



## **DNA Parentage Test No. 17-5870 Summary Report**

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This proficiency test was sent to 29 participants. Each participant received a sample pack consisting of the standard paternity trio, collected from a mother, a daughter and the potential father. Participants were requested to analyze the samples using their existing protocols. Data were returned from 27 participants (93% response rate) 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 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 uncle/niece 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  $\mu$ l) was blood from a female (mother) donor, Item 2 (75  $\mu$ l) was from a female (daughter) donor and Item 3 (75  $\mu$ l) was created using blood collected from a male donor who was not the biological father of the Item 2 female. Each different Item was prepared at separate times and were packaged once they were thoroughly dried. Completed sample sets were stored at -20°C until shipment on January 30th, 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 an uncle/niece 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	11,15	16,18	11,14	14,17	*	11,12
	*	8,12	13,14	*	14,14	20,23
	12,12	9,11	*	13,14	13,14	*
	30,32.2	16,17	X,X	11,12	20.2,21	9,10
	7,10	*	6,6	8,8	17,18	
2	15,17.3	16,19	10,14	15,17	*	11,13
	*	8,11	13,14	*	14,14	16,20
	12,13	11,13	*	13,14	13,14	*
	28,30	11,16	X,X	10,12	20.2,22	10,12
	7,7	*	6,9.3	8,8	17,17	
3	12,12	19,25	14,14	15,16	*	11,12
	*	10,10	10,13	*	16,16	16,17.3
	12,13	10,12	*	15,18	12,13	*
	31.2,32.2	15,16	X,Y	10,12	19,23	10,13
	7,11	*	9,9.3	8,11	17,17	

### 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
3	*	15	12,14	12	28	23	10	11	13	16
	10	11	20	*	14	15	*	*	*	*
	*	*	*	*	*	*	*	21	*	11

### Paternity Indices

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

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	*	4.1493	*	1.9084	*	*
	*	*	1.0084	*	*	*
	4.385	*	*	*	0.81	*
	*	*	*	2.1251	*	*
	*	*	1.53	0.93729	3.62	

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

## Summary Comments

The 17-5870 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 female donor (daughter), and Item 3 was blood collected from a male donor who is not 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. Sample sets also included a kinship exercise provided on the data sheets 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).

One participant reported allelic results that differed from the consensus/predistribution results. This participant reported an inconsistent allele of "2" at DYS391 for Item 3. And although a consensus was not established for the Y Indel locus due to the fact that too few participants returned results, the allelic result reported by this participant of "10" is an uncommon response for this locus. It is possible that these two results were switched by the participant.

Paternity DNA results were returned by 27 participants and of those, 23 reported information relating to the paternity statistics such as the population database used, the calculated combined paternity index and/or the probability of paternity.

For the population database used, eight participants reported using the FBI POPSTATS database, ten reported using the NIST-STRBASE database and the remainder of participants reported using either a local database or Promega.

Of the 27 participants returning results, nine reported a CPI value between  $1.4E-26$  and 0 and one participant reported a CPI value of  $2.68E+2$ . Five participants reported either "excluded" for the CPI value or stated in their additional comments section that the combined paternity index was not calculated for exclusions.

For the Probability of Paternity, most responding participants reported either a value of "0" or did not report a probability value. One participant reported a Probability of Paternity value of 99.63%.

For the Paternity Conclusions, all 27 participants reported that the male donor (Item 3) was excluded as the biological father of the female donor (Item 2).

For the Kinship Exercise, 11 participants responded. Five participants reported that the uncle/niece relationship claim was supported by the data provided and four of these participants reported a kinship index of 9.520 using the FBI Popstats database while one reported a kinship index of 3.223901 using the NIST-STRBASE database. Five participants did not make a determination in regards to whether the relationship claim was supported. Of these participants, three reported a kinship index around 1.9, all using a different population database. Of the remaining two participants that did not make a determination, one participant reported a kinship index of 2 without indicating the population database used for this calculation and another reported the kinship index 10.8433 using the Promega database. One participant reported that the relationship claim was not supported and using a local/state database reported a kinship index value of 3.4.

# 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

3ELFYL	Identifiler® Plus					
		16,18		14,17		11,12
1		8,12	13,14			
	12,12	9,11		13,14	13,14	
	30,32.2		X,X	11,12	20.2,21	
			6,6	8,8	17,18	
4BJWCD	Identifiler® Direct					
		16,18		14,17		11,12
1		8,12	13,14			
	12	9,11		13,14	13,14	
	30,32.2		X	11,12	20.2,21	
			6	8	17,18	
82PRWA	GlobalFiler™					
	11,15	16,18	11,14	14,17		11,12
1		8,12	13,14		14,14	20,23
	12,12	9,11		13,14	13,14	
	30,32.2	16,17	X,X	11,12	20.2,21	
		28.2,30.2	6,6	8,8	17,18	
8DFL8H	PowerPlex® 21					
	11,15	16,18		14,17		11,12
1		8,12	13,14			20,23
	12,12	9,11		13,14	13,14	
	30,32.2		X,X	11,12	20.2,21	9,10
	7,10		6,6	8,8	17,18	
8J62XB	PowerPlex® Fusion 6C					
	11,15	16,18	11,14	14,17		11,12
1		8,12	13,14		14	20,23
	12	9,11		13,14	13,14	
	30,32.2	16,17	X	11,12	20.2,21	9,10
	7,10	28.2,30.2	6	8	17,18	
DRFCPB	Identifiler® Plus					
		16,18		14,17		11,12
1		8,12	13,14			
	12,12	9,11		13,14	13,14	
	30,32.2		X,X	11,12	20.2,21	
			6,6	8,8	17,18	

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WebCode	Amplification Kits					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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	
EZPZ4A	VeriFiler Express					
	11,15	16,18	11,14	14,17		11,12
	12,18	8,12	13,14		14,14	20,23
	12,12	9,11		13,14	13,14	
	30,32.2	16,17	X,X	11,12	20.2,21	9,10
	7,10	6,6	8,8	17,18		
FJBB6Z	PowerPlex® Fusion					
	11,15	16,18	11,14	14,17		11,12
	12	8,12	13,14		14	20,23
	12	9,11		13,14	13,14	
	30,32.2	16,17	X	11,12	20.2,21	9,10
	7,10	6	8	17,18		
H3YEY7	GlobalFiler™					
	11,15	16,18	11,14	14,17		11,12
	12	8,12	13,14		14	20,23
	12	9,11		13,14	13,14	
	30,32.2	16,17	X	11,12	20.2,21	
	28.2,30.2	6	8	17,18		
HCPXFY	GlobalFiler™					
	11,15	16,18	11,14	14,17		11,12
	12	8,12	13,14		14	20,23
	12	9,11		13,14	13,14	
	30,32.2	16,17	X	11,12	20.2,21	
	28.2,30.2	6	8	17,18		
MEZCBV	PowerPlex® Fusion 5C					
	11,15	16,18	11,14	14,17		11,12
	12	8,12	13,14		14	20,23
	12	9,11		13,14	13,14	
	30,32.2	16,17	X	11,12	20.2,21	9,10
	7,10	6	8	17,18		
NN3BX2	PowerPlex® 21					
	11,15	16,18		14,17		11,12
	12,18	8,12	13,14			20,23
	12,12	9,11		13,14	13,14	
	30,32.2		X,X	11,12	20.2,21	9,10
	7,10	6,6	8,8	17,18		
PEQETV	Identifiler® Plus					
		16,18		14,17		11,12
	12,18	8,12	13,14			
	12,12	9,11		13,14	13,14	
	30,32.2		X,X	11,12	20.2,21	
		6,6	8,8	17,18		

TABLE 1

WebCode	Amplification Kits					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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	
Q4MJAP	PowerPlex® PowerPlex 21					
	11,15	16,18		14,17		11,12
1	12,18	8,12	13,14			20,23
	12	9,11		13,14	13,14	
	30,32.2		X	11,12	20.2,21	9,10
	7,10		6	8	17,18	
QE8RVX	Identifiler® Plus					
		16,18		14,17		11,12
1		8,12	13,14			
	12,12	9,11		13,14	13,14	
	30,32.2		X,X	11,12	20.2,21	
			6,6	8,8	17,18	
QH9VLZ	PowerPlex® 21					
	11,15	16,18		14,17		11,12
1	12,18	8,12	13,14			20,23
	12,12	9,11		13,14	13,14	
	30,32.2		X,X	11,12	20.2,21	9,10
	7,10		6,6	8,8	17,18	
QWRHVX	GlobalFiler™ Express					
	11,15	16,18	11,14	14,17		11,12
1		8,12	13,14		14	20,23
	12	9,11		13,14	13,14	
	30,32.2	16,17	X	11,12	20.2,21	
		28.2,30.2	6	8	17,18	
QZ8BLQ	Identifiler® Plus					
		16,18		14,17		11,12
1		8,12	13,14			
	12	9,11		13,14	13,14	
	30,32.2		X	11,12	20.2,21	
			6	8	17,18	
RTMA4R	Identifiler®					
		16,18		14,17		11,12
1		8,12	13,14			
	12,12	9,11		13,14	13,14	
	30,32.2		X,X	11,12	20.2,21	
			6,6	8,8	17,18	
U2TTFM	PowerPlex® Fusion 5C					
	11,15	16,18	11,14	14,17		11,12
1		8,12	13,14		14	20,23
	12	9,11		13,14	13,14	
	30,32.2	16,17	X	11,12	20.2,21	9,10
	7,10		6	8	17,18	

TABLE 1

WebCode	Amplification Kits					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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	
UPYH6V	Identifiler® Plus					
		16,18		14,17		11,12
1		8,12	13,14			
	12,12	9,11		13,14	13,14	
	30,32.2		X,X	11,12	20.2,21	
			6,6	8,8	17,18	
VA3HTL	Qiagen ESSplex Plus					
	11,15	16,18	11,14	14,17		
1			13,14		14,14	20,23
		9,11		13,14	13,14	
	30,32.2	16,17			20.2,21	
			6,6		17,18	
WAEX2J	Identifiler® Plus, Penta D and E					
		16,18		14,17		11,12
1		8,12	13,14			
	12	9,11		13,14	13,14	
	30,32.2		X	11,12	20.2,21	9,10
	7,10		6	8	17,18	
WPNMEK	PowerPlex® Fusion					
	11,15	16,18	11,14	14,17		11,12
1		8,12	13,14		14	20,23
	12	9,11		13,14	13,14	
	30,32.2	16,17	X	11,12	20.2,21	9,10
	7,10		6	8	17,18	
X2YEGK	Identifiler® plus					
		16,18		14,17		11,12
1		8,12	13,14			
	12,12	9,11		13,14	13,14	
	30,32.2		X,X	11,12	20.2,21	
			6,6	8,8	17,18	
XCF2QK	PowerPlex® Fusion					
	11,15	16,18	11,14	14,17		11,12
1		8,12	13,14		14,14	20,23
	12,12	9,11		13,14	13,14	
	30,32.2	16,17	X,X	11,12	20.2,21	9,10
	7,10		6,6	8,8	17,18	
ZG3PYN	GlobalFiler™					
	11,15	16,18	11,14	14,17		11,12
1		8,12	13,14		14,14	20,23
	12,12	9,11		13,14	13,14	
	30,32.2	16,17	X,X	11,12	20.2,21	
		28.2,30.2	6	8	17,18	



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

3ELFYL	Identifiler® Plus					
		16,19		15,17		11,13
2		8,11	13,14			
		12,13	11,13	13,14	13,14	
		28,30	X,X	10,12	20.2,22	
			6,9.3	8,8	17,17	
4BJWCD	Identifiler® Direct					
		16,19		15,17		11,13
2		8,11	13,14			
		12,13	11,13	13,14	13,14	
		28,30	X	10,12	20.2,22	
			6,9.3	8	17	
82PRWA	GlobalFiler™					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14,14	16,20
		12,13	11,13	13,14	13,14	
		28,30	11,16	X,X	10,12	20.2,22
		21.2,30.2	6,9.3	8,8	17,17	
8DFL8H	PowerPlex® 21					
	15,17.3	16,19		15,17		11,13
2		18,20	8,11	13,14		16,20
		12,13	11,13	13,14	13,14	
		28,30		X,X	10,12	20.2,22
		7,7	6,9.3	8,8	17,17	10,12
8J62XB	PowerPlex® Fusion 6C					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14	16,20
		12,13	11,13	13,14	13,14	
		28,30	11,16	X	10,12	20.2,22
		7	21.2,30.2	6,9.3	8	17
DRFCPB	Identifiler® Plus					
		16,19		15,17		11,13
2		8,11	13,14			
		12,13	11,13	13,14	13,14	
		28,30		X,X	10,12	20.2,22
			6,9.3	8,8	17,17	
EZPZ4A	VeriFiler Express					
	15,17.3	16,19	10,14	15,17		11,13
2		18,20	8,11	13,14		14,14
		12,13	11,13	13,14	13,14	
		28,30	11,16	X,X	10,12	20.2,22
		7,7	6,9.3	8,8	17,17	10,12

TABLE 1

WebCode	Amplification Kits					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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	
FJBB6Z	PowerPlex® Fusion					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14	16,20
	12,13	11,13		13,14	13,14	
	28,30	11,16	X	10,12	20.2,22	10,12
	7		6,9.3	8	17	
H3YEY7	GlobalFiler™					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14	16,20
	12,13	11,13		13,14	13,14	
	28,30	11,16	X	10,12	20.2,22	
		21.2,30.2	6,9.3	8	17	
HCPXFY	GlobalFiler™					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14	16,20
	12,13	11,13		13,14	13,14	
	28,30	11,16	X	10,12	20.2,22	
		21.2,30.2	6,9.3	8	17	
MEZCBV	PowerPlex® Fusion 5C					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14	16,20
	12,13	11,13		13,14	13,14	
	28,30	11,16	X	10,12	20.2,22	10,12
	7		6,9.3	8	17	
NN3BX2	PowerPlex® 21					
	15,17.3	16,19		15,17		11,13
2	18,20	8,11	13,14			16,20
	12,13	11,13		13,14	13,14	
	28,30		X,X	10,12	20.2,22	10,12
	7,7		6,9.3	8,8	17,17	
PEQETV	Identifiler® Plus					
		16,19		15,17		11,13
2		8,11	13,14			
	12,13	11,13		13,14	13,14	
	28,30		X,X	10,12	20.2,22	
			6,9.3	8,8	17,17	
Q4MJAP	PowerPlex® PowerPlex 21					
	15,17.3	16,19		15,17		11,13
2	18,20	8,11	13,14			16,20
	12,13	11,13		13,14	13,14	
	28,30		X	10,12	20.2,22	10,12
	7		6,9.3	8	17	

TABLE 1

WebCode	Amplification Kits					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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	
QE8RVX	Identifiler® Plus					
		16,19		15,17		11,13
2		8,11	13,14			
	12,13	11,13		13,14	13,14	
	28,30		X,X	10,12	20.2,22	
			6,9.3	8,8	17,17	
QH9VLZ	PowerPlex® 21					
	15,17.3	16,19		15,17		11,13
2	18,20	8,11	13,14			16,20
	12,13	11,13		13,14	13,14	
	28,30		X,X	10,12	20.2,22	10,12
	7,7		6,9.3	8,8	17,17	
QWRHVX	GlobalFiler™ Express, GlobalFiler™					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14	16,20
	12,13	11,13		13,14	13,14	
	28,30	11,16	X	10,12	20.2,22	
		21.2,30.2	6,9.3	8	17	
QZ8BLQ	Identifiler® Plus					
		16,19		15,17		11,13
2		8,11	13,14			
	12,13	11,13		13,14	13,14	
	28,30		X	10,12	20.2,22	
			6,9.3	8	17	
RTMA4R	Identifiler®					
		16,19		15,17		11,13
2		8,11	13,14			
	12,13	11,13		13,14	13,14	
	28,30		X,X	10,12	20.2,22	
			6,9.3	8,8	17,17	
U2TTFM	PowerPlex® Fusion 5C					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14	16,20
	12,13	11,13		13,14	13,14	
	28,30	11,16	X	10,12	20.2,22	10,12
	7		6,9.3	8	17	
UPYH6V	Identifiler® Plus					
		16,19		15,17		11,13
2		8,11	13,14			
	12,13	11,13		13,14	13,14	
	28,30		X,X	10,12	20.2,22	
			6,9.3	8,8	17,17	

TABLE 1

WebCode	Amplification Kits					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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	
VA3HTL	Qiagen ESSplex Plus					
	15,17.3	16,19	10,14	15,17		
2			13,14		14,14	16,20
		11,13		13,14	13,14	
	28,30	11,16			20.2,22	
			6,9.3		17,17	
WAEX2J	Identifiler® Plus, Penta D and E					
		16,19		15,17		11,13
2		8,11	13,14			
	12,13	11,13		13,14	13,14	
	28,30		X	10,12	20.2,22	10,12
	7		6,9.3	8	17	
WPNMEK	PowerPlex® Fusion					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14	16,20
	12,13	11,13		13,14	13,14	
	28,30	11,16	X	10,12	20.2,22	10,12
	7		6,9.3	8	17	
X2YEGK	Identifiler® plus					
		16,19		15,17		11,13
2		8,11	13,14			
	12,13	11,13		13,14	13,14	
	28,30		X,X	10,12	20.2,22	
			6,9.3	8,8	17,17	
XCF2QK	PowerPlex® FUSION					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14,14	16,20
	12,13	11,13		13,14	13,14	
	28,30	11,16	X,X	10,12	20.2,22	10,12
	7,7		6,9.3	8,8	17,17	
ZG3PYN	GlobalFiler™					
	15,17.3	16,19	10,14	15,17		11,13
2		8,11	13,14		14	16,20
	12,13	11,13		13,14	13,14	
	28,30	11,16	X,X	10,12	20.2,22	
		21.2,30.2	6,9.3	8	17	

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

3ELFYL	Identifiler® Plus					
		19,25		15,16		11,12
3		10,10	10,13			
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	
			9,9.3	8,11	17,17	
4BJWCD	Identifiler® Direct					
		19,25		15,16		11,12
3		10	10,13			
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	
			9,9.3	8,11	17	
82PRWA	Identifiler® Plus					
	12,12	19,25	14,14	15,16		11,12
3		10,10	10,13		16,16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	
		15.3,19.2	9,9.3	8,11	17,17	
8DFL8H	PowerPlex® 21					
	12,12	19,25		15,16		11,12
3		10,10	10,13			16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17,17	
8J62XB	PowerPlex® Fusion 6C					
	12	19,25	14	15,16		11,12
3		10	10,13		16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	10,13
	7,11	15.3,19.2	9,9.3	8,11	17	
DRFCPB	Identifiler® Plus					
		19,25		15,16		11,12
3		10,10	10,13			
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	
			9,9.3	8,11	17,17	
EZPZ4A	VeriFiler Express					
	12,12	19,25	14,14	15,16		11,12
3		10,10	10,13		16,16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17,17	

TABLE 1

WebCode	Amplification Kits					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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	
FJBB6Z	PowerPlex® Fusion					
	12	19,25	14	15,16		11,12
3		10	10,13		16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17	
H3YEY7	PowerPlex® Fusion					
	12	19,25	14	15,16		11,12
3		10	10,13		16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	
		15.3,19.2	9,9.3	8,11	17	
HCPXFY	PowerPlex® Fusion					
	12	19,25	14	15,16		11,12
3		10	10,13		16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	
		15.3,19.2	9,9.3	8,11	17	
MEZCBV	PowerPlex® Fusion 5C					
	12	19,25	14	15,16		11,12
3		10	10,13		16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17	
NN3BX2	PowerPlex® 21					
	12,12	19,25		15,16		11,12
3	11,11	10,10	10,13			16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17,17	
PEQETV	Identifiler® Plus					
		19,25		15,16		11,12
3		10,10	10,13			
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	
			9,9.3	8,11	17,17	
Q4MJAP	PowerPlex® PowerPlex 21					
	12	19,25		15,16		11,12
3	11	10	10,13			16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17	

TABLE 1

WebCode	Amplification Kits					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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	
QE8RVX	Identifiler® Plus					
		19,25		15,16		11,12
3		10,10	10,13			
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	
			9,9.3	8,11	17,17	
QH9VLZ	PowerPlex® 21					
	12,12	19,25		15,16		11,12
3	11,11	10,10	10,13			16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17,17	
QWRHVX	GlobalFiler™					
	12	19,25	14	15,16		11,12
3		10	10,13		16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	
		15.3,19.2	9,9.3	8,11	17	
QZ8BLQ	Identifiler® Plus					
		19,25		15,16		11,12
3		10	10,13			
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	
			9,9.3	8,11	17	
RTMA4R	Identifiler®					
		19,25		15,16		11,12
3		10,10	10,13			
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	
			9,9.3	8,11	17,17	
U2TTFM	PowerPlex® Fusion 5C					
	12	19,25	14	15,16		11,12
3		10	10,13		16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17	
UPYH6V	Identifiler® Plus					
		19,25		15,16		11,12
3		10,10	10,13			
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	
			9,9.3	8,11	17,17	

TABLE 1

WebCode	Amplification Kits					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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	
VA3HTL	Qiagen ESSplex plus					
	12,12	19,25	14,14	15,16		
3			10,13		16,16	16,17.3
		10,12		15,18	12,13	
	31.2,32.2	15,16			19,23	
			9,9.3		17,17	
WAEX2J	Identifiler® Plus, Penta D and E					
		19,25		15,16		11,12
3		10	10,13			
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17	
WPNMEK	PowerPlex® Fusion					
	12	19,25	14	15,16		11,12
3		10	10,13		16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17	
X2YEGK	Identifiler® plus					
		19,25		15,16		11,12
3		10,10	10,13			
	12,13	10,12		15,18	12,13	
	31.2,32.2		X,Y	10,12	19,23	
			9,9.3	8,11	17,17	
XCF2QK	PowerPlex® FUSION					
	12,12	19,25	14,14	15,16		11,12
3		10,10	10,13		16,16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	10,13
	7,11		9,9.3	8,11	17,17	
ZG3PYN	GlobalFiler™					
	12	19,25	14	15,16		11,12
3		10,10	10,13		16	16,17.3
	12,13	10,12		15,18	12,13	
	31.2,32.2	15,16	X,Y	10,12	19,23	
		15.3,19.2	9,9.3	8,11	17	



# Item 3 Paternity Index Results

TABLE 2

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

## Item 3PI

3ELFYL FBI PopStats

3PI


4BJWCD NIST-STRBASE

3PI

		4.15		1.83		0.00
		0.00	1.01			
	4.30	0.00		0.00	0.81	
	0.00			2.27	0.00	
			1.45	0.95	3.52	

82PRWA NIST-STRBASE

3PI

	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-

8J62XB NIST-STRBASE

3PI

	0.00314	4.14942	0.00445	1.83248		0.00386
		0.00212	1.00837		0.00467	22.5625
	4.29761	0.00207		0.00338	0.81123	
	0.00256	0.00511		2.27044	0.00517	0.00039
	2.95901	0.00714	1.44979	0.95250	3.52195	

DRFCPB FBI PopStats

3PI

		3.4545		2.0202		
			0.92456			
	4.5579				0.80851	
				1.9802		
			1.6420	0.91408	3.8052	

FJBB6Z NIST-STRBASE

3PI

		4.1493		1.8321		
			1.0084			22.5225
	4.2992				0.8112	
				2.2706		
	2.9585		1.4496	0.9525	3.5223	

TABLE 2

WebCode	Population Database(s)					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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 3PI

H3YEY7	FBI PopStats					
		3.3113		2.0202		
3PI			0.92661			11.876
		4.4883			0.79529	
				1.9802		
			1.6420	0.91408		3.7411

HCPXFY	NIST-STRBASE					
3PI						

NN3BX2	NIST-STRBASE					
		0	4.1494	1.8322		0
3PI		0	0	1.0085		22.5225
		4.2992	0	0	0.8113	
		0		n/a	2.2707	0
		2.9586	1.4497	0.9526		3.5224

Q4MJAP	Promega					
3PI						

QE8RVX	FBI PopStats					
		3.4545		2.0202		
3PI			0.92456			
		4.5579			0.80851	
				1.9802		
			1.6420	0.91408		3.8052

QWRHVX	FBI PopStats					
		0	3.3113	0	2.0202	0
3PI		0	0	0.92661		11.876
		4.4883	0	0	0.79529	
		0	0	1.9802	0	
			0	1.642	0.91408	3.7411

RTMA4R	NIST-STRBASE					
3PI						

TABLE 2

WebCode	Population Database(s)					
	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
Item	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 3PI

U2TTFM	NIST-STRBASE					
		4.1493		1.8321		
3PI			1.0084			22.5225
	4.2992				0.8112	
				2.2706		
	2.9585		1.4496	0.9525		3.5223
UPYH6V	FBI PopStats					
3PI						
3PI						
VA3HTL	Local database					
	0	5.62	2.95	1.97		
3PI			1.61		0	20
				0	2.14	
	0	1.49			0	
			1.59			3.62
WAEX2J	FBI PopStats, Promega for Pentas D&E					
		3.39		2		0
3PI			0.918			
	4.47	0		0	0.803	
	0			1.98	0	0
	2.9		1.63	0.913		3.78
WPNMEK	NIST-STRBASE					
		4.1493		1.8321		
3PI			1.0084			22.5225
	4.2992				0.8112	
				2.2706		
	2.9585		1.4496	0.9525		3.5223
X2YEGK	NIST-STRBASE					
		4.38596		1.9084		0
3PI			1.06157			
	4.03226	0		0	0.80386	
	0			2.30415	0	
			1.3587	0.93458		3.55872
XCF2QK	FBI PopStats					
		3.4554		2.0202		
3PI			0.92456			
	4.5579				0.80854	
				1.9802		
			1.6420	0.91408		3.8052

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 3PI

ZG3PYN	[Country]	GlobalFiler	Pop.	Database		
	exc	4.00	exc	1.90		exc
3PI		exc	1.03		exc	18.86
	4.98	exc		exc	0.83	
	exc	exc		1.86	exc	
		exc	1.53	0.94	3.94	

# 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 1 - YSTR Results

H3YEY7

1

NR

NR

QWRHVX

1

NR

NR

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

H3YEY7

2

NR



NR

QWRHVX

2

NR



NR

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

3ELFYL	Yfiler®									
3	15	12,14	12	28	23	10	11	13	16	
	10	11	20	14	15					
								21		11
82PRWA	GlobalFiler™									
3						10				
										2
8J62XB										
3						10				
				20	16					
DRFCPB	Yfiler®									
3	15	12,14	12	28	23	10	11	13	16	
	10	11	20	14	15					
								21		11
H3YEY7	Yfiler® Plus, GlobalFiler™									
3	37,38	15	12,14	12	28	23	10	11	13	16
	10	11	20	28	14	15	10	24		38
		12		20	16		20	21		11
										2
HCPXFY										
3						2				
										10
MEZCBV	Yfiler®									
3	15	12,14	12	28	23	10	11	13	16	
	10	11	20	14	15					
								21		11
Q4MJAP	Y23									
3	15	12,14	12	28	23	10	11	13	16	
	10	11	20	14	15			24		
		12	13	20	16			21	12	11
QE8RVX	Yfiler®									
3	15	12,14	12	28	23	10	11	13	16	
	10	11	20	14	15					
								21		11
QWRHVX	Yfiler® Plus, GlobalFiler™									
3	37,38	15	12,14	12	28	23	10	11	13	16
	10	11	20	28	14	15	10	24		38
		12		20	16		20	21		11
										2
RTMA4R	Yfiler®									
3	15	12,14	12	28	23	10	11	13	16	
	10	11	20	14	15					
								21		11

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

U2TTFM	PowerPlex® Fusion 5C										
3											10
<hr/>											
UPYH6V	Yfiler®										
3	15	12,14	12	28	23	10	11	13	16		
	10	11	20	14	15			21	11		
<hr/>											
X2YEGK	Yfiler®										
3	15	12,14	12	28	23	10	11	13	16		
	10	11	20	14	15			21	11		
<hr/>											
XCF2QK	PowerPlex® Fusion FUSION										
3											10
<hr/>											
ZG3PYN											
3											10
<hr/>											



## Additional DNA & PI Results

TABLE 4

<b>Locus</b>	<b>WebCode</b>	<b>Item 1</b>	<b>Item 2</b>	<b>Item 3</b>	<b>Item 3 Paternity Index</b>
F13A	Q4MJAP	7	5,7	6,7	0
F13B	Q4MJAP	9,10	8,10	9,10	0
FESFPS	Q4MJAP	12	11,12	10,11	1.2154
LPL	Q4MJAP	10	10	10	2.3518
PENTA C	Q4MJAP	11,12	12,13	9,12	0

## Paternity DNA Statistics

TABLE 5

WebCode	Combined Paternity Index	Probability of Paternity	Population Database Used
3ELFYL	N/A	N/A	FBI PopStats
4BJWCD	0.00	0.00	NIST-STRBASE
82PRWA	-	-	NIST-STRBASE
8J62XB	1.4E-26		NIST-STRBASE
DRFCPB	N/A	N/A	FBI PopStats
EZPZ4A	0	0	
FJBB6Z			NIST-STRBASE
H3YFY7			FBI PopStats
HCPXFY	NA	NA	NIST-STRBASE
NN3BX2	0	Not reported	NIST-STRBASE
PEQETV			Local/State database
Q4MJAP	0	0	Promega
QE8RVX	N/A	N/A	FBI PopStats
QWRHVX	0	0	FBI PopStats
RTMA4R	N/A	N/A	NIST-STRBASE
U2TTFM			NIST-STRBASE
UPYH6V	N/A	N/A	FBI PopStats
VA3HTL	0	0	Local database
WAEX2J	0	0	FBI PopStats, Promega for Pentas D&E
WPNMEK			NIST-STRBASE
X2YEGK	0	0	NIST-STRBASE
XCF2QK	2.68E+2	99.63%	FBI PopStats
ZG3PYN	excluded	excluded	[Country] GlobalFiler Pop. Database

# Paternity Conclusions

TABLE 6

WebCode	Conclusions	WebCode	Conclusions
3ELFYL	Excluded	XCF2QK	Excluded
4BJWCD	Excluded	ZG3PYN	Excluded
82PRWA	Excluded		
8DFL8H	Excluded		
8J62XB	Excluded		
DRFCPB	Excluded		
EZPZ4A	Excluded		
FJBB6Z	Excluded		
H3YEY7	Excluded		
HCPXFY	Excluded		
MEZCBV	Excluded		
NN3BX2	Excluded		
PEQETV	Excluded		
Q4MJAP	Excluded		
QE8RVX	Excluded		
QH9VLZ	Excluded		
QWRHVX	Excluded		
QZ8BLQ	Excluded		
RTMA4R	Excluded		
U2TTFM	Excluded		
UPYH6V	Excluded		
VA3HTL	Excluded		
WAEX2J	Excluded		
WPNMEK	Excluded		
X2YEGK	Excluded		

Response Summary		Total: 27
<b>Responses</b>	Not Excluded	0
	Excluded	27
	Inconclusive	0

## Kinship DNA Statistics

Is the claim of a Uncle/Niece (Hispanic) relationship supported by the genetic evidence?

TABLE 7

<b>WebCode</b>	<b>Database</b>	<b>Kinship Index</b>	<b>Claim Supported?</b>
3ELFYL	FBI PopStats	9.520	Yes
DRFCPB	FBI PopStats	9.52	Yes
EZPZ4A		2	Limited evidence to support
NN3BX2	NIST-STRBASE	Not reported	Not reported
PEQETV	Local/State database	3.4	No, the statistical value does not support this relationship.
Q4MJAP	Promega	10.8433	Uncertain
QE8RVX	FBI PopStats	9.520	Yes
RTMA4R	NIST-STRBASE	1.96	Inconclusive
UPYH6V	FBI PopStats	9.520	Yes
VA3HTL	Local database	1.955	The genetic evidence neither can support nor contradict the claim
WAEX2J	FBI PopStats, Promega for Pentas D&E	1.919	It is uncertain.
X2YEGK	NIST-STRBASE	3.223901	yes

# Additional Kinship Statistical Results

## TABLE 8

WebCode	Additional Statistical Results
3ELFYL	The kinship index supports the hypothesis that Uncle is the uncle of Niece using the reference populations listed. The genotype observed for Uncle is "X" times more likely to occur in an uncle of Niece than in someone unrelated to Niece from the reference populations listed where "X" equals: African American – 28, Caucasian – 7.0, Hispanic – 9.5
8DFL8H	This type of kinship calculation not reported in this laboratory
DRFCPB	Autosomal STRs: The DNA profile is single source. The kinship index supports the hypothesis that Profile B is the uncle of Profile A using the reference populations listed. The genotype observed for Profile B is "X" times more likely to occur in a uncle of Profile A than in someone unrelated to Profile A from the reference populations listed where "X" equals: African American – 28, Caucasian – 7.0, Hispanic – 9.5
PEQETV	No conclusion could be made as to whether the alleged Uncle is the biological Uncle of the Niece or not.
QE8RVX	The kinship index supports the hypothesis that "Uncle" is the uncle of "Niece" using the reference populations listed. The genotype observed for "Uncle" is "X" times more likely to occur in an uncle of "Niece" than in someone unrelated to "Niece" from the reference populations listed where "X" equals: African American - 28, Caucasian - 7.0, Hispanic - 9.5
RTMA4R	At [Laboratory] cases with a likelihood ratio of between 1-20 will be reported as inconclusive. Cases with a likelihood ratio greater than 20 will be reported as conclusive. Thus, the outcome of this calculation is inconclusive.
UPYH6V	The kinship index supports the hypothesis that Uncle is the uncle of Niece using the reference populations listed. The genotype observed for Uncle is "X" times more likely to occur in a uncle of Niece than in someone unrelated to Niece from the reference populations listed where "X" equals: African American – 28, Caucasian – 7.0, Hispanic – 9.5
VA3HTL	The likelihood ratio (LR=1.955) can neither support nor contradict the claim
WAEX2J	The relationship index is too low to provide convincing statistical support for a conclusion of the niece/uncle relationship, yielding a probability of a relationship of only 65.7%. NIST database used for non-FBI loci.

## **Additional Comments**

### TABLE 9

WebCode	Additional Comments
82PRWA	Based on our laboratory SOP, when there is three or more genetic inconsistencies, we will exclude the alleged parent as a possible biological parent of the child. We do not calculate PI for individual locus if the alleged father is excluded. In addition, our laboratory does not perform uncle-niece relationship testing.
H3YEY7	Additional DNA Section: NR = No Results [CTS moved Results/Notations reported for loci located in another section of the report to Table 3: YSTR Amplification Kit(s) & Results]. Item 3 Section: The PI box was left blank when the alleged father did not possess the obligate paternal allele at the locus. Paternity DNA Statistics Section: The Combined Paternity Index Value and Probability of Paternity boxes were left blank because the alleged father is excluded as a possible biological father of the child.
PEQETV	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 operating procedures of this laboratory. The local/state database was used for calculation purposes and the most conservative likelihood ratio was used (Caucasian). The Identifiler Plus Loci set was considered for the above likelihood ratio calculation.
QH9VLZ	As per Biological Sciences Group paternity method, if there are three or more inconsistencies with parentage, the alleged father is reported as excluded as being the true father of the child given the profile available from the mother is the biological mother. In these instances the paternity index is not calculated and the alleged father is reported as excluded.
QWRHVX	NR = no result
RTMA4R	Part II [Table 5: Paternity DNA Statistics]: Alleged father is excluded (6 inconsistencies), thus no statistical calculation was carried out.
U2TTFM	Yfiler was not used for analysis because the child is female and is also unrelated to the alleged father.
XCF2QK	Our laboratory does not yet calculate PI at the expanded fusion loci.

# Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program

## Test No. 17-5870: DNA Parentage

DATA MUST BE RECEIVED BY April 03, 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, 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 (Mother)

Item 2: Blood Sample from Known Child (Daughter)

Item 3: Blood Sample from Alleged Father (Caucasian)

### **\*\*Please note Data Sheet Changes\*\***

The data sheet has been updated to include the GlobalFiler™ and PowerPlex® Fusion amplification kits. The sheet has also been updated to include the Next Generation Sequencing Kit ForenSeq™ and the associated STR and YSTR loci.

The YSTR section has also been expanded to include all of the YFiler® Plus loci.

For the amplification kits that contain both STR and YSTR loci, please select the corresponding kit in the STR and YSTR sections, and enter the loci for those sections.

If a locus is not listed on the following pages of this data sheet, use the "Additional DNA Results" table below to report those results.

**Please return all pages of this data sheet.**

Page 1 of 9

Participant Code:

WebCode:

**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

<b>Example</b>	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

**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, Direct, etc.).

COfiler®/Profiler Plus®   
  Identifiler®   
 \_\_\_\_\_   
  PowerPlex®   
 \_\_\_\_\_

GlobalFiler™   
 \_\_\_\_\_   
  ForenSeq™   
 Other   
 \_\_\_\_\_

	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
ITEM 1	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
	STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Penta E	SE33	TH01	TPOX	vWA	
STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Please return all pages of this data sheet.

Page 2 of 9



Participant Code:

WebCode:

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

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

COfiler®/Profiler Plus®   
  Identifiler® \_\_\_\_\_   
  PowerPlex® \_\_\_\_\_  
 GlobalFiler™ \_\_\_\_\_   
  ForenSeq™   
 Other \_\_\_\_\_

	D1S1656	D2S1338	D2S441	D3S1358	D4S2408	D5S818
STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
ITEM 2	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D
STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Penta E	SE33	TH01	TPOX	vWA	
STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

**Please return all pages of this data sheet.**

Participant Code:

WebCode:

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

**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, Direct, etc.).

COfiler®/Profiler Plus®     Identifiler® \_\_\_\_\_     PowerPlex® \_\_\_\_\_

GlobalFiler™ \_\_\_\_\_     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	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	PI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		D6S1043	D7S820	D8S1179	D9S1122	D10S1248	D12S391
	STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	D13S317	D16S539	D17S1301	D18S51	D19S433	D20S482	
STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	D21S11	D22S1045	Amelogenin	CSF1PO	FGA	Penta D	
STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	Penta E	SE33	TH01	TPOX	vWA		
STR	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
PI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		

**YSTR 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® \_\_\_\_\_     GlobalFiler™     PowerPlex® Fusion \_\_\_\_\_

PowerPlex® Y \_\_\_\_\_     ForenSeq™    Other \_\_\_\_\_

ITEM 3	DYF387S1	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393	DYS437
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	DYS438	DYS439	DYS448	DYS449	DYS456	DYS458	DYS460	DYS481	DYS505	DYS518
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	DYS522	DYS533	DYS549	DYS570	DYS576	DYS612	DYS627	DYS635	DYS643	Y GATA H4
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Please return all pages of this data sheet.**

Participant Code:

WebCode:

**Part I (Continued): Additional DNA Results**

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

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

**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.**

Page 6 of 9

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 Uncle/Niece (Hispanic) 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
Niece	17.3,17.3	17,20	10,10	15,16	11,11	9,10
Uncle	13,14	16,19	10,14	13,16	11,12	9,10

Profile	D8S1179	D10S1248	D12S391	D13S317	D16S539	D18S51
Niece	12,14	13,16	17,20	8,14	11,12	15,16
Uncle	13,14	13,15	18.3,21	8,9	9,11	15,16

Profile	D19S433	D21S11	D22S1045	Amelogenin	CSF1PO	FGA
Niece	14,15.2	29,30	16,16	X,X	12,12	20,25
Uncle	12,12	29,30.2	15,15	X,Y	10,11	19,25

Profile	PentaD	PentaE	SE33	TH01	TPOX	vWA
Niece	9,11	14,16	16.3,26.2	9.3,9.3	8,8	17,18
Uncle	11,11	5,14	17,21.2	6,9.3	8,8	14,18

1) Evaluate the profiles above and record the kinship index. \_\_\_\_\_

2) Is the claim of a Uncle/Niece (Hispanic) relationship supported by the genetic evidence?

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

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**Please return all pages of this data sheet.**

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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.*

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<b>Return Instructions:</b> Data must be received via online data entry, fax (please include a cover sheet), or mail by <i>April 03, 2017</i> to be included in the report. Emailed data sheets will not be accepted.		ONLINE DATA ENTRY: <a href="http://www.cts-portal.com">www.cts-portal.com</a>
QUESTION?		FAX: +1-571-434-1937
TEL: +1-571-434-1925 (8 am - 4:30 pm EST)		MAIL: Collaborative Testing Services, Inc.
EMAIL: <a href="mailto:forensics@cts-interlab.com">forensics@cts-interlab.com</a>		P.O. Box 650820
<a href="http://www.ctsforensics.com">www.ctsforensics.com</a>		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. **17-5870: DNA Parentage**

This release page must be completed and received by **April 3, 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) \_\_\_\_\_

**Return Instructions****Accreditation Release**

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

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

**Please return all pages of this data sheet.**

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