Collaborative Testing Services, Inc
FORENSIC TESTING PROGRAM

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Probabilistic Genotyping Test No. 24-5901/2
Summary Report

Each participant received a sample set consisting of two known bloodstains and two questioned stains which they were requested to analyze using their existing protocols. Data were returned from 62 participants and are compiled into the following tables:

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

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

Manufacturer's Information

Each sample set consisted of two known bloodstains provided on either white fabric or FTA™ Micro Cards (Items 1 and 2), and two questioned stains on colored fabric (Items 3 and 4). Participants were asked to analyze these items using their existing protocols.

SAMPLE PREPARATION: The substrates for Items 1, 2, and 3 were prepared using human whole blood which was either drawn into citric acid preservative bags or EDTA tubes. The substrates for Item 4 were prepared using a mixture of human whole blood and semen. The white fabric known bloodstains were spotted with 50 µL of sample and the FTA™ Micro Card known bloodstains were spotted with 75 µL of sample. Item 1 was created using blood from a female donor. Item 2 was created using blood from a male donor. Item 3 was created by combining one part blood from the Item 1 female donor, one part blood from the Item 2 male donor, and one part blood each from another female and male donor whose known standards were not provided. Item 4 was created by combining one part blood from the Item 1 female donor, one part blood from the Item 3 additional female donor, and one part semen from another male donor whose known standard was not provided. The items were prepared at separate times and were packaged once they were thoroughly dried. Completed sample sets were stored at -20°C until shipment on February 05, 2024.

SAMPLE SET ASSEMBLY: For each sample set, all Items (1-4) were packaged into separate envelopes and then placed together in a pre-labeled sample set envelope and sealed. The sealed sample set envelopes were then packaged in pre-labeled heat seal envelopes and sealed. This process was repeated until all of the sample sets were prepared.

VERIFICATION: Predistribution interpretation results were consistent with each other and the manufacturer's preparation information. Consistent allelic results were reported for all STR loci across both substrates, with the exception of Item 3. Predistribution participants were missing one or more alleles at a few loci. After completion of an internal investigation the test was approved for release. Consistent allelic results were reported for all YSTR loci across both substrates.

Key to Test Substrates

5901 - Cloth Swatches

5902 - FTA™ Micro Cards

AMENDMENT: After further review of participant results, the STR and YSTR results for the four-person mixture in Item 3 did not reach a consensus. Refer to the Summary Comments section of the Summary Report for further details.

Manufacturer's Information, continued

Amelogenin and STR Results

Results compiled from predistribution laboratories and a consensus of at least 10 participants.

Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	
1	14,15	21,25	11,11	16,17	10,11	14,17
	8,8	13,14	12,16	18,19	12,12	10,11
	16,18	11,13	32.2,35	17,17#	X,X	11,12
	20,21	7,11	8,12	17,28.2	7,9	6,9
	18,18	NM	NM	NM	NM	
2	14,16.3	19,21	10,11	16,16	8,10	11,19
	7,10	13,14	13,13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24	2.2,12	8,13	18,25	7,8	8,12
	15,16	10	*	*	2	
3	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	11,14,17,18,19
	*	13,14	12,13,14,16	*	*	9,10,11,12,13
	12,13,15,16,17 ,18	*	*	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24	*	*	14,17,18,20,25,27. 2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11	*	*	2	
4-Blood	14,15,17.3	17,20,21,25	10,11,14	16,17	10,11	14,17,18,19
	8,12	13,14	12,13,16	18,19,20,24	11,12	10,11,13
	12,16,18	11,13,14,14.2	31.2,32.2,35	11,15,17	X,X	11,12
	19,20,21,23	7,11,13	5,7,8,12	17,20,27.2,28.2	7,9,9.3	6,8,9,12
	15,17,18	NM	NM	NM	NM	
4-Semen	12,15	16,18	11,14	15,15	11,13	11,12
	8,10	11,15	14,14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15,15	X,Y	10,11
	20,23	13,13	7,12	28.2,29.2	7,8	8,11
	16,17	10	*	*	2	

YSTR Results

Results compiled from a consensus of at least 10 participants.

Item	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12	*	19	16	19	21	*	12
3	*	14,15	11,15,16,17	13	*	*	10,11	*	13
	*	11,12	*	19,21	*	15,16	16,17	*	23,28
	38	12	*	19,20	16,17	*	*	*	11,12
4-Semen	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10	*	17	15	19	22	*	11

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

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

Summary Comments

This test was designed to allow participants to assess their proficiency in the identification and comparison of dried stains by means of body fluid screening and/or DNA profiling utilizing PG software. Participants were supplied with two "known" bloodstains (Items 1 and 2) and two "questioned" stains (Items 3 and 4). Item 1 was created using blood from a female donor. Item 2 was created using blood from a male donor. Item 3 was created by combining one part blood from the Item 1 female donor, one part blood from the Item 2 male donor, and one part blood each from another female and male donor whose known standards were not provided. Item 4 was created by combining one part blood from the Item 1 female donor, one part blood from the Item 3 additional female donor, and one part semen from another male donor whose known standard was not provided. Refer to the Manufacturer's Information for preparation details.

Data were returned by 62 participants.

Screening Test Results
A total of 53 participants reported screening results for at least one body fluid (blood, semen, saliva). However, not all of these participants returned screening results for all fluids for both questioned items.

For Item 3, all participants reported "Positive" for the presence of blood. For the presence of semen, all participants reported "Negative." For the presence of saliva, all participants reported "Negative." For Human Origin and Y-Screening, all participants reported "Positive."

For Item 4, all participants reported "Positive" for the presence of blood and semen. For the presence of saliva, all participants reported "Negative." For Human Origin and Y-Screening, all participants reported "Positive."

DNA Analysis
For STR results, the majority of participants reported consistent results for Items 1, 2 and 4.

For YSTR results, the majority of participants reported consistent results for Items 2 and 4.

Item 3 – STR Analysis & Interpretations
The four-person mixture in this item resulted in a high volume of missing alleles. Only 14 participants (23%) reported full allelic results consistent with one another and the Manufacturer's preparation information. All but one participant from this group reported that four contributors were present in this mixture and the remaining participant reported five. Additionally, all reported that the donors from Items 1 and 2 were present in this mixture. Of the remaining population (48) reporting allelic results, the majority were missing alleles attributed to the Item 2 male contributor. All but one participant from this group reported that four contributors were present and the remaining participant reported five. The majority of participants from this group reported that Items 1 and 2 were present in this mixture. A smaller group of participants (15) reporting allelic results, while missing some Item 2 male contributor alleles, were also missing alleles attributed to other contributors of this mixture. This subset had seven participants that reported that there were three contributors while the rest reported four. The interpretations reported by this subset revealed that all included the Item 1 female as a contributor to the mixture; however, only 54% included the Item 2 male. Of the remaining participants, 33% reported that the Item 2 male was not a contributor to the mixture and 13% were inconclusive.

Item 3 – YSTR Analysis
Two males were part of this mixture, one was the same donor used for Item 2 and the other was a third-party male. Only 20% of participants reported consistent allelic results with one another and the Manufacturer's preparation information. Approximately 49% of participants were missing one or more alleles attributed to the third-party male contributor. The remaining subset (35%) were missing a combination of alleles from both male contributors.

The high frequency of inconsistent STR and YSTR allelic responses caused Item 3 to not achieve a consensus; therefore, results will not be highlighted.

DNA Interpretations

All participants returned DNA results.

Item 3 DNA interpretations and contributor counts were discussed above.

For Item 4, all participants included the victim (Item 1) and excluded the suspect (Item 2) as possible contributors to the stain. All but one participant identified the presence of three contributors in the epithelial fraction of this stain. The remaining participant identified four contributors. For the sperm fraction of this stain, all but two participants identified the presence of one contributor. Of the remaining two participants, one reported three contributors and the other reported two. An additional two participants did not complete a differential extraction on this item, but identified the presence of three contributors.

Key for Screening Tests Used

Participants were asked to use, where possible, the following chart of abbreviated screening test names. This was not an all inclusive list and was not designed to determine what tests should be performed. Participants were advised that tests not on this list may be used for screening.

Test	Abbreviation
Acid Phosphatase	AP
Kastle Meyer	KM
Leucomalachite Green	LMG
Microscopic	Micro
Ortho-tolidine	O-tol
Phenolphthalein-Tetramethyl benzidine	PTMB
Prostate Specific Antigen	PSA
Quantiblot	QB
Quantifiler	QF
Tetramethyl benzidine	TMB

Serology Screening Results

Indicate the results of any screening tests performed on the questioned stains (Items 3 & 4).

TABLE 1a

	Blood Screening Results	
WebCode - Test	**Item 3**	**Item 4**
27J4KB - 5901	**Pos** KM	**Pos** KM
2TZLR8 - 5901	**Pos** O-tol	**Pos** O-tol
3NJE48 - 5901	**Pos** KM	**Pos** KM
4KE6C3 - 5902	**Pos** TMB, HemaTrace	**Pos** TMB, HemaTrace
4Q2XN3 - 5901	**Pos** TMB HemaTrace	**Pos** TMB HemaTrace
63EHK4 - 5902	**Pos** Hemastix, HemaTrace	**Pos** Hemastix, HemaTrace
6XXAW4 - 5901	**Pos** TMB, HemaTrace	**Pos** TMB, HemaTrace
7T4FY3 - 5902	**Pos** Hemastix, HemaTrace	**Pos** Hemastix, HemaTrace
9WGZW3 - 5901	**Pos** KM	**Pos** KM
9WVL74 - 5901	**Pos** KM	**Pos** KM
A66AJ3 - 5902	**Pos** KM	**Pos** KM
AUMTRW - 5901	**Pos** TMB, HemaTrace	**Pos** TMB, HemaTrace
B7LWGW - 5901	**Pos** KM	**Pos** KM
C3L9DV - 5901	**Pos** KM	**Pos** KM
CKAFMX - 5901	**Pos** KM, vis. appearance	**Pos** KM, vis. appearance
CNQNBW - 5901	**Pos** LMG, Bluestar OBTI	**Pos** LMG, Bluestar OBTI
CV4WCY - 5901	**Pos** FOB	**Pos** FOB
CX6ZPV - 5902	**Pos** RSID	**Pos** RSID
D4G86P - 5901	**Pos** TMB	**Pos** TMB
E6NMCV - 5901	**Pos** KM	**Pos** KM
EDLFKP - 5902	**Pos** Hemastix, HemaTrace	**Pos** Hemastix, HemaTrace
G396TQ - 5901	**Pos** KM	**Pos** KM
GXXCQQ - 5902	**Pos** TMB, HemaTrace	**Pos** TMB, HemaTrace
HDQ4BR - 5902	**Pos** LMG	**Pos** LMG
J7339J - 5901	**Pos** TMB	**Pos** TMB
JGKK2Q - 5901	**Pos** KM	**Pos** KM
L26XRK - 5902	**Pos** Hemastix, HemaTrace	**Pos** Hemastix, HemaTrace
L7CNVQ - 5902	**Pos** KM	**Pos** KM
LE6Y6L - 5901	**Pos** TMB, HemaTrace	**Pos** TMB, HemaTrace
LFLWXL - 5902	**Pos** Hemastix, HemaTrace	**Pos** Hemastix
LJL8TL - 5901	**Pos** hemastix, HemaTrace	**Pos** hemastix, HemaTrace
LWPP4K - 5901	**Pos** TMB, HemaTrace	**Pos** TMB, HemaTrace

TABLE 1a

WebCode - Test	Blood Screening Results	
	Item 3	Item 4
NH4WTJ - 5902	Pos TMB, HemaTrace	Pos TMB, HemaTrace
NWU3LM - 5901	Pos HemoPHAN, Seratec Blood	Pos HemoPHAN, Seratec Blood
PKP22G - 5901	Pos TMB, HemaTrace	Pos TMB, HemaTrace
PXPZND - 5902	Pos TMB, HemaTrace	Pos TMB, HemaTrace
Q7ZLBM - 5902	Pos PTMB, Bluestar OBTI	Pos PTMB, Bluestar OBTI
QETUVD - 5901	Pos TMB, HemaTrace	Pos TMB, HemaTrace
QGRATG - 5901	Pos Hemastix	Pos Hemastix
QKK2DL - 5902	Pos HemDirect	Pos HemDirect
T9QWLD - 5901	Pos HemaTrace, KM	Pos HemaTrace, KM
U8YVVF - 5902	Pos LMG	Pos LMG
UAQU9D - 5902	Pos TMB, HemaTrace	Pos TMB, HemaTrace
V9EEEC - 5901	Pos Hemastix (TMB), HemaTrace	Pos Hemastix (TMB), HemaTrace
VGN7HF - 5902	Pos LMG	Pos LMG
VPY84F - 5902	Pos Hemochromogen	Pos Hemochromogen
VT27E9 - 5902	Pos TMB, HemaTrace	Pos TMB, HemaTrace
XHPQK7 - 5901	Pos Hemastix	Pos Hemastix
XJ2PFE - 5901	Pos O-tol, HemaTrace	Pos O-tol, HemaTrace
XUHAYB - 5901	Pos Hexagon OBTI, KM	Pos Hexagon OBTI, KM
XWPRX8 - 5902	Pos KM; HemaTrace	Pos KM; HemaTrace
Y43ZY9 - 5902	Pos TMB, HemaTrace	Pos TMB, HemaTrace
Y87VHC - 5901	Pos Hemochromogen	Pos Hemochromogen

Table 1a: Serology Screening Response Summary - Blood

Participants: **53**

This summary table excludes the count of participants who did not report or reported "Not Tested" for Item 3 and/or Item 4. Therefore, participant total may not align with totals shown below.

	Item 3	Item 4
Positive	**53**	**53**
Negative	**0**	**0**
Inconclusive	**0**	**0**

Serology Screening Results

Indicate the results of any screening tests performed on the questioned stains (Items 3 & 4).

TABLE 1b

	Semen Screening Results	
WebCode - Test	**Item 3**	**Item 4**
27J4KB - 5901	**Neg** AP	**Pos** AP
2TZLR8 - 5901	**Neg** AP, ALS	**Pos** AP, PSA
3NJE48 - 5901	**Neg** ALS, AP	**Pos** ALS, AP, Micro
4KE6C3 - 5902	**Neg** AP	**Pos** AP, PSA, Microscopic
4Q2XN3 - 5901	**Neg** PSA, AP	**Pos** Micro, AP
63EHK4 - 5902	**Neg** AP	**Pos** AP
6XXAW4 - 5901	**Neg** AP	**Pos** AP, p30, Micro
7T4FY3 - 5902	**Neg** AP	**Pos** AP
9WGZW3 - 5901	**Neg** AP	**Pos** AP, Micro
9WVL74 - 5901	**Neg** AP	**Pos** AP, Micro
A66AJ3 - 5902	**Neg** AP, Micro for Sperm, PSA	**Pos** AP, Micro for Sperm, PSA
AUMTRW - 5901	**Neg** AP, PSA, Micro	**Pos** AP, PSA, Micro
B7LWGW - 5901	**Neg** ALS, AP	**Pos** ALS, AP
C3L9DV - 5901	**Neg** ALS, AP	**Pos** ALS, AP
CKAFMX - 5901	**Neg** AP	**Pos** AP, PSA
CNQNBW - 5901	**Neg** Seratec PSA semiquant	**Pos** Seratec PSA semiquant
CV4WCY - 5901	**Neg** RSID Semen, PSA	**Pos** RSID Semen, PSA
CX6ZPV - 5902	**Neg** AP, RSID, Micro	**Pos** AP, RSID, Micro
D4G86P - 5901	**Neg** AP	**Pos** AP
E6NMCV - 5901	**Neg** AP	**Pos** AP, PSA
EDLFKP - 5902	**Neg** AP	**Pos** AP, PSA, Micro
G396TQ - 5901	**Neg** ALS, AP	**Pos** ALS, AP
GXXCQQ - 5902	**Neg** AP	**Pos** AP, Micro, p30
HDQ4BR - 5902	**Neg** PSA	**Pos** PSA
J7339J - 5901	**Neg** AP	**Pos** AP, Micro
JGKK2Q - 5901	**Neg** AP	**Pos** AP, PSA
L26XRK - 5902	**Neg** AP	**Pos** AP, p30, Micro
L7CNVQ - 5902	**Neg** AP, Micro, p30, ALS	**Pos** AP, Micro, p30, ALS
LE6Y6L - 5901	**Neg** AP	**Pos** AP, PSA, Micro
LFLWXL - 5902	**Neg** AP	**Pos** AP, PSA, Micro

TABLE 1b

WebCode - Test	Semen Screening Results	
	Item 3	Item 4
LJL8TL - 5901	Neg AP, p30	Pos AP, H&E, p30
LWPP4K - 5901	Neg AP, PSA	Pos AP, PSA, Microscopic
NH4WTJ - 5902	Neg AP	Pos AP, PSA, Micro
NWU3LM - 5901	Neg Phosphadesmo KM, Seratec PSA	Pos Phosphadesmo KM, Seratec PSA
PKP22G - 5901	Neg AP	Pos AP, PSA, Micro
PXPZND - 5902	Neg AP	Pos AP, Micro, PSA
Q7ZLBM - 5902	Neg PSA	Pos PSA, RSID Semen
QETUVD - 5901	Neg AP, PSA	Pos AP, PSA, Micro
QGRATG - 5901	NT	Pos AP & Microscopy
QKK2DL - 5902	Neg Spermtracker	Pos Spermtracker
T9QWLD - 5901	Neg ALS, AP	Pos ALS, AP, PSA, Micro
U8YVVF - 5902	Neg PSA	Pos PSA
UAQU9D - 5902	Neg AP, PSA, Microscopy	Pos AP, PSA, Microscopy
V9EEEC - 5901	Neg AP	Pos AP, Micro (H&E), PSA
VGN7HF - 5902	Neg Micro, AP	Pos Micro, AP
VPY84F - 5902	Neg AP	Pos AP, Micro
VT27E9 - 5902	Neg AP	Pos AP, Micro, PSA
XHPQK7 - 5901	Neg AP	Pos AP
XJ2PFE - 5901	Neg AP, p30, Micro	Pos AP, p30, Micro
XUHAYB - 5901	Neg AP	Pos AP, PSA
XWPRX8 - 5902	Neg AP	Pos AP; RSID; Micro
Y43ZY9 - 5902	Neg AP	Pos AP, PSA, Micro
Y87VHC - 5901	Neg AP	Pos AP, Micro

Table 1b: Serology Screening Response Summary - Semen

Participants: **53**

This summary table excludes the count of participants who did not report or reported "Not Tested" for Item 3 and/or Item 4. Therefore, participant total may not align with totals shown below.

	Item 3	Item 4
Positive	**0**	**53**
Negative	**52**	**0**
Inconclusive	**0**	**0**

Serology Screening Results

Indicate the results of any screening tests performed on the questioned stains (Items 3 & 4).

TABLE 1c

	Saliva Screening Results	
WebCode - Test	**Item 3**	**Item 4**
27J4KB - 5901	Neg Amylase Paper	Neg Amylase Paper
4KE6C3 - 5902	Neg RSID	Neg RSID
4Q2XN3 - 5901	Neg RSID	Neg RSID
6XXAW4 - 5901	Neg RSID-Saliva	NT
AUMTRW - 5901	Neg RSID Saliva	Neg RSID Saliva
CKAFMX - 5901	Neg Phadebas Press	Neg Phadebas Press
CV4WCY - 5901	Neg RSID Saliva	Neg RSID Saliva
CX6ZPV - 5902	Neg RSID	Neg Amylase, RSID
E6NMCV - 5901	Neg PHAD	Neg PHAD
EDLFKP - 5902	Neg RSID	NT
HDQ4BR - 5902	Neg RSID	Neg RSID
JGKK2Q - 5901	Neg Phadebas press	Neg Phadebas press
L26XRK - 5902	Neg RSID	Neg RSID
LFLWXL - 5902	Neg RSID	NT
LWPP4K - 5901	Neg RSID	Neg RSID
NH4WTJ - 5902	Neg RSID	Neg RSID
NWU3LM - 5901	Neg Seratec AMY	Neg Seratec AMY
PXPZND - 5902	Neg RSID	Neg QT
Q7ZLBM - 5902	Neg Phadebas test	Neg Phadebas
QETUVD - 5901	Neg RSID	Neg RSID
U8YVVF - 5902	Neg RSID	Neg RSID
UAQU9D - 5902	Neg RSID	Neg RSID
XJ2PFE - 5901	Neg RSID	Neg RSID
Y43ZY9 - 5902	Neg RSID	Neg RSID

Table 1c: Serology Screening Response Summary - Saliva Participants: **24**

This summary table excludes the count of participants who did not report or reported "Not Tested" for Item 3 and/or Item 4. Therefore, participant total may not align with totals shown below.

	Item 3	Item 4
Positive	**0**	**0**
Negative	**24**	**21**
Inconclusive	**0**	**0**

Serology Screening Results

Indicate the results of any screening tests performed on the questioned stains (Items 3 & 4).

TABLE 1d

	Human Origin Screening Results	
WebCode - Test	**Item 3**	**Item 4**
2TZLR8 - 5901	**Pos** HemaTrace	NT
4KE6C3 - 5902	**Pos** PP21, Quant trio	**Pos** PP21, Quant trio
4Q2XN3 - 5901	**Pos** PP21	**Pos** PP21
63EHK4 - 5902	**Pos** Quant	**Pos** Quant
6XXAW4 - 5901	**Pos** Quant-Trio, Powerplex21	**Pos** Quant-Trio, Powerplex21
7T4FY3 - 5902	**Pos** Quant	**Pos** Quant
9WGZW3 - 5901	**Pos** PowerQuant	**Pos** PowerQuant
AUMTRW - 5901	**Pos** PowerPlex 21, Quant trio	**Pos** PowerPlex 21, Quant trio
CKAFMX - 5901	**Pos** ABAcard HemaTrace	**Pos** ABAcard HemaTrace
CNQNBW - 5901	**Pos** Bluestar OBTI, Quantiplex Pro RGQ, PowerPlex® ESX 17 Fast System	**Pos** Bluestar OBTI, Quantiplex Pro RGQ, PowerPlex® ESX 17 Fast System
CX6ZPV - 5902	**Pos** Quantifiler Trio	**Pos** Quantifiler Trio
E6NMCV - 5901	**Pos** ABA	**Pos** ABA
EDLFKP - 5902	**Pos** PP21, Quant Trio	**Pos** PP21, Quant Trio
GXXCQQ - 5902	**Pos** QuantTrio, PP21, YFP	**Pos** QuantTrio, PP21, YFP
JGKK2Q - 5901	**Pos** ABAcard HemaTrace	**Pos** ABAcard HemaTrace
L26XRK - 5902	**Pos** Quant trio, PP21	**Pos** Quant trio, PP21
LE6Y6L - 5901	**Pos** Quant Trio, PowerPlex 21	**Pos** Quant Trio, PowerPlex 21
LFLWXL - 5902	**Pos** PP21, Quant trio	**Pos** PP21, Quant trio
LJL8TL - 5901	**Pos** Quantifiler Trio, Powerplex 21, Y Filer Plus	**Pos** Quantifiler Trio, Powerplex 21, Y Filer Plus
LWPP4K - 5901	**Pos** Quantifiler Trio, PP21	**Pos** Quantifiler Trio, PP21
NH4WTJ - 5902	**Pos** Quantifiler Trio, PP21	**Pos** Quantifiler Trio, PP21
NWU3LM - 5901	**Pos** NGM Detect	**Pos** NGM Detect
PKP22G - 5901	**Pos** PP21, Quantifiler Trio	**Pos** PP21, Quantifiler Trio
PXPZND - 5902	**Pos** QT	**Pos** QT
Q7ZLBM - 5902	**Pos** Quantifiler trio	**Pos** Quantifiler trio
QETUVD - 5901	**Pos** QF, PP21	**Pos** QF, PP21
T9QWLD - 5901	**Pos** HemaTrace	**Pos** HemaTrace
UAQU9D - 5902	**Pos** PP21	**Pos** PP21
V9EEEC - 5901	**Pos** Quantifiler Trio, PowerPlex 21	**Pos** Quantifiler Trio, PowerPlex 21
VT27E9 - 5902	**Pos** PP21, Quant trio	**Pos** PP21, Quant trio
Y43ZY9 - 5902	**Pos** Quantifiler trio, PP21	**Pos** Quantifiler trio, PP21

Table 1d: Serology Screening Response Summary - Human Origin

Participants: **31**

This summary table excludes the count of participants who did not report or reported "Not Tested" for Item 3 and/or Item 4. Therefore, participant total may not align with totals shown below.

	Item 3	Item 4
Positive	**31**	**30**
Negative	**0**	**0**
Inconclusive	**0**	**0**

Serology Screening Results

Indicate the results of any screening tests performed on the questioned stains (Items 3 & 4).

TABLE 1e

	Y Screening Results			
WebCode - Test	Item 3		Item 4	
4KE6C3 - 5902	Pos	PP21, Quant trio	Pos	PP21, Quant trio
4Q2XN3 - 5901	Pos	Quant trio	Pos	Quant Trio
63EHK4 - 5902	Pos	Quant	Pos	Quant
6VPZR3 - 5901			Pos	QuantTrio
6XXAW4 - 5901	Pos	Quant-Trio, YFilerPlus, Powerplex21	Pos	Quant-Trio, YFilerPlus, Powerplex21
9WGZW3 - 5901	Pos	PowerQuant	Pos	PowerQuant
AUMTRW - 5901	Pos	Yfiler Plus, Quant trio	Pos	Yfiler Plus, Quant trio
B7LWGW - 5901	NT		Pos	Quantifiler Trio
C3L9DV - 5901	NT		Pos	QuantTrio
CKAFMX - 5901	Pos	Plexor HY	Pos	Plexor HY
CNQNBW - 5901	Pos	Quantiplex Pro RGQ	Pos	Quantiplex Pro RGQ
CX6ZPV - 5902	Pos	Quantifiler Trio	Pos	Quantifiler Trio
E6NMCV - 5901	Pos	Plexor	Pos	Plexor
EDLFKP - 5902	Pos	PP21, Quant Trio	Pos	PP21, Quant Trio
G396TQ - 5901	Pos	Quantiler Trio	Pos	Quantiler Trio
GXXCQQ - 5902	Pos	QuantTrio, PP21, YFP	Pos	QuantTrio, PP21, YFP
JGKK2Q - 5901	Pos	Plexor HY	Pos	Plexor XY
L26XRK - 5902	Pos	YFP	Pos	YFP, Quant trio
LFLWXL - 5902	Pos	PP21, Quant trio	Pos	PP21, Quant trio
LJL8TL - 5901	Pos	Quantifiler Trio, Powerplex 21, Y Filer Plus	Pos	Quantifiler Trio, Powerplex 21, Y Filer Plus
LWPP4K - 5901	Pos	Quantifiler Trio, YFP	Pos	Quantifiler Trio, YFP
NH4WTJ - 5902	Pos	Quantifiler Trio, PP21	Pos	Quantifiler Trio, PP21
NWU3LM - 5901	Pos	PowerPlex Y23	Pos	PowerPlex Y23
P4RC6K - 5901			Pos	Quant Trio
PKP22G - 5901	Pos	YFP, PP21, Quantifiler Trio	Pos	YFP, PP21, Quantifiler Trio
PXPZND - 5902	Pos	QT	Pos	
Q7ZLBM - 5902	Pos	Quantifiler trio	Pos	Quantifiler trio
QETUVD - 5901	Pos	QF, YFP	Pos	QF, YFP
T9QWLD - 5901	Pos	QuantTrio	Pos	QuantTrio
UAQU9D - 5902	Pos	Quant trio	Pos	Quant trio
V9EEEC - 5901	Pos	Quantifiler Trio, Y-Filer Plus	Pos	Quantifiler Trio, Y-Filer Plus
VT27E9 - 5902	Pos	PP21, Quant trio	Pos	PP21, Quant trio
XKRQ7D - 5901			Pos	Quant Trio
XNR32D - 5901			Pos	Quant trio
Y43ZY9 - 5902	Pos	Quantifiler trio, PP21	Pos	Quantifiler trio, PP21
ZY2GWB - 5901	Pos	Quantifiler trio	Pos	Quantifiler trio

Table 1e: Serology Screening Response Summary - Y Screening

Participants: **36**

This summary table excludes the count of participants who did not report or reported "Not Tested" for Item 3 and/or Item 4. Therefore, participant total may not align with totals shown below.

	Item 3	Item 4
Positive	**30**	**36**
Negative	**0**	**0**
Inconclusive	**0**	**0**

Serology Screening Results

Indicate the results of any screening tests performed on the questioned stains (Items 3 & 4).

TABLE 1f

WebCode - Test	Other Screening Results	
	Item 3	Item 4
CNQNBW - 5901		Sperm cells Pos Microscopy
D4G86P - 5901		Micro Pos
NWU3LM - 5901	ALS Neg Crime Lite PRO, Foster Freeman	ALS Neg Crime Lite PRO, Foster Freeman
Q7ZLBM - 5902		Sperm cells Pos Microscopic
VPY84F - 5902	Hair exam Neg Visual exam	Hair exam Neg Visual exam
XHPQK7 - 5901		Sperm Pos Microscopic

DNA Interpretations

Based on results obtained from DNA analysis, could the Victim (Item 1) and/or the Suspect (Item 2) be a contributor to the questioned stains (Items 3 & 4)?

TABLE 2

WebCode-Test	Victim (Item 1)		Suspect (Item 2)	
	Item 3	Item 4	Item 3	Item 4
27J4KB - 5901	Yes	Yes	Yes	No
2TZLR8 - 5901	Yes	Yes	Yes	No
3NJE48 - 5901	Yes	Yes	Yes	No
4KE6C3 - 5902	Yes	Yes	Yes	No
4Q2XN3 - 5901	Yes	Yes	No	No
63EHK4 - 5902	Yes	Yes	Yes	No
6VPZR3 - 5901	Yes	Yes	Yes	No
6XXAW4 - 5901	Yes	Yes	No	No
7T4FY3 - 5902	Yes	Yes	Yes	No
9WGZW3 - 5901	Yes	Yes	Yes	No
9WVL74 - 5901	Yes	Yes	Yes	No
A66AJ3 - 5902	Yes	Yes	Yes	No
AUMTRW - 5901	Yes	Yes	Yes	No
B7LWGW - 5901	No Interp	Yes	No Interp	No
C3L9DV - 5901	Yes	Yes	Yes	No
CKAFMX - 5901	Yes	Yes	Yes	No
CNQNBW - 5901	Yes	Yes	Yes	No
CV4WCY - 5901	Yes	Yes	Yes	No
CX6ZPV - 5902	Yes	Yes	Yes	No
D4G86P - 5901	Yes	Yes	Yes	No
E6NMCV - 5901	Yes	Yes	Yes	No
EDLFKP - 5902	Yes	Yes	Yes	No
G396TQ - 5901	Yes	Yes	Yes	No
GXTW6R - 5901	Yes	Yes	Yes	No
GXXCQQ - 5902	Yes	Yes	Yes	No
HDQ4BR - 5902	No Interp	Yes	No Interp	No
J7339J - 5901	Yes	Yes	Yes	No
JGKK2Q - 5901	Yes	Yes	Yes	No
JJ74TP - 5901	Yes	Yes	Yes	No
L26XRK - 5902	Yes	Yes	Inc	No
L7CNVQ - 5902	Yes	Yes	Yes	No
LE6Y6L - 5901	Yes	Yes	Yes	No
LFLWXL - 5902	Yes	Yes	Yes	No
LJL8TL - 5901	Yes	Yes	Yes	No
LRPGKK - 5901	Yes	Yes	Yes	No
LWPP4K - 5901	Yes	Yes	Yes	No

TABLE 2

WebCode-Test	Victim (Item 1)		Suspect (Item 2)	
	Item 3	Item 4	Item 3	Item 4
NH4WTJ - 5902	Yes	Yes	Yes	No
NWU3LM - 5901	Inc	Yes	Inc	No
P4RC6K - 5901	Yes	Yes	Yes	No
P9HLFJ - 5901	Yes	Yes	Yes	No
PKP22G - 5901	Yes	Yes	Yes	No
PXPZND - 5902	Yes	Yes	No	No
Q7ZLBM - 5902	Yes	Yes	Yes	No
QETUVD - 5901	Yes	Yes	Yes	No
QGRATG - 5901	Yes	Yes	No	No
QKK2DL - 5902	Yes	Yes	Yes	No
T9QWLD - 5901	Yes	Yes	Yes	No
U8YVVF - 5902	No Interp	Yes	No Interp	No
UAQU9D - 5902	Yes	Yes	Yes	No
V9EEEC - 5901	Yes	Yes	Yes	No
VGN7HF - 5902	Yes	Yes	No	No
VPY84F - 5902	Yes	Yes	Inc	No
VT27E9 - 5902	Yes	Yes	No	No
XHPQK7 - 5901	Yes	Yes	Yes	No
XJ2PFE - 5901	Yes	Yes	Yes	No
XKRQ7D - 5901	Yes	Yes	Yes	No
XNR32D - 5901	Yes	Yes	Yes	No
XUHAYB - 5901	No Interp	Yes	No Interp	No
XWPRX8 - 5902	Yes	Yes	Yes	No
Y43ZY9 - 5902	Yes	Yes	No	No
Y87VHC - 5901	No Interp	Yes	No Interp	No
ZY2GWB - 5901	Yes	Yes	Yes	No

DNA Interpretation

Response Summary

Participants reporting DNA results: 62

Based on results obtained from DNA analysis, could the Victim (Item 1) and/or the Suspect (Item 2) be a contributor to the questioned stains (Items 3 & 4)?

	Victim (Item 1)		Suspect (Item 2)	
	Item 3	Item 4	Item 3	Item 4
Yes	**56**	**62**	**47**	**0**
No	**0**	**0**	**7**	**62**
Inc	**1**	**0**	**3**	**0**
No Interpretation	**5**	**0**	**5**	**0**
No Response	**0**	**0**	**0**	**0**

STR Amplification Kit(s) & Results

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 1 - STR Results

27J4KB - 5901		ESI-17 - LiRa v. 3.0				
	14,15	21,25	11,11	16,17		
1		13,14	12,16	18,19		10,11
	16,18	11,13	32.2,35	15,17	X,X	
	20,21			17,28.2	7,9	
	18,18					
2TZLR8 - 5901		Identifiler® +- STRMix™ V2.5.11				
		21,25		16,17	10,11	
1	8,8	13,14			12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21				7,9	6,9
	18,18					
3NJE48 - 5901		PowerPlex® Fusion 6C				
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	15,17	X	11,12
	20,21	7,11	8,12	17,28.2	7,9	6,9
	18					
4KE6C3 - 5902		PowerPlex® 21- STRMix™ v2.8				
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
4Q2XN3 - 5901		PowerPlex® 21- STRMix™				
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
63EHK4 - 5902		GlobalFiler™				
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	17	X	11,12
	20,21			17,28.2	7,9	6,9
	18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 1 - STR Results

6VPZR3 - 5901		GlobalFiler™					
	14,15	21,25	11	16,17	10,11		
1	8	13,14	12,16	18,19	12	10,11	
	16,18	11,13	32.2,35	17	X	11,12	
	20,21			17,28.2	7,9	6,9	
	18						
6XXAW4 - 5901		PowerPlex® 21- STRMix™ v2.8					
	14,15	21,25		16,17	10,11	14,17	
1	8,8	13,14		18,19	12,12	10,11	
	16,18	11,13	32.2,35		X,X	11,12	
	20,21	7,11	8,12		7,9	6,9	
	18,18						
7T4FY3 - 5902		GlobalFiler™					
	14,15	21,25	11	16,17	10,11		
1	8	13,14	12,16	18,19	12	10,11	
	16,18	11,13	32.2,35	17	X	11,12	
	20,21			17,28.2	7,9	6,9	
	18						
9WGZW3 - 5901		Identifiler® Plus, PowerPlex® Fusion 6C, MiniFiler					
	14,15	21,25	11	16,17	10,11		
1	8	13,14	12,16	18,19	12	10,11	
	16,18	11,13	32.2,35	15,17	X	11,12	
	20,21	7,11	8,12	17,28.2	7,9	6,9	
	18						
9WVL74 - 5901		GlobalFiler™- STRMix™					
	14,15	21,25	11	16,17	10,11		
1	8	13,14	12,16	18,19	12	10,11	
	16,18	11,13	32.2,35	17	X	11,12	
	20,21			17,28.2	7,9	6,9	
	18						
A66AJ3 - 5902		GlobalFiler™- STRMix™ 2.4					
	14,15	21,25	11,11	16,17	10,11		
1	8,8	13,14	12,16	18,19	12,12	10,11	
	16,18	11,13	32.2,35	17,17	X,X	11,12	
	20,21			17,28.2	7,9	6,9	
	18,18	No results			No results		
AUMTRW - 5901		PowerPlex® 21- STRMix™ 2.8					
	14,15	21,25		16,17	10,11	14,17	
1	8,8	13,14		18,19	12,12	10,11	
	16,18	11,13	32.2,35		X,X	11,12	
	20,21	7,11	8,12		7,9	6,9	
	18,18						

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 1 - STR Results

B7LWGW - 5901	GlobalFiler™					
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	17	X	11,12
	20,21			17,28.2	7,9	6,9
	18	ND			ND	
C3L9DV - 5901	GlobalFiler™					
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	17	X	11,12
	20,21			17,28.2	7,9	6,9
	18					
CKAFMX - 5901	Identifiler® Plus					
		21,25		16,17	10,11	
1	8,8	13,14			12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21				7,9	6,9
	18,18					
CNQNBW - 5901	PowerPlex® ESX 17 Fast System- STRMix™ V2.5.11					
	14,15	21,25	11,11	16,17		
1		13,14	12,16	18,19		10,11
	16,18	11,13	32.2,35	17,17	X,X	
	20,21			17,28.2	7,9	
	18,18					
CV4WCY - 5901	GlobalFiler™ - GeneMapper ID-X 1.5					
	14,15	21,25	11,11	16,17	10,11	
1	8,8	13,14	12,16	18,19	12,12	10,11
	16,18	11,13	32.2,35	17,17	X,X	11,12
	20,21			17,28.2	7,9	6,9
	18,18					
CX6ZPV - 5902	PowerPlex® Fusion 6C- STRMix™					
	14,15	21,25	11,11	16,17	10,11	
1	8,8	13,14	12,16	18,19	12,12	10,11
	16,18	11,13	32.2,35	15,17	X,X	11,12
	20,21	7,11	8,12	17,28.2	7,9	6,9
	18,18					
D4G86P - 5901	PowerPlex® 21- STRMix™					
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 1 - STR Results

E6NMCV - 5901		Identifiler® Plus- STRMix™				
		21,25		16,17	10,11	
1	8,8	13,14			12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21				7,9	6,9
	18,18					
EDLFKP - 5902		PowerPlex® 21- STRMix™ 2.8.0				
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
G396TQ - 5901		GlobalFiler™				
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	17	X	11,12
	20,21			17,28.2	7,9	6,9
	18					
GXTW6R - 5901		GlobalFiler™- STRMix™ v 2.8				
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	17	X,X	11,12
	20,21			17,28.2	7,9	6,9
	18					
GXXCQQ - 5902		PowerPlex® 21				
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
HDQ4BR - 5902		Investigator® 24plex				
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	15,17	X	11,12
	20,21			17,28.2	7,9	6,9
	18					
J7339J - 5901		PowerPlex® 21- STRMix™				
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 1 - STR Results

JGKK2Q - 5901		Identifiler® Plus				
		21,25		16,17	10,11	
1	8,8	13,14			12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21				7,9	6,9
	18,18					
JJ74TP - 5901		GlobalFiler™- STRMix™ 2.8				
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	17	X	11,12
	20,21			17,28.2	7,9	6,9
	18					
L26XRK - 5902		PowerPlex® 21- STRMix™ V2.8				
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
L7CNVQ - 5902		GlobalFiler™- STRMix™ 2.4				
	14,15	21,25	11,11	16,17	10,11	
1	8,8	13,14	12,16	18,19	12,12	10,11
	16,18	11,13	32.2,35	17,17	X,X	11,12
	20,21			17,28.2	7,9	6,9
	18,18	No results			No results	
LE6Y6L - 5901		PowerPlex® 21- STRMix™ 2.8				
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
LFLWXL - 5902		PowerPlex® 21- STRMix™ v2.8				
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
LJL8TL - 5901		PowerPlex® 21- STRMix™				
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 1 - STR Results

LRPGKK - 5901	GlobalFiler™- STRMix™ v2.8					
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	17	X	11,12
	20,21			17,28.2	7,9	6,9
	18					
LWPP4K - 5901	PowerPlex® 21- STRMix™ 2.8					
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
NH4WTJ - 5902	PowerPlex® 21- STRMix™ v 2.8					
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
NWU3LM - 5901	PowerPlex® Fusion 6C					
	14,15	21,25	11,11	16,17	10,11	
1	8,8	13,14	12,16	18,19	12,12	10,11
	16,18	11,13	32.2,35	15,17	X,X	11,12
	20,21	7,11	8,12	17,28.2	7,9	6,9
	18,18					
P4RC6K - 5901	GlobalFiler™					
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	17	X	11,12
	20,21			17,28.2	7,9	6,9
	18					
P9HLFJ - 5901	GlobalFiler™- STRMix™ 2.8					
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	17	X	11,12
	20,21			17,28.2	7,9	6,9
	18					
PKP22G - 5901	PowerPlex® 21					
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 1 - STR Results

PXPZND - 5902	PowerPlex® 21 - GMIDX					
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
Q7ZLBM - 5902	PowerPlex® Fusion 6c, Precision ID GlobalFiler NGS STR Panel v2 kit - LRmixStudio, DNAxs, EuroForMix					
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	15,17	X	11,12
	20,21	7,11	8,12	17,28.2	7,9	6,9
	18					
QETUVD - 5901	PowerPlex® 21- STRMix™ 2.8.0					
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
QGRATG - 5901	GlobalFiler™					
	14,15	21,25	11,11	16,17	10,11	
1	8,8	13,14	12,16	18,19	12,12	10,11
	16,18	11,13	32.2,35	17,17	X,X	11,12
	20,21			17,28.2	7,9	6,9
	18,18	0			0	
QKK2DL - 5902	GlobalFiler™ IQC					
	14,15	21,25	11,11	16,17	10,11	
1	8,8	13,14	12,16	18,19	12,12	10,11
	16,18	11,13	32.2,35	17,17	X,X	11,12
	20,21			17,28.2	7,9	6,9
	18,18					
T9QWLD - 5901	GlobalFiler™- STRMix™					
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	17	X	11,12
	20,21			17,28.2	7,9	6,9
	18	NR			NR	
U8YVVF - 5902	Investigator® 24plex					
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	15,17	X	11,12
	20,21			17,28.2	7,9	6,9
	18	n/a				

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 1 - STR Results

UAQU9D - 5902	PowerPlex® 21- STRMix™					
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
V9EEEC - 5901	PowerPlex® 21- STRMix™ v 2.8					
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
VGN7HF - 5902	PowerPlex® Fusion 6C - DNAxs					
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	15,17	X	11,12
	20,21	7,11	8,12	17,28.2	7,9	6,9
	18					
VPY84F - 5902	Identifiler® plus- STRMix™ 2.7.0					
		21,25		16,17	10,11	
1	8,8	13,14			12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21				7,9	6,9
	18,18					
VT27E9 - 5902	PowerPlex® 21- STRMix™ v2.8					
	14,15	21,25		16,17	10,11	14,17
1	8,8	13,14		18,19	12,12	10,11
	16,18	11,13	32.2,35		X,X	11,12
	20,21	7,11	8,12		7,9	6,9
	18,18					
XHPQK7 - 5901	GlobalFiler™- STRMix™ v2.9.1					
	14,15	21,25	11,11	16,17	10,11	
1	8,8	13,14	12,16	18,19	12,12	10,11
	16,18	11,13	32.2,35	17,NR	X,X	11,12
	20,21			17,28.2	7,9	6,9
	18,18					
XJ2PFE - 5901	PowerPlex® Fusion 6C- STRMix™ 2.6.3					
	14,15	21,25	11	16,17	10,11	
1	8	13,14	12,16	18,19	12	10,11
	16,18	11,13	32.2,35	15,17	X	11,12
	20,21	7,11	8,12	17,28.2	7,9	6,9
	18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 1 - STR Results

XKRQ7D - 5901		GlobalFiler™					
	14,15	21,25	11	16,17	10,11		
1	8	13,14	12,16	18,19	12	10,11	
	16,18	11,13	32.2,35	17	X	11,12	
	20,21			17,28.2	7,9	6,9	
	18						
XNR32D - 5901		GlobalFiler™					
	14,15	21,25	11	16,17	10,11		
1	8	13,14	12,16	18,19	12	10,11	
	16,18	11,13	32.2,35	17	X	11,12	
	20,21			17,28.2	7,9	6,9	
	18						
XUHAYB - 5901		Investigator® 24plex QS					
	14,15	21,25	11,11	16,17	10,11		
1	8,8	13,14	12,16	18,19	12,12	10,11	
	16,18	11,13	32.2,35	15,17	X,X	11,12	
	20,21			17,28.2	7,9	6,9	
	18,18						
XWPRX8 - 5902		PowerPlex® 21- STRMix™ v 2.10					
	14,15	21,25		16,17	10,11	14,17	
1	8,8	13,14		18,19	12,12	10,11	
	16,18	11,13	32.2,35		X,X	11,12	
	20,21	7,11	8,12		7,9	6,9	
	18,18						
Y43ZY9 - 5902		PowerPlex® 21- STRMix™					
	14,15	21,25		16,17	10,11	14,17	
1	8,8	13,14		18,19	12,12	10,11	
	16,18	11,13	32.2,35		X,X	11,12	
	20,21	7,11	8,12		7,9	6,9	
	18,18						
Y87VHC - 5901		Identifiler® plus- STRMix™ v 2.7.0					
		21,25		16,17	10,11		
1	8,8	13,14			12,12	10,11	
	16,18	11,13	32.2,35		X,X	11,12	
	20,21				7,9	6,9	
	18,18						
ZY2GWB - 5901		GlobalFiler™					
	14,15	21,25	11	16,17	10,11		
1	8	13,14	12,16	18,19	12	10,11	
	16,18	11,13	32.2,35	17	X	11,12	
	20,21			17,28.2	7,9	6,9	
	18						

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 2 - STR Results

27J4KB - 5901	ESI-17 - LiRa v. 3.0					
	14,16.3	19,21	10,11	16,16		
2		13,14	13,13	15,21		
	15,17	12,12.2	27,31	15,16	X,Y	
	23,24			18,25	7,8	
	15,16					
2TZLR8 - 5901	Identifiler® +					
		19,21		16,16	8,10	
2	7,10	13,14			13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24				7,8	8,12
	15,16					
3NJE48 - 5901	PowerPlex® Fusion 6C					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24	2.2,12	8,13	18,25	7,8	8,12
	15,16	10	19	16		
4KE6C3 - 5902	PowerPlex® 21- STRMix™ v2.8					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
4Q2XN3 - 5901	PowerPlex® 21- STRMix™					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
63EHK4 - 5902	GlobalFiler™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
6VPZR3 - 5901	GlobalFiler™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 2 - STR Results

6XXAW4 - 5901	PowerPlex® 21- STRMix™ v2.8					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
7T4FY3 - 5902	GlobalFiler™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
9WGZW3 - 5901	Identifiler® Plus, PowerPlex® Fusion 6C, MiniFiler					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24	2.2,12	8,13	18,25	7,8	8,12
	15,16	10	19	16		
9WVL74 - 5901	GlobalFiler™- STRMix™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
A66AJ3 - 5902	GlobalFiler™- STRMix™ 2.4					
	14,16.3	19,21	10,11	16,16	8,10	
2	7,10	13,14	13,13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
AUMTRW - 5901	PowerPlex® 21- STRMix™ 2.8					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
B7LWGW - 5901	GlobalFiler™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 2 - STR Results

C3L9DV - 5901	GlobalFiler™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
CKAFMX - 5901	Identifiler® Plus					
		19,21		16,16	8,10	
2	7,10	13,14			13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24				7,8	8,12
	15,16					
CNQNBW - 5901	PowerPlex® ESX 17 Fast System- STRMix™ V2.5.11					
	14,16.3	19,21	10,11	16,16		
2		13,14	13,13	15,21		9,11
	15,17	12,12.2	27,31	15,16	X,Y	
	23,24			18,25	7,8	
	15,16					
CV4WCY - 5901	GlobalFiler™ - GeneMapper ID-X 1.5					
	14,16.3	19,21	10,11	16,16	8,10	
2	7,10	13,14	13,13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
CX6ZPV - 5902	PowerPlex® Fusion 6C- STRMix™					
	14,16.3	19,21	10,11	16,16	8,10	
2	7,10	13,14	13,13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24	2.2,12	8,13	18,25	7,8	8,12
	15,16	10	19	16		
D4G86P - 5901	PowerPlex® 21- STRMix™					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
E6NMCV - 5901	Identifiler® Plus- STRMix™					
		19,21		16,16	8,10	
2	7,10	13,14			13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24				7,8	8,12
	15,16					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 2 - STR Results

EDLFKP - 5902	PowerPlex® 21- STRMix™ 2.8.0					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
G396TQ - 5901	GlobalFiler™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
GXTW6R - 5901	GlobalFiler™- STRMix™ v 2.8					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
GXXCQQ - 5902	PowerPlex® 21					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
HDQ4BR - 5902	Investigator® 24plex					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10				
J7339J - 5901	PowerPlex® 21- STRMix™					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
JGKK2Q - 5901	Identifiler® Plus					
		19,21		16,16	8,10	
2	7,10	13,14			13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24				7,8	8,12
	15,16					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 2 - STR Results

JJ74TP - 5901	GlobalFiler™- STRMix™ 2.8					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
L26XRK - 5902	PowerPlex® 21- STRMix™ V2.8					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
L7CNVQ - 5902	GlobalFiler™- STRMix™ 2.4					
	14,16.3	19,21	10,11	16,16	8,10	
2	7,10	13,14	13,13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
LE6Y6L - 5901	PowerPlex® 21- STRMix™ 2.8					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
LFLWXL - 5902	PowerPlex® 21- STRMix™ v2.8					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
LJL8TL - 5901	PowerPlex® 21- STRMix™					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
LRPGKK - 5901	GlobalFiler™- STRMix™ v2.8					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 2 - STR Results

LWPP4K - 5901	PowerPlex® 21- STRMix™ 2.8					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
NH4WTJ - 5902	PowerPlex® 21- STRMix™ v 2.8					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
NWU3LM - 5901	PowerPlex® Fusion 6C					
	14,16.3	19,21	10,11	16,16	8,10	
2	7,10	13,14	13,13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24	2.2,12	8,13	18,25	7,8	8,12
	15,16	10	19	16		
P4RC6K - 5901	GlobalFiler™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
P9HLFJ - 5901	GlobalFiler™- STRMix™ 2.8					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
PKP22G - 5901	PowerPlex® 21					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
PXPZND - 5902	PowerPlex® 21 - GMIDX					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 2 - STR Results

Q7ZLBM - 5902	PowerPlex® Fusion 6c, Precision ID GlobalFiler NGS STR Panel v2 kit - LRmixStudio, DNAxs, EuroForMix						
	14,16.3	19,21	10,11	16	8,10		
2	7,10	13,14	13	15,21	13,14	9,11	
	15,17	12,12.2	27,31	15,16	X,Y	10,12	
	23,24	2.2,12	8,13	18,25	7,8	8,12	
	15,16	10	19	16			
QETUVD - 5901	PowerPlex® 21- STRMix™ 2.8.0						
	14,16.3	19,21		16,16	8,10	11,19	
2	7,10	13,14		15,21	13,14	9,11	
	15,17	12,12.2	27,31		X,Y	10,12	
	23,24	2.2,12	8,13		7,8	8,12	
	15,16						
QGRATG - 5901	GlobalFiler™						
	14,16.3	19,21	10,11	16,16	8,10		
2	7,10	13,14	13,13	15,21	13,14	9,11	
	15,17	12,12.2	27,31	15,16	X,Y	10,12	
	23,24			18,25	7,8	8,12	
	15,16	10,0			2,0		
QKK2DL - 5902	GlobalFiler™ IQC						
	14,16.3	19,21	10,11	16,16	8,10		
2	7,10	13,14	13,13	15,21	13,14	9,11	
	15,17	12,12.2	27,31	15,16	X,Y	10,12	
	23,24			18,25	7,8	8,12	
	15,16	10			2		
T9QWLD - 5901	GlobalFiler™- STRMix™						
	14,16.3	19,21	10,11	16	8,10		
2	7,10	13,14	13	15,21	13,14	9,11	
	15,17	12,12.2	27,31	15,16	X,Y	10,12	
	23,24			18,25	7,8	8,12	
	15,16	10			2		
U8YVVF - 5902	Investigator® 24plex						
	14,16.3	19,21	10,11	16	8,10		
2	7,10	13,14	13	15,21	13,14	9,11	
	15,17	12,12.2	27,31	15,16	X,Y	10,12	
	23,24			18,25	7,8	8,12	
	15,16	10					
UAQU9D - 5902	PowerPlex® 21- STRMix™						
	14,16.3	19,21		16,16	8,10	11,19	
2	7,10	13,14		15,21	13,14	9,11	
	15,17	12,12.2	27,31		X,Y	10,12	
	23,24	2.2,12	8,13		7,8	8,12	
	15,16						

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 2 - STR Results

V9EEEC - 5901	PowerPlex® 21- STRMix™ V2.8					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
VGN7HF - 5902	PowerPlex® Fusion 6C - DNAxs					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24	2.2,12	8,13	18,25	7,8	8,12
	15,16	10	19	16		
VPY84F - 5902	Identifiler® plus- STRMix™ 2.7.0					
		19,21		16,16	8,10	
2	7,10	13,14			13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24				7,8	8,12
	15,16					
VT27E9 - 5902	PowerPlex® 21- STRMix™ v2.8					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
XHPQK7 - 5901	GlobalFiler™- STRMix™ v2.9.1					
	14,16.3	19,21	10,11	16,16	8,10	
2	7,10	13,14	13,13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
XJ2PFE - 5901	PowerPlex® Fusion 6C- STRMix™ 2.6.3					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24	2.2,12	8,13	18,25	7,8	8,12
	15,16	10	19	16		
XKRQ7D - 5901	GlobalFiler™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 2 - STR Results

XNR32D - 5901	GlobalFiler™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	
XUHAYB - 5901	Investigator® 24plex QS					
	14,16.3	19,21	10,11	16,16	8,10	
2	7,10	13,14	13,13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10				
XWPRX8 - 5902	PowerPlex® 21- STRMix™ v 2.10					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
Y43ZY9 - 5902	PowerPlex® 21- STRMix™					
	14,16.3	19,21		16,16	8,10	11,19
2	7,10	13,14		15,21	13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24	2.2,12	8,13		7,8	8,12
	15,16					
Y87VHC - 5901	Identifiler® plus- STRMix™ v 2.7.0					
		19,21		16,16	8,10	
2	7,10	13,14			13,14	9,11
	15,17	12,12.2	27,31		X,Y	10,12
	23,24				7,8	8,12
	15,16					
ZY2GWB - 5901	GlobalFiler™					
	14,16.3	19,21	10,11	16	8,10	
2	7,10	13,14	13	15,21	13,14	9,11
	15,17	12,12.2	27,31	15,16	X,Y	10,12
	23,24			18,25	7,8	8,12
	15,16	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 3 - STR Results

27J4KB - 5901 ESI-17 - LiRa v. 3.0

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17		
3		13,14	12,13,14,16	15,18,19,20,21,24		9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	
	15,16,17,18					

2TZLR8 - 5901 Identifiler® +- STRMix™ V2.5.11

		17,19,20,21,25		15,16,17	8,10,11,12	
3	8,10,12	13,14			11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24				7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

3NJE48 - 5901 PowerPlex® Fusion 6C- STRMix™ 2.5.11

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,13,16,20	14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11	19,20	16,17		

4KE6C3 - 5902 PowerPlex® 21- STRMix™ v2.8

	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	7,8,10,12	13,14		15,18,19,20,21,24	11,12,13	9,10,11,12,13
	12,13,15,16,17,18	11,12,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	7,10,11,13	5,7,8,12,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

4Q2XN3 - 5901 PowerPlex® 21- STRMix™

	15,16.3,17.3	17,20,21		15,16,17	11	11,17,19
3	8	13,14		18,19,20	11,12	10,11,12
	12	12.2,13,14,14.2,15	30.2,31.2,35		X,Y	10,11
	19,20,22,23	7,10,11	5,8,12,20		9,9.3	10,11
	15,16,17,18					

63EHK4 - 5902 GlobalFiler™- STRMix™ V2.9.1

	14,15,16,16.3,17.3	17,19,20,21,24,25	10,11,14	15,16,17	8,10,11,12	
3	8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,11,12,13
	12,13,15,16,17,18	11,12,12.2,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

TABLE 3

Item 3 - STR Results

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

6VPZR3 - 5901 GlobalFiler™- STRMix™

	14,15,16,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	8,10,12	13,14	12,13,14,16	18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,16,17,18	11,12,12.2,13,14,14.2,15	30.2,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,9,9.3	6,8,9,10,11,12
	15,16,17,18	10**,11			2	

6XXAW4 - 5901 PowerPlex® 21- STRMix™ v2.8

	14,15	17,20,21		15,16,17	11,12	11
3	8,12	13,14		15,18,19,21,24	11,12	10,11,12
	12,13,17	14,15	31.2		X,Y	10,11
	23	7,11,13	20		7,9,9.3	8,11
	15,16,17,18					

7T4FY3 - 5902 GlobalFiler™- STRMix™

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,23,24	11,12,13,14	9,10,11,12,13
	12,13,14,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

9WGZW3 - 5901 Identifiler® Plus, PowerPlex® Fusion 6C- STRMix™ V2.5.11

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,16,20	14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11	19,20	16,17		

9WVL74 - 5901 GlobalFiler™- STRMix™

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,23,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

A66AJ3 - 5902 GlobalFiler™- STRMix™ 2.4

	14,15,16,17.3	16,17,19,20,21,25	10,11,14	15,16,17	10,11,12	
3	7,8,12	13,14	12,13,14,16	18,19,20,24	11,12,13	10,11,12,13
	11,12,13,16,17,18	11,13,14,14.2,15	30.2,31.2,32.2	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23			14,17,18,19,20,27.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	11			2	

TABLE 3

Item 3 - STR Results

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

AUMTRW - 5901 PowerPlex® 21- STRMix™ 2.8

	14,15,16,16.3,17.3	17,20,21		15,16,17	8,10,11,12	11,14,17,18,19
3	7,8,10,12	13,14		18,19,20,24	11,12,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	30.2,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	2.2,10,11,13	5,7,8,12,16,20		7,9,9.3	6,8,9,10,11,12
	15,16,17,18					

B7LWGW - 5901 GlobalFiler™

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,13,14,14.2,15	26,27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2,31.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

C3L9DV - 5901 GlobalFiler™ - STRMix™

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,13,14,14.2,15	27,30.2,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

CKAFMX - 5901 Identifiler® Plus- STRMix™ 2.7

		17,19,20,21,25		15,16,17	8,10,11,12	
3	8,10,12	13,14			11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31,2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24				7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

CNQNBW - 5901 PowerPlex® ESX 17 Fast System- STRMix™ V2.5.11

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17		
3		13,14	12,13,14,16	15,18,19,20,21,24		9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	
	15,16,17,18					

CV4WCY - 5901 GlobalFiler™ - GeneMapper ID-X 1.5

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,23,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 3 - STR Results

CX6ZPV - 5902 PowerPlex® Fusion 6C- STRMix™

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15,15.2	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,13,16,20	14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11	19,20	16,17		

D4G86P - 5901 PowerPlex® 21- STRMix™

	14,15,16,16.3,17.3	17,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	8,10,12	13,14		15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	See comments	See comments		X,Y	10,11,12
	19,20,21,22,23,24	7,10,11,12,13	5,7,8,12,13,16,20		7,9,9.3	6,8,9,10,11,12
	15,16,17,18					

E6NMCV - 5901 Identifiler® Plus- STRMix™

		17,19,20,21,25		15,16,17	8,10,11,12	
3	8,10,12	13,14			11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24				7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

EDLFKP - 5902 PowerPlex® 21- STRMix™ 2.8.0

	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	7,8,10,12	13,14		15,18,19,20,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

G396TQ - 5901 GlobalFiler™- STRMix™

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,13,14,14.2,15	26**,27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

GXXCQQ - 5902 PowerPlex® 21- STRMix™ v2.8.0

	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	7,8,12	13,14		15,18,19,20,21,24	11,12,13	9,10,11,12,13
	12,13,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23	7,10,11,13	5,7,8,12,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 3 - STR Results

HDQ4BR - 5902 Investigator® 24plex

	14,15,16,17.3	17,20,21,25	10,11,14	15,16,17	10,11,12	
3	8,10,12	13,14	13,14,16	15,18,19,20,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	30.2,31,31.2,32.2,35	11,14,15,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11				

J7339J - 5901 PowerPlex® 21- STRMix™

	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,13,14,17,18,19
3	7,8,10,12	13,14		15,18,19,20,21,24,25	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,13,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

JGKK2Q - 5901 Identifiler® Plus- STRMix™

		17,19,20,21,25		15,16,17	10,11,12	
3	8,12	13,14			11,12,13,14	10,11,12,13
	12,13,15,16,17,18	11,12,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23				7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

L26XRK - 5902 PowerPlex® 21- STRMix™ V2.8

	14,15,16,16.3,17.3	17,20,21		15,16,17	8,10,11,12	11,14,18,19
3	7,8,12	13,14		15,18,19,20,21,24	11,12,13	10,11,12
	12,13,15,17,18	11,14,14.2,15	30.2,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23	7,12,13	5,8,16,20		7,9,9.3	6,8,11,12
	15,16,17,18					

L7CNVQ - 5902 GlobalFiler™- STRMix™ 2.4

	13,14,15,16,16.3,17.3	16,17,19,20,21,25	9,10,11,13,14	14,15,16,17	8,10,11,12	
3	7,8,10,11,12	12,13,14	12,13,14,16	15,18,19,20,21,23,24	10,11,12,13,14	9,10,11,12,13
	11,12,13,15,16,17,18	11,12,12.2,13,13.2,14,14.2,15	27,30.2,31,31.2,32.2,35	11,13,14,15,16,17	X,Y	10,11,12
	18,19,20,21,22,23,24				6,7,8,9,9.3	6,8,9,10,11,12
	14,15,16,17,18	10,11			2	

LE6Y6L - 5901 PowerPlex® 21- STRMix™ 2.8

	14,15,16,16.3,17.3	17,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	8,12	13,14		18,19,20,21,24	11,12,13	9,10,11,12,13
	12,13,15,16,17,18	11,12,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,16,20		7,9,9.3	6,8,9,10,11,12
	15,16,17,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 3 - STR Results

LFLWXL - 5902	PowerPlex® 21- STRMix™ v2.8					
	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	7,8,10,12	13,14		15,18,19,20,24	11,12,13,14	10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,13.2,14,14.2,15	27,30.2,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,13	5,7,8,12,13,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					
LJL8TL - 5901	PowerPlex® 21- STRMix™					
	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	7,8,10,12	13,14		15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,13,16,20		7,9,9.3	6,8,9,10,11,12
	15,16,17,18					
LWPP4K - 5901	PowerPlex® 21- STRMix™ 2.8					
	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	7,8,10,12	13,14		15,18,19,20,21,24	11,12,14	9,10,11,12,13
	12,13,15,16,17,18	11,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,13	5,7,8,12,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					
NH4WTJ - 5902	PowerPlex® 21- STRMix™ 2.8					
	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,17,18,19
3	8,10,12	13,14		15,18,19,20,24	11,12	9,10,11,12,13
	12,13,15,16,17,18	11,12,13,14.2,12.2,14,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	7,10,11,13	5,7,8,12,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					
NWU3LM - 5901						
	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17		
3		13,14	12,13,14,16	15,18,19,20,21,24		9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31.2,32.2,35	11,14,15,16,17	X,Y	
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	
	15,16,17,18				2	
P4RC6K - 5901	GlobalFiler™- STRMix™					
	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 3 - STR Results

PKP22G - 5901 PowerPlex® 21- STRMix™ v2.8

	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	8,10,12	13,14		15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,13,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

PXPZND - 5902 PowerPlex® 21- STRMix™

	14,15,17.3	17,19,20,21		15,16,17	11,12	11,18,19
3	12	13,14		18,19,20,24	11,12	11,12,13
	12,16,18	11,13,14,14.2,15	30.2,31.2,32.2		X,Y	10,11,12
	19,20,23	7,10,11,13	5,7,16		7,9,9.3	8,9,10,11,12
	15,16,17					

Q7ZLBM - 5902 PowerPlex® Fusion 6c, GlobalFiler™, Precision ID GlobalFiler NGS STR Panel v2 kit - LRmixStudio, DNAxs, EuroforMix

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,13,16,20	14,17,18,20,25,27.2,28.2,30.2	7,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11	19,20	16,17	2	

QETUVD - 5901 PowerPlex® 21- STRMix™ 2.8.0

	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	8,10,12	13,14		15,18,19,20,21,24	11,12,14	9,10,11,12,13
	12,13,15,16,17,18	11,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	7,10,11,13	5,7,8,12,13,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

QGRATG - 5901 GlobalFiler™

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	10,11,12	
3	7,8,10,12	13,14	12,13,14,16	18,19,20,24	11,12,13,14	9,10,11,12,13
	12,13,16,17,18	11,12,13,14,14.2,15	27,30.2,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

QKK2DL - 5902 GlobalFiler™ IQC- STRMix™ 2.8.0

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

TABLE 3

Item 3 - STR Results

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

T9QWLD - 5901 GlobalFiler™ - STRMix™

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

U8YVVF - 5902 Investigator® 24plex

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2,31.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11				

UAQU9D - 5902 PowerPlex® 21- STRMix™

	14,15,16	17,19,20,21,25		15,16,17	10,11,12	11,14,17,18,19
3	8,10,12	13,14		15,18,19,21,24	11,12,13	10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	30.2,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	7,10,11,13	5,7,8,12,16		7,8,9,9.3	8,10,11,12
	15,16,17,18					

V9EEEC - 5901 PowerPlex® 21- STRMix™ v2.8

	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	8,10,11,12	11,14,17,18,19
3	8,10,12	13,14		18,19,20,21,24	11,12,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,13,14,14.2,15	27,30.2,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,13	5,7,8,12,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

VGN7HF - 5902 PowerPlex® Fusion 6C - DNAxs

	14,15,16,16.3,17.3	17,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,24	11,12,13,14	9,10,11,12,13
	12,13,16,17,18	11,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,13	5,7,8,12,13,16,20	14,17,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11	19,20	16,17		

VPY84F - 5902 Identifiler® plus- STRMix™ 2.7.0

		17,20,21,25		15,16,17	10,11,12	
3	8,12	13,14			11,12	9,10,11,12,13
	12,13,16,17,18	11,13,14,14.2,15	30.2,31.2,32.2		X,Y	10,11,12
	19,20,22,23				7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 3 - STR Results

VT27E9 - 5902 PowerPlex® 21- STRMix™ v2.8

	14,15,16,17.3	17,19,20,21,25		15,16,17	10,11,12	11,14,17,18,19
3	8,12	13,14		18,19,20,24	11,12	10,11,12,13
	12,13,16,17,18	11,14,14.2,15	30.2,31.2,32.2,35		X,Y	10,11,12
	19,20,22,23	7,10	5,8,12,16,20		7,9,9.3	8,9,10,11,12
	15,16,17,18					

XHPQK7 - 5901 GlobalFiler™- STRMix™ v2.9.1

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2,31.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

XJ2PFE - 5901 PowerPlex® Fusion 6C- STRMix™ 2.6.3

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,13,16,20	14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11	19,20	16,17		

XKRQ7D - 5901 GlobalFiler™- STRMix™

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2,31.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

XNR32D - 5901 GlobalFiler™- STRMix™

	14,15,16,16.3,17.3	17,19,20,21,24,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

XUHAYB - 5901 Investigator® 24plex QS

	14,15,16,17.3	(17,20),21,(25)	(10),11,(14)	15,16,(17)	(10),11,(12)	
3	8,12	(13),14	(12),13,14,(16)	18,19,(20,24)	11,12	(10),11,(12,13)
	12,13,16,17,18	11,13,14,14.2,15	(27),30.2,31.2,32.2,(35)	11,14,15,17	X,(Y)	10,11,12
	19,20,21,22,23			14,17,18,20,25,27.2,28.2,30.2	7,(8,9,9.3)	6,8,9,10,11,12
	15,16,17,18	(10),11				

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 3 - STR Results

XWPRX8 - 5902 PowerPlex® 21- STRMix™ v 2.10

	14,15,16,16.3,17.3	17,19,20,21,25		15,16,17	10,11,12	11,14,17,18,19
3	7,8,12	13,14		18,19,20,24	11,12,13	9,10,11,12,13
	12,13,15,16,17,18	11,12,13,14,14.2,15	27,30.2,31,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23,24	2.2,7,10,11,12,13	5,7,8,12,13,16,20		7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18					

Y43ZY9 - 5902 PowerPlex® 21- STRMix™

	14,15,16,17.3	17,20,21,25		15,16,17	8,10,11,12	11,17,18,19
3	8,12	13,14		18,19,20,24	11,12	10,11,12,13
	12,13,16,17	11,12.2,13,14,14.2,15	30.2,31.2,32.2		X,Y	10,11,12
	19,20,21,22,23,24	10,11,13	5,7,8,12,16		7,8,9,9.3	8,9,11
	15,16,17,18					

Y87VHC - 5901 Identifiler® plus- STRMix™ v 2.7.0

		17,20,21,25		15,16,17	11,12	
3	8,12	13,14			11,12	10,11,12,13
	12	11,14,14.2,15	31.2,32.2		X,Y	10,11,12
	19,20,22,23				7,8,9,9.3	6,8,9,10,11,12
	15,16,17					

ZY2GWB - 5901 GlobalFiler™- STRMix™

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 3e - STR Results

GXTW6R - 5901 GlobalFiler™- STRMix™ v. 2.8

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3e	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2,31.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

JJ74TP - 5901 GlobalFiler™- STRMix™ 2.8

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3e	8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

LRPGKK - 5901 GlobalFiler™- STRMix™ v2.8

	14,15,16,16.3,17.3	17,19,20,21,25	10,11,14	15,16,17	8,10,11,12	
3e	7,8,10,12	13,14	12,13,14,16	15,18,19,20,21,24	11,12,13,14	9,10,11,12,13
	12,13,15,16,17,18	11,12,12.2,13,14,14.2,15	27,30.2,31,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,18,20,25,27.2,28.2,30.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10,11			2	

P9HLFJ - 5901 GlobalFiler™- STRMix™ 2.8

	14,15,17.3	17,19,20,21,25	10,11,14	15,16,17	10,11,12	
3e	8,12	13,14	13,14	18,19,20,24	11,12	10,11,12,13
	12,13,16,17	11,12,12.2,13,14,14.2,15	30.2,31.2,32.2	11,14,15,17	X,Y	10,11,12
	19,20,21,22,23,24			14,17,20,27.2,28.2,30.2	7,8,9,9.3	6,8,10,11,12
	15,16,17,18	10,11			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 3sp - STR Results

GXTW6R - 5901 GlobalFiler™- STRMix™ v. 2.8

	14,15,16.3,17.3	20,21	10,11	15,16,17	11,12	
3sp	8,10,12	13,14	13,14,16	20,24	11,12	10,11,13
	12,13,16,17	13,14,14.2,15	30.2,31.2,32.2,35	11,14,17	X,Y	10,11,12
	19,20,23			17,20,30.2	7,9,9.3	8,11
	15,17,18	11			2	

JJ74TP - 5901 GlobalFiler™- STRMix™ 2.8

		25	11			
3sp	8,12	13,14	13,14,16	19	11,12	
		11,14,15		17	X	
				31.2		
	17				2	

LRPGKK - 5901 GlobalFiler™- STRMix™ v2.8

3sp						

P9HLFJ - 5901 GlobalFiler™- STRMix™ 2.8

3sp						

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4 - STR Results

CNQNBW - 5901 PowerPlex® ESX 17 Fast System- STRMix™ V2.5.11

	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17		
4		11,13,14,15	12,13,14,16	18,19,20,23,24		9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	
	15,16,17,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4e - STR Results

27J4KB - 5901	ESI-17 - LiRa v. 3.0					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17		
4e		11,13,14,15	12,13,14,16	18,19,20,23,24		9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	
	15,16,17,18					
2TZLR8 - 5901	Identifiler® +- STRMix™ V2.5.11					
		16,17,18,20,21,25		15,16,17	10,11,13	
4e	8,10,12	11,13,14,15			10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23				7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
3NJE48 - 5901	PowerPlex® Fusion 6C- STRMix™ 2.5.11					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,14,15,16,17	X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12	17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10	17	15		
4KE6C3 - 5902	PowerPlex® 21- STRMix™ v2.8					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,X	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
4Q2XN3 - 5901	PowerPlex® 21- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,12
	15,16,17,18					
63EHK4 - 5902	GlobalFiler™- STRMix™ V2.9.1					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4e - STR Results

6VPZR3 - 5901	GlobalFiler™ - STRMix™					
	12,14,15,17.3	16,17,18,20,21,24,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			16,17,20,27.2,28.2,29.2,30.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
6XXAW4 - 5901	PowerPlex® 21 - STRMix™ v2.8					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,12
	15,16,17,18					
7T4FY3 - 5902	GlobalFiler™ - STRMix™					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12,13	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
9WGZW3 - 5901	Identifiler® Plus, PowerPlex® Fusion 6C - STRMix™ V2.5.11					
	14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11	
4e	8,12	11,13,14	12,13,14,16	18,19,20,23,24	11,12	9,10,11,13
	12,16,18	11,13,14,14.2	31.2,32.2,35	11,15,17	X	10,11,12
	19,20,21,23	7,11,13	5,7,8,12	17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,12
	15,16,17,18	10				
9WVL74 - 5901	GlobalFiler™ - STRMix™					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,12,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12,13	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,16,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
A66AJ3 - 5902	GlobalFiler™ - STRMix™ 2.4					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,22,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4e - STR Results

AUMTRW - 5901	PowerPlex® 21- STRMix™ 2.8					
	14,15,17.3	17,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,9,9.3	6,8,9,11,12
	15,17,18					
B7LWGW - 5901	GlobalFiler™- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
C3L9DV - 5901	GlobalFiler™- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,12,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
CKAFMX - 5901	Identifiler® Plus- STRMix™ 2.7					
		16,17,18,20,21,25		15,16,17	10,11,13	
4e	8,10,12	11,13,14,15			10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23				7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
CV4WCY - 5901	GlobalFiler™ - GeneMapper ID-X 1.5					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
CX6ZPV - 5902	PowerPlex® Fusion 6C- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,13.2,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12	17,20,27.2,28,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10	17	15		

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4e - STR Results

D4G86P - 5901	PowerPlex® 21- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	See comments
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	See comments		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12,13
	15,16,17,18					
E6NMCV - 5901	Identifiler® Plus- STRMix™					
		16,17,18,20,21,25		15,16,17	10,11,13	
4e	8,10,12	11,13,14,15			10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23				7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
EDLFKP - 5902	PowerPlex® 21- STRMix™ 2.8.0					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
G396TQ - 5901	GlobalFiler™- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,22**,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29 .2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
GXTW6R - 5901	GlobalFiler™- STRMix™ v 2.8					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29 .2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
GXXCQQ - 5902	PowerPlex® 21- STRMix™ v2.8.0					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					

TABLE 3

Item 4e - STR Results

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	
HDQ4BR - 5902	Investigator® 24plex					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,12
	15,16,17,18	10				
J7339J - 5901	PowerPlex® 21- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
JGKK2Q - 5901	Identifiler® Plus- STRMix™					
		16,17,18,20,21,25		15,16,17	10,11,13	
4e	8,10,12	11,13,14,15			10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23				7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
JJ74TP - 5901	GlobalFiler™- STRMix™ 2.8					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
L26XRK - 5902	PowerPlex® 21- STRMix™ V2.8					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
L7CNVQ - 5902	GlobalFiler™- STRMix™ 2.4					
	11,12,13,14,15,16.3,17.3	16,17,18,19,20,21,24,25	9,10,11,13,14	14,15,16,17	9,10,11,12,13	
4e	7,8,10,11,12	10,11,12,13,14,15	11,12,13,14,15,16	18,19,20,22,23,24	10,11,12,13	9,10,11,12,13
	11,12,15,16,17,18	11,12,13,13.2,14,14.2,15	29,30.2,31.2,32.2,35	10,11,14,15,16,17	X,Y	10,11,12
	18,19,20,21,22,23			16,17,19,20,26.2,27.2,28.2,29.2	6,7,8,9,9.3	6,8,9,11,12
	14,15,16,17,18	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4e - STR Results

LE6Y6L - 5901	PowerPlex® 21- STRMix™ 2.8					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,12	14,17,18,19
4e	8,12	13,14		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2	29,31.2,32.2,35		X,Y	11,12
	19,20,21,23	7,11,13	5,7,8,12		7,9,9.3	6,8,9,11,12
	15,16,17,18					
LFLWXL - 5902	PowerPlex® 21- STRMix™ v2.8					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,17,18					
LJL8TL - 5901	PowerPlex® 21- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2	29,31.2,32.2,35		X,Y	11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
LRPGKK - 5901	GlobalFiler™- STRMix™ v2.8					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29 .2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
LWPP4K - 5901	PowerPlex® 21- STRMix™ 2.8					
	14,15,17.3	17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
NH4WTJ - 5902	PowerPlex® 21- STRMix™ v2.8					
	14,15,17.3	16,17,20,21,25		15,16,17	10,11	11,12,14,17,18,19
4e	8,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,9,9.3	6,8,9,12
	15,16,17,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4e - STR Results

NWU3LM - 5901

	12,14,15,17.3	16,17,18,20,21,25	17,20,27.2,28.2,29.2	15,16,17		
4e		11,13,14,15	12,13,14,16	18,19,20,23,24		9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	
	15,16,17,18				2	

P4RC6K - 5901 GlobalFiler™ - STRMix™

	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	

P9HLFJ - 5901 GlobalFiler™ - STRMix™ 2.8

	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	

PKP22G - 5901 PowerPlex® 21- STRMix™ v2.8

	14,15,17.3	17,18,20,21,25		15,16,17	10,11	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2	29,31.2,32.2,35		X,Y	11,12
	19,20,21,23	7,11,13	5,7,8,12		7,9,9.3	6,8,9,11,12
	15,16,17,18					

PXPZND - 5902 PowerPlex® 21- STRMix™

	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					

Q7ZLBM - 5902 PowerPlex® Fusion 6c, GlobalFiler™, Precision ID GlobalFiler NGS STR Panel v2 kit - LRmixStudio, DNAxs, EuroforMix

	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12	17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10	17	15	2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4e - STR Results

QETUVD - 5901	PowerPlex® 21- STRMix™ 2.8.0					
	14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,X	11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					
QGRATG - 5901	GlobalFiler™					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	10,11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
QKK2DL - 5902	GlobalFiler™ IQC- STRMix™ 2.8.0					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
T9QWLD - 5901	GlobalFiler™- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,22,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	
U8YVVF - 5902	Investigator® 24plex- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12,13	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,10,11,12
	15,16,17,18	10				
UAQU9D - 5902	PowerPlex® 21- STRMix™					
	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	13,14,15		18,19,20,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4e - STR Results

V9EEEC - 5901 PowerPlex® 21- STRMix™ v2.8

	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,17,18					

VGN7HF - 5902 PowerPlex® Fusion 6C - DNAxs

	12,14,15,17.3	16,17,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12	17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10	17	15		

VPY84F - 5902 Identifiler® plus- STRMix™ 2.7.0

		16,17,18,19,20,21,25		15,16,17	10,11,13	
4e	8,10,11,12	11,12,13,14,15			10,11,12	9,10,11,12,13
	11,12,16,18	11,13,14,14.2,15	29,30.2,31.2,32.2		X,Y	10,11,12
	19,20,21,23				7,8,9,9.3	6,8,11,12
	15,16,17,18					

VT27E9 - 5902 PowerPlex® 21- STRMix™ v2.8

	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					

XHPQK7 - 5901 GlobalFiler™- STRMix™ v2.9.1

	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	

XJ2PFE - 5901 PowerPlex® Fusion 6C- STRMix™ 2.6.3

	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12	17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10	17	15		

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4e - STR Results

XKRQ7D - 5901 GlobalFiler™ - STRMix™

	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	

XNR32D - 5901 GlobalFiler™ - STRMix™

	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	

XUHAYB - 5901 Investigator® 24plex QS - EFM

	(12,14),15,(17.3)	16,17,18,20,21,25	10,11,14	15,16,17	(10),11,(13)	
4e	8,(10),12	(11),13,14,(15)	(12),13,(14,16)	18,19,20,23,24	(10,11),12	(9,10),11,(12,13)
	12,(16,18)	11,13,14,14.2,15	(29),31.2,32.2,(35)	(11),15,(17)	X,(Y)	(10),11,(12)
	19,20,(21),23			17,20,27.2,28.2,29.2	7,(8,9,9.3)	(6),8,(9,11),12
	15,(16),17,18	10				

XWPRX8 - 5902 PowerPlex® 21- STRMix™ v 2.10

	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	11,13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					

Y43ZY9 - 5902 PowerPlex® 21- STRMix™

	12,14,15,17.3	16,17,18,20,21,25		15,16,17	10,11,13	11,12,14,17,18,19
4e	8,10,12	13,14,15		18,19,20,23,24	10,11,12	9,10,11,13
	12,16,18	11,13,14,14.2,15	29,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23	7,11,13	5,7,8,12		7,8,9,9.3	6,8,9,11,12
	15,16,17,18					

Y87VHC - 5901 Identifiler® plus- STRMix™ v 2.7.0

		16,17,18,19,20,21,25		15,16,17	10,11,13	
4e	8,10,11,12	11,12,13,14,15			10,11,12	9,10,11,12,13
	11,12,16,18	11,13,13.2,14,14.2,15	29,30.2,31.2,32.2,35		X,Y	10,11,12
	19,20,21,22,23				7,8,9,9.3	6,8,9,11,12
	15,16,17,18					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4e - STR Results

ZY2GWB - 5901 GlobalFiler™ - STRMix™

	12,14,15,17.3	16,17,18,20,21,25	10,11,14	15,16,17	10,11,12,13	
4e	8,10,12	11,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16,17,18	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,27.2,28.2,29.2	7,8,9,9.3	6,8,9,11,12
	15,16,17,18	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4sp - STR Results

27J4KB - 5901	ESI-17 - LiRa v. 3.0					
	12,15	16,18	11,14	15,15		
4sp		11,15	14,14	19,23		9,11
	12,16	13,15	29,31.2	15,15	X,Y	
	20,23			28.2,29.2	7,8	
	16,17					
2TZLR8 - 5901	Identifiler® +- STRMix™ V2.5.11					
		16,18		15,15	11,13	
4sp	8,10	11,15			10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23				7,8	8,11
	16,17					
3NJE48 - 5901	PowerPlex® Fusion 6C- STRMix™ 2.5.11					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23	13	7,12	28.2,29.2	7,8	8,11
	16,17	10	17	15		
4KE6C3 - 5902	PowerPlex® 21- STRMix™ v2.8					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
4Q2XN3 - 5901	PowerPlex® 21- STRMix™					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
63EHK4 - 5902	GlobalFiler™- STRMix™ V2.9.1					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
6VPZR3 - 5901	GlobalFiler™- STRMix™					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,30**,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4sp - STR Results

6XXAW4 - 5901	PowerPlex® 21- STRMix™ v2.8					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
7T4FY3 - 5902	GlobalFiler™- STRMix™					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
9WGZW3 - 5901	Identifiler® Plus, PowerPlex® Fusion 6C- STRMix™ V2.5.11					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23	13	7,12	28.2,29.2	7,8	8,11
	16,17	10	17	15		
9WVL74 - 5901	GlobalFiler™- STRMix™					
	12,15	16,18	11,14	15,15	11,13	
4sp	8,10	11,15	14,14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15,15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
A66AJ3 - 5902	GlobalFiler™- STRMix™ 2.4					
	11,12,14,15	15,16,17,18	10,11,14	14,15	10,11,12,13	
4sp	8,10	10,11,14,15	13,14	19,22,23	10,11,12	9,11
	12,15,16	12,13,14,15	28,29,30.2,31.2	14,15,16	X,Y	10,11
	19,20,22,23			27.2,28.2,29.2	6,7,8	8,11
	15,16,17	10			2	
AUMTRW - 5901	PowerPlex® 21- STRMix™ 2.8					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
B7LWGW - 5901	GlobalFiler™- STRMix™					
	12,13**,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,21**,23			28.2,29.2	7,8	8,11
	16,17	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4sp - STR Results

C3L9DV - 5901	GlobalFiler™ - STRMix™					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
CKAFMX - 5901	Identifiler® Plus- STRMix™ 2.7					
		16,18		15,15	11,13	
4sp	8,10	11,15			10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23				7,8	8,11
	16,17					
CV4WCY - 5901	GlobalFiler™ - GeneMapper ID-X 1.5					
	12,15	16,18	11,14	15,15	11,13	
4sp	8,10	11,15	14,14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15,15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
CX6ZPV - 5902	PowerPlex® Fusion 6C- STRMix™					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23	13	7,12	28.2,29.2	7,8	8,11
	16,17	10	17	15		
D4G86P - 5901	PowerPlex® 21- STRMix™					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
E6NMCV - 5901	Identifiler® Plus- STRMix™					
		16,18		15,15	11,13	
4sp	8,10	11,15			10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23				7,8	8,11
	16,17					
EDLFKP - 5902	PowerPlex® 21- STRMix™ 2.8.0					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4sp - STR Results

G396TQ - 5901	GlobalFiler™ - STRMix™					
	12,13,15,17.3	16,18,20,21,25	10,11,14	15,16,17	11,12,13	
4sp	8,10,12	11,12**,13,14,15	12,13,14,16	18,19,20,23,24	10,11,12	9,10,11,13
	12,16	11,13,14,14.2,15	29,31.2,32.2,35	11,15,17	X,Y	10,11,12
	19,20,21,23			17,20,28.2,29.2	7,8,9,9.3	8,11,12
	15,16,17,18	10			2	
GXTW6R - 5901	GlobalFiler™ - STRMix™ v 2.8					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
GXXCQQ - 5902	PowerPlex® 21 - STRMix™ v2.8.0					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
HDQ4BR - 5902	Investigator® 24plex					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10				
J7339J - 5901	PowerPlex® 21 - STRMix™					
	12,15	16,18		15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13	7,12		7,8	8,11
	16,17					
JGKK2Q - 5901	Identifiler® Plus - STRMix™					
		16,18		15,15	11,13	
4sp	8,10	11,15			10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23				7,8	8,11
	16,17					
JJ74TP - 5901	GlobalFiler™ - STRMix™ 2.8					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4sp - STR Results

L26XRK - 5902	PowerPlex® 21- STRMix™ V2.8					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
L7CNVQ - 5902	GlobalFiler™- STRMix™ 2.4					
	11,12,14,15	15,16,17,18	10,11,13,14	14,15	10,11,12,13	
4sp	7,8,9,10	10,11,14,15	13,14,15	18,19,22,23	9,10,11,12	8,9,10,11
	11,12,15,16	12,13,14,15	28,29,30.2,31.2	14,15,16	X,Y	9,10,11
	19,20,22,23			27.2,28.2,29.2	6,7,8	8,10,11
	15,16,17,18	10			2	
LE6Y6L - 5901	PowerPlex® 21- STRMix™ 2.8					
	12,15	16,18		15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13	7,12		7,8	8,11
	16,17					
LFLWXL - 5902	PowerPlex® 21- STRMix™ v2.8					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
LJL8TL - 5901	PowerPlex® 21- STRMix™					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
LRPGKK - 5901	GlobalFiler™- STRMix™ v2.8					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
LWPP4K - 5901	PowerPlex® 21- STRMix™ 2.8					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4sp - STR Results

NH4WTJ - 5902	PowerPlex® 21- STRMix™ v2.8					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
NWU3LM - 5901						
	12,15	16,18	11,14	15		
4sp		11,15	14	19,23		9,11
	12,16	13,15	29,31.2	15	X,Y	
	20,23			28.2,29.2	7,8	
	16,17				2	
P4RC6K - 5901	GlobalFiler™- STRMix™					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
P9HLFJ - 5901	GlobalFiler™- STRMix™ 2.8					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
PKP22G - 5901	PowerPlex® 21- STRMix™ v2.8					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
PXPZND - 5902	PowerPlex® 21- STRMix™					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
Q7ZLBM - 5902	PowerPlex® Fusion 6c, GlobalFiler™, Precision ID GlobalFiler NGS STR Panel v2 kit - LRmixStudio, DNAxs, EuroforMix					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23	13	7,12	28.2,29.2	7,8	8,11
	16,17	10	17	15	2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4sp - STR Results

QETUVD - 5901	PowerPlex® 21- STRMix™ 2.8.0					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
QGRATG - 5901	GlobalFiler™					
	12,15	16,18	11,14	15,15	11,13	
4sp	8,10	11,15	14,14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15,15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2,0	
QKK2DL - 5902	GlobalFiler™ IQC- STRMix™ 2.8.0					
	12,15	16,18	11,14	15,15	11,13	
4sp	8,10	11,15	14,14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15,15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
T9QWLD - 5901	GlobalFiler™- STRMix™					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15,16**	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23,24**			28.2,29.2	7,8	8,11
	16,17	10			2	
U8YVVF - 5902	Investigator® 24plex- STRMix™					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10				
UAQU9D - 5902	PowerPlex® 21- STRMix™					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
V9EEEC - 5901	PowerPlex® 21- STRMix™ v2.8					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4sp - STR Results

VGN7HF - 5902	PowerPlex® Fusion 6C - DNAxs					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23	13	7,12	28.2,29.2	7,8	8,11
	16,17	10	17	15		
VPY84F - 5902	Identifiler® plus- STRMix™ 2.7.0					
		15,16,17,18		14,15	11,12,13	
4sp	8,10	10,11,14,15			10,11,12	8,9,10,11
	11,12,15,16	12,13,14,15	28,29,30.2,31.2		X,Y	9,10,11
	20,23				7,8	8,11
	15,16,17					
VT27E9 - 5902	PowerPlex® 21- STRMix™ v2.8					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
XHPQK7 - 5901	GlobalFiler™- STRMix™ v2.9.1					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
XJ2PFE - 5901	PowerPlex® Fusion 6C- STRMix™ 2.6.3					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23	13	7,12	28.2,29.2	7,8	8,11
	16,17	10	17	15		
XKRQ7D - 5901	GlobalFiler™- STRMix™					
	12,15	16,18	11,14	15	11,12**,13	
4sp	8,10	11,13**,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	
XNR32D - 5901	GlobalFiler™- STRMix™					
	12,15	16,18	11,14	15	11,13,14**	
4sp	8,10	11,15	14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23,24**			28.2,29.2	7,8	8,11
	16,17	10			2	

TABLE 3

WebCode - Test	Amplification Kits - Probablistic Genotyping Software					
Item	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA	DYS391	DYS570	DYS576	Y Indel	

Item 4sp - STR Results

XUHAYB - 5901	Investigator® 24plex QS - EFM					
	12,15	16,18	11,14	15,15	11,13	
4sp	8,10	11,15	14,14	19,23	10,12	9,11
	12,16	13,15	29,31.2	15,15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10				
XWPRX8 - 5902	PowerPlex® 21- STRMix™ v 2.10					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,[20],23	10,12	9,11
	12,16	13,[14],15	29,31.2,[32.2]		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
Y43ZY9 - 5902	PowerPlex® 21- STRMix™					
	12,15	16,18		15,15	11,13	11,12
4sp	8,10	11,15		19,23	10,12	9,11
	12,16	13,15	29,31.2		X,Y	10,11
	20,23	13,13	7,12		7,8	8,11
	16,17					
Y87VHC - 5901	Identifiler® plus- STRMix™ v 2.7.0					
		15,16,17,18		14,15	11,12,13	
4sp	8,10	10,11,14,15			9,10,11,12	8,9,10,11
	12,15,16	12,13,14,15	28,29,30.2,31.2		X,Y	9,10,11
	19,20,22,23				7,8	8,11
	15,16,17					
ZY2GWB - 5901	GlobalFiler™- STRMix™					
	12,15	16,18	11,14	15	11,13	
4sp	8,10	11,12**,15	14	19,23	10,12,13**	9,11
	12,16	13,15	29,31.2	15	X,Y	10,11
	20,23			28.2,29.2	7,8	8,11
	16,17	10			2	

YSTR Amplification Kit(s) & Results

TABLE 4

WebCode - Test	Amplification Kit								
Item	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
Item 2 - YSTR Results									
4Q2XN3 - 5901		Yfiler® plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
6XXAW4 - 5901		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
9WGZW3 - 5901		Yfiler®							
2		15	16,17	13	30	21	10	11	13
	14	11	11	21		15	16		
							21		12
A66AJ3 - 5902		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
AUMTRW - 5901		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
CKAFMX - 5901		PowerPlex® Y 23							
2		15	16,17	13	30	21	10	11	13
	14	11	11	21		15	16		28
		12	11	19	16		21	14	12
CNQNBW - 5901		PowerPlex® Y 23							
2		15	16,17	13	30	21	10	11	13
	14	11	11	21		15	16		28
		12	11	19	16		21	14	12
CV4WCY - 5901		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
CX6ZPV - 5902		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
E6NMCV - 5901		PowerPlex® Y 23							
2		15	16,17	13	30	21	10	11	13
	14	11	11	21		15	16		28
		12	11	19	16		21	14	12
GXXCQQ - 5902		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12

TABLE 4

Item 2 - YSTR Results

WebCode - Test	Amplification Kit								
Item	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
JGKK2Q - 5901		PowerPlex® Y 23							
2		15	16,17	13	30	21	10	11	13
	14	11	11	21		15	16		28
		12	11	19	16		21	14	12
L26XRK - 5902		Yfiler® plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
LJL8TL - 5901		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
LWPP4K - 5901		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
NWU3LM - 5901		PowerPlex® Y 23							
2		15	16,17	13	30	21	10	11	13
	14	11	11	21		15	16		28
		12	11	19	16		21	14	12
PKP22G - 5901		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
Q7ZLBM - 5902		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
QETUVD - 5901		Yfiler® plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
QKK2DL - 5902		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
V9EEEC - 5901		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12
XWPRX8 - 5902		Yfiler® Plus							
2	35,39	15	16,17	13	30	21	10	11	13
	14	11	11	21	30	15	16	10	28
	38	12		19	16	19	21		12

TABLE 4

Item 3 - YSTR Results

WebCode - Test	Amplification Kit								
Item	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
4Q2XN3 - 5901		Yfiler® plus							
3							11		13
		12						10	
						22			11
6XXAW4 - 5901		Yfiler® Plus							
3	34	14	15						13
	15		12		29		17	12	23
				20			23		
A66AJ3 - 5902		Yfiler® Plus							
3	34,35,36,3	14,15	11,15,16, 17	13	29,30	21,23	10,11	11,13	13
	14,15	11,12	11,12	19,21	29,30	16	16,17	10,12	23,28
	38	12		19,20	16,17	19,22	21,23		11,12
AUMTRW - 5901		Yfiler® Plus							
3	34	14	11,15,16	13		23	10,11	13	13
			12	19	29	15,16	16	10,12	23,28
	38	12		20	16,17	22	23		
CKAFMX - 5901		PowerPlex® Y 23							
3		14,15	11,15,16, 17	13	29,30	21,23	10,11	11,13	13
	15	11,12	11,12	19,21		15,16	16,17		23,28
		12	11,13	19,20	16,17		21,23	10,14	11,12
CV4WCY - 5901		Yfiler® Plus							
3	34,35,36,3	14,15	11,15,16, 17	13	29,30	21,23	10,11	11,13	13
	14,15	11,12	11,12	19,21	29,30	15,16	16,17	10,12	23,28
	38	12		19,20	16,17	19,22	21,23		11,12
CX6ZPV - 5902		Yfiler® Plus							
3	34,35,36,3	14,15	11,15,16, 17	13	29,30	21,23	10,11	11,13	13
	14,15	11,12	11,12	19,21	29,30	15,16	16,17	10,12	23,28
	38	12		19,20	16,17	19,22	21,23		11,12
E6NMCV - 5901		PowerPlex® Y 23							
3		14,15	11,15,16, 17	13	29,30	21,23	10,11	11,13	13
	14,15	11,12	11,12	19,21		15,16	16,17		23,28
		12	11,13	19,20	16,17		21,23	10	11,12
GXXCQQ - 5902		Yfiler® Plus							
3	34,35,36	14,15	11,15,16	13	29	23	10,11	13	13
	15	12	11,12	19	29	15,16	16,17	10,12	23,28
	38	12		20	16,17	22	23		11
JGKK2Q - 5901		PowerPlex® Y 23							
3		14,15	11,15,16, 17	13	29,30	23	10,11	11,13	13
	14,15	11,12	12	19,21		15,16	16,17		23,28
		12	11,13	19,20	16,17		21,23	10,14	11,12
L26XRK - 5902		Yfiler® plus							
3	34	14		13	29		11		13
		11,12	12		29			12	
	38	12		20	16,17	22	23		

TABLE 4

Item 3 - YSTR Results

WebCode - Test	Amplification Kit								
Item	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
LJL8TL - 5901		Yfiler® Plus							
3	35,36	14	11,15,16,17	13	29	23	11	11	13
	15	11,12	12	19,21	29,30	16	16,17	10,12	23,28
	38	12		19,20	16,17		21,23		11
LWPP4K - 5901		Yfiler® Plus							
3	34,35,36,3	14,15	11,15,16,17	13	29	23	10,11	13	13
	14,15	12	11,12	19,21	29,30	15,16	16,17	10,12	23
	38	12		19,20	16,17	22	23		11,12
NWU3LM - 5901		PowerPlex® Y 23							
3		14,15	11,15,16,17	13	29	21,23	10,11	11,13	13
	14,15	11,12	11,12	19,21		15,16	16,17		23
		12	11,13	19,20	16,17		21,23	10,14	11,12
PKP22G - 5901		Yfiler® Plus							
3	34,35	14,15	11,15,16,17				11	11	13
	15		12	19	29	16	16,17	12	23,28
	38	12		19,20	16,17	22	23		
Q7ZLBM - 5902		Yfiler® Plus							
3	34,35,36,3	14,15	11,15,16,17	13	29,30	21,23	10,11	11,13	13
	14,15	11,12	11,12	19,21	29,30	15,16	16,17	10,12	23,28
	38	12		19,20	16,17	19,22	21,23		11,12
QETUVD - 5901		Yfiler® plus							
3	34,35,36,3	14,15	11,15,16,17	13	29,30	23	10,11	13	13
	15	11,12	11,12	19,21	29,30	15,16	16,17	10,12	23,28
	38	12		19,20	16,17	22	21,23		11,12
QKK2DL - 5902		Yfiler® Plus							
3	34,35,36,3	14,15	11,15,16,17	13	29,30	21,23	10,11	11,13	13
	14,15	11,12	11,12	19,21	29,30	15,16	16,17	10,12	23,28
		12		19,20	16,17	19,22	21,23		11,12
V9EEEC - 5901		Yfiler® Plus							
3	34,36	14	11,15	13	29,30	23	11	13	13
	14,15	12	12	19	29	16	17	12	23
		12		20	16,17	22	23		11
XWPRX8 - 5902		Yfiler® Plus							
3	34,35,36,3	14,[15]	11,15,[16],[17]	13	29,[30]	21,23	[10],11	13	13
	[14],15	[11],12	[11],12	19,[21]	29	15,16	[16],17	10,12	23,[28]
	38	12		[19],20	16,17	22	[21],23		11,[12]

TABLE 4

WebCode - Test	Amplification Kit								
Item	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
Item 4e - YSTR Results									
4Q2XN3 - 5901		Yfiler® plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
6XXAW4 - 5901		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
A66AJ3 - 5902		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
AUMTRW - 5901		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
CKAFMX - 5901		PowerPlex® Y 23							
4e		NT	NT	NT	NT	NT	NT	NT	NT
	NT	NT	NT	NT		NT	NT		NT
		NT	NT	NT	NT		NT	NT	NT
CV4WCY - 5901		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
CX6ZPV - 5902		Yfiler® Plus							
4e									
E6NMCV - 5901		PowerPlex® Y 23							
4e									
GXXCQQ - 5902		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
JGKK2Q - 5901		PowerPlex® Y 23							
4e									
L26XRK - 5902		Yfiler® plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
LJL8TL - 5901		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11

TABLE 4

Item 4e - YSTR Results

WebCode - Test	Amplification Kit								
Item	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
LWPP4K - 5901		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
NWU3LM - 5901		PowerPlex® Y 23							
4e									
PKP22G - 5901		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
Q7ZLBM - 5902		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
QETUVD - 5901		Yfiler® plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
QKK2DL - 5902		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
V9EEEC - 5901		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
XWPRX8 - 5902		Yfiler® Plus							
4e	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11

TABLE 4

WebCode - Test	Amplification Kit								
Item	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
Item 4sp - YSTR Results									
4Q2XN3 - 5901	Yfiler® plus								
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
6XXAW4 - 5901	Yfiler® Plus								
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
A66AJ3 - 5902	Yfiler® Plus								
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
AUMTRW - 5901	Yfiler® Plus								
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
CKAFMX - 5901	PowerPlex® Y 23								
4sp		15	13,14	12	28	22	10	11	12
	16	11	11	22		16	15		21
		10	12	17	15		22	12	11
CV4WCY - 5901	Yfiler® Plus								
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
CX6ZPV - 5902	Yfiler® Plus								
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
E6NMCV - 5901	PowerPlex® Y 23								
4sp		15	13,14	12	28	22	10	11	12
	16	11	11	22		16	15		21
		10	12	17	15		22	12	11
GXXCQQ - 5902	Yfiler® Plus								
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
JGKK2Q - 5901	PowerPlex® Y 23								
4sp		15	13,14	12	28	22	10	11	12
	16	11	11	22		16	15		21
		10	12	17	15		22	12	11
L26XRK - 5902	Yfiler® plus								
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
LJL8TL - 5901	Yfiler® Plus								
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11

TABLE 4

WebCode - Test	Amplification Kit								
Item	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	YGATAH4
Item 4sp - YSTR Results									
LWPP4K - 5901		Yfiler® Plus							
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
NWU3LM - 5901		PowerPlex® Y 23							
4sp		15	13,14	12	28	22	10	11	12
	16	11	11	22		16	15		21
		10	12	17	15		22	12	11
PKP22G - 5901		Yfiler® Plus							
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
Q7ZLBM - 5902		Yfiler® Plus							
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
QETUVD - 5901		Yfiler® plus							
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
QKK2DL - 5902		Yfiler® Plus							
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
V9EEEC - 5901		Yfiler® Plus							
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11
XWPRX8 - 5902		Yfiler® Plus							
4sp	38,39	15	13,14	12	28	22	10	11	12
	16	11	11	22	30	16	15	9	21
	37	10		17	15	19	22		11

Additional DNA Results

TABLE 5

Additional DNA results found to be concordant at a pre-existing locus are retained solely within the applicable tables. Non-concordant results and results for loci not found elsewhere will remain in this table.

Locus	WebCode-Test	Item 1	Item 2	Item 3	Item 3e	Item 3sp	Item 4	Item 4e	Item 4sp
D12ATA63	Q7ZLBM - 5902	15,16	15	13,15,17,18				13,17,18	12,17
D14S1434	Q7ZLBM - 5902	10,14	10,11	10,11,13,14				10,13,14	14
D1S1677	Q7ZLBM - 5902	14,15	13,16	13,14,15,16, 17				13,14,15,16	13,16
D2S1776	Q7ZLBM - 5902	9	9,12	9,11,12,13				9,12,13,14	13,14
D3S4529	Q7ZLBM - 5902	13,16	12,14	12,13,14,15, 16				12,13,16	12,13
D4S2408	Q7ZLBM - 5902	10	9,11	8,9,10,11,12				8,9,10,11	9,11
D5S2800	Q7ZLBM - 5902	14,18	14,18	14,18,23				14,17,18,23	17,18
D6S1043	Q7ZLBM - 5902	14,17	11,19	11,14,17,18, 19				11,12,14,17, 18,19	11,12
D6S474	Q7ZLBM - 5902	14	14,16	14,15,16,18				14,15,16,18	14,18
SRY	Q7ZLBM - 5902	1	1	1				1	1

DNA Mixture Concentrations and Proportions

TABLE 6

Item 3 Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
27J4KB - 5901	4			
2TZLR8 - 5901	5	Suspect Unknown Unknown Unknown Victim	0.01960 0.00400 0.1217 0.1688 0.07850	5.00 1.00 31.00 43.00 20.00
3NJE48 - 5901	4	Suspect Unknown Unknown Victim		7.00 43.00 35.00 15.00
4KE6C3 - 5902	4	Suspect Unknown Unknown Victim	0.00200 0.00500 0.00400 0.00300	12.00 37.00 28.00 23.00
4Q2XN3 - 5901	3	Unknown Unknown Victim	0.00104 0.00058 0.00038	52.00 29.00 19.00
63EHK4 - 5902	4	Suspect Unknown Unknown Victim	0.1900 5.57 1.54 0.6190	2.40 70.35 19.43 7.82
6VPZR3 - 5901	4	Suspect Unknown Unknown Victim		3.00 69.00 18.00 11.00
6XXAW4 - 5901	3	Unknown Unknown Victim	0.00135 0.00960 0.00069	45.00 32.00 23.00
7T4FY3 - 5902	4	Suspect Unknown Unknown Victim	0.1500 1.06 1.43 0.4000	4.89 34.91 47.06 13.14
9WVL74 - 5901	4	Suspect Unknown Unknown Victim	0.1400 0.6520 0.3840 0.1820	10.29 48.03 28.29 13.39

TABLE 6

Item 3 Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
A66AJ3 - 5902	4	Suspect		2.00
		Unknown		63.00
		Unknown		25.00
		Victim		11.00
AUMTRW - 5901	4	Suspect	0.00035	7.00
		Unknown	0.00215	43.00
		Unknown	0.00160	32.00
		Victim	0.00090	18.00
B7LWGW - 5901	5	Unknown		
		Unknown		
		Unknown		
		Unknown		
		Unknown		
C3L9DV - 5901	4	Suspect		6.00
		Unknown		35.00
		Unknown		39.00
		Victim		20.00
CNQNBW - 5901	4	Suspect		
		Unknown		
		Unknown		
		Victim		
CX6ZPV - 5902	4	Suspect		6.00
		Unknown		37.00
		Unknown		40.00
		Victim		17.00
EDLFKP - 5902	4	Suspect	0.00520	8.00
		Unknown	0.03380	52.00
		Unknown	0.01560	24.00
		Victim	0.01040	16.00
G396TQ - 5901	4	Suspect		5.00
		Unknown		36.00
		Unknown		41.00
		Victim		18.00
GXXCQQ - 5902	4	Suspect	0.00090	6.00
		Unknown	0.00440	29.00
		Unknown	0.00570	38.00
		Victim	0.00410	27.00
HDQ4BR - 5902	4	Unknown		
		Unknown		
		Unknown		
		Unknown		

TABLE 6

Item 3 Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
J7339J - 5901	4	Suspect	0.1753	6.87
		Unknown	1.21	47.55
		Unknown	0.7954	31.18
		Victim	0.3673	14.40
L26XRK - 5902	3	Unknown	0.00153	51.00
		Unknown	0.00075	25.00
		Victim	0.00072	24.00
L7CNVQ - 5902	4	Suspect		4.00
		Unknown		27.00
		Unknown		58.00
		Victim		11.00
LE6Y6L - 5901	4	Suspect	0.00100	8.00
		Unknown	0.00500	45.00
		Unknown	0.00300	28.00
		Victim	0.00200	18.00
LFLWXL - 5902	4	Suspect	0.00070	6.00
		Unknown	0.00360	30.00
		Unknown	0.00560	47.00
		Victim	0.00190	16.00
LJL8TL - 5901	4	Suspect	0.00072	12.00
		Unknown	0.00270	45.00
		Unknown	0.00180	30.00
		Victim	0.00078	13.00
LWPP4K - 5901	4	Suspect	0.00198	9.00
		Unknown	0.00902	41.00
		Unknown	0.00726	33.00
		Victim	0.00352	16.00
NH4WTJ - 5902	4	Suspect	0.00088	11.00
		Unknown	0.00200	25.00
		Unknown	0.00368	46.00
		Victim	0.00144	18.00
NWU3LM - 5901	4	Unknown		
		Unknown		
		Unknown		
		Unknown		
P4RC6K - 5901	4	Suspect		6.00
		Unknown		43.00
		Unknown		34.00
		Victim		17.00
PKP22G - 5901	4	Suspect	0.00099	9.00
		Unknown	0.00451	41.00
		Unknown	0.00341	31.00
		Victim	0.00209	19.00

TABLE 6

Item 3 Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
PXPZND - 5902	3	Unknown	0.00098	49.00
		Unknown	0.00064	32.00
		Victim	0.00038	19.00
Q7ZLBM - 5902	4	Suspect	0.01600	7.00
		Unknown	0.07900	33.00
		Unknown	0.08900	37.00
		Victim	0.05500	23.00
QETUVD - 5901	4	Suspect	0.00162	9.00
		Unknown	0.00702	39.00
		Unknown	0.00540	30.00
		Victim	0.00396	22.00
QGRATG - 5901	4	Unknown	0.00400	6.81
		Unknown	0.02320	41.45
		Unknown	0.02000	35.71
		Victim	0.00890	16.03
QKK2DL - 5902	4	Suspect	0.07600	6.66
		Unknown	0.4120	36.25
		Unknown	0.4640	40.84
		Victim	0.1850	16.26
T9QWLD - 5901	4	Suspect		6.00
		Unknown		42.00
		Unknown		35.00
		Victim		17.00
U8YVVF - 5902	5	Unknown		
		Unknown		
		Unknown		
		Unknown		
		Unknown		
UAQU9D - 5902	4	Suspect	0.00075	15.00
		Unknown	0.00120	24.00
		Unknown	0.00205	41.00
		Victim	0.00100	20.00
V9EEEC - 5901	4	Unknown	0.00315	45.00
VGN7HF - 5902	4	Unknown		
		Unknown		
		Unknown		
		Victim		23.00
VPY84F - 5902	4	Unknown		6.82
		Unknown		43.13
		Unknown		32.04
		Victim		18.01

TABLE 6

Item 3 Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
VT27E9 - 5902	3	Unknown Unknown Victim	0.00190 0.00260 0.00140	32.00 44.00 24.00
XKRQ7D - 5901	4	Suspect Unknown Unknown Victim		6.00 36.00 41.00 17.00
XNR32D - 5901	4	Suspect Unknown Unknown Victim		6.00 35.00 40.00 19.00
XUHAYB - 5901	4	Victim		
XWPRX8 - 5902	4	Suspect Unknown Unknown Victim	0.4780 1.81 2.55 1.17	7.96 30.10 42.39 19.54
Y43ZY9 - 5902	3	Unknown Unknown Victim	0.00093 0.00144 0.00063	31.00 48.00 21.00
Y87VHC - 5901	3			53.54 12.21 34.24
ZY2GWB - 5901	4	Suspect Unknown Unknown Victim		6.00 34.00 38.00 21.00

Response Summary	
Estimated Number of Contributors	**Percent Reported**
4	**40 (80%)**
3	**7 (14%)**
5	**3 (6%)**

TABLE 6

Item 4 Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
27J4KB - 5901	3			
CNQNBW - 5901	3	Unknown	48.0	32.00
		Unknown	63.0	42.00
		Victim	39.0	26.00

Response Summary	
Estimated Number of Contributors	**Percent Reported**
3	**2 (100%)**

TABLE 6

Item 4e Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
2TZLR8 - 5901	4	Unknown Unknown Unknown Victim	0.08100 0.00320 0.02140 0.04730	53.00 2.00 14.00 31.00
3NJE48 - 5901	3	Unknown Unknown Victim		19.00 53.00 28.00
4KE6C3 - 5902	3	Unknown Unknown Victim	0.2800 0.8100 0.4900	18.00 52.00 31.00
4Q2XN3 - 5901	3	Unknown Unknown Victim	1.01 0.4605 0.7018	46.00 21.00 32.00
63EHK4 - 5902	3	Unknown Unknown Victim	2.60 0.8400 1.21	55.90 18.06 26.04
6VPZR3 - 5901	3	Unknown Unknown Victim		18.00 64.00 19.00
6XXAW4 - 5901	3	Unknown Unknown Victim	0.5153 0.08919 0.3865	52.00 9.00 39.00
7T4FY3 - 5902	3	Unknown Unknown Victim	2.35 0.5900 1.01	59.61 14.87 25.52
9WVL74 - 5901	3	Unknown Unknown Victim	0.08310 0.01370 0.03420	63.41 10.47 26.12
A66AJ3 - 5902	3	Unknown Unknown Victim		17.00 56.00 26.00
AUMTRW - 5901	3	Unknown Unknown Victim	0.4884 0.05894 0.2948	58.00 7.00 35.00
B7LWGW - 5901	3	Unknown Unknown Victim		20.00 66.00 14.00
C3L9DV - 5901	3	Suspect Unknown Victim		29.00 48.00 23.00

TABLE 6

Item 4e Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
CX6ZPV - 5902	3	Unknown Unknown Victim		57.00 15.00 27.00
EDLFKP - 5902	3	Unknown Unknown Victim	0.7368 0.08502 0.5951	52.00 6.00 42.00
G396TQ - 5901	3	Suspect Unknown Victim		28.00 48.00 24.00
GXXCQQ - 5902	3	Unknown Unknown Victim	0.7251 2.30 1.24	17.00 54.00 29.00
HDQ4BR - 5902	3	Unknown Unknown Victim	0.07640 0.4585 0.2292	10.00 60.00 30.00
J7339J - 5901	3	Unknown Unknown Victim	0.2308 0.7551 0.3391	17.42 56.99 25.59
L26XRK - 5902	3	Unknown Unknown Victim	0.01300 0.1020 0.04700	8.00 63.00 29.00
L7CNVQ - 5902	3	Unknown Unknown Victim		19.00 57.00 24.00
LE6Y6L - 5901	3	Unknown Unknown Victim	0.5160 0.09300 0.4330	50.00 9.00 42.00
LFLWXL - 5902	3	Unknown Unknown Victim	0.2130 0.9170 0.5070	13.00 56.00 31.00
LJL8TL - 5901	3	Unknown Unknown Victim	0.05096 0.2038 0.1128	14.00 56.00 31.00
LWPP4K - 5901	3	Unknown Unknown Victim	0.2808 1.00 0.4739	16.00 57.00 27.00
NH4WTJ - 5902	3	Unknown Unknown Victim	0.3386 1.26 0.6545	15.00 56.00 29.00

TABLE 6

Item 4e Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
NWU3LM - 5901	3	Unknown Unknown Victim		11.00 67.00 22.00
P4RC6K - 5901	3	Unknown Unknown Victim		55.00 15.00 30.00
PKP22G - 5901	3	Unknown Unknown Victim	0.06534 0.5990 0.4138	6.00 55.00 38.00
PXPZND - 5902	3	Unknown Unknown Victim	1.71 0.5800 1.35	47.00 16.00 37.00
Q7ZLBM - 5902	3	Unknown Unknown Victim	0.2440 1.05 0.2280	16.00 69.00 15.00
QETUVD - 5901	3	Unknown Unknown Victim	0.1240 0.4519 0.3101	14.00 51.00 35.00
QGRATG - 5901	3	Unknown Unknown Victim	0.2730 0.1640 0.1090	50.00 30.00 20.00
QKK2DL - 5902	3	Unknown Unknown Victim	1.06 1.48 0.4360	35.54 49.79 14.67
T9QWLD - 5901	3	Unknown Unknown Victim		45.00 39.00 15.00
U8YVVF - 5902	3	Unknown Unknown Victim	0.1725 0.4790 0.2970	18.00 50.00 31.00
UAQU9D - 5902	3	Unknown Unknown Victim	0.09418 0.2715 0.1884	17.00 49.00 34.00
V9EEEC - 5901	3	Unknown	1.18	56.00
VGN7HF - 5902	3	Unknown Unknown Victim		 27.90

TABLE 6

Item 4e Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
VPY84F - 5902	3	Unknown		9.97
		Unknown		82.84
		Victim		7.19
VT27E9 - 5902	3	Unknown	1.36	49.00
		Unknown	0.4400	16.00
		Victim	1.00	36.00
XKRQ7D - 5901	3	Suspect		24.00
		Unknown		57.00
		Victim		19.00
XNR32D - 5901	3	Unknown		61.00
		Unknown		18.00
		Victim		21.00
XUHAYB - 5901	3	Unknown	0.01800	26.00
		Unknown	0.03500	44.00
		Victim	0.02500	30.00
XWPRX8 - 5902	3	Unknown	0.5600	10.90
		Unknown	3.51	68.34
		Victim	1.07	20.76
Y43ZY9 - 5902	3	Unknown	0.6347	22.00
		Unknown	1.30	45.00
		Victim	0.9521	33.00
Y87VHC - 5901	3	Unknown		71.23
		Unknown		12.95
		Victim		15.83
ZY2GWB - 5901	3	Unknown		14.00
		Unknown		54.00
		Victim		32.00

Response Summary	
Estimated Number of Contributors	**Percent Reported**
3	**47 (98%)**
4	**1 (2%)**

TABLE 6

Item 4sp Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
2TZLR8 - 5901	1	Unknown	0.08460	100.00
3NJE48 - 5901	1	Unknown		100.00
4KE6C3 - 5902	1	Unknown	0.05600	100.00
4Q2XN3 - 5901	1	Unknown	0.4380	100.00
63EHK4 - 5902	1	Unknown	3.65	100.00
6VPZR3 - 5901	1	Unknown		100.00
6XXAW4 - 5901	1	Unknown	0.1370	100.00
7T4FY3 - 5902	1	Unknown	2.72	100.00
9WVL74 - 5901	1	Victim	0.1764	100.00
A66AJ3 - 5902	1	Unknown		100.00
AUMTRW - 5901	1	Unknown	0.3740	100.00
B7LWGW - 5901	1	Unknown		100.00
C3L9DV - 5901	1	Unknown		100.00
CX6ZPV - 5902	1	Unknown	0.3920	100.00
EDLFKP - 5902	1	Unknown	0.5900	100.00
G396TQ - 5901	3	Suspect Unknown Victim		7.00 86.00 7.00
GXXCQQ - 5902	1	Unknown	0.5870	100.00
HDQ4BR - 5902	1	Unknown	0.7529	100.00
J7339J - 5901	1	Unknown	0.8940	100.00
L26XRK - 5902	1	Unknown	0.03300	100.00
L7CNVQ - 5902	1	Unknown		100.00

TABLE 6

Item 4sp Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
LE6Y6L - 5901	1	Unknown	0.07500	100.00
LFLWXL - 5902	1	Unknown	0.4230	100.00
LJL8TL - 5901	1	Unknown	0.2170	100.00
LWPP4K - 5901	1	Unknown	0.1870	100.00
NH4WTJ - 5902	1	Unknown	0.4960	100.00
NWU3LM - 5901	1	Unknown		100.00
P4RC6K - 5901	1	Unknown		100.00
PKP22G - 5901	1	Unknown	0.1910	100.00
PXPZND - 5902	1	Unknown	3.76	100.00
Q7ZLBM - 5902	1	Unknown	0.04500	100.00
QETUVD - 5901	1	Unknown	0.05400	100.00
QGRATG - 5901	1	Unknown	0.9320	100.00
QKK2DL - 5902	1	Unknown	2.74	100.00
T9QWLD - 5901	1	Unknown		100.00
U8YVVF - 5902	1	Unknown	0.9854	100.00
UAQU9D - 5902	1	Unknown	0.05700	100.00
V9EEEC - 5901	1	Unknown	5.33	100.00
VGN7HF - 5902	1	Unknown		100.00
VPY84F - 5902	1	Unknown		100.00
VT27E9 - 5902	1	Unknown	0.6240	100.00
XKRQ7D - 5901	1	Unknown		100.00

TABLE 6

Item 4sp Results				
WebCode-Test	**Number of Contributors**	**Contributor(s)**	**DNA Concentration (ng/uL)**	**DNA Proportion (%)**
XNR32D - 5901	1	Unknown		100.00
XUHAYB - 5901	1	Unknown	0.2700	100.00
XWPRX8 - 5902	2	Unknown Unknown	4.54 0.1120	97.59 2.41
Y43ZY9 - 5902	1	Unknown	0.2060	100.00
Y87VHC - 5901	1	Unknown		100.00
ZY2GWB - 5901	1	Unknown		100.00

Response Summary	
Estimated Number of Contributors	**Percent Reported**
1	**46 (96%)**
3	**1 (2%)**
2	**1 (2%)**

Statistical Analysis for Item 3

TABLE 7

WebCode-Test	Item 3 Methods & Results
2TZLR8 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** 1) In adition to the MAC (maximum allele count method) we also use TAC curves (total allele count – published data) and LAC (locus allele count- not published but presented at different meetings). TAC and LAC are available for different populations. According to MAC and peak balance, we see 4 contributors (4C). Using TAC and LAC for caucasians, we would interpret this as 5C or 6C but the we believe there are african americans in this mixture so the best population for TAC and LAC is African americans. Therefore, it is very unlikely that there are 6C in item 3. I wished I could have select a range for the number of contributors. I have reported 5C for this test, but in a real case, I would report 4C or 5C, calculate an LR according to those 2 NOCs and report the weakest (most conservative). 2) We routinely do a statistical calculation based on 4 populations databases [Location Identifying Databases], Asian (NIST), African american (NIST)) and report the weakest number (the most conservative) **Database(s) Used:** LR calculation was based on four populations : [Location Identifying Databases], Asian (NIST), African american (NIST).
3NJE48 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The LR is calculated assuming the mixture is comprised of 4 contributors. The DNA profile is approximately 3 x 10^24 (3E24) times more likely if it originated from Victim and three unknown individuals than if it originated from four unknown individuals. The DNA profile is approximately 1 x 10^23 (1E23) times more likely if it originated from Suspect and three unknown individuals than if it originated from four unknown individuals. **Database(s) Used:** NIST1036 Caucasian, Hispanic, and African American populations using the Factor of N! and 99% 1-sided lower HPD interval. The lowest (most common) LR value amongst the three racial groups is reported.
4KE6C3 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** 1A-1 (item 1): Assumed contributor. 1B-1 (item 2): Not excluded (LR = 5.3 billion) **Database(s) Used:** [Location Identifying Database]
4Q2XN3 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1 Victim - Assumed contributor. Item 2 Suspect- The LR supports Hd **Database(s) Used:** [Location Identifying Database]
63EHK4 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Victim LR: Assumed victim profile ----- SUSPECT LR=African American=3.8324E7, Hispanic=7.6382E8, Caucasian=2.0725E9 - reported "The genetic information from Item 3 is 30 million times more likely to be observed if VICTIM KNOWN, SUSPECT KNOWN, and two unknown individuals are the contributors than if VICTIM KNOWN and three unknown individuals are the contributors." **Database(s) Used:** NIST 1036 database using African American, Hispanic, and Caucasian populations and 99% 1-sided lower HPD interval.
6VPZR3 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile from this item was interpreted as a mixture of four individuals, with at least one male contributor and with FEMALE VICTIM as an assumed contributor. The DNA results are approximately 1.53 billion times more likely if they originated from MALE SUSPECT, FEMALE VICTIM and two unknown, unrelated individuals than if they originated from FEMALE VICTIM and three unknown, unrelated individuals. Based on the likelihood ratio, this provides very strong support that MALE SUSPECT is a contributor to the DNA from this item. **Database(s) Used:** NIST 1036 July 2017

TABLE 7

WebCode-Test	Item 3 Methods & Results
6XXAW4 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1 (Victim) LR of 13. Item 2 (Suspect) LR below 1 (supports exclusion). **Database(s) Used:** [Location Identifying Database]
7T4FY3 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** VICTIM LR: African American=1.0784E11, Hispanic=1.9404E14, Caucasian=7.3371E14 - reported as >1 billion. SUSPECT LR: African American=1.9669E11, Hispanic=2.9128E12, Caucasian=4.3170E13 - reported as >1 billion. **Database(s) Used:** NIST 1036 database using African American, Hispanic, and Caucasian populations and 99% 1-sided lower HPD interval.
9WGZW3 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The LR value calculated for the possible involvement of the female victim was 4.27E27 to 1, which means it is about 4.27E27 times more likely that the observed DNA profile being a mixture originating from the female victim and three unknown individuals than if it originating from four unrelated individuals selected at random from the local Chinese population. The LR value calculated for the possible involvement of the male suspect was 4.95E24 to 1, which means it is about 4.95E24 times more likely that the observed DNA profile being a mixture originating from the male suspect and three unknown individuals than if it originating from four unrelated individuals selected at random from the [Location Identifying Population]. **Database(s) Used:** [Location Identifying Database]
9WVL74 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** [Participant did not return statistical analysis.] **Database(s) Used:** FBI-CAUC
A66AJ3 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Assuming four contributors, the DNA results are 1.1E9 times more likely to be observed if the victim and three unknown individuals are the contributors than if four unknown individuals are the contributors. Assuming four contributors, the DNA results are 180 times more likely to be observed if the victim, the suspect, and two unknown individuals are the contributors than if the victim and three unknown individuals are the contributors. STR loci SE33 and D1S1656 were not used for these LR calculations. **Database(s) Used:** NIST Databases- Forensic Sci. Int.: Genetics 31 (2017) e36-e40
AUMTRW - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1: Assumed to be a contributor, no LR calculation performed. Item 2: LR = 1,900,000,000 (1.9 billion). **Database(s) Used:** [Location Identifying Database]
C3L9DV - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile from this item was interpreted as a mixture of four individuals, with at least one male contributor and with the female victim as an assumed contributor. The DNA results are approximately 55.8 trillion times more likely if they originated from the female victim, the male suspect and two unknown, unrelated individuals than if they originated from the female victim and three unknown, unrelated individuals. Based on the likelihood ratio, this provides very strong support that the male suspect is a contributor to the DNA from this item. **Database(s) Used:** NIST 1036 July 2017

TABLE 7

WebCode-Test	Item 3 Methods & Results
CKAFMX - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** 1.VICTIM (Q1-1) cannot be excluded as a contributor to Mixture 1 (see Testing Summary) from a stain on VICTIM'S shirt (EQ03-1). The STR DNA results are estimated to be greater than a trillion times more likely if they originate VICTIM and three unknown people than if they originate from four unknown people unrelated to her. 2. A) SUSPECT (Q2-1) cannot be excluded as a contributor to Mixture 1 (see Testing Summary) from a stain on VICTIM'S shirt (EQ03-1). The STR DNA results are estimated to be 660 billion times more likely if they originate SUSPECT and three unknown people than if they originate from four unknown people unrelated to him. B)SUSPECT (Q2-1) also cannot be excluded as the source of a male-specific DNA profile (Y-STR Profile B; see Testing Summary) from this item. The Y-STR DNA results are estimated to be a further 1700 times more likely if they originate from SUSPECT than if they originate from an unknown male, unrelated to them. Note: Close paternal male relatives of SUSPECT may also not be excluded. **Database(s) Used:** NIST Asian, NIST African American, NIST Caucasian Srivastava et al. (2019) South Asian, [Location Identifying Database]
CV4WCY - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Hypothesis for Item 3 in LRmix studio v 2.1.3: Item 1 + Item 2 + 2 Unknown / Item 1 + 3 Unknown. LR= 2,4756 E012. (Dropout Probability for Item 1 = 0.0, Dropout Probability for Item 2 and Unknown = 0,17, Probability of dropin: 0,05, theta correction: 0,01) **Database(s) Used:** Allele Frequencies take from www.strider.online
CX6ZPV - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** H1: The DNA on item 3 came from the victim, the suspect and two unknown, unrelated persons. H2: The DNA on item 3 came from the victim and three unknown, unrelated persons. LR (sub-source) = 1.83E28 **Database(s) Used:** [Location Identifying Database]
D4G86P - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Condtioned on Item 1 (no LR calculated). LR for Item 2: >100 billion favouring contribution (truncated figure reported - actual figure: 9.6674E11). **Database(s) Used:** PP21 CAUCASIAN, PP21 ABORIGINAL, PP21 ASIAN. (Reported LR is stratified)
E6NMCV - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The SUSPECT (item 2-1) cannot be excluded as a contributor to Mixture 1 (see Testing Summary) and as the source of Y-STR Profile B, from the shirt (3-1) from VICTIM. The STR DNA results are estimated to be 45 billion times more likely if they originate from the VICTIM, SUSPECT and two unknown people than if they originate from the VICTIM and three unknown people unrelated to the SUSPECT. A supplementary statistic has been calculated for the male-specific Y-STR profile that adds further weight to the association reported. SUSPECT (item 2-1) is excluded as a contributor to Mixture 2 and as the source of STR Profile 1 and Y-STR Profiles A and C (see Testing Summary). **Database(s) Used:** i. NIST Asian, ii. NIST African American, iii. NIST Caucasian iv. Srivastava et al. (2019) South Asian, v. [Location Identifying Database]
EDLFKP - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1 - reference sample - victim, assumed contributor. LR not performed. Item 2 - reference sample - suspect. LR: 61 million **Database(s) Used:** [Location Identifying Database]

TABLE 7

WebCode-Test	Item 3 Methods & Results
G396TQ - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile from this item was interpreted as a mixture of four individuals, with at least two male contributors and with the female victim as an assumed contributor. The DNA results are approximately 4.35 quadrillion times more likely if they originated from the female victim, the male suspect and two unknown, unrelated individuals than if they originated from the female victim and three unknown, unrelated individuals. Based on the likelihood ratio, this provides very strong support that the male suspect is a contributor to the DNA from this item. **Database(s) Used:** NIST 1036 July 2017
GXTW6R - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile from the epithelial fraction was interpreted as a mixture of four individuals. The Victim (1) was assumed as a contributor. The DNA profile is at least 1 trillion times more likely if it originated from the Victim (1), the Suspect (2) and two unknown individuals than if it had originated from the Victim (1) and three unknown, unrelated individuals. Statistical analysis provides very strong support for the inclusion of the Suspect (2). The DNA profile from the sperm fraction is a mixture. No further conclusions can be drawn due to an insufficient amount of DNA for interpretation. **Database(s) Used:** The FBI Extended CODIS core allele frequencies - Caucasian, African American, and Southwest Hispanics
GXXCQQ - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** PP21 analysis: Victim - assumed contributor; Suspect - Not excluded. LR=10 billion. The DNA evidence is 10 billion times more likely if the the victim, suspect and two unknown, unrelated people are contributing to the DNA, than if the victim and three unknown, unrelated people are contributing to the DNA. YFP analysis: Unresolvable mixture, statistical analysis not performed. **Database(s) Used:** [Location Identifying Database]
J7339J - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Based on information provided to the laboratory, it has been assumed that the Victim (Item 1) has contributed to this DNA profile. Given the assumption for this person, no statistical interpretation has been performed for the Victim (Item 1). The DNA profile from Item 3 is greater than 100 billion times more likely to have occurred if the Suspect (Item 2) has contributed to this DNA profile, rather than has not contributed. **Database(s) Used:** PP21 Caucasian, PP21 Aboriginal and PP21 Asian
JGKK2Q - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The suspect (item 2-1) cannot be excluded as a contributor to Mixture 1 (see Testing Summary) from the blood stain on the victim's shirt (item 3-1). The STR DNA results are estimated to be 3.3 million times more likely if they originate from the victim, the suspect and two unknown people than if they originate from the victim and three unknown people unrelated to the suspect. **Database(s) Used:** NIST Asian, NIST African American, NIST Caucasian Srivastava et al (2019) South Asian, [Location Identifying Database]
JJ74TP - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile of the sperm fraction has limited data. No further conclusions can be drawn due to the uncertainty regarding the number of contributors. The DNA profile of the epithelial fraction was interpreted as a mixture of four individuals. Female Victim (1) was assumed as a contributor. The DNA profile is at least 1 trillion times more likely if it originated from Female Victim (1), Male Suspect (2) and two unknown individuals than if it had originated from Female Victim (1) and three unknown, unrelated individuals. Statistical analysis provides very strong support for the inclusion of Male Suspect (2). **Database(s) Used:** FBI Extended CODIS core allele frequencies - Caucasian, African American, and Southwest Hispanic

TABLE 7

WebCode-Test	Item 3 Methods & Results
L26XRK - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** PP21: Item 1 was an assumed contributor in the LR calculation. The DNA evidence supports the exclusion of Item 2 from the DNA detected in item 3. YFP: A partial, mixed DNA profile with two contributors was obtained that was not resolvable. Due to the partial nature of the profile it is inconclusive as to whether Item 2 is a contributor. **Database(s) Used:** [Location Identifying Database]
L7CNVQ - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Assuming four contributors, the evidence profile is 1.3 quadrillion times more likely to be observed if Victim and three unknowns are the contributors than if four unknowns are the contributors. Assuming four contributors, the evidence profile is 1.5 quintillion times more likely to be observed if Suspect, Victim, and two unknowns are the contributors than if Victim and three unknowns are the contributors. STR loci SE33 and D1S1656 were not used for this LR calculation. **Database(s) Used:** NIST Databases- Forensic Sci. Int.:Genetics 31 (2017) e36-e40
LE6Y6L - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 3: Item 1: Assumed Contributor. Item 2: Not Excluded LR = 24 billion. **Database(s) Used:** [Location Identifying Database]
LFLWXL - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Reference 1 (item 1A), the victim is assumed. Reference 2 (item 1B), the suspect is not excluded with an LR = 100 billion. **Database(s) Used:** [Location Identifying Database]
LJL8TL - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Vict (Item 1): Assumed contributor. Sus (Item 2): Not excluded (LR=100 billion). **Database(s) Used:** [Location Identifying Database]
LRPGKK - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Due to an insufficient amount of DNA detected during quantitation, Short Tandem Repeat (STR) analysis was not performed on the sperm fraction. The DNA profile obtained from the epithelial fraction was interpreted as a mixture of four individuals. Female victim (1) was assumed as a contributor. The DNA profile is at least 1 trillion times more likely if it originated from Female victim (1), Male suspect (2), and two unknown individuals than if it had originated from Female victim (1) and three unknown, unrelated individuals. Statistical analysis provides very strong support for the inclusion of Male suspect (2). **Database(s) Used:** FBI extended CODIS core allele frequencies - Caucasian, African American and Southwest Hispanic
LWPP4K - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** PP21: Victim - assumed contributor. Suspect - not excluded (LR = 100 billion). YFP: Suspect - major contributor: excluded minor contributor: not excluded, LR = 13,000 (Caucasian database). Not observed in 58,031 males. The profile was also compared to a worldwide population database of 289,405 profiles. There were 25 observations of the evidence profile. **Database(s) Used:** [Location Identifying Database]
NH4WTJ - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Complainant: Assumed contributor. Suspect: The DNA evidence is estimated to be 8.1 billion times more likely to occur if the DNA originated from the suspect, the complainant and two unknown unrelated people from the [Location Identifying Population], rather than if it originated from the complainant and three unknown unrelated people from the [Location Identifying Population]. **Database(s) Used:** [Location Identifying Database]

TABLE 7

WebCode-Test	Item 3 Methods & Results
P4RC6K - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile from this item was interpreted as a mixture of four individuals, with at least two male contributors and with the female victim as an assumed contributor. The DNA results are approximately 3.68 quintillion times more likely if they originated from the female victim, the male suspect and two unknown, unrelated individuals than if they originated from the female victim and three unknown, unrelated individuals. Based on the likelihood ratio, this provides very strong support that the male suspect is a contributor to the DNA from this item. no stat reported for female victim due to contributor being assumed **Database(s) Used:** NIST 1036 July 2017
P9HLFJ - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile obtained from the sperm fraction has limited data. No further conclusions can be drawn due to the uncertainty of the number of contributors. The DNA profile obtained from the epithelial fraction was interpreted as a mixture of four individuals. Female victim (1) was assumed as a contributor. The DNA profile is 1.5 thousand times more likely if it originated from female victim (1), male suspect (2), and two unknown individuals than if it had originated from female victim (1) and three unknown, unrelated individuals. Statistical analysis provides moderate support for the inclusion of male suspect (2). **Database(s) Used:** FBI Extended CODIS Core Allele Frequencies- Caucasian, African American, and Southwest Hispanics
PKP22G - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1 - Was an assumed contributor, no LR calculation performed. Item 2 - LR = 100 billion: The DNA evidence is 100 billion times more likely to occur if the DNA has originated from the victim and the suspect plus two unknown unrelated individuals from the [Location Identifying Population], rather than if the DNA has originated from the victim and three unknown unrelated individuals from the [Location Identifying Population]. **Database(s) Used:** [Location Identifying Database]
PXPZND - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Suspect; Supports Exclusion. Victim; LR = 5.8 **Database(s) Used:** [Location Identifying Database]

TABLE 7

WebCode-Test	Item 3 Methods & Results
Q7ZLBM - 5902	**Method(s)**: Likelihood Ratio, LRmixStudio, DNAxs, EuroForMix **Stats Analysis:** Stutter filter was applied on DNA profiling. Item 3 (shirt) indicates the presence of a mixture. The number of alleles indicates that the mixture may be a four person mixture. Item 3 (shirt) could have originated from Victim (Item 1), and Suspect (Item 2) and two unknown contributors. / Common parameters used for statistical analyses: P(dropin) = 0.03; Pmin = 0.001; FST = 0.015 / Hp hypothesis: POI + 3 unrelated unknown contributors / Hd hypothesis: 4 unrelated unknown contributors / LRmixStudio v2.1.5 (Two PowerPlex Fusion 6C DNA profile replicates): P(dropout) = 0.1; POI: Victim (Item 1) -> LR = 5.3E+10; POI: Suspect (Item 2) -> LR = 4.6E+07 / LRmixStudio v2.1.5 (Two Precision ID GlobalFiler NGS STR Panel v2 kit DNA profile replicates (only CE allelic results)): P(dropout) = 0.1; POI: Victim (Item 1) -> LR = 2.74E+11; POI: Suspect (Item 2) -> LR = 9.78E+08 / DNAxs v2.5.8 MLE (Two PowerPlex Fusion 6C DNA profile replicates): P(dropout lambda) = 0.01; Backward stutter model was applied. POI: Victim (Item 1) -> LR = 1.4E+18; POI: Suspect (Item 2) -> LR = 8.2E+14 / DNAxs v2.5.8 MixCal (Two PowerPlex Fusion 6C DNA profile replicates): POI: Victim (Item 1) -> LR = 1.2E+11 POI: Suspect (Item 2) -> LR = 4.3E+08 / EuroForMix v4.0.8 (Two PowerPlex Fusion 6C DNA profile replicates): P(dropout lambda) = 0.01; Backward stutter model was applied. POI: Victim (Item 1) -> LR = 1.4E+18; POI: Suspect (Item 2) -> LR = 1.3E+15 / EuroForMixRep v1.1.0 (Two PowerPlex Fusion 6C DNA profile replicates and three Globalfiler DNA profile replicates): EuroForMixRep was used for deconvolution of mixed DNA profiles, too. P(dropout lambda) = 0.01; Backward stutter model was applied. POI: Victim (Item 1) -> LR = 4.3E+22; POI: Suspect (Item 2) -> LR = 197900 / The LR results of the statistical analyses strongly support the hypothesis that Item 3 (shirt) contains both Victim's and Suspect's DNA. **Database(s) Used:** STRidER R2 Europe: https://strider.online/frequencies / Bodner et al. 2016: https://doi.org/10.1016/j.fsigen.2016.06.008. For Precision ID GlobalFiler NGS STR Panel v2 kit CE results: https://doi.org/10.1016/j.fsigen.2019.06.009 (Supplementary Table 5).
QETUVD - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** item 1 - assumed contributor. item 2 - LR = 100 billion. **Database(s) Used:** [Location Identifying Database]
QGRATG - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Victim cannot be excluded. LR=>100 BILLION **Database(s) Used:** [Location Identifying Database]
QKK2DL - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** [Participant did not return statistical analysis.] **Database(s) Used:** STRMIX 2.8.0 used. Knowing the shirt belongs to the victim, the suspect's contribution in the mixture is calculated according to those hypothesis: Hp: the mixture belongs to the victim, the suspect and 2 unknown people. Hd: the mixture belongs to the victim and 3 unknown people. LR = 1.4039E26.
T9QWLD - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile from this item was interpreted as a mixture of four individuals, with at least two male contributors and with the "Known blood from the female Victim" as an assumed contributor. The DNA results are approximately 6.48 sextillion times more likely if they originated from the "Known blood from the female victim", the "Known blood from the male suspect" and two unknown, unrelated individuals than if they originated from the "Known blood from female victim" and three unknown, unrelated individuals. Based on the likelihood ratio, this provides very strong support that the "Known blood from the male suspect" is a contributor to the DNA from this item. **Database(s) Used:** NIST 1036 July 2017

TABLE 7

WebCode-Test	Item 3 Methods & Results
UAQU9D - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1 is an assumed contributor. LR = 1,500 for Item 2. **Database(s) Used:** [Location Identifying Database]
V9EEEC - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Comparison of reference samples to the mixed DNA profiling results from item 3: LR for complainant (item 1) is 100 billion, LR for suspect (item 2) is 36 million. **Database(s) Used:** [Location Identifying Database]
VGN7HF - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1: 2.016e+10 **Database(s) Used:** [Location Identifying Database]
VPY84F - 5902	**Method(s)**: [Participant did not report a method.] **Stats Analysis:** Victim (Item 1) was assumed to be a contributor to this profile (stain from victim's own clothing - no LR calculated) **Database(s) Used:** [Participant did not return a database used.]
VT27E9 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** 1A-1: assumed contributor. 1B-1: excluded. **Database(s) Used:** [Location Identifying Database]
XHPQK7 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The questioned stain came from the victim's shirt, therefore the victm was an assumed contributor in the calculation performed. The DNA profile obtained from stain was considered to be a 5 person mixture and a comparison to the suspect reference profile was performed. Hypothesis 1 - The source of the DNA is the victim, suspect and 3 unknown persons. Hypothesis 2 - The source of the DNA is the victim and 4 unknown persons. LR = 8.63E+10 in favour of hypothesis 1 **Database(s) Used:** Calculations are performed using Caucasian, self-declared Aboriginal and Asian databases, combining information from: [Location Identifying Database]. The reported LR takes into consideration all nominated populations to generate a single stratified value.
XJ2PFE - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA result was interpreted as a mixture of four individuals, with the victim as an assumed contributor. The remaining portion of the mixture was determined to be suitable for comparison. The mixture is at least 3.4 quintillion (10^18) times more likely if it originated from the victim, suspect, and two unknown, unrelated individuals than if it originated from the victim and three unknown, unrelated individuals. This analysis provides very strong support for the proposition that the suspect is a contributor to the mixture. **Database(s) Used:** NIST1036
XKRQ7D - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA results are approximately 23.4 quintillion times more likely if they originated from the female victim, the male suspect and two unknown, unrelated individual than if they originated from the female victim and three unknown, unrelated individuals. Based on the likelihood ratio, this provides very strong support that the male suspect is a contributor to the DNA from this item. **Database(s) Used:** NIST 1036 July 2017

TABLE 7

WebCode-Test	Item 3 Methods & Results
XNR32D - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile from this item was interpreted as a mixture of four individuals with at least two male contributors and with THE FEMALE VICTIM as an assumed contributor. The DNA results are approximately 208 quintillion times more likely if they originated from THE FEMALE VICTIM, THE MALE SUSPECT and two unknown, unrelated individuals than if they originated from THE FEMALE VICTIM and three unknown, unrelated individuals. Based on the likelihood ratio, this provides very strong support that THE MALE SUSPECT is a contributor to the DNA from this item. **Database(s) Used:** NIST 1036 July 2017
XWPRX8 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA evidence is 3.7 billion times more likely if the Victim (Item 1) and three unknown individuals are contributors. The DNA evidence is 1.3 million times more likely if the Suspect (Item 2) and three unknown individuals are contributors. **Database(s) Used:** [Location Identifying Database]
Y43ZY9 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Victim (Item 1): The DNA evidence is estimated to be 6,800 times more likely to occur, if the DNA originated from the victim and two unknown and unrelated people selected randomly from the [Location Identifying Population], than if it originated from three unknown and unrelated people selected randomly from the [Location Identifying Population]. Suspect (Item 2): The DNA evidence is more likely if the DNA originated from 3 unknown and unrelated people selected randomly from the [Location Identifying Population], than if it originated from the suspect and 2 unknown and unrelated people from the [Location Identifying Population]. **Database(s) Used:** [Location Identifying Database]
Y87VHC - 5901	**Method(s)**: [Participant did not report a method.] **Stats Analysis:** The DNA typing profile obtained from exhibit ITEM 3 (stain from shirt: area AA] is of mixed origin, consistent with having originated from three individuals, at least one of whom is male. This profile is not suitable for comparison to reference samples. **Database(s) Used:** [Participant did not return a database used.]
ZY2GWB - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile from this item was interpreted as a mixture of four individuals, with at least two male contributors and with Victim as an assumed contributor. The DNA results are approximately 1.26 quintillion times more likely if they originated from Suspect, Victim and two unknown, unrelated individuals than if they originated from Victim and three unknown, unrelated individuals. Based on the likelihood ratio, this provides very strong support that Suspect is a contributor to the DNA from this item. **Database(s) Used:** NIST 1036 July 2017

Statistical Analysis for Item 4

TABLE 8

WebCode-Test	Item 4 Methods & Results
2TZLR8 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** 1) The NOC (number of contributors) seen is 3. According to TAC and LAC, it is also very likely the mixture is coming from 3C. However, as there is a weak probability to have such a result if there are 4C in the mixture, I would report this result as coming from 3C or 4C, I would have calculated LRs according to both NOCs and I would report the weakest (most conservative). For this test, 4C is reported as it with such a NOC (4C) that the LR calculated is the weakest. We know that over estimating the NOC can lead to false inclusion, but we prefer this as under estimating it as we have an inconclusive range (LR between 0.001 et 1000). 2) We routinely do a statistical calculation based on 4 populations databases [Location Identifying Databases], Asian (NIST), African american (NIST)) and report the weakest number (the most conservative). **Database(s) Used:** LR calculation was based on four populations : [Location Identifying Databases], Asian (NIST), African american (NIST)
3NJE48 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** 4-Epitheial fraction: The LR is calculated assuming the mixture is comprised of 3 contributors. The DNA profile is approximately 1 x 10^20 (1E20) times more likely if it originated from Victim and two unknown individuals than if it originated from three unknown individuals. The suspect is excluded with a LR = 0. 4-Sperm fraction: Victim and Suspect excluded manually. No LR calculated. **Database(s) Used:** NIST1036 Caucasian, Hispanic, and African American populations using the Factor of N! and 99% 1-sided lower HPD interval. The lowest (most common) LR value amongst the three racial groups is reported.
4KE6C3 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** 4e: 1A-1 (item 1): Assumed contributor, 1B-1 (item 2): Excluded. 4sp: 1A-1 (item 1): Excluded. 1B-1 (item 2): Excluded. **Database(s) Used:** [Location Identifying Database]
4Q2XN3 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Non sperm fraction: Item 1 Victim - The LR is 100 billion. Item 2 Suspect - Excluded. Sperm fraction: Item 1 Victim - Excluded. Item 2 Suspect - Excluded. **Database(s) Used:** [Location Identifying Database]
63EHK4 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** VICTIM LR in e fraction (LR calculated assuming F2 profile is a contributor): African American=7.1137E19, Hispanic=1.3542E24, Caucasian=3.6139E24 - reported "The genetic information from Item 4F1 is >1 billion times more likely to be observed if the male profile from Item 4F2, VICTIM KNOWN, and 1 unknown individual are the contributors than if the male profile from Item 4F2 and two unknown individuals are the contributors." ------ SUSPECT LR in e fraction = 0 SUSPECT LR in sp fraction = 0 -------- VICTIM LR in sp fraction = 0 **Database(s) Used:** NIST 1036 database using African American, Hispanic, and Caucasian populations and 99% 1-sided lower HPD interval.
6VPZR3 - 5901	**Method(s)**: [Participant did not report a method.] **Stats Analysis:** F1 - The male DNA profile from this item was interpreted as a single-source profile. MALE SUSPECT and FEMALE VICTIM are excluded as possible contributors to this DNA profile. F2 - The DNA profile from this item was interpreted as a mixture of three individuals, with at least one male contributor and with FEMALE VICTIM as an assumed contributor. MALE SUSPECT is excluded as a possible contributor to the mixture. **Database(s) Used:** [Participant did not return database used.]

TABLE 8

WebCode-Test	Item 4 Methods & Results
6XXAW4 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Epithelial Fraction Item 1 (Victim) LR 100 billion. Item 2 (Suspect) LR 0 (excluded). Sperm Fraction Item 1 (Victim) LR 0 (excluded). Item 2 (Suspect) LR 0 (excluded). **Database(s) Used:** [Location Identifying Database]
7T4FY3 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** VICTIM LR in e fraction (LR calculated assuming 4sp profile is a contributor): African American=2.8672E22, Hispanic=1.4065E26, Caucasian=6.9700E26 - reported as >1 billion. SUSPECT LR in 4e fraction LR = 0. SUSPECT LR in sp fraction = 0 **Database(s) Used:** NIST 1036 database using African American, Hispanic, and Caucasian populations and 99% 1-sided lower HPD interval.
9WGZW3 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The LR value calculated for the possible involvement of the female victim was 1.57E28 to 1, which means it is about 1.57E28 times more likely that the observed DNA profile being a mixture originating from the female victim and two unknown individuals than if it originating from three unrelated individuals selected at random from the [Location Identifying Population]. **Database(s) Used:** [Location Identifying Database]
9WVL74 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** [Participant did not return statistical analysis.] **Database(s) Used:** FBI-CAUC
A66AJ3 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** LR performed for the non-sperm fraction results for item 4. Assuming three contributors, the DNA results are 1.0E12 times more likely to be observed if the victim and two unknown individuals are the contributors than if three unknown individuals are the contributors. STR loci SE33 and D1S1656 were not used for this LR calculation. **Database(s) Used:** NIST Databases- Forensic Sci. Int.: Genetics 31 (2017) e36-e40
AUMTRW - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1: LR = 100,000,000,000 (100 billion). Item 2: LR = 2.14 x 10^-34 (supports exclusion). **Database(s) Used:** [Location Identifying Database]
B7LWGW - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** 4.1 and 4.2 (SF)- The male DNA profiles from these items were interpreted as single-source profiles. Female Victim and Male Suspect are excluded as possible contributors to these DNA profiles. 4.1 and 4.2(EF)- The DNA profiles from these items were interpreted as mixtures of three individuals, with at least one male contributor and with Female Victim as an assumed contributor. Based on the likelihood ratio results, Male Suspect is excluded as a possible contributor to these DNA mixtures. **Database(s) Used:** NIST 1036 July 2017

TABLE 8

WebCode-Test	Item 4 Methods & Results
C3L9DV - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Fraction 1 (sp): The male DNA profile from this item was interpreted as a single-source profile. The female victim and the male suspect are excluded as possible contributors to this DNA profile. Fraction 2 (e): The DNA profile from this item was interpreted as a mixture of three individuals, with at least one male contributor and with the female victim as an assumed contributor. Based on the likelihood ratio result, the male suspect is excluded as a possible contributor to the mixture. **Database(s) Used:** NIST 1036 July 2017
CKAFMX - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** VICTIM (Q1-1) cannot be excluded as a contributor to Mixture 2 (see Testing Summary) from a semen/blood stain on underwear (EQ04-1) found near VICTIM. The STR DNA results are estimated to be 320 billion times more likely if they originate VICTIM and two unknown people than if they originate from three unknown people unrelated to her. **Database(s) Used:** NIST Asian, NIST African American, NIST Caucasian Srivastava et al. (2019) South Asian, [Location Identifying Database]
CNQNBW - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** 4.52393E7 **Database(s) Used:** STRmix V2.5.11
CV4WCY - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Hypothesis for Item 4 in LRmix studio v 2.1.3: Item 1 + 2 Unknown / 3 Unknown. LR= 8,6299 E011. Item 2 is not considered as a possible contributor to the Item 4, In Item 4 the DNA profile of the NN male was observed. (Dropout Probability for Item 1 and Unknown = 0,16, Probability of dropin: 0,05, theta correction: 0,01) **Database(s) Used:** Allele Frequencies take from www.strider.online
CX6ZPV - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** H1: The DNA on item 4 came from the victim and two unknown, unrelated persons. H2: The DNA on item 4 came from three unknown, unrelated persons. LR (sub-source) = 7.38E27 **Database(s) Used:** [Location Identifying Database]
D4G86P - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** EFRAC: UKM1 (no LR calculated). SFRAC: LR for Item 1: >100 billion favouring contribution (truncated figure reported - actual figure: 1.2166E21). LR for Item 2: 0 (excluded). **Database(s) Used:** PP21 CAUCASIAN, PP21 ABORIGINAL, PP21 ASIAN. (Reported LR is stratified)
E6NMCV - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** 2. The VICTIM (item 1-1) cannot be excluded as a contributor to Mixture 2 (see Testing Summary) from the underwear (item 4-1) from the Scene. The STR DNA results are estimated to be greater than one trillion times more likely if they originate from the donor of STR Profile 1, VICTIM and one unknown person than if they originate from the donor of STR Profile 1 and two unknown people unrelated to the VICTIM. SUSPECT (item 2-1) is excluded as a contributor to Mixture 2 and as the source of STR Profile 1 and Y-STR Profiles A and C (see Testing Summary). **Database(s) Used:** i. NIST Asian, ii. NIST African American, iii. NIST Caucasian iv. Srivastava et al. (2019) South Asian, v. [Location Identifying Database]

TABLE 8

WebCode-Test	Item 4 Methods & Results
EDLFKP - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1 - reference sample, victim. LR: 100 billion Item 2 - reference sample, suspect. Excluded. **Database(s) Used:** [Location Identifying Database]
G396TQ - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Fraction 1 (Sperm Fraction): The DNA profile from this item was interpreted as a mixture of three individuals, with at least one male contributor and with the female victim as an assumed contributor. Based on the likelihood ratio result, the male suspect is excluded as a possible contributor to this DNA mixture. Fraction 2 (Epithelial Fraction): The DNA profile from this item was interpreted as a mixture of three individuals, with at least one male contributor and with the female victim as an assumed contributor. Based on the likelihood ratio result, the male suspect is excluded as a possible contributor to this DNA mixture. **Database(s) Used:** NIST 1036 July 2017
GXTW6R - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile from the epithelial fraction was interpreted as a mixture of three individuals. The DNA profile is 72 million times more likely if it originated from the Victim (1) and two unknown individuals than if it had originated from three unknown, unrelated individuals. Statistical analysis provides very strong support for the inclusion of the Victim (1). The Suspect (2) is excluded as a contributor to the DNA profile obtained from the epithelial fraction. The DNA profile obtained from the sperm fraction was interpreted as originating from a single unknown male individual A. The Victim (1) and Suspect (2) are excluded as contributors to the DNA profile obtained from the sperm fraction. **Database(s) Used:** The FBI Extended CODIS core allele frequencies - Caucasian, African American, and Southwest Hispanics
GXXCQQ - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** PP21 analysis (non-sperm fraction): Victim - Not excluded. LR=100 billion; Suspect - excluded. The DNA evidence is 100 billion times more likely if the the victim and two unknown, unrelated people are contributing to the DNA, than if three unknown, unrelated people are contributing to the DNA. PP21 analysis (sperm fraction): Victim - excluded. Suspect - excluded. YFP analysis (sperm and non sperm fractions): Suspect - excluded **Database(s) Used:** [Location Identifying Database]
HDQ4BR - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 4sp-Suspect and Victim are both excluded (qualitative exclusion, the person of interest does not match sample). Item 4e-Victim included in the mixture and used as an assumed contributor. Suspect is excluded, Likelihood Ratio=0. **Database(s) Used:** FBI extended databases (African American, Caucasian, SW Hispanic, SE Hispanic)

TABLE 8

WebCode-Test	Item 4 Methods & Results
J7339J - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Spermatozoa Fraction: The DNA profile obtained from Item 4 spermatozoa fraction indicated the presence of DNA from one contributor. Because an unknown designation was sent with this exhibit report, reference samples associated to this case (Items 1 and 2) have been excluded as donors of this DNA and this DNA profile has been designated as an unknown. This DNA profile has not been statistically evaluated however a likelihood ratio can be provided if required. Epithelial Fraction: Item 3 epithelial fraction provided a DNA profile that indicated the presence of DNA from three contributors. Some or all of the components of the DNA profile from the Victim (Item 1) are represented within this mixed DNA profile. This DNA profile is greater than 100 billion times more likely to have occurred if the Victim (Item 1) has contributed to this DNA profile, rather than three unknown, unrelated individuals. This item gave a mixed DNA profile that indicated the presence of DNA from three contributors. The statistical interpretation shows that the Suspect (Item 2) has been compared, and can be excluded as having contributed to this mixed DNA profile. **Database(s) Used:** PP21 Caucasian, PP21 Aboriginal and PP21 Asian
JGKK2Q - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The victim (item 1-1) cannot be excluded as a contributor to Mixture 2 (see Testing Summary) from the blood/semen stain on the underwear found near the victim's body (item 4-1). The STR DNA results are estimated to be greater than one trillion times more likely if they originate from the victim and two unknown people than if they originate from three unknown people unrelated to the victim. The suspect (item 2-1) is excluded as a contributor to Mixture 2 (see Testing Summary). **Database(s) Used:** NIST Asian, NIST African American, NIST Caucasian Srivastava et al (2019) South Asian, [Location Identifying Database]
JJ74TP - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile of the sperm fraction was interpreted as originating from a single unknown male A. The DNA profile of the epithelial fraction was interpreted as a mixture of three individuals. The DNA profile is at least 1 trillion times more likely if it originated from Female Victim (1) and two unknown individuals than if it had originated from three unknown, unrelated individuals. Male Suspect (2) is excluded as a contributor to the DNA profile. Statistical analysis provides very strong support for the inclusion of Female Victim (1). **Database(s) Used:** FBI Extended CODIS core allele frequencies - Caucasian, African American, and Southwest Hispanic
L26XRK - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Sperm fraction: Both Items 1 and 2 are excluded as the source of the DNA detected. Non-sperm fraction: PP21: Item 1 is not excluded as a contributor with a LR of 100 billion. Item 2 is excluded as a contributor to the DNA detected. **Database(s) Used:** [Location Identifying Database]
L7CNVQ - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Non-sperm fraction: Assuming three contributors, the evidence profile is 2.1 billion times more likely to be observed if Victim and two unknowns are the contributors than if three unknowns are the contributors. STR loci SE33 and D1S1656 were not used for this LR calculation. **Database(s) Used:** NIST Databases- Forensic Sci. Int.:Genetics 31 (2017) e36-e40
LE6Y6L - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 4e: Item 1: Not excluded LR = 100 billion. Item 2: supports exclusion. Item 4s: Item 1: Excluded. Item 2: Excluded. **Database(s) Used:** [Location Identifying Database]

TABLE 8

WebCode-Test	Item 4 Methods & Results
LFLWXL - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Female fraction - Reference 1 (item 1A), the victim is assumed. Reference 2 (item 2B), the suspect is excluded. Male fraction - Both reference 1 (victim) and reference 2 (suspect) are excluded. **Database(s) Used:** [Location Identifying Database]
LJL8TL - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Male Fraction: Vict (Item 1): Excluded. Sus (Item 2): Excluded. Female Fraction: Vict (Item 1): Not excluded (LR=100 billion). Sus (Item 2): Excluded. **Database(s) Used:** [Location Identifying Database]
LRPGKK - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile obtained from the sperm fraction was interpreted as originating from a single unknown male individual A. Female victim (1) and Male suspect (2) are excluded as contributors to the DNA profile. The DNA profile obtained from the epithelial fraction was interpreted as a mixture of three individuals. The DNA profile is 680 billion times more likely if it originated from Female victim (1) and two unknown individuals than if it had originated from three unknown, unrelated individuals. Statistical analysis provides very strong support for the inclusion of Female victim (1). Male suspect (2) is excluded as a contributor to the DNA profile. **Database(s) Used:** FBI extended CODIS core allele frequencies - Caucasian, African American and Southwest Hispanic
LWPP4K - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Sperm fraction: PP21: Victim - excluded, Suspect - excluded. YFP: Suspect - excluded. Non sperm fraction: PP21: Victim - not excluded (LR = 100 billion), Suspect - excluded. YFP: Suspect - excluded. **Database(s) Used:** [Location Identifying Database]
NH4WTJ - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** FF: Complainant: The DNA evidence is estimated to be 100 billion times more likely to occur if the DNA originated from the complainant and two unknown unrelated people from the [Location Identifying Population], rather than if it originated from three unknown unrelated people from the [Location Identifying Population]. Suspect: The DNA evidence is more likely to occur if the DNA originated from three unknown unrelated people from the [Location Identifying Population], rather than if it originated from the suspect and two unknown unrelated people from the [Location Identifying Population]. MF: Complainant: Excluded. Suspect: Excluded. **Database(s) Used:** [Location Identifying Database]
NWU3LM - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** H1: Item 4 contains DNA of Item 1 and two unknown persons. H2: Item 4 contains the DNA of three unknown people. LR= 2.5E9, Dropout probability 0.16, Hypothesis H1 is 2.5 billion times more likely than hypothesis H2 **Database(s) Used:** STRider EU

TABLE 8

WebCode-Test	Item 4 Methods & Results
P4RC6K - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Fraction 1/sperm fraction: The male DNA profile from this item was interpreted as a single-source profile. The female victim and the male suspect are excluded as possible contributors to this DNA profile. No stats performed due to both the female victim and the male suspect being visually excluded. Fraction 2/epithelial fraction: The DNA profile from this item was interpreted as a mixture of three individuals with at least one male contributor. The DNA results are approximately 2.18 trillion times more likely if they originated from the female victim and two unknown, unrelated individuals than if they originated from three unknown, unrelated individuals. Based on the likelihood ratio, this provides very strong support that the female victim is a contributor to the DNA from this item. Based on the likelihood ratio result, the male suspect is excluded as a possible contributor to this DNA profile. no stat reported for male suspect due to LR exclusion **Database(s) Used:** NIST 1036 July 2017
P9HLFJ - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA profile obtained from the sperm fraction was interpreted as originating from a single unknown male individual A. The DNA profile obtained from the epithelial fraction was interpreted as a mixture of three individuals. The DNA profile is at least 1 trillion times more likely if it originated from female victim (1) and two unknown individuals than if it had originated from three unknown, unrelated individuals. Statistical analysis provides very strong support for the inclusion of female victim (1). Male suspect (2) is excluded as a contributor to the DNA profile. **Database(s) Used:** FBI Extended CODIS Core Allele Frequencies- Caucasian, African American, and Southwest Hispanics
PKP22G - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1 - LR = 100 billion: The DNA evidence is 100 billion times more likely to occur if the DNA has originated from the victim and two unknown unrelated individuals from the [Location Identifying Population], rather than if the DNA has originated from three unknown unrelated individuals from the [Location Identifying Population]. Item 2 - LR = Supports Hd: The DNA evidence is more likely to occur if the DNA has originated from three unknown unrelated individuals from the [Location Identifying Population], rather than if it originated from the suspect and two unknown unrelated individuals from the [Location Identifying Population]. **Database(s) Used:** [Location Identifying Database]
PXPZND - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** 4e: Victim; LR = 100 billion. Suspect = Excluded. 4sp: Suspect = Excluded. Victim = Excluded. **Database(s) Used:** [Location Identifying Database]

TABLE 8

WebCode-Test	Item 4 Methods & Results
Q7ZLBM - 5902	**Method(s)**: Likelihood Ratio, LRmixStudio, DNAxs, EuroForMix **Stats Analysis:** Stutter filter was applied on DNA profiling. Item 4 (underwear) indicates the presence of a mixture. The number of alleles indicates that the mixture may be a three person mixture. Item 4 (underwear) could have originated from Victim (Item 1), one unknown female and one unknown male persons. Based on the observed DNA profile differences Suspect (Item 2) can be excluded as a contributor to the questioned stain. The unknown female DNA profile can be deconvoluted as the major component of the stain. The unknown male DNA profile can be determined from the sperm fraction having applied differential extraction on Item 4. / Common parameters used for statistical analyses: P(dropin) = 0.03; Pmin = 0.001; FST = 0.015 / Hp hypothesis: POI + 2 unrelated unknown contributors / Hd hypothesis: 3 unrelated unknown contributors / LRmixStudio v2.1.5 (Two PowerPlex Fusion 6C DNA profile replicates): P(dropout) = 0.1; POI: Victim (Item 1) -> LR = 3.7E+14 / LRmixStudio v2.1.5 (Two Precision ID GlobalFiler NGS STR Panel v2 kit DNA profile replicates (only CE allelic results)): P(dropout) = 0.1; POI: Victim (Item 1) -> LR = 3.22E+10 / DNAxs v2.5.8 MLE (Two PowerPlex Fusion 6C DNA profile replicates): P(dropout lambda) = 0.01; Backward stutter model was applied. POI: Victim (Item 1) -> LR = 7.9E+18 / DNAxs v2.5.8 MixCal (Two PowerPlex Fusion 6C DNA profile replicates): POI: Victim (Item 1) -> LR = 2.4E+14 / EuroForMix v4.0.8 (Two PowerPlex Fusion 6C DNA profile replicates): P(dropout lambda) = 0.01; Backward stutter model was applied. POI: Victim (Item 1) -> LR = 5.3E+18 / EuroForMixRep v1.1.0 (Two PowerPlex Fusion 6C DNA profile replicates and three Globalfiler DNA profile replicates): EuroForMixRep was used for deconvolution of mixed DNA profiles, too. P(dropout lambda) = 0.01; Backward stutter model was applied. POI: Victim (Item 1) -> LR = 4.8E+18 / The LR results of the statistical analyses strongly support the hypothesis that Item 4 (underwear) contains Victim's DNA. **Database(s) Used:** STRidER R2 Europe: https://strider.online/frequencies / Bodner et al. 2016: https://doi.org/10.1016/j.fsigen.2016.06.008. For Precision ID GlobalFiler NGS STR Panel v2 kit CE results: https://doi.org/10.1016/j.fsigen.2019.06.009 (Supplementary Table 5).
QETUVD - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** item 4 (e) - item 1, LR = 100 billion **Database(s) Used:** [Location Identifying Database]
QGRATG - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Victim cannot be excluded. LR=2.4 MILLION **Database(s) Used:** [Location Identifying Database]
QKK2DL - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** [Participant did not return statistical analysis.] **Database(s) Used:** STRMIX 2.8.0 used. Knowing the underwear found next to the victim, the victim's contribution in the mixture is calculated according to those hypothesis: Hp: the mixture belongs to victim and 2 unknown people. Hd: the mixture belongs to 3 unknown people. LR = 3.0183E21.
T9QWLD - 5901	**Method(s)**: [Participant did not report a method.] **Stats Analysis:** Item 4 Sperm Fraction (Fraction 1) The male DNA profile from this item was interpreted as a single-source profile. The "Known blood from the female victim" and the "Known blood from the male suspect" are excluded as possible contributors to this DNA Profile. Item 4 Epithelial Fraction (Fraction 2) The DNA profile from this item was interpreted as a mixture of three individuals, with at least one male contributor and with the "Known blood from the female Victim" as an assumed contributor. The "Known blood from the male suspect" is excluded as a possible contributor to the mixture. **Database(s) Used:** NIST 1036 July 2017

TABLE 8

WebCode-Test	Item 4 Methods & Results
U8YVVF - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 4sp (fraction 2) - both the female victim and male suspect are excluded (qualitative exclusion, the person of interest does not match sample). Item 4e (fraction 1) - assuming the female victim is a contributor to this mixture, the male suspect is excluded (LR=0). **Database(s) Used:** FBI Database (African American, Caucasian, Southeast Hispanic, Southwest Hispanic)
UAQU9D - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Item 1 LR = 100 billion for item 4(e) **Database(s) Used:** [Location Identifying Database]
V9EEEC - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Comparison of reference samples to the mixed DNA profiling results from item 4 (e-fraction): LR for complainant (item 1) is 100 billion. For the suspect (item 2) it supports exclusion. Comparison of reference samples to the single source DNA profile from item 4 (sp-fraction): Both the complainant (item 1) and suspect (item 2) are excluded. **Database(s) Used:** [Location Identifying Database]
VGN7HF - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Ep: Item 1: 1.432e+17. Unknown male from item 4 sp: 1.518e+9. Sp: Unknown male from item 4 sp: 6.834e+25. **Database(s) Used:** [Location Identifying Database]
VPY84F - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** The donor of the known sample, exhibit 1 [VICTIM], is a possible contributor to these results. The DNA evidence is 6.8 million times more likely (very strong support for inclusion*) to be observed if it originated from VICTIM and two unknown, unrelated individuals rather than if it originated from three unknown, unrelated individuals selected at random from the [Location Identifying Population]. **Database(s) Used:** [Location Identifying Database]
VT27E9 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** 1A-1: 4e: not excluded, LR = 100 million; 4sp: excluded. 1B-1: 4e: excluded; 4sp: excluded. **Database(s) Used:** [Location Identifying Database]

TABLE 8

WebCode-Test	Item 4 Methods & Results
XHPQK7 - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The questioned stain came from underwear located near the victim, therefore the victm was not an assumed contributor in the calculations performed. The DNA profile obtained from the EPITHELIAL CELL FRACTION of the stain was considered to be a 3 person mixture and separate comparisons to the victim and suspect reference profiles were performed. Hypothesis 1 - The source of the DNA is the victim and 2 unknown persons. Hypothesis 2 - The source of the DNA is 3 unknown persons. LR = 7.56E+12 in favour of hypothesis 1. Hypothesis 1 - The source of the DNA is the suspect and 2 unknown persons. Hypothesis 2 - The source of the DNA is 3 unknown persons. LR = 0 (suspect excluded as a contributor to the DNA profile). The DNA profile obtained from the SPERM FRACTION of the stain was considered to be a single source profile and separate comparisons to the victim and suspect reference profiles were performed. Hypothesis 1 - The source of the DNA is the victim. Hypothesis 2 - The source of the DNA is an unknown person. LR = 0 (victim excluded as a contributor to the DNA profile). Hypothesis 1 - The source of the DNA is the suspect. Hypothesis 2 - The source of the DNA is an unknown person. LR = 0 (suspect excluded as a contributor to the DNA profile). **Database(s) Used:** Calculations are performed using Caucasian, self-declared Aboriginal and Asian databases, combining information from: [Location Identifying Database]. The reported LR takes into consideration all nominated populations to generate a single stratified value.
XJ2PFE - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** E fraction: The DNA result was interpreted as a mixture of three individuals, with the male contributor from the sperm fraction as an assumed contributor. The remaining portion of the mixture was determined to be suitable for comparison. The mixture is at least 1.3 octillion (10^27) times more likely if it originated from the male contributor from the sperm fraction, the victim, and an unknown, unrelated individual than if it originated from the male contributor from the sperm fraction and two unknown, unrelated individuals. This analysis provides very strong support for the proposition that the victim is a contributor to the mixture. The suspect is excluded as a contributor to the mixture. SP fraction: A single-source male DNA profile was obtained and determined to be suitable for comparison. The victim and suspect are excluded as contributors of the profile. **Database(s) Used:** NIST1036
XKRQ7D - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** Fraction 1- No stat reported due to exclusion of the female victim and male suspect. Fraction 2- Based on the likelihood result, the male suspect is excluded as a possible contributor to the mixture. **Database(s) Used:** NIST 1036 July 2017
XNR32D - 5901	**Method(s)**: [Participant did not report a method.] **Stats Analysis:** (SF): The male DNA profile from this item was interpreted as a single-source profile. THE FEMALE VICTIM and THE MALE SUSPECT are excluded as possible contributors to this DNA profile. (EF): The DNA profile from this item was interpreted as a mixture of three individuals with at least one male contributor and with THE FEMALE VICTIM as an assumed contributor. THE MALE SUSPECT is excluded as a possible contributor to this DNA profile. **Database(s) Used:** [Participant did not return database used.]

TABLE 8

WebCode-Test	Item 4 Methods & Results
XUHAYB - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The victim (Item 1) is compatible as a possible donor to the mixture on item 4(e). We evaluated this result by computing a Likelihood Ratio between the following propositions: Proposition 1- the mixture is composed of the Victim and two unknown unrelated individuals. Proposition 2- the mixture is composed of three unknown unrelated individuals. The LR computed by EuroForMix for these two propositions is 5*10^10. The LR expresses by how much it is more likely to observe the mixture on item 4(e) if proposition 1 is true versus if proposition 2 is true. **Database(s) Used:** [Location Identifying Database]
XWPRX8 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Sperm Cell Fraction: A contributor identified within this mixed DNA profile did not match the victim nor suspect and has been designated Unknown Male 1. The remaining DNA within this mixed DNA profile was deemed unsuitable for further interpretation. Epithelial Cell Fraction: The DNA evidence is greater than 100 billion times more likely if the Victim (Item 1) and two unknowns are contributors. The Suspect (Item 2) is excluded as a contributor. **Database(s) Used:** [Location Identifying Database]
Y43ZY9 - 5902	**Method(s)**: Likelihood Ratio **Stats Analysis:** Sperm fraction: Victim (Item 1): Excluded Suspect (Item 2): Excluded Non-sperm fraction: Victim (Item 1): The DNA evidence is estimated to be 100 billion times more likely to occur if the DNA originated from the victim and two unknown and unrelated people selected randomly from the [Location Identifying Population], than if it originated from three unknown and unrelated people selected randomly from the [Location Identifying Population]. Suspect (Item 2): Excluded. **Database(s) Used:** [Location Identifying Database]
Y87VHC - 5901	**Method(s)**: Likelihood Ratio **Stats Analysis:** The DNA typing results obtained from exhibit ITEM 4 (stain from underwear: area AA) are of mixed origin, consistent with having originated from three individuals, at least one of whom is male. These results are suitable for comparison to reference samples. (See Remark 1 - Male 1 and Female 1). The donor of the known sample, exhibit ITEM 1 (VICTIM), is a possible contributor to fraction one of these results. The DNA evidence from fraction one of these results is 82 trillion times more likely (very strong support for inclusion*) to be observed if it originated from VICTIM and two unknown, unrelated individuals rather than if it originated from three unknown, unrelated individuals selected at random from the Caucasian population. The donor of the known sample, exhibit ITEM 2 (SUSPECT), is not a contributor to these results. **Database(s) Used:** Caucasian
ZY2GWB - 5901	**Method(s)**: [Participant did not report a method.] **Stats Analysis:** 4.2 F1(SF): The male DNA profile from this item was interpreted as a single-source profile. Victim and Suspect are excluded as possible contributors to the DNA profile. 4.2F2(EF): The DNA profile from this item was interpreted as a mixture of three individuals, with at least one male contributor and with Victim as an assumed contributor. Suspect is excluded as a possible contributor to the mixture. **Database(s) Used:** [Participant did not return database used.]

Additional Comments

TABLE 9

WebCode-Test	Additional Comments
2TZLR8 - 5901	Considering the low number of alleles in D8 and D3 compared with the high numbers in D21, TPOX and others, the possibility of related people being present in the result is not negligible. In such a case, the NOC can be under estimated but we don't think it is a problem here as we report a range of NOC. Also, because of that observation, before supporting inclusion, we would ask for POI's family members reference samples before issuing a conclusion.
3NJE48 - 5901	The results reported for Items 3 and 4 were generated using probabilistic genotyping. All alleles deemed possible for any contributor are being reported. With probabilistic genotyping stutter alleles are considered as either allelic or stutter during the deconvolution of samples. This sometimes results in stutter peaks being reported as allelic. Per laboratory protocol the Y-STR markers (DYS391, DYS570 and DYS576) are not used for interpretation other than to determine if at least one male contributor is present. Therefore, for these loci all peaks above the analytical threshold, stutter or allelic, will be reported. The contributor position reported for the victim and suspect refers to best contributor alignment as determined by STRmix (v2.5.11) during the LR calculation. The laboratory does not manually calculate contributor DNA concentrations or mixture proportions. The estimated mixture proportions reported are generated by STRmix (v2.5.11) during the deconvolution. The likelihood ratios provided in this report are based upon propositions or hypotheses (H1 versus H2) that can explain the evidence. H1 includes the person of interest (POI) while H2 includes a random person unrelated to the POI. This includes assumptions as to the number of contributors present in the DNA profile, assumed contributors and, unless otherwise noted, that each unknown contributor is unrelated to the named reference samples. Laboratory policy allows for analyst discretion, based upon training and experience, in the selection of screening tests being performed.
4Q2XN3 - 5901	Item 4 - Non sperm fraction. There was a possible peak height imbalance at D6 - peaks were low level and under 2000rfu. PHI are acceptable at this level under [Laboratory] interpretation guidelines. Normal practice would be to re amp to confirm the number of contributors however there was insufficient time to do so. I have reported the DNA profile as a 3 person mixture. The donor of the male fraction is a good fit statistically as a 3 person mixture.
63EHK4 - 5902	Contributors were listed in order from highest concentration to lowest concentration; however, when assuming a contributor STRmix assigns the assumed contributor as contributor 1 so the contributors are not listed in the order shown on the STRmix deconvolution.
6VPZR3 - 5901	** = Possible Stutter Allele
6XXAW4 - 5901	Item 3 was subjected to routine sampling for a bloodstain. Given this the low quantity of DNA (and resulting low level partial DNA profile) recovered from Item 3 seems unexpected. Insufficient time to take further samples to investigate if this result was reproducible. Possibly compromised sample or uneven distribution of cellular material through visible stain.
A66AJ3 - 5902	The GlobalFiler typing results reported for items 3 and 4 include all of the results that were utilized for the probabilistic genotyping interpretations of these items. For these two items, the results at SE33 and D1S1656 include all detected alleles along with the associated stutter peaks (these two loci were not interpreted with probabilistic genotyping). Additionally, for these two items the results for Y Indel, Amelogenin, and DYS391 include just the detected alleles (these loci are also not interpreted with probabilistic genotyping). A Y-STR statistic was calculated for item 3 but is not being reported since it did not involve probabilistic genotyping.
B7LWGW - 5901	**= Possible elevated stutter. ND= Not detected. Due to the low quant of 4.1 SF-F1 and possible drop out observed, Item 4 was re-portioned. See Item 4.2. Item 3 was not interpreted due to the NOC being greater than 4. Our Laboratory SOP and our STRmix validation only allows us to interpret mixtures less than or equal to 4 contributors. [From Table 7 - Item 3 Methods & Results: This DNA profile from this item is not suitable for probabilistic genotyping due to the excessive number of contributors.]

TABLE 9

WebCode-Test	Additional Comments
CNQNBW - 5901	In our laboratory the STRmix™ analysis has only been validated for two to three person mixtures. The result of the Item 3 was evaluated to be a mixure of four different persons. For this reason the STRmix analysisi could not be performed for Item 3.
CV4WCY - 5901	Item 2 is not considered as a possible contributor to the Item 4, In Item 4 the DNA profile of the NN male was observed.
D4G86P - 5901	Item 3 - alleles which did not fit in allocated space: D21S11 - 27,30.2,31,31.2,32.2,35; D19S433 - 11,12.2,13,14,14.2,15. Item 4 - alleles which did not fit in allocated space: D6S1043 - 11,12,13,14,17,18,19; D21S11 - 29,29.2,30,31.2,32.2,35.
G396TQ - 5901	** = possible elevated stutter
HDQ4BR - 5902	[From Table 7: Statistical Analysis for Item 3: "Item 3 Methods & Results: Item 3 is inconclusive due to mixture containing 4 or more individuals."]
L26XRK - 5902	It was difficult to detect spermatozoa in item 4. Two attempts (two separate samples) were taken and two spermatozoa were observed from the second sample. The YFP DNA profile (item 3) was amplified twice due to the partial nature of the results. If time permitted a second sample may have been taken from this item and tested with both PP21 and YFP.
L7CNVQ - 5902	The GlobalFiler typing results reported for items 3 and 4 include all of the results that were utilized for the probabilistic genotyping interpretations of these items. For these two items, the results at SE33 and D1S1656 include all detected alleles along with the associated stutter peaks (these two loci were not interpreted with probabilistic genotyping). Additionally, for these two items the results for Y Indel, Amelogenin, and DYS391 include just the detected alleles (these loci are also not interpreted with probabilistic genotyping). [From Table 3: STR Amplification Kit(s) & Results: Item 3, Locus SE33: "14, 27.2, 28.2, 29.2, 30.2, 16, 17, 18, 19, 19.2, 20, 25, 26.2."]
NWU3LM - 5901	Stutter: a peak with a height less than 10% of the height of the tallest peak at the locus. Mixture of material from 2 people: at least 3 peaks in at least 3 loci: mixture of at least 2 people. Mixture of material from 3 people: at least 5 peaks in at least 3 loci: mixture of at least 3 people. Mixture of material from 4 people: at least 7 peaks in at least 3 loci: mixture of at least 4 people. If one sample is analyzed more than once, a composite profile is provided. In the case of mixtures of more than 3 people, the interpretation is inconclusive.
PKP22G - 5901	YFP profile for Item 3 was interpreted as partial 2 person mixture, unresolvable. Alleles present have still been added to table. Cannot perform statistical evaluation given it is unresolvable.
PXPZND - 5902	The results obtained and presented in this report were generated following lab procedures, however of the results presented here I am not authorised to report the following in casework: Seminal material - Item 4
Q7ZLBM - 5902	The determined unknown major DNA profile component of Item 2 is not reported in this test, whereas it would be reported in real cases.
QGRATG - 5901	Item 3 - 4p mix. Victim cannot be excluded. An unknown individual referred to as UKP1 cannot be excluded. The remainder of the profile is suitable for further comparisons. Suespect is excluded as a contributor. Item 4 - Ep - 3p mix. Victim cannot be excluded. An unknown indvidual referred to as UKM1 cannot be excluded. An unknown indvidual referred to as UKF1 cannot be excluded. Sp - A male DNA profile was obtained. UKM1 cannot be excluded as the source. Tech review not performed due to time constraints.
T9QWLD - 5901	NR= No results. **= Possible elevated stutter.
U8YVVF - 5902	[From Table 7: Statistical Analysis for Item 3: "Item 3 Methods & Results: Item 3 - inconclusive, mixture of >4 people."]

TABLE 9

WebCode-Test	Additional Comments
VT27E9 - 5902	The results obtained and presented in this report were generated following standard laboratory procedures, however of these results, I am not authorised to report on seminal material.
XHPQK7 - 5901	The reference sample from the victim displayed a possible null mutation at locus D22S1045 and was interpreted as 17/NR. As per laboratory policy locus D22S1045 was excluded from all subsequent STRmix calculations. Homozygous loci in reference samples were entered into the results sheet as interpreted ie 11,11 (locus D2S441, victim reference sample). The sperm fraction of item 4 was considered a single source DNA profile. Homozygous loci were entered into the results sheet as observed in the profile ie 15 (D3S1358) as interpretation is done by STRmix. The analyst would consider the locus to be 15,15. DNA extracts from item 3 and 4 were amplified twice. The DNA profile obtained from item 3 was considered a 5 person mixture due to the number of alleles present at SE33. There is a possibility that allele 31.2 is in fact high overstutter. The laboratory threshold for this overstutter is approximately 3.5%. One amplification dispalyed an overstutter of 24.5% and this was considered to be too high to ignore. Additionally, the presence of allele 25 in one amplification only at 147rfu may be drop in which cannot be confirmed. Even without the high overstutter, the presence of allele 25 would still result in a 5 person mixture.
XJ2PFE - 5901	For item 3, the suspect's contribution was consistent with what our laboratory has called a "trace" contributor, or present at a level where stochastic effects and drop-out may be observed. The suspect was fully represented in the mixture, except dropout of a sister allele was observed at D12. For the level of DNA detected, this could be expected. At SE33, nine alleles were detected, one of which was in an N+4 position and under the laboratory's drop-in cap. This allele was not modeled for any contributor, the allele was edited, and the profile was interpreted as originating from four contributors.
XKRQ7D - 5901	**= May be attributed to elevated stutter
XNR32D - 5901	** = Possible elevated stutter
Y43ZY9 - 5902	The results obtained and presented in this report were generated following lab procedures, however of the results presented here I am not authorised to report the following in casework: Y Profiling/YSTR testing. I can only determine if a Y quant has been detected. The quality of the DNA may not have been ideal in this test. The DNA results for Item 3 had very low levels of DNA (0.003ng/ul), requiring re-amp. In case work, I may have considered taking a second sample, however the very narrow time frame allowed for this test did not allow time for resampling.
Y87VHC - 5901	Exhibit 3 yielded 0.39 ng human DNA, many peaks below peak detection threshold.
ZY2GWB - 5901	** = possible stutter

-End of Report-
(Appendix may follow)

Collaborative Testing Services ~ Forensic Testing Program

Test No. 24-5901: Probabilistic Genotyping

DATA MUST BE SUBMITTED BY **April 08, 2024, 11:59 p.m. EDT** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A WebCode: LFNNP2

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 homicide case involving a female victim and male suspect. According to police, the victim's body was found in her car. She is believed to have been sexually assaulted, as she was found unclothed from the waist down. The victim's boyfriend is the only suspect at this time and has been apprehended by police. Police are submitting a stain from the shirt the victim was wearing when found by police (Item 3) and a stain from a pair of women's underwear found near the victim's body (Item 4). Also provided are known standards from the female victim (Item 1) and male suspect (Item 2).

Items Submitted (Sample Pack G1 - Cloth Swatches):
Item 1: Known blood from the female victim
Item 2: Known blood from the male suspect
Item 3: Questioned stain from victim's shirt (tan)
Item 4: Questioned stain from underwear found near victim's body (gray)

Part I: SCREENING TESTS

Note: Laboratories submitting their results for ASCLD/LAB or NATA accreditation MUST identify any screening tests performed and report the test results.

Indicate the results of any screening tests performed on the questioned stains (Items 3 & 4).

Please use the abbreviations listed in this response key to fill in the Screening Test tables on this tab. This is not an all inclusive list of tests, and should not be used to determine what tests should be performed.

TESTS NOT ON THIS LIST MAY BE USED FOR SCREENING.

Test	Abbreviation	Test	Abbreviation
Acid Phosphatase	AP	Alternate Light Source	ALS
Kastle Meyer	KM	Leucomalachite Green	LMG
Microscopic	Micro	Ortho-tolidine	O-tol
Phenolphthalein-Tetramethyl benzidine	PTMB	Prostate Specific Antigen	PSA
Rapid Stain Identification	RSID	Tetramethyl benzidine	TMB

Example:	Positive	Negative	Inconclusive	Not Tested	Test(s) Performed
Blood	◉	○	○	○	KM, O-tol, PTMB
Semen	○	◉	○	○	PSA
Saliva	○	○	○	◉	
Human Origin	○	○	○	◉	
Y-Screening (male DNA)	○	○	○	◉	
Other Specified Body Fluid	○	○	○	○	

Please indicate the Test(s) Performed on the corresponding line for each type of screening.

Screening data not reported. ☐

Item 3:

	Positive	Negative	Inconclusive	Not Tested	Test(s) Performed
Blood	○	○	○	○	
Semen	○	○	○	○	
Saliva	○	○	○	○	
Human Origin	○	○	○	○	
Y-Screening (male DNA)	○	○	○	○	
Other:	○	○	○	○	

Item 4:

	Positive	Negative	Inconclusive	Not Tested	Test(s) Performed
Blood	○	○	○	○	
Semen	○	○	○	○	
Saliva	○	○	○	○	
Human Origin	○	○	○	○	
Y-Screening (male DNA)	○	○	○	○	
Other:	○	○	○	○	

Part II: DNA INTERPRETATION

Based on results obtained from DNA analysis, could the Victim (Item 1) and/or the Suspect (Item 2) be a contributor to the questioned stains (Items 3 & 4)?

	Victim (Item 1)			Suspect (Item 2)	
	Item 3	Item 4		Item 3	Item 4
Yes	○	○	Yes	○	○
No	○	○	No	○	○
Inconclusive	○	○	Inconclusive	○	○
No Interpretation	○	○	No Interpretation	○	○

Part III: DNA 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.
- If your laboratory policy is to indicate minor or weaker alleles, please enclose them within brackets [ ].

STR Amplification Kit(s) Used: Please check all the brands that apply for this item and record only additional kit specific information in the blank provided (i.e. 16, Plus, Direct, HS, Fusion, etc.).

☐ Identifiler® ☐ GlobalFiler™ ☐ Investigator® 24plex

☐ PowerPlex® Other

Report the Probabilistic Genotyping Software Used:

☐ STRmix ☐ TrueAllele Other

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

ITEM	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
1						
ITEM	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
1						
ITEM	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
1						
ITEM	FGA	Penta D	Penta E	SE33	TH01	TPOX
1						
ITEM	vWA	DYS391	DYS570	DYS576	Y Indel	
1						

Part III (continued): DNA 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.
- If your laboratory policy is to indicate minor or weaker alleles, please enclose them within brackets [ ].

STR Amplification Kit(s) Used: Please check all the brands that apply for this item and record only additional kit specific information in the blank provided (i.e. 16, Plus, Direct, HS, Fusion, etc.).

☐ Identifiler® ☐ GlobalFiler™ ☐ Investigator® 24plex

☐ PowerPlex® Other

Report the Probabilistic Genotyping Software Used:

☐ STRmix ☐ TrueAllele Other

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

ITEM	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
2						
ITEM	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
2						
ITEM	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
2						
ITEM	FGA	Penta D	Penta E	SE33	TH01	TPOX
2						
ITEM	vWA	DYS391	DYS570	DYS576	Y Indel	
2						

YSTR Amplification Kit(s) Used: Please check all the brands that apply for this item and record only additional kit specific information in the blank provided (i.e. Plus, 23, etc.).

☐ YFiler™ ☐ PowerPlex® Y Other

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

ITEM	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
2									
ITEM	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
2									
ITEM	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	Y GATA H4
2									

Part III (continued): DNA 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.
- If your laboratory policy is to indicate minor or weaker alleles, please enclose them within brackets [ ].

STR Amplification Kit(s) Used: Please check all the brands that apply for this item and record only additional kit specific information in the blank provided (i.e. 16, Plus, Direct, HS, Fusion, etc.).

☐ Identifiler® ☐ GlobalFiler™ ☐ Investigator® 24plex

☐ PowerPlex® Other

Report the Probabilistic Genotyping Software Used:

☐ STRmix ☐ TrueAllele Other

Did you perform a differential extraction of Item 3? YES ○ NO ○

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

ITEM	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
3						
3 e						
3 sp						
ITEM	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
3						
3 e						
3 sp						
ITEM	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
3						
3 e						
3 sp						
ITEM	FGA	Penta D	Penta E	SE33	TH01	TPOX
3						
3 e						
3 sp						
ITEM	vWA	DYS391	DYS570	DYS576	Y Indel	
3						
3 e						
3 sp						

YSTR Amplification Kit(s) Used: Please check all the brands that apply for this item and record only additional kit specific information in the blank provided (i.e. Plus, 23, etc.).

☐ YFiler™ ☐ PowerPlex® Y Other

Did you perform a differential extraction of Item 3? YES ○ NO ○

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

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

Part III (continued): DNA 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.
- If your laboratory policy is to indicate minor or weaker alleles, please enclose them within brackets [ ].

STR Amplification Kit(s) Used: Please check all the brands that apply for this item and record only additional kit specific information in the blank provided (i.e. 16, Plus, Direct, HS, Fusion, etc.).

☐ Identifiler® ☐ GlobalFiler™ ☐ Investigator® 24plex

☐ PowerPlex® Other

Report the Probabilistic Genotyping Software Used:

☐ STRmix ☐ TrueAllele Other

Did you perform a differential extraction of Item 4? YES ○ NO ○

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

ITEM	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
4						
4 e						
4 sp						
ITEM	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
4						
4 e						
4 sp						
ITEM	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
4						
4 e						
4 sp						
ITEM	FGA	Penta D	Penta E	SE33	TH01	TPOX
4						
4 e						
4 sp						
ITEM	vWA	DYS391	DYS570	DYS576	Y Indel	
4						
4 e						
4 sp						

YSTR Amplification Kit(s) Used: Please check all the brands that apply for this item and record only additional kit specific information in the blank provided (i.e. Plus, 23, etc.).

☐ YFiler™ ☐ PowerPlex® Y Other

Did you perform a differential extraction of Item 4? YES ○ NO ○

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

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

Part III (continued): DNA Analysis - Additional DNA

- Use this section to report results for loci not currently listed in other sections of the data sheet.
- Report alleles in numerical order, separated by a comma.
- If your laboratory policy is to indicate minor or weaker alleles, please enclose them within brackets [ ].
- Click "Add Row" to show another row of boxes for entry.

Did you perform a differential extraction of Item 3? Yes ○ No ○

Did you perform a differential extraction of Item 4? Yes ○ No ○

Locus	Item 1	Item 2	Item 3	Item 3e	Item 3sp	Item 4	Item 4e	Item 4sp

Part IV: Mixture Sample Analysis

NOTE: To allow functionality of this page please select an answer to differential extraction questions on previous tabs for Item 3 and Item 4.

For each item, select the Estimated Number of Contributors and Contributor Identification (Victim, Suspect, or Unknown Individual). Calculate the DNA Concentration and DNA Proportion for each contributor using your laboratory's protocols. For Unknown Individual(s), report the contributor determined to have the highest concentration of DNA first and remaining in descending order. Enter "DNA Concentration" in ng/uL and "DNA Proportion" in percentage.

Concentration and proportion data not reported. ☐

Item 3:

Estimated number of contributors:

		DNA Concentration (ng/uL)	DNA Proportion (%)
Contributor 1			

Item 4:

Estimated number of contributors:

		DNA Concentration (ng/uL)	DNA Proportion (%)
Contributor 1			

Part V: DNA Statistical Analysis

Item 3:

1) **Statistical Analysis of Item 3 DNA Typing Results:**
Select the statistical method(s) used by marking the associated box and report these results in the space below:

☐ Likelihood Ratio (LR)

Other

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

2) Please list any databases used in the statistical analysis of Item 3 below.

Item 4:

1) **Statistical Analysis of Item 4 DNA Typing Results:**
Select the statistical method(s) used by marking the associated box and report these results in the space below:

☐ Likelihood Ratio (LR)

Other

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

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

Part VI: ADDITIONAL COMMENTS

- Use this section to report comments regarding any part of this test.
- Written conclusions (including statistical information) for DNA analysis are not required.
- Note: Laboratories submitting their results for accreditation are asked to report any additional information that will assist in the review of their results. This includes an explanation of any deviations from a full completion of the test and/or unique findings such as elevated stutter.

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

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

ANAB Certificate No.

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety

Authorized Contact Person and Title

Laboratory Name

Location (City/State)