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FORENSIC TESTING PROGRAM

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DNA Parentage
Test No. 20-5870 Summary Report

Each participant received a sample pack consisting of the standard paternity trio, collected from a mother, a daughter, and a potential father. Participants were requested to analyze the samples using their existing protocols. Data were returned from 54 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 daughter, and a potential father. Participants were requested to analyze these items using their existing protocols. Also included with this test was a kinship exercise that consisted of autosomal DNA profiles of two individuals for comparison. Participants were requested to determine if a 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 µl) was blood from a female (mother) donor, Item 2 (75 µl) was blood from a female (daughter) donor, and Item 3 (75 µl) was blood from a male donor who was the biological father of the Item 2 female. 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 18th, 2020.

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 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	12,17	20,23	10,14	15,16	12,13	*
	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22	9,14	10,10	18,27.2	9,9.3	8,11
	17,17	NM	NM	NM	NM	
2	12,12	19,23	10,15	15,15	12,12	*
	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	9,13	5,10	17,27.2	9,9.3	8,11
	17,19	NM	NM	NM	NM	
3	12,15.3	17,19	14,15	14,15	12,12	*
	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24	13,14	5,11	17,29.2	7,9.3	8,8
	17,19	10	18	16	2	

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
3	*	15	14,16	12	28	24	10	11	12
	16	9	11	19	*	13	17	*	22
	*	12	*	18	16	*	21	*	11

* Results were not received from a minimum of 10 participants for the loci indicated.
NM - Non-Male profile, YSTR results not expected.

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					
3PI - FBI PopStats					
4.2094	3.3113	9.6127	2.0201	2.8425	*
2.8441	3.54	2.8826	*	1.618	25.253
3.7397	3.4819	4.5914	1.374	-	3.9604
3.6075	*	*	6.9638	1.0632	1.2469
6.12					
3PI - Grand Mean ±3STD Range**					
3.3330-5.1989	2.5578-5.2092	6.2341-11.4697	1.0912-2.5870	2.2803-3.0429	2.9816-3.6062
2.1003-4.1448	2.3633-3.9575	2.1762-3.0813	2.9460-5.3054	1.4303-2.1351	12.7413-41.0780
2.0649-4.3098	2.6843-3.9006	3.7532-6.7873	1.2370-1.7659	-	3.4414-5.2183
3.2685-4.0721	1.7079-3.4825	5.6428-7.4068	6.0387-9.2242	0.9393-1.2208	1.1588-1.4044
3.2933-7.0713					
3PI - NIST STRBASE					
4.2992	4.1494	8.3893	1.8321	2.5786	*
3.3132	2.9833	2.5419	4.0096	1.8608	27.7777
2.9343	3.1948	5.5555	1.5562	-	4.5413
3.723	2.5419	6.5616	8.0256	1.0776	1.287
4.8123					

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

**These ranges are provided to allow participants that utilized databases other than FBI PopStats and NIST STRBASE to review their results. Following AABB guidelines, ranges were determined by taking the grand mean of all data submitted for the associated locus and calculating 3 standard deviations above and below that value.

Summary Comments

The 20-5870 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 female donor (daughter of the Item 1 female), and Item 3 was blood collected from a male donor who is the biological father of the Item 2 female. 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 54 participants who returned data reported consistent STR results for all three items.

Twenty three participants reported full YSTR results for Item 3. All of these participants reported consistent individual profiles for Item 3.

Paternity DNA Statistics:
Fifty three participants reported that the source of Item 3 was not excluded as the biological father of Item 2 and one participant did not report a conclusion. Most participants reported a value of 99.99 or higher for the probability of paternity. The most frequently reported population databases were NIST-STRBASE with 31 participants and FBI PopStats with 19 participants.

Kinship DNA Statistics
There were 29 participants who responded for the paper kinship exercise. In comparison to the consensus values, four participants reported similar inconsistent likelihood ratio results for all of the loci, two of which mentioned in their "Additional Kinship Statistical Results" that they were calculating for half siblings instead of full siblings. All 29 participants reported that the claim of a sibling relationship was supported.

STR Amplification Kit(s) & Results

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

22DWAB	GlobalFiler™					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22			18,27.2	9,9.3	8,11
	17,17	Not Detected			Not Detected	
34TVXP	PowerPlex® Fusion					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17	NR				
3R3UNA	PowerPlex® Fusion 6C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22	9,14	10,10	18,27.2	9,9.3	8,11
	17,17					
6LPTFB	PowerPlex® 6C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10	18,27.2	9,9.3	8,11
	17					
6UXA6W	Investigator® 24plex					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22			18,27.2	9,9.3	8,11
	17,17					
6X4QKF	GlobalFiler™ Express					
	12,17	20,23	10,14	15,16	12,13	-
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X,X	11,12
	21,22	-	-	18,27.2	9,9.3	8,11
	17	NM	-	-	NM	

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

79TDMR	PowerPlex® FUSION 6C (GENFOR VER. 3.0.05 BETA)					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22	9,14	10,10	18,27.2	9,9.3	8,11
	17,17					
7VAJF9	PowerPlex® Fusion 6C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22	9,14	10,10	18,27.2	9,9.3	8,11
	17,17					
8G6MW7	PowerPlex® Fusion 6C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10	18,27.2	9,9.3	8,11
	17					
8JVP2U	PowerPlex® 21 (Kinship)					
	12,17	20,23	NA	15,16	12,13	13,19
1	8,14	8,14	NA	21,23	12,12	11,11
	12,16	12,14	29,29	NA	X,X	11,12
	21,22	9,14	10,10	NA	9,9.3	8,11
	17,17	NA	NA	NA	NA	
8VLMKK	PowerPlex® 5C					
	12,17	20,23	10,14	15,16	12,13	--
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10	--	9,9.3	8,11
	17	--	--	--	--	
8ZYJ9U	GlobalFiler™					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22			18,27.2	9,9.3	8,11
	17					

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

96ATY4	PowerPlex® F6C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10	18,27.2	9,9.3	8,11
	17					
AML3DA	PowerPlex® Fusion 5C (eDNA)					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					
AVF87B	GlobalFiler™ Express					
	12,17	20,23	10,14	15,16	12,13	-
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X,X	11,12
	21,22	-	-	18,27.2	9,9.3	8,11
	17	NM	-	-	NM	
CE8VRP	GlobalFiler™					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22			18,27.2	9,9.3	8,11
	17,17					
CNUUHV	PowerPlex® Fusion					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					
E4VFXM	PowerPlex® 21					
	12,17	20,23		15,16	12,13	13,19
1	8,14	8,14		21,23	12,12	11,11
	12,16	12,14	29,29		X,X	11,12
	21,22	9,14	10,10		9,9.3	8,11
	17,17					

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

EAK2KF	PowerPlex® Fusion 5c					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					
EF7UWE	PowerPlex® Fusion6C (Familias3)					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22	9,14	10,10	18,27.2	9,9.3	8,11
	17,17					
ETVPEZ	PowerPlex® Fusion 5C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					
FJRUWV	PowerPlex® Fusion 5C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					
FVZU6U	GlobalFiler™ Express					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22			18,27.2	9,9.3	8,11
	17	-			-	
GDVMQR	GlobalFiler™ Express					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22			18,27.2	9,9.3	8,11
	17	-			-	

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

GFKZ9A	PowerPlex® Fusion					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17	NR				
H9VXMP	GlobalFiler™ Express					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22			18,27.2	9,9.3	8,11
	17	-			-	
HW2GXN	GlobalFiler™ Express					
	12,17	20,23	10,14	15,16	12,13	-
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	-	-	18,27.2	9,9.3	8,11
	17	-	-	-	-	
KG3EAF	GlobalFiler™					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22			18,27.2	9,9.3	8,11
	17,17	-			-	
KGNTXT	PowerPlex® Fusion 6C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10	18,27.2	9,9.3	8,11
	17					
KHRPZ9	PowerPlex® PP21					
	12,17	20,23		15,16	12,13	13,19
1	8,14	8,14		21,23	12	11
	12,16	12,14	29		X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					

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

LHDGVE	GlobalFiler™					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22			18,27.2	9,9.3	8,11
	17,17	-			-	
LU8UTQ	PowerPlex® 5C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22	9,14	10,10		9,9.3	8,11
	17,17	N/A				
M6YZYU	GlobalFiler™					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22			18,27.2	9,9.3	8,11
	17	NR			NR	
M9HV3L	GlobalFiler™					
	12,17	20,23	10,14	15,16	12,13	-
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	-	-	18,27.2	9,9.3	8,11
	17	-	-	-	-	
ND8R6H	PowerPlex® Fusion 5C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					
NFX3VB	Identifiler® (GeneMapper)					
		20,23		15,16	12,13	
1	8,14	8,14			12,12	11,11
	12,16	12,14	29,29		X,X	11,12
	21,22				9,9.3	8,11
	17,17					

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

NPLPAL	PowerPlex® Fusion 5C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					
NTK7LF	PowerPlex® 21					
	12,17	20,23		15,16	12,13	13,19
1	8,14	8,14		21,23	12,12	11,11
	12,16	12,14	29,29		X,X	11,12
	21,22	9,14	10,10		9,9.3	8,11
	17,17					
PU9367	VeriFiler Plus (GeneMapper ID-X 1.5)					
	12,17	20,23	10,14	15,16	12,13	13,19
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22	9,14	10,10	-	9,9.3	8,11
	17,17	-	-	-	-	
R8DWVA	PowerPlex® Fusion 6C					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22	9,14	10,10	18,27.2	9,9.3	8,11
	17,17					
RAD6ZJ	GlobalFiler™ Express					
	12,17	20,23	10,14	15,16	12,13	-
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X,X	11,12
	21,22	-	-	18,27.2	9,9.3	8,11
	17	NM	-	-	NM	
T3VY2R	GlobalFiler™ Express					
	12,17	20,23	10,14	15,16	12,13	-
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X,X	11,12
	21,22	-	-	18,27.2	9,9.3	8,11
	17	NM	-	-	NM	

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

TE7Q7C	PowerPlex® Fusion					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					
TFMK98	GlobalFiler™ Express					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22			18,27.2	9,9.3	8,11
	17					
TJXVYG	GlobalFiler™ Express					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22			18,27.2	9,9.3	8,11
	17	-			-	
UARGAZ	Identifiler® Direct					
		20,23		15,16	12,13	
1	8,14	8,14			12,12	11,11
	12,16	12,14	29,29		X,X	11,12
	21,22				9,9.3	8,11
	17,17					
UJG2WL	FUSION					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22	9,14	10,10		9,9.3	8,11
	17,17					
UUZFZN	GlobalFiler™					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22			18,27.2	9,9.3	8,11
	17	No Results			No Results	

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

VVQ27K	PowerPlex® Fusion					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					
WJUAZ7	GlobalFiler™					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12,12	11,11
	12,16	12,14	29,29	11,17	X,X	11,12
	21,22			18,27.2	9,9.3	8,11
	17,17					
WZWY9W	PowerPlex® Fusion					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17	NR				
XLDN2L	Identifiler® Direct					
		20,23		15,16	12,13	
1	8,14	8,14			12	11
	12,16	12,14	29		X,X	11,12
	21,22				9,9.3	8,11
	17					
ZH3MV6	PowerPlex® Fusion					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					
ZTK3Y8	PowerPlex® Fusion					
	12,17	20,23	10,14	15,16	12,13	
1	8,14	8,14	13,14	21,23	12	11
	12,16	12,14	29	11,17	X	11,12
	21,22	9,14	10		9,9.3	8,11
	17					

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

22DWAB	GlobalFiler™					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19	Not detected			Not detected	
34TVXP	PowerPlex® Fusion					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19	NR				
3R3UNA	PowerPlex® Fusion 6C					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	9,13	5,10	17,27.2	9,9.3	8,11
	17,19					
6LPTFB	PowerPlex® 6C					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10	17,27.2	9,9.3	8,11
	17,19					
6UXA6W	Investigator® 24plex					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19					
6X4QKF	GlobalFiler™ Express					
	12	19,23	10,15	15	12	-
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	-	-	17,27.2	9,9.3	8,11
	17,19	NM	-	-	NM	

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

79TDMR	PowerPlex® FUSION 6C					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	9,13	5,10	17,27.2	9,9.3	8,11
	17,19					
7VAJF9	PowerPlex® Fusion 6C					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	9,13	5,10	17,27.2	9,9.3	8,11
	17,19					
8G6MW7	PowerPlex® Fusion 6C					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10	17,27.2	9,9.3	8,11
	17,19					
8JVP2U	PowerPlex® 21 (Kinship)					
	12,12	19,23	NA	15,15	12,12	11,19
2	8,14	8,12	NA	19,21	12,12	8,11
	15,16	12,15	29,32.2	NA	X,X	10,12
	22,24	9,13	5,10	NA	9,9.3	8,11
	17,19	NA	NA	NA	NA	
8VLMKK	PowerPlex® 5C					
	12	19,23	10,15	15	12	--
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10	--	9,9.3	8,11
	17,19	--	--	--	--	
8ZYJ9U	GlobalFiler™					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19					

TABLE 1

Item 2 - STR Results

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	
96ATY4	PowerPlex® F6C					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10	17,27.2	9,9.3	8,11
	17,19					
AML3DA	PowerPlex® Fusion 5C (eDNA)					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
AVF87B	GlobalFiler™ Express					
	12	19,23	10,15	15	12	-
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	-	-	17,27.2	9,9.3	8,11
	17,19	NM	-	-	NM	
CE8VRP	GlobalFiler™					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19					
CNUUHV	PowerPlex® Fusion					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
E4VFXM	PowerPlex® 21					
	12,12	19,23		15,15	12,12	11,19
2	8,14	8,12		19,21	12,12	8,11
	15,16	12,15	29,32.2		X,X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					

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 2 - STR Results

EAK2KF	PowerPlex® Fusion 5c					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
EF7UWE	PowerPlex® Fusion6C (Familias3)					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	9,13	5,10	17,27.2	9,9.3	8,11
	17,19					
ETVPEZ	PowerPlex® Fusion 5C					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
FJRUWV	PowerPlex® Fusion 5C					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
FVZU6U	GlobalFiler™ Express					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19	-			-	
GDVMQR	GlobalFiler™ Express					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19	-			-	

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 2 - STR Results

GFKZ9A	PowerPlex® Fusion					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19	NR				
H9VXMP	GlobalFiler™ Express					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19	-			-	
HW2GXN	GlobalFiler™ Express					
	12	19,23	10,15	15	12	-
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	-	-	17,27.2	9,9.3	8,11
	17,19	-	-	-	-	
KG3EAF	GlobalFiler™					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19	-			-	
KGNTXT	PowerPlex® Fusion 6C					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10	17,27.2	9,9.3	8,11
	17,19					
KHRPZ9	PowerPlex® PP21					
	12	19,23		15	12	11,19
2	8,14	8,12		19,21	12	8,11
	15,16	12,15	29,32.2		X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					

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 2 - STR Results

LHDGVE	GlobalFiler™					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19	-			-	
LU8UTQ	PowerPlex® 5C					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19	N/A				
M6YZYU	GlobalFiler™					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19	NR			NR	
M9HV3L	GlobalFiler™					
	12	19,23	10,15	15	12	-
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	-	-	17,27.2	9,9.3	8,11
	17,19	-	-	-	-	
ND8R6H	PowerPlex® Fusion 5C					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
NFX3VB	Identifiler® (GeneMapper)					
		19,23		15,15	12,12	
2	8,14	8,12			12,12	8,11
	15,16	12,15	29,32.2		X,X	10,12
	22,24				9,9.3	8,11
	17,19					

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 2 - STR Results

NPLPAL	PowerPlex® Fusion 5C					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
NTK7LF	PowerPlex® 21					
	12,12	19,23		15,15	12,12	11,19
2	8,14	8,12		19,21	12,12	8,11
	15,16	12,15	29,32.2		X,X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
PU9367	VeriFiler Plus (GeneMapper ID-X 1.5)					
	12,12	19,23	10,15	15,15	12,12	11,19
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	9,13	5,10	-	9,9.3	8,11
	17,19	-	-	-	-	
R8DWVA	PowerPlex® Fusion 6C					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	9,13	5,10	17,27.2	9,9.3	8,11
	17,19					
RAD6ZJ	GlobalFiler™ Express					
	12	19,23	10,15	15	12	-
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	-	-	17,27.2	9,9.3	8,11
	17,19	NM	-	-	NM	
T3VY2R	GlobalFiler™ Express					
	12	19,23	10,15	15	12	-
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	-	-	17,27.2	9,9.3	8,11
	17,19	NM	-	-	NM	

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

TE7Q7C	PowerPlex® Fusion					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
TFMK98	GlobalFiler™ Express					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19					
TJXVYG	GlobalFiler™ Express					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19	-			-	
UARGAZ	Identifiler® Direct					
		19,23		15,15	12,12	
2	8,14	8,12			12,12	8,11
	15,16	12,15	29,32.2		X,X	10,12
	22,24				9,9.3	8,11
	17,19					
UJG2WL	FUSION					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
UUZFZN	GlobalFiler™					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19	No Results			No Results	

TABLE 1

Item 2 - STR Results

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	
VVQ27K	PowerPlex® Fusion					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
WJUAZ7	GlobalFiler™					
	12,12	19,23	10,15	15,15	12,12	
2	8,14	8,12	14,15	19,21	12,12	8,11
	15,16	12,15	29,32.2	15,17	X,X	10,12
	22,24			17,27.2	9,9.3	8,11
	17,19					
WZWY9W	PowerPlex® Fusion					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19	NR				
XLDN2L	Identifiler® Direct					
		19,23		15	12	
2	8,14	8,12			12	8,11
	15,16	12,15	29,32.2		X,X	10,12
	22,24				9,9.3	8,11
	17,19					
ZH3MV6	PowerPlex® Fusion					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					
ZTK3Y8	PowerPlex® Fusion					
	12	19,23	10,15	15	12	
2	8,14	8,12	14,15	19,21	12	8,11
	15,16	12,15	29,32.2	15,17	X	10,12
	22,24	9,13	5,10		9,9.3	8,11
	17,19					

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 3 - STR Results

22DWAB	GlobalFiler™						
	12,15.3	17,19	14,15	14,15	12,12		
3	8,10	12,14	13,15	17,19	9,12	8,13	
	11,15	14,15	30,32.2	15,16	X,Y	10,10	
	20,24			17,29.2	7,9.3	8,8	
	17,19	10			2		
34TVXP	PowerPlex® Fusion						
	12,15.3	17,19	14,15	14,15	12		
3	8,10	12,14	13,15	17,19	9,12	8,13	
	11,15	14,15	30,32.2	15,16	X,Y	10	
	20,24	13,14	5,11		7,9.3	8	
	17,19	10					
3R3UNA	PowerPlex® Fusion 6C						
	12,15.3	17,19	14,15	14,15	12,12		
3	8,10	12,14	13,15	17,19	9,12	8,13	
	11,15	14,15	30,32.2	15,16	X,Y	10,10	
	20,24	13,14	5,11	17,29.2	7,9.3	8,8	
	17,19	10	18	16			
6LPTFB	PowerPlex® 6C						
	12,15.3	17,19	14,15	14,15	12		
3	8,10	12,14	13,15	17,19	9,12	8,13	
	11,15	14,15	30,32.2	15,16	X,Y	10	
	20,24	13,14	5,11	17,29.2	7,9.3	8	
	17,19	10	18	16			
6UXA6W	Investigator® 24plex						
	12,15.3	17,19	14,15	14,15	12,12		
3	8,10	12,14	13,15	17,19	9,12	8,13	
	11,15	14,15	30,32.2	15,16	X,Y	10,10	
	20,24			17,29.2	7,9.3	8,8	
	17,19	10					
6X4QKF	GlobalFiler™ Express						
	12,15.3	17,19	14,15	14,15	12	-	
3	8,10	12,14	13,15	17,19	9,12	8,13	
	11,15	14,15	30,32.2	15,16	X,Y	10	
	20,24	-	-	17,29.2	7,9.3	8	
	17,19	10	-	-	2		

TABLE 1

Item 3 - STR Results

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	
79TDMR	PowerPlex® FUSION 6C					
	12,15.3	17,19	14,15	14,15	12,12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24	13,14	5,11	17,29.2	7,9.3	8,8
	17,19	10	18	16		
7VAJF9	PowerPlex® Fusion 6C					
	12,15.3	17,19	14,15	14,15	12,12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24	13,14	5,11	17,29.2	7,9.3	8,8
	17,19	10	18	16		
8G6MW7	PowerPlex® Fusion 6C					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11	17,29.2	7,9.3	8
	17,19	10	18	16		
8JVP2U	PowerPlex® 21 (Kinship)					
	12,15.3	17,19	NA	14,15	12,12	11,11
3	8,10	12,14	NA	17,19	9,12	8,13
	11,15	14,15	30,32.2	NA	X,Y	10,10
	20,24	13,14	5,11	NA	7,9.3	8,8
	17,19	NA	NA	NA	NA	
8VLMKK	PowerPlex® 5C					
	12,15.3	17,19	14,15	14,15	12	--
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11	--	7,9.3	8
	17,19	10	--	--	--	
8ZYJ9U	GlobalFiler™					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24			17,29.2	7,9.3	8
	17,19	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

96ATY4	PowerPlex® F6C					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11	17,29.2	7,9.3	8
	17,19	10	18	16		
AML3DA	PowerPlex® Fusion 5C (eDNA)					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
AVF87B	GlobalFiler™ Express					
	12,15.3	17,19	14,15	14,15	12	-
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	-	-	17,29.2	7,9.3	8
	17,19	10	-	-	2	
CE8VRP	GlobalFiler™					
	12,15.3	17,19	14,15	14,15	12,12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24			17,29.2	7,9.3	8,8
	17,19	10			2	
CNUUHV	PowerPlex® Fusion					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
E4VFXM	PowerPlex® 21					
	12,15.3	17,19		14,15	12,12	11,11
3	8,10	12,14		17,19	9,12	8,13
	11,15	14,15	30,32.2		X,Y	10,10
	20,24	13,14	5,11		7,9.3	8,8
	17,19					

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 3 - STR Results

EAK2KF	PowerPlex® Fusion 5c					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
EF7UWE	PowerPlex® Fusion6C (Familias3)					
	12,15.3	17,19	14,15	14,15	12,12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24	13,14	5,11	17,29.2	7,9.3	8,8
	17,19	10	18	16		
ETVPEZ	PowerPlex® Fusion 5C					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
FJRUWV	PowerPlex® Fusion 5C					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
FVZU6U	GlobalFiler™ Express					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24			17,29.2	7,9.3	8
	17,19	10			2	
GDVMQR	GlobalFiler™ Express					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24			17,29.2	7,9.3	8
	17,19	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

GFKZ9A	PowerPlex® Fusion					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
H9VXMP	GlobalFiler™ Express					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24			17,29.2	7,9.3	8
	17,19	10			2	
HW2GXN	GlobalFiler™ Express					
	12,15.3	17,19	14,15	14,15	12	-
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	-	-	17,29.2	7,9.3	8
	17,19	10	-	-	2	
KG3EAF	GlobalFiler™					
	12,15.3	17,19	14,15	14,15	12,12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24			17,29.2	7,9.3	8,8
	17,19	10			2	
KGNTXT	PowerPlex® Fusion 6C					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11	17,29.2	7,9.3	8
	17,19	10	18	16		
KHRPZ9	PowerPlex® PP21					
	12,15.3	17,19		14,15	12	11
3	8,10	12,14		17,19	9,12	8,13
	11,15	14,15	30,32.2		X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19					

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 3 - STR Results

LHDGVE	GlobalFiler™					
	12,15.3	17,19	14,15	14,15	12,12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24			17,29.2	7,9.3	8,8
	17,19	10			2	
LU8UTQ	PowerPlex® 5C					
	12,15.3	17,19	14,15	14,15	12,12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24	13,14	5,11		7,9.3	8,8
	17,19	10				
M6YZYU	GlobalFiler™					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24			17,29.2	7,9.3	8
	17,19	10			2	
M9HV3L	GlobalFiler™					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24			17,29.2	7,9.3	8
	17,19	10			2	
ND8R6H	PowerPlex® Fusion 5C					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
NFX3VB	Identifiler® (GeneMapper)					
		17,19		14,15	12,12	
3	8,10	12,14			9,12	8,13
	11,15	14,15	30,32.2		X,Y	10,10
	20,24				7,9.3	8,8
	17,19					

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 3 - STR Results

NPLPAL	PowerPlex® Fusion 5C					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
NTK7LF	PowerPlex® 21					
	12,15.3	17,19		14,15	12,12	11,11
3	8,10	12,14		17,19	9,12	8,13
	11,15	14,15	30,32.2		X,Y	10,10
	20,24	13,14	5,11		7,9.3	8,8
	17,19					
PU9367	VeriFiler Plus (GeneMapper ID-X 1.5)					
	12,15.3	17,19	14,15	14,15	12,12	11,11
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24	13,14	5,11	-	7,9.3	8,8
	17,19	-	-	-	2	
R8DWVA	PowerPlex® Fusion 6C					
	12,15.3	17,19	14,15	14,15	12,12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24	13,14	5,11	17,29.2	7,9.3	8,8
	17,19	10	18	16		
RAD6ZJ	GlobalFiler™ Express					
	12,15.3	17,19	14,15	14,15	12	-
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	-	-	17,29.2	7,9.3	8
	17,19	10	-	-	2	
T3VY2R	GlobalFiler™ Express					
	12,15.3	17,19	14,15	14,15	12	-
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	-	-	17,29.2	7,9.3	8
	17,19	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

TE7Q7C	PowerPlex® Fusion					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
TFMK98	GlobalFiler™ Express					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24			17,29.2	7,9.3	8
	17,19	10			2	
TJXVYG	GlobalFiler™ Express					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24			17,29.2	7,9.3	8
	17,19	10			2	
UARGAZ	Identifiler® Direct					
		17,19		14,15	12,12	
3	8,10	12,14			9,12	8,13
	11,15	14,15	30,32.2		X,Y	10,10
	20,24				7,9.3	8,8
	17,19					
UJG2WL	FUSION					
	12,15.3	17,19	14,15	14,15	12,12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24	13,14	5,11		7,9.3	8,8
	17,19					
UUZFZN	GlobalFiler™					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24			17,29.2	7,9.3	8
	17,19	10			2	

TABLE 1

Item 3 - STR Results

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	
VVQ27K	PowerPlex® Fusion					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
WJUAZ7	GlobalFiler™					
	12,15.3	17,19	14,15	14,15	12,12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10,10
	20,24			17,29.2	7,9.3	8,8
	17,19	10			2	
WZWY9W	PowerPlex® Fusion					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
XLDN2L	Identifiler® Direct					
		17,19		14,15	12	
3	8,10	12,14			9,12	8,13
	11,15	14,15	30,32.2		X,Y	10
	20,24				7,9.3	8
	17,19					
ZH3MV6	PowerPlex® Fusion					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				
ZTK3Y8	PowerPlex® Fusion					
	12,15.3	17,19	14,15	14,15	12	
3	8,10	12,14	13,15	17,19	9,12	8,13
	11,15	14,15	30,32.2	15,16	X,Y	10
	20,24	13,14	5,11		7,9.3	8
	17,19	10				

Item 3 Paternity Index Results

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 3PI - Paternity Index Results

22DWAB	NIST-STRBASE					
	4.2992	4.1494	8.3893	1.8322	2.5786	
3PI	3.2468	2.9833	2.5419	-	1.8608	27.7778
	2.9343	3.1949	5.5556	1.5562		4.5413
	3.7230			8.0257	1.0776	1.2870
	4.8123					
34TVXP	NIST-STRBASE					
	4.2992	4.1493	8.3892	1.8321	2.5786	
3PI	3.3128	2.9832	2.5419	4.0096	1.8608	27.7777
	2.9342	3.1948	5.5555	1.5561		4.5413
	3.7230	2.5419	6.5616		1.0775	1.2870
	4.8123					
6LPTFB	NIST-STRBASE					
	4.29	4.14	8.39	1.83	2.57	
3PI	3.31	2.98	2.54	4.01	1.86	27.76
	2.93	3.19	5.55	1.55		4.54
	3.72	2.54	6.56	8.02	1.07	1.28
	4.81					
6UXA6W	NIST-STRBASE					
	4.299226139	4.149792531	8.39010067	1.832172957	2.578906653	
3PI	3.373819163	2.983293556	2.542450432	4.01042502	1.860811314	27.775
	2.934565728	3.194249201	5.555555556	1.556178027		4.541326067
	3.723380492			8.028892456	1.077693966	1.287129987
	4.812319538					
6X4QKF	NIST-STRBASE					
	4.2992	4.1493	8.3892	1.8321	2.5786	-
3PI	3.3738	2.9832	2.5419	4.0096	1.8608	27.7777
	2.9342	3.1948	5.5555	1.5561		4.5413
	3.7230	-	-	8.0256	1.0775	1.2870
	4.8123					
79TDMR	NIST-STRBASE					
	4.2976	4.1494	8.3953	1.8324	2.5785	
3PI	3.3738	2.9834	2.5419	4.0111	1.8608	27.7777
	2.9349	3.1946	5.5538	1.5560		4.5408
	3.7216	2.5422	6.5616	8.0222	1.0776	1.2869
	4.8133					

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 3PI - Paternity Index Results

7VAJF9	FBI PopStats					
	4.2088	3.3113	9.6154	2.0202	2.8450	
3PI	2.8441	3.5436	2.8852		1.6160	25.253
	3.7397	3.4819	4.5914	1.3740		3.9604
	3.6075	2.4050	6.3131	6.9638	1.0632	1.2469
	6.1200					
8G6MW7	FBI PopStats					
	4.20	3.31	9.61	2.02	2.84	
3PI	2.84	3.54	2.88		1.61	25.2
	3.73	3.48	4.59	1.37		3.96
	3.60	2.40	6.31	6.96	1.06	1.24
	6.12					
8JVP2U	NIST-STRBASE					
	4.2992	4.1494	NA	1.8322	2.5786	3.3738
3PI	3.3129	2.9833	NA	4.0096	1.8608	27.7778
	2.9343	3.1949	5.5556	NA		4.5413
	3.7230	2.5419	6.5617	NA	1.0776	1.2870
	4.8123					
8VLMKK	FBI PopStats, Promega/NIST					
	4.51	3.39	8.86	2	2.81	--
3PI	2.81	3.39	2.54	4	1.62	22.5
	3.85	3.63	4.47	1.56		3.95
	3.57	2.36	7.55	--	1.05	1.24
	5.78					
8ZYJ9U	FBI PopStats					
	4.2088	3.3113	9.6154	2.0202	2.8450	
3PI	2.8441	3.5436	2.8852	4.6992	1.6160	25.253
	3.7397	3.4819	4.5914	1.3740		3.9604
	3.6075			6.9638	1.0632	1.2469
	6.1200					
96ATY4	FBI PopStats					
	4.21	3.31	9.62	2.02	2.85	
3PI	2.84	3.54	2.89	4.70	1.62	25.3
	3.74	3.48	4.59	1.37		3.96
	3.61	2.41	6.31	6.96	1.06	1.25
	6.12					

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 3PI - Paternity Index Results

AML3DA	FBI PopStats					
	4.2992	3.4554	8.3893	2.0202	2.8257	
3PI	2.8345	3.4388	2.5419	4.0096	1.6335	25.1256
	3.9185	3.7064	4.5579	1.5562		3.9604
	3.6284	2.5641	7.0423		1.0632	1.2469
	5.9382					
AVF87B	NIST-STRBASE					
	4.2992	4.1494	8.3893	1.8322	2.5786	-
3PI	3.3738	2.9833	2.5419	4.0096	1.8608	27.7778
	2.9343	3.1949	5.5556	1.5562		4.5413
	3.7230	-	-	8.0257	1.0776	1.2870
	4.8123					
CE8VRP	[Country] Caucascian Database					
	4.50	4.00	10.78	1.90	2.86	
3PI	2.64	3.74	2.58	4.09	1.82	52.80
	3.69	3.07	6.29	1.25		3.72
	3.80			8.52	1.12	1.28
	5.62					
E4VFXM	[Country-specific reference]					
	2.98	2.23		1.41	2.56	3.23
3PI	1.37	3.17		2.94	1.52	9.97
	3.20	3.27	3.67			3.64
	2.82	3.56	5.83		1.27	1.51
	3.85					
EAK2KF	NIST-STRBASE					
	4.29	4.15	8.39	1.83	2.58	
3PI	3.31	2.98	2.54	4.01	1.86	27.77
	2.93	3.19	5.55	1.56		4.54
	3.72	2.54	6.56		1.08	1.29
	4.81					
EF7UWE	NIST-STRBASE					
	4.30	4.14	8.39	1.83	2.58	
3PI	3.37	2.98	2.54	4.01	1.86	27.63
	2.93	3.19	5.55	1.56		4.53
	3.72	2.55	6.56	8.00	1.08	1.29
	4.80					

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 3PI - Paternity Index Results

FJRUWV	FBI PopStats					
	4.2088	3.3113	9.6154	2.0202	2.8450	
3PI	2.8441	3.5436	2.8852	4.6992	1.6160	25.253
	3.7397	3.4819	4.5914	1.3740		3.9604
	3.6075	2.4050	6.3131		1.0632	1.2469
	6.1200					
FVZU6U	FBI PopStats					
	4.2992	4.1494	8.3893	1.8322	2.5786	
3PI	3.3135	2.9833	2.5419		1.8608	27.778
	2.9343	3.1949	5.5556	1.5562		4.5413
	3.7230			8.0257	1.0776	1.2870
	4.8123					
GDVMQR	FBI PopStats					
	4.29	4.14	8.38	1.83	2.57	
3PI	3.31	2.98	2.54		1.86	27.7
	2.93	3.19	5.55	1.55		4.54
	3.72			8.02	1.07	1.28
	4.81					
GFKZ9A	NIST-STRBASE					
	4.2992	4.1493	8.3892	1.8321	2.5786	
3PI	3.3128	2.9832	2.5419	4.0096	1.8608	27.7777
	2.9342	3.1948	5.5555	1.5561		4.5413
	3.7230	2.5419	6.5616		1.0775	1.2870
	4.8123					
H9VXMP	FBI PopStats					
	4.29	4.14	8.38	1.83	2.57	
3PI	3.31	2.98	2.54		1.86	27.77
	2.93	3.19	5.55	1.55		4.54
	3.72			8.02	1.07	1.28
	4.81					
HW2GXN	FBI PopStats					
	4.29	4.14	8.38	1.83	2.57	-
3PI	3.31	2.98	2.54	-	1.86	27.77
	2.93	3.19	5.55	1.55		4.54
	3.72	-	-	8.02	1.07	1.28
	4.81					

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 3PI - Paternity Index Results

KG3EAF	FBI PopStats					
	4.2088	3.3113	9.6154	2.0202	2.8450	
3PI	2.8441	3.5436	2.8852	4.6992	1.6160	25.253
	3.7397	3.4819	4.5914	1.3740		3.9604
	3.6075			6.9638	1.0632	1.2469
	6.1200					
KGNTXT	FBI PopStats					
	4.2088	3.3113	9.6154	2.0202	2.8450	
3PI	2.8441	3.5436	2.8852	N/A	1.6160	25.253
	3.7397	3.4819	4.5914	1.3740		3.9604
	3.6075	2.4050	6.3131	6.9638	1.0632	1.2469
	6.1200					
KHRPZ9	Promega					
	4.2992	4.1494		1.8322	2.5786	3.3738
3PI	3.3135	2.9833		4.0096	1.8608	27.7778
	2.9343	3.1949	5.5556			4.5413
	3.7230	2.5419	6.5617		1.0776	1.2870
	4.8123					
LHDGVE	FBI PopStats					
	4.2088	3.3113	9.6154	2.0202	2.8450	
3PI	2.8441	3.5436	2.8852	4.6992	1.6160	25.253
	3.7397	3.4819	4.5914	1.3740		3.9604
	3.6075			6.9638	1.0632	1.2469
	6.1200					
LU8UTQ	NIST-STRBASE					
	4.21	4.07	8.57	1.80	2.59	
3PI	3.12	3.10	2.57	3.93	1.82	27.23
	2.88	3.22	5.45	1.53		4.45
	3.65	2.91	6.43		1.04	1.28
	5.05					
M6YZYU	laboratory specific database					
	4.209	3.311	9.615	2.020	2.845	
3PI	2.844	3.544	2.885	4.699	1.616	25.253
	3.740	3.482	4.591	1.374		3.960
	3.608			6.964	1.063	1.247
	6.120					

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 3PI - Paternity Index Results

M9HV3L FBI PopStats

	4.29	4.14	8.38	1.83	2.57	
3PI	3.31	2.98	2.54		1.86	27.77
	2.93	3.19	5.55	1.55		4.54
	3.72			8.02	1.07	1.28
	4.81					

ND8R6H NIST-STRBASE

	4.30	4.15	8.39	1.83	2.58	
3PI	3.31	2.98	2.54		1.86	27.8
	2.93	3.19	5.56	1.56		4.54
	3.72	2.54	6.56		1.08	1.29
	4.81					

NFX3VB NIST-STRBASE

		4.149		1.832	2.578	
3PI	3.373	2.983			1.860	27.77
	2.934	3.194	5.555			4.541
	3.723				1.077	1.287
	4.812					

NPLPAL NIST-STRBASE

	5.78	3.36	12.7	1.64	2.83	
3PI	2.97	3.52	2.48	3.30	1.63	23.5
	2.99	4.24	5.48	1.55		4.30
	3.64	3.60	6.85		1.33	1.40

NTK7LF National Caucasian

	3.808	4.4489		1.8369	2.9017	3.118
3PI	2.9625	3.4158		4.2524	1.7446	27.4997
	3.6948	2.979	5.3281			3.7555
	3.7935	2.5126	6.1703		1.0603	1.2702
	6.6621					

PU9367 NIST-STRBASE

	4.297619047 61905	4.149425287 35631	8.395348837 20930	1.832487309 64467	2.578571428 57143	3.373831775 70093
3PI	3.373831775 70093	2.983471074 380162.3652	2.542253521 12676	4.011111111 11111	1.860824742 26804	27.76923076 923080
	2.934959349 59350	3.194690265 48673	5.553846153 84615	1.556034482 75862		4.540880503 14465
	3.721649484 53608	2.542253521 12676	6.563636363 63636	-	1.077611940 29851	1.286987522 28164
	4.813333333 33333					

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 3PI - Paternity Index Results

R8DWVA	FBI PopStats					
	4.2088	3.3113	9.6154	2.0202	2.8450	
3PI	2.8441	3.5436	2.8852	4.6992	1.6160	25.253
	3.7397	3.4819	4.5914	1.3740		3.9604
	3.6075	2.4050	6.3131	6.9638	1.0632	1.2469
	6.1200					
RAD6ZJ	NIST-STRBASE					
	4.2992	4.1494	8.3893	1.8322	2.5786	-
3PI	3.3738	2.9833	2.5419	4.0096	1.8608	27.7778
	2.9343	3.1949	5.5556	1.5562		4.5413
	3.7230	-	-	8.0257	1.0776	1.2870
	4.8123					
T3VY2R	NIST-STRBASE					
	4.2992	4.1494	8.3893	1.8322	2.5786	-
3PI	3.3738	2.9833	2.5419	4.0096	1.8608	27.7778
	2.9343	3.1949	5.5556	1.5562		4.5413
	3.7230	-	-	8.0257	1.0776	1.2870
	4.8123					
TE7Q7C	NIST-STRBASE					
	4.2992	4.1494	8.3893	1.8322	2.5786	
3PI	3.3135	2.9833	2.5419		1.8608	27.778
	2.9343	3.1949	5.5556	1.5562		4.5413
	3.7230	2.5419	6.5617		1.0776	1.2870
	4.8123					
TFMK98	FBI PopStats					
	4.2088	3.3113	9.6154	2.0202	2.8450	
3PI	2.8441	3.5436	2.8852	4.6992	1.6160	25.253
	3.7397	3.4819	4.5914	1.3740		3.9604
	3.6075			6.9638	1.0632	1.2469
	6.1200					
TJXVYG	FBI PopStats					
	4.29	4.15	8.38	1.83	2.57	
3PI	3.31	2.98	2.54	-	1.86	27.77
	2.93	3.19	5.55	1.55		4.54
	3.72			8.02	1.07	1.28
	4.81					

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 3PI - Paternity Index Results

UARGAZ	NIST-STRBASE					
		4.38596		1.9084	2.60417	
3PI	3.26797	2.7027			2.01613	27.77778
	3.14465	3.28947	5.95238			4.60829
	3.67647				1.03734	1.28535
	4.80769					
UJG2WL	NIST-STRBASE					
	4.300	4.151	8.389	1.833	2.581	
3PI	3.371	2.985	2.543	4.013	1.862	27.50
	2.937	3.197	5.556	1.557		4.543
	3.724	2.544	6.566		1.078	1.288
	4.813					
UUZFZN	NIST-STRBASE					
	4.3	4.15	8.4	1.83	2.58	
3PI	3.31	2.98	2.54	4.01	1.86	27.8
	2.93	3.19	5.55	1.56		4.54
	3.72			8.02	1.08	1.29
	4.81					
WJUAZ7	NIST-STRBASE					
	3.811	3.983	7.463	0.2729	2.488	
3PI	2.914	2.927	2.515	3.859	1.740	18.512
	2.882	3.122	5.197	1.570		4.328
	3.602			7.185	1.052	1.273
	4.563					
WZWY9W	NIST-STRBASE					
	4.2992	4.1493	8.3892	1.8321	2.5786	
3PI	3.3128	2.9832	2.5419	4.0096	1.8608	27.7777
	2.9342	3.1948	5.5555	1.5561		4.5413
	3.7230	2.5419	6.5616		1.0775	1.2870
	4.8123					
XLDN2L	NIST-STRBASE					
		4.1494		1.8325	2.5786	
3PI	3.3738	2.9835			1.8608	27.7692
	2.9350	3.1947	5.5538			4.5409
	3.7216				1.0776	1.2870
	4.8133					

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 3PI - Paternity Index Results

ZH3MV6	NIST 2017 revised allele frequencies					
	4.2992	4.1494	8.3893	1.8322	2.5786	
3PI	3.3135	2.9833	2.5419		1.8608	27.778
	2.9343	3.1949	5.5556	1.5562		4.5413
	3.723	2.5419	6.5617		1.0776	1.2870
	4.8123					
ZTK3Y8	NIST-STRBASE					
	4.2992	4.1494	8.3893	1.8322	2.5786	
3PI	3.3135	2.9833	2.5419		1.8608	27.778
	2.9343	3.1949	5.5556	1.5562		4.5413
	3.7230	2.5419	6.5617		1.0776	1.2870
	4.8123					

YSTR Amplification Kit(s) & Results

TABLE 3

WebCode Item	Amplification Kit	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									
3R3UNA	PowerPlex® Y 23								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		22
		12	13	18	16		21	9	11
6X4QKF	Yfiler®								
3	-	15	14,16	12	28	24	10	11	12
	16	9	11	19	-	13	17	-	-
	-	-	-	-	-	-	21	-	11
79TDMR	PowerPlex® Y 23								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		22
		12	13	18	16		21	9	11
8ZYJ9U	Yfiler® Plus								
3	36,38	15	14,16	12	28	24	10	11	12
	16	9	11	19	30	13	17	11	22
	39	12		18	16	20	21		11
AML3DA	PowerPlex® Y 23								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		22
		12	13	18	16		21	9	11
AVF87B	Yfiler®								
3	-	15	14,16	12	28	24	10	11	12
	16	9	11	19	-	13	17	-	-
	-	-	-	-	-	-	21	-	11
CNUUHV	Yfiler®								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		
							21		11
EF7UWE	PowerPlex® Y 23								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		22
		12	13	18	16		21	9	11
FJRUWV	Yfiler®								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		
							21		11
KG3EAF	Yfiler® Plus								
3	36,38	15	14,16	12	28	24	10	11	12
	16	9	11	19	30	13	17	11	22
	39	12		18	16	20	21		11

TABLE 3

Item 3 - YSTR Results

WebCode Item	Amplification Kit	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	DYF387S1	DYS437	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481
		DYS518	DYS533	DYS549	DYS570	DYS576	DYS627	DYS635	DYS643	Y GATA H4
KHRPZ9	PowerPlex® Y Y23									
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		22
		12	13	18	16		21	9	11
LHDGVE	Yfiler® Plus								
3	36,38	15	14,16	12	28	24	10	11	12
	16	9	11	19	30	13	17	11	22
	39	12		18	16	20	21		11
ND8R6H	Yfiler®								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		
							21		11
PU9367	Yfiler® Plus								
3	36,38	15	14,16	12	28	24	10	11	12
	16	9	11	19	30	13	17	11	22
	39	12		18	16	20	21		11
RAD6ZJ	Yfiler®								
3	-	15	14,16	12	28	24	10	11	12
	16	9	11	19	-	13	17	-	-
	-	-	-	-	-	-	21	-	11
T3VY2R	Yfiler®								
3	-	15	14,16	12	28	24	10	11	12
	16	9	11	19	-	13	17	-	-
	-	-	-	-	-	-	21	-	11
TFMK98	Yfiler® Plus								
3	36,38	15	14,16	12	28	24	10	11	12
	16	9	11	19	30	13	17	11	22
	39	12		18	16	20	21		11
UARGAZ	PowerPlex® Y Y23								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		22
		12	13	18	16		21	9	11
UJG2WL	PPX23								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		22
		12	13	18	16		21	9	11
WJUAZ7	Yfiler® Plus								
3	36,38	15	14,16	12	28	24	10	11	12
	16	9	11	19	30	13	17	11	22
	39	12		18	16	20	21		11

TABLE 3

Item 3 - YSTR Results

WebCode Item	Amplification Kit	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
	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
XLDN2L	Yfiler®								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		
							21		11
ZH3MV6	Yfiler®								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		
							21		11
ZTK3Y8	Yfiler®								
3		15	14,16	12	28	24	10	11	12
	16	9	11	19		13	17		
							21		11

Additional DNA & PI Results

TABLE 4

Locus	WebCode	Item 1	Item 2	Item 3	Item 3 Paternity Index
F13A01	KHRPZ9	5,7	5,6	6,7	1.4269
F13B	KHRPZ9	8.9	9	9	4.0568
FESFPS	KHRPZ9	11	10,11	10,12	1.7781
LPL	KHRPZ9	10,11	10,11	10,11	1.4556
PENTA C	KHRPZ9	11,13	11	11	2.5246

Paternity DNA Statistics

TABLE 5

WebCode	Combined Paternity Index	Probability of Paternity	Population Database Used
22DWAB	66,047,039,748	99.9999%	NIST-STRBASE
34TVXP	5.61E+11	99.9	NIST-STRBASE
3R3UNA		99.99%	FBI PopStats
6LPTFB	4.5 E12	Not reported by our lab	NIST-STRBASE
6UXA6W	2.755e+011	>99.99999999%	NIST-STRBASE
6X4QKF	2.7508e11	99.9999%	NIST-STRBASE
79TDMR	4,590,701,862,266	99,9999	NIST-STRBASE
7VAJF9	920,100,000,000		FBI PopStats
8G6MW7	920 billion		FBI PopStats
8JVP2U	5.709E10	99.9999%	NIST-STRBASE
8VLMKK	501999999999.9999	99.99999999%	FBI PopStats, Promega/NIST
8ZYJ9U	284,800,000,000	99.999999999648%	FBI PopStats
96ATY4	920,000,000,000	N/A	FBI PopStats
AML3DA	610357981833.6090	99.9999	FBI PopStats
AVF87B	2.7519e11	99.9999%	NIST-STRBASE
CE8VRP	914,092,789,857	99.99	[Country] Caucascian Database
CNUUHV	140,000,000,000	99.9999%	NIST-STRBASE
E4VFXM	950 million		[Country-specific reference]
EAK2KF	1 in 56.2 trillion	0.9999	NIST-STRBASE
EF7UWE	4.51E+12	99.99%	NIST-STRBASE
ETVPEZ	140 billion	99.9999%	NIST-STRBASE
FJRUWV	620,900,000,000	99.999999999838	FBI PopStats
FVZU6U	67,000,000,000	99.99	FBI PopStats
GDVMQR	67 billion	99.99%	FBI PopStats
GFKZ9A	561 billion	99.9%	NIST-STRBASE
H9VXMP	67,000,000,000	99.99%	FBI PopStats
HW2GXN	67,000,000,000	99.99	FBI PopStats
KG3EAF	284,800,000,000	99.9999999996489	FBI PopStats

TABLE 5

WebCode	Combined Paternity Index	Probability of Paternity	Population Database Used
KGNTXT	9.201E+11	N/A	FBI PopStats
KHRPZ9	2,159,943,213,876.5100	99.9999	Promega
LHDGVE	284,800,000,000	99.999999999648	FBI PopStats
LU8UTQ	523 trillion	99.99%	NIST-STRBASE
M6YZYU	280 billion	99.99%	laboratory specific database
M9HV3L	6.7E10	99.99	FBI PopStats
ND8R6H	140 billion	99.9999%	NIST-STRBASE
NFX3VB	59779699.45	99.999%	NIST-STRBASE
NPLPAL	305,200,000,000		NIST-STRBASE
NTK7LF	67 billion	99.9999%	National Caucasian
PU9367	1,930,908,955,105.20	99.9999999999%	NIST-STRBASE
R8DWVA	4.3240E+12	99.9999999999	FBI PopStats
RAD6ZJ	2.7519e11	99.9999%	NIST-STRBASE
T3VY2R	2.7519e11	99.9999%	NIST-STRBASE
TE7Q7C	140 billion	99.9999%	NIST-STRBASE
TFMK98	284800000000	0.99999999999648	FBI PopStats
TJXVYG	67,000,000,000	99.99	FBI PopStats
UARGAZ	72100242.39524	99.999998613042%	NIST-STRBASE
UJG2WL			NIST-STRBASE
UUZFZN	270 billion	>99.9999%	NIST-STRBASE
VVQ27K	140 billion	99.9999%	NIST-STRBASE
WJUAZ7	6.7 E10		NIST-STRBASE
WZWY9W	561 billion	99.9	NIST-STRBASE
XLDN2L	5.9911e7	99.9999%	NIST-STRBASE
ZH3MV6	140 billion	99.9999%	NIST 2017 revised allele frequencies
ZTK3Y8	140,000,000,000	99.9999%	NIST-STRBASE

Paternity Conclusions

TABLE 6

WebCode	Conclusion	WebCode	Conclusion
22DWAB	Could not be excluded	GFKZ9A	Could not be excluded
34TVXP	Could not be excluded	H9VXMP	Could not be excluded
3R3UNA	Could not be excluded	HW2GXN	Could not be excluded
6LPTFB	Could not be excluded	KG3EAF	Could not be excluded
6UXA6W	Could not be excluded	KGNTXT	Could not be excluded
6X4QKF	Could not be excluded	KHRPZ9	Could not be excluded
79TDMR	Could not be excluded	LHDGVE	Could not be excluded
7VAJF9	Could not be excluded	LU8UTQ	Could not be excluded
8G6MW7	Could not be excluded	M6YZYU	Could not be excluded
8JVP2U	Could not be excluded	M9HV3L	Could not be excluded
8VLMKK	Could not be excluded	ND8R6H	Could not be excluded
8ZYJ9U	Could not be excluded	NFX3VB	Could not be excluded
96ATY4	Could not be excluded	NPLPAL	Could not be excluded
AML3DA	Could not be excluded	NTK7LF	Could not be excluded
AVF87B	Could not be excluded	PU9367	Could not be excluded
CE8VRP	Could not be excluded	R8DWVA	Could not be excluded
CNUUHV	Could not be excluded	RAD6ZJ	Could not be excluded
E4VFXM	Could not be excluded	T3VY2R	Could not be excluded
EAK2KF	Could not be excluded	TE7Q7C	Could not be excluded
EF7UWE	Could not be excluded	TFMK98	Could not be excluded
ETVPEZ	Could not be excluded	TJXVYG	Could not be excluded
FJRUWV	Could not be excluded	UARGAZ	Could not be excluded
FVZU6U	Could not be excluded	UJG2WL	Could not be excluded
GDVMQR	Could not be excluded	UUZFZN	Could not be excluded

TABLE 6

WebCode	Conclusion	WebCode	Conclusion
VVQ27K	Could not be excluded		
WJUAZ7			
WZWY9W	Could not be excluded		
XLDN2L	Could not be excluded		
ZH3MV6	Could not be excluded		
ZTK3Y8	Could not be excluded		

Response Summary		Total: 54
Responses	Not Excluded	53
	Excluded	0
	Inconclusive	0

Kinship Likelihood Ratio Results

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D1S1656	22DWAB	(1+p+q+2pq)/8pq	p=16, q=16.3	18.3493
	6LPTFB	(K2)+(K1)p+(K1)q+(K0)2(pq)/2pq	p=16, q=16.3, For Full Sib K1=.25, K2=.25, K0=.25	18.34
	6X4QKF	(1+p+q+2pq)/8pq	p=16, q=16.3	18.3493
	79TDMR	1+p+q+2(pq)/8(pq)	p=16, q=16.3	18.3334
	8VLMKK	(a+p+4ap)/8ap	p=16, a=16.3	3.4737
	AML3DA	(p+q+4pq)/8pq	p=16, q=16.3	3.4737
	AVF87B	(1+p+q+2pq)/8pq	p=16, q=16.3,	18.3493
	CNUUHV	(1+p+q+2pq)/8pq	p=16, q=16.3	18.3493
	E4VFXM	[2Z2+Z1(p+q)/4pq]+Z0	p = 16, q = 16.3	18.349
	EF7UWE	1+p+q+2pq/8pq	p = 16, q = 16.3	18.35
	ETVPEZ	(1+p+q+2pq)/8pq	p=16, q=16.3	18.3525
	KG3EAF	(0.25+0.25a+0.25b+0.5ab)/2ab	A=16, B=16.3	18.349
	KHRPZ9	(1+p+q+2pq)/8pq	p=16, q=16.3	18.3493
	LHDGVE	(0.25+0.25a+0.25b+0.5ab)/2ab	16=A, 16.3=B	18.3493
	LU8UTQ	((1/8)*(1+p+q+2pq))/pq	p = 16, q = 16.3	18.349
	ND8R6H	1+p+q+2pq/8pq	p=16, q=16.3	18.3493
	NFX3VB	(p+q+4pq)/8pq	p=16, q=16.3	3.473
	NTK7LF	1+p+q+2pq/8pq	p=16, q=16.3	18.3493
	PU9367	(1+p+q+2pq)/8pq	p =16, q = 16.3	18.34930386
	RAD6ZJ	(1+p+q+2pq)/8pq	p=16, q=16.3	18.3493
	T3VY2R	(1+p+q+2pq)/8pq	p=6, q=16.3	18.3493
	TE7Q7C	(1+a+b+2ab)/8ab	a=16, b=16.3	18.3493
	UARGAZ	(p+q+4pq)/8pq	16: 0.1357, 16.3: 0.0609	3.4737
	UJG2WL			18.34
	UUZFZN	(1+p+q+2pq)/8pq	p=16, q=16.3	18.349
	VVQ27K	(1+p+q+2pq)/8pq	p=16, q=16.3	18.3493
	XLDN2L	(1+p+q+2pq)/8pq	P = 16, q = 16.3	18.3493
	ZH3MV6	(1+a+b+2ab)/8ab	a=16, b=16.3	18.3493
	ZTK3Y8	1+p+q+2pq/8pq	p=16, q=16.3	18.3493

Statistical Analysis Summary of D1S1656 **Likelihood Ratio Mode: 18.3493**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D2S1338	22DWAB	(1+2p)/8p	p=17	0.9235
	6LPTFB	(K1)r+(K0)2qr/2qr	q=17, r=20	0.923491379
	6X4QKF	(1+2p)/8p	p=17	0.9235
	79TDMR	1+2P/8P	P=17	0.9235
	8VLMKK	(1+4p)/8p	p=17	1.1735
	AML3DA	(1+4p)/8p	p=17	1.1735
	AVF87B	(1+2p)/8p	p=17	0.9235
	CNUUHV	(1+2p)/8p	p=17	0.9235
	E4VFXM	Z1/4p+Z0	p = 17	0.923
	EF7UWE	1+2p/8p	p = 17	0.92
	ETVPEZ	(1+2p)/8p	p=17	0.9235
	KG3EAF	(0.25b+0.5ab)/2ab	A=17, B=26	0.92349
	KHRPZ9	(1+2p)/8p	p=17	0.9235
	LHDGVE	(0.25b+0.5ab)/2ab	17=A, 26=B, 20=C	0.9234
	LU8UTQ	((1/8)*(1+2p))/p	p = 17, r = 26, q = 20	0.9235
	ND8R6H	1+2p/8p	p=17	0.9235
	NFX3VB	(1+4p)/8p	p=17	1.173
	NTK7LF	1+2p/8p	p=17	0.9234
	PU9367	(1+2p)/8p	p =17	0.923491379
	RAD6ZJ	(1+2p)/8p	p=17	0.9235
	T3VY2R	(1+2p)/8p	p=17	0.9235
	TE7Q7C	(1+2a)/8a	a=17,	.9235
	UARGAZ	(1+4p)/8p	17: 0.1856	1.1735
	UJG2WL			0.9235
	UUZFZN	(1+2p)/8p	p=17	0.9220
	VVQ27K	(1+2p)/8p	p=17	0.9235
	XLDN2L	(1+2p)/8p	p = 17	0.9235
	ZH3MV6	(1+2a)/8a	a=17	0.9235
	ZTK3Y8	1+2p/8p	p=17	0.9235

Statistical Analysis Summary of D2S1338 **Likelihood Ratio Mode: 0.9235**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D2S441	22DWAB	1/4	N.A.	0.2500
	6LPTFB	(K0)2rs/2rs	r=13, s=15	0.25
	6X4QKF	1/4	-	0.2500
	79TDMR	1/4		0.25
	8VLMKK	1/2	n/a	0.5
	AML3DA	1/2	n/a	0.5000
	AVF87B	1/4	-	0.2500
	CNUUHV	1/4		0.2500
	E4VFXM	Z0		0.250
	EF7UWE	1/4		0.25
	ETVPEZ	0.5pq/2pq	p=13, q=15	0.2500
	KG3EAF	0.25(ab)/(ab)	A=14, B=14	0.25000
	KHRPZ9	1/4		0.25
	LHDGVE	0.25(ab)/(ab)=0.25	14=A, 14=B, 13=C, 15=D	0.2500
	LU8UTQ	1/4	N/A	0.2500
	ND8R6H			0.2500
	NFX3VB	1/2		0.5
	NTK7LF	1/4		0.25
	PU9367	1/4	-	0.2500
	RAD6ZJ	1/4		0.2500
	T3VY2R	1/4	-	0.2500
	TE7Q7C	1/4		.25
	UARGAZ	1/2		0.5
	UJG2WL			0.25
	UUZFZN	1/4	NA	0.25
	VVQ27K	1/4		0.2500
	XLDN2L	1/4	-	0.2500
	ZH3MV6	1/4		0.2500
	ZTK3Y8	1/4		0.2500

Statistical Analysis Summary of D2S441 **Likelihood Ratio Mode: 0.2500**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D3S1358	22DWAB	(1+p)/4p	p=17	1.4376
	6LPTFB	2(K1)q+(K0)2pq/2pq	p=17, q=14	1.43764845
	6X4QKF	(1+p)/4p	p=17	1.4376
	79TDMR	1+P/4P	p=17	1.4375
	8VLMKK	(1+2s)/4s	s=17	1.6876
	AML3DA	(1+2p)/4p	p=17	1.6876
	AVF87B	(1+p)/4p	p=17	1.4376
	CNUUHV	(1+p)/4p	p=17	1.4376
	E4VFXM	Z1/2p+Z0	p = 17	1.437
	EF7UWE	1+p/4p	p = 17	1.44
	ETVPEZ	(1+q)/4q	q=17	1.4376
	KG3EAF	(0.25a+0.25a^2)/a^2	A=17	1.4376
	KHRPZ9	(1+p)/4p	p=17	1.4376
	LHDGVE	(0.25a+0.25a^2)/a^2	14=B, 17=A	1.4376
	LU8UTQ	((1/4)*(1+q))/2	p = 14, q = 17	1.438
	ND8R6H	1+p/4p	p=17	1.4376
	NFX3VB	(1+2p)/4p	p=17	1.687
	NTK7LF	1+p/4p	p=17	1.4376
	PU9367	(1+p)/4p	p = 17	1.437648456
	RAD6ZJ	(1+p)/4P	p=17	1.4376
	T3VY2R	(1+p)/4p	p=17	1.4376
	TE7Q7C	(1+a)/4a	a=17	1.4376
	UARGAZ	(1+2p)/4p	17: 0.2105	1.6876
	UJG2WL			1.437
	UUZFZN	(1+p)/4p	p=17	1.438
	VVQ27K	(1+q)/4q	q=17	1.4376
	XLDN2L	(1+p)/4p	p = 17	1.4376
	ZH3MV6	(1+a)/4a	a=17	1.4376
	ZTK3Y8	1+p/4p	p=17	1.4376

Statistical Analysis Summary of D3S1358 **Likelihood Ratio Mode: 1.4376**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D5S818	22DWAB	(1+p+q+2pq)/8pq	p=10, q=12	8.6469
	6LPTFB	(K2)+(K1)p+(K1)q+(K0)2(pq)/2pq	p=10, q=12	8.521899664
	6X4QKF	(1+p+q+2pq)/8pq	p=10, q=12	8.6469
	79TDMR	1+p+q+2(pq)/8(pq)	p=10, q=12	8.6464
	8VLMKK	(p+r+4pr)/8pr	p=10, r=12	3.0786
	AML3DA	(p+q+4pq)/8pq	p=10, q=12	3.0786
	AVF87B	(1+p+q+2pq)/8pq	p=10, q=12	8.6469
	CNUUHV	(1+p+q+2pq)/8pq	p=10, q=12	8.6469
	E4VFXM	[2Z2+Z1(p+q)/4pq]+Z0	p = 10, q = 12	8.646
	EF7UWE	1+p+q+2pq/8pq	p = 10, q = 12	8.65
	ETVPEZ	(1+p+q+2pq)/8pq	p=10, q=12	8.6455
	KG3EAF	(0.25+0.25a+0.25b+0.5ab)/2ab	A=10, B=12	8.6469
	KHRPZ9	(1+p+q+2pq)/8pq	p=10, q=12	8.6469
	LHDGVE	(0.25+0.25a+0.25b+0.5ab)/2ab	10=A, 12=B	8.6468
	LU8UTQ	((1/8)*(1+p+q+2pq))/pq	p = 10, q = 12	8.647
	ND8R6H	1+p+q+2pq/8pq	p=10, q=12	8.6469
	NFX3VB	(p+q+4pq)/8pq	p=10, q=12	3.078
	NTK7LF	1+p+q+2pq/8pq	p=10, q=12	8.6468
	PU9367	(1+p+q+2pq)/8pq	p =10, q = 12	8.396899664
	RAD6ZJ	(1+p+q+2pq)/8pq	p=10, q=12	8.6469
	T3VY2R	(1+p+q+2pq)/8pq	p=10, q=12	8.6469
	TE7Q7C	(1+a+b+2ab)/8ab	a=10, b=12	8.6469
	UARGAZ	(p+q+4pq)/8pq	10: 0.0554, 12: 0.3878	3.0786
	UJG2WL			8.646
	UUZFZN	(1+p+q+2pq)/8pq	p=10, q=12	8.644
	VVQ27K	(1+p+q+2pq)/8pq	p=10, q=12	8.6469
	XLDN2L	(1+p+q+2pq)/8pq	P = 10, q = 12	8.6469
	ZH3MV6	(1+a+b+2ab)/8ab	a=10, b=12	8.6469
	ZTK3Y8	1+p+q+2pq/8pq	p=10, q=12	8.6469

Statistical Analysis Summary of D5S818 **Likelihood Ratio Mode: 8.6469**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D7S820	22DWAB	(1+2p)/8p	p=9	0.9958
	6LPTFB	(K1)r+(K0)2qr/2qr	q=9, r=10	0.995823389
	6X4QKF	(1+2p)/8p	p=9	0.9958
	79TDMR	1+2P/8P	p=9	0.9958
	8VLMKK	(1+4p)/8p	p=9	1.2458
	AML3DA	(1+4p)/8p	p=9	1.2458
	AVF87B	(1+2p)/8p	p=9	0.9958
	CNUUHV	(1+2p)/8p	p=9	0.9958
	E4VFXM	Z1/4p+Z0	p = 9	0.995
	EF7UWE	1+2p/8p	p = 9	1.00
	ETVPEZ	(1+2p)/8p	p=9	0.9958
	KG3EAF	(0.25b+0.5ab)/2ab	A=9, B=12	0.99582
	KHRPZ9	(1+2p)/8p	p=9	0.9958
	LHDGVE	(0.25b+0.5ab)/2ab	9=A, 12=B, 10=C	0.9958
	LU8UTQ	((1/8)*(1+2r))/r	r = 9, q = 12, p = 10	0.9958
	ND8R6H	1+2p/8p	p=9	0.9958
	NFX3VB	(1+4p)/8p	p=9	1.245
	NTK7LF	1+2p/8p	p=9	0.9958
	PU9367	(1+2p)/8p	p = 9	0.995823389
	RAD6ZJ	(1+2p)/8p	p=9	0.9958
	T3VY2R	(1+2p)/8p	p=9	0.9958
	TE7Q7C	(1+2a)/8a	a=9	.9958
	UARGAZ	(1+4p)/8p	9: 0.1676	1.2458
	UJG2WL			0.9958
	UUZFZN	(1+2p)/8p	p=9	.9940
	VVQ27K	(1+2p)/8p	p=9	0.9958
	XLDN2L	(1+2p)/8p	p = 9	0.9958
	ZH3MV6	(1+2a)/8a	a=9	0.9958
	ZTK3Y8	1+2p/8p	p=9	0.9958

Statistical Analysis Summary of D7S820 **Likelihood Ratio Mode: 0.9958**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D8S1179	22DWAB	(1+p+q+2pq)/8pq	p=12, q=14	6.2354
	6LPTFB	(K2)+(K1)p+(K1)q+(K0)2(pq)/2pq	p=12, q=14	6.237229637
	6X4QKF	(1+p+q+2pq)/8pq	p=12, q=14	6.2354
	79TDMR	1+p+q+2(pq)/8(pq)	p=12, q=14	6.2355
	8VLMKK	(p+r+4pr)/8pr	p=12, r=14	1.9979
	AML3DA	(p+q+4pq)/8pq	p=12, q=14	1.9979
	AVF87B	(1+p+q+2pq)/8pq	p=12, q=14	6.2354
	CNUUHV	(1+p+q+2pq)/8pq	p=12, q=14	6.2354
	E4VFXM	[2Z2+Z1(p+q)/4pq]+Z0	p = 12, q = 14	6.235
	EF7UWE	1+p+q+2pq/8pq	p = 12, q = 14	6.24
	ETVPEZ	(1+p+q+2pq)/8pq	p=12, q=14	6.2365
	KG3EAF	(0.25+0.25a+0.25b+0.5ab)/2ab	A=12, B=14	6.2354
	KHRPZ9	(1+p+q+2pq)/8pq	p=12, q=14	6.2354
	LHDGVE	(0.25+0.25a+0.25b+0.5ab)/2ab	12=A, 14=B	6.2354
	LU8UTQ	((1/8)*(1+p+q+2pq))/pq	p = 12, q = 14	6.235
	ND8R6H	1+p+q+2pq/8pq	p=12, q=14	6.2354
	NFX3VB	(p+q+4pq)/8pq	p=12, q=14	1.997
	NTK7LF	1+p+q+2pq/8pq	p=12, q=14	6.2354
	PU9367	(1+p+q+2pq)/8pq	p = 12, q = 14	5.985434635
	RAD6ZJ	(1+p+q+2pq)/8pq	p=12, q=14	6.2354
	T3VY2R	(1+p+q+2pq)/8pq	p=12, q=14	6.2354
	TE7Q7C	(1+a+b+2ab)/8ab	a=12, b=14	6.2354
	UARGAZ	(p+q+4pq)/8pq	12: 0.1676, 14: 0.1662	1.9979
	UJG2WL			6.235
	UUZFZN	(1+p+q+2pq)/8pq	p=12, q=14	6.235
	VVQ27K	(1+p+q+2pq)/8pq	p=12, q=14	6.2354
	XLDN2L	(1+p+q+2pq)/8pq	P = 12, q = 14	6.2354
	ZH3MV6	(1+a+b+2ab)/8ab	a=12, b=14	6.2354
	ZTK3Y8	1+p+q+2pq/8pq	p=12, q=14	6.2354

Statistical Analysis Summary of D8S1179 **Likelihood Ratio Mode: 6.2354**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D10S1248	22DWAB	(1+2p)/8p	p=14	0.6697
	6LPTFB	(K1)r+(K0)2qr/2qr	q=14, r=15	0.66974479
	6X4QKF	(1+2p)/8p	p=14	0.6697
	79TDMR	1+2P/8P	p=14	0.6697
	8VLMKK	(1+4q)/8q	q=14	0.9197
	AML3DA	(1+4q)/8q	q=14	0.9197
	AVF87B	(1+2p)/8p	p=14	0.6697
	CNUUHV	(1+2p)/8p	p=14	0.6697
	E4VFXM	Z1/4p+Z0	p = 14	0.669
	EF7UWE	1+2p/8p	p = 14	0.69
	ETVPEZ	(1+2p)/8p	p=14	0.6697
	KG3EAF	(0.25b+0.5ab)/2ab	A=14, B=13	0.66974
	KHRPZ9	(1+2p)/8p	p=14	0.6697
	LHDGVE	(0.25b+0.5ab)/2ab	14=A, 13=B, 15=C	0.6697
	LU8UTQ	((1/8)*(1+2q))/2	p = 13, q = 14, r = 15	0.6697
	ND8R6H	1+2p/8p	p=14	0.6697
	NFX3VB	(1+4p)/8p	p=14	0.9197
	NTK7LF	1+2p/8p	p=14	0.6697
	PU9367	(1+2p)/8p	p =14	0.669744795
	RAD6ZJ	(1+2p)/8p	p=14	0.6697
	T3VY2R	(1+2p)/8p	p=14	0.6697
	TE7Q7C	(1+2a)/8a	a=14	.6697
	UARGAZ	(1+4p)/8p	14: 0.2978	0.9197
	UJG2WL			0.6697
	UUZFZN	(1+2p)/8p	9=14	0.6697
	VVQ27K	(1+2p)/8p	p=14	0.6697
	XLDN2L	(1+2p)/8p	p = 14	0.6697
	ZH3MV6	(1+2a)/8a	a=14	0.6697
	ZTK3Y8	1+2p/8p	p=14	0.6697

Statistical Analysis Summary of D10S1248 **Likelihood Ratio Mode: 0.6697**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D12S391	22DWAB	N.A.	N.A.	
	6LPTFB	(K1)r+(K0)2qr/2qr	q=22, r=18	1.557531381
	6X4QKF	(1+2p)/8p	p=22	1.5575
	79TDMR	1+2P/8P	p=22	1.5579
	8VLMKK	(1+4u)/8u	u=22	1.8075
	AML3DA	(1+4q)/8q	q=22	1.8075
	AVF87B	(1+2p)/8p	p=22	1.5575
	CNUUHV	(1+2p)/8p	p=22	1.5575
	E4VFXM	Z1/4p+Z0	p = 22	1.557
	EF7UWE	1+2p/8p	p = 22	1.56
	ETVPEZ	(1+2q)/8q	q=22	1.5575
	KG3EAF	(0.25a+0.5ac)/2ac	A=17, C=22	1.5575
	KHRPZ9	(1+2p)/8p	p=22	1.5575
	LHDGVE	(0.25b+0.5ab)/2ab	22=A, 17=B, 18=C	1.5575
	LU8UTQ	((1/8)*(1+2r))/r	p = 17, r = 22, q = 18	1.558
	ND8R6H	1+2p/8p	p=22	1.5575
	NFX3VB	(1+4p)/8p	p=22	1.807
	NTK7LF	1+2p/8p	p=22	1.5575
	PU9367	(1+2p)/8p	p = 22	1.557531381
	RAD6ZJ	(1+2p)/8p	p=22	1.5575
	T3VY2R	(1+2p)/8p	p=22	1.5575
	TE7Q7C	(1+2a)/8a	a=22	1.5575
	UARGAZ	(1+4p)/8p	22: 0.0956	1.8075
	UJG2WL			1.557
	UUZFZN	(1+2p)/8p	p=22	1.558
	VVQ27K	(1+2q)/8q	q=22	1.5575
	XLDN2L	(1+2p)/8p	p = 22	1.5575
	ZH3MV6	(1+2a)/8a	a=22	1.5575
	ZTK3Y8	1+2p/8p	p=22	1.5575

Statistical Analysis Summary of D12S391 **Likelihood Ratio Mode: 1.5575**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D13S317	22DWAB	(1+p+q+2pq)/8pq	p=8, q=13	11.2817
	6LPTFB	(K2)+(K1)p+(K1)q+(K0)2(pq)/2pq	p=8, q=13	11.28170724
	6X4QKF	(1+p+q+2pq)/8pq	p=8, q=13	11.2817
	79TDMR	1+p+q+2(pq)/8(pq)	p=8, q=13	11.2780
	8VLMKK	(p+u+4pu)/8pu	p=8, u=13	2.6122
	AML3DA	(p+q+4pq)/8pq	p=8, q=13	2.6122
	AVF87B	(1+p+q+2pq)/8pq	p=8, q=13	11.2817
	CNUUHV	(1+p+q+2pq)/8pq	p=8, q=13	11.2817
	E4VFXM	[2Z2+Z1(p+q)/4pq]+Z0	p = 8, q = 13	11.281
	EF7UWE	1+p+q+2pq/8pq	p = 8, q = 13	11.28
	ETVPEZ	(1+p+q+2pq)/8pq	p=8, q=13	11.2828
	KG3EAF	(0.25+0.25a+0.25b+0.5ab)/2ab	A=8, B=13	11.282
	KHRPZ9	(1+p+q+2pq)/8pq	p=8, q=13	11.2817
	LHDGVE	(0.25+0.25a+0.25b+0.5ab)/2ab	8=A, 13=B	11.2817
	LU8UTQ	((1/8)*(1+p+q+2pq))/pq	p = 8, p = 13	11.282
	ND8R6H	1+p+q+2pq/8pq	p=8, q=13	11.2817
	NFX3VB	(p+q+4pq)/8pq	p=8, q=13	2.612
	NTK7LF	1+p+q+2pq/8pq	p=8, q=13	11.2817
	PU9367	(1+p+q+2pq)/8pq	p = 8, q = 13	11.03170724
	RAD6ZJ	(1+p+q+2pq)/8pq	p=8, q=13	11.2817
	T3VY2R	(1+p+q+2pq)/8pq	p=8, q=13	11.2817
	TE7Q7C	(1+a+b+2ab)/8ab	a=8, b=13	11.2817
	UARGAZ	(p+q+4pq)/8pq	8: 0.1205, 13: 0.1163	2.6122
	UJG2WL			11.28
	UUZFZN	(1+p+q+2pq)/8pq	p=8, q=13	11.349
	VVQ27K	(1+p+q+2pq)/8pq	p=8, q=13	11.2817
	XLDN2L	(1+p+q+2pq)/8pq	P = 8, q = 13	11.2817
	ZH3MV6	(1+a+b+2ab)/8ab	a=8, b=13	11.2817
	ZTK3Y8	1+p+q+2pq/8pq	p=8, q=13	11.2817

Statistical Analysis Summary of D13S317 **Likelihood Ratio Mode: 11.2817**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D16S539	22DWAB	(1+2p)/8p	p=11	0.6476
	6LPTFB	(K1)r+(K0)2qr/2qr	q=11, r=8	0.647582697
	6X4QKF	(1+2p)/8p	p=11	0.6476
	79TDMR	1+2P/8P	P=11	0.6475
	8VLMKK	(1+4s)/8s	s=11	0.8976
	AML3DA	(1+4p)/8p	p=11	0.8976
	AVF87B	(1+2p)/8p	p=11	0.6476
	CNUUHV	(1+2p)/8p	p=11	0.6476
	E4VFXM	Z1/4p+Z0	p = 11	0.647
	EF7UWE	1+2p/8p	p = 11	0.65
	ETVPEZ	(1+2q)/8q	q=11	0.6476
	KG3EAF	(0.25a+0.5ac)/2ac	A=12, C=11	0.64758
	KHRPZ9	(1+2p)/8p	p=11	0.6476
	LHDGVE	(0.25b+0.5ab)/2ab	11=A, 12=B, 8=C	0.6475
	LU8UTQ	((1/8)*(1+2p))/p	p = 11, q = 12, r = 8	0.6476
	ND8R6H	1+2p/8p	p=11	0.6476
	NFX3VB	(1+4p)/8p	p=11	0.8975
	NTK7LF	1+2p/8p	p=11	0.6475
	PU9367	(1+2p)/8p	p = 11	0.647582697
	RAD6ZJ	(1+2p)/8p	p=11	0.6476
	T3VY2R	(1+2p)/8p	p=11	0.6476
	TE7Q7C	(1+2a)/8a	a=11	.6476
	UARGAZ	(1+4p)/8p	11: 0.3144	0.8976
	UJG2WL			0.6476
	UUZFZN	(1+2p)/8p	p=11	0.6476
	VVQ27K	(1+2q)/8q	q=11	0.6476
	XLDN2L	(1+2p)/8p	p = 11	0.6476
	ZH3MV6	(1+2a)/8a	a=11	0.6476
	ZTK3Y8	1+2p/8p	p=11	0.6476

Statistical Analysis Summary of D16S539 **Likelihood Ratio Mode: 0.6476**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D18S51	22DWAB	(1+p)/4p	p=13	2.2776
	6LPTFB	(K1)p+(K0)p^2	p=13	2.277574987
	6X4QKF	(1+p)/4p	p=13	2.2776
	79TDMR	1+P/4P	p=13	2.2780
	8VLMKK	(1+2p)/4p	p=13	2.5276
	AML3DA	(1+2p)/4p	p=13	2.5276
	AVF87B	(1+p)/4p	p=13	2.2776
	CNUUHV	(1+p)/4p	p=13	2.2776
	E4VFXM	Z1/2p+Z0	p = 13	2.277
	EF7UWE	1+p/4p	p = 13	2.28
	ETVPEZ	(1+p)/4p	p=13	2.2776
	KG3EAF	(0.5a+0.5ab)/2ab	A=15, B=13	2.2776
	KHRPZ9	(1+p)/4p	p=13	2.2776
	LHDGVE	(0.25a+0.25a^2)/a^2	13=A, 15=B	2.2775
	LU8UTQ	((1/4)*(1+p))/p	p = 13, q = 15	2.278
	ND8R6H	1+p/4p	p=13	2.2776
	NFX3VB	(1+2p)/4p	p=13	2.527
	NTK7LF	1+p/4p	p=13	2.2775
	PU9367	(1+p)/4p	p = 13	2.27757502
	RAD6ZJ	(1+p)/4p	p=13	2.2776
	T3VY2R	(1+p)/4p	p=13	2.2776
	TE7Q7C	(1+a)/4a	a=13	2.2776
	UARGAZ	(1+2p)/4p	13: 0.1233	2.5276
	UJG2WL			2.277
	UUZFZN	(1+p)/4p	p=13	2.278
	VVQ27K	(1+p)/4p	p=13	2.2776
	XLDN2L	(1+p)/4p	p = 13	2.2776
	ZH3MV6	(1+a)/4a	a=13	2.2776
	ZTK3Y8	1+p/4p	p=13	2.2776

Statistical Analysis Summary of D18S51 **Likelihood Ratio Mode: 2.2776**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D19S433	22DWAB	(1+p+q+2pq)/8pq	p=13, q=14	2.4434
	6LPTFB	(K2)+(K1)p+(K1)q+(K0)2(pq)/2pq	p=13, q=14	2.443432432
	6X4QKF	(1+p+q+2pq)/8pq	p=13, q=14	2.4434
	79TDMR	1+p+q+2(pq)/8(pq)	p=13, q=14	2.4431
	8VLMKK	(p+q+4pq)/8pq	p=13, q=14	1.3364
	AML3DA	(p+q+4pq)/8pq	p=13, q=14	1.3364
	AVF87B	(1+p+q+2pq)/8pq	p=13, q=14	2.4434
	CNUUHV	(1+p+q+2pq)/8pq	p=13, q=14	2.4434
	E4VFXM	[2Z2+Z1(p+q)/4pq]+Z0	p = 13, q = 14	2.443
	EF7UWE	1+p+q+2pq/8pq	p = 13, q = 15	2.44
	ETVPEZ	(1+p+q+2pq)/8pq	p=13, q=14	2.4433
	KG3EAF	(0.25+0.25a+0.25b+0.5ab)/2ab	A=13, B=14	2.4434
	KHRPZ9	(1+p+q+2pq)/8pq	p=13, q=14	2.4434
	LHDGVE	(0.25+0.25a+0.25b+0.5ab)/2ab	13=A, 14=B	2.4434
	LU8UTQ	((1/8)*(1+p+q+2pq))/pq	p = 13, q = 14	2.443
	ND8R6H	1+p+q+2pq/8pq	p=13, q=14	2.4434
	NFX3VB	(p+q+4pq)/8pq	p=13, q=14	1.336
	NTK7LF	1+p+q+2pq/8pq	p=13, q=14	2.4434
	PU9367	(1+p+q+2pq)/8pq	p = 13, q = 14	2.193432432
	RAD6ZJ	(1+p+q+2pq)/8pq	p=13, q=14	2.4434
	T3VY2R	(1+p+q+2pq)/8pq	p=13, q=14	2.4434
	TE7Q7C	(1+a+b+2ab)/8ab	a=13, b=14	2.4434
	UARGAZ	(p+q+4pq)/8pq	13: 0.2548, 14: 0.3615	1.3364
	UJG2WL			2.443
	UUZFZN	(1+p+q+2pq)/8pq	p=13, q=14	2.442
	VVQ27K	(1+p+q+2pq)/8pq	p=13, q=14	2.4434
	XLDN2L	(1+p+q+2pq)/8pq	P = 13, q = 14	2.4434
	ZH3MV6	(1+a+b+2ab)/8ab	a=13, b=14	2.4434
	ZTK3Y8	1+p+q+2pq/8pq	p=13, q=14	2.4434

Statistical Analysis Summary of D19S433 **Likelihood Ratio Mode: 2.4434**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D21S11	22DWAB	(1+2p)/8p	p=30	0.6925
	6LPTFB	(K1)r+(K0)2qr/2qr	q=30, r=29	0.692477876
	6X4QKF	(1+2p)/8p	p=30	0.6925
	79TDMR	1+2P/8P	p=30	0.6924
	8VLMKK	(1+4r)/8r	r=30	0.9425
	AML3DA	(1+4q)/8q	q=30	0.9425
	AVF87B	(1+2p)/8p	p=30	0.6925
	CNUUHV	(1+2p)/8p	p=30	0.6925
	E4VFXM	Z1/4p+Z0	p = 30	0.692
	EF7UWE	1+2p/8p	p = 30	0.74
	ETVPEZ	(1+2q)/8q	q=30	0.6925
	KG3EAF	(0.25a+0.5ac)/2ac	A=28, C=30	0.69248
	KHRPZ9	(1+2p)/8p	p=30	0.6925
	LHDGVE	(0.25b+0.5ab)/2ab	30=A, 28=B, 29=C	0.6924
	LU8UTQ	((1/8)*(1+2r))/r	p = 28, r = 30, q = 29	0.6925
	ND8R6H	1+2p/8p	p=30	0.6925
	NFX3VB	(1+4p)/8p	p=30	0.9424
	NTK7LF	1+2p/8p	p=30	0.6924
	PU9367	(1+2p)/8p	p = 30	0.692477876
	RAD6ZJ	(1+2p)/8p	p=30	0.6925
	T3VY2R	(1+2p)/8p	p=30	0.6925
	TE7Q7C	(1+2a)/8a	a=30	.6925
	UARGAZ	(1+4p)/8p	30: 0.2825	0.9425
	UJG2WL			0.6925
	UUZFZN	(1+2p)/8p	p=30	0.6925
	VVQ27K	(1+2q)/8q	q=30	0.6925
	XLDN2L	(1+2p)/8p	p = 30	0.6925
	ZH3MV6	(1+2a)/8a	a=30	0.6925
	ZTK3Y8	1+2p/8p	p=30	0.6925

Statistical Analysis Summary of D21S11 **Likelihood Ratio Mode: 0.6925**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
D22S1045	22DWAB	(1+2p)/8p	p=16	0.5770
	6LPTFB	(K1)r+(K0)2qr/2qr	q=16, r=14	0.576968349
	6X4QKF	(1+2p)/8p	p=16	0.5770
	79TDMR	1+2P/8P	p=16	0.5769
	8VLMKK	(1+4u)/8u	u=16	0.8270
	AML3DA	(1+4q)/8q	q=16	0.8270
	AVF87B	(1+2p)/8p	p=16	0.5770
	CNUUHV	(1+2p)/8p	p=16	0.5770
	E4VFXM	Z1/4p+Z0	p = 16	0.576
	EF7UWE	1+2p/8p	p = 16	0.58
	ETVPEZ	(1+2q)/8q	q=16	0.5770
	KG3EAF	(0.25a+0.5ac)/2ac	A=11, C=16	0.57697
	KHRPZ9	(1+2p)/8p	p=16	0.5770
	LHDGVE	(0.25b+0.5ab)/2ab	16=A, 11=B, 14=C	0.5769
	LU8UTQ	((1/8)*(1+2r))/r	p = 11, r = 16, q = 14	0.5770
	ND8R6H	1+2p/8p	p=16	0.5770
	NFX3VB	(1+4p)/8p	p=16	0.8269
	NTK7LF	1+2p/8p	p=16	0.5769
	PU9367	(1+2p)/8p	p = 16	0.576968349
	RAD6ZJ	(1+2p)/8p	p=16	0.5770
	T3VY2R	(1+2p)/8p	p=16	0.5770
	TE7Q7C	(1+2a)/8a	a=16	.5770
	UARGAZ	(1+4p)/8p	16: 0.3823	0.8270
	UJG2WL			0.577
	UUZFZN	(1+2pq)/8pq	p=16	0.5770
	VVQ27K	(1+2q)/8q	q=16	0.5770
	XLDN2L	(1+2p)/8p	p = 16	0.5770
	ZH3MV6	(1+2a)/8a	a=16	0.5770
	ZTK3Y8	1+2p/8p	p=16	0.5770

Statistical Analysis Summary of D22S1045 **Likelihood Ratio Mode: 0.5770**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
CSF1PO	22DWAB	(1+2p)/8p	p=10	0.8177
	6LPTFB	(K1)r+(K0)2qr/2qr	q=10, r=13	0.817665758
	6X4QKF	(1+2p)/8p	p=10	0.8177
	79TDMR	1+2P/8P	P=10	0.8176
	8VLMKK	(1+4p)/8p	p=10	1.0677
	AML3DA	(1+4p)/8p	p=10	1.0677
	AVF87B	(1+2p)/8p	p=10	0.8177
	CNUUHV	(1+2p)/8p	p=10	0.8177
	E4VFXM	Z1/4p+Z0	p = 10	0.817
	EF7UWE	1+2p/8p	p = 10	0.82
	ETVPEZ	(1+2p)/8p	p=10	0.8177
	KG3EAF	(0.25b+0.5ab)/2ab	A=10, B=11	0.81767
	KHRPZ9	(1+2p)/8p	p=10	0.8177
	LHDGVE	(0.25b+0.5ab)/2ab	10=A, 11=B, 13=C	0.8176
	LU8UTQ	((1/8)*(1+2p))/p	p = 10, q = 11, r = 13	0.8177
	ND8R6H	1+2p/8p	p=10	0.8177
	NFX3VB	(1+4p)/8p	p=10	1.067
	NTK7LF	1+2p/8p	p=10	0.8176
	PU9367	(1+2p)/8p	p = 10	0.817665758
	RAD6ZJ	(1+2p)/8p	p=10	0.8177
	T3VY2R	(1+2p)/8p	p=10	0.8177
	TE7Q7C	(1+2a)/8a	a=10	.8177
	UARGAZ	(1+4p)/8p	10: 0.2202	1.0677
	UJG2WL			0.8177
	UUZFZN	(1+2p)/8p	p=10	.8177
	VVQ27K	(1+2p)/8p	p=10	0.8177
	XLDN2L	(1+2p)/8p	p = 10	0.8177
	ZH3MV6	(1+2a)/8a	a=10	0.8177
	ZTK3Y8	1+2p/8p	p=10	0.8177

Statistical Analysis Summary of CSF1PO **Likelihood Ratio Mode: 0.8177**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
FGA	22DWAB	(1+p+q+2pq)/8pq	p=22, q=24	6.3308
	6LPTFB	(K2)+(K1)p+(K1)q+(K0)2(pq)/2pq	p=22, q=24	6.330762036
	6X4QKF	(1+p+q+2pq)/8pq	p=22, q=24	6.3308
	79TDMR	1+p+q+2(pq)/8(pq)	p=22, q=24	6.3291
	8VLMKK	(p+r+4pr)/8pr	p=22, r=24	2.0405
	AML3DA	(p+q+4pq)/8pq	p=22, q=24	2.0405
	AVF87B	(1+p+q+2pq)/8pq	p=22, q=24	6.3308
	CNUUHV	(1+p+q+2pq)/8pq	p=22, q=24	6.3308
	E4VFXM	[2Z2+Z1(p+q)/4pq]+Z0	p = 22, q = 24	6.330
	EF7UWE	1+p+q+2pq/8pq	p = 22, q = 24	6.33
	ETVPEZ	(1+p+q+2pq)/8pq	p=22, q=24	6.3300
	KG3EAF	(0.25+0.25a+0.25b+0.5ab)/2ab	A=22, B=24	6.3308
	KHRPZ9	(1+p+q+2pq)/8pq	p=22, q=24	6.3308
	LHDGVE	(0.25+0.25a+0.25b+0.5ab)/2ab	22=A, 24=B	6.3307
	LU8UTQ	((1/8)*(1+p+q+2pq))/pq	p = 22, q = 24	52.681
	ND8R6H	1+p+q+2pq/8pq	p=22, q=24	6.3308
	NFX3VB	(p+q+4pq)/8pq	p=22, q=24	2.040
	NTK7LF	1+p+q+2pq/8pq	p=22, q=24	6.3307
	PU9367	(1+p+q+2pq)/8pq	p = 22, q = 24	6.080762036
	RAD6ZJ	(1+p+q+2pq)/8pq	p=22, q=24	6.3308
	T3VY2R	(1+p+q+2pq)/8pq	p=22, q=24	6.3308
	TE7Q7C	(1+a+b+2ab)/8ab	a=22, b=24	6.3308
	UARGAZ	(p+q+4pq)/8pq	22: 0.2050, 24: 0.1343	2.0405
	UJG2WL			6.330
	UUZFZN	(1+p+q+2pq)/8pq	p=22, q=24	6.331
	VVQ27K	(1+p+q+2pq)/8pq	p=22, q=24	6.3308
	XLDN2L	(1+p+q+2pq)/8pq	P = 22, q = 24	6.3308
	ZH3MV6	(1+a+b+2ab)/8ab	a=22, b=24	6.3308
	ZTK3Y8	1+p+q+2pq/8pq	p=22, q=24	6.3308

Statistical Analysis Summary of FGA **Likelihood Ratio Mode: 6.3308**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
PentaD	22DWAB	N.A.	N.A.	
	6LPTFB	(K2)+(K1)p+(K1)q+(K0)2(pq)/2pq	p=9, q=11	6.282963727
	6X4QKF	(1+p+q+2pq)/8pq	p=9, q=11	6.2830
	79TDMR	1+p+q+2(pq)/8(pq)	p=9, q=11	6.2811
	8VLMKK	(p+r+4pr)/8pr	p=9, r=11	2.0561
	AML3DA	(p+q+4pq)/8pq	p=9, q=11	2.0561
	AVF87B	(1+p+q+2pq)/8pq	p=9, q=11	6.2830
	CNUUHV	(1+p+q+2pq)/8pq	p=9, q=11	6.2830
	E4VFXM	[2Z2+Z1(p+q)/4pq]+Z0	p = 9, q = 11	6.282
	EF7UWE	1+p+q+2pq/8pq	p = 9, q = 11	6.28
	ETVPEZ	(1+p+q+2pq)/8pq	p=9, q=11	6.2820
	KHRPZ9	(1+p+q+2pq)/8pq	p=9, q=11	6.2830
	LU8UTQ	((1/8)*(1+p+q+2pq))/pq	q = 9, p = 11	6.283
	ND8R6H	1+p+q+2pq/8pq	p=9, q=11	6.2830
	NFX3VB	(p+q+4pq)/8pq	p=9, q=11	2.056
	NTK7LF	1+p+q+2pq/8pq	p=9, q=11	6.2829
	PU9367	(1+p+q+2pq)/8pq	p = 9, q = 11	6.032963727
	RAD6ZJ	(1+p+q+2pq)/8pq	p=9, q=11	6.2830
	T3VY2R	(1+p+q+2pq)/8pq	p=9, q=11	6.2830
	TE7Q7C	(1+a+b+2ab)/8ab	a=9, b=11	6.2830
	UARGAZ	p+q+4pq)/8pq	9: 0.2216, 11: 0.1260	2.0561
	UJG2WL			6.283
	UUZFZN	(1+p+q+2pq)/8pq	p=9, q=11	6.283
	VVQ27K	(1+p+q+2pq)/8pq	p=9, q=11	6.2830
	XLDN2L	(1+p+q+2pq)/8pq	P = 9, q = 11	6.2830
	ZH3MV6	(1+a+b+2ab)/8ab	a=9, b=11	6.2830
	ZTK3Y8	1+p+q+2pq/8pq	p=9, q=11	6.2830

Statistical Analysis Summary of PentaD **Likelihood Ratio Mode: 6.2830**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
PentaE	22DWAB	N.A.	N.A.	
	6LPTFB	2(K1)q+(K0)2pq/2pq	q=11, p=7	1.729289941
	6X4QKF	(1+p)/4p	p=7	1.7293
	79TDMR	1+P/4P	p=7	1.7295
	8VLMKK	(1+2p)/4p	p=7	1.9793
	AML3DA	(1+2p)/4p	p=7	1.9793
	AVF87B	(1+p)/4p	p=7	1.7293
	CNUUHV	(1+p)/4p	p=7	1.7293
	E4VFXM	Z1/2p+Z0	p = 7	1.729
	EF7UWE	1+p/2p	p = 7	1.73
	ETVPEZ	(1+p)/4p	p=7	1.7293
	KHRPZ9	(1+p)/4p	p=7	1.7293
	LU8UTQ	((1/4)*(1+q))/2	q = 7, p = 11	1.729
	ND8R6H	1+p/4p	p=7	1.7293
	NFX3VB	(1+2p)/4p	p=7	1.979
	NTK7LF	1+p/4p	p=7	1.7292
	PU9367	(1+p)/4p	p = 7	1.729289941
	RAD6ZJ	(1+p)/4p	p=7	1.7293
	T3VY2R	(1+p)/4p	p=7	1.7293
	TE7Q7C	(1+a)/4a	a=7	1.7293
	UARGAZ	(1+2p)/4*p	7: 0.1690	1.9793
	UJG2WL			1.729
	UUZFZN	(1+p)/4p	p=7	1.729
	VVQ27K	(1+p)/4p	p=7	1.7293
	XLDN2L	(1+p)/4p	p = 7	1.7293
	ZH3MV6	(1+a)/4a	a=7	1.7293
	ZTK3Y8	1+p/4p	p=7	1.7293

Statistical Analysis Summary of PentaE **Likelihood Ratio Mode: 1.7293**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
SE33	22DWAB	1/4	N.A.	0.2500
	6LPTFB	(K0)2rs/2rs	r=13, s=23	0.25
	6X4QKF	1/4	-	0.2500
	79TDMR	1/4		0.25
	8VLMKK	1/2	n/a	0.5
	AML3DA	1/2	n/a	0.5000
	AVF87B	1/4	-	0.2500
	CNUUHV	1/4		0.2500
	E4VFXM	Z0		0.250
	EF7UWE	1/4		0.25
	ETVPEZ	0.5pq/2pq	p=13, q=23	0.2500
	KG3EAF	0.25(ab)/(ab)	A=14, B=15	0.25000
	KHRPZ9	1/4		0.25
	LHDGVE	0.25(ab)/(ab)=0.25	14=A, 15=B, 13=C, 23=D	0.2500
	LU8UTQ	1/4	N/A	0.2500
	ND8R6H			0.2500
	NFX3VB	1/2		0.5
	NTK7LF	1/4		0.25
	PU9367	1/4		0.2500
	RAD6ZJ	1/4		0.2500
	T3VY2R	1/4	-	0.2500
	TE7Q7C	1/4		.25
	UARGAZ	1/2		0.5
	UJG2WL			0.25
	UUZFZN	1/4	NA	.25
	VVQ27K	1/4		0.2500
	XLDN2L	1/4	-	0.2500
	ZH3MV6	1/4		0.2500
	ZTK3Y8	1/4		0.2500

Statistical Analysis Summary of SE33 **Likelihood Ratio Mode: 0.2500**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
TH01	22DWAB	(1+p+q+2pq)/8pq	p=6, q=9.3	2.6822
	6LPTFB	(K2)+(K1)p+(K1)q+(K0)2(pq)/2pq	p=6, q=9.3	2.682164405
	6X4QKF	(1+p+q+2pq)/8pq	p=6, q=9.3	2.6822
	79TDMR	1+p+q+2(pq)/8(pq)	p=6, q=9.3	2.6826
	8VLMKK	(a+p+4ap)/8ap	p=6, a=9.3	1.3932
	AML3DA	(p+q+4pq)/8pq	p=6, q=9.3	1.3932
	AVF87B	(1+p+q+2pq)/8pq	p=6, q=9.3	2.6822
	CNUUHV	(1+p+q+2pq)/8pq	p=6, q=9.3	2.6822
	E4VFXM	[2Z2+Z1(p+q)/4pq]+Z0	p = 6, q = 9.3	2.682
	EF7UWE	1+p+q+2pq/8pq	p = 6, q = 9.3	2.68
	ETVPEZ	(1+p+q+2pq)/8pq	p=6, q=9.3	2.6821
	KG3EAF	(0.25+0.25a+0.25b+0.5ab)/2ab	A=6, B=9.3	2.6822
	KHRPZ9	(1+p+q+2pq)/8pq	p=6, q=9.3	2.6822
	LHDGVE	(0.25+0.25a+0.25b+0.5ab)/2ab	6=A, 9.3=B	2.6821
	LU8UTQ	((1/8)*(1+p+q+2pq))/pq	p = 6, q = 9.3	2.682
	ND8R6H	1+p+q+2pq/8pq	p=6, q=9.3	2.6822
	NFX3VB	(p+q+4pq)/8pq	p=6, q=9.3	1.393
	NTK7LF	1+p+q+2pq/8pq	p=6, q=9.3	2.6821
	PU9367	(1+p+q+2pq)/8pq	p = 6, q = 9.3	2.432164405
	RAD6ZJ	(1+p+q+2pq)/8pq	p=6, q=9.3	2.6822
	T3VY2R	(1+p+q+2pq)/8pq	p=6, q=9.3	2.6822
	TE7Q7C	(1+a+b+2ab)/8ab	a=6, b=9.3	2.6822
	UARGAZ	(p+q+4pq)/8pq	6: 0.2355, 9.3: 0.3449	1.3932
	UJG2WL			2.6822
	UUZFZN	(1+p+q+2pq)/8pq	p=6, q=9.3	2.682
	VVQ27K	(1+p+q+2pq)/8pq	p=6, q=9.3	2.6822
	XLDN2L	(1+p+q+2pq)/8pq	P = 6, q = 9.3	2.6822
	ZH3MV6	(1+a+b+2ab)/8ab	a=6, b=9.3	2.6822
	ZTK3Y8	1+p+q+2pq/8pq	p=6, q=9.3	2.6822

Statistical Analysis Summary of TH01 **Likelihood Ratio Mode: 2.6822**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
TPOX	22DWAB	(1+p+q+2pq)/8pq	p=8, q=9	3.3385
	6LPTFB	(K2)+(K1)p+(K1)q+(K0)2(pq)/2pq	p=8, q=9	3.338537758
	6X4QKF	(1+p+q+2pq)/8pq	p=8, q=9	3.3385
	79TDMR	1+p+q+2(pq)/8(pq)	p=8, q=9	3.3378
	8VLMKK	(p+q+4pq)/8pq	p=8, q=9	1.7193
	AML3DA	(p+q+4pq)/8pq	p=8, q=9	1.7193
	AVF87B	(1+p+q+2pq)/8pq	p=8, q=9	3.3385
	CNUUHV	(1+p+q+2pq)/8pq	p=8, q=9	3.3385
	E4VFXM	[2Z2+Z1(p+q)/4pq]+Z0	p = 8, q = 9	3.338
	EF7UWE	1+p+q+2pq/8pq	p = 8, q = 9	3.34
	ETVPEZ	(1+p+q+2pq)/8pq	p=8, q=9	3.3383
	KG3EAF	(0.25+0.25a+0.25b+0.5ab)/2ab	A=8, B=9	3.3385
	KHRPZ9	(1+p+q+2pq)/8pq	p=8, q=9	3.3385
	LHDGVE	(0.25+0.25a+0.25b+0.5ab)/2ab	8=A, 9=B	3.3385
	LU8UTQ	((1/8)*(1+p+q+2pq))/pq	p = 8, q = 9	3.339
	ND8R6H	1+p+q+2pq/8pq	p=8, q=9	3.3385
	NFX3VB	(p+q+4pq)/8pq	p=8, q=9	1.719
	NTK7LF	1+p+q+2pq/8pq	p=8, q=9	3.3385
	PU9367	(1+p+q+2pq)/8pq	p = 8, q = 9	3.088537758
	RAD6ZJ	(1+p+q+2pq)/8pq	p=8, q=9	3.3385
	T3VY2R	(1+p+q+2pq)/8pq	p=8, q=9	3.3385
	TE7Q7C	(1+a+b+2ab)/8ab	a=8, b=9	3.3385
	UARGAZ	(p+q+4pq)/8pq	8: 0.5249, 9: 0.1274	1.7193
	UJG2WL			3.338
	UUZFZN	(1+p+q+2pq)/8pq	p=8, q=9	3.347
	VVQ27K	(1+p+q+2pq)/8pq	p=8, q=9	3.3385
	XLDN2L	(1+p+q+2pq)/8pq	P = 8, q = 9	3.3385
	ZH3MV6	(1+a+b+2ab)/8ab	a=8, b=9	3.3385
	ZTK3Y8	1+p+q+2pq/8pq	p=8, q=9	3.3385

Statistical Analysis Summary of TPOX **Likelihood Ratio Mode: 3.3385**

TABLE 7

Locus	WebCode	Formula	Allele Legend	Likelihood Ratio
vWA	22DWAB	(1+2p)/8p	p=17	0.6903
	6LPTFB	(K1)r+(K0)2qr/2qr	r=16, q=17	0.690295878
	6X4QKF	(1+2p)/8p	p=17	0.6903
	79TDMR	1+2P/8P	P=17	0.6902
	8VLMKK	(1+4q)/8q	q=17	0.9403
	AML3DA	(1+4p)/8p	p=0.2839	0.9403
	AVF87B	(1+2p)/8p	p=17	0.6903
	CNUUHV	(1+2p)/8p	p=17	0.6903
	E4VFXM	Z1/4p+Z0	p = 17	0.690
	EF7UWE	1+2p/8p	p = 17	0.69
	ETVPEZ	(1+2q)/8q	q=17	0.6903
	KG3EAF	(0.25a+0.5ac)/2ac	A=18, C=17	0.69030
	KHRPZ9	(1+2p)/8p	p=17	0.6903
	LHDGVE	(0.25b+0.5ab)/2ab	17=A, 18=B, 16=C	0.6902
	LU8UTQ	((1/8)*(1+2q))/q	q = 17, r = 18, p = 16	0.6903
	ND8R6H	1+2p/8p	p=17	0.6903
	NFX3VB	(1+4p)/8p	p=17	0.9402
	NTK7LF	1+2p/8p	p=17	0.6902
	PU9367	(1+2p)/8p	p = 17	0.690295879
	RAD6ZJ	(1+2p)/8p	p=17	0.6903
	T3VY2R	(1+2p)/8p	p=17	0.6903
	TE7Q7C	(1+2a)/8a	a=17	.6903
	UARGAZ	(1+4p)/8p	17: 0.2839	0.9403
	UJG2WL			0.6903
	UUZFZN	(1+2p)/8p	p=17	.690
	VVQ27K	(1+2q)/8q	q=17	0.6903
	XLDN2L	(1+2p)/8p	p = 17	0.6903
	ZH3MV6	(1+2a)/8a	a=17	0.6903
	ZTK3Y8	1+2p/8p	p=17	0.6903

Statistical Analysis Summary of vWA **Likelihood Ratio Mode: 0.6903**

Kinship DNA Statistics

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

TABLE 8

WebCode	Kinship Index	Claim Supported?
22DWAB	28,458.61	Yes
6LPTFB	474,500	Yes
6X4QKF	4.8160e5	Yes
79TDMR	480,867	Yes
8VLMKK	10802.7440	Yes
AML3DA	2872.1662	Yes
AVF87B	4.8160e5	Yes
CNUUHV	309,200	Yes
E4VFXM	480000	Yes
EF7UWE	5.15E+05	Yes
ETVPEZ	309,200	Yes
KG3EAF	44,320	Yes
KHRPZ9	481,596.0305	Yes
LHDGVE	44,320	Yes
LU8UTQ	4.01 million	Yes
ND8R6H	309,200	Yes
NFX3VB	2687.17	Yes
NTK7LF	480 000	Yes
PU9367	304,883.9553	Yes
RAD6ZJ	4.8160e5	Yes
T3VY2R	4.8160e5	Yes
TE7Q7C	309,200	Yes
UARGAZ	4601.239	Yes
UJG2WL	481600	Yes
UUZFZN	483,600	Yes
VVQ27K	309,200	Yes
XLDN2L	4.8160e5	Yes
ZH3MV6	1,236,000	Yes
ZTK3Y8	309,200	Yes

Additional Kinship Statistical Results

TABLE 9

WebCode	Additional Statistical Results
79TDMR	In this aptitude test in the exercise of the paternity case, the combined paternity index was calculated considering the complete trio (mother, daughter and alleged father). In the brotherhood exercise, profile A was considered as the brother looking for his brother B. Given the genetic profile of "B", it is 480,867 times more likely that it is the biological brother of "A", than that it is another unsampled and randomly selected individual in the population, and the probability of biological relationship of brotherhood between the genetic profile of A against B is 99.9997%. Due to the policies of this laboratory, in the case of brotherhoods it is suggested to complement the study with more direct relatives such as parents, children or other siblings.
8VLMKK	The scenario does not specify if the claimed relationship is "full vs unrelated" or "half vs unrelated". In this case, the hypothesis tested by our lab is "at least half vs unrelated". This is the outcome: It is very probable that Sibling-A is a half sibling of Sibling-B. AABB RT Standard 5.3.8.2 states that likelihood ratios greater than 10 shall be considered genetic evidence supporting the tested relationship. Probability of half sibship: 99.9907 (50% prior probability).
AML3DA	The likelihood ratio for vWA was not included in the second degree relationship (half sibling) kinship index calculation due to possible genetic linkage with D12S391.
EF7UWE	PI by Familias3 = 1.40E+06
KG3EAF	*Below is what would be reported based on current laboratory procedures, excluding Penta D and Penta E and using the Expanded FBI STR 2015 population database. AUTOSOMAL STRs: The DNA profile is single source. The kinship index supports the hypothesis that Profile B is the sibling of Profile A using the reference populations listed. The genotype observed for Profile B is “X” times more likely to occur in a sibling of Profile A than in someone unrelated to Profile A from the reference populations listed where “X” equals: African American – 10 Million, Caucasian – 140 Thousand, Hispanic – 2.7 Million
KHRPZ9	AABB requires the report to read: The genetic evidence supports the relationship of sample A and sample B as full siblings. Pu and Linacre have shown at a likelihood ratio >10 that STR test results correctly confirm sibship among known sibling pairs >99% of the time. (Systematic evaluation of sensitivity and specificity of sibship determination by using 15 STR loci. Pu and Linacre. Journal of Forensic and Legal Medicine 15 (2008) 329–334.)
LHDGVE	These statistics are based on the expanded FBI database without Penta D and Penta E. 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 – 10 MILLION, Caucasian – 140 THOUSAND, Hispanic – 2.7 MILLION
LU8UTQ	Very strong support.
ND8R6H	D12S391 is omitted from the final Kinship (sibling) Index calculation, as per laboratory policy. The Kinship (sibling) Index is rounded to 4 significant figures, as per instructions.
PU9367	% Probability = 99.99967201% for full-sibling
UUZFZN	Part III [Table 8: Kinship DNA Statistics]. Kinship stats. The term NA is used as not applicable. This is used with loci where there alleles are not shared between the two tested individuals.
XLDN2L	There is a strong evidence to indicate that the subject A and B to be related as full-siblings. The probability of kinship is 99.9998% as calculated based on the NIST STRBASE Caucasian Population Database.
ZH3MV6	D12S391 is omitted from all final calculations, per laboratory policy. SE33 is omitted from the final calculation, as our laboratory does not test this locus. Two significant figures are reported for the CPI, per laboratory policy. Four significant figures are reported for the CSI, per CTS instructions.

Additional Comments

TABLE 10

WebCode	Additional Comments
22DWAB	For part II [Table 5: Paternity DNA Statistics]: The loci Y indel, Amelogenin, DYS391 and D12S391 are not used for Paternity Index calculations in our laboratory. For part III [Table 8: Kinship DNA Statistics]: The loci D12S391, PentaD and PentaE are not used for kinship Index calculations in our laboratory.
34TVXP	NR = No Result
3R3UNA	Our laboratory only reports probability of paternity; therefore, the paternity index will not be listed. The Kinship DNA statistics is not applicable to our laboratory, we do not perform kinship analysis.
6X4QKF	1) From comparison to the DNA profiles obtained, I found that the source of stained-blood specimen "Item 3" is the biological father to the source of stained-blood specimen "Item 2" [given that the biological mother is represented by the source of stained-blood specimen "Item 1". 2) Extraction: - Item 1, Item 2 and Item 3 were extracted using in-situ method. 3) Amplification: - Item 1, Item 2 and Item 3 were amplified using Globalfiler Express (GFE) on PROFLEX PCR System. - Item 3 were further amplified using AmpF1STR Y-Filer PCR Amplification kit on 9700 GeneAmp PCR System. 4) Electrophoresis: - Electrophoresis was carried out on Genetic Analyzer 3500xL for Item 1, Item 2 and Item 3. (Globalfiler Express) - Electrophoresis was carried out on Genetic Analyzer 3130xL for Item 3 (Yfiler). 5) Quality Control: - Reagent blank, positive control and negative control was incorporated into the overall analysis and gave designated results. 6) The statistical formula was derived from DNAView Statistical Software and calculated using Microsoft Excel. 7) NM : Represent non-male allele.
7VAJF9	The STR DNA profile detected from the child is consistent with being the STR DNA profile of a biological child of the mother and putative father. The putative father is included as a possible biological father of the child.
8G6MW7	D12S391 omitted from statistical calculation due to linkage with vWA. Probability of Paternity not calculated at this laboratory. Preferred reporting: The STR DNA profile detected from Child is consistent with being the STR DNA profile of a biological child of Mother and Alleged Father. Alleged Father is included as a possible biological father of Child.
8VLMKK	Kinship Analysis: Reporting the probability of relationship is important as all the kinship tests by an AABB Accredited Lab has to report that value as part of the analysis.
96ATY4	Note: Due to linkage concerns, our state laboratory does not report out the combined PI value to include both the vWA and D12S391 loci. The more discriminating PI value of these two loci is chosen for calculating the combined PI.
AVF87B	1) On comparison to the DNA profiles obtained, I found that the source of stained-blood specimen "Item 3" is the biological father to the source of stained-blood specimen "Item 2" [given that the biological mother is represented by the source of stained-blood specimen "Item 1". 2) Extraction: -Item 1, Item 2 and Item 3 were extracted using in-situ method. 3) Amplification: -Item 1, Item 2 and Item 3 were amplified using Globalfiler Express (GFE)on PROFLEX PCR System. -Item 3 were further amplified using AmpFlSTR Y-Filer PCR Amplification kit on 9700 GeneAmp PCR System. 4)Electrophoresis: -Electrophoresis were carried out on Genetic Analyzer 3500xL for Item 1, Item 2 and Item 3.(Globalfiler Express) -Electrophoresis were carried out on Genetic Analyzer 3130xL for Item 3 (Y-filer). 5)Quality Control: -Reagent blank, positive control and negative control were incorporated in the overall analysis and gave designated results. 6)The statistical formula were derived from DNAView Statistical Software and calculated using Microsoft Excel. 7)NM: Represent non-male allele.
CNUUHV	D12S391 is omitted from all final calculations, as per laboratory policy. The CPI is truncated to 2 significant figures, as per laboratory policy. The Sibling Index is rounded to 4 significant figures, as per instructions.
E4VFXM	Paternity index calculated incorporating theta (point estimate) of 0.02 (Caucasian), 0.05 (Aboriginal) and 0.03 (Asian). In accordance with laboratory protocol, the most conservative Combined Paternity Index is reported, which aligns with the Aboriginal population. Sibship index calculated incorporating IBD alleles of Z0 = 0.25, Z1 = 0.5 and Z2 = 0.25 in accordance with full sibling inheritence.

TABLE 10

WebCode	Additional Comments
ETVPEZ	D12S391 is omitted from all final calculations, as per laboratory policy. The CPI is truncated to 2 significant figures, as per laboratory policy. The Sibling Index is rounded to 4 significant figures, as per instructions.
FVZU6U	D12S391 was not used in the statistic based on laboratory policy. The Combined Paternity Index was truncated to two significant figures based on laboratory policy.
GFKZ9A	NR = No Results
H9VXMP	D12S391 not used in paternity calculations due to laboratory protocol
KG3EAF	AUTOSOMAL STRs: The DNA profile is single source. The alleged father, Subject,Subject, cannot be excluded as the potential biological father of the child, Child,Victim using Autosomal STRs. These profiles are "X" times more likely to occur if Child,Victim is the child of Victim,Victim and Subject,Subject than if Child,Victim is the child of Victim,Victim and a random person from the reference populations listed where "X" equals: African American – 3.1 Trillion, Caucasian – 280 Billion, Hispanic – 310 Billion
KGNTXT	Preferred wording for Results and Conclusions: The STR DNA profile detected from PT20-5870 Item 2: Known Child (Daughter) is consistent with being the STR DNA profile of a biological child of PT20-5870 Item 1: Known Parent (Caucasian Mother) and PT20-5870 Item 3: Alleged Father (Caucasian). PT20-5870 Item 3: Alleged Father (Caucasian) is included as a possible biological father of PT20-5870 Item 2: Known Child (Daughter). Given that PT20-5870 Item 1: Known Parent (Caucasian Mother) is the biological mother of PT20-5870 Item 2: Known Child (Daughter), it is at least 920 billion times more likely to observe the profile from PT20-5870 Item 2: Known Child (Daughter) if PT20-5870 Item 3: Alleged Father (Caucasian) is her biological father than if a random, unrelated male is the father.
LHDGVE	This data was taken from our reporting section for paternity cases. Expanded FBI database was used. AUTOSOMAL STRs: The DNA profile is single source. The alleged father, Subject Subject, cannot be excluded as the potential biological father of the child, Child Child using Autosomal STRs. These profiles are "X" times more likely to occur if Child Child is the child of Victim Victim and Subject Subject than if Child Child is the child of Victim Victim and a random person from the reference populations listed where "X" equals: African American – 3.1 TRILLION, Caucasian – 280 BILLION Hispanic – 310 BILLION, Y-STRs: The DNA profile is single source.
LU8UTQ	In Part I and II [Tables 1-6], the software eDNA Brutus was used with population substructure theta of 0.01.
ND8R6H	D12S391 is omitted from all final calculations, as per laboratory policy. The CPI is truncated to 2 significant figures, as per laboratory policy.
NPLPAL	The laboratory does not calculate probability of paternity. The combined population group was used for statistics. vWA was not included in statistical calculations due to possible linkage issues with D12.
RAD6ZJ	1) On comparison to the DNA profiles obtained, I found the source of stained blood specimen "Item 3" is the biological Father to the source of stained blood specimen "Item 2" (given that the biological mother is represented by the source of stained blood specimen "Item 1". 2) Extraction: - "Item 1", "Item 2" and "Item 3" were extracted using in-situ method. 3) Amplification: - "Item 1", "Item 2" and "Item 3" were amplified using Globalfiler Express (GFE)on PROFLEX PCR System. - "Item 3" was further amplified using AmpFISTR Y-Filer PCR Amplification kit on GeneAmp PCR System 9700. 4) Electrophoresis: - Electrophoresis was carried out on Genetic Analyzer 3500xL for "Item 1", "Item 2" and "Item 3" (Globalfiler Express). - Electrophoresis was carried out on Genetic Analyzer 3130xL for "Item 3" (Y-filer). 5) Quality Control: - Reagent blank, positive control and negative control were incorporated in the overall analysis and gave designated results. 6) The statistical formula was derived from DNAView Statistical Software and calculated using Microsoft Excel. 7) NM - Non Male

TABLE 10

WebCode	Additional Comments
T3VY2R	1) On comparison to the DNA profiles obtained, I found that the source of stained-blood specimen "Item 3" is the biological father to the source of stained-blood specimen "Item 2" [given that the biological mother is represented by the source of stained-blood specimen "Item 1". 2) Extraction: -Item 1, Item 2 and Item 3 were extracted using in-situ method. 3) Amplification: -Item 1, Item 2 and Item 3 were amplified using Globalfiler Express (GFE)on PROFLEX PCR System. -Item 3 was further amplified using AmpFlSTR Y-Filer PCR Amplification kit on GeneAmp PCR System 9700. 4)Electrophoresis: -Electrophoresis were carried out on Genetic Analyzer 3500xl for Item 1, Item 2 and Item 3 (Globalfiler Express). -Electrophoresis were carried out on Genetic Analyzer 3130xl for Item 3 (Y-filer). 5)Quality Control: -Reagent blank, positive control and negative control were incorporated in the overall analysis and gave designated results. 6)The statistical formula were derived from DNAView Statistical Software and calculated using Microsoft Excel. 7) NM: represent non-male allele.
TE7Q7C	D12S391 is omitted from all final calculations, as per laboratory policy. The CPI is truncated to 2 significant figures, as per laboratory policy. The Sibling Index is rounded to 4 significant figures, as per instructions.
TJXVYG	Locus parentage indexes were rounded to two decimal places. Combined PI was truncated to two significant figures. D12 was not used to calculate the statistic per laboratory policy.
VVQ27K	D12S391 is omitted from all final calculations, as per laboratory policy. The CPI is truncated to 2 significant figures, as per laboratory policy. The Sibling Index is rounded to 4 significant figures, as per instructions.
WZWY9W	NR = No Results
XLDN2L	Amplification: Item 1, Item 2 and Item 3 were amplified using the AmpFLSTR Identifiler Direct PCR Amplification Kit on Applied Biosystems GeneAmp PCR System 9700. With in-situ method, Item 3 was also amplified using the AmpFLSTR Yfiler PCR Amplification kit on Applied Biosystems GeneAmp PCR System 9700. Electrophoresis: Electrophoresis was carried out on the Applied Biosystems 3500xL Genetic Analyzer and the data were analysed with GeneMapper ID-X v1.5 software. Quality control: Reagent Blank, Positive Control and Negative Control were included throughout the analysis and all gave intended results. Statistical evaluation: The statistical formulas were derived from the DNAView Statistical Software and the paternity / kinship index was calculated using the Microsoft Office Excel. On comparison to the DNA profiles obtained, I found the donor of bloodstained specimen "Item 3" to be the biological father to the donor of bloodstained specimen "Item 2". (Given that the biological mother is represented by the donor of bloodstained specimen "Item 1").
ZTK3Y8	D12S391 is omitted from all final calculations, as per laboratory policy. The CPI is truncated to 2 significant figures, as per laboratory policy. The Sibling Index is rounded to 4 significant figures, as per instructions.

-End of Report-
(Appendix may follow)

Collaborative Testing Services ~ Forensic Testing Program

Test No. 20-5870: DNA Parentage

DATA MUST BE SUBMITTED BY **May 18, 2020, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A WebCode: GEPDUL

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

Scenario:
A standard paternity trio case has been presented to your laboratory. Blood standards have been collected from the mother, daughter, 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 (Caucasian Mother)
Item 2: Blood Sample from Known Child (Daughter)
Item 3: Blood Sample from Alleged Father (Caucasian)

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") and null responses
- PI = Paternity Index
- If your laboratory does not produce PI calculations, record your explanation within the Part IV: Additional comments section.

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

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):

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

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

Part I (continued): 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):

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

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

Part I (continued): DNA Analysis for Item 3

Please refer to the 'Part II: Paternity DNA Statistics' section of this data sheet regarding the suggested Population Database(s) to use to determine PI values. Report a minimum of three significant figures in your 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):

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

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

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

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

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

Part I (continued): DNA Analysis - Additional DNA

- Use this section to report results for loci not currently listed in other sections of the data sheet.
- Report alleles in numerical order, separated by a comma.
- Click "Add Row" to show another row of boxes for entry.

Locus	Item 1	Item 2	Item 3 Alleles	Item 3 PI

Part II: PATERNITY DNA STATISTICS

Please utilize your own lab protocols regarding ethnicity 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, access the population database by selecting 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.
4. If you did not calculate paternity statistics, please provide an explanation in your additional comments.

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 (eg. half siblings versus unrelated).
- Complete the entire table including the formula used in the calculation and the allele legend.
- Report a minimum of four significant figures in your likelihood ratio values.

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 17: 0.1053	15: 0.1053	(1+4p)/8p	p = 14	1.847

Scenario:

The two DNA profiles below are presented as a potential Caucasian sibling relationship. Using the allele frequencies shown for the tested loci, calculate the likelihood ratio for support of the proposed relationship versus being unrelated.

Locus	A	B	Allele Frequencies		Formula Used	Allele Legend	Likelihood Ratio
D1S1656	16,16.3	16,16.3	16: 0.1357	16.3: 0.0609			
D2S1338	17,26	17,20	17: 0.1856 26: 0.0305	20: 0.1565			
D2S441	14,14	13,15	13: 0.0291 15: 0.0596	14: 0.2410			
D3S1358	17,17	14,17	14: 0.1066	17: 0.2105			
D5S818	10,12	10,12	10: 0.0554	12: 0.3878			

Locus	A	B	Allele Frequencies		Formula Used	Allele Legend	Likelihood Ratio
D7S820	9,12	9,10	9: 0.1676	10: 0.2562			
			12: 0.1593				
D8S1179	12,14	12,14	12: 0.1676	14: 0.1662			
D10S1248	13,14	14,15	13: 0.3075	14: 0.2978			
			15: 0.1967				
D12S391	17,22	18,22	17: 0.1274	18: 0.1717			
			22: 0.0956				
D13S317	8,13	8,13	8: 0.1205	13: 0.1163			
D16S539	11,12	8,11	8: 0.0180	11: 0.3144			
			12: 0.3144				
D18S51	13,15	13,13	13: 0.1233	15: 0.1704			
D19S433	13,14	13,14	13: 0.2548	14: 0.3615			
D21S11	28,30	29,30	28: 0.1593	29: 0.2022			
			30: 0.2825				
D22S1045	11,16	14,16	11: 0.1399	14: 0.0568			
			16: 0.3823				

Locus	A	B	Allele Frequencies		Formula Used	Allele Legend	Likelihood Ratio
CSF1PO	10,11	10,13	10: 0.2202	11: 0.3089			
			13: 0.0817				
FGA	22,24	22,24	22: 0.2050	24: 0.1343			
PentaD	9,11	9,11	9: 0.2216	11: 0.1260			
PentaE	7,7	7,11	7: 0.1690	11: 0.0873			
SE33	14,15	13,23	13: 0.0166	14: 0.0249			
			15: 0.0402	23: 0.0028			
TH01	6,9.3	6,9.3	6: 0.2355	9.3: 0.3449			
TPOX	8,9	8,9	8: 0.5249	9: 0.1274			
vWA	17,18	16,17	16: 0.2008	17: 0.2839			
			18: 0.2022				

1. Evaluate the profiles above and record the kinship index.

2. Is the relationship of Siblings supported by the genetic evidence?

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

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

Part IV: ADDITIONAL COMMENTS

Comments regarding any part of this Test.

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

RELEASE OF DATA TO ACCREDITATION BODIES

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

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

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

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

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

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

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety

Authorized Contact Person and Title

Laboratory Name

Location (City/State)