



DNA Parentage Test No. 18-5870 Summary Report

Each participant received a sample pack consisting of the standard paternity trio, collected from a mother, a son, and a potential father. Participants were requested to analyze the samples using their existing protocols. Data were returned from 39 participants and are compiled into the following tables:

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

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 was a collection of known blood samples, provided on FTA Micro cards, from three individuals (Items 1-3); a mother, a son, and a potential father. Participants were requested to analyze these items using their existing protocols. Also included in the data sheet was a kinship exercise that consisted of autosomal DNA profiles of two individuals for comparison. Participants were requested to determine if a full sibling relationship claim was supported following the review of these profiles.

SAMPLE PREPARATION: All stains were prepared from human whole blood which was drawn into EDTA tubes. Item 1 (75 μ l) was blood from a female (mother) donor, Item 2 (75 μ l) was blood from a male (son) donor, and Item 3 (75 μ l) was blood from a male donor who was the biological father of the Item 2 male. The different 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 20, 2018.

SAMPLE SET ASSEMBLY: For each sample set, all three Items (1-3) in their separate envelopes were placed in a pre-labeled sample pack envelope and sealed. The sample pack envelopes were then packaged in pre-labeled Heat Seal envelopes and sealed. This process was repeated until all of the sample sets were prepared.

KINSHIP EXERCISE: This exercise included allelic results representing a full sibling relationship.

VERIFICATION: Laboratories that conducted predistribution analysis of the samples reported consistent results and associations.

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	17,18	11,14	15,16	10,12	*
	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26	12,13	13,13	17,28.2	6,9.3	11,11
	18,19	NM	NM	NM	NM	
2	15,17.3	18,24	11,14	16,18	12,12	*
	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21	9,12	7,13	17,17	6,9.3	8,11
	16,19	10	*	*	*	
3	16,17.3	22,24	11,11	17,18	11,12	*
	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21	9,9	7,12	16,17	9,9.3	8,8
	16,16	10	*	*	*	

YSTR Results

Results compiled from predistribution laboratories and 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	Y GATA H4
2	*	15	15,16	14	30	23	10	12	14
	14	10	11	20	*	15	15	*	27
	*	11	*	19	17	*	21	*	10
3	*	15	15,16	14	30	23	10	12	14
	14	10	11	20	*	15	15	*	27
	*	11	*	19	17	*	21	*	10

Paternity Indices

Median Paternity Index results compiled from predistribution laboratories and a consensus of at least 10 participants.

Item - Database	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					
3 NIST STRBASE	3.7594	4.3478	1.7108	3.3112	1.2893	*
	3.9032	1.517	3.252	2.912	1.5361	1.1876
	2.9342	3.1948	1.7699	0.95749	N/A	2.777
	2.798	4.5126	2.9586	*	0.8614	1.9051
	4.98					

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

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

Summary Comments

The 18-5870 DNA Parentage test was designed to allow participants to assess their proficiency in the analysis and interpretation of a standard paternity trio of blood samples. Item 1 was blood collected from a female donor (mother), Item 2 was blood collected from a male donor (son of the Item 1 female and the Item 3 male), and Item 3 was blood collected from a male donor who is the biological father of the Item 2 male. Participants were requested to analyze the samples and provide allelic and statistical results as well as relationship conclusions. The test also included a paper kinship exercise where participants were requested to evaluate the provided DNA profiles and report the kinship index and relationship conclusions (Refer to the Manufacturer's Information for preparation details).

DNA Analysis:

All 39 participants who returned data reported results for STRs for all three items. The individual profiles for Item 2 and 3 were concordant across all participants. For Item 1, one participant reported a discordant allele. At the D19S433 locus, this participant recorded an allele call of "14,15" whereas the consensus at this locus was "14,14".

Twenty two participants reported full YSTR results for Items 2 and 3. Of the participants reporting full YSTR results, the individual profiles for Items 2 and 3 were concordant. The comparison of the father and son YSTR profiles revealed one allelic difference at the DYS627 locus. One participant specifically discussed this finding and described the event as a one step mutation between the father and son.

Paternity DNA Statistics:

Of the 39 participants who returned data, 38 provided paternity DNA statistics. The combined paternity index value was dependent on variables including, the population database evaluated, the amplification kit used and the number of significant figures reported. The most frequently reported population database was NIST-STRBASE. For Participants using this population database, there were two amplification kits equally represented; for participants reporting the use of Powerplex Fusion 6C, the combined paternity index calculation was between 1,310,000,000 and 1,320,483,028; whereas for participants using Powerplex Fusion 5C, the combined paternity index ranged between 56×10^6 (excluding D12S391) and 164×10^6 (including D12S391). The differences seen in the combined paternity indices reflect the increase in discrimination as more loci are included in the calculations and a more robust population database is used. Of the 38 laboratories, 37 reported a value greater than 99% for the probability of paternity. All 38 participants reported that Item 3 was not excluded as the biological father of Item 2.

Kinship DNA Statistics

There were 18 participants who responded for the paper kinship exercise. The update to the reporting format for this test significantly normalized the likelihood ratios provided for each locus allowing the data to be evaluated by a statistical model. The grand mean of the likelihood ratio for each locus was established, excluding responses that were ± 4 STD from the grand mean. One participant reported a number of likelihood ratios that were marked with an "X" indicating that they were excluded from the grand mean calculation. The grand mean is supplied to assist participants and accrediting bodies with the evaluation and determination of the acceptability of results. Approximately 60% of participants reported a Kinship Index (KI) of $\sim 14,000$, four participants reported a KI of ~ 1800 and two participants reported values that were significantly lower, 1037 and 133.3, which related to the fact that they excluded specific loci from their calculation. One participant reported a KI of 67023.1 which corresponded to the elevated likelihood ratios they reported for multiple loci. All individuals reported that the claim of a full sibling relationship was supported.

STR Amplification Kit(s) & Results

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

2R79JE	PowerPlex® PP21					
	14,15	17,18		15,16	10,12	11
1	8,10	11,14		21	11,13	9,12
	12,15	14	29,30		X	10,11
	21,26	12,13	13		6,9.3	11
	18,19					
<hr/>						
36TFEU	PowerPlex® Fusion 6C					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X,X	10,11
	21,26	12,13	13	17,28.2	6,9.3	11
	18,19					
<hr/>						
4A2FQC	PowerPlex® Fusion 6C (Familias3)					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26	12,13	13,13	17,28.2	6,9.3	11,11
	18,19					
<hr/>						
4PFNPV	GlobalFiler™					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26			17,28.2	6,9.3	11
	18,19	NR			NR	
<hr/>						
4ZW BXV	GlobalFiler™					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26			17,28.2	6,9.3	11,11
	18,19					

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

67GQ3T	GlobalFiler™					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26			17,28.2	6,9.3	11,11
	18,19					
6CMLLT	GlobalFiler™					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26			17,28.2	6,9.3	11,11
	18,19	-			-	
6TA3RB	Identifiler® Plus					
		17,18		15,16	10,12	
1	8,10	11,14			11,13	9,12
	12,15	14	29,30		X	10,11
	21,26				6,9.3	11
	18,19					
8AQQEB	PowerPlex® FUSION					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26	12,13	13,13		6,9.3	11,11
	18,19					
96ULXC	PowerPlex® Fusion					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26	12,13	13		6,9.3	11
	18,19					
A3H74B	PowerPlex® Fusion					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26	12,13	13		6,9.3	11
	18,19					

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

AJQX7F	Identifiler® Plus					
	-	17,18	-	15,16	10,12	-
1	8,10	11,14	-	-	11,13	9,12
	12,15	14,14	29,30	-	X,X	10,11
	21,26	-	-	-	6,9.3	11,11
	18,19	-	-	-	-	-
BGKWL9	GlobalFiler™					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26			17,28.2	6,9.3	11
	18,19					
BGZF4K	PowerPlex® Fusion 6C					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26	12,13	13,13	17,28.2	6,9.3	11,11
	18,19					
CRB87K	PowerPlex® Fusion 6C					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26	12,13	13	17,28.2	6,9.3	11
	18,19					
F4VNNH	PowerPlex® Fusion 6C					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26	12,13	13,13	17,28.2	6,9.3	11,11
	18,19					
FALYZ2	PowerPlex® Fusion					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26	12,13	13		6,9.3	11
	18,19	NR				

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

FED7HA	Identifiler®					
		17,18		15,16	10,12	
1	8,10	11,14			11,13	9,12
	12,15	14,14	29,30		X,X	10,11
	21,26				6,9.3	11,11
	18,19					
FWDDC2	PowerPlex® Fusion Direct					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X	10,11
	21,26	12,13	13,13		6,9.3	11,11
	18,19					
GLCCBH	GlobalFiler™ Express					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26			17,28.2	6,9.3	11
	18,19	NR			NR	
GLWQ32	Identifiler® Plus					
		17,18		15,16	10,12	
1	8,10	11,14			11,13	9,12
	12,15	14,14	29,30		X,X	10,11
	21,26				6,9.3	11,11
	18,19					
HW8H72	PowerPlex® ESI 16 Fast, Powerplex Fusion 6c					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26	12,13	13,13	17,28.2	6,9.3	11,11
	18,19					
JJYKB	PowerPlex® Fusion					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X,X	10,11
	21,26	12,13	13		6,9.3	11
	18,19					

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

JKCMY	PowerPlex® Fusion 5C					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26	12,13	13,13		6,9.3	11,11
	18,19					
K9TYMX	Identifiler® Plus					
		17,18		15,16	10,12	
1	8,10	11,14			11,13	9,12
	12,15	14	29,30		X	10,11
	21,26				6,9.3	11
	18,19					
M28MM2	Identifiler®					
		17,18		15,16	10,12	
1	8,10	11,14			11,13	9,12
	12,15	14,14	29,30		X,X	10,11
	21,26				6,9.3	11,11
	18,19					
M93MY9	PowerPlex® Fusion 6C					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26	12,13	13,13	17,28.2	6,9.3	11,11
	18,19	ND	ND	ND		
MNX6QR	PowerPlex® Fusion					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26	12,13	13		6,9.3	11
	18,19	NR				
MQ9MAX	PowerPlex® Fusion					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26	12,13	13		6,9.3	11
	18,19					

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
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

NCHEP2	PowerPlex® Fusion 5C (DNA View)					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26	12,13	13		6,9.3	11
	18,19					
PQYU77	PowerPlex® Fusion					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26	12,13	13		6,9.3	11
	18,19					
PVN869	GlobalFiler™					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26			17,28.2	6,9.3	11,11
	18,19	-			-	
PYPDMZ	Identifiler® +					
		17,18		15,16	10,12	
1	8,10	11,14			11,13	9,12
	12,15	14,14	29,30		X,X	10,11
	21,26				6,9.3	11,11
	18,19					
RU8UHN	PowerPlex® Fusion					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14,15	29,30	11,16	X	10,11
	21,26	12,13	13		6,9.3	11
	18,19	NR				
UZLG6N	GlobalFiler™ Express					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26			17,28.2	6,9.3	11,11
	18,19	Not Detected			Not Detected	

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

V22ZPL	PowerPlex® Fusion					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26	12,13	13,13		6,9.3	11,11
	18,19	-				
VJEKJ6	PowerPlex® 21 (Kinship)					
	14,15	17,18		15,16	10,12	11,11
1	8,10	11,14		21,21	11,13	9,12
	12,15	14,14	29,30		X,X	10,11
	21,26	12,13	13,13		6,9.3	11,11
	18,19					
ZBA2BW	PowerPlex® Fusion 6C					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21	11,13	9,12
	12,15	14	29,30	11,16	X	10,11
	21,26	12,13	13	17,28.2	6,9.3	11
	18,19					
ZRXENN	GlobalFiler™ Express					
	14,15	17,18	11,14	15,16	10,12	
1	8,10	11,14	14,15	21,21	11,13	9,12
	12,15	14,14	29,30	11,16	X,X	10,11
	21,26			17,28.2	6,9.3	11,11
	18,19					

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

2R79JE	PowerPlex® PP21					
	15,17.3	18,24		16,18	12	11,12
2	10	11,13		18,21	11	9,12
	15	14,15	30		X,Y	10,12
	21	9,12	7,13		6,9.3	8,11
	16,19					
36TFEU	PowerPlex® Fusion 6C					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13	17	6,9.3	8,11
	16,19	10	19	17		
4A2FQC	PowerPlex® Fusion 6C (Familias3)					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21	9,12	7,13	17,17	6,9.3	8,11
	16,19	10	19	17		
4PFNPV	GlobalFiler™					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21			17	6,9.3	8,11
	16,19	10			2	
4ZWBXV	GlobalFiler™					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21			17,17	6,9.3	8,11
	16,19	10			2	
67GQ3T	GlobalFiler™					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21			17,17	6,9.3	8,11
	16,19	10			2	

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

6CMLLT	GlobalFiler™					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21			17,17	6,9.3	8,11
	16,19	10			2	
6TA3RB	Identifiler® Plus					
		18,24		16,18	12	
2	10	11,13			11	9,12
	15	14,15	30		X,Y	10,12
	21				6,9.3	8,11
	16,19					
8AQQEB	PowerPlex® FUSION					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21	9,12	7,13		6,9.3	8,11
	16,19	10				
96ULXC	PowerPlex® Fusion					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13		6,9.3	8,11
	16,19	10				
A3H74B	PowerPlex® Fusion					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13		6,9.3	8,11
	16,19	10				
AJQX7F	Identifiler® Plus					
	-	18,24	-	16,18	12,12	-
2	10,10	11,13	-	-	11,11	9,12
	15,15	14,15	30,30	-	X,Y	10,12
	21,21	-	-	-	6,9.3	8,11
	16,19	-	-	-	-	

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

BGKWL9	GlobalFiler™					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21			17	6,9.3	8,11
	16,19	10			2	
BGZF4K	PowerPlex® Fusion 6C					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21	9,12	7,13	17,17	6,9.3	8,11
	16,19	10	19	17		
CRB87K	PowerPlex® Fusion 6C					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13	17	6,9.3	8,11
	16,19	10	19	17		
F4VNNH	PowerPlex® Fusion 6C					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21	9,12	7,13	17,17	6,9.3	8,11
	16,19	10	19	17		
FALYZ2	PowerPlex® Fusion					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13		6,9.3	8,11
	16,19	10				
FED7HA	Identifiler®					
		18,24		16,18	12,12	
2	10,10	11,13			11,11	9,12
	15,15	14,15	30,30		X,Y	10,12
	21,21				6,9.3	8,11
	16,19					

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

FWDDC2	PowerPlex® Fusion Direct					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21	9,12	7,13		6,9.3	8,11
	16,19	10				
GLCCBH	GlobalFiler™ Express					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21			17	6,9.3	8,11
	16,19	10			2	
GLWQ32	Identifiler® Plus					
		18,24		16,18	12,12	
2	10,10	11,13			11,11	9,12
	15,15	14,15	30,30		X,Y	10,12
	21,21				6,9.3	8,11
	16,19					
HW8H72	PowerPlex® ESI 16 Fast, Powerplex Fusion 6c					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21	9,12	7,13	17,17	6,9.3	8,11
	16,19	10	19	17		
JJYKB	PowerPlex® Fusion					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13		6,9.3	8,11
	16,19	10				
JKCMY	PowerPlex® 5C					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21	9,12	7,13		6,9.3	8,11
	16,19	10				

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

K9TYMX	Identifiler® Plus					
		18,24		16,18	12	
2	10	11,13			11	9,12
	15	14,15	30		X,Y	10,12
	21				6,9.3	8,11
	16,19					
M28MM2	Identifiler®					
		18,24		16,18	12,12	
2	10,10	11,13			11,11	9,12
	15,15	14,15	30,30		X,Y	10,12
	21,21				6,9.3	8,11
	16,19					
M93MY9	PowerPlex® Fusion 6C					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21	9,12	7,13	17,17	6,9.3	8,11
	16,19	10	19	17		
MNX6QR	PowerPlex® Fusion					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13		6,9.3	8,11
	16,19	10				
MQ9MAX	PowerPlex® Fusion					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13		6,9.3	8,11
	16,19	10				
NCHEP2	PowerPlex® Fusion 5C (DNA View)					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13		6,9.3	8,11
	16,19	10				

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

PQYU77	PowerPlex® Fusion					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13		6,9.3	8,11
	16,19	10				
PVN869	GlobalFiler™					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21			17,17	6,9.3	8,11
	16,19	10			2	
PYPDMZ	Identifiler® +					
		18,24		16,18	12,12	
2	10,10	11,13			11,11	9,12
	15,15	14,15	30,30		X,Y	10,12
	21,21				6,9.3	8,11
	16,19					
RU8UHN	PowerPlex® Fusion					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13		6,9.3	8,11
	16,19	10				
UZLG6N	GlobalFiler™ Express					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21			17,17	6,9.3	8,11
	16,19	10			2	
V22ZPL	PowerPlex® Fusion					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21	9,12	7,13		6,9.3	8,11
	16,19	10				

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
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

VJEKJ6	PowerPlex® 21 (Kinship)					
	15,17.3	18,24		16,18	12,12	11,12
2	10,10	11,13		18,21	11,11	9,12
	15,15	14,15	30,30		X,Y	10,12
	21,21	9,12	7,13		6,9.3	8,11
	16,19					
ZBA2BW	PowerPlex® Fusion 6C					
	15,17.3	18,24	11,14	16,18	12	
2	10	11,13	13,14	18,21	11	9,12
	15	14,15	30	11,16	X,Y	10,12
	21	9,12	7,13	17	6,9.3	8,11
	16,19	10	19	17		
ZRXENN	GlobalFiler™ Express					
	15,17.3	18,24	11,14	16,18	12,12	
2	10,10	11,13	13,14	18,21	11,11	9,12
	15,15	14,15	30,30	11,16	X,Y	10,12
	21,21			17,17	6,9.3	8,11
	16,19	10			2	

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

2R79JE	PowerPlex® PP21					
	16,17.3	22,24		17,18	11,12	12
3	10	13,14		18,22	10,11	11,12
	12,15	13,15	28,30		X,Y	12
	19,21	9	7,12		9,9.3	8
	16					
36TFEU	PowerPlex® Fusion 6C					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12	16,17	9,9.3	8
	16	10	19	17		
4A2FQC	PowerPlex® Fusion 6C (Familias3)					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21	9,9	7,12	16,17	9,9.3	8,8
	16,16	10	19	17		
4PFNPV	GlobalFiler™					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21			16,17	9,9.3	8
	16	10			2	
4ZWBXV	GlobalFiler™					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21			16,17	9,9.3	8,8
	16,16	10			2	
67GQ3T	GlobalFiler™					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21			16,17	9,9.3	8,8
	16,16	10			2	

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
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

6CMLLT	GlobalFiler™					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21			16,17	9,9.3	8,8
	16,16	10			2	
6TA3RB	Identifiler® Plus					
		22,24		17,18	11,12	
3	10	13,14			10,11	11,12
	12,15	13,15	28,30		X,Y	12
	19,21				9,9.3	8
	16					
8AQQEB	PowerPlex® FUSION					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21	9,9	7,12		9,9.3	8,8
	16,16					
96ULXC	PowerPlex® Fusion					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12		9,9.3	8
	16	10				
A3H74B	PowerPlex® Fusion					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12		9,9.3	8
	16	10				
AJQX7F	Identifiler® Plus					
	-	22,24	-	17,18	11,12	-
3	10,10	13,14	-	-	10,11	11,12
	12,15	13,15	28,30	-	X,Y	12,12
	19,21	-	-	-	9,9.3	8,8
	16,16	-	-	-	-	

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

BGKWL9	GlobalFiler™ (GenoProof 3 Qualitytype)					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21			16,17	9,9.3	8
	16	10			2	
BGZF4K	PowerPlex® Fusion 6C					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21	9,9	7,12	16,17	9,9.3	8,8
	16,16	10	19	17		
CRB87K	PowerPlex® Fusion 6C					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12	16,17	9,9.3	8
	16	10	19	17		
F4VNNH	PowerPlex® Fusion 6C					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21	9,9	7,12	16,17	9,9.3	8,8
	16,16	10	19	17		
FALYZ2	PowerPlex® Fusion					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12		9,9.3	8
	16	10				
FED7HA	Identifiler®					
		22,24		17,18	11,12	
3	10,10	13,14			10,11	11,12
	12,15	13,15	28,30		X,Y	12,12
	19,21				9,9.3	8,8
	16,16					

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

FWDDC2	PowerPlex® Fusion Direct					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21	9,9	7,12		9,9.3	8,8
	16,16	10				
GLCCBH	GlobalFiler™ Express					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21			16,17	9,9.3	8
	16	10			2	
GLWQ32	Identifiler® Plus					
		22,24		17,18	11,12	
3	10,10	13,14			10,11	11,12
	12,15	13,15	28,30		X,Y	12,12
	19,21				9,9.3	8,8
	16,16					
HW8H72	PowerPlex® ESI 16 Fast, Powerplex Fusion 6c					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21	9,9	7,12	16,17	9,9.3	8,8
	16,16	10	19	17		
JJYKB	PowerPlex® Fusion					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12		9,9.3	8
	16	10				
JKCMY	PowerPlex® Fusion 5C					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21	9,9	7,12		9,9.3	8,8
	16,16	10				

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
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

K9TYMX	Identifiler® Plus					
		22,24		17,18	11,12	
3	10	13,14			10,11	11,12
	12,15	13,15	28,30		X,Y	12
	19,21				9,9.3	8
	16					
M28MM2	Identifiler®					
		22,24		17,18	11,12	
3	10,10	13,14			10,11	11,12
	12,15	13,15	28,30		X,Y	12,12
	19,21				9,9.3	8,8
	16,16					
M93MY9	PowerPlex® Fusion 6C					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21	9,9	7,12	16,17	9,9.3	8,8
	16,16	10	19	17		
MNX6QR	PowerPlex® Fusion					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12		9,9.3	8
	16	10				
MQ9MAX	PowerPlex® Fusion					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12		9,9.3	8
	16	10				
NCHEP2	PowerPlex® Fusion 5C (DNA View)					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12		9,9.3	8
	16	10				

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

PQYU77	PowerPlex® Fusion					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12		9,9.3	8
	16	10				
PVN869	GlobalFiler™					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21			16,17	9,9.3	8,8
	16,16	10			2	
PYPDMZ	Identifiler® +					
		22,24		17,18	11,12	
3	10,10	13,14			10,11	11,12
	12,15	13,15	28,30		X,Y	12,12
	19,21				9,9.3	8,8
	16,16					
RU8UHN	PowerPlex® Fusion					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12		9,9.3	8
	16	10				
UZLG6N	GlobalFiler™ Express					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21			16,17	9,9.3	8,8
	16,16	10			2	
V22ZPL	PowerPlex® Fusion					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21	9,9	7,12		9,9.3	8,8
	16,16	10				

TABLE 1

Webcode	Amplification Kits (Probabilistic Genotyping)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	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

VJEKJ6	PowerPlex® 21 (Kinship)					
	16,17.3	22,24		17,18	11,12	12,12
3	10,10	13,14		18,22	10,11	11,12
	12,15	13,15	28,30		X,Y	12,12
	19,21	9,9	7,12		9,9.3	8,8
	16,16					
ZBA2BW	PowerPlex® Fusion 6C					
	16,17.3	22,24	11	17,18	11,12	
3	10	13,14	13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12
	19,21	9	7,12	16,17	9,9.3	8
	16	10	19	17		
ZRXENN	GlobalFiler™ Express					
	16,17.3	22,24	11,11	17,18	11,12	
3	10,10	13,14	13,13	18,22	10,11	11,12
	12,15	13,15	28,30	15,16	X,Y	12,12
	19,21			16,17	9,9.3	8,8
	16,16	10			2	

Item 3 Paternity Index Results

TABLE 2

Webcode	Population Database(s)					
	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
Item	D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	FGA	Penta D	Penta E	SE33	TH01	TPOX
	vWA					

Item 3 - Paternity Index Results

Webcode	Population Database(s)	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
2R79JE	Promega	3.7594	4.3478		3.3113	1.2893	4.223
3		3.9032	1.5170		2.9121	1.5361	1.1876
		2.9343	3.1949	1.7699			2.777
		2.798	4.5126	2.9586		0.8615	1.9051
		4.9801					

Webcode	Population Database(s)	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
36TFEU	NIST-STRBASE	3.7594	4.3478	1.7109	3.3113	1.2893	
3		3.9032	1.5170	3.2520	2.9121	1.5361	1.1876
		2.9343	3.1949	1.7699	0.95749		2.7770
		2.7980	4.5126	2.9586	8.0257	0.86147	1.9051
		4.9801					

Webcode	Population Database(s)	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
4A2FQC	NIST-STRBASE	3.76	4.34	1.71	3.31	1.29	
3		3.90	1.52	3.25	2.91	1.54	1.19
		2.93	3.19	1.77	0.96		2.77
		2.80	4.51	2.96	8.00	0.86	1.91
		4.98					

Webcode	Population Database(s)	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
4PFNPV	FBI PopStats	3.3113	4.1220	1.7489	3.0600	1.4225	
3		3.4530	1.4961	2.9709	2.8458	1.6031	1.1221
		3.7397	3.4819	2.1487	1.0860		3.0609
		2.8458			6.9638	0.94393	1.8282
		4.8685					

Webcode	Population Database(s)	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
4ZWBXV	[Country] Caucasian Database	4.208	4.935	1.630	3.520	1.431	
3		4.046	1.655	3.429	3.407	1.625	1.225
		3.692	3.070	2.095	1.119		3.159
		2.824			8.516	0.873	1.872
		4.611					

Webcode	Population Database(s)	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
67GQ3T	FBI PopStats	3.3113	4.1220	1.7489	3.06	1.4225	
3		3.4530	1.4961	2.9709	2.8458	1.6031	1.1221
		3.7397	3.4819	2.1487	1.0860		3.0609
		2.8458			6.9638	0.94393	1.8282
		4.8685					

TABLE 2

Webcode	Population Database(s)					
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					

Item 3 - Paternity Index Results

6CMLLT	FBI PopStats					
	3.3113	4.1220	1.7489	3.0600	1.4225	
3	3.4530	1.4961	2.9709	2.8458	1.6031	1.1221
	3.7397	3.4819	2.1487	1.0860	-	3.0609
	2.8458			6.9638	0.94393	1.8282
	4.8685					
6TA3RB	Laboratory Specific Database					
		4.2553		3.0339	1.4188	
3	3.6737	1.5375			1.6778	1.2288
	3.6737	3.1725	1.9833			3.0478
	2.9568				1.0086	1.8761
	4.2826					
8AQQEB	NIST-STRBASE					
	3.699	4.265	1.702	3.266	1.285	
3	3.856	1.510	3.222	2.877	1.530	1.181
	2.9	3.152	1.760	0.954		2.757
	2.767	4.448	2.923		0.859	1.898
	4.899					
96ULXC	NIST-STRBASE					
	3.76	4.35	1.71	3.31	1.29	
3	3.90	1.52	3.25		1.54	1.19
	2.93	3.19	1.77	0.96		2.78
	2.80	4.51	2.96		0.86	1.91
	4.98					
A3H74B	NIST-STRBASE					
	3.76	4.35	1.71	3.31	1.29	
3	3.90	1.52	3.25		1.54	1.19
	2.93	3.19	1.77	0.957		2.78
	2.80	4.51	2.96		0.861	1.91
	4.98					
AJQX7F	local/state database					
	-	3.79	-	3.79	1.4	-
3	3.67	1.52	-	-	1.74	1.27
	2.85	2.51	2.15	-	1	3.11
	3.08	-	-	-	0.877	1.95
	5.05					

TABLE 2

Webcode	Population Database(s)					
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					

Item 3 - Paternity Index Results

BGKWL9	[Country]					
		3.8670	4.6468	1.7068	3.2616	1.3017
3		4.1088	1.4422	3.4329	2.8752	1.4732
		2.8752	3.2175	1.7902	0.9506	2.7706
		2.7218			8.0645	0.8761
		4.8948				1.8700
<hr/>						
BGZF4K	NIST-STRBASE					
		3.7594	4.3478	1.7109	3.3113	1.2893
3		3.9032	1.5170	3.2520	2.9121	1.5361
		2.9343	3.1949	1.7699	0.95749	2.7770
		2.7980	4.5126	2.9586	8.0257	0.86147
		4.9801				1.9051
<hr/>						
CRB87K	NIST-STRBASE					
		3.7594	4.3478	1.7109	3.3113	1.2893
3		3.9032	1.5170	3.2520	2.9121	1.5361
		2.9343	3.1949	1.7699	0.95749	2.7770
		2.7980	4.5126	2.9586	8.0257	0.86147
		4.9801				1.9051
<hr/>						
F4VNNH	NIST-STRBASE					
		3.7594	4.3478	1.7109	3.3113	1.2893
3		3.9032	1.5170	3.2520	2.9121	1.5361
		2.9343	3.1949	1.7699	.95749	2.7770
		2.7980	4.5126	2.9586	8.0257	.86147
		4.9801				1.9051
<hr/>						
FALYZ2	NIST-STRBASE					
		3.7593	4.3478	1.7108	3.3112	1.2893
3		3.9032	1.5169	3.2520	2.9120	1.5360
		2.9342	3.1948	1.7699	0.9574	N/A
		2.7979	4.5126	2.9585		0.8614
		4.9800				1.9051
<hr/>						
FED7HA	Other					
			3.79		3.79	1.4
3		3.67	1.52			1.74
		2.85	2.51	2.15		-
		3.08				0.88
		5.05				1.95

TABLE 2

Webcode	Population Database(s)					
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					

Item 3 - Paternity Index Results

FWDDC2	FBI PopStats					
	3.31	4.12	1.74	3.06	1.42	
3	3.45	1.49	2.97	2.85	1.60	1.12
	3.74	3.48	2.15	1.09		3.06
	2.85	4.25	3.67		.94	1.82
	4.87					

GLCCBH	FBI PopStats					
	3.3113	4.1220	1.7489	3.0600	1.4225	
3	3.4530	1.4961	2.9709	2.8458	1.6031	1.1221
	3.7397	3.4819	2.1487	1.0860		3.0609
	2.8458			6.9638	0.94393	1.8282
	4.8685					

GLWQ32	NIST-STRBASE					
		4.06504		3.28947	1.30208	
3	4.11523	1.63934			1.47493	1.13895
	3.14465	3.28947	1.79856			2.77008
	2.7027				0.83333	1.86916
	5.0					

HW8H72	NIST-STRBASE					
	3.76	4.35	1.71	3.31	1.28	
3	3.90	1.51	3.25	2.91	1.53	1.19
	2.93	3.19	1.77	0.96	1	2.77
	2.80	4.51	2.95	8.02	0.86	1.9
	4.98					

JJYKB	NIST-STRBASE					
	3.7594	4.3478	1.7109	3.3113	1.2893	
3	3.9032	1.5170	3.2520		1.5361	1.1876
	2.9343	3.1949	1.7699	0.95749		2.7770
	2.7980	4.5126	2.9586		0.86147	1.9051
	4.9801					

JPKCMY	FBI PopStats					
	3.3113	4.1220	1.7489	3.0600	1.4225	
3	3.4530	1.4961	2.9709	2.8458	1.6031	1.1221
	3.7397	3.4819	2.1487	1.0860		3.0609
	2.8458	4.2535	3.6738		0.94393	1.8282
	4.8685					

TABLE 2

Webcode	Population Database(s)					
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					

Item 3 - Paternity Index Results

K9TYMX	NIST-STRBASE					
		4.35		3.31	1.29	
3	3.90	1.52			1.54	1.19
	2.93	3.19	1.77			2.78
	2.80				0.86	1.91
	4.98					
M28MM2	NIST-STRBASE					
		4.3478		3.3113	1.2893	
3	3.9032	1.5170			1.5361	1.1876
	2.9343	3.1949	1.7699			2.7770
	2.7980				0.8615	1.9051
	4.9801					
M93MY9	FBI PopStats					
	3.3113	4.1220	1.7489	3.0600	1.4225	
3	3.4530	1.4961	2.9709	2.8458	1.6031	1.1221
	3.7397	3.4819	2.1487	1.0860		3.0609
	2.8458	4.2535	3.6738	6.9638	0.94393	1.8282
	4.8685					
MNX6QR	NIST-STRBASE					
	3.7593	4.3478	1.7108	3.3112	1.2893	
3	3.9032	1.5169	3.2520	2.9120	1.5360	1.1876
	2.9342	3.1948	1.7699	0.9574		2.7770
	2.7979	4.5126	2.9585		0.8614	1.9051
	4.9800					
NCHEP2	FBI PopStats + Promega database					
	3.84	4.01	1.7	3.02	1.41	
3	3.43	1.47	3.42	2.86	1.55	1.12
	3.85	3.63	2.14	0.948	1	3.04
	2.85	5.75	2.9		0.933	1.83
	4.91					
PQYU77	NIST-STRBASE					
	3.7594	4.3478	1.7109	3.3113	1.2893	
3	3.9032	1.5170	3.2520		1.5361	1.1876
	2.9343	3.1949	1.7699	0.95749		2.7770
	2.7980	4.5126	2.9586		0.86147	1.9051
	4.9801					

TABLE 2

Webcode	Population Database(s)					
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					

Item 3 - Paternity Index Results

PVN869	FBI PopStats					
		3.3113	4.1220	1.7489	3.0600	1.4225
3		3.4530	1.4961	2.9709	2.8458	1.6031
		3.7397	3.4819	2.1487	1.0860	3.0609
		2.8458			6.9638	0.94393
		4.8685				1.8282

PYPDMZ	State Laboratory - [Laboratory]					
		3.79		3.79	1.4	
3		3.67	1.52		1.74	1.27
		2.85	2.51	2.15		3.11
		3.08			0.88	1.95
		5.05				

RUBUHN	NIST-STRBASE					
		3.7593	4.3478	1.7108	3.3112	1.2893
3		3.9032	1.5169	3.2520	2.9120	1.5360
		2.9342	3.1948	1.7699	0.9574	2.7770
		2.7979	4.5126	2.9585		0.8614
		4.9800				1.9051

UZLG6N	NIST-STRBASE					
		3.7594	4.3478	1.7109	3.3113	1.2893
3		3.9032	1.5170	3.2520	-	1.5361
		2.9343	3.1949	1.7699	0.9575	-
		2.7980			8.0257	0.8615
		4.9801				1.9051

V22ZPL	[Local/State Database]					
		3.01	5.56	1.59	3.16	1.36
3		3.38	1.60	3.83	2.33	1.44
		3.07	2.91	2.43	1.04	-
		2.63	3.91	3.57		0.89
		5.43				1.66

VJEKJ6	NIST-STRBASE					
		3.75	4.34		3.31	1.28
3		3.90	1.51		2.91	1.53
		2.93	3.19	1.76		
		2.79	4.51	2.95		0.86
		4.98				1.90

TABLE 2

Webcode	Population Database(s)					
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					

Item 3 - Paternity Index Results

ZBA2BW	NIST-STRBASE					
	3.7594	4.3478	1.7109	3.3113	1.2893	
3	3.9032	1.5170	3.2520	2.9121	1.5361	1.1876
	2.9343	3.1949	1.7699	0.95749		2.7770
	2.7980	4.5126	2.9586	8.0257	0.86147	1.9051
	4.9801					

ZRXENN	NIST-STRBASE					
	3.76	4.35	1.71	3.31	1.29	
3	3.90	1.52	3.25	2.91	1.54	1.19
	2.93	3.19	1.77	0.96		2.78
	2.80			8.02	0.86	1.91
	4.98					

YSTR Amplification Kit(s) & Results

TABLE 3

Webcode	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	Y GATA H4

Item 2 - YSTR Results

2R79JE	PowerPlex® Y Y23								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		27
		11	12	19	17		21	12	10
4A2FQC	PowerPlex® Y 23								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		27
		11	12	19	17		21	12	10
4PFNPV	Yfiler® Plus								
2	36,37	15	15,16	14	30	23	10	12	14
	14	10	11	20	28	15	15	11	27
	39	11		19	17	20	21		10
67GQ3T	Yfiler® Plus								
2	36,37	15	15,16	14	30	23	10	12	14
	14	10	11	20	28	15	15	11	27
	39	11		19	17	20	21		10
6CMLLT	Yfiler® Plus								
2	36,37	15	15,16	14	30	23	10	12	14
	14	10	11	20	28	15	15	11	27
	39	11		19	17	20	21		10
6TA3RB	Yfiler®								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
BGKWL9	Yfiler® plus								
2	36,37	15	15,16	14	30	23	10	12	14
	14	10	11	20	28	15	15	11	27
	39	11		19	17	20	21		10
CRB87K	Yfiler®								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
FALYZ2	Yfiler®								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
GLCCBH	Yfiler® Plus								
2	36,37	15	15,16	14	30	23	10	12	14
	14	10	11	20	28	15	15	11	27
	39	11		19	17	20	21		10

TABLE 3

Webcode	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	Y GATA H4

Item 2 - YSTR Results

GLWQ32	Yfiler®								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
HW8H72	PowerPlex® Y 23								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		27
		11	12	19	17		21	12	10
JJYKB	Yfiler®								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
JPKCMY	Yfiler®								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
M28MM2	Yfiler®								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
MNX6QR	Yfiler®								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
PQYU77	Yfiler®								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
PVN869	Yfiler® Plus								
2	36,37	15	15,16	14	30	23	10	12	14
	14	10	11	20	28	15	15	11	27
	39	11		19	17	20	21		10
RU8UHN	Yfiler®								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
V22ZPL	PowerPlex® Y 23								
2		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		27
		11	12	19	17		21	12	10

TABLE 3

Webcode	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	Y GATA H4

Item 2 - YSTR Results

ZRXENN	PowerPlex® Y 23								
2	15	15,16	14	30	23	10	12	14	
	14	10	11	20	15	15		27	
	11	12	19	17		21	12	10	

TABLE 3

Webcode	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	Y GATA H4
Item 3 - YSTR Results										
2R79JE	PowerPlex® Y Y23									
3		15	15,16	14	30	23	10	12	14	
		14	10	11	20		15	15		27
		11	12	19	17			21	12	10
4A2FQC	PowerPlex® Y 23									
3		15	15,16	14	30	23	10	12	14	
		14	10	11	20		15	15		27
		11	12	19	17			21	12	10
4PFNPV	Yfiler® Plus									
3	36,37	15	15,16	14	30	23	10	12	14	
		14	10	11	20	28	15	15	11	27
		39	11		19	17	19	21		10
67GQ3T	Yfiler® Plus									
3	36,37	15	15,16	14	30	23	10	12	14	
		14	10	11	20	28	15	15	11	27
		39	11		19	17	19	21		10
6CMLLT	Yfiler® Plus									
3	36,37	15	15,16	14	30	23	10	12	14	
		14	10	11	20	28	15	15	11	27
		39	11		19	17	19	21		10
6TA3RB	Yfiler®									
3		15	15,16	14	30	23	10	12	14	
		14	10	11	20		15	15		
								21		10
BGKWL9	Yfiler® plus									
3	36,37	15	15,16	14	30	23	10	12	14	
		14	10	11	20	28	15	15	11	27
		39	11		19	17	19	21		10
CRB87K	Yfiler®									
3		15	15,16	14	30	23	10	12	14	
		14	10	11	20		15	15		
								21		10
FALYZ2	Yfiler®									
3		15	15,16	14	30	23	10	12	14	
		14	10	11	20		15	15		
								21		10
GLCCBH	Yfiler® Plus									
3	36,37	15	15,16	14	30	23	10	12	14	
		14	10	11	20	28	15	15	11	27
		39	11		19	17	19	21		10

TABLE 3

Webcode	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	Y GATA H4

Item 3 - YSTR Results

GLWQ32	Yfiler®								
3		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
HW8H72	PowerPlex® Y 23								
3		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		27
		11	12	19	17		21	12	10
JJYKB	Yfiler®								
3		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
JPKCMY	Yfiler®								
3		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
M28MM2	Yfiler®								
3		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
MNX6QR	Yfiler®								
3		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
PQYU77	Yfiler®								
3		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
PVN869	Yfiler® Plus								
3	36,37	15	15,16	14	30	23	10	12	14
	14	10	11	20	28	15	15	11	27
	39	11		19	17	19	21		10
RU8UHN	Yfiler®								
3		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		
							21		10
V22ZPL	PowerPlex® Y 23								
3		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		27
		11	12	19	17		21	12	10

TABLE 3

Webcode	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	Y GATA H4

Item 3 - YSTR Results

ZRXENN	PowerPlex® Y 23								
3		15	15,16	14	30	23	10	12	14
	14	10	11	20		15	15		27
		11	12	19	17		21	12	10

Additional DNA & PI Results

TABLE 4

Locus	Webcode	Item 1	Item 2	Item 3	Item 3 Paternity Index
DXS10074	V22ZPL	8 ,8	8	7	
DXS10079	V22ZPL	18 ,20	18	19	
DXS10101	V22ZPL	30 ,32	32	28.2	
DXS10103	V22ZPL	16 ,17	16	19	
DXS10134	V22ZPL	32 ,35	32	37	
DXS10135	V22ZPL	22 ,23	22	21	
DXS10146	V22ZPL	29 ,29	29	26	
DXS10148	V22ZPL	25.1 ,25.1	25.1	18	
DXS7132	V22ZPL	13 ,14	14	14	
DXS7423	V22ZPL	14 ,15	14	16	
DXS8378	V22ZPL	10 ,10	10	12	
F13A	2R79JE	6	5,6	5,6	2.5974
F13B	2R79JE	8,10	10	10	2.551
FESFPS	2R79JE	11	10,11	10,11	1.7781
HPRTB	V22ZPL	11 ,14	11	13	
LPL	2R79JE	11,13	10,11	10	2.3518
PENTA C	2R79JE	5,12	11,12	11,12	1.2623

Paternity DNA Statistics

TABLE 5

Webcode	Combined Paternity Index	Probability of Paternity	Population Database Used
2R79JE	4,561,419,454.2877	99.9999%	Promega
36TFEU	1,320,000,000	99.99999992424	NIST-STRBASE
4A2FQC	1.31E+09	99.9999%	NIST-STRBASE
4PFNPV	100,000,000	99.9999992089%	FBI PopStats
4ZWBXV	403,392,867	Greater than 99.99%	[Country] Caucasian Database
67GQ3T	126,400,000	99.9999992089	FBI PopStats
6CMLLT	126,400,000	99.9999992089	FBI PopStats
6TA3RB	360,000	99.9%	Laboratory Specific Database
8AQQEB	130 Million times more likley if AF is the father rather than another unrelated man (to 2 s.f.)	99.999%	NIST-STRBASE
96ULXC	56,000,000	99.9999%	NIST-STRBASE
A3H74B	56,490,000	99.9999%	NIST-STRBASE
AJQX7F	317,000	99.9997%	local/state database
BGKWL9	1.0345x10 ⁸	99,9999990%	[Country]
BGZF4K	1,320,000,000	99.99999992424	NIST-STRBASE
CRB87K	1,320,000,000	99.99999992424	NIST-STRBASE
F4VNNH	1,320,000,000	99.99999992424	NIST-STRBASE
FALYZ2	164 million	99.9%	NIST-STRBASE
FED7HA	320,000	>99.99%	Other
FWDDC2	283,700,000	99.9999996	FBI PopStats
GLCCBH	126400000	99.9999992089%	FBI PopStats
GLWQ32	214052.5106	99.9995%	NIST-STRBASE
HW8H72	1320483028	99.99999	NIST-STRBASE
JJYKKB	56,000,000	99.9999%	NIST-STRBASE
JKKMY	283,700,000	99.9999996475%	FBI PopStats
K9TYMX	211337.8	99.99%	NIST-STRBASE
M28MM2	211285.79	99.9998	NIST-STRBASE

TABLE 5

Webcode	Combined Paternity Index	Probability of Paternity	Population Database Used
M93MY9	1,975,000,000	99.99999994937%	FBI PopStats
MNX6QR	164 million	99.9%	NIST-STRBASE
NCHEP2	325,000,000	99.9999997	FBI PopStats+ Promega database
PQYU77	56 million	99.9999%	NIST-STRBASE
PVN869	126,400,000	99.9999992089	FBI PopStats
PYPDMZ	317,180	99.99%	State Laboratory - [Laboratory]
RU8UHN	164 million	99.9	NIST-STRBASE
UZLG6N	33,960,503	99.9999%	NIST-STRBASE
V22ZPL	203,777,465.67	0,9999999951	[Local/State Database]
VJEKJ6	130,000,000	99.9999%	NIST-STRBASE
ZBA2BW	1,320,000,000	99.99	NIST-STRBASE
ZRXENN	9.9×10^7	n/a for our lab	NIST-STRBASE

Paternity Conclusions

TABLE 6

Webcode	Conclusions	Webcode	Conclusions
2R79JE	Not Excluded	M93MY9	Not Excluded
36TFEU	Not Excluded	MNX6QR	Not Excluded
4A2FQC	Not Excluded	MQ9MAX	
4PFNPV	Not Excluded	NCHEP2	Not Excluded
4ZWBXV	Not Excluded	PQYU77	Not Excluded
67GQ3T	Not Excluded	PVN869	Not Excluded
6CMLLT	Not Excluded	PYPDMZ	Not Excluded
6TA3RB	Not Excluded	RU8UHN	Not Excluded
8AQQEB	Not Excluded	UZLG6N	Not Excluded
96ULXC	Not Excluded	V22ZPL	Not Excluded
A3H74B	Not Excluded	VJEKJ6	Not Excluded
AJQX7F	Not Excluded	ZBA2BW	Not Excluded
BGKWL9	Not Excluded	ZRXENN	Not Excluded
BGZF4K	Not Excluded		
CRB87K	Not Excluded		
F4VNNH	Not Excluded		
FALYZ2	Not Excluded		
FED7HA	Not Excluded		
FWDDC2	Not Excluded		
GLCCBH	Not Excluded		
GLWQ32	Not Excluded		
HW8H72	Not Excluded		
JJYKKB	Not Excluded		
JKCMY	Not Excluded		
K9TYMX	Not Excluded		
M28MM2	Not Excluded		

Response Summary		Total: 39
Responses	Not Excluded	38
	Excluded	0
	Inconclusive	0

Kinship Likelihood Ratio Results

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
DIS1656	2R79JE	$.25+(1+p)/p$	$p=11$	3.472
	4A2FQC	$(1+p)/4p$	$p = 11$	3.47
	67GQ3T	$(0.25a+0.25a^2)/a^2$	$a = 11$	3.4716
	6CMLLT	$(0.25a+0.25a^2)/a^2$	$a=11, b=17$	3.4716
	8AQQEB	$1+a/4a$	$a = 11$	3.4716
	96ULXC	$(1+p)/4p$	$p = 11$	3.455
	A3H74B	$(1+p)/4p$	$p=11$	3.472
	BGKWL9	$(1+p)/4p$	$p=11$	3.4716
	GLWQ32	$(1+p)/4p$	$p=11$	3.47165
	HW8H72	$(1+p)/4p$	$p = 11$	3.472
	JJYKB	$(1+p)/4P$	$p=11, q=17$	3.472
	M28MM2	$(1+p)/4p$	$p = 11$	3.4716
	NCHEP2	$(1+p)/4p$	$p=11$	3.4716
	PQYU77	$1+p/4p$	$p=11$	3.471
	PVN869	$(0.25a+0.25a^2)/a^2$	$a=11$	3.4716
	UZLG6N	$(1+p)/4p$	$p=11$	3.4716
	V22ZPL	$(1+p)/4p$	$p = 11$	3.472
	ZRXENN	$(1+p)/4p$	$p=11, q=17$	3.47

Likelihood Ratio (Grand Mean): 3.47

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D2S1338	2R79JE	$.25+2(.25)p/2p$	$p=18$	1.953
	4A2FQC	$(1+2p)/8p$	$p = 18$	1.95
	67GQ3T	$(0.25a+0.5ac)/2ac$	$a = 17, c = 18$	1.9530
	6CMLLT	$(0.25b+0.5ab)/2ab$	$a=18, b=17, c=16$	1.9530
	8AQQEB	$1+2a/8a$	$a = 18$	1.9530
	96ULXC	$(1+2p)/8p$	$p = 18$	1.962
	A3H74B	$(1+2p)/8p$	$p=18$	1.953
	BGKWL9	$(1+2p)/8p$	$p=18$	1.953
	GLWQ32	$(1+2p)/8p$	$p=18$	1.953
	HW8H72	$(1+2p)/8p$	$p = 18$	1.953
	JJYKKB	$(1+2q)/8q$	$p=17, q=18, r=16$	1.953
	M28MM2	$(1+2p)/8p$	$p = 18$	1.9530
	NCHEP2	$(1+2r)/8r$	$r=18$	1.953
	PQYU77	$1+2p/8p$	$p=18$	1.952
	PVN869	$(0.25a+0.5ab)/2ab$	$a=17, b=18$	1.9530
	UZLG6N	$(1+2p)/8p$	$p = 18$	1.9530
	V22ZPL	$(1+2p)/8p$	$p = 18$	1.953
	ZRXENN	$(1+2p)/8p$	$p=18, q=17, r=16$	1.95

Likelihood Ratio (Grand Mean): 1.95

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D2S441	2R79JE	$.25+2(.25)p/2p$	$p=12$	2.904
	4A2FQC	$(1+2p)/8p$	$p = 12$	2.90
	67GQ3T	$(0.25b+0.5ab)/2ab$	$a = 12, b = 14$	2.9039
	6CMLLT	$(0.25b+0.5ab)/2ab$	$a=12, b=14, c=11$	2.9039
	8AQQEB	$1+2a/8a$	$a = 12$	2.9039
	96ULXC	$(1+2p)/8p$	$p = 12$	2.910
	A3H74B	$(1+2p)/8p$	$p=12$	2.904
	BGKWL9	$(1+2p)/8p$	$p=12$	2.9039
	GLWQ32	$(1+2p)/8p$	$p=12$	2.90393
	HW8H72	$(1+2p)/8p$	$p = 12$	2.904
	JJYKKB	$(1+2p)/8p$	$p=12, q=14, r=11$	2.904
	M28MM2	$(1+2p)/8p$	$p = 12$	2.9039
	NCHEP2	$(1+2q)/8q$	$q=12$	2.9039
	PQYU77	$1+2p/8p$	$p=12$	2.903
	PVN869	$(0.25b+0.5ab)/2ab$	$a=12, b=14$	2.9039
	UZLG6N	$(1+2p)/8p$	$p = 12$	2.9039
	V22ZPL	$(1+2p)/8p$	$p = 12$	2.904
	ZRXENN	$(1+2p)/8p$	$p=12, q=14, r=11$	2.90

Likelihood Ratio (Grand Mean): 2.90

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D3S1358	2R79JE	$.25 + .25p/p$	$p=16$	1.2995
	4A2FQC	$(1+p)/4p$	$p = 16$	1.30
	67GQ3T	$(0.5a+0.5ab)/2ab$	$a = 15, b = 16$	1.2995
	6CMLLT	$(0.5a+0.5ab)/2ab$	$a=15, b=16$	1.2995
	8AQQEB	$1+a/4a$	$a = 16$	1.2995
	96ULXC	$(1+p)/4p$	$p = 16$	1.300
	A3H74B	$(1+p)/4p$	$p=16$	1.300
	BGKWL9	$(1+p)/4p$	$p=16$	1.2995
	GLWQ32	$(1+p)/4p$	$p=16$	1.29954
	HW8H72	$(1+p)/4p$	$p = 16$	1.300
	JJYKKB	$(1+q)/4q$	$p=15, q=16$	1.300
	M28MM2	$(1+p)/4p$	$p = 16$	1.2995
	NCHEP2	$(1+q)/4q$	$q=16$	1.2995
	PQYU77	$1+p/4p$	$p=16$	1.299
	PVN869	$(0.5a+0.5ab)/2ab$	$a=15, b=16$	1.2995
	UZLG6N	$(1+p)/4p$	$p = 16$	1.2995
	V22ZPL	$(1+p)/4p$	$p = 16$	1.550 X
	ZRXENN	$(1+p)/4p$	$p=16, q=15$	1.30

Likelihood Ratio (Grand Mean): 1.30

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D5S818	2R79JE	$.25+2(.25)p+.25p^2/p^2$	$p=11$	3.628
	4A2FQC	$(1+p)^2/(2p)^2$	$p = 11$	3.63
	67GQ3T	$(0.25+0.5a+0.25a^2)/a^2$	$a = 11$	3.6271
	6CMLLT	$(0.25+0.5a+0.25a^2)/a^2$	$a=11$	3.6271
	8AQQEB	$1+2a+a^2/4a^2$	$a = 11$	3.6271
	96ULXC	$(1+p)^2/4(p)^2$	$p = 11$	3.627
	A3H74B	$(1+p)(1+p)/4(pp)$	$p=11$	3.627
	BGKWL9	$(1+p)^2/(2p)^2$	$p=11$	3.6271
	GLWQ32	$(1+2p+p^2)/4p^2$	$p=11$	3.62710
	HW8H72	$(1+p)^2/(2p)^2$	$p = 11$	3.627
	JJYKB	$[(1+p)(1+p)]/4p(p)$	$p=11$	3.627
	M28MM2	$[(1+p)*(1+p)]/[2p*2p]$	$p = 11$	3.6271
	NCHEP2	$(1+2p+pp)/4pp$	$p=11$	3.6271
	PQYU77	$(1+p)^2/4p^2$	$p=11$	3.627
	PVN869	$0.25+0.5a+0.25a^2)/a^2$	$a=11$	3.6271
	UZLG6N	$(1+p)^2/4(p^2)$	$p = 11$	3.6271
	V22ZPL	$(1+p)(1+p)/2p2p$	$p = 11$	3.627
	ZRXENN	$(1+p)^2/4p^2$	$p=11$	3.63

Likelihood Ratio (Grand Mean): 3.63

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D7S820	2R79JE			0.25
	4A2FQC	1/4		0.25
	67GQ3T	N/A		0.25000
	6CMLLT	0.25(ab)/(ab)	a=8, b=8, c=10, d=11	0.25000
	8AQQEB	1/4		0.25
	96ULXC	1/4		0.250
	A3H74B	1/4		0.25
	BGKWL9	1:4		0.25
	GLWQ32	1/4	-	0.25
	HW8H72	1/4		0.250
	JJYKB	1/4	p=8, q=10, r=11	0.25
	M28MM2	1/4		0.2500
	NCHEP2	0.25		0.25
	PQYU77	1/4		0.250
	PVN869	0.25(ab)/(ab)=0.25	a=8, b=8	0.25000
	UZLG6N	1/4	N.A.	0.2500
	V22ZPL	1/4		0.250
	ZRXENN	1/4	p=8, q=10, r=11	0.25

Likelihood Ratio (Grand Mean): 0.25

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D8S1179	2R79JE	$.25+2(.25)p/2p$	$p=10$	1.4695
	4A2FQC	$(1+2p)/8p$	$p = 10$	1.47
	67GQ3T	$(0.25b+0.5ab)/2ab$	$a = 10, b = 15$	1.4695
	6CMLLT	$(0.25b+0.5ab)/2ab$	$a=10, b=15, c=12$	1.4695
	8AQQEB	$1+2a/8a$	$a = 10$	1.4695
	96ULXC	$(1+2p)/8p$	$p = 10$	1.464
	A3H74B	$(1+2p)/8p$	$p=10$	1.470
	BGKWL9	$(1+2p)/8p$	$p=10$	1.4695
	GLWQ32	$(1+2p)/8p$	$p=10$	1.46951
	HW8H72	$(1+2p)/8p$	$p = 10$	1.470
	JJYKB	$(1+2p)/8p$	$p=10, q=15, r=12$	1.470
	M28MM2	$(1+2p)/8p$	$p = 10$	1.4695
	NCHEP2	$(1+2p)/8p$	$p=10$	1.4695
	PQYU77	$1+2p/8p$	$p=10$	1.469
	PVN869	$(0.25b+0.5ab)/2ab$	$a=10, b=15$	1.4695
	UZLG6N	$(1+2p)/8p$	$p = 10$	1.4695
	V22ZPL	$(1+2p)/8p$	$p = 10$	1.470
	ZRXENN	$(1+2p)/8p$	$p=10, q=15, r=12$	1.47

Likelihood Ratio (Grand Mean): 1.47

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D10S1248	2R79JE	$.25+2(.25)p+.25p^2/p^2$	$p=14$	4.747
	4A2FQC	$(1+p)^2/(2p)^2$	$p = 14$	4.75
	67GQ3T	$(0.25+0.5a+0.25a^2)/a^2$	$a = 14$	4.7480
	6CMLLT	$(0.25+0.5a+0.25a^2)/a^2$	$a=14$	4.7480
	8AQQEB	$1+2a+a^2/4a^2$	$a = 14$	4.7480
	96ULXC	$(1+p)^2/4(p)^2$	$p = 14$	4.746
	A3H74B	$(1+p)(1+p)/4(pp)$	$p=14$	4.748
	BGKWL9	$(1+p)^2/(2p)^2$	$p=14$	4.748
	GLWQ32	$(1+2p+p^2)/4p^2$	$p=14$	4.74795
	HW8H72	$(1+p)^2/(2p)^2$	$p = 14$	4.748
	JJYKB	$[(1+p)(1+p)]/4p(p)$	$p=14$	4.748
	M28MM2	$[(1+p)*(1+p)]/[2p*2p]$	$p = 14$	4.7480
	NCHEP2	$(1+2p+pp)/4pp$	$p=14$	4.748
	PQYU77	$(1+p)^2/4p^2$	$p=14$	4.747
	PVN869	$0.25+0.5a+0.25a^2)/a^2$	$a=14$	4.7480
	UZLG6N	$(1+p)^2/4(p^2)$	$p = 14$	4.7480
	V22ZPL	$(1+p)(1+p)/2p2p$	$p = 14$	4.748
	ZRXENN	$(1+p)^2/4p^2$	$p=14$	4.75

Likelihood Ratio (Grand Mean): 4.75

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D12S391	2R79JE	$.25+2(.25)p/2p$	$p=25$	7.78
	4A2FQC	$(1+2p)/8p$	$p = 25$	7.78
	67GQ3T	$(0.25a+0.5ac)/2ac$	$a = 18, c = 25$	7.7801
	6CMLLT	$(0.25b+0.5ab)/2ab$	$a=25, b=18, c=19$	7.7801
	8AQQEB	$1+2a/8a$	$a = 25$	7.7801
	96ULXC	$(1+2p)/8p$	$p = 25$	7.603
	A3H74B	$(1+2p)/8p$	$p=25$	7.780
	BGKWL9	$(1+2p)/8p$	$p=25$	7.7801
	GLWQ32	$(1+2p)/8p$	$p=25$	7.78012
	HW8H72	$(1+2p)/8p$	$p = 25$	7.780
	JJYKKB	$(1+2q)/8q$	$p=18, q=25, r=19$	7.780
	M28MM2	$(1+2p)/8p$	$p = 25$	7.7801
	NCHEP2	$(1+2v)/8v$	$v=25$	7.7801
	PQYU77	$1+2p/8p$	$p=25$	7.780
	PVN869	$(0.25a+0.5ab)/2ab$	$a=18, b=25$	7.7801
	V22ZPL	$(1+2p)/8p$	$p = 25$	7.780
	ZRXENN	$(1+2p)/8p$	$p=25, q=18, r=19$	7.78

Likelihood Ratio (Grand Mean): 7.77

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D13S317	2R79JE	$.25 + .25p/p$	$p=12$	1.18
	4A2FQC	$(1+p)/4p$	$p = 12$	1.18
	67GQ3T	$(0.5b+0.5ab)/2ab$	$a = 12, b = 13$	1.1804
	6CMLLT	$(0.5a+0.5ab)/2ab$	$a=13, b=12$	1.1804
	8AQQEB	$1+a/4a$	$a = 12$	1.1804
	96ULXC	$(1+p)/4p$	$p = 12$	1.179
	A3H74B	$(1+p)/4p$	$p=12$	1.180
	BGKWL9	$(1+p)/4p$	$p=12$	1.1804
	GLWQ32	$(1+p)/4p$	$p=12$	1.18041
	HW8H72	$(1+p)/4p$	$p = 12$	1.180
	JJYKKB	$(1+p)/4p$	$p=12, q=13$	1.180
	M28MM2	$(1+p)/4p$	$p = 12$	1.1804
	NCHEP2	$(1+p)/4p$	$p=12$	1.1804
	PQYU77	$1+p/4p$	$p=12$	1.180
	PVN869	$(0.5a+0.5ab)/2ab$	$a=13, b=12$	1.1804
	UZLG6N	$(1+p)/4p$	$p = 12$	1.1804
	V22ZPL	$(1+p)/4p$	$p = 12$	1.430 X
	ZRXENN	$(1+p)/4p$	$p=12, q=13$	1.18

Likelihood Ratio (Grand Mean): 1.18

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D16S539	2R79JE			0.25
	4A2FQC	1/4		0.25
	67GQ3T	N/A		0.25000
	6CMLLT	0.25(ab)/(ab)	a=9, b=9, c=8, d=11	0.25000
	8AQQEB	1/4		0.25
	96ULXC	1/4		0.250
	A3H74B	1/4		0.25
	BGKWL9	1/4		0.25
	GLWQ32	1/4	-	0.25
	HW8H72	1/4		0.250
	JJYKB	1/4	p=9, q=8, r=11	0.25
	M28MM2	1/4		0.2500
	NCHEP2	0.25		0.25
	PQYU77	1/4		0.250
	PVN869	0.25(ab)/(ab)=0.25	a=9, b=9	0.25000
	UZLG6N	1/4	N.A.	0.2500
	V22ZPL	1/4		0.250
	ZRXENN	1/4	p=9, q=8, r=11	0.25

Likelihood Ratio (Grand Mean): 0.25

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D18S51	2R79JE	$.25+2(.25)p/2p$	$p=12$	1.35
	4A2FQC	$(1+2p)/8p$	$p = 12$	1.35
	67GQ3T	$(0.25b+0.5ab)/2ab$	$a = 12, b = 19$	1.3504
	6CMLLT	$(0.25b+0.5ab)/2ab$	$a=12, b=19, c=17$	1.3504
	8AQQEB	$1+2a/8a$	$a = 12$	1.3504
	96ULXC	$(1+2p)/8p$	$p = 12$	1.346
	A3H74B	$(1+2p)/8p$	$p=12$	1.350
	BGKWL9	$(1+2p)/8p$	$p=12$	1.3504
	GLWQ32	$(1+2p)/8p$	$p=12$	1.35035
	HW8H72	$(1+2p)/8p$	$p = 12$	1.350
	JJYKKB	$(1+2p)/8p$	$p=12, q=19, r=17$	1.350
	M28MM2	$(1+2p)/8p$	$p = 12$	1.3504
	NCHEP2	$(1+2p)/8p$	$p=12$	1.3504
	PQYU77	$1+2p/8p$	$p=12$	1.350
	PVN869	$(0.25b+0.5ab)/2ab$	$a=12, b=19$	1.3504
	UZLG6N	$(1+2p)/8p$	$p = 12$	1.3504
	V22ZPL	$(1+2p)/8p$	$p = 12$	1.350
	ZRXENN	$(1+2p)/8p$	$p=12, q=19, r=17$	1.35

Likelihood Ratio (Grand Mean): 1.35

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D19S433	2R79JE	$.25+.25p+.25q+.25(2)pq/2pq$	$p=13, q=14$	2.444
	4A2FQC	$(1+p+q+2pq)/8pq$	$p = 13, q = 14$	2.44
	67GQ3T	$(0.25+0.25a+0.25b+0.5ab)/2ab$	$a = 13, b = 14$	2.4434
	6CMLLT	$(0.25+0.25a+0.25b+0.5ab)/2ab$	$a=13, b=14$	2.4434
	8AQQEB	$1+a+b+2ab/8ab$	$a = 13, b = 14$	2.4434
	96ULXC	$(1+p+q+2pq)/8pq$	$p = 13, q = 14$	2.442
	A3H74B	$(1+p+q+2pq)/8pq$	$p=13, q=14$	2.443
	BGKWL9	$(1+p+q+2pq)/8pq$	$p=13, q=14$	2.4434
	GLWQ32	$(1+p+q+2pq)/8pq$	$p=13, q=14$	2.44343
	HW8H72	$(1+p+q+2pq)/8pq$	$p = 13, q = 14$	2.443
	JJYKB	$(1+p+q+2pq)/8pq$	$p=13, q=14$	2.443
	M28MM2	$(1+p+q+2pq)/8pq$	$p = 13, q = 14$	2.4434
	NCHEP2	$(1+p+q+2pq)/8pq$	$p=13, q=14$	2.4434
	PQYU77	$1+p+q+2pq/8pq$	$p=13, q=14$	2.443
	PVN869	$(0.25+0.25a+0.25b+0.5ab)/2ab$	$a=13, b=14$	2.4434
	UZLG6N	$(1+p+q+2pq)/8pq$	$p = 13, q = 14$	2.4434
	V22ZPL	$(1+p+q+2pq)/8pq$	$p = 13, q = 14$	2.443
	ZRXENN	$(1+p+q+2pq)/8pq$	$p=13, q=14$	2.44

Likelihood Ratio (Grand Mean): 2.44

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D21S11	2R79JE	$.25 + .25p/p$	$p=30$	1.135
	4A2FQC	$(1+p)/4p$	$p = 30$	1.13
	67GQ3T	$(0.25a+0.25a^2)/a^2$	$a = 30$	1.1350
	6CMLLT	$(0.25a+0.25a^2)/a^2$	$a=30, b=31$	1.1350
	8AQQEB	$1+a/4a$	$a = 30$	1.1350
	96ULXC	$(1+p)/4p$	$p = 30$	1.133
	A3H74B	$(1+p)/4p$	$p=30$	1.135
	BGKWL9	$(1+p)/4p$	$p=30$	1.135
	GLWQ32	$(1+p)/4p$	$p=30$	1.13496
	HW8H72	$(1+p)/4p$	$p = 30$	1.135
	JJYKB	$(1+p)/4p$	$p=30, q=31$	1.135
	M28MM2	$(1+p)/4p$	$p = 30$	1.1350
	NCHEP2	$(1+p)/4p$	$p=30$	1.135
	PQYU77	$1+p/4p$	$p=30$	1.134
	PVN869	$(0.25a+0.25a^2)/a^2$	$a=30$	1.1350
	UZLG6N	$(1+p)/4p$	$p = 30$	1.1350
	V22ZPL	$(1+p)/4p$	$p = 30$	1.385 X
	ZRXENN	$(1+p)/4p$	$p=30, q=31$	1.13

Likelihood Ratio (Grand Mean): 1.13

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
D22S1045	2R79JE	$.25 + .25p/p$	$p=16$	0.904
	4A2FQC	$(1+p)/4p$	$p = 16$	0.90
	67GQ3T	$(0.25a+0.25a^2)/a^2$	$a = 16$	0.90394
	6CMLLT	$(0.25a+0.25a^2)/a^2$	$a=16, b=15$	0.90394
	8AQQEB	$1+a/4a$	$a = 16$	0.9039
	96ULXC	$(1+p)/4p$	$p = 16$	0.904
	A3H74B	$(1+p)/4p$	$p=16$	0.904
	BGKWL9	$(1+p)/4p$	$p=16$	0.9039
	GLWQ32	$(1+p)/4p$	$p=16$	0.90394
	HW8H72	$(1+p)/4p$	$p = 16$	0.904
	JJYKB	$(1+p)/4p$	$p=16, q=15$	0.904
	M28MM2	$(1+p)/4p$	$p = 16$	0.9039
	NCHEP2	$(1+q)/4q$	$q=16$	0.9039
	PQYU77	$1+p/4p$	$p=16$	0.903
	PVN869	$(0.25a+0.25a^2)/a^2$	$a=16$	0.90394
	UZLG6N	$(1+p)/4p$	$p = 16$	0.9039
	V22ZPL	$(1+p)/4p$	$p = 16$	1.154 X
	ZRXENN	$(1+p)/4p$	$p=16, q=15$	0.90

Likelihood Ratio (Grand Mean): 0.90

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
Amelogenin	2R79JE			1
	HW8H72	1		1.000
	NCHEP2	1		1

Likelihood Ratio (Grand Mean): 1.00

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
CSF1PO	2R79JE	$.25+2(.25)p/2p$	$p=11$	0.655
	4A2FQC	$(1+2p)/8p$	$p = 11$	0.65
	67GQ3T	$(0.25b+0.5ab)/2ab$	$a = 11, b = 12$	0.65466
	6CMLLT	$(0.25b+0.5ab)/2ab$	$a=11, b=12, c=13$	0.65466
	8AQQEB	$1+2a/8a$	$a = 11$	0.6547
	96ULXC	$(1+2p)/8p$	$p = 11$	0.655
	A3H74B	$(1+2p)/8p$	$p=11$	0.655
	BGKWL9	$(1+2p)/8p$	$p=11$	0.6547
	GLWQ32	$(1+2p)/8p$	$p=11$	0.65466
	HW8H72	$(1+2p)/8p$	$p = 11$	0.655
	JJYKKB	$(1+2p)/8p$	$p=11, q=12, r=13$	0.655
	M28MM2	$(1+2p)/8p$	$p = 11$	0.6547
	NCHEP2	$(1+2p)/8p$	$p=11$	0.6547
	PQYU77	$1+2p/8p$	$p=11$	0.654
	PVN869	$(0.25b+0.5ab)/2ab$	$a=11, b=12$	0.65466
	UZLG6N	$(1+2p)/8p$	$p = 11$	0.6547
	V22ZPL	$(1+2p)/8p$	$p = 11$	0.655
	ZRXENN	$(1+2p)/8p$	$p=11, q=12, r=13$	0.65

Likelihood Ratio (Grand Mean): 0.65

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
FGA	2R79JE			0.25
	4A2FQC	1/4		0.25
	67GQ3T	N/A		0.25000
	6CMLLT	0.25(ab)/(ab)	a=19, b=22, c=24, d=24	0.25000
	8AQQEB	1/4		0.25
	96ULXC	1/4		0.250
	A3H74B	1/4		0.25
	BGKWL9	1:4		0.25
	GLWQ32	1/4	-	0.25
	HW8H72	1/4		0.250
	JJYKB	1/4	p=19, q=22, r=24	0.25
	M28MM2	1/4		0.2500
	NCHEP2	0.25		0.25
	PQYU77	1/4		0.250
	PVN869	0.25(ab)/(ab)=0.25	a=19, b=22	0.25000
	UZLG6N	1/4	N.A.	0.2500
	V22ZPL	1/4		0.250
	ZRXENN	1/4	p=24, q=19, r=22	0.25

Likelihood Ratio (Grand Mean): 0.25

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
PentaD	2R79JE	$.25+2(.25)p+.25p^2/p^2$	$p=13$	9.253
	4A2FQC	$(1+p)^2/(2p)^2$	$p = 13$	9.26
	67GQ3T	$(0.25+0.5a+0.25a^2)/a^2$	$a = 13$	9.2534
	6CMLLT	$(0.25+0.5a+0.25a^2)/a^2$	$a=13$	9.2534
	8AQQEB	$1+2a+a^2/4a^2$	$a = 13$	9.2534
	96ULXC	$(1+p)^2/4(p)^2$	$p = 13$	9.245
	A3H74B	$(1+p)(1+p)/4(pp)$	$p=13$	9.253
	BGKWL9	$(1+p)^2/(2p)^2$	$p=13$	9.2534
	GLWQ32	$(1+2p+p^2)/4p^2$	$p=13$	9.25341
	HW8H72	$(1+p)^2/(2p)^2$	$p = 13$	9.253
	JJYKKB	$[(1+p)(1+p)]/4p(p)$	$p=13$	9.253
	M28MM2	$[(1+p)*(1+p)]/[2p*2p]$	$p = 13$	9.2534
	NCHEP2	$(1+2p+pp)/4pp$	$p=13$	9.2534
	PQYU77	$(1+p)^2/4p^2$	$p=13$	9.253
	V22ZPL	$(1+p)(1+p)/2p2p$	$p = 13$	9.253
	ZRXENN	$(1+p)^2/4p^2$	$p=13$	9.25

Likelihood Ratio (Grand Mean): 9.25

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
PentaE	2R79JE	$.25 + .25p/p$	$p=12$	1.536
	4A2FQC	$(1+p)/4p$	$p = 12$	1.50
	67GQ3T	$(0.5a+0.5ab)/2ab$	$a = 7, b = 12$	1.5360
	6CMLLT	$(0.5a+0.5ab)/2ab$	$a=7, b=12$	1.5360
	8AQQEB	$1+a/4a$	$a = 12$	1.5038
	96ULXC	$(1+p)/4p$	$p = 12$	1.539
	A3H74B	$(1+p)/4p$	$p=12$	1.536
	BGKWL9	$(1+p)/4p$	$p=12$	1.5360
	GLWQ32	$(1+p)/4p$	$p=12$	1.53601
	HW8H72	$(1+p)/4p$	$p = 12$	1.536
	JJYKB	$(1+q)/4q$	$p=7, q=12$	1.536
	M28MM2	$(1+p)/4p$	$p = 12$	1.5360
	NCHEP2	$(1+u)/4u$	$u=12$	1.536
	PQYU77	$1+p/4p$	$p=12$	1.536
	V22ZPL	$(1+p)/4p$	$p =$	1.786
	ZRXENN	$(1+p)/4p$	$p=12, q=7$	1.54

Likelihood Ratio (Grand Mean): 1.55

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
SE33	2R79JE	$.25+2(.25)p/2p$	$p=19$	1.986
	4A2FQC	$(1+2p)/8p$	$p = 19$	1.99
	67GQ3T	$(0.25a+0.5ac)/2ac$	$a = 13, c = 19$	1.9861
	6CMLLT	$(0.25b+0.5ab)/2ab$	$a=19, b=13, c=17$	1.9861
	8AQQEB	$1+2a/8a$	$a = 19$	1.9861
	96ULXC	$(1+2p)/8p$	$p = 19$	1.986
	A3H74B	$(1+2p)/8p$	$p=19$	1.986
	BGKWL9	$(1+2p)/8p$	$p=19$	1.9861
	GLWQ32	$(1+2p)/8p$	$p=19$	1.98611
	HW8H72	$(1+2p)/8p$	$p = 19$	1.986
	JJYKKB	$(1+2q)/8q$	$p=13, q=19, r=17$	1.986
	M28MM2	$(1+2p)/8p$	$p = 19$	1.9861
	NCHEP2	$(1+2v)/8v$	$v=19$	1.9861
	PQYU77	$1+2p/8p$	$p=19$	1.986
	PVN869	$(0.25b+0.5ab)/2ab$	$a=19, b=13$	1.9861
	UZLG6N	$(1+2p)/8p$	$p = 19$	1.9861
	V22ZPL	$(1+2p)/8p$	$p = 19$	1.986
	ZRXENN	$(1+2p)/8p$	$p=19, q=13, r=17$	1.99

Likelihood Ratio (Grand Mean): 1.99

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
TH01	2R79JE	$.25 + .25p/p$	$p=9$	2.349
	4A2FQC	$(1+p)/4p$	$p = 9$	2.35
	67GQ3T	$(0.5a+0.5ab)/2ab$	$a = 7, b = 9$	2.3491
	6CMLLT	$(0.5a+0.5ab)/2ab$	$a=7, b=9$	2.3491
	8AQQEB	$1+a/4a$	$a = 9$	2.3491
	96ULXC	$(1+p)/4p$	$p = 9$	2.351
	A3H74B	$(1+p)/4p$	$p=9$	2.349
	BGKWL9	$(1+p)/4p$	$p=9$	2.3491
	GLWQ32	$(1+p)/4p$	$p=9$	2.34908
	HW8H72	$(1+p)/4p$	$p = 9$	2.349
	JJYKB	$(1+q)/4q$	$p=7, q=9$	2.349
	M28MM2	$(1+p)/4p$	$p = 9$	2.3491
	NCHEP2	$(1+r)/4r$	$r=9$	2.3491
	PQYU77	$1+p/4p$	$p=9$	2.349
	PVN869	$(0.5a+0.5ab)/2ab$	$a=7, b=9$	2.3491
	UZLG6N	$(1+p)/4p$	$p = 9$	2.3491
	V22ZPL	$(1+p)/4p$	$p = 9$	2.599 X
	ZRXENN	$(1+p)/4p$	$p=9, q=7$	2.35

Likelihood Ratio (Grand Mean): 2.35

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
TPOX	2R79JE	$.25 + .25p/p$	$p=8$	0.726
	4A2FQC	$(1+p)/4p$	$p = 8$	0.73
	67GQ3T	$(0.25a+0.25a^2)/a^2$	$a = 8$	0.72628
	6CMLLT	$(0.25a+0.25a^2)/a^2$	$a=8, b=10$	0.72628
	8AQQEB	$1+a/4a$	$a = 8$	0.7263
	96ULXC	$(1+p)/4p$	$p = 8$	0.726
	A3H74B	$(1+p)/4p$	$p=8$	0.726
	BGKWL9	$(1+p)/4p$	$p=8$	0.7263
	GLWQ32	$(1+p)/4p$	$p=8$	0.72628
	HW8H72	$(1+p)/4p$	$p = 8$	0.726
	JJYKB	$(1+p)/4p$	$p=8, q=10$	0.726
	M28MM2	$(1+p)/4p$	$p = 8$	0.7263
	NCHEP2	$(1+p)/4p$	$p=8$	0.7263
	PQYU77	$1+p/4p$	$p=8$	0.726
	PVN869	$(0.25a+0.25a^2)/a^2$	$a=8$	0.72628
	UZLG6N	$(1+p)/4p$	$p = 8$	0.7263
	V22ZPL	$(1+p)/4p$	$p = 8$	0.976 X
	ZRXENN	$(1+p)/4p$	$p=8, q=10$	0.73

Likelihood Ratio (Grand Mean): 0.73

TABLE 7

Locus	Webcode	Formula	Allele Legend	Likelihood Ratio
vWA	2R79JE	$.25 + .25p/p$	$p=18$	1.486
	4A2FQC	$(1+p)/4p$	$p = 18$	1.49
	67GQ3T	$(0.25a+0.25a^2)/a^2$	$a= 18$	1.4864
	6CMLLT	$(0.25a+0.25a^2)/a^2$	$a=18, b=14$	1.4864
	8AQQEB	$1+a/4a$	$a = 18$	1.4864
	96ULXC	$(1+p)/4p$	$p = 18$	1.488
	A3H74B	$(1+p)/4p$	$p=18$	1.486
	BGKWL9	$(1+p)/4p$	$p=18$	1.4864
	GLWQ32	$(1+p)/4p$	$p=18$	1.4864
	HW8H72	$(1+p)/4p$	$p = 18$	1.486
	JJYKB	$(1+p)/4p$	$p=18, q=14$	1.486
	M28MM2	$(1+p)/4p$	$p = 18$	1.4864
	NCHEP2	$(1+t)/4t$	$t= 18$	1.4864
	PQYU77	$1+p/4p$	$p=18$	1.486
	PVN869	$(0.25a+0.25a^2)/a^2$	$a=18$	1.4864
	UZLG6N	$(1+p)/4p$	$p = 18$	1.4864
	V22ZPL	$(1+p)/4p$	$p = 18$	1.736 X
	ZRXENN	$(1+p)/4p$	$p=18, q=14$	1.49

Likelihood Ratio (Grand Mean): 1.49

Kinship DNA Statistics

Is the claim of the following relationship supported by the genetic evidence: **Full Siblings?**

TABLE 8

Webcode	Kinship Index	Claim Supported?
2R79JE	14734.1341	Yes
4A2FQC	14453	Yes
67GQ3T	14,738	Yes
6CMLLT	14,738	Yes
8AQQEB	14,431.96	Yes - provides support over unrelated
96ULXC	1,800	yes
A3H74B	1,894	yes
BGKWL9	1.474×10^4	yes
GLWQ32	14740.30533	Yes
HW8H72	14740.305	Yes
JJYKKB	1800	Yes
M28MM2	14740.31	Yes
NCHEP2	14,740.	Yes.
PQYU77	18 hundred	yes
PVN869	1,037	Yes
UZLG6N	133.30	Yes
V22ZPL	67,023.1	YES
ZRXENN	1.4×10^4	Yes

Additional Kinship Statistical Results

TABLE 9

Webcode	Additional Statistical Results
4A2FQC	KI calculated with Familias3 = 15864. Probability of full siblingship = 99.9937%. Probability of unrelated = 6.30e-05. Very strong evidence of full siblingship
67GQ3T	AUTOSOMAL STRs The DNA profile is single source. The kinship index supports the hypothesis that Profile A is the full sibling of Profile B using the reference populations listed. The genotype observed for Profile A is "X" times more likely to occur in a full sibling of Profile B than in someone unrelated to Profile B from the reference populations listed where "X" equals: African American – 5.2 MILLION; Caucasian – 8.7 THOUSAND; Hispanic – 150 THOUSAND. The three statistics listed above(5.2 Million, 8.7 Thousand, 150 Thousand) were calculated using the FBI population database. The result reported to CTS was calculated using the provided allele frequencies. Statistics at Penta E were initially calculated using Popstats with allele frequency of 12 = 0.1994. The provided allele frequencies were used for reporting results on this page. The final KI calculated in question 1 was recalculated by dividing by the popstats KI value at Penta E followed by multiplying by the updated value.
6CMLLT	AUTOSOMAL STRs The DNA profile is single source. The kinship index supports the hypothesis that Profile A is the full sibling of Profile B using the reference populations listed. The genotype observed for Profile A is "X" times more likely to occur in a full sibling of Profile B than in someone unrelated to Profile B from the reference populations listed where "X" equals: African American – 57 THOUSAND; Caucasian – 560; Hispanic – 11 THOUSAND. These statistics were generated using the FBI database for the purpose of our internal laboratory report. NOTE: An issue was found in the allele frequency at Penta E for the 12 allele. The given frequency is 0.1944 for the 12 allele. It was later discovered that the correct allele frequency for the 12 allele at Penta E is 0.1994. The calculated likelihood ratio reported here is using the provided 0.1944 allele frequency and not the NIST frequency of 0.1994.
8AQQEB	Using Genoproof software 'full siblings' is not the most likely relationship. The most likely relationship is half siblings/grandparent-child/auntie-niece
96ULXC	The final kinship index does not include statistical analysis at the D12S391 genetic locus.
A3H74B	Regarding relationship indices, lab policy is to exclude D12 data from the calculation of the combined relationship index; therefore, the CSI calculation did not include the individual SI calculated for the D12 locus.
GLWQ32	Two DNA profiles from two women of Caucasian were compared by using the allele frequencies assigned for the test loci. There are likely to be full siblings relationship because probability of kinship index is greater than 99.993%
NCHEP2	The answer to the specific question in item 2 (above) is "Yes". However, on non-hypothetical case work, the half sibling hypothesis might also be tested for a more adequate conclusion: LR (full-sibling vs unrelated): 14,740. LR (half-Sibling vs unrelated): 44,658. If this were the case, a half sibling relationship has greater likelihood according to the genetic evidence.
PVN869	AUTOSOMAL STRs The kinship index supports the hypothesis that Profile B is the full sibling of Profile A using the reference populations listed. The genotype observed for Profile B is 1,037 times more likely to occur in a full sibling of Profile A than is someone unrelated to Profile A in the Caucasian population.

Additional Comments

TABLE 10

Webcode	Additional Comments
4PFNPV	NR=No Results
8AQQEB	Sibling test - [Laboratory] have calculated the vWA locus to allow a comparison with the calculation; however we would normally remove this locus due to linkage with locus D12
A3H74B	Regarding relationship indices, lab policy is to exclude D12 data from the calculation of the combined relationship index; therefore, the CPI calculation did not include the D12 data. Lab report wording for paternity trio conclusion: Alleged father cannot be eliminated as the biological parent (father) of the child.
AJQX7F	Part III [Table 7 - Kinship Likelihood Ratio Results & Table 8 - Kinship DNA Statistics] of this kinship analysis was not completed because manual calculations are not performed at this laboratory. This laboratory instead makes use of DNView software which is preset to use local/state database allele frequencies.
FALYZ2	NR = no results. N/A = not applicable. Items 2 and 3 were tested in PowerPlex Fusion and Yfiler. Results at shared locus DYS391 were concordant.
FED7HA	No manual calculations are done in our laboratory.
GLCCBH	NR = no results
JJYKKB	Truncated final CPI and KI per Department reporting policy. Excluded D12S391 from CPI and final KI per Department policy.
MNX6QR	Item 2 was concordant at DYS391 for PowerPlex Fusion and Yfiler. Item 3 was concordant at DYS391 for PowerPlex Fusion and Yfiler. NR = No Result
MQ9MAX	I am not qualified at this time to perform statistics and conclusions regarding any paternity or kinship analyses.
NCHEP2	1) Please include the race for both parents. Relationship Testing Labs reports the race of both parents even if the calculations use only that for the alleged parent when choosing the population database. 2) Please make available the Allele Table and the frequencies in Plain Text format.
PQYU77	Part II [Table 1 - STR Amplification Kit(s) & Results]: D12S391 not included in calculation per lab policy and procedures. The Combined Paternity Index value of 56,490,000 truncated to 2 significant figures per lab policy and procedures and reported as 56 million for the Caucasian population. Part III: Kinship Index value of 1,882 truncated to 2 significant figures per lab policy and procedures and reported as 18 hundred. D12S391 not included in calculation per lab policy and procedures.
PVN869	Comment regarding Y-STR profiles for child and alleged father: The child profile has the 20 allele at DYS627 and the alleged father has the 19 allele at DYS627. This is an example of a one step mutation occurring in the Y-STR profile between father and son. One mutation event can be expected between father and son. DYS627 is a rapidly mutating locus.
PYPDMZ	Part III [Table 7 - Kinship Likelihood Ratio Results & Table 8 - Kinship DNA Statistics] not done as we do not use NIST STRBASE database, we do however have our own database. DNA View software used to calculate such scenarios.
RU8UHN	The DYS391 locus results are concordant between Fusion and Yfiler kits for both Item 2 and Item 3. NR = No Result
UZLG6N	For Part II [Table 1 - STR Amplification Kit(s) & Results]: The loci D12S391 and Amelogenin are not used for Paternity Index calculations in our laboratory. For Part III [Table 7 - Kinship Likelihood Ratio Results & Table 8 - Kinship DNA Statistics]: The loci D12S391, Amelogenin, PentaD and PentaE are not used for kinship index calculations in our laboratory.

**-End of Report-
(Appendix may follow)**

Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program

Test No. 18-5870: DNA Parentage

DATA MUST BE RECEIVED BY April 23, 2018 TO BE INCLUDED IN THE REPORT

Participant Code:

WebCode:

Accreditation Release Statement

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

This participant's data is intended for submission to ASCLD/LAB, ANAB and/or A2LA. (Accreditation Release section on the last page must be completed and submitted.)

This participant's data is **NOT** intended for submission to ASCLD/LAB, ANAB or A2LA.

Scenario:

A standard paternity trio case has been presented to your laboratory. Blood standards have been collected from the mother, son, and alleged father. Your laboratory is tasked with examining the blood standards and comparing the DNA profiles.

Items Submitted (Sample Pack DNP1):

Item 1: Blood Sample from Known Parent (Mother)

Item 2: Blood Sample from Known Child (Son)

Item 3: Blood Sample from Alleged Father (Caucasian)

****Please note Data Sheet Changes****

Reporting of YSTR alleles generated from primarily autosomal STR multiplex systems.

- 1) The YSTR loci commonly generated using STR multiplex systems are now included in the STR section. (DYS391, DYS570, DYS576, Y Indel)
- 2) There is no longer a need to transcribe YSTR results from STR multiplex systems to the YSTR section.

For probabilistic genotyping software, a text field has been added directly below the amplification kit section for each item to capture which software was used.

DNA Reporting Instructions:

Use the instructions below to complete the following DNA Analysis sections of this data sheet.

* Report alleles in numerical order, separated by a comma.

* Follow your laboratory procedures for reporting homozygotes (i.e. "14,14", "14,-", "14")

* PI = Paternity Index

Example	D1S1656	D2S1338	D2S441	D3S1358	D5S818
STR	15,18	12,17	10	14	5,13
PI	1.65	3.01	3.16	4.12	5.65

Please return all pages of this data sheet.

Page 1 of 10

Part I: DNA ANALYSIS FOR ITEM 1

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 (if applicable): _____

ITEM 1

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
FGA	Penta D	Penta E	SE33	TH01	TPOX
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
vWA	DYS391	DYS570	DYS576	Y Indel	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Part I: DNA ANALYSIS FOR ITEM 2

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 (if applicable): _____

ITEM 2

D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
FGA	Penta D	Penta E	SE33	TH01	TPOX
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
vWA	DYS391	DYS570	DYS576	Y Indel	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

YSTR results are for proficiency concordance only.

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 _____

ITEM 2

DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	Y GATA H4
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Please return all pages of this data sheet.

Part I: DNA ANALYSIS FOR ITEM 3

Please refer to the 'Part II: Paternity DNA Statistics' section of this data sheet regarding the suggested Population Databases to use to determine PI values.

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 (if applicable): _____

		D1S1656	D2S1338	D2S441	D3S1358	D5S818	D6S1043
	STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	PI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		D7S820	D8S1179	D10S1248	D12S391	D13S317	D16S539
	STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	PI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
ITEM 3		D18S51	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO
	STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	PI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		FGA	Penta D	Penta E	SE33	TH01	TPOX
	STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	PI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		vWA	DYS391	DYS570	DYS576	Y Indel	
	STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	PI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

YSTR results are for proficiency concordance only.

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 _____

	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
ITEM 3	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	Y GATA H4
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Please return all pages of this data sheet.

Part I (continued): Additional DNA Results

- 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.

	Item 1	Item 2	Item 3 STR	Item 3 PI
_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Participant Code:
WebCode:

Part II: PATERNITY DNA STATISTICS

For the purposes of consistency among reported statistical values, use the ethnicity listed for the alleged parent and choose one of the following population databases for all statistical calculations in this test:

1. **FBI Popstats:** If FBI Popstats is already available in your laboratory then you may select that option, otherwise use the population database below.
2. **NIST-STRBASE** is a publicly available U.S. population dataset at STRBASE on the following NIST web site : <http://www.cstl.nist.gov/strbase/NISTpop.htm#Autosomal>
 - a. On the NIST web site, select the hyperlink labeled "Allele frequencies from autosomal STRs as Excel file" under the title "NIST 1036 U.S. Population Dataset".
3. If you are unable to use one of the suggested population databases, report the population database used in the blank provided next to the "Other Pop. Database" option. Due to the tendency for allele frequencies to vary amongst different databases, no consensus value will be determined for this option. When reporting a population database name, please refrain from using terms that would allude to a laboratory specific name or location; general terms such as "local/state database" or "laboratory specific database" are preferred.

1) Choose a Population Database:

FBI Popstats Pop. Database

NIST STRBASE Pop. Database

Other Pop. Database: _____

2) Record the Combined Paternity Index value: _____

3) Record the Probability of Paternity: _____

4) Based on DNA results, select your response from the following options. If the wording differs from the normal wording in your reports, adapt these conclusions as best as you can and use your preferred wording in your additional comments.

The Alleged parent (Item 3) could not be excluded as the biological parent of child (Item 2).

The Alleged parent (Item 3) is excluded as a possible biological parent of child (Item 2).

Inconclusive as to whether the Alleged parent (Item 3) could be the biological parent of child (Item 2).
(Please document the reason in the Additional Comments section of this data sheet.)

Part III: KINSHIP DNA STATISTICS

Complete the following Kinship DNA Statistics section, **if applicable to your laboratory**, using the instructions below.

- Use the provided scenario for context.
- Use the supplied allele frequencies for calculations (adopted from the NIST STRBASE database).
- Only test the relationship in question that is listed in the scenario (eg. half siblings versus unrelated).
- Complete the entire table including the formula used in the calculation and the allele legend.

Example: Questioned Half Sibling Relationship							
Locus	Profile A	Profile B	Allele Frequencies		Formula Used	Allele Legend	Likelihood Ratio
FGA	18, 26	18, 26	18: 0.0249	26: 0.0263	$(p+q+4pq) / 8pq$	p = 18 q = 26	10.272
vWA	14, 15	14, 17	14: 0.0928	15: 0.1053	$(1+4p)/8p$	p = 14	1.847
			17: 0.1053				

Scenario:

Two women of Caucasian decent believe they might be full siblings and request kinship testing. You perform a DNA analysis and obtain the profiles shown below. Using the allele frequencies shown for the tested loci, calculate the likelihood ratio for the individuals being full siblings versus being unrelated.

Locus	Profile A	Profile B	Allele Frequencies		Formula Used	Allele Legend	Likelihood Ratio
D1S1656	11,11	11,17	11: 0.0776	17: 0.0471			
D2S1338	17,18	16,18	16: 0.0374	17: 0.1856			
			18: 0.0734				
D2S441	12,14	11,12	11: 0.3435	12: 0.0471			
			14: 0.2410				
D3S1358	15,16	16,16	15: 0.2729	16: 0.2382			
D5S818	11,11	11,11	11: 0.3560				
D7S820	8,8	10,11	8: 0.1440	10: 0.2562			
			11: 0.2050				
D8S1179	10,15	10,12	10: 0.1025	12: 0.1676			
			15: 0.1039				
D10S1248	14,14	14,14	14: 0.2978				
D12S391	18,25	19,25	18: 0.1717	19: 0.1247			
			25: 0.0166				

Please return all pages of this data sheet.

Part III: KINSHIP DNA STATISTICS (continued)

Locus	Profile A	Profile B	Allele Frequencies		Formula Used	Allele Legend	Likelihood Ratio
D13S317	12,13	12,12	12: 0.2687	13: 0.1163			
D16S539	9,9	8,11	8: 0.0180	9: 0.1066			
			11: 0.3144				
D18S51	12,19	12,17	12: 0.1136	17: 0.1385			
			19: 0.0402				
D19S433	13,14	13,14	13: 0.2548	14: 0.3615			
D21S11	30,30	30,31	30: 0.2825	31: 0.0720			
D22S1045	16,16	15,16	15: 0.3213	16: 0.3823			
Amelogenin	X,X	X,X					
CSF1PO	11,12	11,13	11: 0.3089	12: 0.3601			
			13: 0.0817				
FGA	19,22	24,24	19: 0.0499	22: 0.2050			
			24: 0.1343				
PentaD	13,13	13,13	13: 0.1967				
PentaE	7,12	12,12	7: 0.1690	12: 0.1944			
SE33	13,19	17,19	13: 0.0166	17: 0.0623			
			19: 0.0720				
TH01	7,9	9,9	7: 0.1939	9: 0.1191			
TPOX	8,8	8,10	8: 0.5249	10: 0.0499			
vWA	18,18	14,18	14: 0.0928	18: 0.2022			

Please return all pages of this data sheet.

Part III: KINSHIP DNA STATISTICS (continued)

1) From your evaluation of the profiles on the preceding pages, record the kinship index: _____

2) Is the relationship claim of Full Siblings supported by the genetic evidence?

3) Use the space provided to document any additional statistical results and relationship conclusions.

Part IV: ADDITIONAL COMMENTS

Comments regarding any part of this Parentage Test.

Return Instructions: Data must be received via online data entry, fax (please include a cover sheet), or mail by **April 23, 2018** to be included in the report. Emailed data sheets will not be accepted.

QUESTIONS?

TEL: +1-571-434-1925 (8 am - 4:30 pm EST)
EMAIL: forensics@cts-interlab.com
www.ctsforensics.com

ONLINE DATA ENTRY: www.cts-portal.com

FAX: +1-571-434-1937

MAIL: Collaborative Testing Services, Inc.
P.O. Box 650820
Sterling, VA 20165-0820 USA

Please return all pages of this data sheet.

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Collaborative Testing Services - Forensic Testing Program

RELEASE OF DATA TO ACCREDITATION BODIES

The following Accreditation Releases will apply only to:

Participant Code:

WebCode:

for Test No. **18-5870: DNA Parentage**

This release page must be completed and received by **April 23, 2018** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

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

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

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

A2LA Certificate No. _____

Step 2: Complete the Laboratory Identifying Information in its entirety

Signature and Title _____

Laboratory Name _____

Location (City/State) _____

Return Instructions

Accreditation Release

Please submit the completed Accreditation Release at the same time as your full data sheet. See Data Sheet Return Instructions on the previous page.

*Questions? Contact us 8 am-4:30 pm EST
Telephone: +1-571-434-1925
email: forensics@cts-interlab.com*

Please return all pages of this data sheet.

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