DNA Interpretation Test No. 20-5881
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 43 participants and are compiled into the following tables:

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 female donor. Item 2 was created using blood collected from a male donor. The Item 3 mixture was created by combining five parts of blood from the Item 1 female donor, three parts of blood from a third-party female donor, and one part of blood from the Item 2 male donor. The Item 4 mixture was created by combining one part of blood from the Item 1 female donor and four parts of blood from the Item 2 male 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	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
	13,14	30,31.2	14,17	X,X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21
	NM	NM	NM	NM		
2	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11	16	17	2		
3	14,15,16	16,17,18,19,20,26†	11,13,14	15,16,17	9,12,13	7,8,10,12
	10,13	13,14,15	15,17,18,20,22†	11,12,13,14	9,11,12,13	14,15,16,17
	13,14,15,15.2	27,29,30,31,31.2	14,15,17†	X,Y	7,10,11,13	20,21,23
	5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
	11	16	17	2		
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14†	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11	16	17	2		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11	*	*	2		
4minor	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
	13,14	30,31.2	14,17	X,X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21
	*	*	*	*		

NM - Non-Male profile, YSTR results not expected.

* 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	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		
2	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
3	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
4	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		

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 FSA, 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™, PowerPlex® Y23.

Item 1 was the female victim's reference sample. Item 2 was the male suspect's reference sample. Item 3 was a mixture of samples from three individuals including the female victim, the male suspect, and a 3rd party female contributor for whom no reference sample was provided (5:1:3 ratio respectively). Item 4 was a mixture of samples from two individuals including the male suspect and the female victim (4:1 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
Forty-three participants evaluated the provided STR data. The most frequently reported amplification kit utilized was GlobalFiler™. For both reference Items 1 and 2, 42 participants reported data that were concordant with the consensus.

For questioned Item 3, 15 participants attempted the deconvolution of this mixture, 13 of which reported both a major and a minor profile. However, due to the variation of reported data, no consensus was formed for major or minor profiles. A consensus was achieved for the full Item 3 profile (unseparated), with some participants reporting an additional allele at D2S1338 or D22S1045 when utilizing differing analytical thresholds and/or amplification kits for interpretation. Thirty-four participants reported results in line with the consensus and their reported interpretation guidelines.

For questioned Item 4, 35 participants attempted the deconvolution of this mixture, 29 of which reported both a major and minor profile. A consensus was formed for both major and minor profiles. Three participants reported inconsistent results for the major profile. Fourteen participants reported inconsistent results for the minor profile, most of which were only reporting one allele at each locus. When using their indicated interpretation guidelines and amplification kit data, all participants reported results in line with the consensus for the full Item 4 profile (unseparated) except for two participants.

YSTR Data
Twenty-eight participants reported YSTR results.

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

For questioned Item 3, all respondents reported results that were concordant with the consensus except for two participants who reported "14" at DYS390 whereas the consensus was "24".

For questioned Item 4, all participants reported allelic responses that were concordant with the consensus.

Conclusions
For Item 3, 36 participants reported three (or at least three) contributors, two participants did not report for number of contributors, and five participants reported four (or at least four) contributors. When comparing the Item 3 mixture profile with the Item 1 (victim) reference profile, 36 participants reported that the victim was included as a component of the mixture and seven reported inconclusive/uninterpretable. When comparing the Item 3 mixture profile with the Item 2 (suspect) reference profile, 34 participants reported that the suspect was included as a component of the mixture and nine reported inconclusive/uninterpretable.

For Item 4, 41 participants reported that two (or at least two) individuals contributed to the mixture and two did not report a response for number of contributors. When comparing the Item 4 mixture profile with the Item 1 (victim) and Item 2 (suspect) reference profiles, all 43 participants reported that both were included as components of the mixture.

Interpretation Guidelines

TABLE 1

WebCode	Analytical Threshold (rfu)	Peak Height Ratio (%)	Stochastic Threshold (rfu)
2RNGRC	75	60	100
2ZFY7L	190 RFU	50%	1160
33K7LJ	STR Analysis: 130 rfu, YSTR Analysis: 75 rfu	STR Analysis: 60%, YSTR Analysis: 50%	STR Analysis: 130 rfu, YSTR Analysis: 75 rfu
3F6LPH	Dye Specific: Blue 150, Green 125, Yellow 115, Red 125, Purple 85	60	Blue 670, Green 560, Yellow 515, Red 560, Purple 380
3YH9DC	60rfu	50	0.1ng 700fru
4J6WKH	75	60	230
67DP38	125	60%	600
6TPNKF	190 rfu	50 %	1160 RFU
7NRLV7	75	50	100
93MMLC	75	60	100
9HFE7D	190	50%	1160
9R66T7	75, Y-STR-50	70%, Y-STR-60%	200, Y-STR-150
BYDGY3	125rfu	60%	600rfu
CDAVWB	125 rfu	60%	600 rfu
CLJJA9	150 RFU	70%	600 RFU
CP3ED2	75	60	100
DDJJB8	75	60	100
FBQTBT	75 STR / 75 YSTR	60% STR / 50% YSTR	100 rfu STR / 75 rfu YSTR
FRY487	75rfu(Y: 75rfu)	60%(Y: 50%)	100rfu (Y: 75rfu)
GC6WPX	75	60	400
GTPMNX	80	60	250
H3ADNU	125 rfu	60%	600 rfu
HKPMPV	75	60	100
J6WE63	125 blue; 150 green,yellow; 175 purple; 225 red, orange	set in STRmix	not used
JLJRJU	75 rfu for STR, 75 rfu for YSTR	60% for STR, 50% for YSTR	100 rfu for STR, 75 rfu for YSTR
LKYV4Z	190 rfu	50%	1160 rfu
MB7YGP	[Participant did not provide interpretation guidelines]		
N3QFXP	75 rfu	60%	100 rfu
PCB7XM	75rfu (GF & yFiler)	60% (GF), 50% (yFiler)	100rfu (GF), 75rfu (yFiler)
PYM4EV	175 rfu	60 %	350 rfu
QFQXLU	75rfu	60%	100rfu

TABLE 1

WebCode	Analytical Threshold (rfu)	Peak Height Ratio (%)	Stochastic Threshold (rfu)
QXPDLL	75 rfu, 75 rfu	60%, 50%	100 rfu, 75 rfu
TBN2QK	75 rfu (Y: 75 rfu)	60% (Y: 50%)	100 rfu (Y: 75 rfu)
TL7HJR	190	50	1160
VTJDCQ	190 rfu	50%	1160 rfu
VTYB6Q	75	60	100
W334CN	75rfu	60%	100rfu
WWWDAH	85 rfu	65%	500 rfu
X7DGUM	190	50	1160
XJMVBM	175	60	350
XNZV9E	75	60	100
Y3XA7M	70 RFU	STRmix is used for analysis	600 for binary approach. Using STRmix for most interpretation
YX3F9L	190	50	1160

STR & Amelogenin Results

TABLE 2

WebCode / Item	Amplification Kits (File Format)					
	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		

Item 1 - STR Results

2RNGRC　GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	15	19,26	11,13	17	12	8
	10,13	13,14	15,18	11,14	13	15,16
1	13,14	30,31.2	14,17	X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21

2ZFY7L　PowerPlex® Fusion 5C (FSA Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
1	13,14	30,31.2	14,17	X,X	7,10	21,23
	5,12	8,10	NT	9,10	8,10	18,21
	ND	NT	NT	NT		

33K7LJ　GlobalFiler™ (HID Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
1	13,14	30,31.2	14,17	X,X	7,10	21,23
			23.2,29.2	9,10	8,10	18,21

3F6LPH　GlobalFiler™

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	15	19,26	11,13	17	12	8
	10,13	13,14	15,18	11,14	13	15,16
1	13,14	30,31.2	14,17	X	7,10	21,23
			23.2,29.2	9,10	8,10	18,21

3YH9DC　GlobalFiler™ (PDF Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	15,15	19,26	11,13	17,17		
	10,13	13,14	15,18		13,13	15,16
1	13,14	30,31.2	14,17	X,X		21,23
			23.2,29.2	9,10		18,21

4J6WKH　PowerPlex® Fusion 6C (HID Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	15	19,26	11,13	17	12	8
	10,13	13,14	15,18	11,14	13	15,16
1	13,14	30,31.2	14,17	X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21

WebCode / Item	Amplification Kits (File Format)				
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**		

Item 1 - STR Results

67DP38 — GlobalFiler™ (PDF Format) — Item 1

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21
No Results			No Results		

6TPNKF — PowerPlex® Fusion 5C — Item 1

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10		9,10	8,10	18,21
ND					

7NRLV7 — PowerPlex® Fusion 5C (PDF Format) — Item 1

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
5,12	8,10		9,10	8,10	18,21

93MMLC — GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format) — Item 1

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	81,21

9HFE7D — PowerPlex® Fusion 5C (FSA Format) — Item 1

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15,Inc.	19,26	11,13	17,Inc.	12,Inc.	8,Inc.
10,13	13,14	15,18	11,14	13,Inc.	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
5,12	8,10		9,10	8,10	18,21
ND					

9R66T7 — PowerPlex® Fusion 6C (HID Format) — Item 1

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

BYDGY3 — GlobalFiler™ (PDF Format) — Item 1

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21
No Results			No Results		

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

CDAVWB GlobalFiler™ (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21
No Results			No Results		

Item: 1

CLJJA9 GlobalFiler™

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21

Item: 1

CP3ED2 GlobalFiler™

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21

Item: 1

DDJJB8 GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

Item: 1

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

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21
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Item: 1

FRY487 GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

Item: 1

GC6WPX GlobalFiler™ (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21

Item: 1

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

GTPMNX GlobalFiler™ (FSA Format), (PDF Format)

15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21

(Item: 1)

H3ADNU GlobalFiler™ (PDF Format)

15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21
No Results			No Results		

(Item: 1)

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

15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21
N/A	N/A	N/A	N/A		

(Item: 1)

J6WE63 GlobalFiler™ (HID Format)

15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21
nr			nr		

(Item: 1)

JLJRJU GlobalFiler™, PowerPlex® Fusion 6C (PDF Format), (HID Format)

15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

(Item: 1)

LKYV4Z PowerPlex® Fusion 5C

15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
5,12	8,10		9,10	8,10	18,21

(Item: 1)

MB7YGP GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)

15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

(Item: 1)

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

N3QFXP   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

(Item 1)

PCB7XM   GlobalFiler™ (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
N/A	N/A	23.2,29.2	9,10	8,10	18,21
NSD	N/A	N/A	NSD		

(Item 1)

PYM4EV   GlobalFiler™ (FSA Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21
NM			NM		

(Item 1)

QFQXLU   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

(Item 1)

QXPDLL   GlobalFiler™ (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21

(Item 1)

TBN2QK   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

(Item 1)

TL7HJR   PowerPlex® Fusion 5C (FSA Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15,inconclusive	19,26	11,13	17,inconclusive	12,inconclusive	8,inconclusive
10,13	13,14	15,18	11,14	13,inconclusive	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
5,12	8,10	not applicable	9,10	8,10	18,21
not detected	not applicable	not applicable	not applicable		

(Item 1)

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

VTJDCQ PowerPlex® Fusion 5C (FSA Format)

D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
15,INC	19,26	11,13	17,INC	12,INC	8,INC
10,13	13,14	15,18	11,14	13,INC	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
5,12	8,10		9,10	8,10	18,21
ND					

VTYB6Q GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

W334CN GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

WWWDAH GlobalFiler™

15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21

X7DGUM PowerPlex® Fusion 5C (FSA Format)

15,inconclusive	19,26	11,13	17,17	12,inconclusive	8,inconclusive
10,13	13,14	15,18	11,14	13,inconclusive	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
5,12	8,10	not tested	9,10	8,10	18,21
not detected	not tested	not tested	not tested		

XJMVBM GlobalFiler™ (FSA Format)

15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21
NM		NM			

XNZV9E GlobalFiler™ (PDF Format)

15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21

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

Y3XA7M   PowerPlex® Fusion 6C (HID Format)

	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
1	13,14	30,31.2	14,17	X,X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21

YX3F9L   PowerPlex® Fusion 5C (FSA Format)

	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
1	13,14	30,31.2	14,17	X,X	7,10	21,23
	5,12	8,10		9,10	8,10	18,21
	ND					

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 2 - STR Results

2RNGRC GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		

2ZFY7L PowerPlex® Fusion 5C (FSA Format)

	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
2	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13	NT	6,9	8,12	14,17
	10,11	NT	NT	NT		

33K7LJ GlobalFiler™ (HID Format)

	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
2	14,14	31,31.2	15,15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		

3F6LPH GlobalFiler™

	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		

3YH9DC GlobalFiler™ (PDF Format)

	14,16	17,20	11,14	16,17		
	10,10	14,15	15,20		12,13	14,17
2	14,14	31,31.2	15,15	X,Y		21,23
			16,30.2	6,9		14,17

4J6WKH PowerPlex® Fusion 6C (HID Format)

	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11	16	17			

67DP38 GlobalFiler™ (PDF Format)

	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
2	14,14	31,31.2	15,15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		

WebCode / Item	Amplification Kits (File Format)				
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		

Item 2 - STR Results

6TPNKF PowerPlex® Fusion 5C

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13		6,9	8,12	14,17
11					

Item: 2

7NRLV7 PowerPlex® Fusion 5C (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
9,10	12,13		6,9	8,12	14,17
11					

Item: 2

93MMLC GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			2		

Item: 2

9HFE7D PowerPlex® Fusion 5C (FSA Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
9,10	12,13		6,9	8,12	14,17
11					

Item: 2

9R66T7 PowerPlex® Fusion 6C (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11	16	17			

Item: 2

BYDGY3 GlobalFiler™ (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

Item: 2

CDAVWB GlobalFiler™ (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

Item: 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 2 - STR Results

CLJJA9   GlobalFiler™

	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		

CP3ED2   GlobalFiler™

	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		

DDJJB8   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		

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

	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
2	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11	16	17	2		

FRY487   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		

GC6WPX   GlobalFiler™ (PDF Format)

	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		

GTPMNX   GlobalFiler™ (FSA Format), (PDF Format)

	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
2	14,14	31,31.2	15,15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			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 2 - STR Results

H3ADNU   GlobalFiler™ (PDF Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
2	14,14	31,31.2	15,15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		

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

Item						
	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
2	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11	16	17	2		

J6WE63   GlobalFiler™ (HID Format)

Item						
	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
2	14,14	31,31.2	15,15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		

JLJRJU   GlobalFiler™, PowerPlex® Fusion 6C (PDF Format), (HID Format)

Item						
	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11	16	17	2		

LKYV4Z   PowerPlex® Fusion 5C

Item						
	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
2	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13		6,9	8,12	14,17
	11					

MB7YGP   GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)

Item						
	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11	16	17	2		

N3QFXP   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item						
	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
2	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			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 2 - STR Results

PCB7XM GlobalFiler™ (PDF Format)

Item 2

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
N/A	N/A	16,30.2	6,9	8,12	14,17
11	N/A	N/A	2		

PYM4EV GlobalFiler™ (FSA Format)

Item 2

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

QFQXLU GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item 2

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			2		

QXPDLL GlobalFiler™ (HID Format)

Item 2

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

TBN2QK GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item 2

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			2		

TL7HJR PowerPlex® Fusion 5C (FSA Format)

Item 2

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
9,10	12,13	not tested	6,9	8,12	14,17
11	not tested	not tested	not tested		

VTJDCQ PowerPlex® Fusion 5C (FSA Format)

Item 2

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
9,10	12,13		6,9	8,12	14,17
11					

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 2 - STR Results

VTYB6Q GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			2		

Item: 2

W334CN GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			2		

Item: 2

WWWDAH GlobalFiler™

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

Item: 2

X7DGUM PowerPlex® Fusion 5C (FSA Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
9,10	12,13	not tested	6,9	8,12	14,17
11	not tested	not tested	not tested		

Item: 2

XJMVBM GlobalFiler™ (FSA Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

Item: 2

XNZV9E GlobalFiler™ (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

Item: 2

Y3XA7M PowerPlex® Fusion 6C (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11	16	17			

Item: 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 2 - STR Results

YX3F9L	PowerPlex® Fusion 5C (FSA Format)					
	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
2	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13		6,9	8,12	14,17
	11					

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 3 - STR Results

2RNGRC   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item 3:

D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11			2		

3major:

14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
5,9,12	8,10,11,17	17,19,23.2,29.2	6,8,9,10	8,10	16,18,21

3minor:

14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			2		

2ZFY7L   PowerPlex® Fusion 5C (FSA Format)

Item 3:

14,15,16	16,17,18,19,20,25,26	11,13,14	15,16,17	9,12,13	7,8,12
10,13	13,14,15	15,17,18,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11	20,21,23
5,9,12	8,10,11,12,13,17	NT	6,8,9,10	8,10	14,16,17,18,21
ND	NT	NT	NT		

33K7LJ   GlobalFiler™ (HID Format)

Item 3:

14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
		16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11			2		

3F6LPH   GlobalFiler™

Item 3:

14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
		16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11			2		

WebCode / Item	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 3 - STR Results

3YH9DC   GlobalFiler™ (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15	16,18,19,26	11,13,14	15,16,17		
10,13	13,14	15,17,18,22		9,11,13	15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X,X		20,21,23
		17,19,23.2,29.2	6,8,9,10		16,18,21

3minor

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
16	17,20				
	15	17.3,20		12	14
	31				
		16,30.2			14,17

4J6WKH   PowerPlex® Fusion 6C (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,16,17	X,Y	7,10,11,13	20,21,23
5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11	16	17			

67DP38   GlobalFiler™ (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
[14],15,[16]	16,[17],18,19,[20],26	11,[13],[14]	[15],[16],17	[9],12,[13]	[7],8,[10],[12]
10,13	13,14,[15]	15,17,[17.3],18,[20],22	11,[12],13,14	[9],[11],[12],13	[14],15,[16],[17]
13,14,[15],[15.2]	27,29,30,[31],31.2	14,15,[17]	X,[Y]	[7],10,[11],[13]	[20],21,23
		[16],17,19,23.2,29.2,[30.2]	6,8,9,10	8,[10],[12]	[14],16,[17],18,[21]
11			2		

6TPNKF   PowerPlex® Fusion 5C

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15,16	16,17,18,19,20,25,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,32.2	14,15,17	X,Y	7,10,11	20,21,23
5,9,12	8,10,11,12,13,17		6,8,9,10	8,10	14,16,17,18,20,21
ND					

7NRLV7   PowerPlex® Fusion 5C (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15,16	16,17,18,19,20,25,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,16,17	X,Y	7,10,11,13	20,21,23
5,9,10,12	8,10,11,12,13,17		6,8,9,10	8,10,12	14,16,17,18,20,21
11					

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 3 - STR Results

93MMLC GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
3	14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
	10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
	13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
	5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
	11			2		

3major	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
	10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
	13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
	5,9,12	8,10,11,17	17,19,23.2,29.2	6,8,9,10	8,10	16,18,21

3minor	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		

9HFE7D PowerPlex® Fusion 5C (FSA Format)

Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
3	14,15,16	16,17,18,19,20,25,26	11,13,14	15,16,17	9,12,13	7,8,12
	10,13	13,14,15	15,17,18,22	11,12,13,14	9,11,12,13	14,15,16,17
	13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11	20,21,23
	5,9,12	8,10,11,12,13,17		6,8,9,10	8,10	14,16,17,18,21
	ND					

9R66T7 PowerPlex® Fusion 6C (HID Format)

Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
3	14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
	10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
	13,14,15,15.2	27,29,30,31,31.2	14,15,16,17	X,Y	7,10,11,13	20,21,23
	5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
	11	16	17			

BYDGY3 GlobalFiler™ (PDF Format)

Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
3	(14),15,(16)	16,(17),18,19,(20),26	11,(13),(14)	(15),(16),17	(9),12,(13)	(7),8,(10),(12)
	10,13	13,14,(15)	15,17,(17.3),18,(20),22	11,(12),13,14	(9),(11),(12),13	(14),15,(16),(17)
	13,14,(15),(15.2)	27,29,30,(31),31.2	14,15,(17)	X,(Y)	(7),10,(11),(13)	(20),21,23
			(16),17,19,23.2,29.2,(30.2)	6,8,9,10	8,(10),(12)	(14),16,(17),18,(21)
	11			2		

CDAVWB GlobalFiler™ (PDF Format)

Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
3	(14),15,(16)	16,(17),18,19,(20),26	11,(13),(14)	(15),(16),17	(9),12,(13)	(7),8,(10),(12)
	10,13	13,14,(15)	15,17,(17.3),18,(20),22	11,(12),13,14	(9),(11),(12),13	(14),15,(16),(17)
	13,14,(15),(15.2)	27,29,30,(31),31.2	14,15,(17)	X,(Y)	(7),10,(11),(13)	(20),21,23
			(16),17,19,23.2,29.2,(30.2)	6,8,9,10	8,(10),(12)	(14),16,(17),18,(21)
	11			2		

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

Item 3 - STR Results

CLJJA9   GlobalFiler™

3

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
		17,19,23.2,29.2	6,8,9,10	8,10	16,18,21

3minor

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
16	17,20			9	10
	15	20	12	12	14
	31		Y	13	
		16,30.2		12	14,17
11			2		

CP3ED2   GlobalFiler™

3major

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
		17,19,23.2,29.2	6,8,9,10	8,10	16,18,21

3minor

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
16	17,20			9	10
	15	20	12	12	14
	31		Y	13	
		16,30.2		12	14,17

DDJJB8   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

3

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11			2		

3major

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
5,9,12	8,10,11,17	17,19,23.2,29.2	6,8,9,10	8,10	16,18,21

3minor

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			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 3 - STR Results

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

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
3	14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
	10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
	13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
	5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
	11	16	17	2		

FRY487   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
3	14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
	10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
	13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
	5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
	11			2		
3major	14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
	10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
	13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
	5,9,12	8,10,11,17	17,19,23.2,29.2	6,8,9,10	8,10	16,18,21
3minor	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		

GC6WPX   GlobalFiler™ (PDF Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
3	14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
	10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
	13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
			16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
	11			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 3 - STR Results

GTPMNX   GlobalFiler™ (FSA Format), (PDF Format)

14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
		16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11			2		

Item: 3

3major

15,15/14,15	19,26/16,18	11,13/11,14	17,17/15,16	12,12/12,13	8,8/7,12
10,13/10,13	13,14/13,14	15,18/17,22	11,14/13,13	13,13/9,11	15,16/15,17
13,14/15,15.2	30,31.2/27,29	14,17/14,15	X,X	7,10/10,11	21,23/20,21
		23.2,29.2/17,19	9,10/6,8	8,10/8,8	18,21/16,16

3minor

14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

H3ADNU   GlobalFiler™ (PDF Format)

(14),15,(16)	16,(17),18,19,(20),26	11,(13),(14)	(15),(16),17	(9),12,(13)	(7),8,(10),(12)
10,13	13,14,(15)	15,17,(17.3),18,(20),22	11,(12),13,14	(9),(11),(12),13	(14),15,(16),(17)
13,14,(15),(15.2)	27,29,30,(31),31.2	14,15,(17)	X,(Y)	(7),10,(11),(13)	(20),21,23
		(16),17,19,23.2,29.2,(30.2)	6,8,9,10	8,(10),(12)	(14),16,(17),18,(21)
11			2		

Item: 3

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

14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,16,17	X,Y	7,10,11,13	20,21,23
5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11	16	17	2		

Item: 3

J6WE63   GlobalFiler™ (HID Format)

14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
		16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11			2		

Item: 3

JLJRJU   GlobalFiler™, PowerPlex® Fusion 6C (PDF Format), (HID Format)

14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11	16	17	2		

Item: 3

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 3 - STR Results

LKYV4Z   PowerPlex® Fusion 5C

D1S1656 / D8S1179 / D19S433 / Penta D	D2S1338 / D10S1248 / D21S11 / Penta E	D2S441 / D12S391 / D22S1045 / SE33	D3S1358 / D13S317 / Amelogenin / TH01	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
14,15,16	16,17,18,19,20,25,26	11,13,14	15,16,17	9,12,13	7,8,12
10,13	13,14,15	15,17,18,22	11,12,13,14	9,11,12,3	14,15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11	20,21,23
5,9,12	8,10,11,12,13,17		6,8,9,10	8,10	14,16,17,18,21

Item: 3

MB7YGP   GlobalFiler™, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)

D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11	16	17	2		

Item: 3

N3QFXP   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11			2		

Item: 3

3major

14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
5,9,12	8,10,11,17	17,19,23.2,29.2	6,8,9,10	8,10	16,18,21

3minor

14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			2		

PCB7XM   GlobalFiler™ (PDF Format)

D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
N/A	N/A	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11	N/A	N/A	2		

Item: 3

PYM4EV   GlobalFiler™ (FSA Format)

D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
		16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11			2		

Item: 3

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 3 - STR Results

QFQXLU   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
3	14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
	10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
	13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
	5,9,12	8,10,11,17	17,19,23.2,29.2	6,8,9,10	8,10	16,18,21
3major	15	19,26	11,13	17	12	8
	10,13	13,14	15,18	11,14	13	15,16
	13,14	30,31.2	14,17	X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21
3minor	14,15	16,18	11,14	15,16	12,13	7,12
	10,13	13,14	17,22	13	9,11	15,17
	15,15.2	27,29	14,15	X	10,11	20,21
	9	11,17	17,19	6,8	8	16

QXPDLL   GlobalFiler™ (HID Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
3	14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
	10,13	13,14,15	15,17,17.3,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
	13,14,15,15.2	27,29,30,31,31.2	14,15,17,18	X,Y	7,10,11,13	20,21,23
			16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
	11			2		

TBN2QK   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
3	14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
	10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
	13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
	5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
	11			2		
3major	14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
	10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
	13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
	5,9,12	8,10,11,17	17,19,23.2,29.2	6,8 ,9 ,10	8,10	16,18,21
3minor	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			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 3 - STR Results

TL7HJR   PowerPlex® Fusion 5C (FSA Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,15,16	16,17,18,19,20,25,26	11,13,14	15,16,17	9,12,13	7,8,12
	10,13	13,14,15	15,17,18,22	11,12,13,14	9,11,12,13	14,15,16,17
3	13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11	20,21,23
	5,9,12	8,10,11,12,13,17	not tested	6,8,9,10	8,10	14,16,17,18,21
	not detected	not tested	not tested	not tested		

VTJDCQ   PowerPlex® Fusion 5C (FSA Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,15,16	16,17,18,19,20,25,26	11,13,14	15,16,17	9,12,13	7,8,12
	10,13	13,14,15	15,17,18,22	11,12,13,14	9,11,12,13	14,15,16,17
3	13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11	20,21,23
	5,9,12	8,10,11,12,13,17		6,8,9,10	8,10	14,16,17,18,21
	ND					

VTYB6Q   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
	10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
3	13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
	5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
	11			2		
	14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
	10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
3major	13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
	5,9,12	8,10,11,17	17,19,23.2,29.2	6,8,9,10	8,10	16,18,21
	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
3minor	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			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 3 - STR Results

W334CN GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

3

D1S1656 / D8S1179 / D19S433 / Penta D	D2S1338 / D10S1248 / D21S11 / Penta E	D2S441 / D12S391 / D22S1045 / SE33	D3S1358 / D13S317 / Amelogenin / TH01	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
14,15	16,18,19,26	11,13,14	15,16,17	12,13	7,8,12
10,13	13,14	15,17,18,22	11,13,14	9,11,13	15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X	7,10,11	20,21,23
5,9,12	8,10,11,17	17,19,23.2,29.2	6,8,9,10	8,10	16,18,21

3major

15	19,26	11,14	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

3minor

14,15	16,18	13	15,16	12,13	7,12
10,13	13,14	17,22	13	9,11	15,17
15,15.2	27,29	14,15	X	10,11	20,21
9	11,17	17,19	6,8	8	16

WWWDAH GlobalFiler™

3major

15	16,18,19,26	11,13,14	17	12	7,8
10,13	13,14	15,17,18,22	11,13,14	13	15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X,X	7,10	20,21,23
		17,19,23.2,29.2	6,8,9,10	8	16,18,21

3minor

14,16	17,20		15,16	9,13	10,12
	15	20	12	9,11,12	14
	31		X,Y	11,13	
		16,30.2		10,12	14,17
11			2		

X7DGUM PowerPlex® Fusion 5C (FSA Format)

3

14,15,16	16,17,18,19,20,25,26	11,13,14	15,16,17	9,12,13	7,8,12
10,13	13,14,15	15,17,18,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11	20,21,23
5,9,12	8,10,11,12,13,17	Not tested	6,8,9,10	8,10	14,16,17,18,21
not detected	not tested	not tested	not tested		

XJMVBM GlobalFiler™ (FSA Format)

3

14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
		16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11			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 3 - STR Results

XNZV9E   GlobalFiler™ (PDF Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,17.3,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,17	X,Y	7,10,11,13	20,21,23
		16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11			2		

Item: 3

Y3XA7M   PowerPlex® Fusion 6C (HID Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15,16	16,17,18,19,20,26	11,13,14	15,16,17	9,12,13	7,8,10,12
10,13	13,14,15	15,17,18,20,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31,31.2	14,15,16,17	X,Y	7,10,11,13	20,21,23
5,9,10,12	8,10,11,12,13,17	16,17,19,23.2,29.2,30.2	6,8,9,10	8,10,12	14,16,17,18,21
11	16	17			

Item: 3

YX3F9L   PowerPlex® Fusion 5C (FSA Format)

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15,16	16,17,18,19,20,25,26	11,13,14	15,16,17	9,12,13	7,8,12
10,13	13,14,15	15,17,18,22	11,12,13,14	9,11,12,13	14,15,16,17
13,14,15,15.2	27,29,30,31.2	14,15,17	X,Y	7,10,11	20,21,23
5,9,12	8,10,11,12,13,17		6,8,9,10	8,10	14,16,17,18,21
ND					

Item: 3

3major

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
15,15	19,26	11,13	17,17	12,12	8,8
10,13	13,14	15,18	11,14	13,13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
5,12	8,10		9,10	8,10	18,21
ND					

3minor

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15	16,18	11,14	15,16	13,inc.	7,12
10,10/10,13	13,14	17,22	13,13	9,11	17,inc.
15,15.2	27,29	15,inc.	X,X	10,11	20,inc.
9,9	11,17		6,8	8,8	16,16
ND					

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 4 - STR Results

2RNGRC   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		
4minor	15	19,26	11,13	17	12	8
	10,13	13,14	15,18	11,14	13	15,16
	13,14	30,31.2	14,17	X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21

2ZFY7L   PowerPlex® Fusion 5C (FSA Format)

Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	NT	6,9,10	8,10,12	14,17,18,21
	11	NT	NT	NT		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13	NT	6,9	8,12	14,17
	11	NT	NT	NT		
4minor	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
	13,14	30,31.2	17,INC	X,X	7,10	21,23
	5,12	8,10	NT	9,10	8,10	18,21
	ND	NT	NT	NT		

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 4 - STR Results

33K7LJ GlobalFiler™ (HID Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
4	12,13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
			16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		
	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
4major	14,14	31,31.2	15,15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		
	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
4minor	13,13	30,31.2	14,17	X,X	7,10	21,23
			23.2,29.2	9,10	8,10	18,21

3F6LPH GlobalFiler™

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
4	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
			16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		

3YH9DC GlobalFiler™ (PDF Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,16	17,20	11,14	16,17		
	10,10	14,15	15,20		12,13	14,17
4major	14,14	31,31.2	15,15	X,Y		21,23
			16,30.2	6,9		14,17
	15	19,26	13			
	13	13	18			15,16
4minor	13	30	14,17			
			23.2,29.2	10		18,21

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 4 - STR Results

4J6WKH PowerPlex® Fusion 6C (HID Format)

4	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11	16	17			

4major	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
		17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17

4minor	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
		19,26	13			
	13	13,14	18	11,14		15,16
	13	30	14,17	X	7,10	
	5,12	8,10	23.2,29.2	10	8,10	18,21

67DP38 GlobalFiler™ (PDF Format)

4	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,[15],16	17,[19],20,[26]	11,[13],14	16,17	9,12	8,10
	10,[13]	[13],14,15	15,[18],20	11,12,[14]	12,13	14,[15],[16],17
	[13],14	[30],31,31.2	[14],15,[17]	X,Y	[7],[10],11,13	21,23
			16,[23.2],[29.2],30.2	6,9,[10]	8,[10],12	14,17,[18],[21]
	11			2		

4major	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	NA			NA		

6TPNKF PowerPlex® Fusion 5C

4	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13		6,9,10	8,10,12	14,17,18,21
	11					

4major	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,16	17,20	11,14	16,17	9,12	8,8/8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,X	11,13	21,23
	9,10	12,13		6,9	8,12	14,17
	11					

4minor	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	14,15/15,15/15,16	19,inc	13,inc	ND	ND	8,inc
	13,inc	13,inc	18,inc	14,inc	ND	15,16
	13,inc	30,inc	17,inc	X,X/X,Y	7,10	ND
	5,12	8,10		10,inc	10,inc	18,21
	ND					

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 4 - STR Results

7NRLV7   PowerPlex® Fusion 5C (PDF Format)

Item						
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13		6,9,10	8,10,12	14,17,18,21
	11					
4major		17,20	11,14			
	10	14,15	15,20	11,12		14,17
	14	31,31.2	15		11,13	
	9,10	12,13		6,9	8,12	14,17
	11					
4minor		19,26	13			
	13	13	18	14		15,16
	13	30	17		7,10	
	5,12	8,10		10	10	18,21

93MMLC   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item						
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		
4minor	15	19,26	11,13	17	12	8
	10,13	13,14	15,18	11,14	13	15,16
	13,14	30,31.2	14,17	X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21

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 4 - STR Results

9HFE7D   PowerPlex® Fusion 5C (FSA Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13		6,9,10	8,10,12	14,17,18,21
	11					
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13		6,9	8,12	14,17
	11					
4minor	15,Inc.	19,26	11,13	17,Inc.	12,Inc.	8,Inc.
	10,13	13,14	15,18	11,14	13,Inc.	15,16
	13,14	30,31.2	14,17	X,X	7,10	21,23
	5,12	8,10		9,10	8,10	18,21
	ND					

9R66T7   PowerPlex® Fusion 6C (HID Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4				16,17		
	13,14					21,23
4major	14,16	17,20	11,14		9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11	16	17			
4minor	15	19,26	11,13		12	8
	10,13	13,14	15,18	11,14	13	15,16
		30,31.2	14,17	X	7,10	
	5,12	8,10	23.2,29.2	9,10	8,10	18,21

BYDGY3   GlobalFiler™ (PDF Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4	14,(15),16	17,(19),20,(26)	11,(13),14	16,17	9,12	8,10
	10,(13)	(13),14,15	15,(18),20	11,12,(14)	12,13	14,(15),(16),17
	(13),14	(30),31,31.2	(14),15,(17)	X,Y	(7),(10),11,13	21,23
			16,(23.2),(29.2),30.2	6,9,(10)	8,(10),12	14,17,(18),(21)
	11			2		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	NA			NA		

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 4 - STR Results

CDAVWB　　GlobalFiler™ (PDF Format)　Item 4

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,(15),16	17,(19),20,(26)	11,(13),14	16,17	9,12	8,10
10,(13)	(13),14,15	15,(18),20	11,12,(14)	12,13	14,(15),(16),17
(13),14	(30),31,31.2	(14),15,(17)	X,Y	(7),(10),11,13	21,23
		16,(23.2),(29.2),30.2	6,9,(10)	8,(10),12	14,17,(18),(21)
11			2		

4major

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
N/A			N/A		

CLJJA9　　GlobalFiler™　Item 4

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
14,15,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

4minor

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	19,26	13			
13	13	18	14		15,16
13	30	14,17		7,10	
		23.2,29.2	10	10	18,21

CP3ED2　　GlobalFiler™

4major

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
13,14	31,31.2	15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

4minor

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
	19,26	11,13	17	12	8
13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21

WebCode / Item	Amplification Kits (File Format)					
	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		

Item 4 - STR Results

DDJJB8 — GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item 4:

D1S1656 / ...					
14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
11			2		

4major:

14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			2		

4minor:

15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

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

Item 4:

14,15,16			16,17	9,12	8,10
				12,13	
			X,Y		21,23
11	16	17	2		

4major:

	17,20	11,14			
10	14,15	15,20	11,12		14,17
14	31,31.2	15		11,13	
9,10	12,13	16,30.2	6,9	8,12	14,17

4minor:

	19,26	13			
13	13	18	14		15,16
12,13	30	14,17		7,10	
5,12	8,10	23.2,29.2	10	10	18,21

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 4 - STR Results

FRY487   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		
4minor	15	19,26	11,13	17	9	8
	10,13	13,14	15,18	11,14	13	15,16
	13,14	30,31.2	14,17	X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21

GC6WPX   GlobalFiler™ (PDF Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
			16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		

GTPMNX   GlobalFiler™ (FSA Format), (PDF Format)

	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
			16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		
4minor	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
	13,14	30,31.2	14,17	X,X	7,10	21,23
			23.2,29.2	9,10	8,10	18,21

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 4 - STR Results

H3ADNU   GlobalFiler™ (PDF Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4	14,(15),16	17,(19),20,(26)	11,(13),14	16,17	9,12	8,10
	10,(13)	(13),14,15	15,(18),20	11,12,(14)	12,13	14,(15),(16),17
	(13),14	(30),31,31.2	(14),15,(17)	X,Y	(7),(10),11,13	21,23
			16,(23.2),(29.2),30.2	6,9,(10)	8,(10),12	14,17,(18),(21)
	11			2		

4major

Item						
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	N/A			N/A		

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

Item						
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11	16	17	2		
4minor	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
	13,14	30,31.2	14,17	X,X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21
	N/A	N/A	N/A	N/A		

J6WE63   GlobalFiler™ (HID Format)

Item						
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
			16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		

JLJRJU   GlobalFiler™, PowerPlex® Fusion 6C (PDF Format), (HID Format)

Item						
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11	16	17	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 4 - STR Results

LKYV4Z — PowerPlex® Fusion 5C

Item 4	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13		6,9,10	8,10,12	14,17,18,21
	11					
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13		6,9	8,12	14,17
	11					
4minor	15,15	19,26	11,13	17,17	12,12	8,8
	10,13	13,14	15,18	11,14	13,13	15,16
	13,14	30,31.2	17,INC	X,X	7,10	21,23
	5,12	8,10		9,10	8,10	18,21

MB7YGP — GlobalFiler™, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C (PDF Format)

Item 4	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11	16	17	2		

N3QFXP — GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item 4	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		
4minor	15	19,26	11,13	17	12	8
	10,13	13,14	15,18	11,14	13	15,16
	13,14	30,31.2	14,17	X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21

PCB7XM — GlobalFiler™ (PDF Format)

Item 4	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	N/A	N/A	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11	N/A	N/A	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 4 - STR Results

PYM4EV   GlobalFiler™ (FSA Format)

4major					
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

4minor					
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21
-			-		

QFQXLU   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

4					
14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
11			2		

4major					
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			2		

4minor					
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

QXPDLL   GlobalFiler™ (HID Format)

4					
14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
12,13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
		16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
11			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 4 - STR Results

TBN2QK GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item						
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		
4minor	15	19,26	11,13	17	12	8
	10,13	13,14	15,18	11,14	13	15,16
	13,14	30,31.2	14,17	X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21

TL7HJR PowerPlex® Fusion 5C (FSA Format)

Item						
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	not tested	6,9,10	8,10,12	14,17,18,21
	11	not tested	not tested	not tested		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13	not tested	6,9	8,12	14,17
	11	not tested	not tested	not tested		
4minor	15,inconclusive	19,26	11,13	17,inconclusive	12,inconclusive	8,inconclusive
	10,13	13,14	15,18	11,14	13,inconclusive	15,16
	13,14	30,31.2	14,17	X,X	7,10	21,23
	5,12	8,10	not tested	9,10	8,10	18,21
	not detected	not tested	not tested	not tested		

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 4 - STR Results

VTJDCQ — PowerPlex® Fusion 5C (FSA Format)

Item 4:

D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
13,14	30,31,31.2	15,17	X,Y	7,10,11,13	21,23
5,9,10,12	8,10,12,13		6,9,10	8,10,12	14,17,18,21
11					

4major:

14,16	17,20	11,14	16,17	9,12	8,10
10,10	14,15	15,20	11,12	12,13	14,17
14,14	31,31.2	15,15	X,Y	11,13	21,23
9,10	12,13		6,9	8,12	14,17
11					

4minor:

15,INC	19,26	11,13	17,INC	12,INC	8,INC
10,13	13,14	15,18	11,14	13,INC	15,16
13,14	30,31.2	14,17	X,X	7,10	21,23
5,12	8,10		9,10	8,10	18,21
ND					

VTYB6Q — GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item 4:

D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
11			2		

4major:

14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
14	31,31.2	15	X,Y	11,13	21,23
9,10	12,13	16,30.2	6,9	8,12	14,17
11			2		

4minor:

15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
13,14	30,31.2	14,17	X	7,10	21,23
5,12	8,10	23.2,29.2	9,10	8,10	18,21

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 4 - STR Results

W334CN   GlobalFiler™, PowerPlex® Fusion 5C (FSA Format), (HID Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
	11			2		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
	9,10	12,13	16,30.2	6,9	8,12	14,17
	11			2		
4minor	15	19,26	11,13	17	12	8
	10,13	13,14	15,18	11,14	13	15,16
	13,14	30,31.2	14,17	X	7,10	21,23
	5,12	8,10	23.2,29.2	9,10	8,10	18,21

WWWDAH   GlobalFiler™

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10	14,15	15,20	11,12	12,13	14,17
	14	31,31.2	15	X,Y	11,13	21,23
			16,30.2	6,9	8,12	14,17
	11			2		
4minor	15	19,26	13			
	13	13	18	14		15,16
	13	30	14,17		7,10	
			23.2,29.2	10	10	18,21

X7DGUM   PowerPlex® Fusion 5C (FSA Format)

Item	D1S1656 / D8S1179 / D19S433 / Penta D / DYS391	D2S1338 / D10S1248 / D21S11 / Penta E / DYS570	D2S441 / D12S391 / D22S1045 / SE33 / DYS576	D3S1358 / D13S317 / Amelogenin / TH01 / Y Indel	D5S818 / D16S539 / CSF1PO / TPOX	D7S820 / D18S51 / FGA / vWA
4	14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
	10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
	13,14	30,31,31.2	15,17	X,Y	7,10,11,13	21,23
	5,9,10,12	8,10,12,13	not tested	6,9,10	8,10,12	14,17,18,21
	11	not tested	not tested	not tested		
4major	14,16	17,20	11,14	16,17	9,12	8,10
	10,10	14,15	15,20	11,12	12,13	14,17
	14,14	31,31.2	15,15	X,Y	11,13	21,23
	9,10	12,13		6,9	8,12	14,17
	11					
4minor	15,15	19,26	11,13	17,17	12,inconclusive	8,inconclusive
	10,13	13,14	15,18	11,14	13,inconclusive	15,16
	13,14	30,31.2	17,inconclusive	X,X	7,10	21,23
	5,12	8,10		9,10	8,10	18,21
	not detected					

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 4 - STR Results

XJMVBM   GlobalFiler™ (FSA Format)

14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
4major 14	31,31.2	15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		
15	19,26	11,13	17	12	8
10,13	13,14	15,18	11,14	13	15,16
4minor 13,14	30,31.2	14,17	X,X	7,10	21,23
		23.2,29.2	9,10	8,10	18,21
-			-		

XNZV9E   GlobalFiler™ (PDF Format)

14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
4 12,13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
		16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
11			2		
14,16	17,20	11,14	16,17	9,12	8,10
10	14,15	15,20	11,12	12,13	14,17
4major 14	31,31.2	15	X,Y	11,13	21,23
		16,30.2	6,9	8,12	14,17
11			2		

Y3XA7M   PowerPlex® Fusion 6C (HID Format)

14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
4 10.2,13,14	30,31,31.2	14,15,17	X,Y	7,10,11,13	21,23
5,9,10,12	8,10,12,13	16,23.2,29.2,30.2	6,9,10	8,10,12	14,17,18,21
11	16	17			

YX3F9L   PowerPlex® Fusion 5C (FSA Format)

14,15,16	17,19,20,26	11,13,14	16,17	9,12	8,10
10,13	13,14,15	15,18,20	11,12,14	12,13	14,15,16,17
4 13,14	30,31,31.2	15,17	X,Y	7,10,11,13	21,23
5,9,10,12	8,10,12,13		6,9,10	8,10,12	14,17,18,21
11					
14,15/14,16/15,16	17,20	11,14	16,17	9,12	8,8/8,10
10,10	14,15	15,20	11,12	12,13	14,17
4major 14,14	31,31.2	15,15	X,Y	11,13	21,23
9,10	12,13		6,9	8,12	14,17
11					
14,14/15,15/16,16	19,26	13,inc.	16,16/16,17/17,17	inc.	inc.
13,inc.	13,inc.	18,inc.	14,inc.	12,12/12,13/13,13	15,16
4minor 13,inc.	30,inc.	17,inc.	X,X/X,Y	7,10	inc.
5,12	8,10		10,inc.	10,inc.	18,21
inc.					

YSTR Results

TABLE 3

WebCode / Item	Amplification Kits (File Format)							
	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		

Item 2 - YSTR Results

2RNGRC — PowerPlex® Y23 (FSA Format)

	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		

33K7LJ — Yfiler® (FSA Format)

	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		

7NRLV7 — PowerPlex® Y23 (PDF Format)

	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		

93MMLC — PowerPlex® Y23 (FSA Format)

	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		

9HFE7D — PowerPlex® Y23 (FSA Format)

	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		

9R66T7 — PowerPlex® Y23 (HID Format)

	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		

CP3ED2 — Yfiler®

	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		

DDJJB8 — PowerPlex® Y23 (FSA Format)

	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		

FBQTBT — Yfiler®, PowerPlex® Y23 (FSA Format), (PDF Format)

	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		

TABLE 3

WebCode	Amplification Kits (File Format)							
	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		

Item 2 - YSTR Results

FRY487	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
GC6WPX								
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		
GTPMNX	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		
HKPMPV	Yfiler®, PowerPlex® Y23 (PDF Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
J6WE63	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		
JLJRJU	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		
MB7YGP	Yfiler®, PowerPlex® Y23 (PDF Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
N3QFXP	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
PCB7XM	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	N/A	N/A
	N/A	N/A	N/A	23	N/A	13		
PYM4EV	Yfiler® (FSA Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		

TABLE 3

WebCode	Amplification Kits (File Format)						
	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		

Item 2 - YSTR Results

WebCode								
QFQXLU	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
QXPDLL	Yfiler® (HID Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		
TBN2QK	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
TL7HJR	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
VTYB6Q	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
W334CN	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
WWWDAH	Yfiler®							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		
XJMVBM	Yfiler® (FSA Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		
XNZV9E	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
2	15	12	12	19	15	17		
				23		13		

TABLE 3

WebCode	Amplification Kits (File Format)							
	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		

Item 3 - YSTR Results

WebCode / Item	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
2RNGRC — PowerPlex® Y23 (FSA Format)								
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
33K7LJ — Yfiler® (FSA Format)								
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17		
				23		13		
7NRLV7 — PowerPlex® Y23 (PDF Format)								
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
93MMLC — PowerPlex® Y23 (FSA Format)								
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
9HFE7D — PowerPlex® Y23 (FSA Format)								
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
9R66T7 — PowerPlex® Y23 (HID Format)								
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
CP3ED2 — Yfiler®								
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17		
				23		13		
DDJJB8 — PowerPlex® Y23 (FSA Format)								
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
FBQTBT — Yfiler®, PowerPlex® Y23 (FSA Format), (PDF Format)								
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
	12	11,12	14	30	24	11	13	13
3minor	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		

TABLE 3

WebCode	Amplification Kits (File Format)							
	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		

Item 3 - YSTR Results

WebCode / Item	Kit							
GC6WPX	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17		
				23		13		
GTPMNX	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17		
				23		13		
HKPMPV	Yfiler®, PowerPlex® Y23 (PDF Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
J6WE63	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17		
				23		13		
JLJRJU	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17		
				23		13		
MB7YGP	Yfiler®, PowerPlex® Y23 (PDF Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
N3QFXP	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
PCB7XM	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	N/A	N/A
	N/A	N/A	N/A	23	N/A	13		
PYM4EV	Yfiler® (FSA Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17		
				23		13		

TABLE 3

WebCode	Amplification Kits (File Format)							
	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		

Item 3 - YSTR Results

WebCode / Item								
QFQXLU	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	14	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
	12	11,12	14	30	14	11	13	13
3major	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
QXPDLL	Yfiler® (HID Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17		
				23		13		
TBN2QK	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
TL7HJR	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
VTYB6Q	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
W334CN	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	14	11	13	13
3	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
	12	11,12	14	30	14	11	13	13
3major	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
	12	11,12	14	30	24	11	13	13
3major	15	12	12	19	15	17		
				23		13		
XJMVBM	Yfiler® (FSA Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17		
				23		13		

TABLE 3

WebCode	Amplification Kits (File Format)							
	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		

Item 3 - YSTR Results

XNZV9E	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
3	15	12	12	19	15	17		
				23		13		

TABLE 3

WebCode	Amplification Kits (File Format)							
	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		

Item 4 - YSTR Results

WebCode								
2RNGRC	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
33K7LJ	Yfiler® (FSA Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17		
				23		13		
7NRLV7	(PDF Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
93MMLC	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
9HFE7D	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
9R66T7	PowerPlex® Y23 (HID Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
CP3ED2	Yfiler®							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17		
				23		13		
DDJJB8	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
FBQTBT	Yfiler®, PowerPlex® Y23 (FSA Format), (PDF Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
FRY487	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		

TABLE 3

WebCode	Amplification Kits (File Format)							
	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		

Item 4 - YSTR Results

WebCode								
GC6WPX	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17		
				23		13		
GTPMNX	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17		
				23		13		
HKPMPV	Yfiler®, PowerPlex® Y23 (PDF Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
J6WE63	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17		
				23		13		
JLJRJU	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17		
				23		13		
MB7YGP	Yfiler®, PowerPlex® Y23 (PDF Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
N3QFXP	PowerPlex® Y23 (FSA Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
PCB7XM	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17	N/A	N/A
	N/A	N/A	N/A	23	N/A	13		
PYM4EV	Yfiler® (FSA Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17		
				23		13		

TABLE 3

WebCode	Amplification Kits (File Format)							
	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		

Item 4 - YSTR Results

WebCode / Item	DYS19 / DYS437 / DYS549	DYS385 / DYS438 / DYS570	DYS389-I / DYS439 / DYS576	DYS389-II / DYS448 / DYS635	DYS390 / DYS456 / DYS643	DYS391 / DYS458 / Y GATA H4	DYS392 / DYS481	DYS393 / DYS533
QFQXLU PowerPlex® Y23 (FSA Format)								
4	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
4major	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
QXPDLL Yfiler® (HID Format)								
4	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17		
				23		13		
TBN2QK PowerPlex® Y23 (FSA Format)								
4	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
TL7HJR (FSA Format)								
4	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
VTYB6Q PowerPlex® Y23 (FSA Format)								
4	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
W334CN PowerPlex® Y23 (FSA Format)								
4	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
4major	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17	22	12
	14	16	17	23	10	13		
WWWDAH								
4major	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17		
				23		13		
XJMVBM Yfiler® (FSA Format)								
4	12	11,12	14	30	24	11	13	13
	15	12	12	19	15	17		
				23		13		

TABLE 3

WebCode	Amplification Kits (File Format)							
	DYS19	**DYS385**	**DYS389-I**	**DYS389-II**	**DYS390**	**DYS391**	**DYS392**	**DYS393**
Item	**DYS437**	**DYS438**	**DYS439**	**DYS448**	**DYS456**	**DYS458**	**DYS481**	**DYS533**
	DYS549	**DYS570**	**DYS576**	**DYS635**	**DYS643**	**Y GATA H4**		

Item 4 - YSTR Results

XNZV9E	Yfiler® (PDF Format)							
	12	11,12	14	30	24	11	13	13
4	15	12	12	19	15	17		
				23		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**
2RNGRC	3	Included	Included	2	Included	Included
2ZFY7L	at least 4	Inconclusive / Uninterpretable	Inconclusive / Uninterpretable	2	Included	Included
33K7LJ	3	Included	Included	2	Included	Included
3F6LPH	3	Included	Included	2	Included	Included
3YH9DC	3	Included	Included	2	Included	Included
4J6WKH	3	Included	Included	2	Included	Included
67DP38	Greater than or equal to 3	Included	Included	2	Included	Included
6TPNKF		Inconclusive / Uninterpretable	Inconclusive / Uninterpretable		Included	Included
7NRLV7	4	Included	Included	2	Included	Included
93MMLC	3	Included	Included	2	Included	Included
9HFE7D	Fusion: at least 4	Inconclusive / Uninterpretable	Inconclusive / Uninterpretable	Fusion: 2 contributors	Included	Included
9R66T7	3	Included	Included	2	Included	Included
BYDGY3	greater than or equal to 3	Included	Included	2	Included	Included
CDAVWB	>/= 3	Included	Included	2	Included	Included
CLJJA9	Three	Included	Inconclusive / Uninterpretable	Two	Included	Included
CP3ED2	3	Included	Included	2	Included	Included
DDJJB8	3	Included	Included	2	Included	Included
FBQTBT	3	Included	Included	2	Included	Included
FRY487	3	Included	Included	2	Included	Included
GC6WPX	3	Included	Included	2	Included	Included
GTPMNX	3	Included	Included	2	Included	Included
H3ADNU	>/= 3	Included	Included	2	Included	Included
HKPMPV	3	Included	Included	2	Included	Included
J6WE63	3	Included	Included	2	Included	Included
JLJRJU	3	Included	Included	2	Included	Included

TABLE 4

| WebCode | Item 3 Conclusion | | | Item 4 Conclusion | | |
	# of Contributors	Item 1	Item 2	# of Contributors	Item 1	Item 2
LKYV4Z	At least 4	Inconclusive / Uninterpretable	Inconclusive / Uninterpretable		Included	Included
MB7YGP	≥3	Included	Included	≥2	Included	Included
N3QFXP	3	Included	Included	2	Included	Included
PCB7XM	3 or more	Included	Included	2	Included	Included
PYM4EV	at least 3	Included	Included	2	Included	Included
QFQXLU	3	Included	Included	2	Included	Included
QXPDLL	3	Included	Included	2	Included	Included
TBN2QK	3	Included	Included	2	Included	Included
TL7HJR	Auto=at least 3;YSTR=1	Inconclusive / Uninterpretable	Inconclusive / Uninterpretable	2	Included	Included
VTJDCQ	Atleast 4	Inconclusive / Uninterpretable	Inconclusive / Uninterpretable	2	Included	Included
VTYB6Q	3	Included	Included	2	Included	Included
W334CN	3	Included	Included	2	Included	Included
WWWDAH		Included	Included	2	Included	Included
X7DGUM	at least 3	Inconclusive / Uninterpretable	Inconclusive / Uninterpretable	2	Included	Included
XJMVBM	at least 3	Included	Included	2	Included	Included
XNZV9E	3	Included	Included	2	Included	Included
Y3XA7M	3	Included	Included	2	Included	Included
YX3F9L	3	Included	Inconclusive / Uninterpretable	2	Included	Included

Conclusions Response Summary   Participants reporting conclusions: 43

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?

| | | Item 3 | | Item 4 | |
		Item 1	Item 2	Item 1	Item 2
Responses	Included	36	34	43	43
	Excluded	0	0	0	0
	Inconclusive	7	9	0	0
	No Response	0	0	0	0
	Total	43	43	43	43

Statistical Analysis for Item 3

TABLE 5

WebCode	Item 3 Methods & Results
33K7LJ	**Method(s)**: Likelihood Ratio **Stats Analysis:** LR hypothesis of item 3: Hp:item 1(victim), item 2 (suspect) and unknown male are contributors of item 3 Hd: item 1(victim) and two males contributors unrelated to item 2 are contributors of item 3 LR > 1E+9
3F6LPH	**Method(s)**: Likelihood Ratio **Stats Analysis:** The mixture of DNA is 4.50E24 times more likely if it had originated from VICTIM and two (2) unknown, unrelated individuals than if it had originated from three (3) unknown, unrelated individuals. This is support that the VICTIM can be included as a contributor to the mixture of DNA. The mixture of DNA is 1.20E21 times more likely if it had originated from SUSPECT and two (2) unknown, unrelated individuals than if it had originated from three (3) unknown, unrelated individuals. This is support that the SUSPECT can be included as a contributor to the mixture of DNA.
3YH9DC	**Method(s)**: [Participant did not report a method.] **Stats Analysis:** Result would be suitable for analysis using STRMix if DNA profiling was undertaken at [Laboratory] under our laboratory conditions using NGM SElect.
4J6WKH	**Method(s)**: Combined Probability of Exclusion/Inclusion **Stats Analysis:** The DNA typing results detected in submission 3 are consistent with the DNA of the victim, the suspect, and an unknown female. The probability of selecting an unrelated individual at random having DNA alleles consistent with any contributor allele detected at all loci except the D5S818, TPOX, and D8S1159 loci from submission 3 is 1 in 200 million in the Southeast Hispanic population and 1 in 1 billion in the Southwest Hispanic population.
9HFE7D	**Method(s)**: Y23: counting method **Stats Analysis:** Item 3, Fusion 5C: A mixture of human DNA profiles was identified in Item 3 that was interpreted as a mixture of at least 4 people. This mixture is potentially incomplete and not suitable for comparisons. Item 3, PPY23: A human YSTR DNA haplotype was identified in Item 3 from which the suspect (Item 2) cannot be excluded (is included). This haplotype was searched against a known database and would be expected to occur in approximately 1 in 2300 African American, 1 in 2800 Caucasian and 1 in 2000 Hispanic unrelated individuals with a 95% confidence limit at 17 loci.
9R66T7	**Method(s)**: Likelihood Ratio **Stats Analysis:** A mixed DNA profile (PowerPlex™ Fusion 6C) consisting of DNA from at least three contributors was obtained from the stain found on the victim's backpack; item CTS-20-588-3. The observed mixture profile is approximately 7.38e10 times more likely to occur under the scenario that it is a mixture of DNA from the victim, the suspect, and an unknown individual, as opposed to the scenario that it originated from a mixture of DNA from the victim, and two unrelated unknown individual, in the Hispanic population.
CLJJA9	**Method(s)**: Combined Probability of Exclusion/Inclusion **Stats Analysis:** The results identified from item 3 are consistent with a mixture of DNA from three contributors; two primary female contributors, and one secondary, male contributor. Item 1 (Victim) cannot be excluded as a possible contributor to this mixture of DNA. Using 21 of 21 loci, the probabilities of selecting an unrelated individual at random who cannot be excluded as one of the possible sources of the primary DNA results obtained from the item are approximately: 1 in 128.5 Trillion CPI; >99.9% CPE in the Caucasian population 1 in 136.1 Trillion CPI; >99.9% CPE in the African American population 1 in 499.7 Trillion CPI; >99.9% CPE in the Hispanic population. Due to the number of potential contributors, potential for stochastic effects, and low level nature of the secondary results identified from item 3, the secondary results from item 3 are not suitable for the inclusion or exclusion of potential contributors.

TABLE 5

WebCode	Item 3 Methods & Results
CP3ED2	**Method(s)**: Combined Probability of Exclusion/Inclusion **Stats Analysis:** major cluster: 136 trillion for African Americans, 128 trillion for Caucasians, and 500 trillion for Hispanics minor: 29.9 billion for African Americans, 6.76 billion for Caucasians, and 15.6 billion for Hispanics
GTPMNX	**Method(s)**: Likelihood Ratio **Stats Analysis:** H1:the mixture is made up of the victim's genetic profile, the suspect's genetic profile and the genetic profile of an unknown unrelated person. H2:the mixture is made up of genetic profiles of three unknown unrelated people LR=3,64E21 (drop-out=0.1, drop-in=0.05, theta=0.01)
HKPMPV	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile from Item 3 is six hundred seventy-eight million times more likely if the victim (item 1), the suspect (Item 2) and a randomly selected unrelated person are contributors than if the victim (Item 1) and two randomly selected, unrelated people are contributors.
J6WE63	**Method(s)**: Likelihood Ratio **Stats Analysis:** The evidence is 210 quintillion 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 evidence is 14 quintillion times more likely if the victim is a contributor to the DNA mixture than if she is not a contributor. This is very strong support for inclusion.
MB7YGP	**Method(s)**: Likelihood Ratio **Stats Analysis:** ITEM 3 - DNA profile found from the stain on the victim's backpack, Results: ≥3 Contributors including at least one male contributor, Female Victim (Item 1) Not Excluded, Male Suspect (Item 2) Not Excluded. Number of contributors to the DNA profile for statistical analysis: 3, Statistical Method Method(s) Used: Likelihood Ratio, Databases Used: Revised-NIST-1036-Allele Frequencies, ABI ID Database + Promega PP Fusion. Statistical Results: Item 1 and 2 Conclusion: • Under the assumption that the SUSPECT (Item 2) and two unrelated persons selected at random from the general population are contributors to this mixture, the likelihood of observing this mixed source profile is ≥1,000,000 times greater (actual LR available upon request) than if it is assumed that three unrelated persons selected at random from the general population are contributors to this mixed-source sample. • Under the assumption that the VICTIM (Item 1) and two unrelated persons selected at random from the general population are contributors to this mixture, the likelihood of observing this mixed source profile is ≥1,000,000 times greater (actual LR available upon request) than if it is assumed that three unrelated persons selected at random from the general population are contributors to this mixed-source sample. • Under the assumption that the VICTIM (Item) and 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 ≥1,000,000 times greater (actual LR available upon request) than if it is assumed that three unrelated persons selected at random from the general population are contributors to this mixed-source sample.
PCB7XM	**Method(s)**: [Participant did not report a method.] **Stats Analysis:** At D16S539 there is a marked 12 allele. The allele could be an artifact or an allele from one of the contributors to the mixture. Working from the pdf of the electropherogram it is not possible to perform a through evaluation of the locus. Therefore I am erring on the conservative side and retaining the 12 allele as a contribution from a contributor to the DNA mixture profile that was obtained from item #3. I am a forensic consultant that reviews DNA case files that are 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 the population calculations are correct. NSD: No Size Data, INC: Inconclusive, N/A: Not Applicable

TABLE 5

WebCode	Item 3 Methods & Results
PYM4EV	**Method(s)**: Likelihood Ratio **Stats Analysis:** The mixed DNA profile are 540 billion (540 exp9), 24 trillion (24 exp12) and 5.0 trillion (5.0 exp12) TIMES more likely; IF they originated from "Item 1", "Item 2" and 1 Unknown individual RATHER THAN; IF they originated from "Item 1" and 2 unknown unrelated individual as calculated based on the [Location-identifying population databases]
QXPDLL	**Method(s)**: Likelihood Ratio **Stats Analysis:** The genetic profile obtained from Item 3 is interpreted as a mixture of DNA from three contributors. Item 2 (suspect) cannot be excluded as a possible contributor to this mixture. Given this genetic profile, assuming three contributors, it is 2.3 billion times more likely to observe this genetic profile if Item 2 (suspect) and two unknown individuals are contributors than if 3 unknown individuals are the contributors. The genetic profile obtained from Item 3 is interpreted as a mixture of DNA from three contributors. Item 1 (victim) cannot be excluded as a possible contributor to this mixture. Given this genetic profile, assuming three contributors, it is 8.1 trillion times more likely to observe this genetic profile if Item 1 (victim) and two unknown individuals are contributors than if 3 unknown individuals are the contributors.
TL7HJR	**Method(s)**: Fusion: N/A; Y23; YHRD **Stats Analysis:** *Please note in Part I [Table 4 - DNA Conclusions] the conclusions are based on autosomal data. Autosomal: A mixture of human DNA profiles were identified in Item 3 that has been interpreted as a mixture of at least 3 people. This mixture is inconclusive for comparison to evidentiary profiles and reference standards. Y-STR: A human Y-STR haplotype was identified in Item 3 in which the suspect can not be excluded (is included). With a 95% upper confidence limit, this haplotype would be expected to occur in approximately 1 in 2300 unrelated African American males, 1 in 2800 unrelated Caucasian males, and 1 in 2000 unrelated Hispanic males at 17 loci.
XJMVBM	**Method(s)**: Likelihood Ratio **Stats Analysis:** The mixed DNA profile are 540 billion (540 exp 9), 24 trillion (24 exp 12) and 5.0 trillion (5.0 exp 12) TIMES more likely; IF they originated from "Item 1", "Item 2" and one unknown individual RATHER THAN; IF they originated from "Item 1" and two unknown unrelated individual as calculated based on the [Location-identifying population databases]
XNZV9E	**Method(s)**: Combined Probability of Exclusion/Inclusion **Stats Analysis:** The probability of randomly selecting an unrelated individual who would be included as a contributor to the DNA mixture profile developed from the stain on the Victim's backpack at the GlobalFiler loci is approximately 1 in 1.2 million.
Y3XA7M	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile obtained from the victim's backpack (Item 3) is of mixed origin consistent with having originated from three individuals and is suitable for comparison. The victim (Item 1) is included as a possible contributor to this mixture. There is very strong evidence for the inclusion of the suspect (Item 2) as a possible contributor. Assuming three contributors, it is 310 sextillion times more likely to observe this DNA profile if it originated from the suspect and two unknown contributors rather than three unrelated contributors selected at random from the U.S. population.
YX3F9L	**Method(s)**: [Participant did not report a method.] **Stats Analysis:** Item: 3 Stain from backpack, Number of contributors: 3, Assumed Contributor: Victim. Deduced Female: 23 STR loci, Minor(s): Inconclusive

Statistical Analysis for Item 4

TABLE 6

WebCode	Item 4 Methods & Results
2ZFY7L	**Method(s)**: Random Match Probability **Stats Analysis**: Statistical frequency: 1 in 2.1E28 at 23 loci. Statistics are calculated for the African-American, Caucasian, and Hispanic population groups: the most common frequency is reported as random match probability.
33K7LJ	**Method(s)**: Likelihood Ratio **Stats Analysis**: LR hypothesis of item 4: Hp:item 1(victim), item 2 (suspect) are contributors of item 4 Hd: item 1(victim) and 1 male unrelated to item 2 are contributors of item 4 LR > 1E+9
3F6LPH	**Method(s)**: Likelihood Ratio **Stats Analysis**: The mixture of DNA is 7.65E25 times more likely if it had originated from VICTIM and SUSPECT than if it had originated from VICTIM and one (1) unknown, unrelated individual. This is support that the VICTIM and SUSPECT can be included as contributors to the mixture of DNA.
3YH9DC	**Method(s)**: Likelihood Ratio **Stats Analysis**: The DNA evidence is in the order of a billion times more likely if the major portion of DNA tested originated from item 2 (suspect) rather than from some unknown individual unrelated to him.
4J6WKH	**Method(s)**: Random Match Probability **Stats Analysis**: The DNA typing results detected in submission 4 are consistent with a mixture of DNA from the suspect as the major contributor with a smaller amount of DNA from the victim. The probability of selecting an unrelated individual at random consistent having major contributor DNA alleles at all loci except the D1S1656, D19S433, and D22S1045 loci is approximately 1 in 1 octillion [1XE27] in the Southeast Hispanic population and 1 in 10 octillion [1XE28] in the Southwest Hispanic population.
6TPNKF	**Method(s)**: Random Match Probability **Stats Analysis**: 4 Major: 1 in 2.1E+28 4. Minor: 1 in 5.8E+17
9HFE7D	**Method(s)**: Random Match Probability, PPY23: counting method **Stats Analysis**: Item 4 Fusion 5C: A mixture of human DNA profiles was identified in Item 4 which was interpreted as a mixture of two people. Assuming this is a mixture of the victim (Item 1) and one additional contributor, a human male DNA profile was identified from which the suspect (Item 2) cannot be excluded (is included). The frequency of occurrence of this profile was calculated for the African American, Caucasian and Hispanic population groups and was found to be approximately 1 in 21 octillion unrelated individuals. Item 4 PPY23: A human Y-STR DNA haplotype was identified in Item 4 at 23 loci. The suspect (Item 2) cannot be excluded (is included) as having contributed to this Y-STR DNA haplotype. This haplotype was searched against a known database and would be expected to occur in approximately 1 in 2300 African American, 1 in 2800 Caucasian and 1 in 2000 Hispanic unrelated individuals with a 95% confidence limit at 17 loci.

TABLE 6

WebCode	Item 4 Methods & Results
9R66T7	**Method(s)**: Random Match Probability
	Stats Analysis: A mixed DNA profile (PowerPlex™ Fusion 6C) consisting of DNA from at least two contributors was obtained from the victim's fingernail scrapings; item CTS-20-588-4. A major male contributor and a minor female contributor were obtained from CTS-20-588-4 at all the loci excluding D3S1358, FGA, and D19S433 (for the minor). The DNA profile for the major contributor of CTS-20-588-4 is consistent with the DNA profile of CTS-20-588-2. Therefore, CTS-20-588-2 cannot be excluded as a contributor of CTS-20-588-4 at all loci excluding D3S1358 and FGA. The probability of selecting a random unrelated individual having a DNA profile identical to CTS-20-588-2 at the loci observed is 1 in 6.60e27 for Hispanic Americans. The DNA profile for the minor contributor of CTS-20-588-4 is consistent with the DNA profile of CTS-20-588-1. Therefore, CTS-20-588-1 cannot be excluded as a contributor of CTS-20-588-4 at all loci excluding D3S1358, FGA, and D19S433. The probability of selecting a random unrelated individual having a DNA profile identical to CTS-20-588-1 at the loci observed is 1 in 2.61e37 for Hispanic Americans.
CLJJA9	**Method(s)**: Random Match Probability
	Stats Analysis: The results identified from item 4 indicate a mixture of DNA from two individuals. Assuming the presence of item 1 (victim), the deduced profile is consistent with the DNA profile of item 2 (male suspect). Using 21 of 21 loci, the probabilities of selecting an unrelated individual at random having a DNA profile consistent with the deduced DNA profile obtained from item 4 are approximately: • 1 in 9.990 Octillion for Caucasians • 1 in 12.80 Nonillion for African Americans • 1 in 4.251 Octillion for Hispanics
CP3ED2	**Method(s)**: Combined Probability of Exclusion/Inclusion, Random Match Probability
	Stats Analysis: Major: 723 octillion for African Americans, 215 septillion for Caucasians, 175 septillion for Hispanics Minor: 11.2 quadrillion for African Americans, 27.2 trillion for Caucasians, 229 trillion for Hispanics
GTPMNX	**Method(s)**: Likelihood Ratio
	Stats Analysis: H1:the mixture is made up of the victim's genetic profile and the suspect's genetic profile. H2:the mixture is made up of genetic profiles of two unknown unrelated people LR=1,10E38 (drop-out=0.1, drop-in=0.05, theta=0.01)
HKPMPV	**Method(s)**: Likelihood Ratio
	Stats Analysis: The DNA profile from Item 4 is one hundred twenty seven quintillion times more likely if the victim (item 1) and the suspect (Item 2) are contributors than if the victim (Item 1) and a randomly selected, unrelated person are contributors.
J6WE63	**Method(s)**: Likelihood Ratio
	Stats Analysis: Assuming the presence of the victim, the evidence is 1.5 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.
JLJRJU	**Method(s)**: Likelihood Ratio
	Stats Analysis: LR=2.1E+22 - The DNA findings provide extremely strong evidence to support the hypothesis that the victim and the suspect were the contributors compared to the alternative hypothesis that the victim and one unrelated unknown person were the contributors.
LKYV4Z	**Method(s)**: Random Match Probability
	Stats Analysis: Item 4 major stats are calculated as: No more common than 1 in 21 Octillion

TABLE 6

WebCode	Item 4 Methods & Results
MB7YGP	**Method(s)**: Likelihood Ratio
	Stats Analysis: ITEM 4 - DNA profile found from the victim's fingernail scrapings, Results: ≥2 Contributors including at least one male contributor, Female Victim (Item 1) Not Excluded, Male Suspect (Item 2) Not Excluded. Number of contributors to the DNA profile for statistical analysis: 2. Statistical Method(s) Used: Likelihood Ratio Databases Used: Revised-NIST-1036-Allele Frequencies, ABI ID Database + Promega PP Fusion Statistical Results: Item 1 and 2 Conclusion: • 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 ≥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 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 ≥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 VICTIM (Item) and the SUSPECT (Item 2) are contributors to this mixture, the likelihood of observing this mixed source profile is ≥1,000,000 times greater (actual LR available upon request) than if it is assumed that the VICTIM (Item) and one unrelated person selected at random from the general population are contributors to this mixed-source sample.
PCB7XM	**Method(s)**: [Participant did not report a method.]
	Stats Analysis: For D19S433 the marked 12 allele was removed as an artifact for the following reasons: The GMIdX set stutter at this locus is 9.97%. The peak height of the 12 allele is 10.5% of the 13 allele peak height. That is +0.53% great than the GMIdX set stutter of 9.97% at this locus. In addition, the extremely high quantity of DNA that was amplified frequently results in baseline noise. For D22S1045 the marked 14 allele was not removed for the following reasons: The peak height of the 14 allele is 17.1% of the 15 allele peak height. That is +0.84% greater than the GMIdX set stutter of 16.26% at this locus. In addition, these are fingernail scrapings from the victim. I expect to obtain victim DNA from a sample of this type. The victim is a 14,17 at D22S1045. I am a forensic consultant that reviews DNA case files that are 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 the population calculations are correct. NSD: No Size Data, INC: Inconclusive, N/A: Not Applicable
PYM4EV	**Method(s)**: Random Match Probability
	Stats Analysis: The probability of a randomly selected unrelated individual having a matching DNA profile of major contributor (Item 2) is approximately: (i) 1 in 72 octillion (72 x exp27) as calculated based on the [Location-identifying population database]. (ii) 1 in 5.6 nonillion (5.6 x exp30) as calculated based on the [Location-identifying population database]. (iii) 1 in 120 octillion (120 x exp27) as calculated based on the [Location-identifying population database]
QXPDLL	**Method(s)**: Likelihood Ratio
	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, and assuming Item 1 (victim) is a contributor, it is 12 quintillion times more likely to observe this genetic profile if Item 2 (suspect) and Item 1 (victim) are contributors than if the victim and 1 unknown individual are the contributors.

TABLE 6

WebCode	Item 4 Methods & Results
TL7HJR	**Method(s)**: Random Match Probability **Stats Analysis**: Autosomal: A mixture of human DNA profiles was identified in Item 4 that has been interpreted as a mixture of 2 people.Assuming this is a mixture of the victim and one additional contributor, a human male DNA profile was identified from which the suspect can not be excluded (is included).The expected frequency of occurrence for this profile was calculated for the African American, Caucasian, and Hispanic population and found to be no more common than approximately 1 in 21 octillion. YSTR: A YSTR haplotype was identified in Item 4 from which the suspect cannot be excluded. With a 95% upper confidence limit, this haplotype would be expected to occur in approximately 1 in 2300 unrelated African American males, 1 in 2800 unrelated Caucasian males, and 1 in 2000 unrelated Hispanic males at 17 loci.
VTJDCQ	**Method(s)**: Random Match Probability **Stats Analysis**: Assuming Item 4 is a mixture of the victim and one other individual, a male DNA profile was identified from which the suspect cannot be excluded. The expected frequency of occurrence for this profile was calculated for the African American, Caucasian and Hispanic population groups and was found to be no more common than approximately 1 in 21 octillion unrelated individuals.
X7DGUM	**Method(s)**: Random Match Probability **Stats Analysis**: A mixture of DNA profiles was identified in Item 4 (Victim's fingernails)that has been interpreted as a mixture of 2 people. Assuming this is a mixture of victim and one additional contributor, a male DNA profile was identified from which the suspect (Item 2) cannot be excluded (is included). The expected frequency of occurrence for this profile was calculated for the African American, Caucasian, and Hispanic population groups and was found to be more common than approximately 1 in 21 octillion unrelated individuals.
XJMVBM	**Method(s)**: Random Match Probability **Stats Analysis**: The probability of a randomly selected unrelated individual having a matching DNA profile of major contributor (Item 2) is approximately: (i)1 in 72 octillion (72 exp 27) as calculated based on the [Location-identifying population database]. (ii)1 in 5.6 nonillion (5.6 exp 30) as calculated based on the [Location-identifying population database]. (iii)1 in 120 octillion (120 exp 27) as calculated based on the [Location-identifying population database]
XNZV9E	**Method(s)**: Random Match Probability **Stats Analysis**: The probability of randomly selecting an unrelated individual who would be included as a contributor of the major profile developed from the sample from the Victim's fingernail scrapings at the GlobalFiler loci is 1 in greater than 7.2 billion (which is approximately the world population).
Y3XA7M	**Method(s)**: Likelihood Ratio **Stats Analysis**: The DNA profile obtained from the victim's fingernails (Item 4) is of mixed origin consistent with having originated from two individuals and is suitable for comparison. The victim (Item 1) is included as a possible contributor to this mixture. There is very strong evidence for the inclusion of the suspect (Item 2) as a possible contributor to this mixture. Assuming two contributors, and one of those contributors being the victim, it is 43 octillion times more likely to observe this DNA profile if it originated from the victim and the suspect rather than the victim and an unrelated contributor selected at random from the U.S. population.
YX3F9L	**Method(s)**: Random Match Probability **Stats Analysis**: Item: 4 Victim's fingernail scrapings. Number of Contributors: 2, Major Male 23 STR loci: Cannot be excluded (is included): Suspect, Statistical Frequency: 1 in 3.6 E+28 (3.6 octillion) at 23 STR loci. Minor Female 20 STR loci: Cannot be excluded (is included): Victim

Databases Used
TABLE 7

WebCode	Databases Used
2ZFY7L	Item 3: Item 4: 2015 Expanded FBI STR Population data.
33K7LJ	Item 3: D. J. Balding, R. A. Nichols. Forensic Sciences International (1994) 64 : 125-140 Population data : SWGDAM, december 2012 / US caucasian, hispanic, african / GlobalFiler PCR amplification kit user guide. LRmix Studio 2.0.1-CommunityEdition Fst: 0.01 drop-in probability : 0.05 P. Gill et al. Forensic Science International (2003) 131 : 184-196 Item 4: D. J. Balding, R. A. Nichols. Forensic Sciences International (1994) 64 : 125-140 Population data : SWGDAM, december 2012 / US caucasian, hispanic, african / GlobalFiler PCR amplification kit user guide. LRmix Studio 2.0.1-CommunityEdition Fst: 0.01 drop-in probability : 0.05 P. Gill et al. Forensic Science International (2003) 131 : 184-196
3F6LPH	Item 3: 2015 FBI Population Data for the Expanded CODIS Core STR Loci Item 4: 2015 FBI Population Data for the Expanded CODIS Core STR Loci
4J6WKH	Item 3: \\10.64.13.226\CODIS\Popstats\POPDATA\FBI\Expanded FBI STR 2015\Expanded FBI STR 2015 Item 4: \\10.64.13.226\CODIS\Popstats\POPDATA\FBI\Expanded FBI STR 2015\Expanded FBI STR 2015
6TPNKF	Item 3: Item 4: 4 Major: FBI Caucasian, 4 Minor: FBI Black
9HFE7D	Item 3: PPY23: YHRD counting method w/ 95% confidence limit Item 4: Fusion 5C: 2015 Expanded FBI STR Population Data PPY23: YHRD; counting method w/ 95% upper confidence limit
9R66T7	Item 3: Database used by LabRetriever Item 4: Promega
CLJJA9	Item 3: National Institute of Standards (NIST) population databases Item 4: National Institute of Standards and Technology (NIST) population databases
CP3ED2	Item 3: NIST 1036 population data. Forensic Science International: Genetics (2017). Item 4: NIST 1036 population data. Forensic Science International: Genetics (2017).
GTPMNX	Item 3: Personal databases Item 4: Personal databases
HKPMPV	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. Forensic Sci. Int. Genet. 7: e82-e83. African American, Caucasian and Hispanic subpopulations calculated and the most conservative LR reported. 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. Forensic Sci. Int. Genet. 7: e82-e83. African American, Caucasian and Hispanic subpopulations calculated and the most conservative LR reported.
J6WE63	Item 3: FBI Extended Item 4: FBI Extended
JLJRJU	Item 3: Item 4: NIST U.S. Population Dataset (Hispanic)
MB7YGP	Item 3: Revised-NIST-1036-Allele Frequencies, ABI ID Database + Promega PP Fusion Item 4: Revised-NIST-1036-Allele Frequencies, ABI ID Database + Promega PP Fusion

TABLE 7

WebCode	Databases Used
PYM4EV	Item 3: Databases used in the statistical analysis of "Item 3": [Location-identifying population databases] Item 4: Databases used in the statistical analysis of "Item 4": [Location-identifying population databases]
QXPDLL	Item 3: NIST Item 4: NIST
TL7HJR	Item 3: PowerPlex Y23: YHRD Database Item 4: FBI Expanded Database for autosomal YHRD for YSTRs
VTJDCQ	Item 3: Item 4: FBI database
X7DGUM	Item 3: Item 4: FBI expanded database.
XJMVBM	Item 3: Databases used in the statistical analyses of Item 3: [Location-identifying population databases] Item 4: Databases used in the statistical analyses of Item 4: [Location-identifying population databases]
XNZV9E	Item 3: FBI expanded Database Item 4: FBI expanded database
Y3XA7M	Item 3: FBI Extended BLK, CAU, SWH Item 4: FBI Extended BLK, CAU, SWH
YX3F9L	Item 3: Item 4: FBI population database

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
33K7LJ	GlobalFiler™, Investigator® 24plex, YFiler plus™
3F6LPH	Currently in use: GlobalFiler, GlobalFiler Express, Yfiler Plus
3YH9DC	NGM SElect (DNA-17)
4J6WKH	PowerPlex Fusion 6C
CLJJA9	Globalfiler, PowerPlex Y23
J6WE63	Globalfiler, Yfiler
Y3XA7M	Currently using F6C and Y23. There are no plans to add any kits in the near future.

Additional Comments

TABLE 9

WebCode	Additional Comments
2ZFY7L	NT=Not Tested. ND=Not Detected. INC=Inconclusive. Item 4-Minor represents assumed profile of victim and major represents deduced profile consistent with suspect.
33K7LJ	LR are calculated for each population. Results are interpreted for each and reported according to our verbal scale. Very strong support is reported for LR superior to 1 billion.
3F6LPH	Item 4: Conditioned on presence of Victim
3YH9DC	Item 3 - Item 1 (victim) potential contributor however at least one further more prominent contributor it would potentially be possible to derive profile of additional female contributor for searching/loading against the National DNA Database.
9HFE7D	ND = not detected. Inc. = inconclusive. Item 3: With Fusion 5C, this sample was interpreted as a mixture of at least 4 people; not suitable for comparisons. Item 3: With PPY23, this sample was interpreted as a single-source Y-STR DNA haplotype from which the suspect (Item 2) cannot be excluded (is included). Item 4: With Fusion 5C, this sample was interpreted as a mixture of 2 people; assuming the victim (Item 1) is one of the contributors, a human male DNA profile was identified from which the suspect (Item 2) cannot be excluded (is included). Item 4 minor refers to the assumed profile of the victim (Item 1). Item 4 major refers to the deduced male profile resulting from the assumption of the victim's profile. Item 4: With PPY23, this sample was interpreted as a single-source Y-STR DNA haplotype from which the suspect (Item 2) cannot be excluded (is included). Item 1 was not profiled in PPY23.
BYDGY3	NA = not applicable
CP3ED2	D19S433 for item 4, I labeled the 12 peak as elevated stutter. For item 4, D1S1656 not used for stats because not major/minor. D12S391 for item 3: I called the 17.3 peak as elevated baseline.
FBQTBT	Item 3 - 17.3 @ D12S391 in Globalfiler is a possible artifact. This peak was not present in the 5C, 6C, or Investigator amplification results. This allele call was not included in the results for this sample. Item 4 - 12 @ D19S433 in Globalfiler maybe a possible artifact due to a combination of n-4 stutter from the 13 peak and n-8 stutter from the 14 peak. This possible artifact is not present in 5C, 6C, or Investigator amplification results. This allele call was not included in the results for this sample.
FRY487	In item3, 3 individuals were detected from the data. Based on the references(item1 and item2), we could estimate that the major peaks indicate 2 individuals, female victim and female suspect. And minor peaks are assumed as male suspect. Female suspect could be assumed after eliminate the alleles of female victim and male suspect. In item4, 2 individuals were detected from the data. Major peaks indicate male suspect and minor peaks indicate female victim. Y-STR data of male suspect were detected from item2, 3, and 4.
TBN2QK	In item3, item1 (victim), item2 (male suspect), and unknown female are mixed. Male suspect is a minor contributor. Victim and unknown female are major contributors. In item4, item1 (victim) and item2 (male suspect)are mixed. Male suspect is a major contributor. Victim is a minor contributor.
TL7HJR	Please remember to evaluate this test according to [Laboratory] parameters: analytical threshold=190, stochastic threshold=1160 and peak height ratio=50%. It is important to note that Item 3 (victim reference standard)has very low rfus so there are loci where the allele did not exceed our stochastic threshold and there are several sister alleles deemed inconclusive using [Laboratory] protocols. In addition, please note that conclusions (Part I) [Table 4: DNA Conclusions] about the reference standards were based on the autosomal interpretation. However, in the report wording I have included my interpretation/conclusions for YSTRs.
VTJDCQ	Interpretation of Item 4 included assuming the victim from victim's fingernails. The assumption of the victim's profile was reflected as the "minor". The deduced unknown profile was reflected as the "major". INC=Inconclusive/any possible sister allele

TABLE 9

WebCode	Additional Comments
X7DGUM	Item 4 "major" profile represents the deduce male profile. The "minor" profile represents the assumed profile of the victim. inconclusive= any possible sister allele.
Y3XA7M	Note: Item 4 at D19 has an allele 10.2 that is included in the profile but is interpreted as drop-in.
YX3F9L	For Item 3--"3 major" represents the alleles of the assumed DNA profile; "3 minor" represents the alleles of the deduced DNA profile. Please note "inc." indicates inconclusive.

-End of Report-
(Appendix may follow)

Test No. 20-5881: DNA Interpretation

DATA MUST BE SUBMITTED BY **June 8, 2020, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A   WebCode: JA39YX

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:

Two suspects, a male and a female, were reportedly involved in the robbery of a female victim. The female victim was physically assaulted during the incident. The female victim attempted to defend herself and hit the male suspect in the face with her backpack, causing a wound. The female victim was knocked unconscious and her jewelry and backpack were taken. Minutes later, the female victim was found by a pedestrian who called 911. Upon investigation, the male suspect was identified and apprehended. The female suspect has not been found. In addition, the victim's backpack containing a reddish brown stain was found and collected from the suspect's car. Known samples from the female victim (Item 1) and the male suspect (Item 2) are provided. The reddish brown stain recovered from the victim's backpack in the suspect's car was confirmed as blood by the Serology unit and subsequently submitted for DNA analysis (Item 3). Fingernail scrapings were collected from the victim and sent to the DNA unit for analysis (Item 4). The DNA unit has completely consumed all evidence and has provided you with 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 INT1):

Item 1: DNA profile from reference sample (Female Victim - Hispanic)
Item 2: DNA profile from reference sample (Male Suspect - Hispanic)
Item 3: DNA profile found from the stain on the victim's backpack
Item 4: DNA profile found from the victim's fingernail scrapings

To verify a complete and accurate download, the hash value for the downloaded .ZIP file is as follows:
20-5881_Data for Participants.zip MD5 hash value: 759cc88dfddfe92294088b3d65759b34
20-5881_Data for Participants.zip SHA1 hash value: 5c6dee8cb09796152ce42eb6c688bf6632d22efb

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

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!!! IMPORTANT NOTE !!!

If you opt to analyze the .FSA files for YFiler, please note that you must change your analysis settings for the LIZ GS500 size standard to ignore the 250 bp peak.

- 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
STR & Amelogenin Results for Known Item 1

- Report alleles in numerical order, separated by a comma.
- Follow your laboratory procedures for reporting homozygotes (i.e. X,X or X) and null responses.

STR Amplification Kit Used For Item 1:

Please indicate the electropherogram(s) reviewed for this test.

☐ GlobalFiler™   ☐ Investigator® 24plex   ☐ PowerPlex® Fusion 5C   ☐ PowerPlex® Fusion 6C

☐ HID format   ☐ PDF format   ☐ FSA format

Report the Probabilistic Genotyping Software Used (if applicable): _____

*Alleles below are sorted in **Default** order.*

ITEM	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
1						
ITEM	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
1						
ITEM	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
1						
ITEM	Penta D	Penta E	SE33	TH01	TPOX	vWA
1						
ITEM	DYS391	DYS570	DYS576	Y Indel		
1						

YSTR Results for Known Item 1

YSTR Amplification Kit Used For Item 1:

Please indicate the electropherogram(s) reviewed for this test.

☐ YFiler™   ☐ PowerPlex® Y23   ☐ FSA format   ☐ HID format   ☐ PDF format

*Alleles below are sorted in **Default** order.*

ITEM	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
1								
ITEM	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
1								
ITEM	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		
1								

Part I: DNA ANALYSIS (continued)
STR & Amelogenin Results for Known Item 2

- Report alleles in numerical order, separated by a comma.
- Follow your laboratory procedures for reporting homozygotes (i.e. X,X or X) and null responses.

STR Amplification Kit Used For Item 2:

Please indicate the electropherogram(s) reviewed for this test.

☐ GlobalFiler™ ☐ Investigator® 24plex ☐ PowerPlex® Fusion 5C ☐ PowerPlex® Fusion 6C

☐ HID format ☐ PDF format ☐ FSA format

Report the Probabilistic Genotyping Software Used (if applicable): [   ]

*Alleles below are sorted in **Default** order.*

ITEM	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
2						
ITEM	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
2						
ITEM	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
2						
ITEM	Penta D	Penta E	SE33	TH01	TPOX	vWA
2						
ITEM	DYS391	DYS570	DYS576	Y Indel		
2						

YSTR Results for Known Item 2

YSTR Amplification Kit Used For Item 2:

Please indicate the electropherogram(s) reviewed for this test.

☐ YFiler™ ☐ PowerPlex® Y23 ☐ FSA format ☐ HID format ☐ PDF format

*Alleles below are sorted in **Default** order.*

ITEM	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
2								
ITEM	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
2								
ITEM	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		
2								

Part I: DNA ANALYSIS (continued)
STR & Amelogenin Results for Questioned Item 3

- Report alleles in numerical order, separated by a comma.
- Follow your laboratory procedures for reporting homozygotes (i.e. X,X or X) and null responses.
- For each locus, if a major and minor contributor can be distinguished and your laboratory normally reports this distinction, record the results in the appropriately labeled response boxes.

STR Amplification Kit Used For Item 3:   Please indicate the electropherogram(s) reviewed for this test.

☐ GlobalFiler™   ☐ Investigator® 24plex   ☐ PowerPlex® Fusion 5C   ☐ PowerPlex® Fusion 6C
☐ HID format   ☐ PDF format   ☐ FSA format

Report the Probabilistic Genotyping Software Used (if applicable): [＿＿＿＿＿＿＿＿]

*Alleles below are sorted in **Default** order.*

ITEM	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
3						
3 major						
3 minor						
ITEM	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
3						
3 major						
3 minor						
ITEM	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
3						
3 major						
3 minor						
ITEM	Penta D	Penta E	SE33	TH01	TPOX	vWA
3						
3 major						
3 minor						
ITEM	DYS391	DYS570	DYS576	Y Indel		
3						
3 major						
3 minor						

YSTR Results for Questioned Item 3

YSTR Amplification Kit Used For Item 3:   Please indicate the electropherogram(s) reviewed for this test.

☐ YFiler™   ☐ PowerPlex® Y23   ☐ FSA format   ☐ HID format   ☐ PDF format

*Alleles below are sorted in **Default** order.*

ITEM	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
3								
3 major								
3 minor								
ITEM	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
3								
3 major								
3 minor								
ITEM	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		
3								
3 major								
3 minor								

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 inconconclusive/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 inconconclusive/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)
STR & Amelogenin Results for Questioned Item 4

- Report alleles in numerical order, separated by a comma.
- Follow your laboratory procedures for reporting homozygotes (i.e. X,X or X) and null responses.
- For each locus, if a major and minor contributor can be distinguished and your laboratory normally reports this distinction, record the results in the appropriately labeled response boxes.

STR Amplification Kit Used For Item 4:

Please indicate the electropherogram(s) reviewed for this test.

☐ GlobalFiler™   ☐ Investigator® 24plex   ☐ PowerPlex® Fusion 5C   ☐ PowerPlex® Fusion 6C

☐ HID format   ☐ PDF format   ☐ FSA format

Report the Probabilistic Genotyping Software Used (if applicable): [   ]

*Alleles below are sorted in **Default** order.*

ITEM	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
4						
4 major						
4 minor						
ITEM	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
4						
4 major						
4 minor						
ITEM	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
4						
4 major						
4 minor						
ITEM	Penta D	Penta E	SE33	TH01	TPOX	vWA
4						
4 major						
4 minor						
ITEM	DYS391	DYS570	DYS576	Y Indel		
4						
4 major						
4 minor						

YSTR Results for Questioned Item 4

YSTR Amplification Kit Used For Item 4:

Please indicate the electropherogram(s) reviewed for this test.

☐ YFiler™   ☐ PowerPlex® Y23   ☐ FSA format   ☐ HID format   ☐ PDF format

*Alleles below are sorted in **Default** order.*

ITEM	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
4								
4 major								
4 minor								
ITEM	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
4								
4 major								
4 minor								
ITEM	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		
4								
4 major								
4 minor								

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.):

<u>Item 1 Conclusion</u>

○ 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 inconconclusive/uninterpretable.

<u>Item 2 Conclusion</u>

○ 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 inconconclusive/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.*
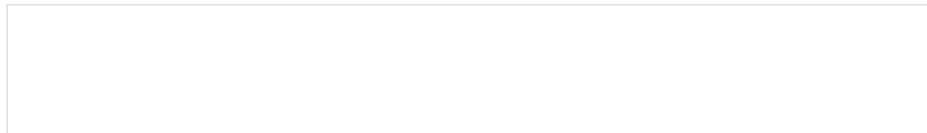
Part III: AMPLIFICATION KIT SURVEY (optional)
To accommodate your laboratory's future needs, please list all PCR amplification kits (Autosomal and YSTR) utilized as well as any future kits to be implemented in your laboratory.
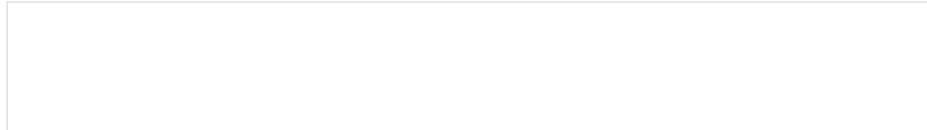
RELEASE OF DATA TO ACCREDITATION BODIES

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)