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Information technology — Biometric data interchange formats —

Part 14: DNA data

AMENDMENT 1: Conformance testing and clarification of defects

Technologies de l'information — Formats d'échange de données biométriques —

Partie 14: Données ADN

AMENDEMENT 1: Essais de conformité et clarification des défauts

Reference number
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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, SC 37, *Biometrics*.

Information technology — Biometric data interchange formats — Part 14 - DNA data –

Amendment 1 : Conformance testing and clarification of defects

Page v, Introduction

Add the following text to the "Introduction":

"The definition of conformance testing in Annex A is distinct from the ISO/IEC 29109, which addressed conformance testing only of the first edition of ISO/IEC 19794. This annex addresses the ISO/IEC 19794-14:2013 revision conformance testing.

Additionally, this part of the ISO/IEC 19794 supports XML encoding, to support a spectrum of user requirement. With XML, this part will meet the requirements of modern IT architectures. Annex B specifies the schema that XML encoded DNA data records must conform to, and Annex E provides an example of a valid XML encoded finger image record. "

Page 1, Clause 1, Scope

Add the following text to the "Scope":

"This part of ISO/IEC 19794 also specifies elements of conformance testing methodology, test assertions, and test procedures as applicable to this part of ISO/IEC 19794. It establishes test assertions pertaining to the structure of the DNA data format (Type A Level 1 as defined in ISO/IEC 19794-1:2011/Amdt. 1:2013), test assertions pertaining to internal consistency of the types of values that may be contained within each field (Type A Level 2 as defined in ISO/IEC 19794-1:2011/Amdt. 1:2013).

The conformance testing methodology specified in this part of ISO/IEC 19794 does not establish:

— tests of other characteristics of biometric products or other types of testing of biometric products (e.g. acceptance, performance, robustness, security),

— tests of conformance of systems that do not produce or consume data records not conforming to the requirements of this part of ISO/IEC 19794.

The conformance testing level 1 and level 2 are defined in this Amendment, and the conformance testing level 3 will be defined in ISO/IEC 19794-14/Amdt 2."

Page 1, Clause 2, Conformance

Add the following text to the "Conformance" Clause:

"Biometric data interchange format conformance tests conform to this part of ISO/IEC 19794 if they satisfy all of the normative requirements set forth in Clause 6.

The description of the conformance testing methodology for ISO/IEC 19794-14 DNA data should reflect the general characteristics of a BDIR structure as specified in the ISO/IEC 19794-1/Amdt. 1. However, the implementations of ISO/IEC 19794-14 DNA data may include

examples in conformance testing with biometric data record (BDB) embedded in a patron format, e.g. CBEFF in this part of ISO/IEC 19794.

The included implementations do not necessarily need to conform to all possible aspects of this part of ISO/IEC 19794, but only to those requirements supported by an Implementation Conformance Statement (ICS) in accordance with Clause A.3 of ISO/IEC 19794-1:2011 Amdt. 1:2013 and Table A.1 of Annex A of this part of ISO/IEC 19794.“

Page 4, subclause 6.3, 5th paragraph

Replace:

″The CBEFF_BDB_format_type shall be specified by the CBEFF BDB format type identifier assigned by ISO/IEC JTC1/SC37 to this DNA record format. This value is the sixteen bit value 0x0008."

With:

″The CBEFF_BDB_format_type shall be specified by the CBEFF BDB format type identifier assigned by ISO/IEC JTC1/SC37 to this DNA record format. This value is the sixteen bit value 0x0020."

Page 13, 6.4.3.2.1, "*STR DNA Profile*"

Add the following text to the "STR DNA Profile" subclause:

"Because "allele call number #1" contain float number only, in case of the locus marker is "Amelogenin", the value of "allele call number #1" shall be "0" instead of "X" or "1" instead of "Y"."

Page 19, Annex A

Replace Annex A with the following one:

Annex A
(normative)

Conformance Testing Methodology

The testing methodology specified in Clauses A.1, A.2 and A.3 of ISO/IEC 19794-1/Amdt. 1 shall apply. The content of the tables below is based on the conformance testing methodology outlined in 19794-1/Amdt. 1 and shall only be used in the context of that testing methodology.

A.1. Table of requirements in the base standard for conformance testing level 1 and 2

The normative requirements of ISO/IEC 19794-14 Biometric Data Interchange Format – Part 14 DNA Data are listed in Table A.1. The supplier of the IUT shall explain which optional components of the standard are supported and the testing laboratory shall note the results of the test.

This table, A.1, may extend over multiple pages.

Table A.1 – Table of Requirements of the Base Standard (19794-14)

Requirement ID	Reference in Base Standard	Requirement Summary	Level	Status	IUT Support	Supported Range	Test Result	XML Applicability
R-1	6.3 BDB	The biometric data record represented using the DNA record format may be embedded in the biometric data block (BDB) of the CBEFF patron format compliant with ISO/IEC 19785-1:2004. If a CBEFF header is used, the following specifications apply: The CBEFF patron format requests to specify both CBEFF_BDB_format_owner and CBEFF_BDB_format_type as mandatory elements in the CBEFF Header. The CBEFF_BDB_format_owner shall be specified by the CBEFF biometric organization identifier issued by the CBEFF registration authority to ISO/IEC JTC1/SC37. This value is the sixteen bit value 0x0101. The CBEFF_BDB_format_type shall be specified by the CBEFF BDB format type identifier assigned by ISO/IEC JTC1/SC37 to this DNA record format. This value is the sixteen bit value 0x0008	2	O-x				No
R-2	6.3 BDIR	The structure of a BDIR consisting of one mandatory General Header and one or more Representation parts	2	M				Yes
R-3	6.4.1.1	The **format identifier** field shall be the string "DNA"	2	M				Yes
R-4	6.4.1.2	The **version** field shall be the Major version 3 and Minor version 0	2	M				Yes
R-5	6.4.1.3	The **communication direction** field shall contain a string listed in Table 2 of this standard.	2	M				Yes
R-6	6.4.1.4	The NationalityCode of **sending party** field shall contain a valid ISO 3166-2 code entry.	2	M				Yes
R-7	6.4.1.4	The Name of Entity of **sending party** field shall contain a valid ISO 3166-2 code entry.	1	M				Yes
R-8	6.4.1.4	The Name of Person of **sending party** field shall contain a valid ISO 3166-2 code entry.	1	M				Yes
R-9	6.4.1.5	The NationalityCode of **receiving party** field shall contain a valid ISO 3166-2 code entry.	2	M				Yes
R-10	6.4.1.5	The Name of Entity of **receiving party** field shall contain a valid ISO 3166-2 code entry.	1	M				Yes
R-11	6.4.1.5	The Name of Person of **receiving party** field shall contain a valid ISO 3166-2 code entry.	1	M				Yes
R-12	6.4.1.6	The **entity type** field shall be in accordance with clause 6.4.1.6	2	M				Yes
R-13	6.4.1.7	The **date and time of data exchange** field shall be in accordance with 19794-1 AMD2	2	M				Yes

R-14	6.4.2.1	The **sample collection date** field shall be in accordance with 19794-1 AMD2	2	M				Yes
R-15	6.4.2.2.	The **sample category** field shall be in accordance with Table 5.	2	M				Yes
R-16	6.4.2.3.	The **sample cellular type** field shall be in accordance with Table 6.	2	M				Yes
R-17	6.4.2.4	The **sample typing technology** field shall be in ccordance with Table 7.	2	M				Yes
R-18	6.4.2.5	The **specimen contributor** field shall be in accordance with Table 8.	2	M				Yes
R-19	6.4.2.6	The **sample collection method** field shall be in string	1	M				Yes
R-20	6.4.2.7	The **sample collection location** field shall be in string	1	M				Yes
R-21	6.4.2.8	The **sample collection Geo-Location** fields shall be in accordance with Table 9 and WGS 84.	2	M				Yes
R-22	6.4.2.9	The **pedigree tree** field shall be in accordance with clause 6.4.2.9	2	M				Yes
R-23	6.4.3.1.1	The **date and time** field shall be in accordance with 19794-1 AMD2	2	M				Yes
R-24	6.4.3.1.2	The **batch ID** field shall be in string	1	M				Yes
R-25	6.4.3.1.3	The **dna profile ID** field shall be in string	1	M				Yes
R-26	6.4.3.1.4	The **kit ID** field shall be in string	1	M				Yes
R-27	6.4.3.1.5	The **lab certification** field shall be in accordance with clause 6.4.3.1.5 and contain values from Table 15.	2	M				Yes
R-28	6.4.3.1.6	The **scope of accreditation** field shall be in accordance with clause 6.4.3.1.6 and contain values from table 17.	2	M				Yes
R-29	6.4.3.1.7	The **request type** field shall be in accordance with clause 6.4.3.1.7 and contain values from Table 19.	2	M				Yes
R-30	6.4.3.1.7	The **request type** field shall be mandatory when the communication direction is “R” (request), otherwise optional.	2	M				Yes
R-31	6.4.3.1.8	The **result** field shall be in accordance with clause 6.4.3.1.8 and contain values from Table 21.	2	M				Yes
R-32	6.4.3.1.8	The **result** type field shall be mandatory when the communication direction is “A” (Answer), otherwise optional.	2	M				Yes
R-33	6.4.3.1.9	The **error message** field shall be in string	1	M				
R-34	6.4.3.1.10	The **supplementary message** field shall be in string	1	M				
R-35	6.4.3.2.1	The **STR DNA profile** field shall be in accordance with clause 6.4.3.2.1.	2	M				Yes
R-36	6.4.3.2.1	The **STR DNA profile** field shall mandatory when the sample typing technology is “STR”, otherwise optional. See Table 22.	2	M				Yes

R-37	6.4.3.2.2	The **Y-STR DNA profile** field shall be in accordance with clause 6.4.3.2.2	2	M				Yes
R-38	6.4.3.2.2	The **Y-STR DNA profile** field shall mandatory when the sample typing technology is “Y-STR”, otherwise optional. See Table 22.	2	M				Yes
R-39	6.4.3.2.3	The **mitochondrial DNA data** field shall be in accordance with clause 6.4.3.2.3	2	M				Yes
R-40	6.4.3.2.3	The **mitochondrial DNA data type** field shall mandatory when the sample typing technology is “mtDNA”, otherwise optional. See Table 22.	2	M				Yes
R-41	6.4.3.2.4	The **electropherogram data** field shall be in accordance with clause 6.4.3.2.4	2	M				Yes
R-42	6.4.3.2.4	The **electropherogram data** field shall mandatory when the sample typing technology is “Electropherogram”, otherwise optional. See Table 22.	2	M				Yes
R-43	6.4.3.2.5	The **user defined DNA Data** field shall be in accordance with table 42.	2	M				Yes

Note. For R-1 requirement, ‘O-x’ means that CBEFF conformance testing is out of scope of this document.

A.2. Table Conformance Test Assertions

The XML encoded conformance test assertions are listed in the order in that the corresponding fields are required to appear, if present, in a conforming record.

This table, A.1, may extend over multiple pages.

Table A.2 – XML Encoded Conformance Test Assertions

Test No.	Section	Requirement ID	Level	Field Name	Operator	Operand	Test Note	Status	IUT Support	Supported Range	Test Result
1	6 DNA format specification	R-2	2	Entire field	EQ	BDIR has one general header and at least one representation					
2	6.4.1 DNA Record General Header	R-3	2	Format Identifier	EQ	"DNA"					
3	6.4.1 DNA Record General Header	R-4	2	Version – Major version	EQ	3					

4	6.4.1 DNA Record General Header	R-4	2	Version – Minor version	EQ	0					
5	6.4.1 DNA Record General Header	R-5	2	Communication Direction	EQ	"Request" or "Answer"					
6	6.4.1 DNA Record General Header	R-6	2	Sending Party : Nationality Code	EQ	Nationality code defined in ISO 3166-2					
7	6.4.1 DNA Record General Header	R-7	1	Sending Party : Name of Entity	GTE	Length ≥ 0					
8	6.4.1 DNA Record General Header	R-8	1	Sending Party : Name of Person	GTE	Length ≥ 0					
9	6.4.1 DNA Record General Header	R-9	2	Receiving Party : Nationality Code	EQ	Nationality code defined in ISO 3166-2					
10	6.4.1 DNA Record General Header	R-10	1	Receiving Party : Name of Entity	GTE	Length ≥ 0					
11	6.4.1 DNA Record General Header	R-11	1	Receiving Party : Name of Person	GTE	Length ≥ 0					
12	6.4.1 DNA Record General Header	R-12	2	Entity Type	EQ	"G", "GM", "GR", "I", "IM", "IR", "O", "OM", "OR", "U", "UM" or "UR"					
13	6.4.1 DNA Record General Header	R-13	2	Date and Time of Data Processing: Year	EQ	1 to 65534					
14	6.4.1 DNA Record General Header	R-13	2	Date and Time of Data Processing: Month	EQ	1 to 12					
15	6.4.1 DNA Record General Header	R-13	2	Date and Time of Data Processing : Day	EQ	1 to 31					
16	6.4.1 DNA Record General Header	R-13	2	Date and Time of Data Processing : Hour	EQ	0 to 23					
17	6.4.1 DNA Record General Header	R-13	2	Date and Time of Data Processing : Minute	EQ	0 to 59					
18	6.4.1 DNA Record General Header	R-13	2	Date and Time of Data Processing : Second	EQ	0 to 59					

19	6.4.1 DNA Record General Header	R-13	2	Date and Time of Data Processing : Millisecond	EQ	0 to 999					
20	6.4.2 Representation Metadata	R-14	2	Sample Collection Date : Year	EQ	1 to 65534					
21	6.4.2 Representation Metadata	R-14	2	Sample Collection Date : Month	EQ	1 to 12					
22	6.4.2 Representation Metadata	R-14	2	Sample Collection Date : Day	EQ	1 to 31					
23	6.4.2 Representation Metadata	R-14	2	Sample Collection Date : Hour	EQ	0 to 23					
24	6.4.2 Representation Metadata	R-14	2	Sample Collection Date : Minute	EQ	0 to 59					
25	6.4.2 Representation Metadata	R-14	2	Sample Collection Date : Second	EQ	0 to 59					
26	6.4.2 Representation Metadata	R-14	2	Sample Collection Date : Millisecond	EQ	0 to 999					

27	6.4.2 Representation Metadata	R-15	2	Sample Category	EQ	"Arrestee", "Claimed Biological Child", "Claimed Biological Father", "Claimed Biological Mother", "Claimed Biological Sibling", "Claimed Biological Spouse", "Actual Biological Child", "Actual Biological Father", "Actual Biological Mother", "Actual Biological Sibling", "Actual Biological Spouse", "Adoptive Biological Child", "Adoptive Biological Father", "Adoptive Biological Mother", "Adoptive Biological Sibling", "Adoptive Biological Spouse", "Convicted Offender", "Forensic, Unknown", "Insurgent", "Known Suspected Terrorist", "Maternal Relative", "Missing Person", "Paternal Relative", "Suspect, Known", "Unidentified Living", "Unidentified Dead", "Victim, Known", "Detainee", "Other" or "Unspecified"					

28	6.4.2 Representation Metadata	R-16	2	Sample Cellular Type	EQ	"Blood", "Bone", "Commingled Biological Material", "Hair", "Saliva", "Semen", "Skin", "Sweat/Fingerprint", "Tissue", "Tooth (including Pulp)", "Other", "Unknown" or "Unspecified"					
29	6.4.2 Representation Metadata	R-17	2	Sample Typing Technology	EQ	"STR", "Y-STR", "mtDNA", "Electropherogram" or "User Defined Typing"					
30	6.4.2 Representation Metadata	R-18	2	Specimen Contributor	EQ	"Known" or "Unknown"					
31	6.4.2 Representation Metadata	R-19	1	Sample Collection Method	GTE	Length ≥ 0					
32	6.4.2 Representation Metadata	R-20	1	Sample Collection Location	GTE	Length ≥ 0					
33	6.4.2 Representation Metadata	R-21	2	Sample Collection Geo-Location : Latitude	EQ	-90.0 ≤ latitude ≤ +90.0					
34	6.4.2 Representation Metadata	R-21	2	Sample Collection Geo-Location : Longitude	EQ	-180.0 ≤ longitude ≤ +180.0					
35	6.4.2 Representation Metadata	R-22	2	Pedigree Tree : Pedigree Member ID	GT	0					
36	6.4.2 Representation Metadata	R-22	2	Pedigree Tree : Specimen ID	LTE	Length ≤ 24					
37	6.4.2 Representation Metadata	R-22	2	Pedigree Tree : Mother ID	GT	0					
38	6.4.2 Representation Metadata	R-22	2	Pedigree Tree : Father ID	GT	0					

39	6.4.2 Representation Metadata	R-22	2	Pedigree Tree : Specimen ID	EQ	"Known" or "Unknown"					
40	6.4.2 Representation Metadata	R-22	2	Pedigree Tree : Specimen ID	EQ	"Male" or "Female"					
41	6.4.3.1 DNA Typing Data	R-23	2	Date and Time of Analysis : Year	EQ	1 to 65534					
42	6.4.3.1 DNA Typing Data	R-23	2	Date and Time of Analysis : Month	EQ	1 to 12					
43	6.4.3.1 DNA Typing Data	R-23	2	Date and Time of Analysis : Day	EQ	1 to 31					
44	6.4.3.1 DNA Typing Data	R-23	2	Date and Time of Analysis : Hour	EQ	0 to 23					
45	6.4.3.1 DNA Typing Data	R-23	2	Date and Time of Analysis : Minute	EQ	0 to 59					
46	6.4.3.1 DNA Typing Data	R-23	2	Date and Time of Analysis : Second	EQ	0 to 59					
47	6.4.3.1 DNA Typing Data	R-23	2	Date and Time of Analysis : Millisecond	EQ	0 to 999					
48	6.4.3.1 DNA Typing Data	R-24	1	Batch ID	GTE	Length ≥ 0					
49	6.4.3.1 DNA Typing Data	R-25	1	DNA Profile ID	GTE	Length ≥ 0					
50	6.4.3.1 DNA Typing Data	R-26	1	Kit ID	GTE	Length ≥ 0					
51	6.4.3.1 DNA Typing Data	R-27	2	Lab Certification	EQ	"No validation", "ISO/IEC 17025 (KOLAS) certification", "GLP validation", "AABB certification", "ISO/ILAC Guild 19 accreditation", "Unknown" or "Unspecified"					
52	6.4.3.1 DNA Typing Data	R-28	2	Scope of Accreditation	EQ	"Nuclear", "Mitochondrial", "Database", "Other" or "Unspecified"					

53	6.4.3.1 DNA Typing Data	R-29	2	Request Type	EQ	"Data submission", "Data submission and Search", "Search", "User Defined"					
54	6.4.3.1 DNA Typing Data	R-30	2	(Request Type field == Mandatory)	C	Communication direction, “Request”					
55	6.4.3.1 DNA Typing Data	R-31	2	Result	EQ	"Unable to Process", "No Hit", "Hit User Defined", "User Defined"					
56	6.4.3.1 DNA Typing Data	R-32	2	(Result field == Mandatory)	C	Communication direction, “answer"					
57	6.4.3.1 DNA Typing Data	R-33	1	Error Message	GTE	Length ≥ 0					
58	6.4.3.1 DNA Typing Data	R-34	1	Supplementary Message	GTE	Length ≥ 0					
59	6.4.3.2 DNA Typing	R-35	2	STR DNA Profile : Locus infomation : Locus header : Name of Locus marker	EQ	Name of Locus marker in Annex D					
60	6.4.3.2 DNA Typing	R-35	2	STR DNA Profile : Locus infomation : Locus header : Status	EQ	”Normal”, “Silent allele”, “Not determined”, or “Not analyzed”					
61	6.4.3.2 DNA Typing	R-35	2	STR DNA Profile : Locus infomation : Allele call : Operator	EQ	"Equal", "Lower-limit", "Upper-limit" or "Range"					
62	6.4.3.2 DNA Typing	R-35	1	STR DNA Profile : Locus infomation : Allele call : Allele call number #1							
63	6.4.3.2 DNA Typing	R-35	2	STR DNA Profile : Locus infomation : Allele call : Allele call number #2	C	STR DNA Profile : Locus infomation : Allele call : Operator, “Range”					

64	6.4.3.2 DNA Typing	R-36	2	(STR DNA Profile field == Mandatory)	C	Sample Typing Technology, "STR"					
65	6.4.3.2 DNA Typing	R-37	2	Y-STR DNA Profile : Locus infomation : Locus header : Name of Locus marker	EQ	Name of Locus marker in Annex D					
66	6.4.3.2 DNA Typing	R-37	2	Y-STR DNA Profile : Locus infomation : Locus header : Status	EQ	Normal", "Silent allele", "Not determined", or "Not analyzed"					
67	6.4.3.2 DNA Typing	R-37	2	Y-STR DNA Profile : Locus infomation : Locus header : Operator	EQ	"Equal", "Lower-limit", "Upper-limit" or "Range"					
68	6.4.3.2 DNA Typing	R-37	1	Y-STR DNA Profile : Locus infomation : Allele call : Allele call number #1							
69	6.4.3.2 DNA Typing	R-37	2	Y-STR DNA Profile : Locus infomation : Allele call : Allele call number #2	C	STR DNA Profile : Locus infomation : Allele call : Operator, "Range"					
70	6.4.3.2 DNA Typing	R-38	2	(Y-STR DNA Profile field == Mandatory)	C	Sample Typing Technology, "Y-STR"					
71	6.4.3.2 DNA Typing	R-39	2	mtDNA Data : Mito control region1	EQ	string consists only the character listed in Table 28					
72	6.4.3.2 DNA Typing	R-39	2	mtDNA Data : Mito control region2	EQ	string consists only the character listed in Table 28					
73	6.4.3.2 DNA Typing	R-39	1	mtDNA Data : Mito DNA Quality 1							
74	6.4.3.2 DNA Typing	R-39	1	mtDNA Data : Mito DNA Quality 2							
75	6.4.3.2 DNA Typing	R-40	2	(mtDNA data field == Mandatory)	C	Sample Typing Technology "mtDNA"					

76	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Time and Fluorescence Strength Data : Run Name							
77	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Time and Fluorescence Strength Data : Sample File Name							
78	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Time and Fluorescence Strength Data : Electropherogram Dye Data: Dye name							
79	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Time and Fluorescence Strength Data : Electropherogram Time Data: Time in the run							
80	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Time and Fluorescence Strength Data : Electropherogram Time Data: Fluorescence strenth							
81	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Time and Base Pair Correspondence Data : Correspondence Data : Run Name							
82	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Time and Base Pair Correspondence Data : Correspondence Data : Sample File Name							

83	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Time and Base Pair Correspondence Data : Correspondence Data : Time in the run							
84	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Time and Base Pair Correspondence Data : Correspondence Data : Base Pair Size							
85	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Panel Data : Primer Set Name							
86	6.4.3.2 DNA Typing	R-41	2	Electropherogram data : Electropherogram Data : Panel Data : Panel Allele Data : Locus Name	EQ	Name of Locus marker in Annex D					
87	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Panel Data : Panel Allele Data : Dye Name							
88	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Panel Data : Panel Allele Data : Minimun Allele Size							
89	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Panel Data : Panel Allele Data : Maximum Allele Size							
90	6.4.3.2 DNA Typing	R-41	2	Electropherogram data : Electropherogram Data : Panel Data : Panel Allele Data : Noise Ratio	EQ	0.0 to 1.0					
91	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Bin Data : Primer Set Name							

92	6.4.3.2 DNA Typing	R-41	2	Electropherogram data : Electropherogram Data : Bin Data : Bin Locus Data : Locus Name	EQ	Name of Locus marker in Annex D					
93	6.4.3.2 DNA Typing	R-41	2	Electropherogram data : Electropherogram Data : Bin Data : Bin Locus Data : Bin Call Data : Allele Call			See Test 54 to 56.				
94	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Bin Data : Bin Locus Data : Bin Call Data : Average Base Pair Size							
95	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Bin Data : Bin Locus Data : Bin Call Data : Minus Deviation Base Pair Size							
96	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data : Bin Data : Bin Locus Data : Bin Call Data : Plus Deviation Base Pair Size							
97	6.4.3.2 DNA Typing	R-41	2	Electropherogram data : Reference Electropherogram Data : Time and Fluorescence Strength Data			See Test 69 to 73.				
98	6.4.3.2 DNA Typing	R-41	2	Electropherogram data : Electropherogram Data Mitocondrial Sequence Data : Time and Fluorescence Strength Data			See Test 69 to 73.				

99	6.4.3.2 DNA Typing	R-41	1	Electropherogram data : Electropherogram Data Mitocondrial Sequence Data : Dye assignment for Base : Dye Name							
100	6.4.3.2 DNA Typing	R-41	2	Electropherogram data : Electropherogram Data Mitocondrial Sequence Data : Dye assignment for Base : Base type	EQ	string consists only the character listed in Table 28					
101	6.4.3.2 DNA Typing	R-42	2	(Electropherogram data field == Mandatory)	C	Sample Typing Technology “Electropherogram”					
102	6.4.3.2 DNA Typing	R-43	2	User Defined DNA Data : TypeCode	GTE	Length ≥ 0					
103	6.4.3.2 DNA Typing	R-43	2	User Defined DNA Data : Data	EQ	Base 64 Encoding					

Note: Operator 'C' means the following: If the value of the field that corresponds to the first operand is equal to the value of the second operand, this field is mandatory. For example, when operator 'C' is set and the operands are "Communication direction" and "Answer", this is interpreted as follows. If the value of "Communication direction" field is the same as "Answer", this field is mandatory.

A.3. Sample XML

```
<?xml version="1.0" encoding="UTF-8"?>
<Dna xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xmlns="http://standards.iso.org/iso-iec/19794/-14/ed-1"
     xmlns:cmn="http://standards.iso.org/iso-iec/19794/-1/ed-2/amd/2"
     xmlns:dna="http://standards.iso.org/iso-iec/19794/-14/ed-1"
     xsi:noNamespaceSchemaLocation="19794-14_ed1_amd1.xsd"
     cmn:SchemaVersion="1.0">
  <dna:GeneralHeader>
    <dna:FormatIdentifier>Dna</dna:FormatIdentifier>
    <dna:Version>
      <cmn:Major>3</cmn:Major>
      <cmn:Minor>0</cmn:Minor>
    </dna:Version>
    <dna:CommunicationDirection>Request</dna:CommunicationDirection>
    <dna:SendingParty>
      <dna:NationalityCode>KR</dna:NationalityCode>
      <dna:EntityName>National Forensic Service</dna:EntityName>
      <dna:PersonName>Alice</dna:PersonName>
    </dna:SendingParty>
    <dna:ReceivingParty>
      <dna:NationalityCode>DE</dna:NationalityCode>
      <dna:EntityName>BKA</dna:EntityName>
      <dna:PersonName>Bob</dna:PersonName>
    </dna:ReceivingParty>
    <dna:EntityType>GR</dna:EntityType>
    <dna:DateAndTimeOfDataProcessing>2014-01-
30T09:30:10Z</dna:DateAndTimeOfDataProcessing>
  </dna:GeneralHeader>
  <dna:Representations>
    <dna:Representation>
      <dna:RepresentationHeader>
        <dna:SampleCollectionDate>2013-08-01T09:00:00Z</dna:SampleCollectionDate>
        <dna:SampleCategory>Arrestee</dna:SampleCategory>
        <dna:SampleCellularType>Hair</dna:SampleCellularType>
        <dna:SampleTypingTechnology>Str</dna:SampleTypingTechnology>
        <dna:SpecimenContributor>Known</dna:SpecimenContributor>
        <dna:SampleCollectionMethod>Picked up from crime
scene</dna:SampleCollectionMethod>
        <dna:SampleCollectionLocation>Liberty Enlightening the
World</dna:SampleCollectionLocation>
        <dna:SampleCollectionGeoLocation>
          <dna:Latitude>40.688904</dna:Latitude>
          <dna:Longitude>-74.044595</dna:Longitude>
        </dna:SampleCollectionGeoLocation>
        <dna:PedigreeTrees>
          <dna:PedigreeTree>
            <dna:Pedigree>
              <dna:PedigreeId>Pedigree1</dna:PedigreeId>
              <dna:PedigreeMembers>
```

```
<dna:PedigreeMember>
  <dna:PedigreeMemberId>1</dna:PedigreeMemberId>
  <dna:SpecimenId>19794-14-1-1</dna:SpecimenId>
  <dna:MotherId>4</dna:MotherId>
  <dna:FatherId>5</dna:FatherId>
  <dna:PedigreeMemberStatus>Known</dna:PedigreeMemberStatus>
  <dna:Gender>Female</dna:Gender>
</dna:PedigreeMember>
<dna:PedigreeMember>
  <dna:PedigreeMemberId>2</dna:PedigreeMemberId>
  <dna:SpecimenId>19794-14-1-2</dna:SpecimenId>
  <dna:MotherId>0</dna:MotherId>
  <dna:FatherId>0</dna:FatherId>
  <dna:PedigreeMemberStatus>Known</dna:PedigreeMemberStatus>
  <dna:Gender>Male</dna:Gender>
</dna:PedigreeMember>
<dna:PedigreeMember>
  <dna:PedigreeMemberId>3</dna:PedigreeMemberId>
  <dna:SpecimenId>19794-14-1-3</dna:SpecimenId>
  <dna:MotherId>1</dna:MotherId>
  <dna:FatherId>2</dna:FatherId>
  <dna:PedigreeMemberStatus>Known</dna:PedigreeMemberStatus>
  <dna:Gender>Male</dna:Gender>
</dna:PedigreeMember>
<dna:PedigreeMember>
  <dna:PedigreeMemberId>4</dna:PedigreeMemberId>
  <dna:SpecimenId>19794-14-1-4</dna:SpecimenId>
  <dna:MotherId>0</dna:MotherId>
  <dna:FatherId>0</dna:FatherId>
  <dna:PedigreeMemberStatus>Known</dna:PedigreeMemberStatus>
  <dna:Gender>Female</dna:Gender>
</dna:PedigreeMember>
<dna:PedigreeMember>
  <dna:PedigreeMemberId>5</dna:PedigreeMemberId>
  <dna:SpecimenId>19794-14-1-5</dna:SpecimenId>
  <dna:MotherId>6</dna:MotherId>
  <dna:FatherId>7</dna:FatherId>
  <dna:PedigreeMemberStatus>Known</dna:PedigreeMemberStatus>
  <dna:Gender>Male</dna:Gender>
</dna:PedigreeMember>
<dna:PedigreeMember>
  <dna:PedigreeMemberId>6</dna:PedigreeMemberId>
  <dna:SpecimenId>19794-14-1-6</dna:SpecimenId>
  <dna:MotherId>0</dna:MotherId>
  <dna:FatherId>0</dna:FatherId>
  <dna:PedigreeMemberStatus>Known</dna:PedigreeMemberStatus>
  <dna:Gender>Female</dna:Gender>
</dna:PedigreeMember>
<dna:PedigreeMember>
  <dna:PedigreeMemberId>7</dna:PedigreeMemberId>
  <dna:SpecimenId></dna:SpecimenId>
  <dna:MotherId>0</dna:MotherId>
```

```
                    <dna:FatherId>0</dna:FatherId>
                    <dna:PedigreeMemberStatus>Unknown</dna:PedigreeMemberStatus>
                    <dna:Gender>Male</dna:Gender>
                  </dna:PedigreeMember>
                </dna:PedigreeMembers>
              </dna:Pedigree>
            </dna:PedigreeTree>
          </dna:PedigreeTrees>
        </dna:RepresentationHeader>
        <dna:DnaTypingData>
          <dna:DateAndTimeOfAnalaysis>2014-01-
28T15:31:15Z</dna:DateAndTimeOfAnalaysis>
          <dna:BatchId>BATCH-0001</dna:BatchId>
          <dna:DnaProfileId>19794-14-1-1</dna:DnaProfileId>
          <dna:KitId>PowerPlex 1.1</dna:KitId>
          <dna:LabCertifications>
            <dna:LabCertification>Isolec17025Certification</dna:LabCertification>
          </dna:LabCertifications>
          <dna:ScopeOfAccreditations>
            <dna:ScopeOfAccreditation>Nuclear</dna:ScopeOfAccreditation>
          </dna:ScopeOfAccreditations>
          <dna:Request>
            <dna:RequestValue>DataSubmission</dna:RequestValue>
          </dna:Request>
          <dna:Result>
            <dna:ResultValue>UserDefined</dna:ResultValue>
            <dna:UserDefined>
              <dna:TypeCode></dna:TypeCode>
              <dna:Data></dna:Data>
            </dna:UserDefined>
          </dna:Result>
          <dna:ErrorMessage></dna:ErrorMessage>
          <dna:SupplementaryMessage></dna:SupplementaryMessage>
        </dna:DnaTypingData>
        <dna:DnaTyping>
          <dna:StrDnaType>
            <dna:LocusInformation>
              <dna:LocusHeader>
                <dna:NameOfLocusMarker>CSF1PO</dna:NameOfLocusMarker>
                <dna:Status>Normal</dna:Status>
              </dna:LocusHeader>
              <dna:AlleleCall>
                <dna:Operator>Equal</dna:Operator>
                <dna:AlleleCallNumber1>11</dna:AlleleCallNumber1>
              </dna:AlleleCall>
              <dna:AlleleCall>
                <dna:Operator>Equal</dna:Operator>
                <dna:AlleleCallNumber1>12</dna:AlleleCallNumber1>
              </dna:AlleleCall>
            </dna:LocusInformation>
            <dna:LocusInformation>
              <dna:LocusHeader>
```

```
      <dna:NameOfLocusMarker>D13S317</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>8</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>12</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D16S539</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>12</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>13</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D18S51</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>12</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>13</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
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      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>28</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>29</dna:AlleleCallNumber1>
```

```
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D3S1358</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>15</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>16</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D5S818</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>9</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>12</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D7S820</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>10</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>12</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D8S1179</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>13</dna:AlleleCallNumber1>
```

```
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>15</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>FGA</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>21</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>26</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>TH01</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>7</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>9.3</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
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    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>9</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>11</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>vWA</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
```

```
            </dna:LocusHeader>
            <dna:AlleleCall>
              <dna:Operator>Equal</dna:Operator>
              <dna:AlleleCallNumber1>16</dna:AlleleCallNumber1>
            </dna:AlleleCall>
            <dna:AlleleCall>
              <dna:Operator>Equal</dna:Operator>
              <dna:AlleleCallNumber1>17</dna:AlleleCallNumber1>
            </dna:AlleleCall>
          </dna:LocusInformation>
          <dna:LocusInformation>
            <dna:LocusHeader>
              <dna:NameOfLocusMarker>Amelogenin</dna:NameOfLocusMarker>
              <dna:Status>Normal</dna:Status>
            </dna:LocusHeader>
            <dna:AlleleCall>
              <dna:Operator>Equal</dna:Operator>
              <dna:AlleleCallNumber1>0</dna:AlleleCallNumber1>
            </dna:AlleleCall>
            <dna:AlleleCall>
              <dna:Operator>Equal</dna:Operator>
              <dna:AlleleCallNumber1>0</dna:AlleleCallNumber1>
            </dna:AlleleCall>
          </dna:LocusInformation>
        </dna:StrDnaType>
      </dna:DnaTyping>
    </dna:Representation>
    <!--
    Second Repesentation
    -->
    <dna:Representation>
      <dna:RepresentationHeader>
        <dna:SampleCollectionDate>2013-08-02T13:00:00</dna:SampleCollectionDate>
        <dna:SampleCategory>ActualBiologicalSpouse</dna:SampleCategory>
        <dna:SampleCellularType>Hair</dna:SampleCellularType>
        <dna:SampleTypingTechnology>Str</dna:SampleTypingTechnology>
        <dna:SpecimenContributor>Known</dna:SpecimenContributor>
        <dna:SampleCollectionMethod>Picked from
contributor</dna:SampleCollectionMethod>
        <dna:SampleCollectionLocation>Contributor's
home</dna:SampleCollectionLocation>
      </dna:RepresentationHeader>
      <dna:DnaTypingData>
        <dna:DateAndTimeOfAnalaysis>2014-01-
28T16:01:15Z</dna:DateAndTimeOfAnalaysis>
        <dna:BatchId>BATCH-0001</dna:BatchId>
        <dna:DnaProfileId>19794-14-1-2</dna:DnaProfileId>
        <dna:KitId>PowerPlex 1.1</dna:KitId>
        <dna:LabCertifications>
          <dna:LabCertification>Isolec17025Certification</dna:LabCertification>
        </dna:LabCertifications>
        <dna:ScopeOfAccreditations>
```

```
      <dna:ScopeOfAccreditation>Nuclear</dna:ScopeOfAccreditation>
    </dna:ScopeOfAccreditations>
    <dna:Request>
      <dna:RequestValue>DataSubmission</dna:RequestValue>
    </dna:Request>
    <dna:Result>
      <dna:ResultValue>UserDefined</dna:ResultValue>
      <dna:UserDefined>
        <dna:TypeCode></dna:TypeCode>
        <dna:Data></dna:Data>
      </dna:UserDefined>
    </dna:Result>
    <dna:ErrorMessage></dna:ErrorMessage>
    <dna:SupplementaryMessage></dna:SupplementaryMessage>
  </dna:DnaTypingData>
  <dna:DnaTyping>
    <dna:StrDnaType>
      <dna:LocusInformation>
        <dna:LocusHeader>
          <dna:NameOfLocusMarker>CSF1PO</dna:NameOfLocusMarker>
          <dna:Status>Normal</dna:Status>
        </dna:LocusHeader>
        <dna:AlleleCall>
          <dna:Operator>Equal</dna:Operator>
          <dna:AlleleCallNumber1>11</dna:AlleleCallNumber1>
        </dna:AlleleCall>
        <dna:AlleleCall>
          <dna:Operator>Equal</dna:Operator>
          <dna:AlleleCallNumber1>12</dna:AlleleCallNumber1>
        </dna:AlleleCall>
      </dna:LocusInformation>
      <dna:LocusInformation>
        <dna:LocusHeader>
          <dna:NameOfLocusMarker>D13S317</dna:NameOfLocusMarker>
          <dna:Status>Normal</dna:Status>
        </dna:LocusHeader>
        <dna:AlleleCall>
          <dna:Operator>Equal</dna:Operator>
          <dna:AlleleCallNumber1>12</dna:AlleleCallNumber1>
        </dna:AlleleCall>
        <dna:AlleleCall>
          <dna:Operator>Equal</dna:Operator>
          <dna:AlleleCallNumber1>12</dna:AlleleCallNumber1>
        </dna:AlleleCall>
      </dna:LocusInformation>
      <dna:LocusInformation>
        <dna:LocusHeader>
          <dna:NameOfLocusMarker>D16S539</dna:NameOfLocusMarker>
          <dna:Status>Normal</dna:Status>
        </dna:LocusHeader>
        <dna:AlleleCall>
          <dna:Operator>Equal</dna:Operator>
```

```
      <dna:AlleleCallNumber1>11</dna:AlleleCallNumber1>
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    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
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    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D18S51</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>13</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>14</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D21S11</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>30</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>31</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D3S1358</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>15</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>16</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D5S818</dna:NameOfLocusMarker>
```

```
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>12</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>15</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D7S820</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>10</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>11</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>D8S1179</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>13</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>13</dna:AlleleCallNumber1>
    </dna:AlleleCall>
  </dna:LocusInformation>
  <dna:LocusInformation>
    <dna:LocusHeader>
      <dna:NameOfLocusMarker>FGA</dna:NameOfLocusMarker>
      <dna:Status>Normal</dna:Status>
    </dna:LocusHeader>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>23</dna:AlleleCallNumber1>
    </dna:AlleleCall>
    <dna:AlleleCall>
      <dna:Operator>Equal</dna:Operator>
      <dna:AlleleCallNumber1>23</dna:AlleleCallNumber1>
    </dna:AlleleCall>
```

```
</dna:LocusInformation>
<dna:LocusInformation>
  <dna:LocusHeader>
    <dna:NameOfLocusMarker>TH01</dna:NameOfLocusMarker>
    <dna:Status>Normal</dna:Status>
  </dna:LocusHeader>
  <dna:AlleleCall>
    <dna:Operator>Equal</dna:Operator>
    <dna:AlleleCallNumber1>9</dna:AlleleCallNumber1>
  </dna:AlleleCall>
  <dna:AlleleCall>
    <dna:Operator>Equal</dna:Operator>
    <dna:AlleleCallNumber1>9.3</dna:AlleleCallNumber1>
  </dna:AlleleCall>
</dna:LocusInformation>
<dna:LocusInformation>
  <dna:LocusHeader>
    <dna:NameOfLocusMarker>TPOX</dna:NameOfLocusMarker>
    <dna:Status>Normal</dna:Status>
  </dna:LocusHeader>
  <dna:AlleleCall>
    <dna:Operator>Equal</dna:Operator>
    <dna:AlleleCallNumber1>8</dna:AlleleCallNumber1>
  </dna:AlleleCall>
  <dna:AlleleCall>
    <dna:Operator>Equal</dna:Operator>
    <dna:AlleleCallNumber1>11</dna:AlleleCallNumber1>
  </dna:AlleleCall>
</dna:LocusInformation>
<dna:LocusInformation>
  <dna:LocusHeader>
    <dna:NameOfLocusMarker>vWA</dna:NameOfLocusMarker>
    <dna:Status>Normal</dna:Status>
  </dna:LocusHeader>
  <dna:AlleleCall>
    <dna:Operator>Equal</dna:Operator>
    <dna:AlleleCallNumber1>16</dna:AlleleCallNumber1>
  </dna:AlleleCall>
  <dna:AlleleCall>
    <dna:Operator>Equal</dna:Operator>
    <dna:AlleleCallNumber1>17</dna:AlleleCallNumber1>
  </dna:AlleleCall>
</dna:LocusInformation>
<dna:LocusInformation>
  <dna:LocusHeader>
    <dna:NameOfLocusMarker>Amelogenin</dna:NameOfLocusMarker>
    <dna:Status>Normal</dna:Status>
  </dna:LocusHeader>
  <dna:AlleleCall>
    <dna:Operator>Equal</dna:Operator>
    <dna:AlleleCallNumber1>0</dna:AlleleCallNumber1>
  </dna:AlleleCall>
```

```
            <dna:AlleleCall>
              <dna:Operator>Equal</dna:Operator>
              <dna:AlleleCallNumber1>1</dna:AlleleCallNumber1>
            </dna:AlleleCall>
          </dna:LocusInformation>
        </dna:StrDnaType>
      </dna:DnaTyping>
    </dna:Representation>
  </dna:Representations>
</Dna>
```

Page 21, Annex B

Replace Annex B with the following one.

Annex B
(normative)

DNA XML Schema

This annex including the example of a DNA XML Schema shall be customized and synchronized in conformity with the rules and definitions set by ISO/IEC 19794-1:2011/Amd.2 (XML Encoding Framework)

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
Permission is hereby granted, free of charge in perpetuity, to any person obtaining
a copy of the Schema, to use, copy, modify, merge and distribute free of charge,
copies of the Schema for the purposes of developing, implementing, installing and
using software based on the Schema, and to permit persons to whom the Schema is
furnished to do so, subject to the following conditions: THE SCHEMA IS PROVIDED "AS
IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO
THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR
ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SCHEMA OR THE USE OR OTHER
DEALINGS IN THE SCHEMA. In addition, any modified copy of the Schema shall include
the following notice: THIS SCHEMA HAS BEEN MODIFIED FROM THE SCHEMA DEFINED IN
ISO/IEC 19794-14, AND SHOULD NOT BE INTERPRETED AS COMPLYING WITH THAT STANDARD
-->
<xs:schema
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns="http://standards.iso.org/iso-iec/19794/-14/ed-1"
  xmlns:dna="http://standards.iso.org/iso-iec/19794/-14/ed-1"
  xmlns:cmn="http://standards.iso.org/iso-iec/19794/-1/ed-2/amd/2"
  targetNamespace="http://standards.iso.org/iso-iec/19794/-14/ed-1"
```

```
  elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:annotation>
    <xs:documentation>This XML Schema contains all Complex and Simple Type
definitions used in DNA data interchange</xs:documentation>
    <xs:documentation>Status: DIS v1.0</xs:documentation>
  </xs:annotation>
  <xs:import
    schemaLocation="19794-1_ed2_amd2.xsd"
    namespace="http://standards.iso.org/iso-iec/19794/-1/ed-2/amd/2" />

  <xs:simpleType name="LocusStatusType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Normal"/>
      <xs:enumeration value="SilentAllele"/>
      <xs:enumeration value="Undetermined"/>
      <xs:enumeration value="NotAnalyzed"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:complexType name="LocusHeaderType">
    <xs:sequence>
      <xs:element name="NameOfLocusMarker" type="xs:string"/>
      <xs:element name="Status" type="LocusStatusType"/>
    </xs:sequence>
  </xs:complexType>

  <xs:simpleType name="OperatorType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Equal"/>
      <xs:enumeration value="LowerLimit"/>
      <xs:enumeration value="UpperLimit"/>
      <xs:enumeration value="Range"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:complexType name="AlleleCallType">
    <xs:sequence>
      <xs:element name="Operator" type="OperatorType"/>
      <xs:element name="AlleleCallNumber1" type="xs:float"/>
      <xs:element name="AlleleCallNumber2" type="xs:float" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="LocusInfoType">
    <xs:sequence>
      <xs:element name="LocusHeader" type="LocusHeaderType"/>
      <xs:element name="AlleleCall" type="AlleleCallType" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="LocusType">
```

```
    <xs:sequence>
      <xs:element name="LocusInformation" type="LocusInfoType" minOccurs="0"
maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>

  <xs:simpleType name="IupacType">
    <xs:restriction base="xs:string">
      <xs:pattern value="[GATCRYMKSWHBVDN]+"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:complexType name="MtDnaType">
    <xs:sequence>
      <xs:element name="MitoControlRegion1" type="IupacType"/>
      <xs:element name="MitoControlRegion2" type="IupacType"/>
      <xs:element name="MitoDnaQuality1" type="xs:string"/>
      <xs:element name="MitoDnaQuality2" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="UserDefinedType">
    <xs:sequence>
      <xs:element name="TypeCode" type="xs:string" minOccurs="0"/>
      <xs:element name="Data" type="xs:base64Binary"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="ElectropherogramTimeDataType">
    <xs:sequence>
      <xs:element name="TimeIntheRun" type="xs:integer"/>
      <xs:element name="FluorescenceStrengths" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="FluorescenceStrength" type="xs:float" minOccurs="0"
maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="ElectropherogramDyeDataType">
    <xs:sequence>
      <xs:element name="DyeName" type="xs:string" minOccurs="0"
maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="TfsdType">
    <xs:sequence>
      <xs:element name="RunName" type="xs:string"/>
```

```
      <xs:element name="SampleFileName" type="xs:string"/>
      <xs:element name="ElectropherogramDyeDataSet" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="ElectropherogramDyeData"
type="ElectropherogramDyeDataType" minOccurs="0" maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="ElectropherogramTimeDataSet" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="ElectropherogramTimeData"
type="ElectropherogramTimeDataType" minOccurs="0" maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="CorrespondenceDataType">
    <xs:sequence>
      <xs:element name="TimeInTheRun" type="xs:integer"/>
      <xs:element name="BasePairSize" type="xs:float" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="TbpcType">
    <xs:sequence>
      <xs:element name="RunName" type="xs:string"/>
      <xs:element name="SampleFileName" type="xs:string"/>
      <xs:element name="CorrespondenceDataSet" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="CorrespondenceData" type="CorrespondenceDataType"
minOccurs="0" maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="PanelAlleleDataType">
    <xs:sequence>
      <xs:element name="LocusName" type="xs:string"/>
      <xs:element name="DyeName" type="xs:string" minOccurs="0"/>
      <xs:element name="MinAlleleSize" type="xs:float" minOccurs="0"/>
      <xs:element name="MaxAlleleSize" type="xs:float" minOccurs="0"/>
      <xs:element name="NoiseRatio" type="xs:float" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
```

```
  <xs:complexType name="PanelType">
    <xs:sequence>
      <xs:element name="PrimerSetName" type="xs:string"/>
      <xs:element name="PanelAlleleDataSet" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="PanelAlleleData" type="PanelAlleleDataType"
minOccurs="0" maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="BinCallDataType">
    <xs:sequence>
      <xs:element name="AlleleCall" type="AlleleCallType"/>
      <xs:element name="AverageBasePairSize" type="xs:float"/>
      <xs:element name="MinusDeviationBasePairSize" type="xs:float"/>
      <xs:element name="PlusDeviationBasePairSize" type="xs:float"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="BinLocusDataType">
    <xs:sequence>
      <xs:element name="LocusName" type="xs:string"/>
      <xs:element name="BinCallDataSet" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="BinCallData" type="BinCallDataType" minOccurs="0"
maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="BinType">
    <xs:sequence>
      <xs:element name="PrimerSetName" type="xs:string"/>
      <xs:element name="BinLocusDataSet" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="BinLocusData" type="BinLocusDataType" minOccurs="0"
maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="EpgType">
```

```
    <xs:sequence>
      <xs:element name="TfsdData" type="TfsdType"/>
      <xs:element name="TbpcData" type="TbpcType"/>
      <xs:element name="PanelData" type="PanelType"/>
      <xs:element name="BinData" type="BinType"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="EpgRefType">
    <xs:sequence>
      <xs:element name="TfsdData" type="TfsdType"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="DyeBaseAssignType">
    <xs:sequence>
      <xs:element name="DyeName" type="xs:string"/>
      <xs:element name="BaseType" type="IupacType"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="EpgMitoType">
    <xs:sequence>
      <xs:element name="TfsdData" type="TfsdType"/>
      <xs:element name="DyeBaseAssignment" type="DyeBaseAssignType" minOccurs="0"
maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="ElectropherogramType">
    <xs:sequence>
      <xs:element name="SampleData" type="EpgType"/>
      <xs:element name="ReferenceData" type="EpgRefType"/>
      <xs:element name="MitoEpgData" type="EpgMitoType"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="DnaTypingType">
    <xs:sequence>
      <xs:element name="StrDnaType" type="LocusType" minOccurs="0"/>
      <xs:element name="YstrDnaType" type="LocusType" minOccurs="0"/>
      <xs:element name="MtDnaData" type="MtDnaType" minOccurs="0"/>
      <xs:element name="Electrophrogram" type="ElectropherogramType" minOccurs="0"/>
      <xs:element name="UserDefinedDnaData" type="UserDefinedType" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>

  <xs:simpleType name="RequestValue">
    <xs:restriction base="xs:string">
      <xs:enumeration value="DataSubmission"/>
      <xs:enumeration value="DataSubmissionAndSearch"/>
      <xs:enumeration value="Search"/>
```

```
      <xs:enumeration value="UserDefined"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:simpleType name="ResultValue">
    <xs:restriction base="xs:string">
      <xs:enumeration value="UnableToProcess"/>
      <xs:enumeration value="NoHit"/>
      <xs:enumeration value="HitUserDefined"/>
      <xs:enumeration value="UserDefined"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:complexType name="RequestType">
    <xs:sequence>
      <xs:element name="RequestValue" type="RequestValue"/>
      <xs:element name="UserDefined" type="UserDefinedType" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="ResultType">
    <xs:sequence>
      <xs:element name="ResultValue" type="ResultValue"/>
      <xs:element name="HitUserDefined" type="UserDefinedType" minOccurs="0"/>
      <xs:element name="UserDefined" type="UserDefinedType" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>

  <xs:simpleType name="LabCertificationType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="NoValidation"/>
      <xs:enumeration value="Iso1ec17025Certification"/>
      <xs:enumeration value="GlpValidation"/>
      <xs:enumeration value="AabbCertification"/>
      <xs:enumeration value="IsolLacGuild19Accreditation"/>
      <xs:enumeration value="Unknown"/>
      <xs:enumeration value="Unspecified"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:simpleType name="SoaType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Nuclear"/>
      <xs:enumeration value="Mitochondrial"/>
      <xs:enumeration value="Database"/>
      <xs:enumeration value="Other"/>
      <xs:enumeration value="Unspecified"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:complexType name="DnaTypingDataType">
    <xs:sequence>
```

```
      <xs:element name="DateAndTimeOfAnalaysis" type="xs:dateTime"/>
      <xs:element name="BatchId" type="xs:string" minOccurs="0"/>
      <xs:element name="DnaProfileId" type="xs:string" minOccurs="1"/>
      <xs:element name="KitId" type="xs:string" minOccurs="0"/>
      <xs:element name="LabCertifications" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="LabCertification" type="LabCertificationType"
minOccurs="0" maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="ScopeOfAccreditations" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="ScopeOfAccreditation" type="SoaType" minOccurs="0"
maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="Request" type="RequestType"/>
      <xs:element name="Result" type="ResultType"/>
      <xs:element name="ErrorMessage" type="xs:string" minOccurs="0"/>
      <xs:element name="SupplementaryMessage" type="xs:string" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>

  <xs:simpleType name="SampleCategoryType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Arrestee"/>
      <xs:enumeration value="ClaimedBiologicalChild"/>
      <xs:enumeration value="ClaimedBiologicalFather"/>
      <xs:enumeration value="ClaimedBiologicalMother"/>
      <xs:enumeration value="ClaimedBiologicalSibling"/>
      <xs:enumeration value="ClaimedBiologicalSpouse"/>
      <xs:enumeration value="ActualBiologicalChild"/>
      <xs:enumeration value="ActualBiologicalFather"/>
      <xs:enumeration value="ActualBiologicalMother"/>
      <xs:enumeration value="ActualBiologicalSibling"/>
      <xs:enumeration value="ActualBiologicalSpouse"/>
      <xs:enumeration value="AdoptiveBiologicalChild"/>
      <xs:enumeration value="AdoptiveBiologicalFather"/>
      <xs:enumeration value="AdoptiveBiologicalMother"/>
      <xs:enumeration value="AdoptiveBiologicalSibling"/>
      <xs:enumeration value="AdoptiveBiologicalSpouse"/>
      <xs:enumeration value="ConvictedOffender"/>
      <xs:enumeration value="UnknownForensic"/>
      <xs:enumeration value="Insurgent"/>
      <xs:enumeration value="KnownSuspectedTerrorist"/>
      <xs:enumeration value="MaternalRelative"/>
      <xs:enumeration value="MissingPerson"/>
      <xs:enumeration value="PaternalRelative"/>
```

```
      <xs:enumeration value="KnownSuspect"/>
      <xs:enumeration value="UnidentifiedLiving"/>
      <xs:enumeration value="UnidentifiedDead"/>
      <xs:enumeration value="KnownVictim"/>
      <xs:enumeration value="Detainee"/>
      <xs:enumeration value="Other"/>
      <xs:enumeration value="Unspecified"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:simpleType name="SampleCellularType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Blood"/>
      <xs:enumeration value="Bone"/>
      <xs:enumeration value="BuccalCell"/>
      <xs:enumeration value="CommingledBiologicalMaterial"/>
      <xs:enumeration value="Hair"/>
      <xs:enumeration value="Saliva"/>
      <xs:enumeration value="Semen"/>
      <xs:enumeration value="Skin"/>
      <xs:enumeration value="SweatFingerprint"/>
      <xs:enumeration value="Tissue"/>
      <xs:enumeration value="ToothPulp"/>
      <xs:enumeration value="Other"/>
      <xs:enumeration value="Unknown"/>
      <xs:enumeration value="Unspecified"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:simpleType name="SampleTypingTechnologyType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Str"/>
      <xs:enumeration value="YStr"/>
      <xs:enumeration value="MtDna"/>
      <xs:enumeration value="Electropherogram"/>
      <xs:enumeration value="UserDefinedTyping"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:simpleType name="SpecimenContributorType">
    <xs:restriction base="xs:string">
      <xs:maxLength value="7"/>
      <xs:enumeration value="Known"/>
      <xs:enumeration value="Unknown"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:complexType name="GeoLocationType">
    <xs:sequence>
      <xs:element name="Latitude" type="xs:float"/>
      <xs:element name="Longitude" type="xs:float"/>
    </xs:sequence>
```

```
</xs:complexType>

<xs:simpleType name="SpecimenIDType">
  <xs:restriction base="xs:string">
    <xs:maxLength value="24"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="PedigreeMbrStatusType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Known"/>
    <xs:enumeration value="Unknown"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="GenderType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Male"/>
    <xs:enumeration value="Female"/>
  </xs:restriction>
</xs:simpleType>

<xs:complexType name="PedigreeMbrType">
  <xs:sequence>
    <xs:element name="PedigreeMemberId" type="xs:integer"/>
    <xs:element name="SpecimenId" type="SpecimenIDType"/>
    <xs:element name="MotherId" type="xs:integer"/>
    <xs:element name="FatherId" type="xs:integer"/>
    <xs:element name="PedigreeMemberStatus" type="PedigreeMbrStatusType"/>
    <xs:element name="Gender" type="GenderType"/>
  </xs:sequence>
</xs:complexType>

<xs:complexType name="PedigreeType">
  <xs:sequence>
    <xs:element name="PedigreeId" type="xs:string"/>
    <xs:element name="PedigreeMembers" minOccurs="0">
      <xs:complexType>
        <xs:sequence>
          <xs:element name="PedigreeMember" type="PedigreeMbrType"
maxOccurs="unbounded"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>

<xs:complexType name="PedigreeTreeType">
  <xs:sequence>
    <xs:element name="Pedigree" type="PedigreeType" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>
```

```
  <xs:complexType name="RepresentationHeaderType">
    <xs:sequence>
      <xs:element name="SampleCollectionDate" type="xs:dateTime"/>
      <xs:element name="SampleCategory" type="SampleCategoryType"/>
      <xs:element name="SampleCellularType" type="SampleCellularType"/>
      <xs:element name="SampleTypingTechnology" type="SampleTypingTechnologyType"/>
      <xs:element name="SpecimenContributor" type="SpecimenContributorType"/>
      <xs:element name="SampleCollectionMethod" type="xs:string" minOccurs="0"/>
      <xs:element name="SampleCollectionLocation" type="xs:string" minOccurs="0"/>
      <xs:element name="SampleCollectionGeoLocation" type="GeoLocationType"
minOccurs="0"/>
      <xs:element name="PedigreeTrees" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="PedigreeTree" type="PedigreeTreeType" minOccurs="0"
maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="DnaRepresentationType">
    <xs:sequence>
      <xs:element name="RepresentationHeader" type="RepresentationHeaderType"/>
      <xs:element name="DnaTypingData" type="DnaTypingDataType"/>
      <xs:element name="DnaTyping" type="DnaTypingType"/>
    </xs:sequence>
  </xs:complexType>

  <xs:simpleType name="FormatIdentifierType">
    <xs:restriction base="xs:string">
      <xs:maxLength value="3"/>
      <xs:enumeration value="Dna"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:simpleType name="CommunicationDirectionType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Request"/>
      <xs:enumeration value="Answer"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:simpleType name="EntityType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="G"/>
      <xs:enumeration value="GM"/>
      <xs:enumeration value="GR"/>
      <xs:enumeration value="I"/>
      <xs:enumeration value="IM"/>
```

```
      <xs:enumeration value="IR"/>
      <xs:enumeration value="O"/>
      <xs:enumeration value="OM"/>
      <xs:enumeration value="OR"/>
      <xs:enumeration value="U"/>
      <xs:enumeration value="UM"/>
      <xs:enumeration value="UR"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:complexType name="PartyType">
    <xs:sequence>
      <xs:element name="NationalityCode" type="xs:string"/>
      <xs:element name="EntityName" type="xs:string"/>
      <xs:element name="PersonName" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="GeneralHeaderType">
    <xs:sequence>
      <xs:element name="FormatIdentifier" type="FormatIdentifierType"/>
      <xs:element name="Version" type="cmn:VersionType"/>
      <xs:element name="CommunicationDirection" type="CommunicationDirectionType"/>
      <xs:element name="SendingParty" type="PartyType"/>
      <xs:element name="ReceivingParty" type="PartyType"/>
      <xs:element name="EntityType" type="EntityType"/>
      <xs:element name="DateAndTimeOfDataProcessing" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>

  <xs:element name="Dna">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="GeneralHeader" type="GeneralHeaderType"/>
        <xs:element name="Representations" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Representation" type="DnaRepresentationType"
maxOccurs="unbounded"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
      <xs:attribute ref="cmn:SchemaVersion" use="required"/>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Page 37, after Annex D

Add the following new Annex E.

Annex E
(normative)

Pedigree Tree Contruction

E.1. Generating Test Data for Pedigree Trees:

The following is an example of data that will generate one specific Pedigree Tree (without identifying individual specimens with each node).

Table E.1— Example data of Pedigree Tree

Pedigree Member ID	Father_ID	Mother_ID	Pedigree Member Status	Gender
1	2	3	U	M
2	0	0	K	M
3	5	6	K	F
5	0	0	K	M
6	0	0	K	F
7	5	6	K	M
8	2	3	K	M

Based on this, one knows that there are eight total nodes on the Pedigree Tree. Starting with Node 1 (Status = Unknown, so Missing Person and Gender = Male) whose parents are Nodes 2 and 3, you get the following image.

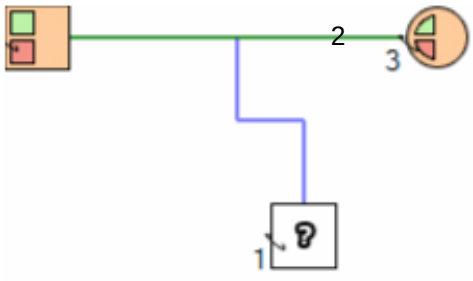

Figure E.1 — Pedigree Tree level 1

After that you move to Node 2's row, which has 0 for Father_ID and Mother_ID so no parents on the Pedigree Tree. Move to Node 3's row with Parent Nodes 5 and 6, which then gives you the following image:

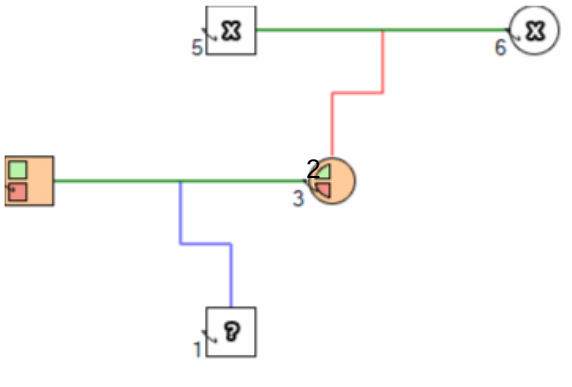

Figure E.2 — Pedigree Tree level 2

Nodes 5 and 6 both have 0 for parent Node IDs, so nothing higher on the Tree for either of them. Node 7 also has parent Node IDs 5 and 6, meaning a full sibling to Node 3, giving you the following image:

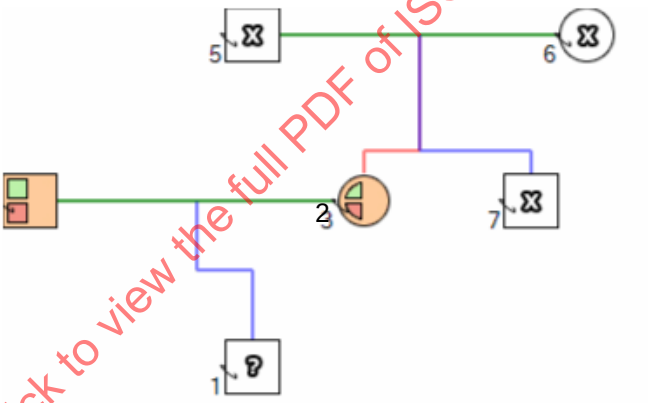

Figure E.3 — Pedigree Tree level 3

And finally, Node 8 has parent Nodes 2 and 3 meaning a full sibling to Node 1 and the image final image below:

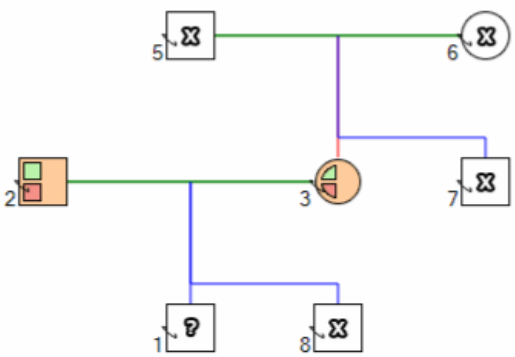

Figure E.4 — Pedigree Tree level 4

The following is a second, more complex, example of data that will generate one specific Pedigree Tree (without identifying individual specimens with each node).

Table E.2 — Second Pedigree Tree Data

Pedigree Member ID	Father_ID	Mother_ID	Pedigree Member Status	Gender
1	2	3	U	M
2	0	0	K	M
3	0	0	K	F
4	2	3	K	M
5	2	3	K	F
6	0	0	K	F
7	1	6	K	F
8	0	0	K	M
9	8	3	K	M

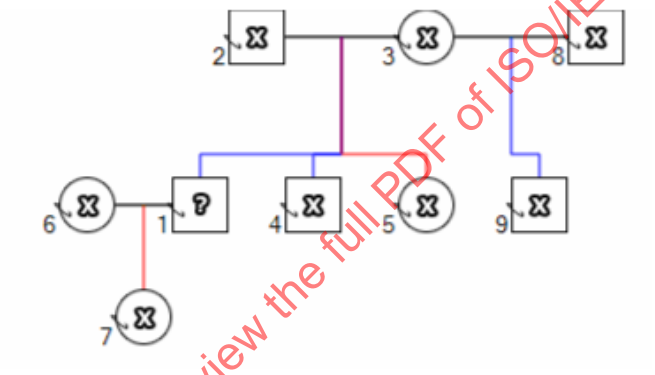

Figure E.5 — Second Pedigree Tree

E.2.Pedigree Tree Test Data for ten Pedigree Trees

E.2.1 Pedigree Tree 1

This tree has the following structure:

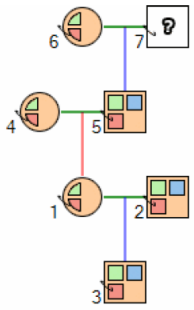

Figure E.6— Pedigree Tree 1

The data construction of the tree is:

Table E.3 — Pedigree Data 1

Pedigree Tree #	Pedigree Member ID	Father_ID	Mother_ID	SpecID	Status	Gender
1	3	2	1	19794-14-1-3	K	M
1	2	0	0	19794-14-1-2	K	M
1	4	0	0	19794-14-1-4	K	F
1	5	7	6	19794-14-1-5	K	M
1	6	0	0	19794-14-1-6	K	F
1	7	0	0		U	M
1	1	5	4	19794-14-1-1	K	F

The Specimen data associated with Pedigree Tree 1 is:

Table E.4 — Specimen Data 1-1

DNA Profile ID					
19794-14-1-1					
Locus Header		**Allele**			
Name of Locus marker	**Status**	**Operator**	**Allele call**	**Operator**	**Allele call**
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	8	Equal	12
D16S539	Normal	Equal	12	Equal	13
D18S51	Normal	Equal	12	Equal	13
D21S11	Normal	Equal	28	Equal	29
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	9	Equal	12
D7S820	Normal	Equal	10	Equal	12
D8S1179	Normal	Equal	13	Equal	15
FGA	Normal	Equal	21	Equal	26
TH01	Normal	Equal	7	Equal	9.3
TPOX	Normal	Equal	9	Equal	11
vWA	Normal	Equal	16	Equal	17
Amelogenin	Normal	Equal	X	Equal	X

Table E.5 — Specimen Data 1-2

DNA Profile ID					
19794-14-1-2					
Locus Header		**Allele**			
Name of Locus marker	**Status**	**Operator**	**Allele call**	**Operator**	**Allele call**
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	12	Equal	12
D16S539	Normal	Equal	11	Equal	11
D18S51	Normal	Equal	13	Equal	14
D21S11	Normal	Equal	30	Equal	31
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	12	Equal	15
D7S820	Normal	Equal	10	Equal	11
D8S1179	Normal	Equal	13	Equal	13
FGA	Normal	Equal	23	Equal	23
TH01	Normal	Equal	9	Equal	9.3
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	16	Equal	17
Amelogenin	Normal	Equal	X	Equal	Y

Table E.6 — Specimen Data 1-3

DNA Profile ID					
19794-14-1-3					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	11
D13S317	Normal	Equal	8	Equal	12
D16S539	Normal	Equal	11	Equal	13
D18S51	Normal	Equal	13	Equal	13
D21S11	Normal	Equal	28	Equal	30
D3S1358	Normal	Equal	15	Equal	15
D5S818	Normal	Equal	9	Equal	12
D7S820	Normal	Equal	10	Equal	11
D8S1179	Normal	Equal	13	Equal	15
FGA	Normal	Equal	21	Equal	23
TH01	Normal	Equal	7	Equal	9
TPOX	Normal	Equal	9	Equal	11
vWA	Normal	Equal	17	Equal	17
Amelogenin	Normal	Equal	X	Equal	Y

Table E.7 — Specimen Data 1-4

DNA Profile ID					
19794-14-1-4					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	12	Equal	12
D13S317	Normal	Equal	8	Equal	10
D16S539	Normal	Equal	12	Equal	13
D18S51	Normal	Equal	13	Equal	13
D21S11	Normal	Equal	29	Equal	30.2
D3S1358	Normal	Equal	15	Equal	17
D5S818	Normal	Equal	12	Equal	12
D7S820	Normal	Equal	12	Equal	12
D8S1179	Normal	Equal	13	Equal	13
FGA	Normal	Equal	21	Equal	22
TH01	Normal	Equal	6	Equal	7
TPOX	Normal	Equal	9	Equal	11
vWA	Normal	Equal	14	Equal	17
Amelogenin	Normal	Equal	X	Equal	X

Table E.8 — Specimen Data 1-5

DNA Profile ID					
19794-14-1-5					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	11
D13S317	Normal	Equal	12	Equal	12
D16S539	Normal	Equal	9	Equal	13
D18S51	Normal	Equal	12	Equal	17
D21S11	Normal	Equal	28	Equal	30
D3S1358	Normal	Equal	16	Equal	17
D5S818	Normal	Equal	9	Equal	13
D7S820	Normal	Equal	8	Equal	10
D8S1179	Normal	Equal	14	Equal	15
FGA	Normal	Equal	26	Equal	26
TH01	Normal	Equal	9	Equal	3
TPOX	Normal	Equal	10	Equal	11
vWA	Normal	Equal	16	Equal	18
Amelogenin	Normal	Equal	X	Equal	Y

Table E.9 — Specimen Data 1-6

DNA Profile ID					
19794-14-1-6					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	10
D13S317	Normal	Equal	9	Equal	12
D16S539	Normal	Equal	9	Equal	9
D18S51	Normal	Equal	12	Equal	17
D21S11	Normal	Equal	30	Equal	33.2
D3S1358	Normal	Equal	15	Equal	17
D5S818	Normal	Equal	9	Equal	11
D7S820	Normal	Equal	8	Equal	10
D8S1179	Normal	Equal	14	Equal	15
FGA	Normal	Equal	21	Equal	26
TH01	Normal	Equal	9.3	Equal	9.3
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	16	Equal	17
Amelogenin	Normal	Equal	X	Equal	X

Table E.10 — Specimen Data 1-7

DNA Profile ID					
19794-14-1-7					
Locus Header		**Allele**			
Name of Locus marker	**Status**	**Operator**	**Allele call**	**Operator**	**Allele call**
CSF1PO	Normal	Equal	10	Equal	11
D13S317	Normal	Equal	11	Equal	12
D16S539	Normal	Equal	10	Equal	13
D18S51	Normal	Equal	17	Equal	17
D21S11	Normal	Equal	28	Equal	33.2
D3S1358	Normal	Equal	16	Equal	16
D5S818	Normal	Equal	13	Equal	13
D7S820	Normal	Equal	9	Equal	10
D8S1179	Normal	Equal	14	Equal	16
FGA	Normal	Equal	20	Equal	26
TH01	Normal	Equal	9.3	Equal	10
TPOX	Normal	Equal	10	Equal	12
vWA	Normal	Equal	16	Equal	18
Amelogenin	Normal	Equal	X	Equal	Y

E.2.2 Pedigree Tree 2

This tree has the following structure:

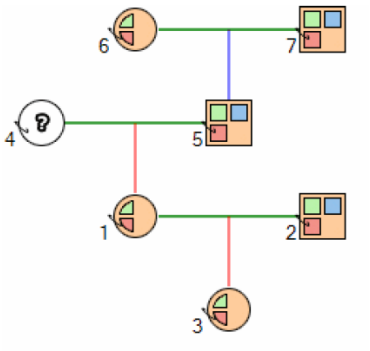

Figure E.7 — Pedigree Tree 2

The data construction of the tree is:

Table E.11 — Pedigree Data 2

Pedigree Tree #	Pedigree Member ID	Father_ID	Mother_ID	SpecID	Status	Gender
2	7	0	0	19794-14-2-7	K	M
2	6	0	0	19794-14-2-6	K	F
2	5	7	6	19794-14-2-5	K	M
2	4	0	0		U	F
2	3	2	1	19794-14-2-3	K	F
2	2	0	0	19794-14-2-2	K	M
2	1	5	4	19794-14-2-1	K	F

The Specimen data associated with Pedigree Tree 2 is:

Table E.12 — Specimen Data 2-1

DNA Profile ID					
19794-14-2-1					
Locus Header		**Allele**			
Name of Locus marker	**Status**	**Operator**	**Allele call**	**Operator**	**Allele call**
CSF1PO	Normal	Equal	10	Equal	11
D13S317	Normal	Equal	10	Equal	12
D16S539	Normal	Equal	9	Equal	13
D18S51	Normal	Equal	12	Equal	17
D21S11	Normal	Equal	28	Equal	28
D3S1358	Normal	Equal	15	Equal	15
D5S818	Normal	Equal	11	Equal	12
D7S820	Normal	Equal	9	Equal	10
D8S1179	Normal	Equal	12	Equal	17
FGA	Normal	Equal	20	Equal	24
TH01	Normal	Equal	6	Equal	9.3
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	14	Equal	17
Amelogenin	Normal	Equal	X	Equal	X

Table E.13 — Specimen Data 2-2

DNA Profile ID					
19794-14-2-2					
Locus Header		**Allele**			
Name of Locus marker	**Status**	**Operator**	**Allele call**	**Operator**	**Allele call**
CSF1PO	Normal	Equal	11	Equal	13
D13S317	Normal	Equal	12	Equal	13
D16S539	Normal	Equal	11	Equal	13
D18S51	Normal	Equal	16	Equal	22.1
D21S11	Normal	Equal	31	Equal	31
D3S1358	Normal	Equal	14	Equal	15
D5S818	Normal	Equal	12	Equal	13
D7S820	Normal	Equal	11	Equal	12
D8S1179	Normal	Equal	12	Equal	13
FGA	Normal	Equal	21	Equal	24
TH01	Normal	Equal	7	Equal	8
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	17	Equal	17
Amelogenin	Normal	Equal	X	Equal	Y

Table E.14 — Specimen Data 2-3

DNA Profile ID					
19794-14-2-3					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	11
D13S317	Normal	Equal	10	Equal	13
D16S539	Normal	Equal	13	Equal	13
D18S51	Normal	Equal	12	Equal	16
D21S11	Normal	Equal	28	Equal	31
D3S1358	Normal	Equal	14	Equal	15
D5S818	Normal	Equal	11	Equal	12
D7S820	Normal	Equal	9	Equal	11
D8S1179	Normal	Equal	13	Equal	17
FGA	Normal	Equal	20	Equal	24
TH01	Normal	Equal	6	Equal	8
TPOX	Normal	Equal	8	Equal	8
vWA	Normal	Equal	17	Equal	17
Amelogenin	Normal	Equal	X	Equal	X

Table E.15 — Specimen Data 2-4

DNA Profile ID					
19794-14-2-4					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	11
D13S317	Normal	Equal	10	Equal	11
D16S539	Normal	Equal	10	Equal	13
D18S51	Normal	Equal	14	Equal	17
D21S11	Normal	Equal	28	Equal	30
D3S1358	Normal	Equal	15	Equal	15.2
D5S818	Normal	Equal	12	Equal	12
D7S820	Normal	Equal	10	Equal	12
D8S1179	Normal	Equal	12	Equal	14
FGA	Normal	Equal	20	Equal	20
TH01	Normal	Equal	6.9.3	Equal	6.9.3
TPOX	Normal	Equal	8	Equal	10
vWA	Normal	Equal	17	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

Table E.16 — Specimen Data 2-5

DNA Profile ID					
19794-14-2-5					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	11
D13S317	Normal	Equal	12	Equal	12
D16S539	Normal	Equal	9	Equal	13
D18S51	Normal	Equal	12	Equal	15
D21S11	Normal	Equal	28	Equal	32.2
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	11	Equal	11
D7S820	Normal	Equal	9	Equal	12
D8S1179	Normal	Equal	12	Equal	17
FGA	Normal	Equal	20	Equal	24
TH01	Normal	Equal	8	Equal	9.3
TPOX	Normal	Equal	9	Equal	11
vWA	Normal	Equal	14	Equal	15
Amelogenin	Normal	Equal	X	Equal	Y

Table E.17 — Specimen Data 2-6

DNA Profile ID					
19794-14-2-6					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	11
D13S317	Normal	Equal	9	Equal	12
D16S539	Normal	Equal	11	Equal	13
D18S51	Normal	Equal	15	Equal	17
D21S11	Normal	Equal	28	Equal	30
D3S1358	Normal	Equal	15	Equal	15
D5S818	Normal	Equal	11	Equal	11
D7S820	Normal	Equal	9	Equal	12
D8S1179	Normal	Equal	10	Equal	17
FGA	Normal	Equal	20	Equal	25
TH01	Normal	Equal	8	Equal	9.3
TPOX	Normal	Equal	8	Equal	9
vWA	Normal	Equal	14	Equal	16
Amelogenin	Normal	Equal	X	Equal	X

Table E.18 — Specimen Data 2-7

DNA Profile ID					
19794-14-2-7					
Locus Header		**Allele**			
Name of Locus marker	**Status**	**Operator**	**Allele call**	**Operator**	**Allele call**
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	12	Equal	12
D16S539	Normal	Equal	9	Equal	9
D18S51	Normal	Equal	12	Equal	12
D21S11	Normal	Equal	29	Equal	32.2
D3S1358	Normal	Equal	16	Equal	16
D5S818	Normal	Equal	11	Equal	11
D7S820	Normal	Equal	10	Equal	12
D8S1179	Normal	Equal	12	Equal	15
FGA	Normal	Equal	21	Equal	24
TH01	Normal	Equal	6	Equal	9.3
TPOX	Normal	Equal	10	Equal	11
vWA	Normal	Equal	15	Equal	17
Amelogenin	Normal	Equal	X	Equal	Y

E.2.3 Pedigree Tree 3

This tree has the following structure:

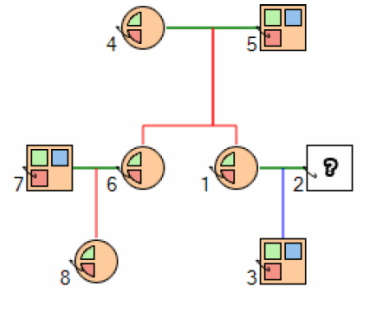

Figure E.8 — Pedigree Tree 3

The data construction of the tree is:

Table E.19 — Pedigree Data 3

Pedigree Tree #	Pedigree Member ID	Father_ID	Mother_ID	SpecID	Status	Gender
3	6	5	4	19794-14-3-6	K	F
3	1	5	4	19794-14-3-1	K	F
3	2	0	0		U	M
3	3	2	1	19794-14-3-3	K	M
3	5	0	0	19794-14-3-5	K	M
3	7	0	0	19794-14-3-7	K	M
3	8	7	6	19794-14-3-8	K	F
3	4	0	0	19794-14-3-4	K	F

The Specimen data associated with Pedigree Tree 3 is:

Table E.20 — Specimen Data 3-1

DNA Profile ID					
19794-14-3-1					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	12
D13S317	Normal	Equal	12	Equal	12
D16S539	Normal	Equal	9	Equal	13
D18S51	Normal	Equal	16	Equal	17
D21S11	Normal	Equal	30	Equal	31
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	8	Equal	11
D7S820	Normal	Equal	8	Equal	11
D8S1179	Normal	Equal	14	Equal	16
FGA	Normal	Equal	19	Equal	23
TH01	Normal	Equal	6	Equal	7
TPOX	Normal	Equal	8	Equal	8
vWA	Normal	Equal	18	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

Table E.21 — Specimen Data 3-2

DNA Profile ID					
19794-14-3-2					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	13
D13S317	Normal	Equal	12	Equal	13
D16S539	Normal	Equal	10	Equal	13
D18S51	Normal	Equal	13	Equal	22
D21S11	Normal	Equal	28	Equal	34.2
D3S1358	Normal	Equal	16	Equal	18
D5S818	Normal	Equal	11	Equal	12
D7S820	Normal	Equal	11	Equal	12
D8S1179	Normal	Equal	12	Equal	14
FGA	Normal	Equal	18	Equal	22.2
TH01	Normal	Equal	8	Equal	8
TPOX	Normal	Equal	8	Equal	9
vWA	Normal	Equal	15	Equal	16
Amelogenin	Normal	Equal	X	Equal	Y

Table E.22 — Specimen Data 3-3

DNA Profile ID					
19794-14-3-3					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	12	Equal	12
D16S539	Normal	Equal	13	Equal	13
D18S51	Normal	Equal	13	Equal	16
D21S11	Normal	Equal	20	Equal	34.2
D3S1358	Normal	Equal	16	Equal	16
D5S818	Normal	Equal	8	Equal	11
D7S820	Normal	Equal	8	Equal	12
D8S1179	Normal	Equal	12	Equal	14
FGA	Normal	Equal	19	Equal	22.2
TH01	Normal	Equal	7	Equal	8
TPOX	Normal	Equal	8	Equal	8
vWA	Normal	Equal	15	Equal	18
Amelogenin	Normal	Equal	X	Equal	Y

Table E.23 — Specimen Data 3-4

DNA Profile ID					
19794-14-3-4					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	12
D13S317	Normal	Equal	12	Equal	14
D16S539	Normal	Equal	11	Equal	13
D18S51	Normal	Equal	14	Equal	17
D21S11	Normal	Equal	29	Equal	30
D3S1358	Normal	Equal	16	Equal	16
D5S818	Normal	Equal	8	Equal	12
D7S820	Normal	Equal	8	Equal	9
D8S1179	Normal	Equal	13	Equal	14
FGA	Normal	Equal	19	Equal	20
TH01	Normal	Equal	7	Equal	9
TPOX	Normal	Equal	8	Equal	9
vWA	Normal	Equal	16	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

Table E.24 — Specimen Data 3-5

DNA Profile ID					
19794-14-3-5					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	12
D13S317	Normal	Equal	12	Equal	12
D16S539	Normal	Equal	9	Equal	11
D18S51	Normal	Equal	16	Equal	18
D21S11	Normal	Equal	30	Equal	31
D3S1358	Normal	Equal	15	Equal	18
D5S818	Normal	Equal	11	Equal	13
D7S820	Normal	Equal	11	Equal	11
D8S1179	Normal	Equal	12	Equal	16
FGA	Normal	Equal	21	Equal	23
TH01	Normal	Equal	6	Equal	9
TPOX	Normal	Equal	8	Equal	12
vWA	Normal	Equal	14	Equal	18
Amelogenin	Normal	Equal	X	Equal	Y

Table E.25 — Specimen Data 3-6

DNA Profile ID					
19794-14-3-6					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	12	Equal	12
D13S317	Normal	Equal	12	Equal	14
D16S539	Normal	Equal	9	Equal	13
D18S51	Normal	Equal	14	Equal	16
D21S11	Normal	Equal	29	Equal	31
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	11	Equal	12
D7S820	Normal	Equal	9	Equal	11
D8S1179	Normal	Equal	12	Equal	14
FGA	Normal	Equal	19	Equal	23
TH01	Normal	Equal	9	Equal	9
TPOX	Normal	Equal	8	Equal	12
vWA	Normal	Equal	18	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

Table E.26 — Specimen Data 3-7

DNA Profile ID					
19794-14-3-7					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	13
D13S317	Normal	Equal	12	Equal	12
D16S539	Normal	Equal	10	Equal	13
D18S51	Normal	Equal	17	Equal	18
D21S11	Normal	Equal	29	Equal	30
D3S1358	Normal	Equal	15	Equal	18
D5S818	Normal	Equal	12	Equal	12
D7S820	Normal	Equal	9	Equal	11
D8S1179	Normal	Equal	10	Equal	13
FGA	Normal	Equal	22	Equal	22
TH01	Normal	Equal	6	Equal	7
TPOX	Normal	Equal	8	Equal	9
vWA	Normal	Equal	16	Equal	16
Amelogenin	Normal	Equal	X	Equal	Y

Table E.27 — Specimen Data 3-8

DNA Profile ID					
19794-14-3-8					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	12	Equal	14
D16S539	Normal	Equal	13	Equal	13
D18S51	Normal	Equal	16	Equal	18
D21S11	Normal	Equal	29	Equal	29
D3S1358	Normal	Equal	15	Equal	15
D5S818	Normal	Equal	12	Equal	12
D7S820	Normal	Equal	9	Equal	9
D8S1179	Normal	Equal	12	Equal	13
FGA	Normal	Equal	22	Equal	23
TH01	Normal	Equal	6	Equal	9
TPOX	Normal	Equal	8	Equal	8
vWA	Normal	Equal	16	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

E.2.4 Pedigree Tree 4

This tree has the following structure:

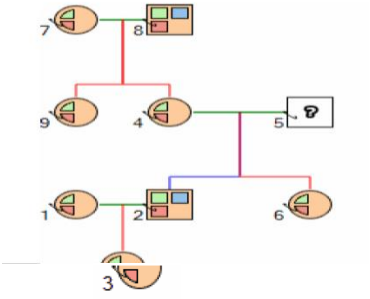

Figure E.9 — Pedigree Tree 4

The data construction of the tree is:

Table E.28 — Pedigree Data 4

Pedigree Tree #	Pedigree Member ID	Father_ID	Mother_ID	SpecID	Status	Gender
4	6	5	4	19794-14-4-6	K	F
4	5	0	0		U	M
4	4	8	7	19794-14-4-4	K	F
4	3	2	1	19794-14-4-3	K	F
4	2	5	4	19794-14-4-2	K	M
4	1	0	0	19794-14-4-1	K	F
4	8	0	0	19794-14-4-8	K	M
4	9	8	7	19794-14-4-9	K	F
4	7	0	0	19794-14-4-7	K	F

The Specimen data associated with Pedigree Tree 4 is:

Table E.29 — Specimen Data 4-1

DNA Profile ID					
19794-14-4-1					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	10
D13S317	Normal	Equal	11	Equal	11
D16S539	Normal	Equal	11	Equal	12
D18S51	Normal	Equal	15	Equal	19
D21S11	Normal	Equal	28	Equal	30
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	8	Equal	11
D7S820	Normal	Equal	7	Equal	12
D8S1179	Normal	Equal	14	Equal	14
FGA	Normal	Equal	23	Equal	25
TH01	Normal	Equal	6	Equal	8
TPOX	Normal	Equal	6	Equal	11
vWA	Normal	Equal	16	Equal	17
Amelogenin	Normal	Equal	X	Equal	X

Table E.30 — Specimen Data 4-2

DNA Profile ID					
19794-14-4-2					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	12
D13S317	Normal	Equal	11	Equal	12
D16S539	Normal	Equal	9	Equal	11
D18S51	Normal	Equal	12	Equal	16
D21S11	Normal	Equal	28	Equal	31
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	12	Equal	13
D7S820	Normal	Equal	11	Equal	12
D8S1179	Normal	Equal	13	Equal	15
FGA	Normal	Equal	21	Equal	22
TH01	Normal	Equal	7	Equal	8
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	16	Equal	19
Amelogenin	Normal	Equal	X	Equal	Y

Table E.31 — Specimen Data 4-3

DNA Profile ID					
19794-14-4-3					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	10
D13S317	Normal	Equal	11	Equal	12
D16S539	Normal	Equal	11	Equal	12
D18S51	Normal	Equal	15	Equal	16
D21S11	Normal	Equal	28	Equal	30
D3S1358	Normal	Equal	15	Equal	15
D5S818	Normal	Equal	11	Equal	13
D7S820	Normal	Equal	11	Equal	12
D8S1179	Normal	Equal	14	Equal	15
FGA	Normal	Equal	22	Equal	23
TH01	Normal	Equal	6	Equal	7
TPOX	Normal	Equal	6	Equal	11
vWA	Normal	Equal	16	Equal	16
Amelogenin	Normal	Equal	X	Equal	X

Table E.32 — Specimen Data 4-4

DNA Profile ID					
19794-14-4-4					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	12	Equal	13
D16S539	Normal	Equal	11	Equal	11
D18S51	Normal	Equal	12	Equal	12
D21S11	Normal	Equal	21	Equal	36.1
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	11	Equal	12
D7S820	Normal	Equal	10	Equal	12
D8S1179	Normal	Equal	11	Equal	13
FGA	Normal	Equal	20	Equal	21
TH01	Normal	Equal	7	Equal	8
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	16	Equal	19
Amelogenin	Normal	Equal	X	Equal	X

Table E.33 — Specimen Data 4-5

DNA Profile ID					
19794-14-4-5					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	10
D13S317	Normal	Equal	8	Equal	11
D16S539	Normal	Equal	9	Equal	10
D18S51	Normal	Equal	14	Equal	16
D21S11	Normal	Equal	28	Equal	32.2
D3S1358	Normal	Equal	15	Equal	15
D5S818	Normal	Equal	11	Equal	13
D7S820	Normal	Equal	11	Equal	12
D8S1179	Normal	Equal	12	Equal	15
FGA	Normal	Equal	22	Equal	24
TH01	Normal	Equal	6	Equal	8
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	15	Equal	16
Amelogenin	Normal	Equal	X	Equal	Y

Table E.34 — Specimen Data 4-6

DNA Profile ID					
19794-14-4-6					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	11
D13S317	Normal	Equal	8	Equal	13
D16S539	Normal	Equal	10	Equal	11
D18S51	Normal	Equal	12	Equal	14
D21S11	Normal	Equal	28	Equal	36.1
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	11	Equal	13
D7S820	Normal	Equal	12	Equal	12
D8S1179	Normal	Equal	11	Equal	15
FGA	Normal	Equal	21	Equal	24
TH01	Normal	Equal	6	Equal	7
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	15	Equal	19
Amelogenin	Normal	Equal	X	Equal	X

Table E.35 — Specimen Data 4-7

DNA Profile ID					
19794-14-4-7					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	12	Equal	12
D13S317	Normal	Equal	13	Equal	13
D16S539	Normal	Equal	11	Equal	12
D18S51	Normal	Equal	12	Equal	18
D21S11	Normal	Equal	29.36.1	Equal	29.36.1
D3S1358	Normal	Equal	15	Equal	15
D5S818	Normal	Equal	9	Equal	11
D7S820	Normal	Equal	12	Equal	13
D8S1179	Normal	Equal	11	Equal	13
FGA	Normal	Equal	20	Equal	23
TH01	Normal	Equal	7	Equal	7
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	16	Equal	17
Amelogenin	Normal	Equal	X	Equal	X

Table E.36 — Specimen Data 4-8

DNA Profile ID					
19794-14-4-8					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	10	Equal	11
D13S317	Normal	Equal	12	Equal	13
D16S539	Normal	Equal	9	Equal	11
D18S51	Normal	Equal	12	Equal	16
D21S11	Normal	Equal	30	Equal	31
D3S1358	Normal	Equal	16	Equal	18
D5S818	Normal	Equal	12	Equal	12
D7S820	Normal	Equal	8	Equal	10
D8S1179	Normal	Equal	13	Equal	14
FGA	Normal	Equal	21	Equal	22
TH01	Normal	Equal	7	Equal	8
TPOX	Normal	Equal	6	Equal	8
vWA	Normal	Equal	16	Equal	19
Amelogenin	Normal	Equal	X	Equal	Y

Table E.37 — Specimen Data 4-9

DNA Profile ID					
19794-14-4-9					
Locus Header		**Allele**			
Name of Locus marker	**Status**	**Operator**	**Allele call**	**Operator**	**Allele call**
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	13	Equal	13
D16S539	Normal	Equal	9	Equal	11
D18S51	Normal	Equal	12	Equal	12
D21S11	Normal	Equal	29	Equal	31
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	9	Equal	12
D7S820	Normal	Equal	10	Equal	13
D8S1179	Normal	Equal	13	Equal	13
FGA	Normal	Equal	20	Equal	22
TH01	Normal	Equal	7	Equal	8
TPOX	Normal	Equal	8	Equal	8
vWA	Normal	Equal	16	Equal	16
Amelogenin	Normal	Equal	X	Equal	X

E.2.5 Pedigree Tree 5

This tree has the following structure:

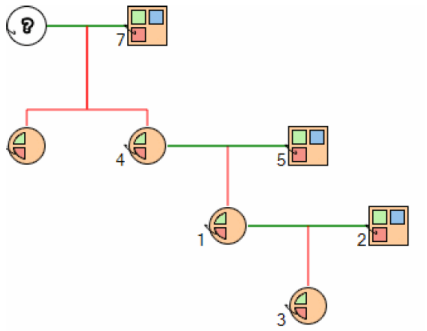

Figure E.10 — Pedigree Tree 5

The data construction of the tree is:

Table E.38 — Pedigree Data 5

Pedigree Tree #	Pedigree Member ID	Father_ID	Mother_ID	SpecID	Status	Gender
5	1	5	4	19794-14-5-1	K	F
5	7	0	0	19794-14-5-7	K	M
5	8	7	6	19794-14-5-8	K	F
5	5	0	0	19794-14-5-5	K	M
5	4	7	6	19794-14-5-4	K	F
5	3	2	1	19794-14-5-3	K	F
5	6	0	0		U	F
5	2	0	0	19794-14-5-2	K	M

The Specimen data associated with Pedigree Tree 5 is:

Table E.39 — Specimen Data 5-1

DNA Profile ID					
19794-14-5-1					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	12	Equal	12
D13S317	Normal	Equal	9	Equal	11
D16S539	Normal	Equal	13	Equal	13
D18S51	Normal	Equal	14	Equal	14
D21S11	Normal	Equal	30	Equal	31.2
D3S1358	Normal	Equal	15	Equal	17
D5S818	Normal	Equal	11	Equal	13
D7S820	Normal	Equal	8	Equal	8
D8S1179	Normal	Equal	13	Equal	15
FGA	Normal	Equal	22	Equal	25
TH01	Normal	Equal	6	Equal	9
TPOX	Normal	Equal	8	Equal	8
vWA	Normal	Equal	18	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

Table E.40 — Specimen Data 5-2

DNA Profile ID					
19794-14-5-2					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	12	Equal	12
D13S317	Normal	Equal	10	Equal	11
D16S539	Normal	Equal	12	Equal	13
D18S51	Normal	Equal	17	Equal	20
D21S11	Normal	Equal	29	Equal	30
D3S1358	Normal	Equal	13	Equal	14
D5S818	Normal	Equal	11	Equal	12
D7S820	Normal	Equal	12	Equal	12
D8S1179	Normal	Equal	14	Equal	15
FGA	Normal	Equal	19	Equal	22
TH01	Normal	Equal	7	Equal	9.3
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	15	Equal	21
Amelogenin	Normal	Equal	X	Equal	Y

Table E.41 — Specimen Data 5-3

DNA Profile ID					
19794-14-5-3					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	12	Equal	12
D13S317	Normal	Equal	9	Equal	11
D16S539	Normal	Equal	12	Equal	13
D18S51	Normal	Equal	14	Equal	17
D21S11	Normal	Equal	29	Equal	30
D3S1358	Normal	Equal	13	Equal	15
D5S818	Normal	Equal	12	Equal	13
D7S820	Normal	Equal	8	Equal	12
D8S1179	Normal	Equal	14	Equal	15
FGA	Normal	Equal	22	Equal	22
TH01	Normal	Equal	6	Equal	9.3
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	15	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

Table E.42 — Specimen Data 5-4

DNA Profile ID					
19794-14-5-4					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	10	Equal	11
D16S539	Normal	Equal	9	Equal	13
D18S51	Normal	Equal	14	Equal	15
D21S11	Normal	Equal	30	Equal	31.2
D3S1358	Normal	Equal	17	Equal	17
D5S818	Normal	Equal	11	Equal	13
D7S820	Normal	Equal	8	Equal	8
D8S1179	Normal	Equal	14	Equal	15
FGA	Normal	Equal	22	Equal	26
TH01	Normal	Equal	6	Equal	9
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	17	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

Table E.43 — Specimen Data 5-5

DNA Profile ID					
19794-14-5-5					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	9	Equal	11
D16S539	Normal	Equal	12	Equal	13
D18S51	Normal	Equal	13	Equal	14
D21S11	Normal	Equal	29	Equal	30
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	11	Equal	11
D7S820	Normal	Equal	8	Equal	10
D8S1179	Normal	Equal	13	Equal	14
FGA	Normal	Equal	21	Equal	25
TH01	Normal	Equal	6	Equal	7
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	16	Equal	18
Amelogenin	Normal	Equal	X	Equal	Y

Table E.44 — Specimen Data 5-6

DNA Profile ID					
19794-14-5-6					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	9	Equal	11
D13S317	Normal	Equal	10	Equal	12
D16S539	Normal	Equal	12	Equal	13
D18S51	Normal	Equal	14	Equal	17
D21S11	Normal	Equal	30	Equal	31.2
D3S1358	Normal	Equal	17	Equal	17
D5S818	Normal	Equal	13	Equal	13
D7S820	Normal	Equal	8	Equal	11
D8S1179	Normal	Equal	15	Equal	15
FGA	Normal	Equal	23	Equal	26
TH01	Normal	Equal	6	Equal	9
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	16	Equal	17
Amelogenin	Normal	Equal	X	Equal	X

Table E.45 — Specimen Data 5-7

DNA Profile ID					
19794-14-5-7					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	10	Equal	11
D16S539	Normal	Equal	9	Equal	14
D18S51	Normal	Equal	14.2	Equal	15
D21S11	Normal	Equal	29	Equal	30
D3S1358	Normal	Equal	15	Equal	17
D5S818	Normal	Equal	11	Equal	11
D7S820	Normal	Equal	8	Equal	11
D8S1179	Normal	Equal	10	Equal	14
FGA	Normal	Equal	19	Equal	22
TH01	Normal	Equal	6	Equal	8
TPOX	Normal	Equal	8	Equal	8
vWA	Normal	Equal	15	Equal	18
Amelogenin	Normal	Equal	X	Equal	Y

Table E.46 — Specimen Data 5-8

DNA Profile ID					
19794-14-5-8					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	1	Equal	11
D13S317	Normal	Equal	11	Equal	12
D16S539	Normal	Equal	13	Equal	14
D18S51	Normal	Equal	14.2	Equal	17
D21S11	Normal	Equal	29	Equal	30
D3S1358	Normal	Equal	15	Equal	17
D5S818	Normal	Equal	11	Equal	13
D7S820	Normal	Equal	8	Equal	11
D8S1179	Normal	Equal	10	Equal	15
FGA	Normal	Equal	22	Equal	26
TH01	Normal	Equal	6	Equal	8
TPOX	Normal	Equal	8	Equal	8
vWA	Normal	Equal	15	Equal	16
Amelogenin	Normal	Equal	X	Equal	X

E.2.6 Pedigree Tree 6

This tree has the following structure:

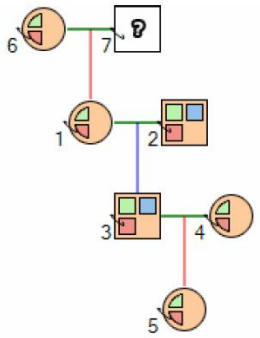

Figure E.11 — Pedigree Tree 6

The data construction of the tree is:

Table E.47 — Pedigree Data 6

Pedigree Tree #	Pedigree Member ID	Father_ID	Mother_ID	SpecID	Status	Gender
6	1	7	6	19794-14-6-1	K	F
6	5	3	4	19794-14-6-5	K	F
6	2	0	0	19794-14-6-2	K	M
6	6	0	0	19794-14-6-6	K	F
6	4	0	0	19794-14-6-4	K	F
6	3	2	1	19794-14-6-3	K	M
6	7	0	0		U	M

The Specimen data associated with Pedigree Tree 6 is:

Table E.48 — Specimen Data 6-1

DNA Profile ID					
19794-14-6-1					
Locus Header		**Allele**			
Name of Locus marker	**Status**	**Operator**	**Allele call**	**Operator**	**Allele call**
CSF1PO	Normal	Equal	12	Equal	12
D13S317	Normal	Equal	11	Equal	13
D16S539	Normal	Equal	10	Equal	13
D18S51	Normal	Equal	16	Equal	17
D21S11	Normal	Equal	30	Equal	31.2
D3S1358	Normal	Equal	16	Equal	17
D5S818	Normal	Equal	11	Equal	13
D7S820	Normal	Equal	12	Equal	12
D8S1179	Normal	Equal	11	Equal	12
FGA	Normal	Equal	25	Equal	28
TH01	Normal	Equal	6	Equal	9
TPOX	Normal	Equal	8	Equal	11
vWA	Normal	Equal	14	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

Table E.49 — Specimen Data 6-2

DNA Profile ID					
19794-14-6-2					
Locus Header		**Allele**			
Name of Locus marker	**Status**	**Operator**	**Allele call**	**Operator**	**Allele call**
CSF1PO	Normal	Equal	7	Equal	12
D13S317	Normal	Equal	9	Equal	10
D16S539	Normal	Equal	9	Equal	12
D18S51	Normal	Equal	12	Equal	15
D21S11	Normal	Equal	32.2	Equal	32.2
D3S1358	Normal	Equal	15	Equal	15
D5S818	Normal	Equal	9	Equal	11
D7S820	Normal	Equal	11	Equal	13
D8S1179	Normal	Equal	13	Equal	15
FGA	Normal	Equal	22	Equal	25
TH01	Normal	Equal	6	Equal	6
TPOX	Normal	Equal	B	Equal	B
vWA	Normal	Equal	18	Equal	18
Amelogenin	Normal	Equal	X	Equal	Y

Table E.50 — Specimen Data 6-3

DNA Profile ID					
19794-14-6-3					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	12	Equal	12
D13S317	Normal	Equal	10	Equal	13
D16S539	Normal	Equal	10	Equal	12
D18S51	Normal	Equal	15	Equal	17
D21S11	Normal	Equal	31.2	Equal	32.2
D3S1358	Normal	Equal	15	Equal	16
D5S818	Normal	Equal	9	Equal	13
D7S820	Normal	Equal	11	Equal	12
D8S1179	Normal	Equal	12	Equal	13
FGA	Normal	Equal	25	Equal	25
TH01	Normal	Equal	6	Equal	6
TPOX	Normal	Equal	B	Equal	B
vWA	Normal	Equal	14	Equal	18
Amelogenin	Normal	Equal	X	Equal	Y

Table E.51 — Specimen Data 6-4

DNA Profile ID					
19794-14-6-4					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	9	Equal	10
D13S317	Normal	Equal	13	Equal	14
D16S539	Normal	Equal	9	Equal	12
D18S51	Normal	Equal	12	Equal	12
D21S11	Normal	Equal	30	Equal	30
D3S1358	Normal	Equal	17	Equal	17
D5S818	Normal	Equal	11	Equal	11
D7S820	Normal	Equal	9	Equal	10
D8S1179	Normal	Equal	13	Equal	13
FGA	Normal	Equal	22	Equal	27
TH01	Normal	Equal	7	Equal	9
TPOX	Normal	Equal	B	Equal	B
vWA	Normal	Equal	16	Equal	17
Amelogenin	Normal	Equal	X	Equal	X

Table E.52 — Specimen Data 6-5

DNA Profile ID					
19794-14-6-5					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	9	Equal	12
D13S317	Normal	Equal	10	Equal	14
D16S539	Normal	Equal	9	Equal	10
D18S51	Normal	Equal	12	Equal	17
D21S11	Normal	Equal	30	Equal	31.2
D3S1358	Normal	Equal	15	Equal	17
D5S818	Normal	Equal	9	Equal	11
D7S820	Normal	Equal	10	Equal	12
D8S1179	Normal	Equal	13	Equal	13
FGA	Normal	Equal	22	Equal	25
TH01	Normal	Equal	6	Equal	9
TPOX	Normal	Equal	B	Equal	B
vWA	Normal	Equal	16	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

Table E.53 — Specimen Data 6-6

DNA Profile ID					
19794-14-6-6					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	12	Equal	12
D13S317	Normal	Equal	8	Equal	11
D16S539	Normal	Equal	8	Equal	13
D18S51	Normal	Equal	14	Equal	16
D21S11	Normal	Equal	31.2	Equal	32.2
D3S1358	Normal	Equal	12	Equal	16
D5S818	Normal	Equal	11	Equal	13
D7S820	Normal	Equal	8	Equal	12
D8S1179	Normal	Equal	11	Equal	12
FGA	Normal	Equal	23	Equal	28
TH01	Normal	Equal	9	Equal	9.3
TPOX	Normal	Equal	11	Equal	11
vWA	Normal	Equal	18	Equal	18
Amelogenin	Normal	Equal	X	Equal	X

Table E.54 — Specimen Data 6-7

DNA Profile ID					
19794-14-6-7					
Locus Header		**Allele**			
Name of Locus marker	**Status**	**Operator**	**Allele call**	**Operator**	**Allele call**
CSF1PO	Normal	Equal	12	Equal	12
D13S317	Normal	Equal	12	Equal	13
D16S539	Normal	Equal	10	Equal	13
D18S51	Normal	Equal	12	Equal	17
D21S11	Normal	Equal	30	Equal	33.2
D3S1358	Normal	Equal	15	Equal	17
D5S818	Normal	Equal	11	Equal	11
D7S820	Normal	Equal	9	Equal	12
D8S1179	Normal	Equal	12	Equal	16
FGA	Normal	Equal	25	Equal	25
TH01	Normal	Equal	6	Equal	7
TPOX	Normal	Equal	B	Equal	B
vWA	Normal	Equal	14	Equal	14
Amelogenin	Normal	Equal	X	Equal	Y

E.2.7 Pedigree Tree 7

This tree has the following structure:

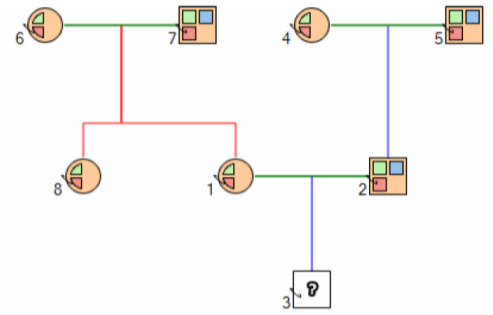

Figure E.12 — Pedigree Tree 12

The data construction of the tree is:

Table E.55 — Pedigree Data 7

Pedigree Tree #	Pedigree Member ID	Father_ID	Mother_ID	SpecID	Status	Gender
7	3	2	1		U	M
7	4	0	0	19794-14-7-4	K	F
7	5	0	0	19794-14-7-5	K	M
7	6	0	0	19794-14-7-6	K	F
7	7	0	0	19794-14-7-7	K	M
7	8	7	6	19794-14-7-8	K	F
7	2	5	4	19794-14-7-2	K	M
7	1	7	6	19794-14-7-1	K	F

The Specimen data associated with Pedigree Tree 7 is:

Table E.56 — Specimen Data 7-1

DNA Profile ID					
19794-14-7-1					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	11	Equal	12
D13S317	Normal	Equal	11	Equal	12
D16S539	Normal	Equal	9	Equal	12
D18S51	Normal	Equal	13	Equal	15
D21S11	Normal	Equal	28	Equal	31
D3S1358	Normal	Equal	14	Equal	15
D5S818	Normal	Equal	11	Equal	11
D7S820	Normal	Equal	8	Equal	10
D8S1179	Normal	Equal	12	Equal	13
FGA	Normal	Equal	20	Equal	24
TH01	Normal	Equal	6	Equal	6
TPOX	Normal	Equal	8	Equal	9
vWA	Normal	Equal	15	Equal	20
Amelogenin	Normal	Equal	X	Equal	X

Table E.57 — Specimen Data 7-2

DNA Profile ID					
19794-14-7-2					
Locus Header		Allele			
Name of Locus marker	Status	Operator	Allele call	Operator	Allele call
CSF1PO	Normal	Equal	9	Equal	15
D13S317	Normal	Equal	10	Equal	11
D16S539	Normal	Equal	11	Equal	15
D18S51	Normal	Equal	17	Equal	19
D21S11	Normal	Equal	29	Equal	31
D3S1358	Normal	Equal	14	Equal	15
D5S818	Normal	Equal	11	Equal	12
D7S820	Normal	Equal	8	Equal	10
D8S1179	Normal	Equal	10	Equal	14
FGA	Normal	Equal	22	Equal	25
TH01	Normal	Equal	6	Equal	7
TPOX	Normal	Equal	8	Equal	8
vWA	Normal	Equal	16	Equal	17
Amelogenin	Normal	Equal	X	Equal	Y