Collaborative Testing Services, Inc
FORENSIC TESTING PROGRAM

DNA Parentage
Test No. 17-5871 Summary Report

This proficiency test was sent to 45 participants. Each participant received a sample pack consisting of the standard paternity trio, collected from a mother, a son, and the potential father. Participants were requested to analyze the samples using their existing protocols. Data were returned from 42 participants (93% response rate) and are compiled into the following tables:

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

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

Manufacturer's Information

Each sample set was a collection of known blood samples, provided on FTA Micro cards, from three individuals (Items 1-3); a mother, a son, and a potential father. Participants were requested to analyze these items using their existing protocols. Also included in the data sheet was a kinship exercise that consisted of autosomal DNA profiles of two individuals for comparison. Participants were requested to determine if an half 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 from a male (son) donor and Item 3 (75 µl) was created using blood collected from a male donor who was the biological father of the Item 2 male. The different Items were prepared at separate times and were packaged once they were thoroughly dried. Completed sample sets were stored at -20°C until shipment on May 15th, 2017.

SAMPLE SET ASSEMBLY: For each sample set, all three Items (1-3) 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 half 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	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	
1	13,17.3	18,20	11,11.3	15,16	*	12,13
	*	11,14	10,12	*	14,14	17.3,25
	12,14	9,9	*	13,16	14,16	*
	30,31	16,17	X,X	11,11	21,23	9,11
	5,12	18,29.2	6,7	8,10	16,18	
2	17.3,18	18,19	11.3,14	15,16	*	12,13
	*	9,14	10,13	*	12,14	17.3,22
	12,12	9,13	*	15,16	13,14	*
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10	29.2,29.2	6,6	10,11	14,18	
3	14,18	19,24	14,15	16,17	*	11,12
	*	9,10	13,13	*	12,15	18,22
	11,12	13,13	*	13,15	13,15	*
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12	29.2,31.2	6,6	9,11	14,15	

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	DYS505	DYS518	
	DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	YGATAH4	Y Indel
2	*	14	11,14	13	30	24	11	13	12	15	
	12	11	20	*	16	16	*	21	*	*	
	*	12	*	18	17	*	*	24	*	12	*
3	*	14	11,14	13	30	24	11	13	12	15	
	12	11	20	*	16	16	*	21	*	*	
	*	12	*	18	17	*	*	24	*	12	*

Paternity Indices

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

Item - Database	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	
3 - FBI PopStats	*	3.3113	*	1.0412	*	0.99502
	*	3.4247	2.9922	*	*	*
	1.616	6.12	*	3.7397	1.7876	*
	2.767	*	*	1.5305	2.6582	*
	*	*	4.4405	1.9608	5.0505	
3 - NIST STRBASE	72.2	4.1494	2.0743	0.978282	*	0.9425
	*	2.9832	3.0339	*	15.6739	5.2301
	1.8608	6.12	*	2.9342	1.9623	*
	2.4727	1.5561	*	1.3885	2.439	2.1486
	5.8207	*	4.2463	1.9833	5.3879	

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

Summary Comments

The 17-5871 DNA Parentage test was designed to allow participants to assess their proficiency in the analysis and interpretation of a standard trio of blood samples on FTA Micro cards. Item 1 was blood collected from a female donor (mother), Item 2 was blood collected from a male donor (son), and Item 3 was blood collected from a male donor who is the biological father of the Item 2 male. Participants were requested to analyze the samples and provide allelic and statistical results as well as relationship conclusions. Sample sets also included a 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 42 participants who returned data reported results for STRs for all three items. The individual profiles for Item 1 and Item 3 were concordant across all participants. Item 2 had two participants with discordant results. One participant reported an allele call of X,X at Amelogenin where the consensus was X,Y. Another participant reported a 10,3 at the D8S1179 locus where the consensus was 10,13. Lastly, all 31 participants returned concordant data for YSTR analysis for Item 2 and Item 3.

Paternity DNA Statistics:
Of the 42 participants who returned data, 41 provided a combined Paternity Index calculation and reported a specific population database. The FBI PopStats database and the NIST-STRBASE were reported most frequently by participants. The averaged combined Paternity Index for those participants using the FBI PopStats database is 5.67E+10 while the averaged combined Paternity Index for those participants using the NIST-STRBASE database is 3.24E+12. All the 41 participants that provided combined Paternity Index calculations generated a probability of paternity greater than or equal to 99.9%.

For the paternity conclusions, all 42 participants who returned data responded that the male donor of Item 3 could not be excluded as the father of the son (Item 2).

Kinship DNA Statistics:
There were 22 participants who responded for the kinship exercise. Of the participants who responded, 19 reported that the Caucasian Half Sibling relationship was supported by the genetic evidence. One participant reported that there was not enough genetic evidence to make a conclusion, however the half sibling relationship could not be excluded. One participant reported that the DNA evidence did not support the proposed relationship. Another participant reported that a full sibling relationship was supported instead of half siblings

STR Amplification Kit(s) & Results

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 1 - STR Results

22HHME	PowerPlex® 6c					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14	17.3,25
	12,14	9		13,16	14,16	
	30,31	16,17	X	11	21,23	9,11
	5,12	18,29.2	6,7	8,10	16,18	
2BPGWF	PowerPlex® Fusion					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14	17.3,25
	12,14	9		13,16	14,16	
	30,31	16,17	X	11	21,23	9,11
	5,12		6,7	8,10	16,18	
3Y9UME	PowerPlex® Fusion					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14	17.3,25
	12,14	9		13,16	14,16	
	30,31	16,17	X	11	21,23	9,11
	5,12		6,7	8,10	16,18	
4WJ86B	Identifiler® PLUS					
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	
			6,7	8,10	16,18	
6J8Y3J	VeriFiler™ Express					
	13,17.3	18,20	11,11.3	15,16		12,13
1	11,19	11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	9,11
	5,12		6,7	8,10	16,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 1 - STR Results

766TNE	GlobalFiler™					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	
		18,29.2	6,7	8,10	16,18	
76L7RH	GlobalFiler™					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14	17.3,25
	12,14	9		13,16	14,16	
	30,31	16,17	X	11	21,23	
		18,29.2	6,7	8,10	16,18	
7EAZ4E	GlobalFiler™					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	
		18,29.2	6,7	8,10	16,18	
7F6FFB	PowerPlex® Fusion					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14	17.3,25
	12,14	9		13,16	14,16	
	30,31	16,17	X	11	21,23	9,11
	5,12		6,7	8,10	16,18	
7ZA2FH	Identifiler® Direct					
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9		13,16	14,16	
	30,31		X,X	11	21,23	
			6,7	8,10	16,18	
8FHCKF	Investigator® 24plex					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	
		18,29.2	6,7	8,10	16,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 1 - STR Results

9DPXAB	PowerPlex® 21					
	13,17.3	18,20		15,16		12,13
1	11,19	11,14	10,12			17.3,25
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	9,11
	5,12		6,7	8,10	16,18	
9VQKZA	PowerPlex® Fusion					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14	17.3,25
	12,14	9		13,16	14,16	
	30,31	16,17	X	11	21,23	9,11
	5,12		6,7	8,10	16,18	
A2B3UC	PowerPlex® 21					
	13,17.3	18,20	-	15,16	-	12,13
1	11,19	11,14	10,12	-	-	17.3,25
	12,14	9,9	-	13,16	14,16	-
	30,31	-	X,X	11,11	21,23	9,11
	5,12	-	6,7	8,10	16,18	
AAKUWE	GlobalFiler™					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	
		18,29.2	6,7	8,10	16,18	
CRZKB6	Identifiler® Direct					
	-	18,20	-	15,16	-	12,13
1	-	11,14	10,12	-	-	-
	12,14	9	-	13,16	14,16	-
	30,31	-	X,X	11	21,23	-
	-	-	6,7	8,10	16,18	
D3UFL6	PowerPlex® Fusion					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14	17.3,25
	12,14	9		13,16	14,16	
	30,31	16,17	X	11	21,23	9,11
	5,12		6,7	8,10	16,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 1 - STR Results

DFJFC8	PowerPlex® 21					
	13,17.3	18,20		15,16		12,13
1	11,19	11,14	10,12			17.3,25
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	9,11
	5,12		6,7	8,10	16,18	
DGEVP4	PowerPlex® FUSION SYSTEM					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	9,11
	5,12		6,7	8,10	16,18	
EGQW9H	Identifiler® Direct					
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	
			6,7	8,10	16,18	
ERQMR4	PowerPlex® PP21					
	13,17.3	18,20		15,16		12,13
1	11,19	11,14	10,12			17.3,25
	12,14	9		13,16	14,16	
	30,31		X	11	21,23	9,11
	5,12		6,7	8,10	16,18	
F6TD8G	PowerPlex® FUSION, GlobalFiler™ EXPRESS					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	9,11
	5,12	18,29.2	6,7	8,10	16,18	
G9CPNY	Identifiler® Plus					
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	
			6,7	8,10	16,18	

TABLE 1

Item 1 - STR Results

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	
JNGXGX	Identifiler® Direct					
	-	18,20	-	15,16	-	12,13
1	-	11,14	10,12	-	-	-
	12,14	9	-	13,16	14,16	-
	30,31	-	X,X	11	21,23	-
	-	-	6,7	8,10	16,18	
K4MKGY	Investigator IDPlex Plus					
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	
			6,7	8,10	16,18	
KNB49B	Identifiler® Plus, Penta D, Penta E					
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9		13,16	14,16	
	30,31		X	11	21,23	9,11
	5,12		6,7	8,10	16,18	
LYQCCV	GlobalFiler™					
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9		13,16	14,16	
	30,31		X	11	21,23	
			6,7	8,10	16,18	
N7ZHZX	PowerPlex® 21					
	13,17.3	18,20	-	15,16	-	12,13
1	11,19	11,14	10,12	-	-	17.3,25
	12,14	9,9	-	13,16	14,16	-
	30,31	-	X,X	11,11	21,23	9,11
	5,12	-	6,7	8,10	16,18	
NVZV92	GlobalFiler™					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	
		18,29.2	6,7	8,10	16,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 1 - STR Results

QHP2UT	Identifiler® Plus					
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	
			6,7	8,10	16,18	
R7QKHX	GlobalFiler™					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	
		18,29.2	6,7	8,10	16,18	
RCVLHR	PowerPlex® FUSION 5C					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	9,11
	5,12		6,7	8,10	16,18	
T4TUM3	Identifiler® Plus					
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	
			6,7	8,10	16,18	
VGU8YK	PowerPlex® fusion, powerplex esx 17					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	9,11
	5,12	18,29.2	6,7	8,10	16,18	
WNA8TM	PowerPlex® Fusion 6C					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14	17.3,25
	12,14	9		13,16	14,16	
	30,31	16,17	X,X	11	21,23	9,11
	5,12	18,29.2	6,7	8,10	16,18	

TABLE 1

Item 1 - STR Results

Webcode / Item	Amplification Kits					
	D1S1656	**D2S1338**	**D2S441**	**D3S1358**	**D4S2408**	**D5S818**
	D6S1043	**D7S820**	**D8S1179**	**D9S1122**	**D10S1248**	**D12S391**
	D13S317	**D16S539**	**D17S1301**	**D18S51**	**D19S433**	**D20S482**
	D21S11	**D22S1045**	**Amelogenin**	**CSF1PO**	**FGA**	**Penta D**
	Penta E	**SE33**	**TH01**	**TPOX**	**vWA**	
WNABJR	GlobalFiler™ Express					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14	17.3,25
	12,14	9		13,16	14,16	
	30,31	16,17	X	11	21,23	
		18,29.2	6,7	8,10	16,18	
Y72X3L	PowerPlex® 21					
	13,17.3	18,20		15,16		12,13
1	11,19	11,14	10,12			17.3,25
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	9,11
	5,12		6,7	8,10	16,18	
YDNNNG						
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	
			6,7	8,10	16,18	
YYKJYG	Identifiler® Plus					
		18,20		15,16		12,13
1		11,14	10,12			
	12,14	9,9		13,16	14,16	
	30,31		X,X	11,11	21,23	
			6,7	8,10	16,18	
Z9L4YN	PowerPlex® Fusion 5C					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	9,11
	5,12		6,7	8,10	16,18	
ZDF4DJ	PowerPlex® Fusion, NGM SE					
	13,17.3	18,20	11,11.3	15,16		12,13
1		11,14	10,12		14,14	17.3,25
	12,14	9,9		13,16	14,16	
	30,31	16,17	X,X	11,11	21,23	9,11
	5,12	18,29.2	6,7	8,10	16,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 1 - STR Results

ZHCMFG	Identifiler® Direct					
	-	18,20	-	15,16	-	12,13
1	-	11,14	10,12	-	-	-
	12,14	9	-	13,16	14,16	-
	30,31	-	X,X	11	21,23	-
	-	-	6,7	8,10	16,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 2 - STR Results

22HHME	PowerPlex® 6c					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10	29.2	6	10,11	14,18	
2BPGWF	PowerPlex® Fusion					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10		6	10,11	14,18	
3Y9UME	PowerPlex® Fusion					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10		6	10,11	14,18	
4WJ86B	Identifiler® PLUS					
		18,19		15,16		12,13
2		9,14	10,13			
	12,12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	
			6,6	10,11	14,18	
6J8Y3J	VeriFiler™ Express					
	17.3,18	18,19	11.3,14	15,16		12,13
2	11,19	9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10		6,6	10,11	14,18	
766TNE	GlobalFiler™					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	
		29.2,29.2	6,6	10,11	14,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 2 - STR Results

76L7RH	GlobalFiler™					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	
		29.2	6	10,11	14,18	
7EAZ4E	GlobalFiler™					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	
		29.2,29.2	6,6	10,11	14,18	
7F6FFB	PowerPlex® Fusion					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10		6	10,11	14,18	
7ZA2FH	Identifiler® Direct					
		18,19		15,16		12,13
2		9,14	10,13			
	12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	
			6	10,11	14,18	
8FHCKF	Investigator® 24plex					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	
		29.2,29.2	6,6	10,11	14,18	
9DPXAB	PowerPlex® 21					
	17.3,18	18,19		15,16		12,13
2	11,19	9,14	10,13			17.3,22
	12,12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	11,12
	5,10		6,6	10,11	14,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 2 - STR Results

9VQKZA	PowerPlex® Fusion					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10		6	10,11	14,18	
A2B3UC	PowerPlex® 21					
	17.3,18	18,19	-	15,16	-	12,13
2	11,19	9,14	10,13	-	-	17.3,22
	12,12	9,13	-	15,16	13,14	-
	29,30	-	X,Y	11,12	22,23	11,12
	5,10	-	6,6	10,11	14,18	
AAKUWE	GlobalFiler™					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	
		29.2,29.2	6,6	10,11	14,18	
CRZKB6	Identifiler® Direct					
	-	18,19	-	15,16	-	12,13
2	-	9,14	10,13	-	-	-
	12	9,13	-	15,16	13,14	-
	29,30	-	X,Y	11,12	22,23	-
	-	-	6	10,11	14,18	
D3UFL6	PowerPlex® Fusion					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10		6	10,11	14,18	
DFJFC8	PowerPlex® 21					
	17.3,18	18,19		15,16		12,13
2	11,19	9,14	10,13			17.3,22
	12,12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	11,12
	5,10		6,6	10,11	14,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 2 - STR Results

DGEVP4	PowerPlex® Fusion System					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,3		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10		6,6	10,11	14,18	
EGQW9H	Identifiler® Direct					
		18,19		15,16		12,13
2		9,14	10,13			
	12,12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	
			6,6	10,11	14,18	
ERQMR4	PowerPlex® PP21					
	17.3,18	18,19		15,16		12,13
2	11,19	9,14	10,13			17.3,22
	12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	11,12
	5,10		6	10,11	14,18	
F6TD8G	PowerPlex® FUSION, GlobalFiler™ EXPRESS					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10	29.2,29.2	6,6	10,11	14,18	
G9CPNY	Identifiler® plus					
		18,19		15,16		12,13
2		9,14	10,13			
	12,12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	
			6,6	10,11	14,18	
JNGXGX	Identifiler® Direct					
	-	18,19	-	15,16	-	12,13
2	-	9,14	10,13	-	-	-
	12	9,13	-	15,16	13,14	-
	29,30	-	X,Y	11,12	22,23	-
	-	-	6	10,11	14,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 2 - STR Results

K4MKGY	IDplex Plus					
		18,19		15,16		12,13
2		9,14	10,13			
	12,12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	
			6,6	10,11	14,18	
KNB49B	Identifiler® Plus, Penta D and Penta E					
		18,19		15,16		12,13
2		9,14	10,13			
	12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	11,12
	5,10		6	10,11	14,18	
LYQCCV	GlobalFiler™					
		18,19		15,16		12,13
2		9,14	10,13			
	12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	
			6	10,11	14,18	
N7ZHZX	PowerPlex® 21					
	17.3,18	18,19	-	15,16	-	12,13
2	11,19	9,14	10,13	-	-	17.3,22
	12,12	9,13	-	15,16	13,14	-
	29,30	-	X,Y	11,12	22,23	11,12
	5,10	-	6,6	10,11	14,18	
NVZV92	GlobalFiler™					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	
		29.2,29.2	6,6	10,11	14,18	
QHP2UT	Identifiler® Plus					
		18,19		15,16		12,13
2		9,14	10,13			
	12,12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	
			6,6	10,11	14,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 2 - STR Results

R7QKHX	GlobalFiler™					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	
		29.2,29.2	6,6	10,11	14,18	
RCVLHR	PowerPlex® FUSION 5C					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10		6,6	10,11	14,18	
T4TUM3	Identifiler® Plus					
		18,19		15,16		12,13
2		9,14	10,13			
	12,12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	
			6,6	10,11	14,18	
VGU8YK	PowerPlex® FUSION, PowerPlex ESX17					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10	29.2,29.2	6,6	10,11	14,18	
WNA8TM	PowerPlex® Fusion 6C					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10	29.2	6	10,11	14,18	
WNABJR	GlobalFiler™ Express					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	
		29.2	6	10,11	14,18	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 2 - STR Results

Y72X3L	PowerPlex® 21					
	17.3,18	18,19		15,16		12,13
2	11,19	9,14	10,13			17.3,22
	12,12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	11,12
	5,10		6,6	10,11	14,18	
YDNNNG						
		18,19		15,16		12,13
2		9,14	10,13			
	12,12	9,13		15,16	13,14	
	29,30		X,X	11,12	22,23	
			6,6	10,11	14,18	
YYKJYG	Identifiler® Plus					
		18,19		15,16		12,13
2		9,14	10,13			
	12,12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	
			6,6	10,11	14,18	
Z9L4YN	PowerPlex® Fusion 5C					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10		6,6	10,11	14,18	
ZDF4DJ	PowerPlex® Fusion, NGM SE					
	17.3,18	18,19	11.3,14	15,16		12,13
2		9,14	10,13		12,14	17.3,22
	12,12	9,13		15,16	13,14	
	29,30	15,17	X,Y	11,12	22,23	11,12
	5,10	29.2,29.2	6,6	10,11	14,18	
ZHCMFG	Identifiler® Direct					
		18,19		15,16		12,13
2		9,14	10,13			
	12	9,13		15,16	13,14	
	29,30		X,Y	11,12	22,23	
			6	10,11	14,18	

TABLE 1

Item 3 - STR Results

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	
22HHME	PowerPlex® 6c					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13		12,15	18,22
	11,12	13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12	29.2,31.2	6	9,11	14,15	
2BPGWF	PowerPlex® Fusion					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13		12,15	18,22
	11,12	13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12		6	9,11	14,15	
3Y9UME	PowerPlex® Fusion					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13		12,15	18,22
	11,12	13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12		6	9,11	14,15	
4WJ86B	Identifiler® PLUS					
		19,24		16,17		11,12
3		9,10	13,13			
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	
			6,6	9,11	14,15	
6J8Y3J	VeriFiler™ Express					
	14,18	19,24	14,15	16,17		11,12
3	11,12	9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12		6,6	9,11	14,15	
766TNE	GlobalFiler™					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	
		29.2,31.2	6,6	9,11	14,15	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 3 - STR Results

76L7RH	GlobalFiler™					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13		12,15	18,22
	11,12	13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	
		29.2,31.2	6	9,11	14,15	
7EAZ4E	GlobalFiler™					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	
		29.2,31.2	6,6	9,11	14,15	
7F6FFB	PowerPlex® Fusion					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13		12,15	18,22
	11,12	13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12		6	9,11	14,15	
7ZA2FH	Identifiler® Direct					
		19,24		16,17		11,12
3		9,10	13			
	11,12	13		13,15	13,15	
	29,30		X,Y	10,12	22,23	
			6	9,11	14,15	
8FHCKF	Investigator® 24plex					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	
		29.2,31.2	6,6	9,11	14,15	
9DPXAB	PowerPlex® 21					
	14,18	19,24		16,17		11,12
3	11,12	9,10	13,13			18,22
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	9,12
	10,12		6,6	9,11	14,15	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 3 - STR Results

9VQKZA	PowerPlex® Fusion					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13		12,15	18,22
	11,12	13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12		6	9,11	14,15	
A2B3UC	PowerPlex® 21					
	14,18	19,24	-	16,17	-	11,12
3	11,12	9,10	13,13	-	-	18,22
	11,12	13,13	-	13,15	13,15	-
	29,30	-	X,Y	10,12	22,23	9,12
	10,12	-	6,6	9,11	14,15	
AAKUWE	GlobalFiler™					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	
		29.2,31.2	6,6	9,11	14,15	
CRZKB6	Identifiler® Direct					
	-	19,24	-	16,17	-	11,12
3	-	9,10	13	-	-	-
	11,12	13	-	13,15	13,15	-
	29,30	-	X,Y	10,12	22,23	-
	-	-	6	9,11	14,15	
D3UFL6	PowerPlex® Fusion					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13		12,15	18,22
	11,12	13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12		6	9,11	14,15	
DFJFC8	PowerPlex® 21					
	14,18	19,24		16,17		11,12
3	11,12	9,10	13,13			18,22
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	9,12
	10,12		6,6	9,11	14,15	

TABLE 1

Item 3 - STR Results

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	
DGEVP4	PowerPlex® Fusion System					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12		6,6	9,11	14,15	
EGQW9H	Identifiler® Direct					
		19,24		16,17		11,12
3		9,10	13,13			
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	
			6,6	9,11	14,15	
ERQMR4	PowerPlex® PP21					
	14,18	19,24		16,17		11,12
3	11,12	9,10	13			18,22
	11,12	13		13,15	13,15	
	29,30		X,Y	10,12	22,23	9,12
	10,12		6	9,11	14,15	
F6TD8G	PowerPlex® FUSION1, GlobalFiler™ EXPRESS					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12	29.2,31.2	6,6	9,11	14,15	
G9CPNY	Identifiler® Plus					
		19,24		16,17		11,12
3		9,10	13,13			
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	
			6,6	9,11	14,15	
JNGXGX	Identifiler® Direct					
	-	19,24	-	16,17	-	11,12
3	-	9,10	13	-	-	-
	11,12	13	-	13,15	13,15	-
	29,30	-	X,Y	10,12	22,23	-
	-	-	6	9,11	14,15	

TABLE 1

Item 3 - STR Results

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	
K4MKGY	IDplex Plus					
		19,24		16,17		11,12
3		9,10	13,13			
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	
			6,6	9,11	14,15	
KNB49B	Identifiler® Plus					
		19,24		16,17		11,12
3		9,10	13			
	11,12	13		13,15	13,15	
	29,30		X,Y	10,12	22,23	9,12
	10,12		6	9,11	14,15	
LYQCCV	GlobalFiler™					
		19,24		16,17		11,12
3		9,10	13			
	11,12	13		13,15	13,15	
	29,30		X,Y	10,12	22,23	
			6	9,11	14,15	
N7ZHZX	PowerPlex® 21					
	14,18	19,24	-	16,17	-	11,12
3	11,12	9,10	13,13	-	-	18,22
	11,12	13,13	-	13,15	13,15	-
	29,30	-	X,Y	10,12	22,23	9,12
	10,12	-	6,6	9,11	14,15	
NVZV92	GlobalFiler™					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	
		29.2,31.2	6,6	9,11	14,15	
QHP2UT	Identifiler® Plus					
		19,24		16,17		11,12
3		9,10	13,13			
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	
			6,6	9,11	14,15	

TABLE 1

Item 3 - STR Results

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	
R7QKHX	GlobalFiler™					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	
		29.2,31.2	6,6	9,11	14,15	
RCVLHR	PowerPlex® FUSION 5C					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12		6,6	9,11	14,15	
T4TUM3	Identifiler® Plus					
		19,24		16,17		11,12
3		9,10	13,13			
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	
			6,6	9,11	14,15	
VGU8YK	PowerPlex® FUSION, PowerPlex ESX17					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12	29.2,31.2	6,6	9,11	14,15	
WNA8TM	PowerPlex® Fusion 6C					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13		12,15	18,22
	11,12	13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12	29.2,31.2	6	9,11	14,15	
WNABJR	GlobalFiler™					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13		12,15	18,22
	11,12	13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	
		29.2,31.2	6	9,11	14,15	

TABLE 1

Webcode	Amplification Kits					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 3 - STR Results

Y72X3L	PowerPlex® 21					
	14,18	19,24		16,17		11,12
3	11,12	9,10	13,13			18,22
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	9,12
	10,12		6,6	9,11	14,15	
YDNNNG						
		19,24		16,17		11,12
3		9,10	13,13			
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	
			6,6	9,11	14,15	
YYKJYG	Identifiler® Plus					
		19,24		16,17		11,12
3		9,10	13,13			
	11,12	13,13		13,15	13,15	
	29,30		X,Y	10,12	22,23	
			6,6	9,11	14,15	
Z9L4YN	PowerPlex® Fusion 5C					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12		6,6	9,11	14,15	
ZDF4DJ	PowerPlex® Fusion, NGM SE					
	14,18	19,24	14,15	16,17		11,12
3		9,10	13,13		12,15	18,22
	11,12	13,13		13,15	13,15	
	29,30	15,16	X,Y	10,12	22,23	9,12
	10,12	29.2,31.2	6,6	9,11	14,15	
ZHCMFG	Identifiler® Direct					
	-	19,24	-	16,17	-	11,12
3	-	9,10	13	-	-	-
	11,12	13	-	13,15	13,15	-
	29,30	-	X,Y	10,12	22,23	-
	-	-	6	9,11	14,15	

Item 3 Paternity Index Results

TABLE 2

Webcode	Population Database(s)					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 3 - Paternity Index Results

22HHME	NIST-STRBASE					
	72.2	4.149	2.074	0.978		0.942
3		2.983	3.033		15.695	5.231
	1.860	6.118		2.934	1.961	
	2.472	1.556		1.388	2.439	2.148
	5.822	9.025	4.247	1.983	5.388	
2BPGWF	NIST-STRBASE					
	72.2000	4.1493	2.0746	0.9782		0.9425
3		2.9832	3.0339		15.6739	5.2301
	1.8608	6.1199		2.9342	1.9623	
	2.4727	1.5561		1.3885	2.4390	2.1486
	5.8207		4.2462	1.9833	5.3879	
3Y9UME	FBI PopStats					
	40.323	3.3113	1.9055	1.0412		0.99502
3		3.4247	2.9922		13.477	4.8077
	1.6160	6.1200		3.7397	1.7876	
	2.7670	1.3740		1.5305	2.6582	2.3764
	5.3135		4.4405	1.9608	5.0505	
4WJ86B	NIST-STRBASE					
		4.15		0.98		0.94
3		2.98	3.03			
	1.86	6.12		2.93	1.96	
	2.47		-	1.39	2.44	
			4.25	1.98	5.39	
6J8Y3J	Laboratory database					
	142.166	4.44895	1.79591	0.95228		0.97812
3	1.20509	3.20243	3.07949		17.0322	4.45287
	1.7446	5.57189		3.6948	1.97909	
	2.40479	1.25118		1.56917	2.8184	2.37184
	5.48696		4.27889	2.00419	4.94349	
766TNE	NIST-STRBASE					
	90.25	4.15	2.07	0.98		0.94
3		2.98	3.03		15.70	5.23
	1.86	6.12		2.93	1.96	
	2.47	1.56		1.39	2.44	
		9.03	4.25	1.98	5.39	

TABLE 2

Webcode	Population Database(s)					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 3 - Paternity Index Results

76L7RH	FBI PopStats					
	40.323	3.3113	1.9055	1.0412		0.99502
3		3.4247	2.9922		13.477	4.8077
	1.6160	6.1200		3.7397	1.7876	
	2.7670	1.3740		1.5305	2.6582	
		5.4585	4.4405	1.9608	5.0505	
7EAZ4E	[Country] Caucasian Pop. Database ([Organization])					
	105.2	4.00	1.80	0.97		0.98
3		3.34	3.31		17.03	4.19
	1.82	5.80		3.69	1.99	
	2.39	1.25		1.58	2.58	
		6.21	4.05	2.03	4.19	
7F6FFB	NIST-STRBASE					
	72.2000	4.1493	2.0746	0.9782		0.9425
3		2.9832	3.0339		15.6739	5.2301
	1.8608	6.1199		2.9342	1.9623	
	2.4727	1.5561		1.3885	2.4390	2.1486
	5.8207		4.2462	1.9833	5.3879	
7ZA2FH	NIST-STRBASE					
		4.1494		0.9783		0.9425
3		2.9833	3.0340			
	1.8608	6.1200		2.9343	1.9623	
	2.4728			1.3885	2.4390	
			4.2463	1.9833	5.3879	
8FHCKF	NIST-STRBASE					
	72.464	4.1494	2.0747	0.97828		0.94251
3		2.9833	3.0340		15.674	5.2301
	1.8608	6.1200		2.9343	1.9623	
	2.4728	1.5562		1.3885	2.4390	
		9.0253	4.2463	1.9833	5.3879	
9DPXAB	Powerplex 21 [Country]					
	17.79	3.82		0.88		0.91
3	1.09	2.90	2.86			3.82
	1.59	4.68		3.27	1.90	
	2.26			1.54	2.59	2.23
	4.52		3.52	1.92	4.16	

TABLE 2

Webcode	Population Database(s)					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 3 - Paternity Index Results

9VQKZA	NIST-STRBASE					
	72.2000	4.1493	2.0746	0.9782		0.9425
3		2.9832	3.0339		15.6739	5.2301
	1.8608	6.1199		2.9342	1.9623	
	2.4727	1.5561		1.3885	2.4390	2.1486
	5.8207		4.2462	1.9833	5.3879	
A2B3UC	Laboratory specific database					
	8.0883	2.0662	-	0.8011	-	1.0159
3	1.1997	4.0155	3.3742	-	-	4.9156
	1.8224	4.8564	-	3.2782	1.6437	-
	2.2726	-	-	1.4690	2.7471	2.4987
	6.2636	-	2.5042	1.9941	5.1193	
AAKUWE	FBI PopStats					
	40.323	3.3113	1.9055	1.0412		0.99502
3		3.4247	2.9922		13.477	4.8077
	1.6160	6.1200		3.7397	1.7876	
	2.7670	1.3740		1.5305	2.6582	
		5.4585	4.4405	1.9608	5.0505	
CRZKB6	NIST-STRBASE					
	-	4.1494	-	0.9783	-	0.9425
3	-	2.9833	3.0340	-	-	-
	1.8608	6.1200	-	2.9343	1.9623	-
	2.4728	-		1.3885	2.4390	-
	-	-	4.2463	1.9833	5.3879	
D3UFL6	NIST-STRBASE					
	72.2000	4.1493	2.0746	0.9782		0.9425
3		2.9832	3.0339		15.6739	5.2301
	1.8608	6.1199		2.9342	1.9623	
	2.4727	1.5561		1.3885	2.4390	2.1486
	5.8207		4.2462	1.9833	5.3879	
DFJFC8	NIST-STRBASE					
	72.2000	4.1494		0.9783		0.9425
3	1.2668	2.9833	3.0340			5.2301
	1.8608	6.1200		2.9343	1.9623	
	2.4728			1.3885	2.4390	2.1487
	5.8207		4.2463	1.9833	5.3879	

TABLE 2

Webcode	Population Database(s)					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 3 - Paternity Index Results

DGEVP4	[Country] Caucasian					
	80.17	4.05	1.52	1.07		0.99
3		33.11	3.06		17.24	45.45
	1.89	5.37		3.12	2.61	
	2.70	1.55	1	1.56	2.80	2.15
	4.81		4.90	1.79	4.42	
EGQW9H	NIST-STRBASE					
		4.15		0.98		0.94
3		2.98	3.03			
	1.86	6.12		2.93	1.96	
	2.47			1.39	2.44	
			4.25	1.98	5.39	
ERQMR4	Promega					
	72.4638	4.1494		0.9783		0.9425
3	1.2668	2.9833	3.0340			5.2301
	1.8608	6.1200		2.9343	1.9623	
	2.4728			1.3885	2.4390	2.1487
	5.8207		4.2463	1.9833	5.3879	
F6TD8G	NIST-STRBASE					
	90.24	4.14	2.07	0.97		0.94
3		2.98	3.03		15.69	5.23
	1.86	6.11		2.93	1.96	
	2.47	1.55		1.38	2.43	2.14
	5.82	9.02	4.24	1.98	5.38	
G9CPNY	FBI PopStats					
		3.3114		1.0412		0.9950
3		3.4246	2.9922			
	1.6160	6.1200		3.7397	1.7876	
	2.7670			1.5305	2.6582	
			4.4405	1.9608	5.0505	
JNGXGX	NIST-STRBASE					
	-	4.1494	-	0.9783	-	0.9425
3	-	2.9833	3.0340	-	-	-
	1.8608	6.1200	-	2.9343	1.9623	-
	2.4728	-	-	1.3885	2.4390	-
	-	-	4.2463	1.9833	5.3879	

TABLE 2

Webcode	Population Database(s)					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 3 - Paternity Index Results

K4MKGY	NIST-STRBASE					
		4.1497		0.9783		0.9426
3		2.9833	3.0340			
	1.8608	6.1193		2.9346	1.9619	
	2.4728			1.3885	2.4392	
			4.2467	1.9835	5.3879	
KNB49B	FBI PopStats , Promega database for Penta D or Penta E					
		3.39		1.03		0.992
3		3.38	2.93			
	1.62	6.04		3.85	1.75	
	2.73		--	1.52	2.62	2.08
	5.42		4.38	1.94	4.79	
LYQCCV	Life Technologies Database					
		3.64		1.04		0.99
3		2.84	3.08			
	1.62	5.97		3.67	1.73	
	2.44			1.52	2.96	
			4.88	1.93	6.02	
N7ZHZX	Powerplex 21 [Country] Caucasian Dataset					
	22.6	4.07	-	0.92	-	0.94
3	1.14	3.06	2.96	-	-	4.08
	1.65	4.91	-	3.47	1.98	-
	2.37	-	-	1.60	2.74	2.34
	4.85	-	3.67	2.00	4.45	
NVZV92	FBI PopStats					
	40.323	3.3113	1.9055	1.0412		0.99502
3		3.4247	2.9922		13.477	4.8077
	1.6160	6.1200		3.7397	1.7876	
	2.7670	1.3740		1.5305	2.6582	
		5.4585	4.4405	1.9608	5.0505	
QHP2UT	NIST-STRBASE					
		4.15		0.98		0.94
3		2.98	3.03			
	1.86	6.12		2.93	1.96	
	2.47			1.39	2.44	
			4.25	1.98	5.39	

TABLE 2

Webcode	Population Database(s)					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 3 - Paternity Index Results

R7QKHX	FBI PopStats					
	40.323	3.3113	1.9055	1.0412		0.99502
3		3.4247	2.9922		13.477	4.8077
	1.6160	6.1200		3.7397	1.7876	
	2.7670	1.3740	N/A	1.5305	2.6582	
		5.4585	4.4405	1.9608	5.0505	
RCVLHR	FBI PopStats					
		3.4554		1.0465		0.99980
3		3.3829	2.9472			
	1.6197	6.1200		3.9185	1.7674	
	2.7609			1.5380	2.6483	
			4.4131	1.9708	4.9020	
T4TUM3	Local/State Database					
		4.57		1		0.96
3		2.6	3.05			
	1.72	6.12		2.85	2.04	
	2.28		1	1.56	3.06	
			4.34	1.86	3.76	
VGU8YK	NIST-STRBASE					
	72.46	4.15	2.07	0.98		0.94
3		2.98	3.03		15.67	5.23
	1.86	6.12		2.93	1.96	
	2.47	1.55		1.38	2.44	2.15
	5.82	9.02	4.25	1.98	5.38	
WNA8TM	NIST-STRBASE					
	30.07	4.08	1.66	0.97		1.69
3		3.53	2.95		14.28	4.16
	1.65	5.83		3.43	1.97	
	30.02	1.39		1.60	3.14	3.09
	5.85	23.41	4.12	2.01	5.52	
WNABJR	FBI PopStats					
	40.32	3.31	1.90	1.04		1.00
3		3.42	2.99		13.48	4.81
	1.62	6.12		3.74	1.79	
	2.77	1.37		1.53	2.66	
		5.46	4.44	1.96	5.05	

TABLE 2

Webcode	Population Database(s)					
Item	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	Penta E	SE33	TH01	TPOX	vWA	

Item 3 - Paternity Index Results

Y72X3L	NIST-STRBASE					
	20.87	3.84		0.94		0.91
3	1.19	2.88	2.92			4.66
	1.75	5.30		2.83	1.97	
	2.43			1.42	2.40	2.14
	5.09		3.65	1.98	4.78	
YYKJYG	NIST-STRBASE					
		4.38		0.97		0.95
3		2.82	3.27			
	2.01	6.84		3.14	1.97	
	2.56		-	1.38	2.28	
			4.31	2.05	5.31	
Z9L4YN	FBI PopStats					
	40.323	3.3113	1.9055	1.0412		.99502
3		3.4247	2.9922		13.477	4.8077
	1.6160	6.1200		3.7397	1.7876	
	2.7670	1.3740		1.5305	2.6582	2.3764
	5.3135		4.4405	1.9608	5.0505	
ZDF4DJ	[Country] Population					
	166.666667	4.166667	1.655629	1.014199		0.952381
3		3.759398	3.194888		14.705882	4.132231
	2.100840	12.820513		3.067485	2.415459	
	2.380952	1.506024		1.592357	2.293578	2.590674
	3.787879	15.151515	4.048583	2.252252	5.154639	
ZHCMFG	NIST-STRBASE					
	-	4.149378	-	0.978282	-	0.942507
3	-	2.983294	3.033981	-	-	-
	1.860811	6.119951	-	2.934272	1.962323	-
	2.472799	-	-	1.388503	2.439024	-
	-	-	4.246285	1.98334	5.387931	

YSTR Amplification Kit(s) & Results

TABLE 3

Webcode	Amplification Kit										
Item	DYF387S1	DYS19	DYS385	DYS389_I	DYS389_II	DYS390	DYS391	DYS392	DYS393	DYS437	
	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518	
	DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	YGATAH4	Y Indel

Item 2 - YSTR Results

22HHME	PowerPlex® Fusion 6c										
2							11				
				18	17						
2BPGWF	Yfiler®										
2		14	11,14	13	30	24	11	13	12	15	
	12	11	20		16	16					
								24		12	
3Y9UME	PowerPlex® Fusion										
2							11				
4WJ86B	Yfiler®										
2		14	11,14	13	30	24	11	13	12	15	
	12	11	20		16	16					
								24		12	
766TNE	Yfiler® Plus, GlobalFiler™										
2	35,37	14	11,14	13	30	24	11	13	12	15	
	12	11	20	28	16	16	11	21		38	
		12		18	17		21	24		12	2
76L7RH	Yfiler® Plus, GlobalFiler™										
2	35,37	14	11,14	13	30	24	11	13	12	15	
	12	11	20	28	16	16	11	21		38	
		12		18	17		21	24		12	2
7EAZ4E	GlobalFiler™										
2							11				
											2
7F6FFB	Yfiler®										
2		14	11,14	13	30	24	11	13	12	15	
	12	11	20		16	16					
								24		12	
7ZA2FH	Yfiler®										
2		14	11,14	13	30	24	11	13	12	15	
	12	11	20		16	16					
								24		12	
8FHCKF	Investigator® 24plex										
2							11				

TABLE 3

Item 2 - YSTR Results

Webcode Item	Amplification Kit	DYF387S1	DYS19	DYS385	DYS389_I	DYS389_II	DYS390	DYS391	DYS392	DYS393	DYS437	
		DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518	
		DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	YGATAH4	Y Indel
9VQKZA	Yfiler®											
2			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	
AAKUWE	Yfiler® Plus											
2		35,37	14	11,14	13	30	24	11	13	12	15	
		12	11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	
CRZKB6	Yfiler®											
2		-	14	11,14	13	30	24	11	13	12	15	
		12	11	20	-	16	16	-	-	-	-	
		-	-	-	-	-	-	-	24	-	12	-
D3UFL6	Yfiler®											
2			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	
DGEVP4	PowerPlex® Fusion 23											
2								11				
ERQMR4	PowerPlex® Y Y23											
2			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16		21			
			12	12	18	17			24	10	12	
F6TD8G	PowerPlex® Y 23, GlobalFiler™											
2			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16		21			
			12	12	18	17			24	10	12	2
G9CPNY	Yfiler® plus											
2		35,37	14	11,14	13	30	24	11	13	12	15	
		12	11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	
JNGXGX	Yfiler®											
2		-	14	11,14	13	30	24	11	13	12	15	
		12	11	20	-	16	16	-	-	-	-	
		-	-	-	-	-	-	-	24	-	12	-
K4MKGY	Yfiler® Plus											
2		35,37	14	11,14	13	30	24	11	13	12	15	
		12	11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	

TABLE 3

Item 2 - YSTR Results

Webcode Item	Amplification Kit	DYF387S1	DYS19	DYS385	DYS389_I	DYS389_II	DYS390	DYS391	DYS392	DYS393	DYS437	
		DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518	
		DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	YGATAH4	Y Indel
NVZV92	Yfiler® Plus											
2		35,37	14	11,14	13	30	24	11	13	12	15	
		12	11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	
QHP2UT	Yfiler®											
2			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	
R7QKHX	Yfiler® Plus											
2		35,37	14	11,14	13	30	24	11	13	12	15	
		12	11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	2
RCVLHR	PowerPlex® Y 23											
2			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16		21			
			12	12	18	17			24	10	12	
VGU8YK	PowerPlex® Y 23, PowerPlex® Fusion											
2			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16		21			
			12	12	18	17			24	10	12	
WNA8TM	PowerPlex® Fusion 6C											
2								11				
					18	17						
WNABJR	GlobalFiler™											
2								11				
												2
YYKJYG	Yfiler®											
2			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	
Z9L4YN	Yfiler®											
2			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	
ZDF4DJ	Yfiler®											
2			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	

TABLE 3

Webcode	Amplification Kit										
Item	DYF387S1	DYS19	DYS385	DYS389_I	DYS389_II	DYS390	DYS391	DYS392	DYS393	DYS437	
	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518	
	DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	YGATAH4	Y Indel

Item 2 - YSTR Results

ZHCMFG	Yfiler®										
2	-	14	11,14	13	30	24	11	13	12	15	
	12	11	20	-	16	16	-	-	-	-	
	-	-	-	-	-	-	-	24	-	12	-

TABLE 3

Item 3 - YSTR Results

Webcode Item	Amplification Kit	DYF387S1	DYS19	DYS385	DYS389_I	DYS389_II	DYS390	DYS391	DYS392	DYS393	DYS437	
		DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518	
		DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	YGATAH4	Y Indel
22HHME	PowerPlex® Fusion 6c											
3								11				
					18	17						
2BPGWF	Yfiler®											
3			14	11,14	13	30	24	11	13	12	15	
	12		11	20		16	16					
									24		12	
3Y9UME	PowerPlex® Fusion											
3								11				
4WJ86B	Yfiler®											
3			14	11,14	13	30	24	11	13	12	15	
	12		11	20		16	16					
									24		12	
766TNE	Yfiler® Plus, GlobalFiler™											
3	35,37		14	11,14	13	30	24	11	13	12	15	
	12		11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	2
76L7RH	Yfiler® Plus, GlobalFiler™											
3	35,37		14	11,14	13	30	24	11	13	12	15	
	12		11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	2
7EAZ4E	GlobalFiler™											
3								11				
												2
7F6FFB	Yfiler®											
3			14	11,14	13	30	24	11	13	12	15	
	12		11	20		16	16					
									24		12	
7ZA2FH	Yfiler®											
3			14	11,14	13	30	24	11	13	12	15	
	12		11	20		16	16					
									24		12	
8FHCKF	Investigator® 24plex											
3								11				

TABLE 3

Item 3 - YSTR Results

Webcode Item	Amplification Kit	DYF387S1	DYS19	DYS385	DYS389_I	DYS389_II	DYS390	DYS391	DYS392	DYS393	DYS437	
		DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518	
		DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	YGATAH4	Y Indel
9VQKZA	Yfiler®											
3			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	
AAKUWE	Yfiler® Plus											
3		35,37	14	11,14	13	30	24	11	13	12	15	
		12	11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	
CRZKB6	Yfiler®											
3		-	14	11,14	13	30	24	11	13	12	15	
		12	11	20	-	16	16	-	-	-	-	
		-	-	-	-	-	-	-	24	-	12	-
D3UFL6	Yfiler®											
3			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	
DGEVP4	PowerPlex® Fusion 23											
3								11				
ERQMR4	PowerPlex® Y Y23											
3			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16		21			
			12	12	18	17			24	10	12	
F6TD8G	PowerPlex® Y 23, GlobalFiler™											
3			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16		21			
			12	12	18	17			24	10	12	2
G9CPNY	Yfiler® Plus											
3		35,37	14	11,14	13	30	24	11	13	12	15	
		12	11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	
JNGXGX	Yfiler®											
3		-	14	11,14	13	30	24	11	13	12	15	
		12	11	20	-	16	16	-	-	-	-	
		-	-	-	-	-	-	-	24	-	12	-
K4MKGY	Yfiler® Plus											
3		35,37	14	11,14	13	30	24	11	13	12	15	
		12	11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	

TABLE 3

Item 3 - YSTR Results

Webcode Item	Amplification Kit	DYF387S1	DYS19	DYS385	DYS389_I	DYS389_II	DYS390	DYS391	DYS392	DYS393	DYS437	
		DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518	
		DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	YGATAH4	Y Indel
NVZV92	Yfiler® Plus											
3		35,37	14	11,14	13	30	24	11	13	12	15	
		12	11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	
QHP2UT	Yfiler®											
3			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	
R7QKHX	Yfiler® Plus											
3		35,37	14	11,14	13	30	24	11	13	12	15	
		12	11	20	28	16	16	11	21		38	
			12		18	17		21	24		12	2
RCVLHR	PowerPlex® Y 23											
3			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16		21			
			12	12	18	17			24	10	12	
VGU8YK	PowerPlex® Y 23, PowerPlex® Fusion											
3			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16		21			
			12	12	18	17			24	10	12	
WNA8TM	PowerPlex® Fusion 6C											
3								11				
					18	17						
WNABJR	GlobalFiler™											
3								11				
												2
YYKJYG	Yfiler®											
3			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	
Z9L4YN	Yfiler®											
3			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	
ZDF4DJ	Yfiler®											
3			14	11,14	13	30	24	11	13	12	15	
		12	11	20		16	16					
									24		12	

TABLE 3

Webcode	Amplification Kit										
Item	DYF387S1	DYS19	DYS385	DYS389_I	DYS389_II	DYS390	DYS391	DYS392	DYS393	DYS437	
	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518	
	DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	YGATAH4	Y Indel

Item 3 - YSTR Results

ZHCMFG	Yfiler® Classic										
3	-	14	11,14	13	30	24	11	13	12	15	
	12	11	20	-	16	16	-	-	-	-	
	-	-	-	-	-	-	-	24	-	12	-

Additional DNA & PI Results

TABLE 4

Locus	Webcode	Item 1	Item 2	Item 3	Item 3 Paternity Index
DX10103	ZDF4DJ	18 ,19	19	17	
DXS10074	ZDF4DJ	17 ,18	17	16	
DXS10079	ZDF4DJ	16 ,21	16	16	
DXS10101	ZDF4DJ	29.2 ,29.2	29.2	33	
DXS10134	ZDF4DJ	36 ,37	36	40.3	
DXS10135	ZDF4DJ	19 ,20	20	24	
DXS10146	ZDF4DJ	25 ,30	30	42.2	
DXS10148	ZDF4DJ	24.1 ,26.1	24.1	24.1	
DXS7132	ZDF4DJ	13 ,16	16	12	
DXS7423	ZDF4DJ	14 ,15	14	14	
DXS8378	ZDF4DJ	11 ,12	11	10	
F13A	ERQMR4	6	3.2,6	3.2,5	7.8493
F13B	ERQMR4	9,10	10	10	2.5510
FESFPS	ERQMR4	10,11	11	11	2.4307
HPRTB	ZDF4DJ	12 ,12	12	14	
LPL	ERQMR4	10,12	10,11	11,13	1.9099
PENTA C	ERQMR4	11,13	9,11	5,9	3.3738

Paternity DNA Statistics

TABLE 5

Webcode	Combined Paternity Index	Probability of Paternity	Population Database Used
22HHME	1.9E +12	N/A	NIST-STRBASE
2BPGWF	2.06 x 10^11	99.9%	NIST-STRBASE
3Y9UME	99,380,000,000	99.999999998994	FBI PopStats
4WJ86B	862981.7123	99.99988412 %	NIST-STRBASE
6J8Y3J	497683383147	99.9999999998%	Laboratory database
766TNE	186,341,960,941	0.999999999995	NIST-STRBASE
76L7RH	42,960,000,000	99.999999997672	FBI PopStats
7EAZ4E	113,835,535,265	greater than 99.99%	[Country] Caucasian Pop. Database ([Organization])
7F6FFB	206 billion	99.9	NIST-STRBASE
7ZA2FH	862863.1435	99.9998%	NIST-STRBASE
8FHCKF	149.4 Billion	>99.99%	NIST-STRBASE
9DPXAB	219,320,550	100%	Powerplex 21 [Country]
9VQKZA	206 billion	99.9%	NIST-STRBASE
A2B3UC	1.904E+008	-	Laboratory specific database
AAKUWE	42,960,000,000	99.999999997672	FBI PopStats
CRZKB6	862863.1435	99.9998%	NIST-STRBASE
D3UFL6	2.06E+11	99.9	NIST-STRBASE
DFJFC8	5.162E+009	99.9999%	NIST-STRBASE
DGEVP4	2,5E+13	99,999999	[Country] Caucasian
EGQW9H	860000	N/A	NIST-STRBASE
ERQMR4	1,624,915,062,310.0700	99.9999	Promega
F6TD8G	2 331 419 233 643	99.99999999995	NIST-STRBASE
G9CPNY	1,150,456.59	99.99%	FBI PopStats
JNGXGX	862863.1435	99.9998%	NIST-STRBASE
K4MKGY	863121.4938	0.999998841416568	NIST-STRBASE
KNB49B	11,300,000	99.999991%	FBI PopStats, Promega database for Penta D or Penta E

TABLE 5

Webcode	Combined Paternity Index	Probability of Paternity	Population Database Used
LYQCCV	1,243,834	99.99	Life Technologies Database
N7ZHZX	7.2 x 10^8	N/A	Powerplex 21 [Country] Caucasian Dataset
NVZV92	42,960,000,000	99.999999997672	FBI PopStats
QHP2UT	862,981.7123	0.9999988412	NIST-STRBASE
R7QKHX	42,960,000,000	99.999999997672	FBI PopStats
RCVLHR	1186000	99.99991568%	FBI PopStats
T4TUM3	700000	99.99%	Local/State Database
VGU8YK	1.86 E+12	>99.9999999999	NIST-STRBASE
WNA8TM	5,444357344e+013	99,99999999%	NIST-STRBASE
WNABJR	40,000,000,000	99.999999997672	FBI PopStats
Y72X3L	1.08e8	99.99%	NIST-STRBASE
YYKJYG	1233006.42669	99.999918897488%	NIST-STRBASE
Z9L4YN	99,380,000,000	99.999999998994	FBI PopStats
ZDF4DJ	14804177320084,00	0.999999999999932	[Country] Population
ZHCMFG	862,863.1	99.9998%	NIST-STRBASE

Paternity Conclusions

TABLE 6

Webcode	Conclusions	Webcode	Conclusions
22HHME	Not Excluded	KNB49B	Not Excluded
2BPGWF	Not Excluded	LYQCCV	Not Excluded
3Y9UME	Not Excluded	N7ZHZX	Not Excluded
4WJ86B	Not Excluded	NVZV92	Not Excluded
6J8Y3J	Not Excluded	QHP2UT	Not Excluded
766TNE	Not Excluded	R7QKHX	Not Excluded
76L7RH	Not Excluded	RCVLHR	Not Excluded
7EAZ4E	Not Excluded	T4TUM3	Not Excluded
7F6FFB	Not Excluded	VGU8YK	Not Excluded
7ZA2FH	Not Excluded	WNA8TM	Not Excluded
8FHCKF	Not Excluded	WNABJR	Not Excluded
9DPXAB	Not Excluded	Y72X3L	Not Excluded
9VQKZA	Not Excluded	YDNNNG	Not Excluded
A2B3UC	Not Excluded	YYKJYG	Not Excluded
AAKUWE	Not Excluded	Z9L4YN	Not Excluded
CRZKB6	Not Excluded	ZDF4DJ	Not Excluded
D3UFL6	Not Excluded	ZHCMFG	Not Excluded
DFJFC8	Not Excluded		
DGEVP4	Not Excluded		
EGQW9H	Not Excluded		
ERQMR4	Not Excluded		
F6TD8G	Not Excluded		
G9CPNY	Not Excluded		
JNGXGX	Not Excluded		
K4MKGY	Not Excluded		

Response Summary		Total: 42
Responses	Not Excluded	42
	Excluded	0
	Inconclusive	0

Kinship DNA Statistics

Is the claim of a Caucasian Half Siblings relationship supported by the genetic evidence?

TABLE 7

Webcode	Database	Kinship Index	Claim Supported?
6J8Y3J	Laboratory database	2704	Yes
766TNE	NIST-STRBASE	9300	Yes
7ZA2FH	NIST-STRBASE	9318.1414	yes
AAKUWE	FBI PopStats	2,412	Yes
CRZKB6	NIST-STRBASE	9318.1414	yes
DGEVP4	[Country] Caucasian	Full Siblings: LR=7,5E+4; Half Sibling: LR=1,6E+4; Unrelated: Posterior probabilty= 0,0010166	Genetic evidence suports the hypothesis that they are rather full siblings of Caucasian origin: LR=7,5E+4, LR for half siblings of Caucasian origin amounts 1,16E+4.
EGQW9H	NIST-STRBASE	9300	Yes
ERQMR4	Promega	3717.9650	Yes
G9CPNY	FBI PopStats	5,347,99	Yes
JNGXGX	NIST-STRBASE	9318.1414	yes
K4MKGY	NIST-STRBASE	9,318.1414	Yes, it is.
KNB49B	FBI PopStats, Promega database for Penta D or Penta E	4999.52	Yes
N7ZHZX	Powerplex 21 [Country] Caucasian Dataset	450	Yes
NVZV92	FBI PopStats	2,412	yes
QHP2UT	NIST-STRBASE	9,300.2671	Supported
R7QKHX	FBI PopStats	2,412	Yes
RCVLHR	FBI PopStats	5481	No, because there is not genetic evidence from the parents and/or there is a lack of genetic information, however they can not be excluded from being half siblings.
T4TUM3	Local/State Database	0.139	No, the DNA evidence does not support the relationship

TABLE 7

Webcode	Database	Kinship Index	Claim Supported?
VGU8YK	NIST-STRBASE	9318	Yes, it is
WNA8TM	NIST-STRBASE	6704	Yes, it is
YYKJYG	NIST-STRBASE	849.9015	Yes
ZDF4DJ	[Country] Population	10001.11	YES

Additional Kinship Statistical Results

TABLE 8

Webcode	Additional Statistical Results
6J8Y3J	Please note, SE33 is not included in the calculation as it does not form part of our laboratory database.
7ZA2FH	[Participant created a manually formatted table within the free form text space. This special formatting was not transferable into the final report. Data is presented as is.] U=Half Brother A=Half Sister U/?:M+F A:M+X Locus STR Half Brother Half Sister Formula Given frequency LR D1S1656 12,14 12,14 (p+u+4pu) / 8pu p=12, u=14 0.1163 0.0789 3.1591 D2S1338 17,18 18,24 (1+4q) / 8q q=18 0.0734 2.2030 D2S441 11,14 10,11 (1+4q) / 8q q=11 0.3435 0.8639 D3S1358 14,16 14,17 (1+4p) / 8p p=14 0.1066 1.6726 D5S818 11,12 11,11 (1+2p) / 4p p=11 0.356 1.2022 D7S820 8,11 8,11 (p+u+4pu) / 8pu p=8, u=11 0.144 0.2050 1.9778 D8S1179 10,16 10,13 (1+4p) / 8p p=10 0.1025 1.7195 D10S1248 13,13 13,15 (1+2p) / 4p p=13 0.3075 1.3130 D12S391 17,22 18,19 1/2 0.5 0.5000 D13S317 8,11 8,12 (1+4p) / 8p p=8 0.1205 1.5373 D16S539 12,14 9,12 (1+4s) / 8s s=12 0.3144 0.8976 D18S51 13,17 12,16 1/2 0.5 0.5000 D19S433 13,14.2 13,16 (1+4p) / 8p p=13 0.2548 0.9906 D21S11 27,28 28,32.2 (1+4q) / 8q q=28 0.1593 1.2847 D22S1045 11,15 15,15 (1+2p) / 4p p=15 0.3213 1.2781 AMEL X,Y X,X CSF1PO 11,11 11,11 (1+p) / 2p p=11 0.3089 2.1186 FGA 18,26 18,26 (p+u+4pu) / 8pu p=18,u=26 0.0249 0.0263 10.2729 PENTA D 9,9 9,12 (1+2p) / 4p p=9 0.2216 1.6282 PENTA E 7,8 7,11 (1+4p) / 8p p=7 0.169 1.2396 SE33 15,17 17,20 (1+4p) / 8p p=17 0.0623 2.5064 TH01 6,9 9,9.3 (1+4s) / 8s s=9 0.1191 1.5495 TPOX 8,9 8,8 (1+2p) / 4p p=8 0.5249 0.9763 VWA 14,17 14,15 (1+4p) / 8p p=14 0.0928 1.8470 cumulative LR= 9318.1414. Probability of Sibship= LR/(LR+1)X 100% = 9318.1414/(9318.1414+1)X 100% = 99.9893%
AAKUWE	[Participant created a manually formatted table within the free form text space. This special formatting was not transferable into the final report. Data is presented as is.] Item 3: 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 - 820 BILLION; Caucasian - 42 BILLION; Hispanic - 1.2 TRILLION. Y STRs: The DNA profile is single source. The alleged father, Subject Subject, cannot be excluded as the potential biological father of Child Victim using Y-STRs. These profiles are "X" times more likely to occur if the above-referenced individuals (or their patrilineal relative(s)) are the contributors than if the source of the evidence is a random, unrelated person from the reference populations listed where "X" equals*: African American - 1852; Caucasian - 2165; Hispanic - 1454. *Numbers are based upon the US Y-STR database and a 95% confidence limit. KINSHIP DNA STATISTICS (NON-PARENTAGE) Half Brother and Half Sister: Autosomal STRs: The DNA profile is single source. The kinship index supports the hypothesis that Profile B (Half Sister) is the half sibling of Profile A (Half Brother) using the reference populations listed. The genotype observed for Profile B is "X" times more likely to occur in a half sibling of Profile A than in someone unrelated to Profile A from the reference populations listed where "X" equals: African American - 630 THOUSAND; Caucasian - 2.4 THOUSAND; Hispanic - 57 THOUSAND

TABLE 8

Webcode	Additional Statistical Results
CRZKB6	[Participant created a manually formatted table within the free form text space. This special formatting was not transferable into the final report. Data is presented as is.] U = Half brother A = Half sister U/?:M+F A:M+Y Locus STR Half Brother Half Sister Formula Given frequency LR D1S1656 12,14 12,14 (p+u+4pu) / 8pu p=12, u=14 0.1163 0.0789 3.1591 D2S1338 17,18 18,24 (1+4q) / 8q q=18 0.0734 2.2030 D2S441 11,14 10,11 (1+4q) / 8q q=11 0.3435 0.8639 D3S1358 14,16 14,17 (1+4p) / 8p p=14 0.1066 1.6726 D5S818 11,12 11,11 (1+2p) / 4p p=11 0.356 1.2022 D7S820 8,11 8,11 (p+u+4pu) / 8pu p=8, u=11 0.144 0.2050 1.9778 D8S1179 10,16 10,13 (1+4p) / 8p p=10 0.1025 1.7195 D10S124813,13 13,15 (1+2p) / 4p p=13 0.3075 1.3130 D12S391 17,22 18,19 1/2 0.5 0.5000 D13S317 8,11 8,12 (1+4p) / 8p p=8 0.1205 1.5373 D16S539 12,14 9,12 (1+4s) / 8s s=12 0.3144 0.8976 D18S51 13,17 12,16 1/2 0.5 0.5000 D19S433 13,14.2 13,16 (1+4p) / 8p p=13 0.2548 0.9906 D21S11 27,28 28,32.2 (1+4q) / 8q q=28 0.1593 1.2847 D22S104511,15 15,15 (1+2p) / 4p p=15 0.3213 1.2781 AMEL X,Y X,X CSF1PO 11,11 11,11 (1+p) / 2p p=11 0.3089 2.1186 FGA 18,26 18,26 (p+u+4pu) / 8pu p=18,u=26 0.0249 0.0263 10.2729 PENTA D 9,9 9,12 (1+2p) / 4p p=9 0.2216 1.6282 PENTA E 7,8 7,11 (1+4p) / 8p p=7 0.1690 1.2396 SE33 15,17 17,20 (1+4p) / 8p p=17 0.0623 2.5064 TH01 6,9 9,9.3 (1+4s) / 8s s=9 0.1191 1.5495 TPOX 8,9 8,8 (1+2p) / 4p p=8 0.5249 0.9763 VWA 14,17 14,15 (1+4p) / 8p p=14 0.0928 1.8470 cumulative LR= 9318.1414 Probability of Sibship= 9318.1414/ x 100 9318.1414+1 = 99.9893%
DGEVP4	Genetic evidence suports the hypothesis that they are rather full siblings of Caucasian origin: LR=7,5E+4, LR for half siblings of Caucasian origin amounts 1,16E+4. Genetic evidence suports the hypothesis that they are rather full siblings of Afro-American origin: LR=5,14E+6, LR for half siblings of Caucasian origin amounts 1,4E+6.Genetic evidence suports the hypothesis that they are rather full siblings of Asian origin: LR=5,52E+5, LR for half siblings of Asian origin amounts 7,79E+5. Based on the performed calculations the most likely is hipothesis that the examined persons are full siblings of Caucasian origin.
ERQMR4	Probability=99.9731%
G9CPNY	Half Sibling profiles were compared by using the Caucasian population database in previous sections. Theses two DNA profiles are likely to be biologically related as half sibling (probability of brotherhood = 99.98%).
JNGXGX	[Participant created a manually formatted table within the free form text space. This special formatting was not transferable into the final report. Data is presented as is.] U=half brother A=half sister U/?:M+F A:M+X Locus STR Half Brother Half Sister Formula Given frequency LR D1S1656 12,14 12,14 (p+u+4pu)/8pu p=12,u=14 0.1163 0.0789 3.1591 D2S1338 17,18 18,24 (1+4q)/8q q=18 0.0734 2.2030 D2S441 11,14 10,11 (1+4q)/8q q=11 0.3435 0.8639 D3S1358 14,16 14,17 (1+4p)/8p p=14 0.1066 1.6726 D5S818 11,12 11,11 (1+2p)/4p p=11 0.3560 1.2022 D7S820 8,11 8,11 (p+u+4pu)/8pu p=8,u=11 0.1440 0.2050 1.9778 D8S1179 10,16 10,13 (1+4p)/8p p=10 0.1025 1.7195 D10S1248 13,13 13,15 (1+2p)/4p p=13 0.3075 1.3130 D12S391 17,22 18,19 1/2 0.5000 0.5000 D13S317 8,11 8,12 (1+4p)/8p p=8 0.1205 1.5373 D16S539 12,14 9,12 (1+4s)/8s s=12 0.3144 0.8976 D18S51 13,17 12,16 1/2 0.5000 0.5000 D19S433 13,14.2 13,16 (1+4p)/8p p=13 0.2548 0.9906 D21S11 27,28 28,32.2 (1+4q)/8q q=28 0.1593 1.2847 D22S1045 11,15 15,15 (1+2p)/4p p=15 0.3213 1.2781 AMEL XY XX CSF1PO 11,11 11,11 (1+p)/2p p=11 0.3089 2.1186 FGA 18,26 18,26 (p+u+4pu)/8pu p=18,u=26 0.0249 0.0263 10.2729 PENTA D 9,9 9,12 (1+2p)/4p p=9 0.2216 1.6282 PENTA E 7,8 7,11 (1+4p)/8p p=7 0.1690 1.2396 SE33 15,17 17,20 (1+4p)/8p p=17 0.0623 2.5064 TH01 6,9 9,9.3 (1+4s)/8s s=9 0.1191 1.5495 TPOX 8,9 8,8 (1+2p)/4p p=8 0.5249 0.9763 VWA 14,17 14,15 (1+4p)/8p p=14 0.0928 1.8470 Cumulative LR= 9318.1414 Probability of sibship=LR/(LR+1)*100 =((9318.1414/9318.1414+1))*100 =99.9893%

TABLE 8

Webcode	Additional Statistical Results
KNB49B	Data recorded above are calculated with the NIST database. Probability of relationship is 99.98%. In-house calculation of such a scenario would make use of in-house database frequencies, which are based on the FBI information available in Brenner's DNAView program. Using those frequencies, the kinship index would be reported as 3121.06, yielding a probability of a half sibling relationship of 99.97% (prior = 0.5).
NVZV92	The kinship index supports the hypothesis that Half Sister is the half sibling of Half Brother using the reference populations listed. The genotype observed for Half Sister is "X" times more likely to occur in a half sibling of Half Brother than in someone unrelated to Half Brother from the reference populations listed where "X" equals: African American – 630 thousand; Caucasian – 2.4 thousand; Hispanic – 57 thousand
QHP2UT	Half Sibling Kinship Index = 9,300.2671. Posteria Probability = 0.9998924878. % Probability = 99.98924878%.
R7QKHX	The kinship index supports the hypothesis that Item 001.C is the half sister of Item 001.B using the reference populations listed. The genotype observed for Item 001.C is "X" times more likely to occur in a half sister of Item 001.B than in someone unrelated to Item 001.B from the reference populations listed where "X" equals: African American – 630 THOUSAND; Caucasian – 2.4 THOUSAND; Hispanic – 57 THOUSAND
RCVLHR	By using the population database for caucasian. There is greater probability they are half siblings HS-S (Half Siblings, One of each´s parents are half-siblings to each other).
T4TUM3	No conclusion could be made as to whether the two individuals are half siblings or not
VGU8YK	When comparing the male profile "Half brother" and the female profile "Half sister", a kinship index of 9318 and a probability of brotherhood of 99.99% were obtained.
WNA8TM	According to results obtained by DNAVIEW software, the kinship analysis better supports the hypothesis of full siblings instead of half siblings as suggested by the question posed (full siblings kinship index = 57540), but in any case there is a genetic evidence supporting the relationship between these two subjects.
YYKJYG	Two DNA profiles were compared by using the Caucasian population database same as previous section. There are likely to be half siblings relationship because a probability of kinship index is greater than 99.88%
ZDF4DJ	For scenario: pq , pq: LR = (p+Q+4PQ)/8pq. pq , pr: LR = (1=$p) / 8p. pq , pp: LR = (1+2p) / 4p. pq , rs: LR = 0,5. pp , pp: LR = 2p(1+p) / (2pp)
ZHCMFG	Such service is not provided.

Additional Comments

TABLE 9

Webcode	Additional Comments
2BPGWF	PowerPlex Fusion and AmpFlstr Y-Filer were performed on items 2 and 3. Results were concordant at DYS391.
7F6FFB	DYS391 locus was not available in the PowerPlex Fusion amplification kit to report the allele calls. The allele call at DYS391 was found to be concordant in the YFiler and PowerPlex Fusion kits for Item 2 and Item 3.
7ZA2FH	1. On comparison of the DNA profiles, I found that the source of bloodstained specimen “Item 3” is the biological father to the source of bloodstained specimen “Item 2” (given that the biological mother is represented by the source of bloodstained specimen “Item 1”). 2. Item 1, Item 2 and Item 3 were extracted in-situ method and amplified using AmpFISTR Direct Kit. 3. Y-STR analysis was carried out on Item 2 and Item 3. 4. Electrophoresis were carried out using Applied Biosystem 3130xL Genetic Analyzer. 5. Reagent blank, positive and negative control were carried out along with the analysis and gave designated result. 6. The statistical formula were derived by DNA View Statistical Software and calculated using Microsoft Excel.
9VQKZA	PowerPlex Fusion and YFiler results were concordant at DYS391 for samples 02A and 03A.
A2B3UC	PART III - KINSHIP DNA STATISTICS (NON-PARENTAGE) NOT APPLICABLE TO THIS LABORATORY.
CRZKB6	1. I found that the donor of bloodstained specimen “Item 3” is the biological father to the donor of bloodstained specimen “Item 2” (given that the biological mother is represented by "Item 1"). 2. Item 1, item 2 and item 3 were extracted using in-situ method and amplified using AmpFISTR Direct Kit. 3. Y-STR analysis was conducted on Item 2 and item 3. 4. Electrophoresis were carried out using Applied Biosystem 3130xL Genetic Analyzer. 5. Reagent blank, positive and negative control were carried out along with the analysis. 6. The statistical formula were derived by DNA View Statistical Software and calculated using Microsoft Excel.
D3UFL6	Item 2 demonstrated concordance at DYS391 in PowerPlex Fusion and YFiler. Item 3 demonstrated concordance at DYS391 in PowerPlex Fusion and YFiler.
DGEVP4	Paternity DNA: There is 2,5E+13 times more probable to obtain the genetic results (determined DNA profiles of Mother, her Son and alleged Father) given that the alleged father is the biological father of son than to obtain the same genetic results if the examined trio are unrelated.
G9CPNY	The Alleged parent (Item 3) could not be excluded as the biological parent of the child (Item 2) based on the DNA results tested.
JNGXGX	1. I found that the donor of bloodstained specimen “Item 3” is the biological father to the donor of bloodstained specimen “Item 2” (given that the biological mother is represented by "Item 1"). 2. Item 1, item 2 and item 3 were extracted using in-situ method and amplified using AmpFISTR Direct Kit. 3. Y-STR analysis was conducted on Item 2 and item 3. 4. Electrophoresis were carried out using Applied Biosystem 3130xL Genetic Analyzer. 5. Reagent blank, positive and negative control were carried out along with the analysis. 6. The statistical formula were derived by DNA View Statistical Software and calculated using Microsoft Excel.
N7ZHZX	Powerplex 21 [Country] Caucasian Dataset used, using formula of Balding and Nichols with Theta = 0.02. Assuming mother and alleged father both from this population. Powerplex 21 [Country] Caucasian Dataset also used for kinship index, also considering Theta = 0.02 and formula of Balding and Nichols. Suggestion: It would be helpful if a value was given for theta to use in these calculations to allow comparison between laboratories.

TABLE 9

Webcode	Additional Comments
NVZV92	RESULTS, OPINIONS & INTERPRETATION: From each evidence item for which DNA analysis was performed, a sample was taken for analysis. The item(s) that were subjected to DNA analysis are listed below together with the analytical result(s) obtained. For a complete description of all evidence items and sub-items, including DNA extracts,please see the Evidence inventory: Item 001.A.01.a: Biological stain cutting taken for DNA analysis from the FTA card labeled Test No.17-5871, Item 1; ~3x3mm cutting taken for analysis; DNA Number C8263. AUTOSOMAL STRs: The DNA profile is single source. Item 001.A.02.a: Biological stain cutting taken for DNA analysis from the FTA card labeled Test No.17-5871, Item 2; ~3x3mm cutting taken for analysis; DNA Number C8264. AUTOSOMAL STRs: The DNA profile is single source. Y-STRs: The DNA profile is single source. Item 001.A.03.a: Biological stain cutting taken for DNA analysis from the FTA card labeled Test No.17-5871, Item 3; ~3x3mm cutting taken for analysis; DNA Number C8265. AUTOSOMAL STRs: The DNA profile is single source. The alleged father, Subject Subject, cannot be excluded as the biological father of the child, Child Victim. 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 – 820 billion; Caucasian – 42 billion; Hispanic – 1.2 trillion. Y-STRs: The DNA profile is single source. The alleged father, Subject Subject, cannot be excluded as the potential biological father of Child Victim using Y-STRs. These profiles are "X" times more likely to occur if the above-referenced individuals (or their patrilineal relative(s)) are the contributors than if the source of the evidence is a random, unrelated person from the reference populations listed where "X" equals*: African American – 1852; Caucasian – 2165; Hispanic – 1454. *Numbers are based upon the US Y-STR database and a 95% confidence limit. Item 001.B: DNA profile - Half brother. AUTOSOMAL STRs: The DNA profile is single source. Item 001.C: DNA profile - Half sister. AUTOSOMAL STRs: The DNA profile is single source. The kinship index supports the hypothesis that Half Sister is the half sibling of Half Brother using the reference populations listed. The genotype observed for Half Sister is "X" times more likely to occur in a half sibling of Half Brother than in someone unrelated to Half Brother from the reference populations listed where "X" equals: African American – 630 thousand; Caucasian – 2.4 thousand; Hispanic – 57 thousand
QHP2UT	Paternity Index that showed on this report set as 2 decimal but that use for calculation is linked from NIST STRBASE Pop. Database.
RCVLHR	The kinship index value is 5481, obtaining a probability of 99.981758%. It was considered a 0.0022 mutation rate (caucasian group) for the calculation.
T4TUM3	The results are reported as no conclusion since the minimum calculated index of less than 99 (prior odds = 0.25) is reported as such according to the standard procedures of this laboratory. The local/state database was used for calculation purposes & the most conservative likelihood ratio was used (caucasian). The Identifiler Plus loci set was considered for the above likelihood ratio calculation (KI).
Y72X3L	PI was calculated allowing for population sub-structure, using a theta value of 0.02. vWA has been omitted from the PI calculation due to the close proximity of vWA & D12 on chromosome 12.
YDNNNG	by studying the profiles of all three donors we clarify the following: 1- blood sample labeled with item 1 is the biological mother of the donor of blood stain labeled with item 2. 2- blood sample labeled with item 3 is the biological father of the donor of blood stain labeled with item 2.

Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program

Test No. 17-5871: DNA Parentage

DATA MUST BE RECEIVED BY *July 17, 2017* TO BE INCLUDED IN THE REPORT

Participant Code: WebCode:

Accreditation Release Statement

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

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

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

Scenario:

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

Items Submitted (Sample Pack DNP2):

Item 1: Blood Sample from Known Parent (Caucasian Mother)

Item 2: Blood Sample from Known Child (Son)

Item 3: Blood Sample from Alleged Father (Caucasian)

Please note Data Sheet Changes

The data sheet has been updated to account for loci covered in newer amplifications kits.

Reporting of YSTR alleles generated from primarily autosomal STR multiplex systems.
1) Select the amplification kit in the YSTR results section.
2) Record your YSTR allele(s) in the YSTR results section.
3) If necessary, discuss overlapping loci results in the Additional Comments section.

DNA Reporting Instructions:

Use the instructions below to complete the following DNA Analysis sections of this data sheet.
* Report alleles in numerical order, separated by a comma.
* Follow your laboratory procedures for reporting homozygotes (i.e. "14,14", "14,-", "14")
* PI = Paternity Index; KI - Kinship Index

Example	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
STR	15,18	12,17	10	14	12	5,13
PI	1.65	3.01	3.16	4.12	2.45	5.65

Please return all pages of this data sheet.

Participant Code:
WebCode:

Part I: DNA ANALYSIS FOR ITEM **1**

STR Amplification Kit(s) Used: Check the brands used for this item and record only additional kit specific information in the blank provided (i.e.16, Direct, etc.).

☐ Identifiler® _____ ☐ PowerPlex® _____ ☐ Investigator® 24plex _____

☐ GlobalFiler™ _____ ☐ COfiler®/Profiler Plus® ☐ ForenSeq™ Other _____

ITEM 1

	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
STR						
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
STR						
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
STR						
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
STR						
	Penta E	SE33	TH01	TPOX	vWA	
STR						

Please return all pages of this data sheet.

Participant Code:
WebCode:

*Part I: DNA ANALYSIS FOR ITEM **2***

STR Amplification Kit(s) Used: Check the brands used for this item and record only additional kit specific information in the blank provided (i.e.16, Direct, etc.).

☐ Identifiler® _____ ☐ PowerPlex® _____ ☐ Investigator® 24plex _____

☐ GlobalFiler™ _____ ☐ COfiler®/Profiler Plus® ☐ ForenSeq™ Other _____

ITEM 2

STR	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
STR	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
STR	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
STR	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
STR	Penta E	SE33	TH01	TPOX	vWA	

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

☐ Yfiler® _____ ☐ PowerPlex® Fusion _____ ☐ Investigator® 24plex _____

☐ PowerPlex® Y _____ ☐ GlobalFiler™ _____ ☐ ForenSeq™ Other _____

ITEM 2

DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393	DYS437	
DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518	
DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	Y GATA H4	Y Indel

Please return all pages of this data sheet.

Participant Code:
WebCode:

Part I: DNA ANALYSIS FOR ITEM **3**

STR Amplification Kit(s) Used: Check the brands used for this item and record only additional kit specific information in the blank provided (i.e.16, Direct, etc.).

☐ Identifiler® _____ ☐ PowerPlex® _____ ☐ Investigator® 24plex _____

☐ GlobalFiler™ _____ ☐ COfiler®/Profiler Plus® ☐ ForenSeq™ Other _____

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

ITEM 3

	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
STR						
PI						

	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
STR						
PI						

	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
STR						
PI						

	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
STR						
PI						

	Penta E	SE33	TH01	TPOX	vWA
STR					
PI					

Please return all pages of this data sheet.

Participant Code:
WebCode:

Part I: DNA ANALYSIS FOR ITEM **3 - (***continued)*

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

☐ Yfiler® _____ ☐ PowerPlex® Fusion _____ ☐ Investigator® 24plex _____
☐ PowerPlex® Y_____ ☐ GlobalFiler™_____ ☐ ForenSeq™ Other _____

ITEM 3

DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393	DYS437

DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518

DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	Y GATA H4	Y Indel

Part I (continued): Additional DNA Results

Please use the section below to report results only for loci not available on the previous pages.

	Item 1	Item 2	Item 3 STR	Item 3 PI
_____				
_____				
_____				
_____				

Please return all pages of this data sheet.

Participant Code:
WebCode:

Part II: PATERNITY DNA STATISTICS

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

1) Choose a Population Database:

☐ **FBI Popstats Pop. Database** ☐ **NIST STRBASE Pop. Database**

Other Pop. Database: _____

2) Record the Combined Paternity Index value: _____

3) Record the Probability of Paternity: _____

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

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

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

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

Please return all pages of this data sheet.

Participant Code:
WebCode:

Part III: KINSHIP DNA STATISTICS (NON-PARENTAGE)

To be completed if applicable to your laboratory.

The two DNA profiles below are presented as a potential Caucasian Half Siblings relationship. Compare these profiles to answer the questions using the same population database used in previous sections of the data sheet, given the ethnicity listed above for this kinship scenario.

Profile	D1S1656	D2S1338	D2S441	D3S1358	D5S818	D7S820
Half Brother	12,14	17,18	11,14	14,16	11,12	8,11
Half Sister	12,14	18,24	10,11	14,17	11,11	8,11

Profile	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
Half Brother	10,16	13,13	17,22	8,11	12,14	13,17
Half Sister	10,13	13,15	18,19	8,12	9,12	12,16

Profile	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
Half Brother	13,14.2	27,28	11,15	X,Y	11,11	18,26
Half Sister	13,16	28,32.2	15,15	X,X	11,11	18,26

Profile	PentaD	PentaE	SE33	TH01	TPOX	vWA
Half Brother	9,9	7,8	15,17	6,9	8,9	14,17
Half Sister	9,12	7,11	17,20	9,9.3	8,8	14,15

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

2) Is the claim of a Caucasian Half Siblings relationship supported by the genetic evidence?

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

Please return all pages of this data sheet.

Participant Code:
WebCode:

Part IV: ADDITIONAL COMMENTS

Comments regarding any part of this Parentage Test.

Any interpretations based on the results obtained should be reported in the Paternity DNA Statistics designated section.

Return Instructions: Data must be received via online data entry, fax (please include a cover sheet), or mail by *July 17, 2017* to be included in the report. Emailed data sheets will not be accepted.

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

ONLINE DATA ENTRY: www.cts-portal.com

FAX: +1-571-434-1937

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

Please return all pages of this data sheet.

Collaborative Testing Services ~ Forensic Testing Program

RELEASE OF DATA TO ACCREDITATION BODIES

The following Accreditation Releases will apply only to:

Participant Code: WebCode:

for Test No. **17-5871: DNA Parentage**

This release page must be completed and received by ***July 17, 2017*** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

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

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

ASCLD/LAB Certificate No. _____

ANAB Certificate No. _____

A2LA Certificate No. _____

Step 2: Complete the Laboratory Identifying Information in its entirety

Signature and Title _____

Laboratory Name _____

Location (City/State) _____

Accreditation Release

Return Instructions

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

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

Please return all pages of this data sheet.

