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# DNA Interpretation Test No. 25-5881 Summary Report

Each participant received a digitally downloadable sample pack containing electropherograms and raw data files which they were asked to evaluate using their existing protocols. Data were returned from 40 participants and are compiled into the following tables:

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

### **Manufacturer's Information**

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

SAMPLE PREPARATION: Stains from different sources were prepared at separate times and were packaged once they were thoroughly dried into separate envelopes.

VERIFICATION: Predistribution results were consistent with each other and the manufacturer's preparation information. Consistent allelic results were reported for all STR and YSTR loci.

SAMPLE PACK ASSEMBLY: Once sample preparation and verification were completed, digitally downloadable materials were zipped and uploaded to the CTS Portal. The digital upload was then checked to ensure all items were accessible.

Consensus results for each locus were determined when at least 10 participants provide results and 75% or more report the same allele. Additional alleles may be present depending on lab thresholds and/or amplification kit used.

Item	Known/ Questioned	Body Fluid	Mixture Ratio	Sex	Donor Information
1	Known	Blood		Male	Victim
2	Known	Blood		Female	Suspect
3	Questioned	Blood/Blood/Blood	1:1:1	Male/Female/Female	Victim/Suspect/Additional Female
4	Questioned	Blood/Blood	1:1	Female/Female	Suspect/Additional Female

	Amelogenin and STR Results										
	Results	Results compiled by predistribution laboratories and a consensus of participants.									
Item	D1S1656 D8S1179 D19S433 Penta D	D2S1338 D10S1248 D21S11 Penta E	D2S441 D12S391 D22S1045 SE33	D3S1358 D13S317 Amelogenin TH01	D5S818 D16S539 CSF1PO TPOX	D7\$820 D18\$51 FGA vWA					
	DYS391	DYS570	DYS576	Y Indel							
1	15,17.3	19,21	14,14	17,18	11,13	10,11					
	14,15	13,14	19,21	10,12	11,11	14,15					
	15,15.2	29,29	15,16	X,Y	11,12	19,26					
	*	*	26.2,28.2	8,9.3	8,11	15,17					
	11	*	*	2							
2	16.3,17.3	23,24	10,13	14,15	12,12	10,12					
	10,14	15,17	19.3,23	11,13	11,12	15,16					
	14,16.2	30.2,31	14,17	X,X	9,12	20,23					
	*	*	17,28.2	9,9.3	8,8	16,17					
	NM	NM	NM	NM							
3	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12					
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18					
	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26					
	*	*	17,17.2,18,26.2,28. 2	7,8,9,9.3	8,11	15,16,17,18					
	11	*	*	2							
4	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12					
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18					
	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24					
	*	*	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18					
	NM	NM	NM	NM							

				YSTR	Results						
	Results co	Results compiled from predistribution laboratories and a consensus of at least 10 participants.									
ltem	<b>DYF387S</b>	DYS19	<b>DYS385</b>	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393		
	DYS437	<b>DYS438</b>	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481		
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4		
1	36,37	13	15,16	13	30	23	11	14	14		
	14	11	12	21	27	15	16	10	24		
	38	11	12	17	19	19	22	10	11		
3	36,37	13	15,16	13	30	23	11	14	14		
	14	11	12	21	27	15	16	10	24		
	38	11	12	17	19	19	22	10	11		

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

<sup>\*</sup>Results were not received from a minimum of 10 participants for the loci indicated.

### **Summary Comments**

This test was designed to allow participants to assess their proficiency in evaluating and interpreting electropherograms (EPGs). Each participant received EPGs (in .pdf and .hid formats) of two reference samples and two questioned samples. The EPG data included were produced from the following amplification kits: GlobalFiler™, Investigator® 24plex, PowerPlex® Fusion 5C, PowerPlex® Fusion 6C, YFiler™ Plus, PowerPlex® Y23. Item 1 was created using blood collected from a male donor. Item 2 was created using blood collected from a female donor. Item 3 was created by combining one part blood each from the Item 1 male donor, Item 2 female donor, and an additional female donor whose known standard was not provided. Item 4 was created by combining one part blood each from the Item 2 female donor and the additional female donor from Item 3. Refer to the Manufacturer's Information for preparation details.

Data were returned by 40 participants.

#### **DNA** Analysis

All participants that returned results evaluated the provided STR data.

For STR results, all participants reported consistent results with the exception of seven participants.

For YSTR results, all participants reported consistent results.

For Item 3, a consensus was achieved for the full Item 3 profile (unseparated). Two participants attempted the deconvolution of this mixture; however, no consensus was formed for major or minor profiles due to the low reporting population.

For Item 4, a consensus was achieved for the full Item 4 profile (unseparated). Three participants attempted the deconvolution of this mixture; however, no consensus was formed for major or minor profiles due to the low reporting population.

#### **DNA** Interpretations

For Item 3, all but one participant identified that three (or at least three) individuals contributed to the mixture. The remaining participant identified four contributors. All but one participant included the victim (Item 1) and all but two included the suspect (Item 2) as possible contributors to the stain. Of the two participants who excluded both, one did not provide a response to either conclusion, while the other reported "Inconclusive/Uninterpretable" in regards to the possible contribution of Item 2.

For Item 4, all participants identified that two (or at least two) individuals contributed to the mixture. All participants excluded the victim (Item 1) and included the suspect (Item 2) as possible contributors to the stain.

# **STR Interpretation Guidelines**

WebCode	Analytical Threshold (rfu)	Peak Height Ratio (%)	Stochastic Threshold (rfu)
2LMCUV	75	55	325
2UCZPX	130	60	800
3QVXHT	70	70	345
4NM3CV	130	60	800
6PQHXR	100	70	300
6X648V	75	60	100
7463VP	120	60	360
7DECMP	160	60	630
9RPU8N	75	60	100
ABDFQQ	150	60	400
AECRLQ	[Participant o	lid not provide interpretation gui	delines]
AQ9XFN	130	60	800
AXRZMQ	75	60	100
BJ79CP	75	60	100
CL64AJ	70	70	345
CMJBXL	175	70	175
ETMEXQ		60	200
EUBPBH	75	60	250
GNJ2TH	75	60	100
GYDFTE	70	70	345
JP2ZZB	70	70	345
JTMK6F	130	60	800
K78LZC	180	50	370
KLXLRC	50	65	200
LXR3GD	130	60	800
N2K7XA	130	60	800
NPQP99	[Participant o	lid not provide interpretation gui	delines]
NQL8BA	130	60	800
PGB7PA	130	60	800
Q2UUC7	80	60	250
QJEKB7	120	60	360
RN3K37	50	60	865
RWXPW8	[Participant o	lid not provide interpretation gui	delines]
T3Y2R6	[Participant o	lid not provide interpretation gui	delines]
T7XCN4	100	70	4,290
WHKKY3	130	60	800
XTFDKX	100	60	300

WebCode	Analytical Threshold (rfu)	Peak Height Ratio (%)	Stochastic Threshold (rfu)
YBTHJV	50	50	900
YDE2PY	75	60	
ZDUK9W	120	60	360

# **YSTR** Interpretation Guidelines

TABLE 2

		II (DLL Z	
WebCode	Analytical Thre		Stochastic Threshold (rfu)
2LMCUV		[Participant did not provide interpretation guid	
2UCZPX	50	70	800
3QVXHT			550
4NM3CV	50	70	800
6PQHXR	90		320
6X648V	75	50	75
7463VP	75	50	75
7DECMP	100	60	600
9RPU8N	75	50	75
ABDFQQ		[Participant did not provide interpretation guic	lelines]
AECRLQ		[Participant did not provide interpretation guid	lelines]
AQ9XFN	50	70	800
AXRZMQ	75	50	75
ВЈ79СР	75	50	75
CL64AJ			550
CMJBXL	175	70	175
ETMEXQ	75	50	225
EUBPBH		[Participant did not provide interpretation guic	lelines]
GNJ2TH	75	50	75
GYDFTE			550
JP2ZZB			550
JTMK6F	50	70	800
K78LZC		[Participant did not provide interpretation guid	lelines]
KLXLRC	50	65	175
LXR3GD	50	70	800
N2K7XA	50	70	800
NPQP99		[Participant did not provide interpretation guid	lelines]
NQL8BA	50	70	800
PGB7PA		[Participant did not provide interpretation guic	lelines]
Q2UUC7	80	50	75
QJEKB7	75	50	75
RN3K37		[Participant did not provide interpretation guic	lelines]
RWXPW8		[Participant did not provide interpretation guid	lelines]
T3Y2R6		[Participant did not provide interpretation guid	lelines]
T7XCN4		[Participant did not provide interpretation guid	lelines]
WHKKY3	50	70	800
XTFDKX	90	40	320
	005	(7)	Convight ©2025 CTS In

WebCode	Analytical Threshold (rfu)	Peak Height Ratio (%)	Stochastic Threshold (rfu)
YBTHJV	[Participant d	id not provide interpretation gui	idelines]
YDE2PY	75	50	
ZDUK9W	75	50	75

# **STR & Amelogenin Results**

WebCode		Kits (File Format) (P				
_	D1\$1656 D8\$1179	D2S1338 D10S1248	D2S441 D12S391	D3S1358 D13S317	D55818 D165539	D7S820 D18S51
tem	D195433	D21511	D123391 D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 1 - STR			
LMCUV	GlobalFiler™	' (HID Format)				
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
UCZPX	GlobalFiler™	' (PDF Format), (HID	Format)			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11,11		,	2	,	,
QVXHT	PowerPlex®	Fusion 6C (HID Form	aat)			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
	12,13	8,9	26.2,28.2	8,9.3	8,11	15,17
	11	17	19			
NM3CV	GlobalFiler™	' (HID Format) (STRA	Λix)			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2	·	
PQHXR	GlobalFiler™	' (HID Format)				
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
	15,15.2	29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
X648V	GlobalFiler™	, Investigator® 24ple	x, PowerPlex® Fusio	on 5C, PowerPlex® Fu	usion 6C (PDF Form	at), (HID Format)
	15,17.3	19,21	14	17,18	11,13	10,12
	14,15	13,14	19,21	10,12	11	14,15
	15,15.2	29	15,16	X,Y	11,12	19,26
	12,13	8,9	26.2,28.2	8,9.3	8,11	15,17
	11	17	19	2	,	-,

TABLE 3

			IADLE	3		
WebCode	Amplification D1S1656	Kits (File Format) (ID2S1338	Probabilistic Genot D2S441	yping) D3S1358	D5S818	D7S820
	D8S1179	D10S1248	D125391	D135317	D16S539	D18S51
Item	D19S433	D21S11	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DY\$576	Y Indel		
			ltem 1 - STF	R Results		
7463VP	GlobalFiler™	™ (HID Format)				
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
1	15,15.2	29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
DECMP	GlobalFiler™	™ (HID Format)				
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
	15,15.2	29	15,16	X,Y	11,12	19,26
	,		26.2,28.2	8,9.3	8,11	15,17
	11		• •	2	,	,
PRPU8N	ClabalE:laai	M (PDF Format)				
KPUON			1414	17.10	11.10	10.11
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
	1.1		26.2,28.2	8,9.3	8,11	15,17
	11			2		
ABDFQQ	GlobalFiler <sup>™</sup>	<sup>™</sup> (PDF Format)				
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
AECRLQ	GlobalFiler™	™, Investigator® 24ple	ex, PowerPlex® Fusion	on 5C, PowerPlex® Fu	sion 6C (PDF Form	at), (HID Format)
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
	15,15.2	29	15,16	X,Y	11,12	19,26
	12,13	8,9	26.2,28.2	8,9.3	8,11	15,17
	11	17	19	2		
AQ9XFN	GlobalFiler™	™ (HID Format)				
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
	-	- ,	26.2,28.2	8,9.3	8,11	15,17
	11	-	-	2		. 3/17
	1.1	-	-	۷		

TABLE 3

			IADLL			
WebCode	Amplification D1S1656	Kits (File Format) ( D2S1338	Probabilistic Genot D2S441	yping) D3S1358	D5S818	D7S820
	D8S1179	D1051248	D125391	D13S317	D16S539	D18S51
Item	D195433	D21511	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DY\$570	DYS576	Y Indel		
			ltem 1 - STF	Results		
AXRZMQ	GlobalFiler	™ (HID Format)				
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
1	15,15.2	29	15,16	X,Y	11,12	19,26
	10,10.2		26.2,28.2	8,9.3	8,11	15,17
	11		20.2,20.2	2	0,11	13,17
	11			Z		
BJ79CP	PowerPlex®	Fusion 6C (HID Form	nat)			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
	12,13	8,9	26.2,28.2	8,9.3	8,11	15,17
	11	17	19	N/A		
61 ( 4 ) 1	D DI 🖨		.) (CTD :)			
CL64AJ		Fusion 6C (HID Form	, , , ,			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
	12,13	8,9	26.2,28.2	8,9.3	8,11	15,17
	11	17	19			
CMJBXL	GlobalFiler	™ (HID Format)				
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
	,	,,,	26.2,28.2	8,9.3	8,11	15,17
	11		20.2/20.2	2	57	. 37. 7
ETMEXQ	· ·	® 24plex (HID Formo	, ,			
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
1	15,15.2	29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11					
EUBPBH	GlobalFiler	™ (STRmix)				
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
	10,10.2	£1,£7	26.2,28.2	8,9.3	8,11	15,17
	11		20.2,20.2	2	0,11	13,17
	11			۷		

TABLE 3

			IADLE			
WebCode	Amplification D1S1656	Kits (File Format) (I	D5\$818	D7S820		
	D8S1179	D10S1248	D25441 D125391	D3S1358 D13S317	D16S539	D18S51
ltem	D19\$433	D21S11	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	ТРОХ	∨WA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 1 - STF	Results		
SNJ2TH	GlobalFiler™	<sup>™</sup> (PDF Format)				
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
	N/A	N/A	26.2,28.2	8,9.3	8,11	15,17
	11	N/A	N/A	2		
YDFTE	PowerPlex®	Fusion 6C (HID Form	nat)			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
	12,13	8,9	26.2,28.2	8,9.3	8,11	15,17
	11	17	19			
P2ZZB	PowerPlex®	Fusion 6C (HID Form	nat)			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
	12,13	8,9	26.2,28.2	8,9.3	8,11	15,17
	11	17	19	,	,	,
TMK6F	GlobalFiler™	M (HID Format) (STR <i>i</i>	√ix)			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
	10,10.2	27,27	26.2,28.2	8,9.3	8,11	15,17
	11		20.2,20.2	2	5,11	10,17
78LZC	Investigator	R 24nley				
(, 0120	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
	15,15.2	29,29	15,16	X,Y	11,12	19,26
	n/a	n/a	26.2,28.2	8,9.3	8,11	15,17
	11	n/a	n/a	n/a	0,11	13,17
CLXLRC	PowerPlex®			,		
LALKC			7.4	17.10	11.10	10.11
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
_	15,15.2	29	15,16	X,Y	11,12	19,26
	12,13	8,9		8,9.3	8,11	15,17
	11					

TABLE 3

			IADLL			
WebCode	Amplification   D1S1656	Kits (File Format) ( D2S1338	Probabilistic Genot D2S441	yping) D3S1358	D5\$818	D7S820
	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
Item	D19S433	D21S11	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	ТРОХ	vWA
	DYS391	DYS570	DYS576	Y Indel		
			Item 1 - STF	Results		
LXR3GD	GlobalFiler™	' (HID Format)				
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
	10,10.2	27,27	26.2,28.2	8,9.3	8,11	15,17
	11		20.2,20.2	2	0,11	13,17
	11			2		
N2K7XA	GlobalFiler™	' (HID Format)				
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
NPQP99		(PDF Format)				
_	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
NQL8BA	GlobalFiler™	' (STRmix)				
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
'	13,13.2	27,27	26.2,28.2	8,9.3	8,11	15,17
			20.2,20.2	0,7.3	0,11	13,17
PGB7PA	GlobalFiler™	' (PDF Format) (STR	MIX)			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
00111107	OL 1 IE-1 TO	1 (DDE E)				
Q2UUC7		(PDF Format)	_ ,			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		

TABLE 3

			IADLL			
WebCode	Amplification I D1S1656	Cits (File Format) (l D2S1338	Probabilistic Genot D2S441	yping) D3S1358	D5\$818	D7S820
	D8S1179	D251338 D1051248	D125391	D13S317	D16S539	D75820 D18S51
Item	D19\$433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	ТРОХ	vWA
	DYS391	DY\$570	DY\$576	Y Indel		
			ltem 1 - STF	Results		
QJEKB7	GlobalFiler™	(PDF Format)	nem i - 5m	( 1(630113		
QJERD?	15,17.3	19,21	14	17,18	11,13	10,11
	14,15		19,21	10,12	11	14,15
		13,14				
1	15,15.2	29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
RN3K37	GlobalFiler™	(PDF Format) (LRm	ix Studio ver. 2.1.5-	Community Edition)		
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
1	15,15.2	29	15,16	X,Y	11,12	19,26
	10,10.2	2,	26.2,28.2	8,9.3	8,11	15,17
	11		20.2,20.2	2	0,11	15,17
				Z		
RWXPW8	GlobalFiler™					
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11		,	2	,	,
T3Y2R6	GlobalFiler™					
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
T7XCN4	DowerPlay® [	Fusion 5C (HID Forn	a atl			
I / ACIN4				17 10	11 10	10.11
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
1	15,15.2	29	15,16	X,Y	11,12	19,26
	12,13	8,9		8,9.3	8,11	15,17
	11					
WHKKY3	GlobalFiler™					
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
	13,13.2	Δ7,Δ7				
	1.1		26.2,28.2	8,9.3	8,11	15,17
	11			2		

TABLE 3

Item C	Amplification Ki 0151656 0851179 0195433 Penta D DYS391	ts (File Format) (I D2S1338 D10S1248 D21S11 Penta E DYS570	Probabilistic Genot D2S441 D12S391 D22S1045 SE33	yping) D3S1358 D13S317 Amelogenin	D5S818 D16S539 CSF1PO	D7S820 D18S51
Item [	0851179 0195433 Penta D	D10S1248 D21S11 Penta E	D12S391 D22S1045	D13S317	D16S539	D18S51
	Penta D	Penta E		Amelogenin	CSE1DO .	
			SE33		CSFIFO	FGA
	DYS391	DYS570		TH01	TPOX	vWA
			DYS576	Y Indel		
			ltem 1 - STR	R Results		
XTFDKX	GlobalFiler™	(HID Format)				
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
1	15,15.2	29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
YBTHJV	GlobalFiler™	(HID Format) (STRr	nix)			
	15,17.3	19,21	14,14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11,11	14,15
1	15,15.2	29,29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
YDE2PY	GlobalFiler™	(HID Format) (Lab	Retriever)			
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
1	15,15.2	29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		
ZDUK9W	GlobalFiler™	(PDF Format)				,
	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
1	15,15.2	29	15,16	X,Y	11,12	19,26
			26.2,28.2	8,9.3	8,11	15,17
	11			2		

TABLE 3

			IADLL			
WebCode	Amplification D1S1656	Kits (File Format) (F D2S1338	Probabilistic Genot D2S441	yping) D3\$1358	D5S818	D7S820
	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18\$51
tem	D195433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 2 - STF	R Results		
ZLMCUV	GlobalFiler™	M (HID Format)				
_	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
2	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
UCZPX	GlobalFiler™	<sup>™</sup> (PDF Format), (HID	Format)			
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
2	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
	-			-		
3QVXHT	PowerPlex®	Fusion 6C (HID Form	nat)			
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
!	14,16.2	30.2,31	14,17	X,X	9,12	20,23
	9,12	9,11	17,28.2	9,9.3	8,8	16,17
	NR	NR	NR			
NM3CV	GlobalFiler™	M (HID Format) (STRA	Λix)			
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
SPQHXR	GlobalFiler™	™ (HID Format)				
	16.3,17.3	23,24	10,13	14,15	12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
2	14,16.2	30.2,31	14,17	Х	9,12	20,23
			17,28.2	9,9.3	8	16,17
X648V	GlobalFiler™	, Investigator® 24ple	ex, PowerPlex® Fusion	on 5C, PowerPlex® Fu	sion 6C (PDF Form	at), (HID Forma
	16.3,17.3	23,24	10,13	14,15	12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
2	14,16.2	30.2,31	14,17	Х	9,12	20,23
	9,12	9,11	17,28.2	9,9.3	8	16,17

TABLE 3

			IADLL			
WebCode		Kits (File Format) (		DECOLO	D75900	
	D1S1656 D8S1179	D2\$1338 D10\$1248	D2S441 D12S391	D3S1358 D13S317	D5S818 D16S539	D7S820 D18S51
tem	D19S433	D21511	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	ТРОХ	vWA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 2 - STR	? Results		
463VP	GlobalFiler™	M (HID Format)	110111 2 011	(1000110		
	16.3,17.3	23,24	10,13	14,15	12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
	,	33.273	17,28.2	9,9.3	8	16,17
	NM		17,20.2	NM	Ŭ	10,17
				1414		
DECMP	GlobalFiler™	M (HID Format)				
_	16.3,17.3	23,24	10,13	14,15	12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	Χ	9,12	20,23
			17,28.2	9,9.3	8	16,17
RPU8N	GlobalFiler™	M (PDF Format)				
KI OOI V	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10.3,17.3	15,17	19.3,23	11,13	11,12	15,16
						20,23
	14,16.2	30.2,31	14,17	X,X	9,12	
			17,28.2	9,9.3	8,8	16,17
BDFQQ	GlobalFiler™	M (PDF Format)				
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
FCDIO	CL L IE:L T	M I II I @ 04 I	n n er		· /C /DDF F	.) //UD.E .)
ECRLQ				on 5C, PowerPlex® Fu	•	, ,
AECRLQ	16.3,17.3	23,24	10,13	14,15	12	10,12
	16.3,17.3 10,14	23,24 15,17	10,13 19.3,23	14,15 11,13	12 11,12	10,12 15,16
	16.3,17.3 10,14 14,16.2	23,24 15,17 30.2,31	10,13 19.3,23 14,17	14,15 11,13 X	12 11,12 9,12	10,12 15,16 20,23
	16.3,17.3 10,14	23,24 15,17	10,13 19.3,23	14,15 11,13	12 11,12	10,12 15,16
	16.3,17.3 10,14 14,16.2	23,24 15,17 30.2,31	10,13 19.3,23 14,17	14,15 11,13 X	12 11,12 9,12	10,12 15,16 20,23
	16.3,17.3 10,14 14,16.2	23,24 15,17 30.2,31 9,11	10,13 19.3,23 14,17	14,15 11,13 X	12 11,12 9,12	10,12 15,16 20,23
	16.3,17.3 10,14 14,16.2 9,12 GlobalFiler	23,24 15,17 30.2,31 9,11	10,13 19.3,23 14,17 17,28.2	14,15 11,13 X 9,9.3	12 11,12 9,12 8	10,12 15,16 20,23 16,17
	16.3,17.3 10,14 14,16.2 9,12 GlobalFiler <sup>TI</sup> 16.3,17.3	23,24 15,17 30.2,31 9,11 M (HID Format) 23,24	10,13 19.3,23 14,17 17,28.2	14,15 11,13 X 9,9.3	12 11,12 9,12 8	10,12 15,16 20,23 16,17
AECRLQ	16.3,17.3 10,14 14,16.2 9,12 GlobalFiler	23,24 15,17 30.2,31 9,11	10,13 19.3,23 14,17 17,28.2	14,15 11,13 X 9,9.3	12 11,12 9,12 8	10,12 15,16 20,23 16,17

TABLE 3

			IADLL			
WebCode	Amplification D1S1656	Kits (File Format) (I D2S1338	yping) D3S1358	D5S818	D7\$820	
	D8S1179	D10S1248	D25441 D125391	D135317	D16S539	D18S51 FGA
tem	D19\$433	D21S11	D22\$1045	Amelogenin	CSF1PO	
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DY\$576	Y Indel		
			ltem 2 - STF	R Results		
AXRZMQ	GlobalFiler™	™ (HID Format)				
	16.3,17.3	23,24	10,13	14,15	12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
2	14,16.2	30.2,31	14,17	Χ	9,12	20,23
			17,28.2	9,9.3	8	16,17
3J79CP	PowerPlay®	Fusion 6C (HID Forn	oat)			
,	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10.3,17.3	15,17	19.3,23	11,13	11,12	15,16
2	14,16.2	30.2,31	14,17	X,X	9,12	20,23
	9,12	9,11	17,28.2	9,9.3	8,8	16,17
	7,12 N/A	N/A	N/A	7,7.5 N/A	0,0	10,17
				1 1// \		
CL64AJ		Fusion 6C (HID Form	, ,			
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
2	14,16.2	30.2,31	14,17	X,X	9,12	20,23
	9,12	9,11	17,28.2	9,9.3	8,8	16,17
	NR	NR	NR			
CMJBXL	GlobalFiler™	™ (HID Format)				
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
2	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
ETMEXQ	Investigator(	3 24plex (HID Forma	t) (GeneMarker V.2	.9.5. (SoftGenetics))		
	16.3,17.3	23,24	10,13	14,15	12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
2	14,16.2	30.2,31	14,17	Х	9,12	20,23
			17,28.2	9,9.3	8	16,17
	/					
UBPBH	GlobalFiler™	™ (STRmix)				
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
2	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17

TABLE 3

			IADLE						
WebCode	Amplification D1S1656	Kits (File Format) (I D2S1338	D5\$818	D7\$820					
	D8S1179	D10S1248	D25441 D125391	D3S1358 D13S317	D16S539	D18S51			
tem	D195433	D21S11 Penta E	D22\$1045	Amelogenin	CSF1PO	FGA vWA			
	Penta D		SE33	TH01	TPOX				
	DYS391	DYS570	DYS576	Y Indel					
			ltem 2 - STF	R Results					
GNJ2TH	GlobalFiler™	<sup>™</sup> (PDF Format)							
_	16.3,17.3	23,24	10,13	14,15	12,12	10,12			
	10,14	15,17	19.3,23	11,13	11,12	15,16			
<u> </u>	14,16.2	30.2,31	14,17	X,X	9,12	20,23			
	N/A	N/A	17,28.2	9,9.3	8,8	16,17			
	NSD	N/A	N/A	NSD					
GYDFTE	PowerPlex® Fusion 6C (HID Format)								
	16.3,17.3	23,24	10,13	14,15	12,12	10,12			
	10,14	15,17	19.3,23	11,13	11,12	15,16			
!	14,16.2	30.2,31	14,17	X,X	9,12	20,23			
	9,12	9,11	17,28.2	9,9.3	8,8	16,17			
	NR	NR	NR						
P2ZZB	PowerPley®	Fusion 6C (HID Form	aat)						
1 2 2 2 0	16.3,17.3	23,24	10,13	14,15	12,12	10,12			
	10.3,17.3	15,17	19.3,23	11,13	11,12	15,16			
	14,16.2	30.2,31	14,17	X,X	9,12	20,23			
	9,12	9,11	17,28.2	9,9.3	8,8	16,17			
	NR	NR	NR	7,7.5	0,0	10,17			
TMK6F		M (HID Format) (STR/	·						
	16.3,17.3	23,24	10,13	14,15	12,12	10,12			
	10,14	15,17	19.3,23	11,13	11,12	15,16			
	14,16.2	30.2,31	14,17	X,X	9,12	20,23			
			17,28.2	9,9.3	8,8	16,17			
K78LZC	Investigator(	® 24plex							
	16.3,17.3	23,24	10,13	14,15	12,12	10,12			
	10,14	15,17	19.3,23	11,13	11,12	15,16			
!	14,16.2	30.2,31	14,17	X,X	9,12	20,23			
	n/a	n/a	17,28.2	9,9.3	8,8	16,17			
	n/a	n/a	n/a	n/a					
LXLRC	PowerPlex®	Fusion 5C							
	16.3,17.3	23,24	10,13	14,15	12	10,12			
	10,14	15,17	19.3,23	11,13	11,12	15,16			
2	14,16.2	30.2,31	14,17	X	9,12	20,23			
	9,12	9,11		9,9.3	8	16,17			
	-			,,,		. 0,17			

TABLE 3

WebCode	Amplification D1S1656	Kits (File Format) (Prob D2S1338	pabilistic Genot D2S441	yping) D3S1358	D5S818	D7S820
	D8S1179	D10S1248	D125391	D135317	D16S539	D18S51
em	D19S433	D21S11	D2251045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 2 - STR	Results		
LXR3GD	GlobalFiler™	(HID Format)				
	19.3,23		14,16.2	14,15	11,13	17,28.2
	10,14	16.3,17.3	23,24	10,12	11,12	15,16
	9,9.3	30.2,31	12,12	X,X	9,12	14,17
			15,17	20,23	8,8	16,17
	10,13					
2K7XA	GlobalFiler™	(HID Format)				
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
PQP99	GlobalFiler™	(PDF Format)				
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
QL8BA	GlobalFiler™	(STRmix)				
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
GB7PA		(PDF Format) (StrMix)				
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
0111267		(DDE E)				
2UUC7	GlobalFiler™	,	10.10	14.55	10.10	
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
_	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17

TABLE 3

WebCode	Amplification I D1S1656	Cits (File Format) (l D2S1338	Probabilistic Genot D2S441	yping) D3S1358	D5S818	D7\$820
	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
tem	D19\$433	D21511	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 2 - STR	R Results		
QJEKB7	GlobalFiler™	(PDF Format)				
_	16.3,17.3	23,24	10,13	14,15	12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
!	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8	16,17
	NM			NM		
N3K37	GlobalFiler™	(PDF Format) (LRm	ix Studio ver. 2.1.5-	Community Edition)		
	16.3,17.3	23,24	10,13	14,15	12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8	16,17
WXPW8	GlobalFiler™					
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
3Y2R6	GlobalFiler™					
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
7XCN4	PowerPlex® F	usion 5C (HID Forn	nat)			
	16.3,17.3	23,24	10,13	14,15	12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	Х	9,12	20,23
	9,12	9,11		9,9.3	8	16,17
/HKKY3	GlobalFiler™					
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
	14,16.2	30.2,31	14,17	X,X	9,12	20,23
	•	,	17,28.2	9,9.3	8,8	16,17

TABLE 3

			IADLL	9			
WebCode	Amplification D1S1656 D8S1179	Kits (File Format) (I D2S1338 D10S1248	Probabilistic Genot D2S441 D12S391	yping) D3S1358 D13S317	D5\$818 D16\$539	D7S820 D18S51	
tem	D195433	D21S11	D125391 D22\$1045	Amelogenin	CSF1PO	FGA	
ieiii	Penta D	Penta E	SE33	TH01	TPOX	vWA	
	DYS391	DYS570	DYS576	Y Indel	II OX	VIIA	
			ltem 2 - STR				
TFDKX	GlobalFiler™	" (HID Format)	nem z - 5m	i icesons			
	16.3,17.3	23,24	10,13	14,15	12	10,12	
	10,14	15,17	19.3,23	11,13	11,12	15,16	
	14,16.2	30.2,31	14,17	X	9,12	20,23	
	,	33.275	17,28.2	9,9.3	8	16,17	
			17,20.2	,,,	Ŭ	10,17	
YBTHJV	GlobalFiler™ (HID Format) (STRmix)						
	16.3,17.3	23,24	10,13	14,15	12,12	10,12	
	10,14	15,17	19.3,23	11,13	11,12	15,16	
	14,16.2	30.2,31	14,17	X,X	9,12	20,23	
			17,28.2	9,9.3	8,8	16,17	
	NR			NR			
DE2PY	GlobalFiler™	(HID Format) (Lab	Retriever)				
	16.3,17.3	23,24	10,13	14,15	12	10,12	
	10,14	15,17	19.3,23	11,13	11,12	15,16	
	14,16.2	30.2,31	14,17	Χ	9,12	20,23	
			17,28.2	9,9.3	8	16,17	
ZDUK9W	GlobalFiler™	(PDF Format)					
	16.3,17.3	23,24	10,13	14,15	12	10,12	
	10,14	15,17	19.3,23	11,13	11,12	15,16	
2	14,16.2	30.2,31	14,17	X,X	9,12	20,23	
			17,28.2	9,9.3	8	16,17	
	NM			NM			

TABLE 3

WebCo			Probabilistic Genoty			
	D1\$1656 D8\$1179	D2\$1338 D10\$1248	D2S441 D12S391	D3S1358 D13S317	D5\$818 D16\$539	D7\$820 D18\$51
Item	D19\$433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	νWA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 3 - STR	Results		
2LMCL	<b>JV</b> GlobalFiler™	(HID Format)				
	10,14,(15),16.3,17.3	(19),(21),23,(24),(25)	(10),11,(13),14	(14),15,17,(18)	11,12,13	(10),11,(12)
	10,11,14,(15)	(13),(14),15,16,(17)	19,19.3,(21),(23),25	(10),(11),12,13,14	9,11,(12),(13)	(14),15,(16),(18)
3	13,14,(15),(15.2),(16.	29,30,30.2,31,32.2	11,14,15,(16),(17)	X,(Y)	(9),(10),(11),12	(19),20,21,23,24,(26)
	2)		17,17.2,18,(26.2),28.	7,(8),9,9.3	8,(11)	(15),16,17,(18)
			2		5,(11)	(13),10,17,(13)
	11			2		
2UCZP	X GlobalFiler™	(PDF Format), (HID	Format) (STRmix)			
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
3QVXI	T PowerPlex®	Fusion 6C (HID Forr	nat) (STRmix)			
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	9,12,13	5,8,9,11,20	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11	17	19			
4NM30	 CV GlobalFiler™	/ /UID Earmout) /CTD	A 4:)			
41NM30	10,14,15,16.3,117.3	, ,	•	14151710	11 10 10	10 11 10
	10,11,14,15	19,21,23,24,25 13,14,15,16,17	10,11,13,14	14,15,17,18	11,12,13	10,11,12
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,11,12,13	19,20,21,23,24,26
3	13,14,13,13.2,10.2	27,30,30.2,31,32.2	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11		17,17.2,10,20.2,20.2	2	0,11	13,10,17,10
				_		
6PQHX		, , ,	·			
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	1.1		17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
6X648	<b>V</b> GlobalFiler™	, Investigator® 24pl	ex, PowerPlex® Fusio	n 5C, PowerPlex® Fu	sion 6C (PDF For	mat), (HID Format)
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	9,12,13	5,8,9,11,20	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11	17	19	2		

			IADLL			
WebCoc			Probabilistic Genoty		DEC010	D76900
	D1S1656 D8S1179	D2S1338 D10S1248	D2S441 D12S391	D3S1358 D13S317	D5S818 D16S539	D7\$820 D18\$51
ltem	D19S433	D21511	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
_	DYS391	DY\$570	DYS576	Y Indel		
			Item 3 - STR	Results		
7463VP	<b>P</b> GlobalFiler <sup>™</sup>	™ (HID Format)				
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
7DECA4	D ClabarEilar	м /UID E				
7DECM		,	10 11 10 14	14151710	11 10 10	10.11.10
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
9RPU8N	<b>V</b> GlobalFiler <sup>™</sup>	√ (PDF Format)				
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
=	10,14,16.3,17.3	23,24	 10,11,14	14,15,17	11,12,13	10,11
	10,11,14	15,16	19,19.3,23,25	11,12,13,14	9,11	15
3major	13,14	29,30,30.2,31,32.2	11,14,15	X	10,12	19,20,21,23,24
	. 3,	2,,60,60.2,61,62.2	17,17.2,18,28.2	7,9,9.3	8	16,17
	11		.,,.,	2		
_						
	15	19,21,25	13	18		12
	15	13,14,17	21	10	12,13	14,16,18
3minor	15,15.2,16.2		16,17	Y	9,11	26
			26.2	8	11	15,18
ABDFQ	<b>Q</b> GlobalFiler <sup>™</sup>	√ (PDF Format)				
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
	· ·			<del>-</del>		

WebCode	Amplification D1S1656	Kits (File Format) ( D2S1338	Probabilistic Genotyp D2S441	oing) D3S1358	D5\$818	D7\$820
	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
tem	D195433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 3 - STR I	Results		
AECRLQ	GlobalFiler™ (LabRetriever		ex, PowerPlex® Fusion	5C, PowerPlex® Fu	usion 6C (PDF For	rmat), (HID Format)
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
<b>3</b> 13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	9,12,13	5,8,9,11,20	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11	17	19	2		
Q9XFN	GlobalFiler™	' (HID Format) (STR	MIX)			
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	-	-	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11	-	-	2		
XRZMQ	GlobalFiler™	' (HID Format)				
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
J79CP	PowerPlex®	Fusion 6C (HID Forr	mat)			
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	9,12,13	5,8,9,11,20	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11	17	19	N/A		
CL64AJ	PowerPlex®	Fusion 6C (HID Forr	mat) (STRmix)			
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	9,12,13	5,8,9,11,20	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11	17	19			
MJBXL	GlobalFiler™	' (HID Format)				
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
<b>3</b> 13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		

			IADLE			
WebCo			Probabilistic Genoty		DECOIO	D75000
	D1S1656 D8S1179	D2S1338 D10S1248	D2S441 D12S391	D3S1358 D13S317	D5\$818 D16\$539	D7S820 D18S51
Item	D195433	D21511	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	ТРОХ	vWA
	DYS391	DY\$570	DYS576	Y Indel		
			Item 3 - STR I	Results		
ETMEX	<b>Q</b> Investigator®	24plex (HID Formo	at) (GeneMarker V.2.9			
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11					
51.10.00		(CTD)				
EUBPBI		,				
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
GNJ2T	<b>H</b> GlobalFiler™	(PDF Format)				
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2		X,Y	9,10,11,12	19,20,21,23,24,26
	N/A	N/A	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11	N/A	N/A	2	-7	/ / /
GYDFT		Fusion 6C (HID For				
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2		X,Y	9,10,11,12	19,20,21,23,24,26
	9,12,13	5,8,9,11,20	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11	17	19			
JP2ZZB	B PowerPlex®	Fusion 6C (HID For	mat) (STRmix v2.5.11)			
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	9,12,13	5,8,9,11,20	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11	17	19	,,0,,,	3,11	10,10,17,10
JTMK6		" (HID Format) (STR	·			
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		

			IABLE			
WebCod			Probabilistic Genoty		DEC010	D70000
	D1S1656 D8S1179	D2S1338 D10S1248	D2S441 D12S391	D3S1358 D13S317	D5S818 D16S539	D7S820 D18S51
Item	D19\$433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
_	DYS391	DYS570	DYS576	Y Indel		
			Item 3 - STR	Results		
K78LZC	Investigator@	24plex				
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	n/a	n/a	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11	n/a	n/a	n/a		
KLXLRC	PowerPlex®	Ei. a. E.C.				
		_	10 11 10 14	14151710	11 10 10	10.11.10
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
2		13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2		11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,25
	9,12,13	5,8,9,11,20		7,8,9,9.3	8,11	15,16,17,18
_	11					
	16.3,17.3	23,24	10,13	14,15	12	10,11
	10,14	15,17	19.3,23	11,13	11,12	15,16
3major	14,16.2	30.2,31	14,17	X	9,12	20,23
	9,12	9,11		9,9.3	8	16,17
	-					
-	15,17.3	19,21	14	17,18	11,13	10,11
	14,15	13,14	19,21	10,12	11	14,15
3minor	15,15.2	29	15,16	X,Y	11,12	19,26
	12,13	8,9		8,9.3	8,11	15,17
	11					
LXR3GD	GlobalFiler™	' (HID Format)				
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	10,14,13,13.2,10.2	27,00,00.2,01,02.2	17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11		17,17.2,10,20.2,20.2	2	0,11	13,10,17,10
				2		
N2K7XA		, , ,	•			
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
NPQP99	<b>9</b> GlobalFiler™	' (PDF Format)				
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		

WebCode	Amplification	Kits (File Format) (	Probabilistic Genoty	ping)		
_	D1S1656	D2\$1338	D2\$441	D3S1358	D5\$818	D7\$820
la	D8S1179	D10\$1248	D125391	D13S317	D16\$539	D18S51
Item	D19S433 Penta D	D21511 Penta E	D22\$1045 SE33	Amelogenin TH01	CSF1PO TPOX	FGA vWA
	DYS391	DYS570	DY\$576	Y Indel	IFOX	VWA
	<i>D</i> 10071	D10070	Item 3 - STR			
NQL8BA	GlobalFiler™	′ (STRmix)	ileili 3 - 31K i	Kesulis		
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
<b>3</b> 13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
PGB7PA	GlobalFiler™	(PDF Format) (STR	:Mix)			
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
<b>3</b> 13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
Q2UUC7	GlobalFiler™	(PDF Format) (LRm	nixStudio-2.1.5 Comm	unityEdition)		
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
<b>3</b> 13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
QJEKB7	GlobalFiler™	(PDF Format)				
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
<b>3</b> 13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
RN3K37	GlobalFiler™	′ (PDF Format) (LRm	nix Studio ver. 2.1.5-Co	ommunity Edition)		
10	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
<b>3</b> 13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2	·	
RWXPW8	GlobalFiler™	1				
	,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
<b>3</b> 13	,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
		, , , , , , -,-		7,8,9,9.3	8,11	15,16,17,18
			17,17.2,18,26.2,28.2	7,0,7,7.3	0,11	13,10,17,10

TABLE 3

w 10 1	A 1161 -1		IADLL			
WebCode	D1S1656	Kits (File Format) ( D2S1338	Probabilistic Genotyp D2S441	D3S1358	D5\$818	D7S820
	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
ltem	D19S433	D21S11	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 3 - STR I	Results		
T3Y2R6	GlobalFiler™	4				
1	0,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3 1	3,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
T7XCN4	PowerPlex®	Fusion 5C (HID Forr	mat)			
1	0,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
<b>3</b> 1	3,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	9,12,13	5,8,9,11,20		7,8,9,9.3	8,11	15,16,17,18
	11				·	
)	CL L IF:L IN	(CTD) (* 0.10)				
WHKKY3		,	10.11.10.14	14151710	11 10 10	10.11.10
	0,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3 1	3,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	1.1		17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
XTFDKX	GlobalFiler™	(HID Format) (STR	mix)			
_1	0,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3 1	3,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		
YBTHJV	GlobalFiler™	' (HID Format) (STR	mix)			
	0,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
<b>3</b> 1	3,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
	, , , , , ,		17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	16,17,18
	11			2	,	, , ,
\/D F0 P\/	OL LIEU D	4 (1110 5 3 /1 1	D			
YDE2PY	GlobalFiler™	, ,	•			
1	0,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3 1	3,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		

WebCo	de Amplification D1S1656	Kits (File Format) ( D2S1338	Probabilistic Genotyr D2S441	oing) D3\$1358	D5S818	D7S820
	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
ltem	D19S433	D21511	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DY\$576	Y Indel		
			Item 3 - STR I	Results		
ZDUK9	<b>W</b> GlobalFiler™	' (PDF Format)				
	10,14,15,16.3,17.3	19,21,23,24,25	10,11,13,14	14,15,17,18	11,12,13	10,11,12
	10,11,14,15	13,14,15,16,17	19,19.3,21,23,25	10,11,12,13,14	9,11,12,13	14,15,16,18
3	13,14,15,15.2,16.2	29,30,30.2,31,32.2	11,14,15,16,17	X,Y	9,10,11,12	19,20,21,23,24,26
			17,17.2,18,26.2,28.2	7,8,9,9.3	8,11	15,16,17,18
	11			2		

			IADLL	J		
WebCode	Amplification D1S1656	Kits (File Format) (I D2S1338	Probabilistic Genoty D2S441	ping) D3S1358	D5S818	D7S820
	D8S1179	D10S1248	D12S391	D135317	D16S539	D18S51
tem	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	∨WA
	DYS391	DYS570	DYS576	Y Indel		
			Item 4 - STR	Results		
2LMCUV	GlobalFiler™	(HID Format)				
1	10,14,16.3,17.3	23,(24),(25)	10,11,13,14	14,15,(17)	11,12,(13)	(10),11,(12)
	10,(11),(14)	15,(16),(17)	19,19.3,23,25	11,12,13,14	9,11,12,13	15,(16),(18)
4	13,14,(16.2)	30,30.2,31,32.2	11,14,15,17	X,X	9,(10),12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,(11)	16,(17),(18)
UCZPX	GlobalFiler"	(PDF Format), (HID	Format) (STRmix)			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
	. 5, , . 5.2	55,55.2,51,62.2	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	-		17,17.2,10,20.2	-	5,11	10,17,10
3QVXHT	PowerPlex®	Fusion 6C (HID Form	nat) (STRmix)			
1	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
	13,14,16.2	30,30.2,31,32.2	11,14,15,17	Χ	9,10,12	20,21,23,24
	9,12,13	5,9,11,20	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	NR	NR	NR			
NM3CV	GlobalFiler"	(HID Format) (STR/	Mix)			
1	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
6PQHXR	GlobalFiler"	" (HID Format) (STRr	mivl			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X	9,11,12,13	20,21,23,24
4	10,14,10.2	30,30.2,31,32.2	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
			17,17.2,10,20.2	7,7,7.3	0,11	10,17,16
X648V	GlobalFiler"	, Investigator® 24ple	ex, PowerPlex® Fusio	n 5C, PowerPlex® F	usion 6C (PDF Form	nat), (HID Format)
1	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	Х	9,10,12	20,21,23,24
					8,11	

			IADLL	0		
WebCode			Probabilistic Genoty		D5\$818	D7S820
	D1S1656 D8S1179	D2S1338 D10S1248	D2S441 D12S391	D3\$1358 D13\$317	D16S539	D78820 D18S51
Item	D19S433	D21511	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 4 - STR	Results		
7463VP	GlobalFiler™	(HID Format)				
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	NM			NM		
7DECMP	GlobalFiler™	(HID Format)				
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X	9,10,12	20,21,23,24
4	13,14,10.2	30,30.2,31,32.2	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
			17,17.2,10,20.2	7,7,7.3	0,11	10,17,10
9RPU8N	GlobalFiler™	(PDF Format)				
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	10,14,16.3,17.3	23	10,11,13,14	 14,15,17	11,12	10,11
	10,11	15	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16
4major	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8	16,17,18
		24.25				12
	14	24,25 16,17			13	18
4minor	14	10,17				10
4mmor					11	
					11	
ABDFQQ	ClabalE:lautM	(DDE E				
	GlobalFiler™ 10,14,16.3,17.3	,	10 11 12 14	141517	11 10 12	10 11 10
		23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
4	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18

			IADLE			
WebCode	Amplification D1S1656	Kits (File Format) (l D2S1338	Probabilistic Genoty D2S441	ping) D3\$1358	D5S818	D7S820
	D151030 D8S1179	D10S1248	D125391	D135317	D16S539	D18S51
tem	D19\$433	D21511	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
			Item 4 - STR	Results		
AECRLQ	GlobalFiler™ (LabRetriever		ex, PowerPlex® Fusion	n 5C, PowerPlex® Fu	usion 6C (PDF Form	nat), (HID Format)
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	Χ	9,10,12	20,21,23,24
	9,12,13	5,9,11,20	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
Q9XFN	GlobalFiler™	(HID Format) (STR)	MIX)			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
	-	-	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	-	-	-	-		
AXRZMQ	GlobalFiler™	(HID Format)				
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	Х	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
3J79CP	PowerPlex®	Fusion 6C (HID Forn	nat)			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	Χ	9,10,12	20,21,23,24
	9,12,13	5,9,11,20	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	N/A	N/A	N/A	N/A		
CL64AJ	PowerPlex®	Fusion 6C (HID Forn	nat) (STRmix)			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	Х	9,10,12	20,21,23,24
	9,12,13	5,9,11,20	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	NR	NR	NR			
CMJBXL	GlobalFiler™	(HID Format)				
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18

TABLE 3

WebCode	Amplification K D1S1656	(its (File Format) (F D2S1338	Probabilistic Genoty D2S441	ping) D3S1358	D5S818	D7\$820
	D8S1179	D1051248	D125391	D13S317	D16S539	D18S51
ltem	D195433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
			Item 4 - STR	Results		
ETMEXQ	Investigator®	24plex (HID Forma	t) (GeneMarker V.2.9			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	Х	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
EUBPBH	GlobalFiler™					
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
GNJ2TH	GlobalFiler™	(PDF Format)				
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	Х	9,10,12	20,21,23,24
	N/A	N/A	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	NSD	N/A	N/A	NSD		
GYDFTE	PowerPlex® F	usion 6C (HID Form	nat) (STRmix)			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X	9,10,12	20,21,23,24
	9,12,13	5,9,11,20	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
_	NR	NR	NR			
JP2ZZB	PowerPlex® F	usion 6C (HID Form	nat) (STRmix v2.5.11)			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X	9,10,12	20,21,23,24
	9,12,13	5,9,11,20	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	NR	NR	NR	, ,	,	, ,
JTMK6F	GlobalFiler™	(HID Format) (STRA	Λix)			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
	-,,		17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
			.7,17.2,10,20.2	7,7,7.0	5,11	10,17,10

TABLE 3

WebCode		Kits (File Format) (I				
_	D1S1656 D8S1179	D2S1338 D10S1248	D2S441 D12S391	D3\$1358 D13\$317	D5S818 D16S539	D7S820 D18S51
ltem	D19S433	D1031248	D123391	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DY\$570	DYS576	Y Indel		
			ltem 4 - STR	Results		
K78LZC	Investigator@	24plex				
1	0,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	Х	9,10,12	20,21,23,24
	n/a	n/a	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	n/a	n/a	n/a	n/a		
CLXLRC	PowerPlex®	Fusion 5C				
	0,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X	9,10,11,12	20,21,23,24
	9,12,13	5,9,11,20		7,9,9.3	8,11	16,17,18
	-					
		23,24	10,13	 14,15	12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
major	14,16.2	30.2,31	14,17	X	9,12	20,23
	9,12	9,11	, , ,	9,9.3	8	16,17
	,,	,,		,,,	· ·	. 37. 7
	10,14	25	11,14	 17	11,13	11
	11	16	19,25	12,14	9,13	18
minor	13	30,32.2	11,15	X	10,11	21,24
	12,13	5,20	,	7	8,11	18
_	,	,			,	
XR3GD	GlobalFilor™	¹ (HID Format)				
	0,14,16.3,17.3	,	10,11,13,14	14,15,17	11,12,13	10,11,12
,	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
	13,14,10.2	30,30.2,31,32.2	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
			17,17.2,10,20.2	7,7,7.0	0,11	10,17,10
101/77/	01 1 151 7	4 (UD 5 ) (CTD	. 0.10.0)			
N2K7XA	GlobalFiler™	, , ,	•	141517	11 10 10	10 11 10
	0,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
NPQP99		(PDF Format)				
1	0,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
		00 00 0 01 00 0		V	0.10.10	20 21 22 24
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X 7,9,9.3	9,10,12 8,11	20,21,23,24

TABLE 3

			TABLE			
VebCode	Amplification K D1S1656	(its (File Format) (I D2S1338	Probabilistic Genoty D2S441	ping) D3S1358	D5S818	D7S820
	D8S1179	D10S1248	D125391	D13S317	D16S539	D18S51
tem	D19\$433	D21511	D22\$1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DYS391	DYS570	DYS576	Y Indel		
			ltem 4 - STR	Results		
VQL8BA	GlobalFiler™	(STRmix)				
_1	0,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
·	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
CD7D4	CL L IF:L TM	(DDC E 1) (CTD)				
GB7PA		(PDF Format) (STR	,	141517	11 10 10	10 11 10
	0,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
1	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
Q2UUC7	GlobalFiler™	(LRmixStudio-2.1.	5 CommunityEdition)			
1	0,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
	16.3,17.3	23,24	10,13	14,15	12,12	10,12
	10,14	15,17	19.3,23	11,13	11,12	15,16
major	14,16.2	30.2,31	14,17	X,X	9,12	20,23
			17,28.2	9,9.3	8,8	16,17
	10,14	23,25	11,14	15,17	11,13	11,11
	10,11	15,16	19,25	12,14	9,13	15,18
minor	13,14	30,32.2	11,15	X,X	10,12	21,24
			17.2,18	7,9	8,11	16,18
) IEVD 7	CI I IT-I TM	(DDE E				
QJEKB7	GlobalFiler™	(PDF Format)	10 11 10 14	141517	11.10.10	10 11 10
1	0,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
	NM		17,17.2,18,28.2	7,9,9.3 NM	8,11	16,17,18
	1 4/41					<del></del>
N3K37	GlobalFilar™	(PDF Format) (IPm	IN JUINIO VER VI TI			
		(PDF Format) (LRm			11 10 12	10 11 12
RN3K37	0,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
		, , ,			11,12,13 9,11,12,13 9,10,12	10,11,12 15,16,18 20,21,23,24

			IADLE			
WebCode	Amplification K D1S1656	(its (File Format) (l D2S1338	Probabilistic Genoty D2S441	ping) D3\$1358	D5S818	D7\$820
	D151030	D1051248	D125391	D135317	D16S539	D18S51
Item	D19\$433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
	Penta D	Penta E	SE33	TH01	TPOX	vWA
	DY\$391	DYS570	DYS576	Y Indel		
			ltem 4 - STR	Results		
RWXPW8	GlobalFiler™					
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
T3Y2R6	GlobalFiler™					
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
7	13,14,10.2	30,30.2,31,32.2	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
			17,17.2,10,20.2	7,7,7.5	0,11	10,17,10
T7XCN4	PowerPlex® F	usion 5C (HID Form	nat)			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	Χ	9,10,12	20,21,23,24
	9,12,13	5,9,11,20		7,9,9.3	8,11	16,17,18
WHKKY3	GlobalFiler™	(STRMix v 2.10)				
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
	, ,	,,-,-,-	17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
			,	. ,, ,, , -	-,	/ /
XTFDKX	GlobalFiler™	(HID Format) (STRr	,			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
YBTHJV	GlobalFiler™	(HID Format) (STRr	mix)			
	10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
	10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
4	13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
			17,17.2,18,28.2	7,9,9.3	8,11	16,17,18

		IADLL			
e Amplification K D1S1656	(its (File Format) (I D2S1338	Probabilistic Genoty D2S441	ping) D3S1358	D5S818	D7S820
D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
D19\$433	D21S11	D22\$1045	Amelogenin	CSF1PO	FGA
Penta D	Penta E	SE33	TH01	TPOX	∨WA
DYS391	DYS570	DYS576	Y Indel		
		ltem 4 - STR	Results		
GlobalFiler™	(HID Format) (Lab	Retriever)			
10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
13,14,16.2	30,30.2,31,32.2	11,14,15,17	Χ	9,10,12	20,21,23,24
		17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
/ GlobalFiler™	(PDF Format)				
10,14,16.3,17.3	23,24,25	10,11,13,14	14,15,17	11,12,13	10,11,12
10,11,14	15,16,17	19,19.3,23,25	11,12,13,14	9,11,12,13	15,16,18
13,14,16.2	30,30.2,31,32.2	11,14,15,17	X,X	9,10,12	20,21,23,24
		17,17.2,18,28.2	7,9,9.3	8,11	16,17,18
NM			NM		
	D151656 D8S1179 D19S433 Penta D DYS391  GlobalFiler™ 10,14,16.3,17.3 10,11,14 13,14,16.2  / GlobalFiler™ 10,14,16.3,17.3 10,11,14 13,14,16.2	D151656         D251338           D851179         D1051248           D19S433         D21S11           Penta D         Penta E           DYS391         DYS570           GlobalFiler™         (HID Format) (Lab           10,14,16.3,17.3         23,24,25           10,11,14         15,16,17           13,14,16.2         30,30.2,31,32.2           7         GlobalFiler™         (PDF Format)           10,14,16.3,17.3         23,24,25           10,11,14         15,16,17           13,14,16.2         30,30.2,31,32.2	Amplification Kits (File Format) (Probabilistic Genoty D1\$1656 D2\$1338 D2\$441  D8\$1179 D10\$1248 D12\$391  D19\$433 D2\$1\$11 D22\$1045  Penta D Penta E \$E33  DY\$391 DY\$570 DY\$576  Item 4 - STR  GlobalFiler™ (HID Format) (Lab Retriever)  10,14,16.3,17.3 23,24,25 10,11,13,14  10,11,14 15,16,17 19,19.3,23,25  13,14,16.2 30,30.2,31,32.2 11,14,15,17  (PDF Format)  10,14,16.3,17.3 23,24,25 10,11,13,14  10,11,14 15,16,17 19,19.3,23,25  13,14,16.2 30,30.2,31,32.2 11,14,15,17  11,14,15,17 19,19.3,23,25  13,14,16.2 30,30.2,31,32.2 11,14,15,17  17,17.2,18,28.2	Amplification Kits (File Format) (Probabilistic Genotyping) D1S1656 D2S1338 D2S441 D3S1358 D8S1179 D10S1248 D12S391 D13S317 D19S433 D21S11 D22S1045 Amelogenin Penta D Penta E SE33 TH01 DYS391 DYS570 DYS576 Y Indel  Item 4 - STR Results GlobalFiler™ (HID Format) (Lab Retriever)  10,14,16.3,17.3 23,24,25 10,11,13,14 13,14,16.2 30,30.2,31,32.2 11,14,15,17 X  GlobalFiler™ (PDF Format) 10,14,16.3,17.3 23,24,25 10,11,13,14 13,14,16.2 30,30.2,31,32.2 11,14,15,17 10,11,14 15,16,17 19,19.3,23,25 11,12,13,14 13,14,16.2 30,30.2,31,32.2 11,14,15,17 X,X 17,17.2,18,28.2 7,9,9.3	Amplification Kits (File Format) (Probabilistic Genotyping) D151656 D251338 D25441 D351358 D55818  D851179 D1051248 D125391 D135317 D165539  D195433 D21511 D2251045 Amelogenin CSF1PO  Penta D Penta E SE33 TH01 TPOX  DYS391 DYS570 DY5576 Y Indel    Item 4 - STR Results

# YSTR Results

	Amplification Kits (File Format)										
WebCode	Amplifica	tion Kits(	File Formo	it)							
	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DY\$390	DY\$391	DYS392	DYS393		
Item	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481		
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4		
				Item 1 - Y	STR Results						
2UCZPX	PowerPlex®	Y23 (PDF F	ormat), (HID								
		13	15,16	13	30	23	11	14	14		
1	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
3QVXHT	PowerPlex®	Y23 (HID F	ormat)								
		13	15,16	13	30	23	11	14	14		
1	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
4NM3CV	(HID Formo	at)									
		13	15,16	13	30	23	11	14	14		
1	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
6PQHXR	Yfiler™ Plus	(HID Forma	t)								
	36,37	13	15,16	13	30	23	11	14	14		
1	14	11	12	21	27	15	16	10	24		
	38	11		17	19	19	22		11		
6X648V											
	36,37	13	15,16	13	30	23	11	14	14		
1	14	11	12	21	27	15	16	10	24		
	38	11	12	17	19	19	22	10	11		
7463VP	Yfiler™ Plus	(PDF Forma	ıt)								
	36,37	13	15,16	13	30	23	11	14	14		
1	14	11	12	21	27	15	16	10	24		
	38	11		17	19	19	22		11		
7DECMP	PowerPlex®	Y23 (HID F	ormat)								
		13	15,16	13	30	23	11	14	14		
1	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
9RPU8N	Yfiler™ Plus	•	•								
	36,37	13	15,16	13	30	23	11	14	14		
1	14	11	12	21	27	15	16	10	24		
	38	11		17	19	19	22		11		
AECRLQ			•	ormat), (HID	Format)						
	36,37	13	15,16	13	30	23	11	14	14		
1	14	11	12	21	27	15	16	10	24		
	38	11	12	17	19	19	22	10	11		
AQ9XFN	PowerPlex®	Y23 (PDF F	•								
	-	13	15,16	13	30	23	11	14	14		
1	14	11	12	21	-	15	16	-	24		
	-	11	12	17	19	-	22	10	11		

TABLE 4

WebCode	Amplification Kits (File Format)										
	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393		
Item	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	<b>DYS481</b>		
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4		
				ltem 1 - Y	STR Results						
AXRZMQ	Yfiler™ Plus	(PDF Forma	ıt)								
	36,37	13	15,16	13	30	23	11	14	14		
1	14	11	12	21	27	15	16	10	24		
	38	11		17	19	19	22		11		
BJ79CP	Yfiler™ Plus	(HID Forma	†)								
	36,37	13	, 15,16	13	30	23	11	14	14		
1	14	11	12	21	27	15	16	10	24		
	38	11	N/A	17	19	19	22	N/A	11		
CL64AJ	PowerPlex®	Y23 (HID F	ormat)								
		13	15,16	13	30	23	11	14	14		
1	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
CMJBXL	Yfiler™ Plus	(HID Forma	+)								
G, 110 D, 12	36,37	13	15,16	13	30	23	11	14	14		
1	14	11	12	21	27	15	16	10	24		
	38	11	12	17	19	19	22	10	11		
ETMEXQ	PowerPlex®	Y23 (HID F	ormat)								
LIMENQ	TOWCITICA	13	15,16	13	30	23	11	14	14		
1	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
GNJ2TH	Yfiler™ Plus	(PDF Formo	1†)								
	36,37	13	15,16	13	30	23	11	14	14		
1	14	11	12	21	27	15	16	10	24		
	38	11	N/A	17	19	19	22	N/A	11		
GYDFTE	PowerPlex®	Y23 (HID F									
CIBILE	TOWCITICA	13	15,16	13	30	23	11	14	14		
1	14	11	12	21		15	16		24		
		11	12	17	19	10	22	10	11		
JP2ZZB	PowerPlex®				· · · · · · · · · · · · · · · · · · ·						
JI ZZZD	1 Owell lex	13	15,16	13	30	23	11	14	14		
1	14	11	12	21	30	15	16	17	24		
'	14	11	12	17	19	13	22	10	11		
ITANZE		• • • • • • • • • • • • • • • • • • • •	12	17	17			10			
JTMK6F		13	15,16	13	30	23	11	14	14		
1	14	11	12	21			16	14	24		
1	14	11	12	17	19	15	22	10	11		
VI VI DC	D DI 👄				17			10	- 11		
KLXLRC	PowerPlex®			•	20	00	11	1 /	1.4		
1	1.4	13	15,16 12	13	30	23	11	14	14 24		
1	14				10	15	16	10			
		11	12	17	19		22	10	11		

TABLE 4

WebCode Amplification Kits (File Format)									
	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
				Item 1 - V	STR Results				
N2K7XA	PowerPlex®	Y23 (PDF F	ormat)	iiciii i - i	OTIV IVESUIIS				
		13	15,16	13	30	23	11	14	14
1	14	11	12	21		15	16		24
		11	12	17	19		22	10	11
NPQP99	PowerPlex®	Y23 (PDF F	ormat)						
		13	15,16	13	30	23	11	14	14
1	14	11	12	21		15	16		24
		11	12	17	19		22	10	11
NQL8BA	PowerPlex®	Y23							
		13	15,16	13	30	23	11	14	14
1	14	11	12	21		15	16		24
		11	12	17	19		22	10	11
PGB7PA	(PDF Formo	1†)							
	·	13	15,16	13	30	23	11	14	14
1	14	11	12	21		15	16		24
		11	12	17	19		22	10	11
Q2UUC7	Yfiler™ Plus	(PDF Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
1	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
QJEKB7	Yfiler™ Plus	(PDF Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
1	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
RN3K37	Yfiler™ Plus	(PDF Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
1	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
RWXPW8	Yfiler™ Plus								
	36,37	13	15,16	13	30	23	11	14	14
1	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
T3Y2R6	PowerPlex®	Y23							
		13	15,16	13	30	23	11	14	14
1	14	11	12	21		15	16		24
		11	12	17	19		22	10	11
WHKKY3	PowerPlex®	Y23							
		13	15,16	13	30	23	11	14	14
1	14	11	12	21		15	16		24
		11	12	17	19		22	10	11

WebCode	Amplifica	tion Kits(	(File Formo	it)					
	DYF387S	DYS19	<b>DYS385</b>	DYS389-I	DYS389-II	DYS390	DYS391	DY\$392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
				ltem 1 - Y	STR Results				
XTFDKX	Yfiler™ Plus	(HID Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
1	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
YDE2PY	Yfiler™ Plus	(HID Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
1	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
ZDUK9W	Yfiler™ Plus	(PDF Formo	1†)						
	36,37	13	15,16	13	30	23	11	14	14
1	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11

TABLE 4

	WebCode	Amplification Kits (File Format)										
DYSS18 DYSS38 DYSS49 DYSS70 DYSS27 DYSS27 DYSS28 DYSS43 YGATA14   Them 3 - YSTR Results   Them 3 - YSTR Them 3 - YST		DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393		
	Item											
		DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4		
					ltem 3 - Y	STR Results						
3	2UCZPX	PowerPlex®	Y23 (PDF F	ormat), (HID								
11			13	15,16	13	30	23	11	14	14		
30   30   30   30   30   30   30   30	3	14	11	12	21		15	16		24		
13			11	12	17	19		22	10	11		
14	3QVXHT	PowerPlex®	Y23 (HID F	ormat)								
### ANM3CV   PowerPlex® Y23 (HID Formar)   13   15,16   13   30   23   11   14   14   14   14   15   17   19   19   19   19   10   11   14   14   14   14   14   14			13	15,16	13	30	23	11	14	14		
### AMM3CV PowerPlex® Y23 (HID Format)    13	3	14	11	12	21		15	16		24		
13			11	12	17	19		22	10	11		
3     14     11     12     21     15     16     24       6PQHXR     Yfiler™ Plus (HID Format)     36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       6X648V     Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)     36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       7463VP     Yfiler™ Plus (PDF Format)     36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       3     13     15,16     13     30     23     11     14     14       4	4NM3CV	PowerPlex®	Y23 (HID F	ormat)								
File   12         17         19         22         10         11           6PQHXR         Yfiler™ Plus (HID Format)         36,37         13         15,16         13         30         23         11         14         14           3         14         11         12         21         27         15         16         10         24           4         38         11         15,16         13         30         23         11         14         14           3         14         11         12         21         27         15         16         10         24           3         14         11         12         21         27         15         16         10         24           3         11         12         17         19         19         22         10         11           7463VP         Yfiler™ Plus (PDF Format)         36,37         13         15,16         13         30         23         11         14         14           36,37         13         15,16         13         30         23         1			13	15,16	13	30	23	11	14	14		
6PQHXR       Yfiler™ Plus (HID Format)       36,37       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24         38       11       17       19       19       22       11         6X648V       Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)       36,37       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24         38       11       12       21       27       15       16       10       24         38       11       12       17       19       19       22       10       11         7463VP       Yfiler™ Plus (PDF Format)       36,37       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24         7DECMP       PowerPlex® Y23 (HID Format)       13       30       23       11	3	14	11	12	21		15	16		24		
36,37 13 15,16 13 30 23 11 14 14  3			11	12	17	19		22	10	11		
3     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       6X648V     Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       38     11     12     17     19     19     22     10     11       7463VP     Yfiler™ Plus (PDF Format)     36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11     14       7DECMP     PowerPlex® Y23 (HID Format)     13     30     23     11     14     14       3     14     11     12     21     17     19     22     10     11       9RPUSN     Yfiler™ Plus (PDF Format)     13     30     23     11     14     14       3     14     1	6PQHXR	Yfiler™ Plus	(HID Forma	t)								
6X648V     Yfiler™ Plus, PowerPlex® Y23 (PDF Formal), (HID Formal)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       38     11     12     17     19     19     22     10     11       7463VP     Yfiler™ Plus (PDF Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     10     11       7DECMP     PowerPlex® Y23 (HID Format)       13     15,16     13     30     23     11     14     14       3     14     11     12     21     15     16     24       4     11     12     17     19     22     10     11       9RPU8N       Yfiler™ Plus (PDF Format)       36,37     13     15,16     13     30     23     11     14     14       36,37     13     15,16		36,37	13	15,16	13	30	23	11	14	14		
6X648V       Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)         36,37       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24         38       11       12       17       19       19       22       10       11         7463VP       Yfiler™ Plus (PDF Format)         36,37       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24         38       11       17       19       19       22       11         7DECMP       PowerPlex® Y23 (HID Format)       13       30       23       11       14       14         3       14       11       12       21       15       16       24         4       11       12       17       19       22       10       11         9RPU8N       Yfiler™ Plus (PDF Format)       36,37       13       15,16       13       30       23	3	14	11	12	21	27	15	16	10	24		
36,37 13 15,16 13 30 23 11 14 14  3 14 11 12 21 27 15 16 10 24 38 11 12 17 19 19 22 10 11  7463VP		38	11		17	19	19	22		11		
3       14       11       12       21       27       15       16       10       24         38       11       12       17       19       19       22       10       11         7463VP       Yfiler™ Plus (PDF Format)         36,37       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24         38       11       17       19       19       22       11         7DECMP       PowerPlex® Y23 (HID Format)         13       15,16       13       30       23       11       14       14         3       14       11       12       21       15       16       24       24         9RPU8N       Yfiler™ Plus (PDF Format)       36,37       13       15,16       13       30       23       11       14       14         36,37       13       15,16       13       30       23       11       14       14         36,37       13       15,16       13	6X648V	Yfiler™ Plus,	. PowerPlex®	9 Y23 (PDF I	ormat), (HID	Format)						
38     11     12     17     19     19     22     10     11       7463VP     Yfiler™ Plus (PDF Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     15     16     10     24       3     14     11     12     21     15     16     24       3     14     11     12     21     15     16     24       2     11     12     17     19     22     10     11       9RPUBN     Yfiler™ Plus (PDF Format)     36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       3     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       3     13     15,16     13     30     23     11     14     14       3     14 <td></td> <td>36,37</td> <td>13</td> <td>15,16</td> <td>13</td> <td>30</td> <td>23</td> <td>11</td> <td>14</td> <td>14</td>		36,37	13	15,16	13	30	23	11	14	14		
7463VP       Yfiler™ Plus (PDF Format)         36,37       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24         38       11       17       19       19       22       11         7DECMP       PowerPlex® Y23 (HID Format)         13       15,16       13       30       23       11       14       14         3       14       11       12       21       15       16       24         2       11       12       17       19       22       10       11         9RPU8N       Yfiler™ Plus (PDF Format)         36,37       13       15,16       13       30       23       11       14       14         36,37       13       15,16       13       30       23       11       14       14         36,37       13       15,16       13       30       23       11       14       14         36,37       13       15,16       13 <td< td=""><td>3</td><td>14</td><td>11</td><td>12</td><td>21</td><td>27</td><td>15</td><td>16</td><td>10</td><td>24</td></td<>	3	14	11	12	21	27	15	16	10	24		
36,37   13   15,16   13   30   23   11   14   14		38	11	12	17	19	19	22	10	11		
34     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       7DECMP     PowerPlex® Y23 (HID Format)       13     15,16     13     30     23     11     14     14       3     14     11     12     21     15     16     24       24     11     12     17     19     22     10     11       9RPU8N     Yfiler™ Plus (PDF Format)     36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       3     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       3     11     17     19     19     22     11       AECRLQ       Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     <	7463VP	Yfiler™ Plus	(PDF Formo	ıt)								
TOECMP   PowerPlex® Y23 (HID Format)   13   15,16   13   30   23   11   14   14   14   14   14   14   1		36,37	13	15,16	13	30	23	11	14	14		
7DECMP       PowerPlex® Y23 (HID Format)         13       15,16       13       30       23       11       14       14         3       14       11       12       21       15       16       24         11       12       17       19       22       10       11         9RPU8N         Yfiler™ Plus (PDF Format)         36,37       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24         3       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24         3       11       17       19       19       22       11         AECRLQ       Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)         36,37       13       15,16       13       30       23       11       14       14         36,37       13       15,16       13       <	3	14	11	12	21	27	15	16	10	24		
13   15,16   13   30   23   11   14   14		38	11		17	19	19	22		11		
3     14     11     12     21     15     16     24       9RPU8N       Yfiler™ Plus (PDF Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       36,37     13     15,16     13     30     23     11     14     14       3major       14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       AECRLQ       Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)       36,37     13     15,16     13     30     23     11     14     14       36,37     13     15,16     13     30     23     11     14     14       36,37     13     15,16     13     30     23     11     14     14       36,37     13     15,16     13     30     23     11	7DECMP	PowerPlex®	Y23 (HID F	ormat)								
9RPU8N     Yfiler™ Plus (PDF Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       36,37     13     15,16     13     30     23     11     14     14       3major     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       AECRLQ       Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24			13	15,16	13	30	23	11	14	14		
9RPU8N       Yfiler™ Plus (PDF Format)         36,37       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24         38       11       17       19       19       22       11         3major       14       11       12       21       27       15       16       10       24         38       11       17       19       19       22       11         AECRLQ         Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)         36,37       13       15,16       13       30       23       11       14       14         3       14       11       12       21       27       15       16       10       24	3	14	11	12	21		15	16		24		
36,37 13 15,16 13 30 23 11 14 14 14 14 15			11	12	17	19		22	10	11		
3     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       36,37     13     15,16     13     30     23     11     14     14       3major     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       AECRLQ     Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24	9RPU8N	Yfiler™ Plus	(PDF Formo	it)								
38     11     17     19     19     22     11       36,37     13     15,16     13     30     23     11     14     14       3major     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       AECRLQ       Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24		36,37	13	15,16	13	30	23	11	14	14		
36,37 13 15,16 13 30 23 11 14 14  3major	3	14	11	12	21	27	15	16	10	24		
3major     14     11     12     21     27     15     16     10     24       38     11     17     19     19     22     11       AECRLQ       Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24		38	11		17	19	19	22		11		
AECRLQ     Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)       36,37     13     15,16     13     30     23     11     14     14       3     14     11     12     21     27     15     16     10     24		36,37	13	15,16	13	30	23	11	14	14		
AECRLQ Yfiler™ Plus, PowerPlex® Y23 (PDF Format), (HID Format)  36,37 13 15,16 13 30 23 11 14 14  3 14 11 12 21 27 15 16 10 24	3major	14	11	12	21	27	15	16	10	24		
36,37 13 15,16 13 30 23 11 14 14 3 14 11 12 21 27 15 16 10 24		38	11		17	19	19	22		11		
<b>3</b> 14 11 12 21 27 15 16 10 24	AECRLQ	Yfiler™ Plus,	PowerPlex®	9 Y23 (PDF I	ormat), (HID	Format)						
		36,37	13	15,16	13	30	23	11	14	14		
38 11 12 17 19 19 22 10 11	3	14	11	12	21	27	15	16	10	24		
		38	11	12	17	19	19	22	10	11		

TABLE 4

WebCode	ebCode Amplification Kits (File Format)								
	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
Item	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
				ltem 3 - Y	STR Results				
AQ9XFN	PowerPlex®	Y23 (PDF F	ormat)						
	-	13	15,16	13	30	23	11	14	14
3	14	11	12	21	-	15	16	-	24
	-	11	12	17	19	-	22	10	11
AXRZMQ	Yfiler™ Plus	(PDF Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
3	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
BJ79CP	Yfiler™ Plus	(HID Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
3	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
CL64AJ	PowerPlex®	Y23 (HID F	ormat)						
		13	15,16	13	30	23	11	14	14
3	14	11	12	21		15	16		24
		11	12	17	19		22	10	11
CMJBXL	Yfiler™ Plus	(HID Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
3	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
ETMEXQ	PowerPlex®	Y23 (HID F	ormat)						
		13	15,16	13	30	23	11	14	14
3	14	11	12	21		15	16		24
		11	12	17	19		22	10	11
GNJ2TH	Yfiler™ Plus	(PDF Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
3	14	11	12	21	27	15	16	10	24
	38	11	N/A	17	19	19	22	N/A	11
GYDFTE	PowerPlex®	,	•						
		13	15,16	13	30	23	11	14	14
3	14	11	12	21		15	16		24
		11	12	17	19		22	10	11
JP2ZZB	PowerPlex®	Y23 (HID F	•						
		13	15,16	13	30	23	11	14	14
3	14	11	12	21		15	16		24
		11	12	17	19		22	10	11
JTMK6F	PowerPlex®	,	•						
		13	15,16	13	30	23	11	14	14
3	14	11	12 12	21 17	19	15	16 22	10	24 11

TABLE 4

	IADLL 4										
WebCode	Amplifica	tion Kits(	File Form	at)							
	DYF387S	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393		
Item	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481		
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4		
	51.001.0	<b>D.0000</b>	J.05.7	<i>D</i> .00//0	D10570	D.1002.	<i></i>	<b>D.100.10</b>			
				Item 3 - Y	STR Results						
KLXLRC	PowerPlex®	Y23 (PDF F	ormat), (HID	Format)							
		13	15,16	13	30	23	11	14	14		
3	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
NOVZVA	D D 🙃				-						
N2K7XA	PowerPlex®	•	•	10	20	00		3.4	3.4		
		13	15,16	13	30	23	11	14	14		
3	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
NPQP99	PowerPlex®	Y23 (PDF F	ormat)								
		13	15,16	13	30	23	11	14	14		
3	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
NQL8BA	PowerPlex®	Y23									
NGLODA	1 Owell lex	13	15,16	13	30	23	11	14	14		
2	14	11			30			14	24		
3	14		12	21	10	15	16	10			
		11	12	17	19		22	10	11		
PGB7PA	(HID Formo	1†)									
		13	15,16	13	30	23	11	14	14		
3	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
Q2UUC7	Yfiler™ Plus	(PDF Forma	†)								
	36,37	13	15,16	13	30	23	11	14	14		
3	14	11	12	21	27	15	16	10	24		
3	38	11	12	17	19	19	22	10	11		
				17	17	17	22				
QJEKB7	Yfiler™ Plus	•	,								
	36,37	13	15,16	13	30	23	11	14	14		
3	14	11	12	21	27	15	16	10	24		
	38	11		17	19	19	22		11		
RN3K37	Yfiler™ Plus	(PDF Forma	it)								
	36,37	13	15,16	13	30	23	11	14	14		
3	14	11	12	21	27	15	16	10	24		
	38	11		17	19	19	22		11		
RWXPW8	Yfiler™ Plus			•	•	•					
VAAVLAAQ		10	15 17	10	20	0.2	11	1 4	1 4		
	36,37	13	15,16	13	30	23	11	14	14		
3	14	11	12	21	27	15	16	10	24		
	38	11		17	19	19	22		11		
T3Y2R6											
		13	15,16	13	30	23	11	14	14		
3	14	11	12	21		15	16		24		
		11	12	17	19		22	10	11		
-											

WebCode	Amplifica	tion Kits(	File Form	at)					
Item	DYF387S DYS437 DYS518	DYS19 DYS438 DYS533	DYS385 DYS439 DYS549	DYS389-I DYS448 DYS570	DYS389-II DYS449 DYS576	DYS390 DYS456 DYS627	DYS391 DYS458 DYS635	DYS392 DYS460 DYS643	DYS393 DYS481 YGATAH4
				ltem 3 - Y	STR Results				
WHKKY3	PowerPlex®	Y23							
		13	15,16	13	30	23	11	14	14
3	14	11	12	21		15	16		24
		11	12	17	19		22	10	11
XTFDKX	Yfiler™ Plus	(HID Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
3	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
YDE2PY	Yfiler™ Plus	(HID Forma	t)						
	36,37	13	15,16	13	30	23	11	14	14
3	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11
ZDUK9W	Yfiler™ Plus	(PDF Forma	ıt)						
	36,37	13	15,16	13	30	23	11	14	14
3	14	11	12	21	27	15	16	10	24
	38	11		17	19	19	22		11

# **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 5

	<u>Item :</u>	3 Conclusion		<u>Iten</u>	n 4 Conclusion	
WebCode	# of Contributors	<u>ltem 1</u>	<u>ltem 2</u>	# of Contributors	<u>ltem 1</u>	<u>Item 2</u>
2LMCUV	at least 3, one male	Included	Included	2	Excluded	Included
2UCZPX	4	Included	Included	2	Excluded	Included
3QVXHT	3	Included	Included	2	Excluded	Included
4NM3CV	3 person mixture	Included	Included	2	Excluded	Included
6PQHXR	3	Included	Included	2	Excluded	Included
6X648V	3	Included	Included	2	Excluded	Included
7463VP	3	Included	Included	2	Excluded	Included
7DECMP	at least 3, one male	Included	Inconclusive / Uninterpretable	two females	Excluded	Included
9RPU8N	3	Included	Included	2	Excluded	Included
ABDFQQ	3	Included	Included	2	Excluded	Included
AECRLQ	≥3 contributors (including ≥1 male)	Included	Included	≥2 contributors (male DNA not detected)	Excluded	Included
AQ9XFN	3	Included	Included	2	Excluded	Included
AXRZMQ	3	Included	Included	2	Excluded	Included
ВЈ79СР	3	Included	Included	2	Excluded	Included
CL64AJ	STR 3, YSTR 1	Included	Included	2	Excluded	Included
CMJBXL	3	Included	Included	2	Excluded	Included
ETMEXQ	3	Included	Included	2	Excluded	Included
EUBPBH	3	Included	Included	2	Excluded	Included
GNJ2TH	3 or more	Included	Included	2	Excluded	Included
GYDFTE	3	Included	Included	2	Excluded	Included

			IADLL	,		
	Item	3 Conclusion		on_		
WebCode	# of Contributors	ltem 1	<u>Item 2</u>	# of Contributors	ltem 1	Item 2
JP2ZZB	STR-3; YSTR-1	Included	Included	STR-2	Excluded	Included
JTMK6F	3	Included	Included	2	Excluded	Included
K78LZC	3	Included	Included	2	Excluded	Included
KLXLRC	3	Included	Included	2	Excluded	Included
LXR3GD	3	Included	Included	2	Excluded	Included
N2K7XA	3	Included	Included	2	Excluded	Included
NPQP99	at least 3	Included	Included	at least 2	Excluded	Included
NQL8BA	3 contributors	Included	Included	2 contributors	Excluded	Included
PGB7PA	Three	Included	Included	Two	Excluded	Included
Q2UUC7	3	Included	Included	2	Excluded	Included
QJEKB7	3	Included	Included	2	Excluded	Included
RN3K37	3	Included	Included	2	Excluded	Included
RWXPW8	More than 2 (probably 3)	Included	Included	Most probably two	Excluded	Included
T3Y2R6	Three	Included	Included	Two	Excluded	Included
T7XCN4	AT LEAST 3			2	Excluded	Included
WHKKY3	3	Included	Included	2	Excluded	Included
XTFDKX	3	Included	Included	2	Excluded	Included
YBTHJV	3	Included	Included	2	Excluded	Included
YDE2PY	3	Included	Included	2	Excluded	Included
ZDUK9W	3	Included	Included	2	Excluded	Included

## **Conclusions Response Summary**

## Participants reporting conclusions: 40

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?

		<u>lte</u>	<u>em 3</u>	<u>ltem</u>	<u>. 4</u>
		Item 1	<u>Item 2</u>	Item 1	Item 2
S	Included	39	38	0	40
ons	Excluded	0	0	40	0
Responses	Inconclusive/ Uninterpretable	0	1	0	0
	No Response	1	1	0	0
	Total	40	40	40	40

# **Statistical Analysis for Item 3**

	IABLE 6
WebCode	Item 3 Methods & Results
2LMCUV	Method(s): Combined Probability of Exclusion/Inclusion
	Stats Analysis: The probability of selecting an unrelated individual at random who could be included as a possible contributor to the mixture DNA profile is approximately 1 in 13 million (10 ^ 6)  Database(s): NIST 1036 (Revision 2017)
2UCZPX	Method(s): Likelihood Ratio
	Stats Analysis: The DNA result obtained from the swab (Item 3) allegedly taken from sidewalk outside victim's home is consistent with a mixture from at least four (4) contributors, including at least one (1) male:- a) This mixture is approximately 1.08 x 10 ^ 16 times more likely to occur (strong support for inclusion) if the deceased male and three (3) unknown, unrelated individuals are contributors, rather than if four (4) unknown, unrelated individuals are contributors. b) This mixture is approximately 8.92 x 10 ^ 14 times more likely to occur (strong support for inclusion) if the suspected female and three (3) unknown, unrelated individuals are contributors, rather than if four (4) unknown, unrelated individuals are contributors.
	Database(s): FBI_EXTENDED_SE_HISP; FBI_EXTENDED_SE_HISP_0820_21; FBI_EXTENDED_SW_HISP
3QVXHT	Method(s): Likelihood Ratio  Stats Analysis: (STR): The DNA profile from this item is at least 310 sextillion times more likely if it originated from Victim and two unknown individuals than if it originated from three unknown, unrelated individuals. The DNA profile from this item is at least 19 sextillion times more likely if it originated from
	Suspect and two unknown individuals than if it originated from three unknown, unrelated individuals. (YSTR): The DNA profile is at least 1,030 times more likely if the profile originated from Victim (or a patrilineal relative) than if it originated from a randomly selected individual.
	Database(s): Most conservative population group is reported. (STR): The National Institute of Standards and Technology's published database is utilized in the statistical calculations. 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. Revised data received on August 10, 2017. (YSTR): Y-Chromosome Haplotype Reference Database: https://yhrd.org
4NM3CV	Method(s): Likelihood Ratio
	<b>Stats Analysis:</b> The DNA result obtained from Item 3 is consistent with a mixture of three (3) contributors including at least one (1) male individual. The mixture is approximately 4.38 x10 ^ 20 more likely to occur if the male complainant (Item 1) and two (2) unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors. The mixture is approximately 1.73 x10 ^ 18 more likely to occur if the female suspect (Item 2) and two (2) unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors. <b>Database(s):</b> FBI extended_SE_Hisp_082021
6PQHXR	Method(s): Likelihood Ratio
	Stats Analysis: This DNA result is approximately 4.87 quadrillion times more likely if Item 1 and 2 unknown individuals were the sources of the mixture DNA profile than if 3 unknown individuals were the sources. This favors support that Item 1 is included as a contributor to the DNA profile from Item 3. This DNA result is approximately 1.09 quadrillion times more likely if Item 2 and 2 unknown individuals were the sources of the mixture DNA profile than if 3 unknown individuals were the sources. This favors support that Item 2 is included as a contributor to the DNA profile from Item 3. Database(s): National Institute of Standards and Technology (NIST 2017 Revision)
6X648V	Method(s): Likelihood Ratio
	Stats Analysis: The DNA profile from item 3 is 1 billion times more likely if it is a result of contribution from victim and two unknown persons than if it is a result of contribution from 3 unknown persons. The DNA profile from item 3 is 1 billion times more likely if it is a result of contribution from suspect and two unknown persons than if it is a result of contribution from 3 unknown persons.  Database(s): 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.

	IABLE 6
WebCode	Item 3 Methods & Results
7463VP	Method(s): Likelihood Ratio
	Stats Analysis: A mixed DNA profile of three individuals was developed from "Item 3". The DNA profile obtained from "Item 1" and "Item 2" are being the contributors to the mixed DNA profile. The mixed DNA profile is 1.3 septillion, 560 septillion and 53 septillion TIMES more likely if it originated from "Item 1", "Item 2" and one unknown RATHER THAN; IF it originated from three unknown, unrelated individuals as calculated based on the [Location Identifying Population].  Database(s): [Location Identifying Database]
7DECMP	Method(s): YSTR haplotype frequency
	Stats Analysis: INCLUDED as a possible contributor: Item 1 (Victim). Assuming no mutations in the Y chromosome, all paternal male relatives of this individual(s) are also included. This Y-STR profile is not expected to occur more frequently than 1 in 140 male individuals.
	<b>Database(s):</b> Y-STR population frequency statistics calculated in YHRD.org using the Y17 dataset with the National Database (with Subpopulations, 2014 SWGDAM compliant) - [Location Identifying Population]. Only the most common frequency is reported, using the 95% confidence interval.
9RPU8N	Method(s): Likelihood Ratio
	<b>Stats Analysis:</b> The DNA profile obtained from Questioned sample (Item 3: Blood on the sidewalk) provides a strong support for the inclusion on the male victim (LR= 1725671.1207) as a contributor. Additionally, it provides an extreme support for female suspect inclusion (LR= 4.0164E12) as a possible second contributor. LRmixStudio 2.1.3 used to calculate Likelihood Ratio (LR).
	Database(s): [Location Identifying Database]
ABDFQQ	Method(s): Random Match Probability
	Stats Analysis: Item 1: [Location] (allele frequencies) RMP=3.38036E+28, US HISPANIC SE (allele frequencies) RMP=6.62495E+26. Item 2: [Location] (allele frequencies) RMP=3.2762E+34, US HISPANIC SE (allele frequencies) RMP=6.0877E+33.
	Database(s): [Location Identifying Database]
AECRLQ	Method(s): Likelihood Ratio
	Stats Analysis: Statistical Results (Autosomal): Under the assumption that the VICTIM (Item 1) and two unknown unrelated persons selected at random from the general population are contributors, the likelihood of observing the mixed source profile developed from the STAIN ON THE SIDEWALK OUTSIDE VICTIM'S HOME (Item 3) is ≥1,000,000 times greater (actual LR available upon request) than if it is assumed that three unknown unrelated persons selected at random from the general population are contributors to this mixed-source profile. Under the assumption that the SUSPECT (Item 2) and two unknown unrelated persons selected at random from the general population are contributors, the likelihood of observing the mixed source profile developed from the STAIN ON THE SIDEWALK OUTSIDE VICTIM'S HOME (Item 3) is ≥1,000,000 times greater (actual LR available upon request) than if it is assumed that three unknown unrelated persons selected at random from the general population are contributors to this mixed-source profile. Statistical Results (YSTR): The VICTIM (Item 1), his paternally-related male relatives, and an unknown number of males in the general population cannot be excluded as the potential source of the YSTR haplotype developed from the STAIN ON THE SIDEWALK OUTSIDE VICTIM'S HOME (Item 3). Given a theta-value of 2.0x10-05 and a 95% UCI of the combined Haplotype frequency of 1 in 3,131 (no matches in 9,379 Haplotypes at U.S. subpopulations without Native American), the corrected Match Probability is 1 in 2,947.  Database(s): Statistical Calculations employed the following databases: Revised-NIST-1036-Allele Frequencies; ABI ID Allele Frequencies; Promega PowePlex Fusion Allele Frequencies and YHRD Release R69 valid as per 2024-03-07 20:22:41 UTC

	TABLE 6
WebCode	Item 3 Methods & Results
AQ9XFN	Method(s): Likelihood Ratio
	Stats Analysis: The DNA result obtained from stain (Item 3) on sidewalk outside victim's house is consistent with a mixture from at least three (3) contributors, including at least one (1) male: a. The mixture is approximately 1.24 x 10 ^ 18 times more likely to occur (very strong support for inclusion) if the suspect and two (2) unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors. b. The mixture is approximately 3.88 x 10 ^ 20 times more likely to occur (very strong support for inclusion) if the victim and two (2) unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors.  Database(s): [Participant did not report database(s).]
CL64AJ	Method(s): Likelihood Ratio
	Stats Analysis: STR: The DNA profile from this item is at least 450 sextillion times more likely if it originated from Item 1 (victim) and two unknown individuals than if it originated from three unknown, unrelated individuals. The DNA profile from this item is at least 49 sextillion times more likely if it originated from Item 2 (suspect) and two unknown individuals than if it originated from three unknown, unrelated individuals. YSTR: The DNA profile is at least 1,030 times more likely if the profile originated from Item 1 (victim) (or a patrilineal relative) than if it originated from a randomly selected individual.  Database(s): Most conservative statistic is reported. The National Institute of Standards and Technology's published database is utilized in the statistical calculations. 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. Revised data received on August 10, 2017. Y-Chromosome Haplotype Reference Database: https://yhrd.org.
CMJBXL	Method(s): Likelihood Ratio
	Stats Analysis: The DNA result from Item 3 is consistent with mixture from at least 3 contributors. The mixture is approximately 6,6x10 ^ 15 times more likely to occur if the victim and two unknown individuals are contributors, rather than if the DNA is from three unknown individuals. The DNA result from Item 3 is consistent with mixture from at least 3 contributors. The mixture is approximately 7,53x10 ^ 14 times more likely to occur if the suspect and two unknown individuals are contributors, rather than if the DNA is from three unknown individuals.  Database(s): Imported from STRideR population American.
ETMEXQ	Method(s): Likelihood Ratio
	Stats Analysis: [Participant did not report statistical analysis.]  Database(s): Local database
EUBPBH	Method(s): Likelihood Ratio
	Stats Analysis: [Participant did not report statistical analysis.]
	Database(s): NIST1036_Hisp
GNJ2TH	Method(s): [Participant did not report a method.]
	Stats Analysis: Working from the pdf of the electropherogram, it is not possible to perform a thorough evaluation of each locus. As a result it is possible to miss very minor contributions from additional contributors and be incorrect in the possible number of contributors to complex mixture samples. It is also not possible to thoroughly evaluate spikes, pullup, and baseline irregularities which can affect correct allele determinations. I am a forensic consultant that reviews DNA case files submitted to me as evidence. I review the analyst allele calls and evidence to reference sample comparisons so I can understand how the original analyst arrived at their opinions and conclusions. I accept that their population calculations are correct. N/A: Not Applicable. NSD: No Size Data.  Database(s): [Participant did not report database(s).]

#### TABLE 6 WebCode **Item 3 Methods & Results GYDFTE** Method(s): Likelihood Ratio Stats Analysis: The DNA profile from this item is at least 530 sextillion times more likely if it originated from Victim and two unknown individuals than if it originated from three unknown, unrelated individuals. The DNA profile from this item is at least 10 sextillion times more likely if it originated from Suspect and two unknown individuals than if it originated from three unknown, unrelated individuals. The DNA profile is at least 1,030 times more likely if the profile originated from Victim (or a patrilineal relative) than if it originated from a randomly selected individual. Database(s): Most conservative statistic is reported. The National Institute of Standards and Technology's published database is utilized in the statistical calculations. 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. Revised data received on August 10, 2017. Y-Chromosome Haplotype Reference Database: https://yhrd.org JP2ZZB Method(s): Likelihood Ratio Stats Analysis: The DNA profile from this item is at least 490 sextillion times more likely if it originated from Victim and two unknown individuals than if it originated from three unknown, unrelated individuals. The DNA profile from this item is at least 15 sextillion times more likely if it originated from Suspect and two unknown individuals than if it originated from three unknown, unrelated individuals. The YSTR DNA profile is at least 1,030 times more likely if the profile originated from Victim (or a patrilineal relative) than if it originated from a randomly selected individual. Database(s): Most conservative population group statistic is reported. The National Institute of Standards and Technology's published database is utilized in the statistical calculations. 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. Revised data received on August 10, 2017. Match probability and profile probability are approximate and derived from queries against the Y-Chromosome Haplotype Reference Database: https://yhrd.org. JTMK6F Method(s): Likelihood Ratio Stats Analysis: The mixture is approximately 4.19E19 times more likely to occur (very strong support for inclusion) if the victim and an unknown, unrelated individual are contributors, rather than if two unknown, unrelated individuals are contributors. The mixture is approximately 5.83E17 times more likely to occur (very strong support for inclusion) if the suspect and an unknown, unrelated individual are contributors, rather than if two unknown, unrelated individuals are contributors. Database(s): FBI EXTENDED SE HISP, FBI EXTENDED SW HISP, NIST1036 HISP and FBI EXTENDED SE HISP 0820. The stratified LR was reported. K78LZC Method(s): Likelihood Ratio Stats Analysis: Item 3 (bloodstain on sidewalk outside victim's home) presents a genetic profile of more than two persons. Assuming that the profile of the item comes from at least three contributors and two of the contributors are Male Victim [Item#1], Female Suspect [Item#2] and an unknown contributor, we conclude that: The genetic profile of the Item 3 (bloodstain on sidewalk outside victim's home) is approximately: 66 Quatrillions using the Hispanic population database 67 Quatrillions using the Caucasian population database 194 Quatrillions using the Afro-American population database times more likely to have come from Male Victim [Item#1], Female Suspect [Item#2] and an unrelated person, than Male Victim [Item#1] and any other two unrelated persons chosen randomly. Male Victim [Item#1], Female Suspect [Item#2] and an unrelated person cannot be excluded of being the contributors of the genetic profile on the Item. This probability is very strong supported by the statistical

**Database(s):** The Database used in the statistical analysis for Item 3 was the NIST's U.S. STR Population Database for Caucasian (Cau), African American (Blk), Hispanic (Hsp), Asian (Asn) and Combined

data.

Population Groups (August 2017).

TABLE 6

#### WebCode **Item 3 Methods & Results KLXLRC** Method(s): Random Match Probability Stats Analysis: RMP for item#3 female Major (suspect): The probability of selecting a random individual having a DNA profile identical to item 3 major at the observed loci is 1 in 3.63 E+34 for Hispanic Americans. RMP for item #3 minor: The probability of selecting random unrelated individual having a DNA profile identical to item #3 minor at th loci observed is 1 in 5.43E+29 for African Americans, 1 in 1.28E+30 for Caucasian Americans, 1 in 6.54 E+28 for Hispanic Americans, 1 in 2.08 E+33 for Asian Americans. Database(s): Promega & NIST databases LXR3GD Method(s): Likelihood Ratio Stats Analysis: The DNA result obtained from ITEM 3 is consistent with a mixture from at least three (3) contributors, including at least one (1) male: (a) The mixture is approximately 5.54 x 10<sup>2</sup>0 times more likely to occur (very strong support for inclusion) if ITEM 1 (victim) and two (2) unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors. (b) The mixture is approximately 2.11 x 10 ^ 18 times more likely to occur (very strong support for inclusion) if ITEM 2 (suspect) and two (2) unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors. Database(s): STRmix, FBI extended SE Hisp 082021 N2K7XA Method(s): Likelihood Ratio Stats Analysis: The DNA result obtained from the stain on sidewalk outside victim's home (Item 3) is consistent with a mixture from at least three (3) contributors, including at least one (1) male: a) The mixture is approximately 4.83 x 10 ^ 20 times more likely to occur (very strong support for inclusion) if the male victim and two (2) unknown, unrelated individuals are contributors rather than if three (3) unknown, unrelated individuals are contributors. b) The mixture is approximately 1.76 x 10 ^ 18 times more likely to occur (very strong support for inclusion) if the female suspect and two (2) unknown, unrelated individuals are contributors rather than if three (3) unknown, unrelated individuals are contributors. Database(s): FBI Extended SE Hisp 082021 NQL8BA Method(s): Likelihood Ratio Stats Analysis: Victim is included (cannot be excluded) as a possible contributor to the DNA obtained from Item 3, LR = 6.98 x 10 20. Suspect is included (cannot be excluded) as a possible contributor to the DNA obtained from Item 3, $LR = 2.44 \times 10 18$ . CONCLUSION: The DNA result obtained from the stain [Internal Test Number] allegedly taken from sidewalk outside victim's house is consistent with a mixture from at least three (3) contributors, including at least one (1) male: A) The mixture is approximately 2.44 x 10 18 (very strong support for inclusion) times more likely to occur if the suspect and two (2) unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors. B) The mixture is approximately 6.98 x 10 20 (very strong support for inclusion) times more likely to occur if the victim and two (2) unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors. END OF REPORT Database(s): [Participant did not report database(s).] PGB7PA Method(s): Likelihood Ratio Stats Analysis: The DNA result obtained from the stain(Item 3) on sidewalk outside victim's home is consistent with a mixture from at least three (3) contributors, including at least one (1) male: a) The mixture is approximately 1.29 x 10 ^ 20 times more likely to occur (very strong support for inclusion) if the male victim and two (2) unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors. b) The mixture is approximately 1.16 x 10 ^ 18 times more likely to occur (very strong support for inclusion) if the female suspect and two (2) unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors. Database(s): FBI EXTENDED SW HISP and FBI EXTENDED SE HISP 082021

	IABLE 6
WebCode	Item 3 Methods & Results
Q2UUC7	Method(s): Likelihood Ratio
	Stats Analysis: H1: the mixture is made up of the victim's genetic profile (item 1) and the genetic profile of two unknown unrelated person. H2: the mixture is made up of the genetic profils of three unknown unrelated people. LR= 1,16E6 (Personnal Data base, drop-out=0.1, drop-in=0.05, Theta=0.01). H1: the mixture is made up of the suspect's genetic profile (item 2) and the genetic profile of two unknown unrelated person. H2: the mixture is made up of the genetic profils of three unknown unrelated people. LR= 1,91E11 (Personnal Data base, drop-out=0.1, drop-in=0.05, Theta=0.01).
	Database(s): https://strider.online/frequencies
QJEKB7	Method(s): Likelihood Ratio
	<b>Stats Analysis:</b> A mixed DNA profile of three individuals was developed from "Item 3". The DNA profiles obtained from reference samples "Item 1" and "Item 2" are consistent being the contributors to this mixed DNA profile. The mixed DNA profile is 1.3 septillion (1.3 x 10e24), 560 septillion (560 x 10e24) and 53 septillion (53 x 10e24) times more likely if they originated from "Item 1", "Item 2" and one unknown individual rather than, if they originated from three unknown unrelated individuals as calculated based on the [Location Identifying Population]. <b>Database(s):</b> [Location Identifying Database]
RN3K37	Method(s): Likelihood Ratio
	Stats Analysis: LR = VICTIM + SUSPECT + UNKNOWN / 3 UNKNOWNS. LR = 1,62092 x E22. drop out for VICTIM = 0. drop out for SUSPECT = 0. drop out for UNKNOWN = 0,01.  Database(s): Global Filer PCR Amplification Kit user guide. Caucasion popolation base.
RWXPW8	Method(s): Combined Probability of Exclusion/Inclusion
	Stats Analysis: [Participant did not report statistical analysis.]
	Database(s): [Participant did not report database(s).]
T7XCN4	Method(s): [Participant did not report a method.]
	Stats Analysis: The DNA information obtained from this item is not suitable for manual comparison due to the complexity of the mixture profile and stochastic effects throughout the profile. However, the DNA information obtained may be suitable for probabilistic genotyping.
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Database(s): [Participant did not report database(s).]
WHKKY3	Method(s): Likelihood Ratio  Stats Analysis: The DNA result obtained from stain (Item 3) on sidewalk outside victim's home is consistent with a mixture from at least three (3) contributors: a) The mixture is approximately 5.06 x 10 ^ 19 times more likely to occur (very strong support for inclusion) if the victim and two unknown, unrelated individuals are contributors, rather than if three (3) unknown, unrelated individuals are contributors. b) The mixture is approximately 9.48 x 10 ^ 17 times more likely to occur (very strong support for inclusion) if the suspect and two unknown, unrelated individual are contributors, rather than if three (3) unknown, unrelated individuals are contributors.  Database(s): NIST1036_Hisp population
XTFDKX	Method(s): Likelihood Ratio, YSTR Profile Probability
	Stats Analysis: STR Results: This DNA result is approximately 4.95 quadrillion times more likely if Item 1, Male Victim and 2 unknown individuals were the sources of the mixture DNA profile than if 3 unknown individuals were the sources. This DNA result is approximately 1.23 quadrillion times more likely if Item 2, Female Suspect and 2 unknown individuals were the sources of the mixture DNA profile than if 3 unknown individuals were the sources. YSTR Results: The Yfiler Plus DNA profile obtained from sample Item 3 is a single source profile and matches the DNA profile from Item 1, Male Victim. Therefore, Item 1, Male Victim and any of his biological paternal relatives cannot be excluded as possible contributors to this DNA profile. The profile from Item 3 has a frequency of approximately 1 in 13,630 male individuals.
	Database(s): NIST 1036 (2017) for STR Results. US National Database in YHRD, R63 for YSTR results.

	= = -
WebCode	Item 3 Methods & Results
YBTHJV	Method(s): Likelihood Ratio
	Stats Analysis: The evidence is 1.3 sextillion times more likely if the Male Victim (item 1) is a contributor to the DNA mixture than if he is not a contributor. The evidence is 39 quintillion times more likely if the Female Suspect (item 2) is a contributor to the DNA mixture than if she is not a contributor. Further comparisons may be done for the remaining component of the mixture.  Database(s): FBI expanded
YDE2PY	Method(s): Likelihood Ratio
	Stats Analysis: 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 48.1 million 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. 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, and assuming the presence of the victim's profile, it is 3.07 quadrillion times more likely to observe this genetic profile if Item 2 (suspect) and Item 1 (victim) are contributors than if Item 1 (victim) and two unknown individuals are the contributors.  Database(s): NIST
ZDUK9W	Method(s): Likelihood Ratio
	Stats Analysis: A mixed DNA profile of three (3) contributors was developed from "Item 3". The DNA profile obtained from "Item 1" and "Item 2" is consistent with being the contributors to this mixed DNA profile. The mixed DNA profile are 1.3 septillion (1.3 x 10e24), 560 septillion (560 x 10e24) and 53 septillion (53 x 10e24) TIMES more likely IF they originated from "Item 1" (victim), "Item 2" (suspect) and one unknown individual RATHER THAN; IF they originated from three unknown unrelated individuals as calculated based on the [Location Identifying Population].  Database(s): [Location Identifying Database]

# Statistical Analysis for Item 4

WebCode	IABLE / Item 4 Methods & Results
2LMCUV	Method(s): Random Match Probability  Stats Analysis: The probability of selecting an unrelated individual at random who could be included as a possible contributor to the mixture DNA profile is approximately 1 in 750 trillion (10^12)  Database(s): NIST 1036 (Revision 2017)
2UCZPX	Method(s): Likelihood Ratio  Stats Analysis: The DNA result obtained from the swab (Item 4) allegedly taken from the shirt of the deceased is consistent with a mixture from at least two (2) contributors. This mixture is approximately 1.96 x 10 ^ 17 times more likely to occur (strong support for inclusion) is the suspected female and one (1) unknown, unrelated individual are contributors, rather than if two (2) unknown, unrelated individuals are contributors. The deceased male has been excluded as being a contributors to this mixture.  Database(s): FBI_EXTENDED_SE_HISP; FBI_EXTENDED_SE_HISP_0820_21; FBI_EXTENDED_SW_HISP
3QVXHT	Method(s): Likelihood Ratio  Stats Analysis: The DNA profile from this item is at least 130 quadrillion times more likely if it originated from Suspect and an unknown individual than if it originated from two unknown, unrelated individuals. Victim is excluded from this DNA profile.  Database(s): Most conservative population group is reported. (STR): The National Institute of Standards and Technology's published database is utilized in the statistical calculations. 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. Revised data received on August 10, 2017.
4NM3CV	Method(s): Likelihood Ratio  Stats Analysis: The DNA result obtained from Item 4 is consistent with a mixture of two (2) contributors. The male complainant (Item 1) has been excluded as being a contributor to this mixture. The mixture is approximately 1.21 x10^19 more likely to occur if the female suspect (Item 2) and one (1) unknown, unrelated individual are contributors, rather than if two (2) unknown, unrelated individuals are contributors.  Database(s): FBI extended_SE_Hisp_082021
6PQHXR	Method(s): Likelihood Ratio  Stats Analysis: Item 1 is excluded as a contributor to the DNA profile from Item 4. This DNA result is approximately 19.5 trillion times more likely if Item 2 and 1 unknown individual were the sources of the mixture DNA profile than if 2 unknown individuals were the sources. (STRmix LR). This favors support that Item 2 is included as a contributor to the DNA profile from Item 4.  Database(s): National Institute of Standards and Technology (NIST 2017 Revision)
6X648V	Method(s): Likelihood Ratio  Stats Analysis: The DNA profile from item 4 is 1 billion times more likely if it is a result of contribution from suspect and one unknown persons than if it is a result of contribution from 2 unknown persons.  Database(s): 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.
7463VP	Method(s): Likelihood Ratio  Stats Analysis: A mixed DNA profile of two female individuals was developed from "Item 4". The DNA profile obtained from "Item 2" is being one of the contributors to the mixed DNA profile. The mixed DNA profile is 40 quintillion, 760 quintillion and 140 quintillion TIMES more likely if it originated from "Item 2" and one unknown RATHER THAN; IF it originated from two unknown, unrelated individuals as calculated based on the Malaysian Malay, Chinese and Indian DNA population databases respectively.  Database(s): Malaysian Malay, Chinese and Indian DNA population Databases.

	TABLE 7
WebCode	Item 4 Methods & Results
7DECMP	Method(s): Combined Probability of Exclusion/Inclusion  Stats Analysis: INCLUDED as a possible contributor: Item 2 (Suspect). EXCLUDED as a possible contributor: Item 1 (Victim). The estimated frequency of a random, unrelated individual being included as a possible contributor to the profile is rarer than 1 in 330 billion.  Database(s): STR population frequency statistics calculated in Popstats using Expanded FBI STR 2015 Caucasian and African American populations as well as [Location Identifying Population]. Only the most common frequency among the five populations or 1 in 330 billion is reported, whichever is more common.
9RPU8N	Method(s): Likelihood Ratio  Stats Analysis: The Female Mixture profile obtained from Questioned sample (Item 4: Blood on shirt) is not applicable for Male victim DNA reference inclusion. On the other hand, it provides a strong support (LR= 5.8032E17) for female suspect inclusion as a major contributor. LRmixStudio 2.1.3 used to calculate Likelihood Ratio (LR).  Database(s): [Location Identifying Database]
ABDFQQ	Method(s): Random Match Probability  Stats Analysis: Item 2: [Location] (allele frequencies) RMP=3.2762E+34, US HISPANIC SE (allele frequencies) RMP =6.0877E+33  Database(s): [Location Identifying Database]
AECRLQ	Method(s): Likelihood Ratio  Stats Analysis: Under the assumption that two unknown unrelated persons selected at random from the general population are contributors, the likelihood of observing the mixed source profile developed from the STAIN ON VICTIM'S SHIRT (Item 4) is ≥1,000,000 times greater (actual LR available upon request) than if it is assumed that the VICTIM (Item 1) and one unknown unrelated person selected at random from the general population are contribuotors to this mixed-source profile. Under the assumption that the SUSPECT (Item 2) and one unknown unrelated person selected at random from the general population are contributors, the likelihood of observing the mixed source profile developed from the STAIN ON VICTIM'S SHIRT (Item 4) is ≥1,000,000 times greater (actual LR available upon request) than if it is assumed that two unknown unrelated persons selected at random from the general population are contributors to this mixed-source profile.  Database(s): Statistical Calculations employed the following databases: Revised-NIST-1036-Allele Frequencies; ABI ID Allele Frequencies; and Promega PowePlex Fusion Allele Frequencies.
AQ9XFN	Method(s): Likelihood Ratio  Stats Analysis: The DNA result obtained from stain (Item 4) on victim's shirt is consistent with a mixture from at least two (2) contributors: a. The victim (Item 1) has been excluded as being a contributor to this mixture. b. The mixture is approximately 2.65 x 10 ^ 17 times more likely to occur (very strong support for inclusion) if the suspect and an unknown, unrelated individual are contributors, rather than if two (2) unknown, unrelated individuals are contributors.  Database(s): [Participant did not report database(s).]
AXRZMQ	Method(s): Likelihood Ratio  Stats Analysis: The genetic results obtained from item 4 consisted of a DNA mixture, which I interpreted as originating from at least 2 individuals. It is more than 23 quadrillion times more likely to observe this DNA mixture if it originated from Item 2 (suspect) and one unknown, unrelated individual than if it originated from two unknown, unrelated individuals.  Database(s): NIST 1036 population dataset

	TABLE 7
WebCode	Item 4 Methods & Results
CL64AJ	Method(s): Likelihood Ratio  Stats Analysis: The DNA profile from this item is at least 730 quadrillion times more likely if it originated from Item 2 (suspect) and an unknown individual than if it originated from two unknown, unrelated is dividual.
	individuals.  Database(s): Most conservative statistic is reported. The National Institute of Standards and Technology's published database is utilized in the statistical calculations. 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. Revised data received on August 10, 2017.
CMJBXL	Method(s): Random Match Probability Stats Analysis: Item 4 RMP 2,9x10 ^ 32 for female suspect Database(s): Imported from STRideR population American.
ETMEXQ	Method(s): Likelihood Ratio Stats Analysis: [Participant did not report statistical analysis.] Database(s): Local database
EUBPBH	Method(s): Likelihood Ratio Stats Analysis: [Participant did not report statistical analysis.] Database(s): NIST1036_Hisp
GNJ2TH	Method(s): [Participant did not report a method.]  Stats Analysis: Working from the pdf of the electropherogram, it is not possible to perform a thorough evaluation of each locus. As a result it is possible to miss very minor contributions from additional contributors and be incorrect in the possible number of contributors to complex mixture samples. It is also not possible to thoroughly evaluate spikes, pullup, and baseline irregularities which can affect correct allele determinations. I am a forensic consultant that reviews DNA case files submitted to me as evidence. I review the analyst allele calls and evidence to reference sample comparisons so I can understand how the original analyst arrived at their opinions and conclusions. I accept that their population calculations are correct. N/A: Not Applicable. NSD: No Size Data.  Database(s): [Participant did not report database(s).]
GYDFTE	Method(s): Likelihood Ratio  Stats Analysis: The DNA profile from this item is at least 800 quadrillion times more likely if it originated from Suspect and an unknown individual than if it originated from two unknown, unrelated individuals.  Database(s): Most conservative statistic is reported. The National Institute of Standards and Technology's published database is utilized in the statistical calculations. 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. Revised data received on August 10, 2017.
JP2ZZB	Method(s): Likelihood Ratio  Stats Analysis: The DNA profile from this item is at least 420 quadrillion times more likely if it originated from Suspect and an unknown individual than if it originated from two unknown, unrelated individuals.  Database(s): Most conservative population group statistic is reported. The National Institute of Standards and Technology's published database is utilized in the statistical calculations. 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. Revised data received on August 10, 2017.
JTMK6F	Method(s): Likelihood Ratio  Stats Analysis: The mixture is approximately 3.01E17 times more likely to occur (very strong support for inclusion) if the suspect and an unknown, unrelated individual are contributors, rather than if two unknown, unrelated individuals are contributors. The mixture is approximately 0 times more likely to occur (very strong support for exclusion) if the victim and an unknown, unrelated individual are contributors, rather than if two unknown, unrelated individuals are contributors.  Database(s): FBI_EXTENDED_SE_HISP, FBI_EXTENDED_SW_HISP, NIST1036_HISP and FBI_EXTENDED_SE_HISP_0820. The stratified LR was reported.

TABLE 7

#### WebCode Item 4 Methods & Results K78LZC Method(s): Likelihood Ratio Stats Analysis: Item 4 (bloodstain on victim's shirt) presents a genetic profile of more than one person. Assuming that the genetic profile detected on Item 4 (bloodstain on victim's shirt) came from at least two contributors, and one of the contributors is Female Suspect (Item 2) we concluded that: The genetic profile detected on Item 4 (bloodstain on victim's shirt) is approximately: 2 Quintillons using the Caucasian population database, 106 Quintillons using the African American population database, 5 Quintillions using the Hispanic population database, times more likely to have come from Female Suspect (Item 2) and one unrelated unknown person, than any other two unrelated unknown persons chosen randomly. Female Suspect (Item 2) cannot be excluded from being one of the contributors from the genetic profile on the Item. This probability is very strongly supported by the statistical data. Male Victim (Item 1) is excluded to be one of the contributors of the genetic profile in the Item. Database(s): The Database used in the statistical analysis for Item 4 was the NIST's U.S. STR Population Database for Caucasian (Cau), African American (Blk), Hispanic (Hsp), Asian (Asn) and Combined Population Groups (August 2017). **KLXLRC** Method(s): Random Match Probability Stats Analysis: RMP for major female component: The probability for selecting a random unrelated individual having a DNA profile identical to item 4 major at the loci observed is 1 in 6.52 E+34 for Hispanic Americans. RMP for minor female component: The probability of selecting a random unrelated individual having a DNA profile identical to item 4 minor is 1 in 7.98 E+34 for African Americans, 1 in 1.81E+34 for Caucasian Americans, 1 in 8.92 E+34 for Hispanic Americans, 1 in 2.18E+34 for Asian Americans Database(s): Promega & NIST databases LXR3GD Method(s): Likelihood Ratio Stats Analysis: The DNA result obtained from ITEM 4 is consistent with a mixture from at least two (2) contributors, including at least one (1) male: (a) Item 1 (victim) has been excluded as being a contributor to this mixture. (b) The mixture is approximately 2.16 x 10 ^ 17 times more likely to occur (very strong support for inclusion) if ITEM 2 (suspect) and one (1) unknown, unrelated individual are contributors, rather than if two (2) unknown, unrelated individuals are contributors. Database(s): STRmix, FBI extended SE Hisp 082021 N2K7XA Method(s): Likelihood Ratio Stats Analysis: The DNA result obtained from the stain on victim's shirt (Item 4) is consistent with a mixture from at least two (2) contributors: a) The mixture is approximately 2.74 x 10 ^ 17 times more likely to occur (very strong support for inclusion) if the female suspect and one (1) unknown, unrelated individual are contributors rather than if two (2) unknown, unrelated individuals are contributors. b) The male victim has been excluded as being a contributor to this mixture. Database(s): FBI Extended SE Hisp 082021 NQL8BA Method(s): Likelihood Ratio Stats Analysis: CONCLUSION: The DNA result obtained from the stain [Internal Test Number] allegedly taken from victim's shirt is consistent with a mixture from at least two (2) contributors: A) The mixture is approximately 2.86 x 10 17 times more likely to occur (very strong support for inclusion) if the suspect and one (1) unknown, unrelated individual are contributors, rather than if two (2) unknown, unrelated individuals are contributors. B) The victim has been excluded as being a contributor to this mixture. END OF REPORT **Database(s):** [Participant did not report database(s).] PGB7PA Method(s): Likelihood Ratio Stats Analysis: The DNA result obtained from the stain(Item 4) on victim's shirt is consistent with a mixture from at least two (2) contributors, including at least one (1) male. The mixture is approximately 2.24 x 10 ^ 17 times more likely to occur (very strong support for inclusion) if the female suspect and an unknown, unrelated individual are contributors, rather than if two (2) unknown, unrelated individuals are contributors. The male victim has been excluded as being a contributor to this mixture. Database(s): FBI EXTENDED SW HISP and FBI EXTENDED SE HISP 082021

	IABLE /
WebCode	Item 4 Methods & Results
Q2UUC7	Method(s): Likelihood Ratio  Stats Analysis: H1: the mixture is made up of the suspect's genetic profile (item 2) and the genetic profile of one unknown unrelated person. H2: the mixture is made up of the genetic profils of two unknown unrelated people. LR= 1,90E16 (Personnal Data base, drop-out=0.1, drop-in=0.05, Theta=0.01)  Database(s): https://strider.online/frequencies
QJEKB7	Method(s): Likelihood Ratio  Stats Analysis: A mixed DNA profile of two individuals was developed from the bloodstain from the victim's shirt "Item 4". The DNA profile obtained from reference sample "Item 2" is consistent being one of the contributor to this mixed DNA profile. The mixed DNA profile is 40 quintillion (40 x 10e18), 760 quintillion (760 x 10e18) and 140 quintillion (140 x 10e18) times more likely if they originated from "Item 2" and one unknown individual rather than if they originated from two unknown unrelated individual as calculated based on the [Location Identifying Population].  Database(s): [Location Identifying Database]
RN3K37	Method(s): Likelihood Ratio  Stats Analysis: LR = SUSPECT + UNKNOWN / 2 UNKNOWNS. LR = 7,17125 x E16. drop out for SUSPECT = 0. drop out for UNKNOWN = 0,01.  Database(s): Global Filer PCR Amplification Kit user guide. Caucasion popolation base.
RWXPW8	Method(s): Combined Probability of Exclusion/Inclusion Stats Analysis: [Participant did not report statistical analysis.] Database(s): [Participant did not report database(s).]
T7XCN4	Method(s): Likelihood Ratio  Stats Analysis: The DNA information obtained from this item is more than 8 billion times more likely to be observed if the DNA originated from the suspect and one unrelated, unknown contributor than if it originated from two unrelated, unknown contributors.  Database(s): Combined Population from the NIST 1036 Revised U.S. Population Dataset (July 2017).
WHKKY3	Method(s): Likelihood Ratio  Stats Analysis: The DNA result obtained from stain (Item 4) on victim's shirt is consistent with a mixture from at least two (2) contributors: a) The male victim has been excluded as being a contributor to this mixture. b) The mixture is approximately 3.61 x 10 ^ 17 times more likely to occur (very strong support for inclusion) if the female suspect and an unknown, unrelated individual are contributors, rather than if two (2) unknown, unrelated individuals are contributors.  Database(s): NIST1036_Hisp population
XTFDKX	Method(s): Likelihood Ratio  Stats Analysis: The DNA profile from Item 1, Male Victim was compared to Item 4. Item 1, Male Victim is excluded as a contributor to the DNA profile from Item 4. This DNA result is approximately 18.3 trillion times more likely if Item 2, Female Suspect and 1 unknown individual were the sources of the mixture DNA profile than if 2 unknown individuals were the sources.  Database(s): NIST 1036 (2017)
YBTHJV	Method(s): Likelihood Ratio Stats Analysis: The evidence is 180 trillion times more likely if the Female Suspect (item 2) is a contributor to the DNA mixture than if she is not a contributor. Further comparisons may be done for the remaining component of the mixture.  Database(s): FBI Expanded
YDE2PY	Method(s): [Participant did not report a method.]  Stats Analysis: No statistics necessary on this sample. Results are not probative as victim is excluded from mixture. Suspect's DNA on her own clothing is not a probative result.  Database(s): [Participant did not report database(s).]

#### TABLE 7

# WebCode Method(s): Likelihood Ratio Stats Analysis: A mixed DNA profile of two (2) contributors was developed from "Item 4". The DNA profile obtained from "Item 2" is consistent with being one of the contributors to this mixed DNA profile. The DNA profile obtained from "Item 1" is excluded from being the other contributor to this mixed DNA profile. The mixed DNA profile are 40 quintillion (40 x 10e18), 760 quintillion (760 x 10e18) and 140 quintillion (140 x 10e18) TIMES more likely IF they originated from "Item 2" (suspect) and one unknown individual RATHER THAN; IF they originated from two unknown unrelated individuals as calculated based on the [Location Identifying Population]. Database(s): [Location Identifying Database]

# **Additional Comments**

	IADLL O
WebCode	Additional Comments
3QVXHT	NR = No Results. Y-STR AT: Blue=45, Green=70, Yellow=65, Red=75, No PHR threshold for Y-STR data utilized.
6PQHXR	For items 3 and 4, probabilistic genotyping software was used to aid in the interpretation and statistical analysis of the DNA profiles generated. The results listed in the CTS report reflect DNA profiles with stutter filters on.
7463VP	1. Statistical calculations were carried out using DNAView software version 37.56. 2. NM represents non-male profile.
7DECMP	There was some confusion from the naming conventions used on the electropherograms, e.g., Sample File 25-5881 GLOBALFILER Known Item 1 - Victims Blood Sample (Male) had Sample Name 24-5290 3A. I completed this test assuming that the Sample File information was correct. When this test was digitally received by the Evidence section, they gave it item #INT2. Page 1 of this form indicates that the test is item #INT1. Evidence technician was not able to determine how that number was assigned.
AECRLQ	I noted that there in some of the profiles there was insufficient spectral separation in the red channels (possibly due to an inadequate matrix file). This resulted in a failure to adequately remove the spectral overlap with the black channel The resulting pull up produced erroneous allele calls (e.g., allele 38 at SE33), off ladder allele calls (e.g., peak at 347.35 bp) in the red channel. Since these were limited mostly to the PowerPlex Fusion 6C profiles for known samples (especially item 2) in this case, they were relatively easy to identify and remove. This could have compromised the accurate interpretation of questioned profiles in a questioned sample (such as item 4 - Stain from Victim's Shirt where allele 38 at SE33 and allele 17.3 at vWA were detected in the Fusion 6C profile. Both appear to be false based on the lack of reproducibility with the other chemistries in this proficiencty tesxt. Since most labs do not run the same sample through multiple profiling chemistries, however, it would be harder to know if these were artifacts or a trace contrributor. This underscores the importance of always checking the performance of the matrix file. Unrealted to the DNA interpretation, I was a bit surprised to see the case scenario refer to blood as having been "confirmed". Given that it is generally regcognized that the serological tests for blood (both chemical and antibody based) are presumptive tests, it would be better for the scenario description to say that blood was "indicated" rather than "confirmed".
CL64AJ	NR= No results. Y-STR Analytical Threshold (RFU): Blue=45, Green=70, Yellow=65, Red=75. No PHR threshold for Y-STR data utilized.
ETMEXQ	Based on PCR validation process conducted in our lab, we have established the threshold values for each of the five dyes, depending on DNA quantity and number of cycles, as follows: Blue: 41 RFU. Green: 62 RFU. Yellow: 99 RFU. Red: 80 RFU. Purple: 76 RFU.
GYDFTE	NR=No result; YSTRs AT= 45 (blue), 70 (green), 65 (yellow), 75 (red); No PHR threshold for Y-STR data utilized.
JP2ZZB	NR=No Results. No Peak Height Ratio is applicable to YSTR Analysis. Analytical Thresholds for YSTR Analysis: Blue - 45rfu, Green - 70rfu, Yellow - 65rfu, Red - 75rfu.
K78LZC	CODIS Popstat used for LR calculations.
NPQP99	Components not accounted for by either victim or suspect in results for items 3 and 4 show commonality. Third contributor to item 3 result most likely to be female. Using both results, possible to consider elucidating at least a partial profile for intelligence purposes (ie to search any relevant database if available).
QJEKB7	NM indicates Non-Male. The statistical calculations were carried out using DNA View Software.
RN3K37	DNA Analysis for ITEM 3: LR = VICTIM + SUSPECT + UNKNOWN / 3 UNKNOWNS. LR = 1,62092 x E22. drop out for VICTIM = 0. drop out for SUSPECT = 0. drop out for UNKNOWN = 0,01. The probability of the evidence is 1,62092 x E22 times more likely if the reddish-brown stain on the sidewalk near the victim's home came from Victim (ITEM 1), Suspect (ITEM 2) and 1 unknown unrelated individual, than if it came from three unknowns unrelated individuals. DNA Analysis for ITEM 4: LR = $\frac{1}{2}$
	( / 1 / 2000 F CTC

WebCode	Additional Comments
	SUSPECT + UNKNOWN / 2 UNKNOWNS LR = $7,17125 \times E16$ drop out for SUSPECT = 0 drop out for UNKNOWN = $0,01$ The probability of the evidence is $7,17125 \times E16$ times more likely if the reddish-brown stain was identified on the victim's shirt came from Suspect (ITEM 2) and 1 unknown unrelated individual, than if it came from two unknowns unrelated individuals.
RWXPW8	Item 3; is a mixture profile of the male victim, the female suspect and unknown female. Item 4; is a mixture profile of the female suspect and the same unknown female present in item 3.
T7XCN4	Conclusion and statement for Item 3: The DNA information form this item appears to come from a mixture of at least 3 contributors with major and minor components. Due to the complex nature of this mixture profile, it is not suitable for manual comparison due to the stochastic effects throughout the profile. However, the DNA information obtained may be suitable for probabilistic genotyping.
XTFDKX	For STR Stochastic Threshold (ST), the laboratory uses ST based on injection time, 300 RFU for 7 and 10 second injections, and 400 RFU for 15 second injection. The Likelihood Ratio result considering Item 1 (Male Victim) a contributor of Item 4 is zero.
YBTHJV	For item 3, at vWA: Analysis was done using FaSTR interpretation software. The 15 allele was designated as stutter based on the Artificial Neural Network (ANN) information and the RFU ratio with the allele next to it. The 15 allele (stutter) is included with the interpretation of the mixture in STRmix for the 3rd contributor (19% contribution to 3 person mixture), which is associated to the reference sample for the victim (item 1).
ZDUK9W	1. Statistical calculation were carried out using DNA View Software. 2. NM represents non-male profile.

#### Collaborative Testing Services ~ Forensic Testing Program

#### Test No. 25-5881: DNA Interpretation

DATA MUST BE SUBMITTED BY June 09, 2025, 11:59 p.m. EDT TO BE INCLUDED IN THE REPORT

Participant Code: U1234A WebCode: 8ANP6L

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:

Police are investigating a stabbing case involving a male victim and female suspect. The victim reported to police that the suspect stabbed him several times on the sidewalk just outside his home. The suspect, who has been apprehended, denies any involvement in the stabbing. While a weapon has not been recovered, investigators have identified a reddish-brown stain on the sidewalk near the victim's home, which the Serology Unit confirmed as blood (Item 3). Additionally, a reddish-brown stain was identified on the victim's shirt and was also confirmed as blood (Item 4).

HID and PDF file formats are provided for use in this test, choose any or all formats for evaluation.

#### **Items Submitted (Sample Pack INT1):**

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

Item 2: DNA profile from reference sample (Female Suspect - Hispanic)

Item 3: DNA profile from stain on sidewalk outside victim's home

Item 4: DNA profile from stain on victim's shirt

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

25-5881 Data for Participants.zip MD5 hash value: 74322a190c87d99fe99f2a26911076e9

25-5881 Data for Participants.zip SHA1 hash value: 8268ad5bc4366862ea8d47c5e4fa281d2a349da

#### Part I: DNA ANALYSIS INSTRUCTIONS

- Use your laboratory's Interpretation guidelines for evaluation of this test.
- Only numerical values can be entered into the fields below. If other values are needed, add this information to the Additional Comments section.
- 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.

STR Analysis Thresholds	
Analytical Threshold (RFU):	
Peak Height Ratio (%):	
Stochastic Threshold (RFU) (Peak Amplitude):	
YSTR Analysis Thresholds	
Analytical Threshold (RFU):	
Peak Height Ratio (%):	
Stochastic Threshold (RFU) (Peak Amplitude):	

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

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

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

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

#### Part I: DNA ANALYSIS

#### 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™ ☐ HID format	☐ Investigator® 24plex ☐ PDF format	PowerPlex® Fusion 5C	PowerPlex® Fusion 6C
Report the Probabilistic Geno	typing Software Used (if applic	able):	

#### 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® Plus	PowerPlex® Y23	HID format	PDF format	

ITEM	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
1									
ITEM	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
1									
ITEM	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	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 I	For Item 2:	Please indicate the electropherogram(s) r	reviewed for this test.
□ GlobalFiler™ □ HID format	☐ Investigator® 24plex ☐ PDF format	PowerPlex® Fusion 5C	PowerPlex® Fusion 6C
Report the Probabilistic Genot	yping Software Used (if applica	ble):	

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						

#### 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™ ☐ HID format	☐ Investigator® 24plex ☐ PDF format	PowerPlex® Fusion 5C	PowerPlex® Fusion 6C		
Report the Probabilistic Geno	typing Software Used (if applica	ble):			

#### 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) review	ved for this test.
YFiler® Plus	PowerPlex® Y23	☐ HID format	PDF format

ITEM	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
3									
3 major									
3 minor									
ITEM	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
3									
3 major									
3 minor									
ITEM	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	Y GATA H4
3									
3 major									
3 minor									

<u>Part I: DNA ANALYSIS (continued)</u> Item 3 DNA Analysis Questions	
Record the number of contributors found in the Item 3 DNA profile:	
2) Choose the conclusion statement that best describes the results with the Known Items (If the wording below differs from the norm conclusions as best you can and use your preferred wording in the Item 1 Conclusion	nal wording of your conclusions, adapt these
Item 1 (victim) is included (cannot be excluded) as a possible contribut	or to the DNA obtained from Item 3.
Item 1 (victim) is excluded as a possible contributor to the DNA obtained	ed from Item 3.
$\bigcirc$ The DNA typing results for Item 3 in comparison with Item 1 are inconce	onclusive/uninterpretable.
Item 2 Conclusion	
O Item 2 (suspect) is included (cannot be excluded) as a possible contribu	utor to the DNA obtained from Item 3.
O Item 2 (suspect) is excluded as a possible contributor to the DNA obtain	ned from Item 3.
○ The DNA typing results for Item 3 in comparison with Item 2 are inconce	onclusive/uninterpretable.
3) Statistical Analysis of Item 3 DNA Typing Results: Select the statistical method(s) used by marking the associated b	ox and report these results in the space below:
Combined Probability of Exclusion/Inclusions (CPE/CPI)	Likelihood Ratio (LR)
Random Match Probability (RMP)	Other:
<b>Note:</b> Please use appropriate punctuation to indicate the end of sentences, section returns used for separation within your text will not transfer and may cause your intabular formats to deliver information is also cautioned against, as these do not transfer.	formation to be illegible in the Summary Report. The use of lists and
(1) Places list any databases used in the statistical analyses of Item 2 below	
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™ ☐ HID format	<ul><li>□ Investigator® 24plex</li><li>□ PDF format</li></ul>	PowerPlex® Fusion 5C	PowerPlex® Fusion 6C		
Report the Probabilistic Gend	otyping Software Used (if applic	cable):			

#### 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® Plus	PowerPlex® Y23	HID format	PDF format	

ITEM	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
4									
4 major									
4 minor									
ITEM	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
4									
4 major									
4 minor									
ITEM	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	Y GATA H4
4									
4 major									
4 minor									

<u>Part I: DNA ANALYSIS (continued)</u> 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 Iten with the Known Items (If the wording below differs from the normal wording of your conc conclusions as best you can and use your preferred wording in the Additional Comments se <a href="Item 1 Conclusion">Item 1 Conclusion</a>	lusions, adapt these
Oltem 1 (victim) is included (cannot be excluded) as a possible contributor to the DNA obtained from	n Item 4.
$\bigcirc$ Item 1 (victim) is excluded as a possible contributor to the DNA obtained from Item 4.	
$\bigcirc$ The DNA typing results for Item 4 in comparison with Item 1 are inconconclusive/uninterpretable.	
Item 2 Conclusion	
Oltem 2 (suspect) is included (cannot be excluded) as a possible contributor to the DNA obtained from	om Item 4.
O 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.	ults in the space below:
Combined Probability of Exclusion/Inclusions (CPE/CPI)	lihood Ratio (LR)
Random Match Probability (RMP) Other:	
<b>Note:</b> Please use appropriate punctuation to indicate the end of sentences, sections, and statements in the free-foreturns used for separation within your text will not transfer and may cause your information to be illegible in the tabular formats to deliver information is also cautioned against, as these do not transfer.	
4) Please list any databases used in the statistical analyses of Item 4 below.	

NAL COMMENTS

Participant Code: U1234A WebCode: 8ANP6L

Part II: ADDITIONAL COMMENTS Comments regarding any part of this Test.

Part III: AMPLIFICATION KIT SURVEY (optional)	
Ir laboratory's future needs, please list all PCR amplification kits (Autosomal and YST kits to be implemented in your laboratory.	TR) utilized

#### 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 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 ANAB and/or A2LA. (Accreditation Release section below must be completed.)

This participant's data is **not** intended for submission to 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: Prov	vide the applicable Accreditation Certificate Number(s) for your laboratory	
	ANAB Certificate No.	
	A2LA Certificate No.	
Step 2: Com	nplete the Laboratory Identifying Information in its entirety	
	Authorized Contact Person and Title	
	Laboratory Name	
	Location (City/State)	