



**International  
Standard**

**ISO/IEC 19794-14**

**Information technology —  
Biometric data interchange  
formats —**

**Part 14:  
DNA data**

**AMENDMENT 1: Conformance  
requirements**

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

*Partie 14: Données ADN*

*AMENDEMENT 1: Exigences de conformité*

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## Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

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# Information technology — Biometric data interchange formats —

## Part 14: DNA data

### AMENDMENT 1: Conformance requirements

#### *Clause B.1*

Add the following paragraph at the end of the clause:

The Biometric Conformance Test Software (BioCTS) is a freeware developed by the National Institute of Standards and Technology (NIST) to perform conformance tests for various parts of the ISO/IEC 19794 series. One of the supported International Standards is ISO/IEC 19794-14:2022. The software is available for download at <https://www.nist.gov/itl/csd/biometrics-resource-center/biometric-conformance-test-software-biocts/biocts-isoiec>.

#### *B.2.2*

Add the following text at the end of subclause B.2.2:

Within Table B.1, a differentiation between requirements and other provisions is indicated through the use of the prefixes "R-x" (requirements) and "P-x" (other provisions). Requirements are mandatory provisions, which are critical for ensuring compliance and are non-negotiable. Other provisions offer options or permissions rather than mandates, giving users discretion in certain situations.

#### *Table B.1*

Replace the table with the following:

Table B.1 — Summary of Level 1 and Level 2 requirements and options

| Requirement/Provision ID | Subclause reference | Requirement/Provision summary   | Level | Status | IUT support | Supported range | Test result |
|--------------------------|---------------------|---|-------|--------|-------------|-----------------|-------------|
| R-1                      | 6.1                 | XML documents encoding DNA data shall validate against the XML schema definition in Clause A.1.                       | 1     | M      |             |                 |             |
| P-2                      | 6.3.1               | A DNA data XML document (DnaData field) may contain a list of representations (Representations field).                | 1     | O      |             |                 |             |
| P-3                      | 6.3.1               | A DNA data XML document (DnaData field) may contain a list of pedigrees (Pedigrees field).                            | 1     | O      |             |                 |             |
| R-4                      | 6.3.2.2             | In an XML document following this document, the version field shall contain major version 4 and minor revision 0.     | 2     | M      |             |                 |             |
| R-5                      | 6.3.2.3             | When communication direction is "Response", the transaction field shall contain a TransactionProcessingStatus field.  | 2     | M      |             |                 |             |
| R-6                      | 6.3.2.3             | When communication direction is "Response", the transaction field shall contain a TransactionProcessingMessage field. | 2     | M      |             |                 |             |
| R-7                      | 6.3.2.3             | When communication direction is "Response", the transaction field shall contain a RespondingToRequestId field.        | 2     | M      |             |                 |             |
| P-8                      | 6.3.2.4             | A sending party of the DNA data XML document (SendingParty field) may contain an OrganizationCode field.              | 1     | O      |             |                 |             |
| P-9                      | 6.3.2.4             | A sending party of the DNA data XML document (SendingParty field) may contain an OrganizationPOCName field.           | 1     | O      |             |                 |             |
| P-10                     | 6.3.2.4             | A category of the sending or receiving party (PartyCategory field) may contain a UnitCategory field.                  | 1     | O      |             |                 |             |
| P-11                     | 6.3.2.4             | A category of the sending or receiving party (PartyCategory field) may contain a UnitLocation field.                  | 1     | O      |             |                 |             |
| P-12                     | 6.3.2.5             | A receiving party of the DNA data XML document (ReceivingParty field) may contain an OrganizationCode field.          | 1     | O      |             |                 |             |
| P-13                     | 6.3.2.5             | A receiving party of the DNA data XML document (ReceivingParty field) may contain an OrganizationPOCName field.       | 1     | O      |             |                 |             |
| R-14                     | 6.3.3.1             | When the communication direction is "Request", the representation shall contain a Request field.                      | 2     | M      |             |                 |             |
| R-15                     | 6.3.3.1             | When the communication direction is "Response", the representation shall contain a Response field.                    | 2     | M      |             |                 |             |
| P-16                     | 6.3.3.1             | A DNA data representation (Representation field) may contain a CaseUr-gencyIndicator field.                           | 1     | O      |             |                 |             |
| P-17                     | 6.3.3.1             | A DNA data representation (Representation field) may contain a SupplementaryMessage field.                            | 1     | O      |             |                 |             |

Table B.1 (continued)

| Requirement/<br>Provision ID | Subclause<br>reference | Requirement/Provision summary   | Level | Status | IUT sup-<br>port | Supported<br>range | Test<br>result |
|------------------------------|------------------------|---|-------|--------|------------------|--------------------|----------------|
| R-18                         | 6.3.3.2                | If RequestCategory is "Other", then Description shall exist, cannot be null or zero-length string, and shall contain text since details shall be included in the Description field.   | 2     | M      |                  |                    |                |
| P-19                         | 6.3.3.2                | A DNA request (Request field) may contain a UserDefined field.  | 1     | 0      |                  |                    |                |
| P-20                         | 6.3.3.2                | A DNA request (Request field) may contain a Description field.  | 1     | 0      |                  |                    |                |
| P-21                         | 6.3.3.2                | A user defined request (UserDefined field) may contain a TypeCode field.  | 1     | 0      |                  |                    |                |
| R-22                         | 6.3.3.3                | If ResponseCategory is "Other", then Description shall exist, cannot be null or zero-length string, and shall contain text since details shall be included in the Description field.  | 2     | M      |                  |                    |                |
| R-23                         | 6.3.3.3                | If ResponseCategory is "MatchCandidate", the Response field shall contain a RespondingToProfileId field.  | 2     | M      |                  |                    |                |
| R-24                         | 6.3.3.3                | If the response contains a pedigree, the Pedigrees/ Pedigree/ Response field shall contain a RespondingToPedigreeId field. Although the XSD technically permits RespondingToPedigreeId to appear under DnaData/ Representations/ Representation, this requirement is intended to ensure that the RespondingToPedigreeId is specifically included in the pedigree response, rather than in the Representation. | 2     | M      |                  |                    |                |
| P-25                         | 6.3.3.3                | A DNA response (Response field) may contain a UserDefined field.  | 1     | 0      |                  |                    |                |
| P-26                         | 6.3.3.3                | A DNA response (Response field) may contain a MatchQuality field.   | 1     | 0      |                  |                    |                |
| P-27                         | 6.3.3.3                | A DNA response (Response field) may contain a Description field.  | 1     | 0      |                  |                    |                |
| P-28                         | 6.3.3.4                | A DNA profile identification block (DnaProfileIdBlock field) may contain a CountryCode field.   | 1     | 0      |                  |                    |                |
| P-29                         | 6.3.3.4                | A DNA profile identification block (DnaProfileIdBlock field) may contain a FederalStateCode field.  | 1     | 0      |                  |                    |                |
| P-30                         | 6.3.3.4                | A DNA profile identification block (DnaProfileIdBlock field) may contain an OrganizationCode field.   | 1     | 0      |                  |                    |                |
| R-31                         | 6.3.3.6                | If RepresentationCategory is "Other", then SupplementaryMessage shall exist, cannot be null or zero-length string, and shall contain text since details shall be included in the SupplementaryMessage field.  | 2     | M      |                  |                    |                |
| P-32                         | 6.3.3.7.1              | The donor of a DNA data representation (RepresentationDonor field) may contain a DonorVitalStatus field.  | 1     | 0      |                  |                    |                |
| P-33                         | 6.3.3.10.1             | A DNA data block (DnaDataBlock field) may contain a DateAndTimeOfAnalysis field.  | 1     | 0      |                  |                    |                |
| P-34                         | 6.3.3.10.1             | A DNA data block (DnaDataBlock field) may contain a BatchId field.  | 1     | 0      |                  |                    |                |
| P-35                         | 6.3.3.10.1             | A DNA data block (DnaDataBlock field) may contain a KitId field.  | 1     | 0      |                  |                    |                |

Table B.1 (continued)

| Requirement/<br>Provision ID | Subclause<br>reference | Requirement/Provision summary   | Level | Status | IUT sup-<br>port | Supported<br>range | Test<br>result |
|------------------------------|------------------------|---|-------|--------|------------------|--------------------|----------------|
| P-36                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain an ErrorMessage field.                      | 1     | 0      |                  |                    |                |
| P-37                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a DnaDataComment field.                     | 1     | 0      |                  |                    |                |
| P-38                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a SampleCollectionDate field.               | 1     | 0      |                  |                    |                |
| P-39                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a SampleCellKind field.                     | 1     | 0      |                  |                    |                |
| P-40                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a SampleCollectionMethod field.             | 1     | 0      |                  |                    |                |
| P-41                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a SampleCollectionParty field.              | 1     | 0      |                  |                    |                |
| P-42                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a SampleCollectionLocation field.           | 1     | 0      |                  |                    |                |
| P-43                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a SampleCollectionGeoLocation field.        | 1     | 0      |                  |                    |                |
| P-44                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a DnaExpertSystem field.                    | 1     | 0      |                  |                    |                |
| P-45                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a DnaAnalysisParty field.                   | 1     | 0      |                  |                    |                |
| P-46                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a ProfilePartialIndicator field.            | 1     | 0      |                  |                    |                |
| P-47                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain an InstrumentManufacturer field.            | 1     | 0      |                  |                    |                |
| P-48                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain an InstrumentSerial field.                  | 1     | 0      |                  |                    |                |
| P-49                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain an InstrumentSoftwareVersion field.         | 1     | 0      |                  |                    |                |
| P-50                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain an InstrumentModel field.                   | 1     | 0      |                  |                    |                |
| P-51                         | 6.3.3.10.1             | A Dna data block (DnaDataBlock field) may contain a LowTemplateDnaIndicator field.            | 1     | 0      |                  |                    |                |
| R-52                         | 6.3.3.10.1             | When Dna typing technology is "STR", the Dna data block shall contain a LocInformation field. | 2     | M      |                  |                    |                |

Table B.1 (continued)

| Requirement/Provision ID | Subclause reference | Requirement/Provision summary  | Level | Status | IUT support | Supported range | Test result |
|--------------------------|---------------------|--|-------|--------|-------------|-----------------|-------------|
| R-53                     | 6.3.3.10.1          | When DNA typing technology is "mtDNA", the DNA data block shall contain a MitoFragments field.   | 2     | M      |             |                 |             |
| P-54                     | 6.3.3.10.1          | A DnaData block (DnaDataBlock field) may contain a DnaFsaList field.   | 1     | 0      |             |                 |             |
| P-55                     | 6.3.3.10.1          | A DnaData block (DnaDataBlock field) may contain an Electropherogram field.  | 1     | 0      |             |                 |             |
| P-56                     | 6.3.3.10.1          | A DnaData block (DnaDataBlock field) may contain a VendorSpecificData type field.  | 1     | 0      |             |                 |             |
| R-58                     | 6.3.3.10.2          | If DnaTypingTechnology is "Other", then DnaDataComment shall exist, cannot be null or zero-length string, and shall contain text since details shall be included in the DnaDataComment field.    | 2     | M      |             |                 |             |
| P-59                     | 6.3.3.10.4          | The party responsible for a DNA data analysis (DnaAnalysisParty field) may contain an OrganizationCode field.  | 1     | 0      |             |                 |             |
| P-60                     | 6.3.3.10.4          | The party responsible for a DNA data analysis (DnaAnalysisParty field) may contain an OrganizationPOCName field.   | 1     | 0      |             |                 |             |
| R-61                     | 6.3.3.10.7          | If LabCertificationValue is "Other", then DnaDataComment shall exist, cannot be null or zero-length string, and shall contain text since details shall be included in the DnaDataComment field.  | 2     | M      |             |                 |             |
| R-62                     | 6.3.3.10.7          | If ScopeOfAccreditation is "Other", then DnaDataComment shall exist, cannot be null or zero-length string, and shall contain text since details shall be included in the DnaDataComment field.   | 2     | M      |             |                 |             |
| R-63                     | 6.3.3.10.11         | If SampleCellKind is "Other", then DnaDataComment shall exist, cannot be null or zero-length string, and shall contain text since details shall be included in the DnaDataComment field.         | 2     | M      |             |                 |             |
| P-64                     | 6.3.3.10.13         | The party responsible for the sample's collection (SampleCollectionParty field) may contain an OrganizationCode field.   | 1     | 0      |             |                 |             |
| P-65                     | 6.3.3.10.13         | The party responsible for the sample's collection (SampleCollectionParty field) may contain an OrganizationPOCName field.  | 1     | 0      |             |                 |             |
| R-66                     | 6.3.3.10.18         | If InstrumentManufacturer is "Other", then DnaDataComment shall exist, cannot be null or zero-length string, and shall contain text since details shall be included in the DnaDataComment field. | 2     | M      |             |                 |             |
| R-67                     | 6.3.3.10.21         | If InstrumentModel is "Other", then DnaDataComment shall exist, cannot be null or zero-length string, and shall contain text since details shall be included in the DnaDataComment field.        | 2     | M      |             |                 |             |
| R-68                     | 6.3.3.10.22         | If LocusCategory is "Other", then DnaDataComment shall exist, cannot be null or zero-length string, and shall contain text since details shall be included in the DnaDataComment field.          | 2     | M      |             |                 |             |

Table B.1 (continued)

| Requirement/Provision ID | Subclause reference | Requirement/Provision summary  | Level | Status | IUT support | Supported range | Test result |
|--------------------------|---------------------|--|-------|--------|-------------|-----------------|-------------|
| P-69                     | 6.3.3.10.23         | The header information of a locus (LocusHeader field) may contain a BatchId field.   | 1     | 0      |             |                 |             |
| P-70                     | 6.3.3.10.23         | The header information of a locus (LocusHeader field) may contain a KitId field.   | 1     | 0      |             |                 |             |
| P-72                     | 6.3.3.10.24         | A mitochondrial DNA fragment (MitoFragment field) may contain a MitoFragmentLength field.  | 1     | 0      |             |                 |             |
| P-73                     | 6.3.3.10.24         | A mitochondrial DNA fragment (MitoFragment field) may contain a MitoFastaSequence field.   | 1     | 0      |             |                 |             |
| P-74                     | 6.3.3.10.24         | A mitochondrial DNA fragment (MitoFragment field) may contain a MitoPolymorphism field.  | 1     | 0      |             |                 |             |
| P-75                     | 6.3.3.10.24         | A mitochondrial DNA polymorphism (MitoPolymorphism field) may contain a MitoPolymorphismOffset field.  | 1     | 0      |             |                 |             |
| P-76                     | 6.3.3.10.25         | A DNA fragment sequence analysis (DnaFsa field) may contain an Id field.   | 1     | 0      |             |                 |             |
| P-77                     | 6.3.3.10.26         | A DNA electropherogram (Electropherogram field) may contain an Imaged field.   | 1     | 0      |             |                 |             |
| R-78                     | 6.3.3.10.27         | The vendor-specific data field shall consist of a type code and a binary data block of that type as specified in ISO/IEC 19794-1:2011/Amd. 2:2015. | 2     | M      |             |                 |             |
| P-79                     | 6.3.4.1             | When communication direction is not "Request", a Pedigree field may contain a pedigree ID list (PedigreeIds field).                                | 1     | 0      |             |                 |             |
| P-80                     | 6.3.4.1             | A Pedigree field may contain a DateMissingPersonDisappeared field.   | 1     | 0      |             |                 |             |
| P-81                     | 6.3.4.1             | A Pedigree field may contain a LocationMissingPersonDisappeared field.   | 1     | 0      |             |                 |             |
| P-82                     | 6.3.4.1             | A Pedigree field may contain a PedigreeComment field.  | 1     | 0      |             |                 |             |
| R-83                     | 6.3.4.1             | When communication direction is "Request", a Pedigree field shall contain a Request field.   | 2     | M      |             |                 |             |
| R-84                     | 6.3.4.1             | When communication direction is "Response", a Pedigree field shall contain a Response field.   | 2     | M      |             |                 |             |
| R-85                     | 6.3.4.7             | A Pedigree field shall contain a PedigreeMembers field.  | 1     | M      |             |                 |             |
| P-86                     | 6.3.4.7             | A PedigreeMember field may contain a PedigreeMemberIds field.  | 1     | 0      |             |                 |             |
| P-87                     | 6.3.4.7             | A PedigreeMember field may contain a MotherId field.   | 1     | 0      |             |                 |             |
| P-88                     | 6.3.4.7             | A PedigreeMember field may contain a FatherId field.   | 1     | 0      |             |                 |             |
| R-89                     | 6.3.1               | When CommunicationDirection is "Request", then at least one element of Representation or Pedigree shall exist.                                     | 2     | M      |             |                 |             |
| R-90                     | 6.3.2.3             | TransactionID cannot be null or zero-length string and shall contain text.   | 1     | M      |             |                 |             |

Table B.1 (continued)

| Requirement/Provision ID | Subclause reference | Requirement/Provision summary   | Level | Status | IUT support | Supported range | Test result |
|--------------------------|---------------------|---|-------|--------|-------------|-----------------|-------------|
| R-91                     | 6.3.2.4             | OrganizationName cannot be null or zero-length string and shall contain text.   | 1     | M      |             |                 |             |
| R-93                     | 6.3.2.6             | The DateAndTimeOfDataSubmitting field shall be stated in Coordinated Universal Time (UTC).  | 1     | M      |             |                 |             |
| R-94                     | 6.3.3.1             | A Representation shall have either a Request field or a Response field, but not both.   | 2     | M      |             |                 |             |
| R-95                     | 6.3.3.1             | When the communication direction is "Request", then every Representation, if any, shall be a request (i.e. have a Request field). That is, a DNA transaction cannot have some Representations that are requests and some that are responses.    | 2     | M      |             |                 |             |
| R-96                     | 6.3.3.1             | When the communication direction is "Response", then every Representation, if any, shall be a response (i.e. have a Response field). That is, a DNA transaction cannot have some Representations that are requests and some that are responses. | 2     | M      |             |                 |             |
| R-97                     | 6.3.3.10.1          | Each Representation shall have at most one LociInformation field.   | 2     | M      |             |                 |             |
| R-98                     | 6.3.3.10.1          | Each Representation shall have at most one MitoFragments field.   | 2     | M      |             |                 |             |
| R-99                     | 6.3.3.10.1          | When DNA typing technology is "mtDNA", then LociInformation shall not be a valid field in DnaDataBlock.   | 2     | M      |             |                 |             |
| R-100                    | 6.3.3.10.1          | When DNA typing technology is "STR", then MitoFragments shall not be a valid field in DnaDataBlock.   | 2     | M      |             |                 |             |
| P-101                    | 6.3.3.10.23         | The only valid allele value combinations of LocusMarkerAmelogenin are "X" and "X", "Y", "Y". Any other combinations are incorrect, e.g. a single "Y" allele value in a LocusInformation is incorrect.   | 2     | O      |             |                 |             |
| R-102                    | 6.3.3.4             | DnaProfileId cannot be null or zero-length string and shall contain text.   | 1     | M      |             |                 |             |
| P-103                    | 6.3.3.10.23         | The value of LocusMarker should be one of the values in Table D.1. A conformance warning should be displayed if this is not the case.   | 2     | O      |             |                 |             |
| R-104                    | 6.3.3.10.23         | The values of LocusCategory and LocusMarker shall be consistent. That is, if LocusCategory is "Autosomal", then LocusMarker cannot be any value on the X-STR locus or Y-STR locus list in Table D.1; etc.                                       | 2     | M      |             |                 |             |
| R-105                    | 6.3.3.4             | If exists, DnaProfileBlock/ FederalStateCode shall be an ISO 3166-2 alpha-2 country subdivision code.   | 2     | O      |             |                 |             |
| P-107                    | 6.3.3.10.23         | Wildcard "*" allele value is not valid for LocusStatus "Normal". It is only valid for LocusStatus "SilentAllele", "NotDefinitive", or "Partial".  | 2     | O      |             |                 |             |
| P-108                    | 6.3.3.10.23         | Wildcard "*" allele value is only valid for Operator value "Equal"; it is not valid for Operator values "BelowLowerLimit" and "AboveUpperLimit".  | 2     | O      |             |                 |             |

Table B.1 (continued)

| Requirement/Provision ID | Subclause reference | Requirement/Provision summary  | Level | Status | IUT support | Supported range | Test result |
|--------------------------|---------------------|--|-------|--------|-------------|-----------------|-------------|
| R-109                    | 6.3.3.7.3           | If Gender is "Other", then SupplementaryMessage shall exist, cannot be null or zero-length string, and shall contain text since it should contain specific information on Gender.                                  | 2     | 0      |             |                 |             |
| P-110                    | 6.3.3.10.6          | If present, the value of DnaKitIdentifier should be one of the values in Table C.1.A conformance warning should be displayed if this is not the case.  | 2     | 0      |             |                 |             |
| P-111                    | 6.3.3.10.8          | ErrorMessage field is not valid in a request representation (a Representation that has a Request field). ErrorMessage field is only valid for a response representation.   | 2     | 0      |             |                 |             |
| R-112                    | 6.3.3.2             | If RepresentationCategory is "KinshipVerify", then a Pedigree field shall exist.   | 2     | M      |             |                 |             |
| P-113                    | 6.3.3.3             | MatchQuality is an invalid field if ResponseCategory is "UnableToProcess", "DataAdded", "DataEdited", "DataRemoved", "DataVerifiedNotExistent", "NonMatch", "NoHit", "KinshipNegated".                             | 2     | 0      |             |                 |             |
| R-114                    | 6.3.4.1             | When CommunicationDirection is "Request" and a Pedigree is present, then a Pedigree/Request shall exist. Pedigree/Response is an invalid field in this case.   | 2     | M      |             |                 |             |
| R-115                    | 6.3.4.1             | When CommunicationDirection is "Response" and a Pedigree is present, then a Pedigree/Response shall exist. Pedigree/Request is an invalid field in this case.  | 2     | M      |             |                 |             |
| R-116                    | 6.3.3.10.23         | LocusMarker cannot be null or zero-length string and shall contain text.   | 1     | M      |             |                 |             |
| R-117                    | 6.3.3.10.23         | AnalyzedBy cannot be null or zero-length string and shall contain text.  | 1     | M      |             |                 |             |
| R-118                    | 6.3.3.10.23         | AlleleValue cannot be null or zero-length string, and shall contain alphanumerics, digits, period (.) or asterisk (*).   | 1     | M      |             |                 |             |
| R-119                    | 6.3.4.1             | When communication direction is "Request", a Pedigree field shall contain pedigree ID list (Pedigreelds field).  | 2     | M      |             |                 |             |
| R-120                    | 6.3.4.1             | When communication direction is not "Request", a Pedigree field shall not contain a Request field.   | 2     | M      |             |                 |             |
| R-121                    | 6.3.4.1             | When communication direction is not "Response", a Pedigree field shall not contain a Response field.   | 2     | M      |             |                 |             |
| R-122                    | 6.3.4.7             | A PedigreeMembers field shall contain at least two PedigreeMember fields.  | 1     | M      |             |                 |             |
| P-123                    | 6.3.3.10.23         | If present, DonorGender value and Amelogenin allele values (<LocusMarker>Amelogenin</LocusMarker>) should be consistent. That is, X = Female, Error Male, Warning Unknown. XY=Male. Error Female, Warning Unknown. | 2     | 0      |             |                 |             |

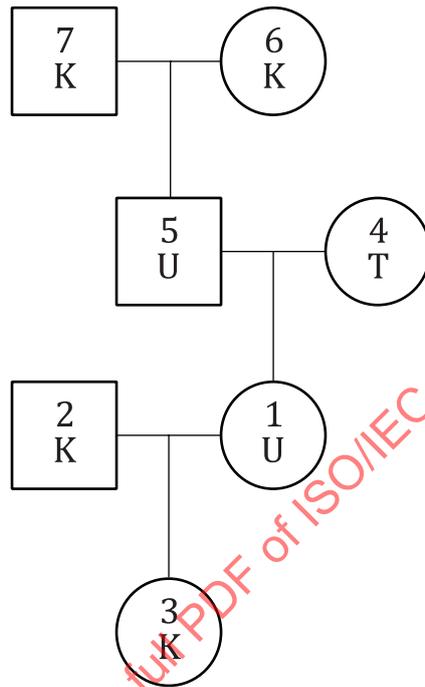
Clause E.1

Add the following paragraph at the end of the clause:

Test data files for the ten test cases described in this annex are available in ISO/IEC 19794-14:2022 format at <https://standards.iso.org/iso-iec/19794/-14/ed-2/en/amd/1/>.

Figure E.2

Replace the Figure E.2 with the following:



Key

-  female pedigree member
-  male pedigree member
- K known, DNA on file
- T target for search
- U unknown, no DNA on file

Clause F.1

Add the following paragraph at the beginning of the clause:

Test data files for the examples (Clauses F.6 and F.7) and the DNA profile test set (Clause F.9) in this annex are available in ISO/IEC 19794-14:2022 format at <https://standards.iso.org/iso-iec/19794/-14/ed-2/en/amd/1/>.

Table F.1

Replace the table with the following:

Table F.1 — Summary of Level 3 requirements and options

| Requirement/<br>Provision ID | Subclause/<br>reference | Requirement/Provision summary  | Level | Status | IUT sup-<br>port | Supported<br>range | Test<br>result |
|------------------------------|-------------------------|--|-------|--------|------------------|--------------------|----------------|
| R-301                        | 6.3.2.4                 | The SendingParty field shall describe the sending party.   | 3     | M      |                  |                    |                |
| R-302                        | 6.3.2.5                 | The ReceivingParty field shall describe the receiving party.   | 3     | M      |                  |                    |                |
| R-303                        | 6.3.2.6                 | The DateAndTimeOfDataSubmitting field shall encode date and time of data submission, not data capture. See R-93 for the UTC date format requirement. | 3     | M      |                  |                    |                |
| R-304                        | 6.3.3.3                 | If present, the MatchQuality field shall indicate the level of agreement between the compared DNA profiles.  | 3     | 0      |                  |                    |                |
| R-305                        | 6.3.3.4                 | The DnaProfileId field shall encode a unique identifier for the DNA profile.   | 3     | M      |                  |                    |                |
| R-308                        | 6.3.3.10.2              | If present, the DateAndTimeOfAnalysis field shall encode the date and time of data analysis in UTC.  | 3     | 0      |                  |                    |                |
| R-309                        | 6.3.3.10.4              | If present, the DnaAnalysisParty field shall capture the DNA profile audit trail.  | 3     | 0      |                  |                    |                |
| R-310                        | 6.3.3.10.4              | If present, the BatchId field shall encode an identifier for the batch within which the DNA profile was analysed.                                    | 3     | 0      |                  |                    |                |
| R-311                        | 6.3.3.10.6              | If present, the DnaKitIdentifier field shall encode an identifier for the DNA analysis kit used.   | 3     | 0      |                  |                    |                |
| R-312                        | 6.3.3.10.7              | The LabCertifications field shall provide the certification status of the laboratory that processed the DNA.   | 3     | M      |                  |                    |                |
| R-313                        | 6.3.3.10.8              | If present, the ErrorMessage field shall contain any error or warning pertaining to processing the DNA data.   | 3     | 0      |                  |                    |                |
| R-315                        | 6.3.3.10.10             | If present, the SampleCollectionDate field shall encode the date and time at which the sample was collected in UTC.                                  | 3     | 0      |                  |                    |                |
| R-316                        | 6.3.3.10.10             | If present, the SampleCellKind field shall represent the cell type from where the sample was extracted.  | 3     | 0      |                  |                    |                |
| R-317                        | 6.3.3.10.10             | If present, the SampleCollectionMethod field shall describe the method used to collect the sample.   | 3     | 0      |                  |                    |                |
| R-318                        | 6.3.3.10.10             | If present, the DnaExpertSystem field shall give any expert system(s) used to obtain the allele calls and/or deconvoluted profiles from a mixture.   | 3     | 0      |                  |                    |                |
| R-319                        | 6.3.3.10.13             | If present, the SampleCollectionParty field shall indicate the agency that collected the sample.   | 3     | 0      |                  |                    |                |
| R-320                        | 6.3.3.10.14             | If present, the SampleCollectionLocation field shall denote the location where the sample was collected.   | 3     | 0      |                  |                    |                |
| R-321                        | 6.3.3.10.15             | If present, this field shall contain the GPS coordinates of the location where the sample was collected.   | 3     | 0      |                  |                    |                |
| R-322                        | 6.3.3.10.18             | If a rapid DNA instrument was used, the InstrumentManufacturer field shall give the name of the manufacturer.  | 3     | 0      |                  |                    |                |

Table F.1 (continued)

| Requirement/Provision ID | Subclause reference | Requirement/Provision summary   | Level | Status | IUT support | Supported range | Test result |
|--------------------------|---------------------|---|-------|--------|-------------|-----------------|-------------|
| R-323                    | 6.3.3.10.19         | If a rapid DNA instrument was used, the InstrumentSerialId shall give a unique identifier of the rapid DNA instrument series.   | 3     | 0      |             |                 |             |
| R-324                    | 6.3.3.10.20         | If a rapid DNA instrument was used, the InstrumentSoftwareVersion shall give the version number of the software that was running on the instrument when the DNA data was produced.  | 3     | 0      |             |                 |             |
| R-325                    | 6.3.3.10.21         | If a rapid DNA instrument was used, the InstrumentModel field shall give the name of the rapid DNA instrument model.  | 3     | 0      |             |                 |             |
| R-326                    | 6.3.3.10.24         | When exchanging data, the range that is analyzed by the laboratory shall be precisely defined since this range has the same function as the name of an autosomal STR (aSTR) marker.   | 3     | 0      |             |                 |             |
| R-327                    | 6.3.4.4             | If present, the DateMissingPersonDisappeared field shall encode the date of disappearance of a missing person.  | 3     | 0      |             |                 |             |
| R-328                    | 6.3.4.5             | If present, the LocationMissingPersonDisappeared field shall denote the place where a missing person disappeared.   | 3     | 0      |             |                 |             |
| R-329                    | 6.3.4.6             | If present, the PedigreeComment field shall hold any comments or notes about the pedigree.  | 3     | 0      |             |                 |             |
| R-345                    | 6.3.3.10.23         | The value of LocusMarker shall be unique in a LocusInformation.   | 3     | M      |             |                 |             |
| R-348                    | 6.3.3.10.23         | When RepresentationSource is "Composite", "Person", or "SingleSourceStain", then the value of AlleleValue shall be unique in a LocusInformation. A conform-ance warning shall be displayed if this is not the case. While homozygotes are generally expressed as a single allele rather than two identical allele values, some DNA database implementations do allow two identical allele values for homozygotes. Therefore, non-unique allele values for a single source DNA profile are classified as a warning rather than an error. | 3     | 0      |             |                 |             |
| R-349                    | 6.3.3.10.23         | When RepresentationSource is "MixedStain", "MixedOrSingleSourceStain", or "DeconvolutedFromMixedStain", then the value of AlleleValue shall be unique in a LocusInformation.  | 3     | M      |             |                 |             |
| R-352                    | 6.3.3.10.24         | If present, MitoPolymorphismSite shall be unique in a DnaDataBlock  | 3     | 0      |             |                 |             |
| R-353                    | 6.3.4.4             | If present, the value of DateMissingPersonDisappeared shall predate DateAndTimeOfDataSubmitting.  | 3     | M      |             |                 |             |
| R-354                    | 6.3.4.4             | If present, the value of DateMissingPersonDisappeared shall predate the DNA profile's DateAndTimeOfAnalysis.  | 3     | 0      |             |                 |             |
| R-355                    | 6.3.4.4             | If present, the value of DateMissingPersonDisappeared shall predate SampleCollectionDate.   | 3     | 0      |             |                 |             |

Table F.19

Replace the table with the following:

Table F.19 — Target DNA profiles

|    | Locus      | TST03t |      | TST04t |    | TST19t |      | TST21t |      | TST22t |      | TST23t |    | TST24t |      |
|----|------------|--------|------|--------|----|--------|------|--------|------|--------|------|--------|----|--------|------|
|    |            | A1     | A2   | A1     | A2 | A1     | A2   | A1     | A2   | A1     | A2   | A1     | A2 | A1     | A2   |
| 1  | D3S1358    | 16     | 15   | 17     | 16 | 15     | 17   | 17     | 14   |        |      |        |    |        |      |
| 2  | vWA        | 16     | 19   |        |    | 18     | 19   | 19     | 18   | 18     | 18   |        |    |        |      |
| 3  | D8S1179    | 12     | 13   | 11     | 11 | 13     | 10   | 12     | 12   | 12     | 14   | 10     | 13 |        |      |
| 4  | D21S11     | 31.1   | 33.1 | 28     | 28 | 29     | 32.2 | 30     | 31.2 | 29     | 31.2 | 30     | 28 | 31     | 31.2 |
| 5  | D18S51     | 12     | 15   | 17     | 12 | 13     | 18   | 16     | 12   | 17     | 13   | 17     | 17 | 18     | 14   |
| 6  | TH01       | 8      | 7    | 7      | 9  | 8      | 8    | 8      | 9.3  | 7      | 9    | 7      | 7  | 7      | 9.3  |
| 7  | FGA        | 19     | 25   | 22     | 19 | 21     | 23   | 20     | 25   | 23     | 23   | 21     | 24 | 24     | 23   |
| 8  | Amelogenin | X      | Y    | X      | Y  | X      | Y    | X      | Y    | X      | Y    | X      | Y  | X      | Y    |
| 9  | D16S539    | 9      | 10   | 12     | 13 | 13     | 11   |        |      |        |      | 11     | 9  | 9      | 9    |
| 10 | D2S1338    | 17     | 17   | 25     | 25 | 23     | 25   |        |      |        |      |        |    | 25     | 20   |
| 11 | D19S433    | 14     | 14   | 14     | 14 | 14     | 14   |        |      |        |      |        |    |        |      |
| 12 | TPOX       | 8      | 9    |        |    |        |      |        |      |        |      |        |    |        |      |
| 13 | CSF1PO     | 11     | 12   |        |    |        |      |        |      |        |      |        |    |        |      |
| 14 | D5S818     | 11     | 12   |        |    |        |      |        |      |        |      |        |    |        |      |
| 15 | D13S317    | 11     | 12   |        |    |        |      |        |      |        |      |        |    |        |      |
| 16 | D7S820     | 9      | 10   |        |    |        |      |        |      |        |      |        |    |        |      |
| 17 | Penta_D    | 11     | 12   |        |    |        |      |        |      |        |      |        |    |        |      |
| 18 | FESFPS     | 11     | 12   |        |    |        |      |        |      |        |      |        |    |        |      |
| 19 | F13A01     | 6      | 7    |        |    |        |      |        |      |        |      |        |    |        |      |
| 20 | SE33       | 13     | 17   |        |    |        |      |        |      |        |      |        |    |        |      |
| 21 | D1S1656    |        |      |        |    |        |      |        |      |        |      |        |    |        |      |
| 22 | D2S441     |        |      |        |    |        |      |        |      |        |      |        |    |        |      |
| 23 | D10S1248   |        |      |        |    |        |      |        |      |        |      |        |    |        |      |
| 24 | D12S391    |        |      |        |    |        |      |        |      |        |      |        |    |        |      |
| 25 | D22S1045   |        |      |        |    |        |      |        |      |        |      |        |    |        |      |

Table F.23

Replace the table with the following:

Table F.23 — SHOULD-BE comparison results

| DNA profile ID | Match | Match quality | Match count | Reason                  |
|----------------|-------|---------------|-------------|-------------------------|
| TST03          | Yes   | Q3            | 18          |                         |
| TST03t         | No    |               |             | Target                  |
| TST04          | No    |               |             | 2 differences in 2 loci |
| TST04t         | No    |               |             | Target                  |

<sup>a</sup> CODIS-using labs will see <10 if they have this profile or \* if they receive this profile.