	13
	1	15	12	13	19	29	15	17	10	21
		43	12		17	18	21	23		12

TABLE 3

WebCode	Amplification Kits (File Format)								
Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4

Item 1 - YSTR Results

LQCGGT	PowerPlex® Y23 (HID Format)								
		14	11,14	13	29	24	12	12	13
1	15	12	13	19		15	17		21
		12	14	17	18		23	10	12
MAJ78V	PowerPlex® Y23 (HID Format)								
		14	11,14	13	29	24	12	12	13
1	15	12	13	19		15	17		21
		12	14	17	18		23	10	12
MBDUPQ	Yfiler™ Plus (PDF Format)								
	35,36	14	11,14	13	29	24	12	12	13
1	15	12	13	19	29	15	17	10	21
	43	12		17	18	21	23		12
N944ZM	Yfiler™ Plus, PowerPlex® Y23 (PDF Format)								
	35,36	14	11,14	13	29	24	12	12	13
1	15	12	13	19	29	15	17	10	21
	43	12	14	17	18	21	23	10	12
PFJ4VP	Yfiler™ Plus (HID Format)								
	35,36	14	11,14	13	29	24	12	12	13
1	15	12	13	19	29	15	17	10	21
	43	12		17	18	21	23		12
PJX4PW	PowerPlex® Y23 (HID Format)								
		14	11,14	13	29	24	12	12	13
1	15	12	13	19		15	17		21
		12	14	17	18		23	10	12
PMWFLV	Yfiler™ Plus, PowerPlex® Y23 (PDF Format)								
	35,36	14	11,14	13	29	24	12	12	13
1	15	12	13	19	29	15	17	10	21
	43	12	14	17	18	21	23	10	12
TFMX3L	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)								
	35,36	14	11,14	13	29	24	12	12	13
1	15	12	13	19	29	15	17	10	21
	43	12	14	17	18	21	23	10	12
UQKK8M	Yfiler™ Plus (HID Format)								
	35,36	14	11,14	13	29	24	12	12	13
1	15	12	13	19	29	15	17	10	21
	43	12		17	18	21	23		12
UUJW4M	PowerPlex® Y23 (PDF Format)								
		14	11,14	13	29	24	12	12	13
1	15	12	13	19		15	17		21
		12	14	17	18		23	10	12

TABLE 3

WebCode	Amplification Kits (File Format)								
Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4

Item 1 - YSTR Results

WGQUZL	Yfiler™ Plus (PDF Format)								
	35,36	14	11,14	13	29	24	12	12	13
1	15	12	13	19	29	15	17	10	21
	43	12		17	18	21	23		12
ZGWF2J	Yfiler™ Plus (PDF Format)								
	35,36	14	11,14	13	29	24	12	12	13
1	15	12	13	19	29	15	17	10	21
	43	12		17	18	21	23		12

TABLE 3

WebCode	Amplification Kits (File Format)								
Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4

Item 2 - YSTR Results

46BBHC	PowerPlex® Y23 (PDF Format), (HID Format)									
		14	11,13	13	29	23	11	13	13	
	2	15	12	12	19		17	17	24	
		12	14	18	18		24	10	13	
7ZUPMA	Yfiler™ Plus (PDF Format)									
		36,37	14	11,13	13	29	23	11	13	13
	2	15	12	12	19	31	17	17	9	24
		37	12	N/A	18	18	21	24	N/A	13
8NDLF3	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)									
		36,37	14	11,13	13	29	23	11	13	13
	2	15	12	12	19	31	17	17	9	24
		37	12	14	18	18	21	24	10	13
9TL6CA	Yfiler™ Plus									
		36,37	14	11,13	13	29	23	11	13	13
	2	15	12	12	19	31	17	17	9	24
		37	12		18	18	21	24		13
AQRX84	PowerPlex® Y23 (PDF Format)									
		14	11,13	13	29	23	11	13	13	
	2	15	12	12	19		17	17	24	
		12	14	18	18		24	10	13	
B8QBF6	PowerPlex® Y23 (PDF Format), (HID Format)									
		14	11,13	13	29	23	11	13	13	
	2	15	12	12	19		17	17	24	
		12	14	18	18		24	10	13	
CGXCEB	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)									
		36,37	14	11,13	13	29	23	11	13	13
	2	15	12	12	19	31	17	17	9	24
		37	12	14	18	18	21	24	10	13
DVA89X	Yfiler™ Plus, PowerPlex® Y23 (HID Format)									
		36,37	14	11,13	13	29	23	11	13	13
	2	15	12	12	19	31	17	17	9	24
		37	12	14	18	18	21	24	10	13
EBL6R4	Yfiler™ Plus (PDF Format)									
		36,37	14	11,13	13	29	23	11	13	13
	2	15	12	12	19	31	17	17	9	24
		37	12		18	18	21	24		13
GNYCGZ	Yfiler™ Plus (PDF Format)									
		36,37	14	11,13	13	29	23	11	13	13
	2	15	12	12	19	31	17	17	9	24
		37	12		18	18	21	24		13

TABLE 3

WebCode	Amplification Kits (File Format)								
Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4

Item 2 - YSTR Results

LQCGGT	PowerPlex® Y23 (HID Format)								
		14	11,13	13	29	23	11	13	13
2	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
MAJ78V	PowerPlex® Y23 (HID Format)								
		14	11,13	13	29	23	11	13	13
2	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
MBDUPQ	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
2	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
N944ZM	Yfiler™ Plus, PowerPlex® Y23 (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
2	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
PFJ4VP	Yfiler™ Plus (HID Format)								
	36,37	14	11,13	13	29	23	11	13	13
2	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
PJX4PW	PowerPlex® Y23 (HID Format)								
		14	11,13	13	29	23	11	13	13
2	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
PMWFLV	Yfiler™ Plus, PowerPlex® Y23 (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
2	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
TFMX3L	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)								
	36,37	14	11,13	13	29	23	11	13	13
2	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
UQKK8M	Yfiler™ Plus (HID Format)								
	36,37	14	11,13	13	29	23	11	13	13
2	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
UUJW4M	PowerPlex® Y23 (PDF Format)								
		14	11,13	13	29	23	11	13	13
2	15	12	12	19		17	17		24
		12	14	18	18		24	10	13

TABLE 3

WebCode	Amplification Kits (File Format)								
Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4

Item 2 - YSTR Results

WGQUZL	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
2	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
ZGWF2J	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
2	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13

TABLE 3

WebCode	Amplification Kits (File Format)								
Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4

Item 3 - YSTR Results

46BBHC	PowerPlex® Y23 (HID Format)								
		14	11,13	13	29	23	11	13	13
3major	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
			14			24	12	12	
3minor			13			15			21
							23		12
7ZUPMA	Yfiler™ Plus (PDF Format)								
	35,36,37	14	11,13,14	13	29	23,24	11,12	12,13	13
3	15	12	12,13	19	29,31	15,17	17	9,10	21,24
	37,43	12	N/A	17,18	18	21	23,24	N/A	12,13
8NDLF3	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)								
	35,36,37	14	11,13,14	13	29	23,24	11,12	12,13	13
3	15	12	12,13	19	29,31	15,17	17	9,10	21,24
	37,43	12	14	17,18	18	21	23,24	10	12,13
	36,37	14	11,13	13	29	23	11	13	13
3major	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
	35		14			24	12	12	
3minor			13		29	15		10	21
	43			17			23		12
9TL6CA	Yfiler™ Plus								
	35,36,37	14	11,13,14	13	29	23,24	11,12	12,13	13
3	15	12	12,13	19	29,31	15,17	17	9,10	21,24
	37,43	12		17,18	18	21	23,24		12,13
	36,37		11,13			23	11	13	
3major			12		31	17		9	24
	37			18			24		13
	35,36		11,14			24	12	12	
3minor			13		29	15		10	21
	43			17			23		12
AQRX84	PowerPlex® Y23								
		14	11,13	13	29	23	11	13	13
3major	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
			14			24	12	12	
3minor			13			15			21
							23		12

TABLE 3

WebCode	Amplification Kits (File Format)								
	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
Item 3 - YSTR Results									
B8QBF6	PowerPlex® Y23 (PDF Format), (HID Format)								
3	14	11,13,14	13	29	23,24	11,12	12,13	13	
	15	12	12,13	19	15,17	17		21,24	
	12	14	18	18		23,24	10	12,13	
3major	14	11,13	13	29	23	11	13	13	
	15	12	12	19	17	17		24	
	12	14	18	18		24	10	13	
3minor			14		24	12	12		
			13		15			21	
						23		12	
CGXCEB	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)								
3major	36,37	14	11,13	13	29	23	11	13	13
	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
3minor	35		14		24	12	12		
			13		29	15		10	21
	43					23		12	
DVA89X	Yfiler™ Plus, PowerPlex® Y23 (HID Format)								
3	14	11,13,14	13	29	23,24	11,12	12,13	13	
	15	12	12,13	19	15,17	17		21,24	
	12		17,18	18		23,24		12,13	
EBL6R4	Yfiler™ Plus (PDF Format)								
3major	36,37	14	11,13	13	29	23	11	13	13
	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
3minor	35,36	14	11,14	13	29	24	12	12	13
	15	12	13	19	29	15	17	10	21
	43	12		17	18	21	23		12
GNYCGZ	Yfiler™ Plus (PDF Format)								
3major	36,37	14	11,13	13	29	23	11	13	13
	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
3minor	35,36	14	11,14	13	29	24	12	12	13
	15	12	13	19	29	15	17	10	21
	43	12		17	18	21	23		12
LQCGGT	PowerPlex® Y23 (HID Format)								
3	14	11,13,14	13,14	29,30	23,24	11,12	12,13	13	
	15	12	12,13	19	15,17,18	17		21,24	
	12	14,15	18	18,19		23,24	10	12,13	

TABLE 3

WebCode	Amplification Kits (File Format)								
Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4

Item 3 - YSTR Results

MAJ78V	PowerPlex® Y23 (HID Format)								
		14	11,13,14	13	29	23,24	11,12	12,13	13
3	15	12	12,13	19		15,17	17		21,24
		12	14	18	18		23,24	10	12,13
3major			11,13			23	11	13	
			12			17			24
							24		13
3minor			11,14			24	12	12	
			13			15			21
							23		12
MBDUPQ	Yfiler™ Plus (PDF Format)								
	35,36,37	14	11,13,14	13	29	23,24	11,12	12,13	13
3	15	12	12,13	19	29,31	15,17	17	9,10	21,24
	37,43	12		17,18	18	21	23,24		12,13
3major	36,37	14	11,13	13	29	23	11	13	13
	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
3minor	35,0		14,0			24	12	12	
			13		29	15		10	21
	43			17			23		12
N944ZM	Yfiler™ Plus, PowerPlex® Y23 (PDF Format)								
	35,36,37	14	11,13,14	13	29	23,24	11,12	12,13	13
3	15	12	12,13	19	29,31	15,17	17	9,10	21,24
	37,43	12	14	17,18	18	21	23,24	10	12,13
PFJ4VP	Yfiler™ Plus (HID Format)								
	36,37	14	11,13	13	29	23	11	13	13
3major	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
3minor	35		14			24	12	12	
			13		29	15		10	21
	43			17			23		12
PJX4PW	PowerPlex® Y23 (HID Format)								
		14	11,13,14	13	29	23,24	11,12	12,13	13
3	15	12	12,13	19		15,17	17		21,24
		12	14	17,18	18		23,24	10	12,13
3major		14	11,13	13	29	23	11	13	13
	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
3minor			14			24	12	12	
			13			15			21
				17			23		12

TABLE 3

WebCode	Amplification Kits (File Format)								
Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4

Item 3 - YSTR Results

PMWFLV	Yfiler™ Plus, PowerPlex® Y23 (PDF Format)								
	35,36,37	14	11,13,14	13	29	23,24	11,12	12,13	13
	15	12	12,13	19	29,31	15,17	17	9,10	21,24
3	37,43	12	14	17,18	18	21	23,24	10	12,13
TFMX3L	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)								
	35,36,37	14	11,13,14	13	29	23,24	11,12	12,13	13
	15	12	12,13	19	29,31	15,17	17	9,10	21,24
3	37,43	12	14	17,18^	18	21	23,24	10	12,13
UQKK8M	Yfiler™ Plus (HID Format)								
	35,36,37	14	11,13,14	13	29	23,24	11,12	12,13	13
	15	12	12,13	19	29,31	15,17	17	9,10	21,24
3	37,43	12		17,18	18	21	23,24		12,13
3major	36,37	14	11,13	13	29	23	11	13	13
	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
3minor	35		14			24	12	12	
			13		29	15		10	21
	43			17			23		12
UUJW4M	PowerPlex® Y23 (PDF Format)								
		14	11,13,14	13	29	23,24	11,12	12,13	13
	3	15	12	12,13	19	15,17	17		21,24
		12	14	18	18		23,24	10	12,13
WGQUZL	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
	15	12	12	19	31	17	17	9	24
3major	37	12		18	18	21	24		13
3minor	35,36	14	11,14	13	29	24	12	12	13
	15	12	13	19	29	15	17	10	21
	43	12		17	18	21	23		12
ZGWF2J	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
	15	12	12	19	31	17	17	9	24
3major	37	12		18	18	21	24		13
3minor	35,36	14	11,14	13	29	24	12	12	13
	15	12	13	19	29	15	17	10	21
	43	12		17	18	21	23		12

TABLE 3

WebCode	Amplification Kits (File Format)								
	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
Item 4 - YSTR Results									
46BBHC	PowerPlex® Y23 (HID Format)								
		14	11,13	13	29	23	11	13	13
4	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
7ZUPMA	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12	N/A	18	18	21	24	N/A	13
8NDLF3	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
9TL6CA	Yfiler™ Plus								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
AQRX84	PowerPlex® Y23 (PDF Format)								
		14	11,13	13	29	23	11	13	13
4	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
B8QBF6	PowerPlex® Y23 (PDF Format), (HID Format)								
		14	11,13	13	29	23	11	13	13
4	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
CGXCEB	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
DVA89X	Yfiler™ Plus, PowerPlex® Y23 (HID Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
EBL6R4	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
GNYCGZ	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13

TABLE 3

WebCode	Amplification Kits (File Format)								
	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
Item 4 - YSTR Results									
LQCGGT	PowerPlex® Y23 (HID Format)								
		14	11,13	13	29	23	11	13	13
4	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
MAJ78V	PowerPlex® Y23 (HID Format)								
		14	11,13	13	29	23	11	13	13
4	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
MBDUPQ	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
N944ZM	Yfiler™ Plus, PowerPlex® Y23 (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
PFJ4VP	Yfiler™ Plus (HID Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
PJX4PW	PowerPlex® Y23 (HID Format)								
		14	11,13	13	29	23	11	13	13
4	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
4major		14	11,13	13	29	23	11	13	13
	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
PMWFLV	Yfiler™ Plus, PowerPlex® Y23 (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
TFMX3L	Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12	14	18	18	21	24	10	13
UQKK8M	Yfiler™ Plus (HID Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13

TABLE 3

WebCode	Amplification Kits (File Format)								
Item	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4

Item 4 - YSTR Results

UUJW4M	PowerPlex® Y23 (PDF Format)								
		14	11,13	13	29	23	11	13	13
4	15	12	12	19		17	17		24
		12	14	18	18		24	10	13
WGQUZL	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13
ZGWF2J	Yfiler™ Plus (PDF Format)								
	36,37	14	11,13	13	29	23	11	13	13
4	15	12	12	19	31	17	17	9	24
	37	12		18	18	21	24		13

DNA Conclusions

Based on the examination of the DNA profiles provided, could the Victim (Item 1) and/or the Suspect (Item 2) be included as a possible contributor to the questioned Item?

TABLE 4

WebCode	Item 3 Conclusion			Item 4 Conclusion		
	# of Contributors	Item 1	Item 2	# of Contributors	Item 1	Item 2
46BBHC	2	Included	Included	2	Excluded	Included
4LYNUH	2	Included	Included	2	Excluded	Included
4VZ9WB	at least two (2) contributors	Included	Included	at least two (2) contributors	Excluded	Included
7ZUPMA	2	Included	Included	2	Excluded	Included
8NDLF3	2	Included	Included	2	Excluded	Included
9TL6CA	2	Included	Included	2	Excluded	Included
ANKHXC	2	Included	Included	2	Excluded	Included
AQRX84	2	Included	Included	2	Excluded	Included
B8QBF6	>2	Included	Included	>2	Excluded	Included
CGXCEB	≥2 Contributors (including ≥2 males)	Included	Included	≥2 Contributors (including ≥1 male)	Excluded	Included
DJFQKW	2	Included	Included	2	Excluded	Included
DVA89X	2	Included	Included	2	Excluded	Included
EAMZBA	2	Included	Included	2	Excluded	Included
EBL6R4	2	Included	Included	2	Excluded	Included
EBYURU	2	Inconclusive / Uninterpretable	Included			
EEY7NU	2	Included	Included	2	Excluded	Included
FF9FE7	2	Included	Included	2	Excluded	Included
GNYCGZ	2	Included	Included	2	Excluded	Included
KBGYRU	2	Included	Included	2	Excluded	Included
LQCGGT	2	Included	Included	2	Excluded	Included

TABLE 4

WebCode	# of Contributors	Item 3 Conclusion		# of Contributors	Item 4 Conclusion	
		Item 1	Item 2		Item 1	Item 2
MAJ78V	2	Included	Included	2	Excluded	Included
MBDUPQ	2	Included	Included	2	Included	Included
N944ZM	2	Included	Included	2	Excluded	Included
PFJ4VP	2	Included	Included	2	Excluded	Included
PJX4PW	2	Included	Included	2	Excluded	Included
PMWFLV	2	Included	Included	2 (one male in Y-STR)	Excluded	Included
Q432NH	2	Included	Included	2	Excluded	Included
TFMX3L	at least 2	Included	Included	at least 2	Excluded	Included
UQKK8M	2	Included	Included	2	Excluded	Included
UUJW4M	2	Included	Included	2	Excluded	Included
WGQUZL	2	Included	Included	2	Excluded	Included
ZGWF2J	2	Included	Included	2	Excluded	Included

Conclusions Response Summary			Participants reporting conclusions: 32			
Based on the examination of the DNA profiles provided, could the Victim (Item 1) and/or the Suspect (Item 2) be included as a possible contributor to the questioned Item?						
Responses		Item 3		Item 4		
		Item 1	Item 2	Item 1	Item 2	
	Included	31	32	1	31	
	Excluded	0	0	30	0	
	Inconclusive	1	0	0	0	
No Response	0	0	1	1		
	Total	32	32	32	32	

Statistical Analysis for Item 3

TABLE 5

WebCode	Item 3 Methods & Results
46BBHC	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: The genetic profile obtained from Item 3 is interpreted as a mixture of DNA from two contributors. Given this genetic profile, assuming Item 1 is a contributor and assuming two contributors, it is 1.9 sextillion times more likely to observe this genetic profile if Item 1 (Victim) and Item 2 (Suspect) are contributors than if Item 1 (victim) and one unknown individual are the contributors.</p>
4VZ9WB	<p>Method(s): Random Match Probability</p> <p>Stats Analysis: Major contributor - 1 in 2.665 octillion for the African American population, 1 in 46.23 septillion for the Caucasian population, 1 in 21.73 octillion for the Hispanic population, and 1 in 15.11 nonillion for the Asian population. Minor contributor - 1 in 2.296 octillion for the African American population, 1 in 6.458 septillion for the Caucasian population, 1 in 39.768 septillion for the Hispanic population, and 1 in 1.082 septillion for the Asian population.</p>
7ZUPMA	<p>Method(s): [Participant did not report a method.]</p> <p>Stats Analysis: Working from the pdf of the electropherogram, it is not possible to perform a thorough evaluation of each locus. As a result it is possible to miss very minor contributions from additional contributors and be incorrect in the possible number of contributors to complex mixture samples. It is also not possible to thoroughly evaluate spikes, pullup, and baseline irregularities which can affect correct allele determinations. I am a forensic consultant that reviews DNA case files submitted to me as evidence. I review the analyst allele calls and evidence to reference sample comparisons so I can understand how the original analyst arrived at their opinions and conclusions. I accept that their population calculations are correct. NSD: No Size Data, INC: Inconclusive, N/A: Not Applicable</p>
8NDLF3	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: Suspect (ITEM 2) is not excluded as the origin of the predominant genetic profile found in ITEM 3. The genetic finding is 99,288,570,505,422,200,000,000,000,000 times more likely, if the DNA found in the predominant profile of ITEM 3 comes from of suspect (ITEM 2) than if it comes from another individual in the reference population.</p>
9TL6CA	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: Item 3 contains DNA mixture of two contributors, victim and suspect. To support our evidence, we have checked if the suspect is included in the mixture, we have conducted LR using LRmix. in HP (prosecution), the likelihood ration of the suspect in the DNA mixture is 5.6950E13 . while in HD (defense), the likelihood ratio of the suspect being another person unknown is 9.908E-13.In this case, the suspect is more likely to be a contributor in the mixture then a random unknown man.</p>
AQRX84	<p>Method(s): Likelihood Ratio, default stat</p> <p>Stats Analysis: The DNA profile (item 3) is 100 billion times more likely if the suspect (item 2) is a contributor to than if another unknown unrelated individual from the [Nationality] population is. Y STR: The Y STR DNA profile is 153 times more likely if the suspect is a contributor than if another unknown male from the [Nationality] population is.</p>
B8QBF6	<p>Method(s): Likelihood Ratio</p>
CGXCEB	<p>Method(s): Likelihood Ratio, Counting Method for YSTRs</p> <p>Stats Analysis: AUTOSOMAL INTERPRETATIONS: Analyses are based on Likelihood Ratio analysis. Under the assumption that the VICTIM (Item 1) and one unrelated person selected at random from the general population are contributors to this mixture, the likelihood of observing this mixed source profile is $\geq 1,000,000$ times greater (actual LR available upon request) than if it is assumed that two unrelated persons selected at random from the general population are contributors to this mixed-source sample. Under the assumption that the SUSPECT (Item 2) and one unrelated person selected at random from the general population are contributors to this mixture, the likelihood of observing this mixed source profile is $\geq 1,000,000$ times greater (actual LR available upon request) than if it is assumed that two unrelated persons selected at random from the general population are contributors to this mixed-source sample. YSTR INTERPRETATIONS: Analyses are based on the counting method. VICTIM (Item 1) is</p>

TABLE 5

WebCode	Item 3 Methods & Results
	<p>excluded as the potential MAJOR CONTRIBUTOR to the mixed YSTR profile developed from Item 3. SUSPECT (Item 2), his paternally-related male relatives, and an unknown number of males in the general population cannot be excluded as the potential MAJOR CONTRIBUTOR to the mixed YSTR profile developed from Item 3. Statistical Interpretation: On 5 December 2021, the DNA profile was searched against the U.S. Y-STR national database component of the Y-Chromosome Haplotype Reference Database (YHRD). This Y-STR DNA profile was observed: U.S. Caucasians: 0 times in a database of 2,645 Caucasian males (95% UCI: approx. 1 in 883 Caucasian males), U.S. African-Americans: 0 times in a database of 2,489 African-American males (95% UCI: approx. 1 in 831 African-American males), U.S. Hispanics: 0 times in a database of 2,322 Hispanic males (95% UCI: approx. 1 in 776 Hispanic males)</p>
DJFQKW	<p>Method(s): Likelihood Ratio Stats Analysis: The evidence is 84 sextillion times more likely if the Victim is a contributor to the DNA mixture than if he is not a contributor. This is very strong support for inclusion. The evidence is 56 septillion times more likely if the Suspect is a contributor to the DNA mixture than if he is not a contributor. This is very strong support for inclusion.</p>
DVA89X	<p>Method(s): Likelihood Ratio Stats Analysis: Overall Likelihood Ratio= 2,48700 E042</p>
EBL6R4	<p>Method(s): Likelihood Ratio Stats Analysis: The mixed DNA profile are 100 septillion, 1.7 octillion and 14 septillion TIMES more likely; IF they originated from "Item 2" and "Item 1" RATHER THAN; IF they originated from "Item 1" and one unknown unrelated individual as calculated based on the [Location-identifying population databases].</p>
EBYURU	<p>Method(s): Random Match Probability Stats Analysis: The frequency of occurrence of an unrelated individual in a random population having the same genetic profile as the major DNA profile obtained from Item 3 (DNA profile found from the stain on the right sleeve of the victim's sweatshirt) is approximately: 1 in 10.6 octillion (1.06×10^{28}) African Americans, 1 in 65.3 octillion (6.53×10^{28}) Caucasians, and 1 in 350 octillion (3.50×10^{29}) Southwestern Hispanics.</p>
EEY7NU	<p>Method(s): Random Match Probability Stats Analysis: The DNA profile found from the stain on the right sleeve of the victim's sweatshirt (Item 3) was a mixture from at least two sources with one of them being predominant. The major source could have been the suspect (Item 2), while the DNA types in the mixture not attributable to the major source could be accounted for by those of the victim (Item 1). The RMP for the major source is about $5.50E+28$.</p>
GNYCGZ	<p>Method(s): Likelihood Ratio Stats Analysis: The mixed DNA profile are 100 septillion ($100 \times 10e24$), 1.7 octillion ($1.7 \times 10e27$) and 18 septillion ($18 \times 10e24$) TIMES more likely; if they originated from reference samples "Item 1" (Male Victim – Caucasian) and "Item 2" (Male Suspect – Caucasian) RATHER THAN; if they originated from reference samples "Item 1" (Male Victim – Caucasian) and one unknown unrelated individual as calculated based on [Location-identifying population databases].</p>
KBGYRU	<p>Method(s): Random Match Probability Stats Analysis: En los cuadrantes que presentan una línea diagonal (/) con otros alelos son las otras posibles combinaciones probables para ese marcador. [English translation was not obtained by the time of report publication.]</p>
LQCGGT	<p>Method(s): Likelihood Ratio Stats Analysis: Item 1 + 1 unkn / 2 unkn, LR: LRMix Studio = $1.8E+15$, LabRetriever = $8.9E+14$, EFM = $3.4E+19$, DNAView = $5.0E+23$ Item 2 + 1 unkn / 2 unkn, LR: LRMix Studio = $9.0E+14$, LabRetriever = $6.4E+14$, EFM = $1.1E+31$, DNAView = $8.0E+31$</p>
MAJ78V	<p>Method(s): Random Match Probability</p>

TABLE 5

WebCode**Item 3 Methods & Results**

Stats Analysis: A mixed DNA profile (PowerPlex Fusion 5C) consisting of DNA from at least two contributors was obtained from the stain on the right sleeve of the victim's shirt; item CTS-21-5882-3. A major male contributor and a minor male contributor were obtained from CTS-21-5882-3 at all loci. The DNA profile for the major contributor of CTS-21-5882-3 is consistent with the DNA profile of CTS-21-5882-2. Therefore, the individual represented by the reference sample, item CTS-21-5882-2 (suspect), can not be excluded as a contributor to the DNA profile obtained from the stain on the right sleeve of the victim's shirt, item CTS-21-5882-3. A probability of selecting a random unrelated individual having a DNA profile identical to CTS-21-5882-2 at the loci observed is 1 in 1.69E+31 for African Americans, 1 in 4.58E+30 for Caucasian Americans, 1 in 3.88E+31 for Hispanic Americans and 1 in 1.02+35 for Asian Americans. The DNA profile for the minor contributor of CTS-21-5882-3 is consistent with the DNA profile of CTS-21-5882-1. Therefore, the individual represented by the reference sample, item CTS-21-5882-1 (victim), can not be excluded as a contributor of the DNA profile obtained from the stain found on the right sleeve of the victim's shirt, item CTS-21-5882-3. A mixed DNA profile (PowerPlex Y23) consisting of DNA from at least two male contributors was obtained from the stain on the right sleeve of the victim's shirt, item CTS-21-5882-3. A major male contributor and a minor male contributor were obtained from CTS-21-5882-3 at all loci. The DNA profile for the major contributor of CTS-21-5882-3 is consistent with the DNA profile of CTS-21-5882-2 (suspect). Therefore, the individual represented by the reference sample, item CTS-21-5882-2 (suspect), can not be excluded as a contributor to the YSTR DNA profile obtained from item CTS-21-5882-3, the stain found on the right sleeve of the victim's shirt. The selected haplotype is found 0 times out of 98,565 total haplotypes within the database. Applying 95% upper confidence interval results in 1 in 98,566 haplotypes. Number of African American haplotypes: 1253 (.00239 frequency), Number of Asian haplotypes: 644 (.00464 frequency), Number of Caucasian haplotypes: 1144 (.00262 frequency), Number of Hispanic haplotypes: 917 (.00326 frequency) Number of Native American Haplotypes: 880 (.00340 frequency). The DNA profile for the minor contributor of CTS-21-5882-3 is consistent with the DNA profile of CTS-21-5882-1 (victim). Therefore, the individual represented by CTS-21-5882-1 can not be excluded as a contributor of the YSTR DNA profile obtained from the stain on the right sleeve of the victim's shirt, item CTS-21-5882-3.

MBDUPQ

Method(s): Likelihood Ratio

Stats Analysis: Likelihood Ratio: The evidence is at least 100 billion times more likely if the victim (Item 1) is one of two contributors to the DNA profile obtained than if the DNA profile originated from two unknown individuals, unrelated to the victim (Item 1), selected at random from the [Nationality] Caucasian Sub-Population. Conclusion: In my opinion, this finding when considered in isolation from other information provides extremely strong support for the proposition that the victim (Item 1) is a contributor to the DNA profile. Likelihood Ratio: The evidence is at least 100 billion times more likely if the suspect (Item 2) is one of two contributors to the DNA profile obtained than if the DNA profile originated from two unknown individuals, unrelated to the suspect (Item 2), selected at random from the [Nationality] Caucasian Sub-Population. Conclusion: In my opinion, this finding when considered in isolation from other information provides extremely strong support for the proposition that the suspect (Item 2) is a contributor to the DNA profile.

N944ZM

Method(s): Likelihood Ratio

PFJ4VP

Method(s): Likelihood Ratio

Stats Analysis: LR Analysis Summary (Theta = 0.01): 1. Item-3 vs Item 1 Victim's DNA not excluded from mixture DNA. Alleles of victim DNA profile found in mixture of 21-00820.01G (Item_3). Hypothesis: Hp = mixture of 21-00822.01G (Item_1 - victim) and one unknown unrelated person; Hd = mixture of two unknown unrelated people. Results: A) GeneMapper IDX Mixture Analysis Tab: LR = 4.7639E20 ([Location-identifying] population), LR = 1.4585E20 ([Location-identifying] population). B) LRMix Studio v.1.2.3 (Drop out probability: 0.09): LR = 5.97210E13 ([Location-identifying] population), LR = 1.70868E13 ([Location-identifying] population). 2. Item-3 vs Item 2: Major contributor genotype compatible with suspect genotype. Hypothesis: Hp = contributor: 21-00823.01G (Item_2 - suspect) (major contributor), Hd = contributor: unknown unrelated person. Results: A) GeneMapper IDX Mixture Analysis Tab: LR = 2.7524E30 ([Location-identifying] population) LR = 6.7071E29 ([Location-identifying] population). B) LRMix Studio v.1.2.3 (Drop out probability: 0) LR = 1.07562E29 ([Location-identifying] population), LR = 3.75503E28 ([Location-identifying] population)

TABLE 5

WebCode	Item 3 Methods & Results
PJX4PW	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: LR = 7,14*e+21</p>
PMWFLV	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: The DNA profile from item 3 is 1 billion times more likely if it resulted from a contribution from the victim (Item 1) and suspect (Item 2) than if it resulted from contribution from two unknown unrelated individuals.</p>
Q432NH	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: DNA typing results were detected for Item 3. The DNA typing results detected in Item 3 are consistent with a mixture of DNA from Item 2 as the major contributor with a smaller amount of DNA from Item 1. The probability of seeing this DNA mixture is 7.75 nonillion (7.75E30) times more likely if it originated from Item 2 and Item 1 than if it originated from Item 1 and an unknown contributor. Item 1 is expected to be present in the mixture and is assumed to be a contributor. This analysis provides very strong support for the proposition that Item 1 and Item 2 are contributors to the DNA obtained from Item 3.</p>
TFMX3L	<p>Method(s): Counting Method</p> <p>Stats Analysis: * Note for item #3: 16(a) at D19 in GF but not 6C. ^ Note for item #3: 17(a) at DYS590 in YFP but not PPY23. Probabilistic Genotyping Analysis for all autosomal DNA profiles. Outsourcing of PG performed upon request.</p>
UQKK8M	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: LR=8,6428E035 Hp (victim+suspect) vs. Hd (2 unknown)</p>
UUJW4M	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: Item 1 - Victim LR = 3.022e+19. Item 2- Suspect LR = 4.226e+28.</p>
WGQUZL	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: The mixed DNA profile are 100 septillion, 1.7 octillion and 14 septillion TIMES more likely; IF they originated from "Item 2" and "Item 1" RATHER THAN; IF they originated from "Item 1" and one unknown unrelated individual as calculated based on the [Location-identifying population databases].</p>
ZGWF2J	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: The mixed DNA profile are 100 septillion (100 x 10e24), 1.7 octillion (1.7 x 10e27) and 18 septillion (18 x 10e24) TIMES more likely; IF they originated from the male victim (Item 1) and male suspect (Item 2) RATHER THAN; IF they originated from the male victim (Item 1) and one unknown unrelated individual as calculated based on the [Location-identifying population databases].</p>

Statistical Analysis for Item 4

TABLE 6

WebCode	Item 4 Methods & Results
46BBHC	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: The genetic profile obtained from Item 4 is interpreted as a mixture of DNA from two contributors. Item 2 (suspect) cannot be excluded as a possible contributor to this mixture. Given this genetic profile, assuming two contributors, it is 2.1 trillion times more likely to observe this genetic profile if Item 2 (suspect) and one unknown individual are contributors than if 2 unknown individuals are the contributors.</p>
4VZ9WB	<p>Method(s): Random Match Probability</p> <p>Stats Analysis: Major contributor - 1 in 2.665 octillions for the African American population, 1 in 46.23 septillions for the Caucasian population, 1 in 21.73 octillions for the Hispanic population, and 1 in 15.11 nonillions for the Asian population.</p>
7ZUPMA	<p>Method(s): [Participant did not report a method.]</p> <p>Stats Analysis: Working from the pdf of the electropherogram, it is not possible to perform a thorough evaluation of each locus. As a result it is possible to miss very minor contributions from additional contributors and be incorrect in the possible number of contributors to complex mixture samples. It is also not possible to thoroughly evaluate spikes, pullup, and baseline irregularities which can affect correct allele determinations. I am a forensic consultant that reviews DNA case files submitted to me as evidence. I review the analyst allele calls and evidence to reference sample comparisons so I can understand how the original analyst arrived at their opinions and conclusions. I accept that their population calculations are correct. NSD: No Size Data, INC: Inconclusive, N/A: Not Applicable</p>
8NDLF3	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: Suspect (ITEM 2) and at least one unknown individual are not excluded as contributors to the mixture of cells found in ITEM 4. The finding is 32,364,812,323,574,100,000 times more likely, if the mixture comes from the suspect (ITEM 2) and at least one unknown individual, to come from at least two unknown individuals taken at random in the reference population.</p>
9TL6CA	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: Item 4 contains DNA mixture of two contributors, suspect and unknown female. To support our evidence, we have checked if the suspect is included in the mixture, we have conducted LR using LRmix. in HP (prosecution), the likelihood ratio of the suspect in the DNA mixture is 7.4329E9. while in HD (defense), the likelihood ratio of the suspect being another person unknown is 4.8796E-24. In this case, the suspect is more likely to be a contributor in the mixture than a random unknown man.</p>
AQRX84	<p>Method(s): Likelihood Ratio, default statistic</p> <p>Stats Analysis: The DNA profile (item 4) is 100 billion times more likely if the suspect (item 2) is a contributor than if another unrelated individual from the [Nationality] population is. Y STR: The Y-STR DNA profile (item 4) is 153 times more likely if the suspect (item 2) is a contributor than another male in the [Nationality] population is.</p>
B8QBF6	<p>Method(s): Likelihood Ratio</p>
CGXCEB	<p>Method(s): Likelihood Ratio, Counting Method for YSTRs</p> <p>Stats Analysis: AUTOSOMAL INTERPRETATIONS: Analyses are based on Likelihood Ratio analysis. Under the assumption that two unrelated persons selected at random from the general population are contributors to this mixture, the likelihood of observing this mixed source profile is $\geq 1,000,000$ times greater (actual LR available upon request) than if it is assumed that the Victim (Item 1) and one unrelated person selected at random from the general population are contributors to this mixed-source sample. Under the assumption that the SUSPECT (Item 2) and one unrelated person selected at random from the general population are contributors to this mixture, the likelihood of observing this mixed source profile is $\geq 1,000,000$ times greater (actual LR available upon request) than if it is assumed that two unrelated persons selected at random from the general population are contributors to this</p>

TABLE 6

WebCode	Item 4 Methods & Results
	<p>mixed-source sample. YSTR INTERPRETATIONS: Analyses are based on the counting method. VICTIM (Item 1) is excluded as the potential CONTRIBUTOR to the YSTR profile developed from Item 4. SUSPECT (Item 2), his paternally-related male relatives, and an unknown number of males in the general population cannot be excluded as a potential CONTRIBUTOR to the YSTR profile developed from Item 4. Statistical Interpretation: On 5 December 2021, the DNA profile was searched against the U.S. Y-STR national database component of the Y-Chromosome Haplotype Reference Database (YHRD). This Y-STR DNA profile was observed: U.S. Caucasians: 0 times in a database of 2,645 Caucasian males (95% UCI: approx. 1 in 883 Caucasian males), U.S. African-Americans: 0 times in a database of 2,489 African-American males (95% UCI: approx. 1 in 831 African-American males), U.S. Hispanics: 0 times in a database of 2,322 Hispanic males (95% UCI: approx. 1 in 776 Hispanic males)</p>
DJFQKW	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: The evidence is 48 septillion times more likely if the Suspect is a contributor to the DNA mixture than if he is not a contributor. This is very strong support for inclusion. The Victim is excluded as a contributor to this mixture.</p>
DVA89X	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: Overall Likelihood Ratio= 3,23648E019</p>
EBL6R4	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: The mixed DNA profile are 1.9 quintillion, 32 quintillion and 280 quadrillion TIMES more likely; IF they originated from "Item 2" and one unknown individual RATHER THAN; IF they originated from two unknown unrelated individual as calculated based on the [Location-identifying population databases].</p>
EEY7NU	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: The DNA profile found from the stain on the sidewalk (Item 4) was a mixture from at least two sources. The victim (Item 1) could be excluded as a possible source of this mixture. The suspect (Item 2) could be included as one of the possible sources of this mixture. The LR value calculated for the possible involvement of the suspect (Item 2) to this DNA mixture was about 2.08E+28 to one, which means it is about 2.08E+28 times more likely that the observed DNA profile being a mixture originating from the suspect (Item 2) and an unrelated individual than if it originating from two unrelated individuals selected at random from the Caucasian population.</p>
GNYCGZ	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: The mixed DNA profile are 1.9 quintillion (1.9 x 10e18), 32 quintillion (32 x 10e18) and 370 quadrillion (370 x 10e15) TIMES more likely; if they originated from reference sample "Item 2" (Male Suspect – Caucasian) and one unknown individual RATHER THAN; if they originated from two unknown unrelated individuals as calculated based on [Location-identifying population databases].</p>
KBGYRU	<p>Method(s): Random Match Probability</p> <p>Stats Analysis: En los cuadrantes que presentan una linea diagonal (/) con otros alelos son las otras posibles combinaciones probables para ese marcador. [English translation was not obtained by the time of report publication.]</p>
LQCGGT	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: Item 1 + 1 unkn / 2 unkn, LR: LRMix Studio = 9.0E-62, LabRetriever = 6.3E-71, EFM = 7.3E-32, DNAView = 1.0E-32. Item 2 + 1 unkn / 2 unkn, LR: LRMix Studio = 1.1E+16, LabRetriever = 9.1E+15, EFM = 9.9E+30, DNAView = 1.0E+32</p>
MAJ78V	<p>Method(s): Random Match Probability</p> <p>Stats Analysis: A mixed DNA profile (PowerPlex Fusion 5C) consisting of DNA from at least two contributors was obtained from the stain on the sidewalk; item CTS-21-5882-4. A major male contributor and a minor contributor were obtained from CTS-21-5882-4 at all loci. The DNA profile for the major contributor of CTS-21-5882-4 is consistent with the DNA profile of CTS-21-5882-2. Therefore, the individual represented by the reference sample, item CTS-21-5882-2 (suspect), can not</p>

TABLE 6

WebCode	Item 4 Methods & Results
	<p>be excluded as a contributor to the DNA profile obtained from the stain on the sidewalk, item CTS-21-5882-4. A probability of selecting a random unrelated individual having a DNA profile identical to CTS-21-5882-2 at the loci observed is 1 in 1.69E+31 for African Americans, 1 in 4.58E+30 for Caucasian Americans, 1 in 3.88E+31 for Hispanic Americans and 1 in 1.02+35 for Asian Americans. The DNA profile for the minor contributor of CTS-21-5882-3 is not consistent with the DNA profile of CTS-21-5882-1. Therefore, the individual represented by the reference sample, item CTS-21-5882-1 (victim), is excluded as a contributor of the DNA profile obtained from the stain found on the sidewalk, item CTS-21-5882-4. A single DNA profile (PowerPlex Y23) was obtained from item CTS-21-5882-4, the stain on the sidewalk. The YSTR DNA profile obtained from the stain on the sidewalk is consistent with the DNA profile of CTS-21-5882-2, the reference sample for the suspect. The selected haplotype is found 0 times out of 98,565 total haplotypes within the database. Applying 95% upper confidence interval results in 1 in 98,566 haplotypes. Number of African American haplotypes: 1253 (.00239 frequency), Number of Asian haplotypes: 644 (.00464 frequency), Number of Caucasian haplotypes: 1144 (.00262 frequency), Number of Hispanic haplotypes: 917 (.00326 frequency) Number of Native American Haplotypes: 880 (.00340 frequency).</p>
MBDUPQ	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: Likelihood Ratio: The evidence is at least 100 billion times more likely if the suspect (Item 2) is one of two contributors to the DNA profile obtained than if the DNA profile originated from two unknown individuals, unrelated to the suspect (Item 2), selected at random from the [Nationality] Caucasian Sub-Population. Conclusion: In my opinion, this finding when considered in isolation from other information provides extremely strong support for the proposition that the suspect (Item 2) is a contributor to the DNA profile.</p>
N944ZM	<p>Method(s): Likelihood Ratio</p>
PFJ4VP	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: LR Analysis Summary (Theta = 0.01): 1. Item-4 vs Item 2 Alleles of suspect DNA profile found in mixture of 21-00821.01G (Item_4) - major contributor. Hypothesis: Hp = mixture of 21-00823.01G (Item_2 - suspect) and one unknown unrelated person; Hd = mixture of two unknown unrelated people. Results: A) GeneMapper IDX Mixture Analysis Tab: LR = 2.7524E30 ([Location-identifying] population), LR = 6.7071E29 ([Location-identifying] population). B) LRmix Studio v.1.2.3 (Drop out probability: 0): LR = 1.65607E16 ([Location-identifying] population), LR = 7.50987E15 ([Location-identifying] population)</p>
PJX4PW	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: LR = 2,87*e+14</p>
PMWFLV	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: The DNA profile from Item 4 is 1 billion times more likely if it resulted from contribution from Suspect (Item 2) and one unknown, unrelated individual rather than contribution from two unknown, unrelated individuals.</p>
Q432NH	<p>Method(s): Likelihood Ratio</p> <p>Stats Analysis: DNA typing results were detected for Item 4. The DNA typing results detected in Item 4 are consistent with a mixture of DNA from Item 2 as the major contributor with a smaller amount of DNA from an unknown contributor. Item 1 is excluded as being a contributor to this mixture. The probability of seeing this DNA mixture is 3.49 nonillion (3.49E30) times more likely if it originated from Item 2 and an unknown contributor than if it originated from two unknown contributors. This analysis provides very strong support for the proposition that Item 2 is a contributor to the DNA obtained from Item 4.</p>
TFMX3L	<p>Method(s): Counting Method</p> <p>Stats Analysis: * Note for item #4: 16(a) at D19 in GF and 6C from raw data analysis. Separate supplied pdf analysis documents only have 16(a) at D19 in GF but not 6C. GeneMarker used for analysis. Probabilistic Genotyping Analysis for all autosomal DNA profiles. Outsourcing of PG</p>

TABLE 6

WebCode	Item 4 Methods & Results
	performed upon request.
UQKK8M	Method(s): Likelihood Ratio Stats Analysis: LR=1,0522E015 Hp (suspect+unknown) vs. Hd (2 unknown)
UUJW4M	Method(s): Likelihood Ratio Stats Analysis: Item 1 - Victim LR = 1.775E-298. Item 2 - Suspect LR = 3.215E28.
WGQUZL	Method(s): Likelihood Ratio Stats Analysis: The mixed DNA profile are 1.9 quintillion, 32 quintillion and 280 quadrillion TIMES more likely; IF they originated from "Item 2" and one unknown individual RATHER THAN; IF they originated from two unknown unrelated individual as calculated based on the [Location-identifying population databases].
ZGWF2J	Method(s): Likelihood Ratio Stats Analysis: The mixed DNA profile are 1.9 quintillion (1.9 x 10e18), 32 quintillion (32 x 10e18) and 370 quadrillion (370 x 10e15) TIMES more likely; IF they originated from the male suspect (Item 2) and one unknown unrelated individual RATHER THAN; IF they originated from two unknown unrelated individuals as calculated based on the [Location-identifying population databases].

Databases Used

TABLE 7

WebCode	Databases Used
46BBHC	Item 3: NIST Item 4: NIST
4VZ9WB	Item 3: NIST 1036 Revised U.S. Population Dataset (July 2017) Item 4: NIST 1036 Revised U.S. Population Dataset (July 2017)
8NDLF3	Item 3: [Country-specific references] Item 4: [Country-specific references]
9TL6CA	Item 3: [Country] allele frequency table found in [Country-specific reference] Item 4: [Country] allele frequency table found in [Country-specific reference].
AQRX84	Item 3: Yfiler Plus [Nationality] database - Y HRD Item 4: Y-STR Plus [Nationality] - Y HRD
CGXCEB	Item 3: Revised-NIST-1036-Allele Frequencies, ABI ID Database + Promega PP Fusion U.S. Y-STR national database component of the Y-Chromosome Haplotype Reference Database (YHRD) Item 4: Revised-NIST-1036-Allele Frequencies, ABI ID Database + Promega PP Fusion U.S. Y-STR national database component of the Y-Chromosome Haplotype Reference Database (YHRD)
DJFQKW	Item 3: FBI extended Item 4: FBI extended
DVA89X	Item 3: [Country-specific references] Item 4: [Country-specific references]
EBL6R4	Item 3: [Location-identifying population databases] Item 4: [Location-identifying population databases]
EBYURU	Item 3: PopStats- Expanded FBI STR 2015. Item 4: [No databases were reported by this participant for this item.]
EEY7NU	Item 3: Caucasian population database Item 4: Caucasian population database
GNYCGZ	Item 3: [Location-identifying population databases] Item 4: [Location-identifying population databases]
KBGYRU	Item 3: 1. RMP 2. GFF GENETICA FORENSE FINAL con las frecuencias alélicas de la población panameña. [English translation of comments was not obtained by the time of report publication.] Item 4: 1. RMP 2. GFF GENETICA FORENSE FINAL con las frecuencias alélicas de la población panameña. [English translation of comments was not obtained by the time of report publication.]
LQCGGT	Item 3: Nist Caucasian Item 4: Nist Caucasian
MAJ78V	Item 3: Promega Item 4: Promega
MBDUPQ	Item 3: [Nationality] Caucasian Sub-Population Item 4: [Nationality] Caucasian Sub-Population
N944ZM	Item 3: [Country-specific references] Item 4: [Country-specific references]
PFJ4VP	Item 3: [Location-identifying references] Item 4: [Location-identifying references]

TABLE 7

WebCode	Databases Used
PJX4PW	Item 3: [Location-identifying reference] Item 4: [Location-identifying reference]
PMWFLV	Item 3: Hill, C.R., Duewer, D.L., Kline, M.C., Coble, M.D., Butler, J.M. (2013) U.S. population data for 29 autosomal STR loci. <i>Forensic Sci. Int. Genet.</i> 7: e82-e83 Item 4: Hill, C.R., Duewer, D.L., Kline, M.C., Coble, M.D., Butler, J.M. (2013) U.S. population data for 29 autosomal STR loci. <i>Forensic Sci. Int. Genet.</i> 7: e82-e83
TFMX3L	Item 3: YHRD Worldwide (https://yhrd.org/mixture/check) Item 4: YHRD Worldwide (https://yhrd.org/mixture/check)
UQKK8M	Item 3: AB Global Filer Population Database Item 4: AB Global Filer Population Database
UUJW4M	Item 3: NIST General 2017 Item 4: NIST General 2017
WGQUZL	Item 3: [Location-identifying population databases] Item 4: [Location-identifying population databases]
ZGWF2J	Item 3: [Location-identifying population databases] Item 4: [Location-identifying population databases]

Amplification Kit Survey

Please list all PCR amplification kits (Autosomal and YSTR) utilized as well as any future kits yet to be implemented in your laboratory.

TABLE 8

WebCode	Amplification Kit
9TL6CA	used kits: GlobalFiler/ Globalfiler express amplification kit. Yfiler plus kit for paternity samples: we use additional Fusion 6C promega kit.
CGXCEB	GlobalFiler, PowerPlex Fusion 5C and 6C, Investigator 24Plex Yfiler PLus, PowerPlex Y23
EBL6R4	1. Applied Biosystem AmpFISTR Globalfiler Express PCR Amplification Kit. 2. Applied Biosystem AmpFISTR Globalfiler PCR Amplification Kit. 3. Applied Biosystem AmpFISTR Minifiler PCR Amplification Kit. 4. Applied Biosystem AmpFISTR Yfiler PCR Amplification Kit.
EBYURU	Investigator 24plex QS, Investigator 24plex GO!
KBGYRU	Utilizamos para nuestros ensayos GlobalFiler Casework. para el futuro queremos validar metodo de Powerplex Fusion 6C. Powerplex Y23. [English translation of comments was not obtained by the time of report publication.]
N944ZM	Verifiler plus
WGQUZL	1. Applied Biosystem AmpFISTR GlobalFiler Express PCR Amplification kit. 2. Applied Biosystem AmpFISTR GlobalFiler PCR Amplification kit. 3. Applied Biosystem AmpFISTR Yfiler PCR Amplification kit. 4. Applied Biosystem AmpFISTR Minifiler PCR Amplification kit.
ZGWF2J	(1) Applied Biosystems™ AmpFLSTR™ Identifiler™ Plus PCR Amplification Kit (2) Applied Biosystems™ AmpFLSTR™ Identifiler™ Direct PCR Amplification Kit (3) Applied Biosystems™ AmpFLSTR™ Yfiler™ PCR Amplification Kit (4) Applied Biosystems™ AmpFLSTR™ Minifiler™ PCR Amplification Kit (5) Applied Biosystems™ GlobalFiler™ PCR Amplification Kit (6) Applied Biosystems™ GlobalFiler™ Express PCR Amplification Kit

Additional Comments

TABLE 9

WebCode	Additional Comments
4LYNUH	N/A = Not applicable. () = minor allele. --- = Possible additional allele(s).
4VZ9WB	LR of Item 3 if the profile had originated from Item 1 and Item 2: African American: 3.11×10^{-29} , Caucasian: 1.63×10^{-29} , Asian: 7.85×10^{-30} , Hispanic: 7.72×10^{-29} (CODIS 13 Budowle 2001 in SoftGenetics GeneMarker Mixture Analysis tool)
8NDLF3	In item 3, a mixture was found between the victim and the suspect, however the calculation was made only with the predominant profile. For item 3 we did not report the D19S433 system, because the results were not reproducible in the different kits analyzed.
ANKHXC	--- = Possible Additional Alleles. () = Minor Allele.
EBL6R4	Data Analysis: 1. The HID data was analyzed with GeneMapper ID-X v1.5 software. 2. YFiler Plus was reviewed using PDF format. 2. Statistical evaluation was performed on DNAVIEW ver 37.56.
EBYURU	Regarding Item 3- Reported comparisons/conclusions are to the Major DNA profile. The suspect matches the major DNA profile and the victim does not match the major DNA profile obtained from Item 3. Major was not called at D18S51 because peak height ratio of possible major peaks was not met. No conclusions could be made regarding the minor component from Item 3 due to insufficient DNA. Regarding Item 4- we require a minimum Peak Amplitude Threshold (PAT) of 200 rfu in the orange dye. Because the PAT for the orange dye for Item 4 was not met, no sizing data was obtained and this item could not be analyzed/interpreted further.
FF9FE7	() = Minor Allele. --- = Possible Additional Alleles. N/A = Not Applicable.
GNYCGZ	Statistical calculation was carried out using DNAVIEW software version 37.56 and calculated at 21 loci.
KBGYRU	En los cuadrantes que presentan una línea diagonal (/) con otros alelos son las otras posibles combinaciones probables para ese marcador. [English translation of comments was not obtained by the time of report publication.]
WGQUZL	Data Analysis: 1. The HID data was analyzed with GeneMapper ID-X v1.5 software. 2. YFiler Plus was reviewed using PDF format. 3. Statistical evaluation was performed on DNA-view ver 37.56.
ZGWF2J	The statistical evaluations were performed on the DNA.VIEW Statistical Software version 37.42.

-End of Report-
(Appendix may follow)

Test No. 21-5882: DNA Interpretation

DATA MUST BE SUBMITTED BY **Dec. 6, 2021, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A

WebCode: 4PX2H9

The Accreditation Release section can be accessed by using the "Continue to Final Submission" button above. This information can be entered at any time prior to submitting to CTS.

Scenario:

A male individual was reportedly involved in a shooting at an apartment building. The male victim was shot in the left arm during the incident. The shooter was injured when the victim attempted to gain control of the gun. The shooter exited the building after the incident. A tenant of the apartment building called 911 after hearing the gunshots and the male victim was brought to the hospital for treatment. A male suspect matching the description of the victim's attacker was identified and apprehended. The victim's sweatshirt containing reddish brown stains on the right sleeve was collected as evidence. Reddish brown stains were also found on the sidewalk near where the shooter was seen exiting the building. The stains were swabbed and submitted as evidence. The reddish brown stains recovered from the right sleeve of the victim's sweatshirt and from the sidewalk were confirmed as blood by the Serology unit and subsequently submitted for DNA analysis (Item 3 and Item 4, respectively). The DNA unit has completely consumed all evidence and has provided you with the DNA profiles obtained from the items. You are requested to evaluate the DNA profiles using your laboratory-specific guidelines and report your results.

Items Submitted (Sample Pack INT2):

Item 1: DNA profile from reference sample (Male Victim - Caucasian)

Item 2: DNA profile from reference sample (Male Suspect - Caucasian)

Item 3: DNA profile found from the stain on the right sleeve of the victim's sweatshirt

Item 4: DNA profile found from the stain on the sidewalk

To verify a complete and accurate download, the hash value for the downloaded .ZIP file is as follows:

21-5882 Data for Participants.zip MD5 hash value: a9e4b45974e6e8530ec436eef1c73cc9

21-5882 Data for Participants.zip SHA1 hash value: 2dae84fddefe353dcaa680590fad3540bf1ec68f

Part I: DNA ANALYSIS INSTRUCTIONS

- Use your laboratory's Interpretation guidelines for evaluation of this test.
- Please report Laboratory Specific Interpretation Guidelines below per amplification kit.
- If interpretation guidelines are not reported, the consensus information will be utilized in the review of results.

Analytical Threshold:

Peak Height Ratio (%):

Stochastic Threshold (Peak Amplitude):

If you do not have Interpretation guidelines, please use the following guidelines and report these values above:

For STR Analysis: Analytical Threshold: 75 rfu, Peak Height Ratio: 60%, Stochastic Threshold (Peak Amplitude): 100 rfu

For YSTR Analysis: Analytical Threshold: 75 rfu, Peak Height Ratio: 50%, Stochastic Threshold (Peak Amplitude): 75 rfu

- Report the allelic results for each Item in the appropriate response boxes.
- If major and minor contributor(s) can be distinguished and your laboratory normally reports this distinction, report the results of the major profile and the minor profile in the appropriately labeled boxes; otherwise, list the alleles in numerical order in the remaining row of boxes labeled with the Item number.
- Please Note: Samples were completely consumed during extraction.

Part I: DNA ANALYSIS (continued)

Item 3 DNA Analysis Questions

1) Record the number of contributors found in the Item 3 DNA profile:

2) Choose the conclusion statement that best describes the results of the analysis for Item 3 based on comparisons with the Known Items (If the wording below differs from the normal wording of your conclusions, adapt these conclusions as best you can and use your preferred wording in the Additional Comments section.):

Item 1 Conclusion

- Item 1 (victim) is included (cannot be excluded) as a possible contributor to the DNA obtained from Item 3.
- Item 1 (victim) is excluded as a possible contributor to the DNA obtained from Item 3.
- The DNA typing results for Item 3 in comparison with Item 1 are inconclusive/uninterpretable.

Item 2 Conclusion

- Item 2 (suspect) is included (cannot be excluded) as a possible contributor to the DNA obtained from Item 3.
- Item 2 (suspect) is excluded as a possible contributor to the DNA obtained from Item 3.
- The DNA typing results for Item 3 in comparison with Item 2 are inconclusive/uninterpretable.

3) Statistical Analysis of Item 3 DNA Typing Results:

Select the statistical method(s) used by marking the associated box and report these results in the space below:

Combined Probability of Exclusion/Inclusions (CPE/CPI)

Likelihood Ratio (LR)

Random Match Probability (RMP)

Other:

Please note: Any additional formatting applied in the free form space below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.

4) Please list any databases used in the statistical analyses of Item 3 below.

Part I: DNA ANALYSIS (continued)

Item 4 DNA Analysis Questions

1) Record the number of contributors found in the Item 4 DNA profile:

2) Choose the conclusion statement that best describes the results of the analysis for Item 4 based on comparisons with the Known Items (If the wording below differs from the normal wording of your conclusions, adapt these conclusions as best you can and use your preferred wording in the Additional Comments section.):

Item 1 Conclusion

- Item 1 (victim) is included (cannot be excluded) as a possible contributor to the DNA obtained from Item 4.
- Item 1 (victim) is excluded as a possible contributor to the DNA obtained from Item 4.
- The DNA typing results for Item 4 in comparison with Item 1 are inconclusive/uninterpretable.

Item 2 Conclusion

- Item 2 (suspect) is included (cannot be excluded) as a possible contributor to the DNA obtained from Item 4.
- Item 2 (suspect) is excluded as a possible contributor to the DNA obtained from Item 4.
- The DNA typing results for Item 4 in comparison with Item 2 are inconclusive/uninterpretable.

3) Statistical Analysis of Item 4 DNA Typing Results:

Select the statistical method(s) used by marking the associated box and report these results in the space below:

Combined Probability of Exclusion/Inclusions (CPE/CPI)

Likelihood Ratio (LR)

Random Match Probability (RMP)

Other:

Please note: Any additional formatting applied in the free form space below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.

4) Please list any databases used in the statistical analyses of Item 4 below.

Part II: ADDITIONAL COMMENTS

Comments regarding any part of this Test.

Please note: Any additional formatting applied in the free form space below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.

Part III: AMPLIFICATION KIT SURVEY (optional)

To accommodate your laboratory's future needs, please list all PCR amplification kits (Autosomal and YSTR) utilized as well as any future kits to be implemented in your laboratory.

RELEASE OF DATA TO ACCREDITATION BODIES

The Accreditation Release is accessed by pressing the "Continue to Final Submission" button online and can be completed at any time prior to submission to CTS.

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB, and/or A2LA. Please select one of the following statements to ensure your data is handled appropriately.

- This participant's data is intended for submission to ASCLD/LAB, ANAB, and/or A2LA. (Accreditation Release section below must be completed.)
- This participant's data is **not** intended for submission to ASCLD/LAB, ANAB, and/or A2LA.

Have the laboratory's designated individual complete the following steps only if your laboratory is accredited in this testing/calibration discipline by one or more of the following Accreditation Bodies.

Step 1: Provide the applicable Accreditation Certificate Number(s) for your laboratory.

ANAB Certificate No.
(Include ASCLD/LAB Certificate here)

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety.

Authorized Contact Person and Title

Laboratory Name

Location (City/State)