

Public Comment Deadline: March 28, 2022

ASB Standard 091, Standard for Training in Analysis of Forensic Short Tandem Repeat (STR) Data

#	Section	Type of Comment (E-Editorial, T-Technical)	Comments	Proposed Resolution	Final Resolution
49	Title	E	should "DNA" be inserted in the title between STR and Data?	insert DNA in the title	Accept
	Scope				changed 2nd sentence. Note: changed defines to outlines to match STD 78.
23	3.2	T	"generally" not considered noise is unnecessary	delete "generally"	Accept with modification: "generally" was removed, along with more of the sentence based on other comments received.
39	3.2	E and T	"Analytical threshold" is defined as "The minimum height requirement at and above which detected peaks on a STR DNA profile electropherogram can be reliably distinguished from instrument background noise; peaks above this threshold are generally not considered noise and are either artifacts or true alleles." Near then end, the words "are either" should be "are considered to be either". Also, the definition is longer than necessary.	Define "analytical threshold" as a peak height intended to distinguish a signal from background noise. A peak at or above the threshold is regarded as either an artifact or a true allele.	Accept with modification. Definition changed to: The minimum height requirement at and above which detected peaks on a STR DNA profile electropherogram can be reliably distinguished from instrument background noise; peaks above this threshold are either artifacts or true alleles.
40	3.3	E	"Artifact" is defined as "A non-allelic product of the amplification process (e.g., stutter, non-templated nucleotide addition, or other non-specific product), an anomaly of the detection process (e.g., single or multi-channel voltage spikes or "pull-up"), or a by-product of primer synthesis (e.g., "dye blob") that may be observed on an electropherogram. Some artifacts may complicate the interpretation of DNA profiles when they cannot be distinguished from the actual allele(s) from a particular sample." The last sentence is unnecessary and is not part of the definition of "artifact." Do the parentheses provide an incompylete list of examples, or are they exhaustive?	Delete the last sentence and delete "e.g." in the parentheses if the lists are exhaustive.	Accept with modification. The last sentence was removed. The e.g. was left because the list is not exhaustive.
24	3.4	T	everything after "generally dye blobs are wider..." is editorial and unnecessary in a definition	delete "generally dye blobs..." to the end	Reject. WG believes the information is critical to understanding the definition and how to detect dye blobs.
50	3.4	E	improve clarity	modify slightly to "generally dye blob peaks are wider..."	Accept.
41	3.5	T	An "ectropherogram" is defined as "The graphic representation of the separation of molecules by electrophoresis in which the data appear as "peaks" along a line; the format in which DNA typing results are presented, with the X axis displaying the observed alleles and the Y axis recording the relative amount of DNA detected based on the relative fluorescent unit (RFU) collected during analysis." A electropherogram is a cleaned-up, two-dimensional plot. of RFU versus elapsed time (or its equivalent). The X-axis is not alleles but rather a variable that (ideally) reflects the property that defines them (size).	Define electropherogram as "a graph of Y against X, where X is the time PCR-amplified DNA fragments with a fluorescent dye attached to them have taken to flow through the channel to the detector (or the time converted into DNA fragment size using an internal size standard), and Y is the relative amount of the dye detected from its fluorescence.	Accept with modifications. The definition was updated to: The graphic representation of the separation of molecules by electrophoresis in which the STR DNA data appear as peaks; the format in which DNA typing results are presented, with the X axis displaying the observed alleles based on fragment size and migration time and the Y axis recording the relative amount of DNA detected based on the relative fluorescent unit (RFU) collected during analysis.
4	3.9	E	Not sure why RFLP testing is included, as it is not relevant to document (or even defined)	Remove reference to RFLPs	Accept
25	3.12	E	"one type of DNA testing artifact" is redundant	delete "one type of DNA testing artifact"	Accept
See	3.14	E	"base pairs"	The DNA sized in STR analysis is single stranded--there are no base pairs. Further, many of the STR primers have linkers attached, altering their migration 'unrelated' to the number of bases	Accept with modification. Removed "in base pairs"
26	3.15	T	the description of a spike is unnecessary in a definition	delete "this instrumental artifact..."	Reject. WG believes the information is critical to understanding the definition and how to detect spikes.
51	3.16	E	recommend using the definition published in Standard 040 for clarity, consistency within published DNA standards and for the presence of more information presented in a clearer manner	use Standard 040 definition for stochastic effects as replacement for definition provided here	Accept
11	4.1	T	The statement, "Based upon the laboratory procedures, some of the requirements in this section may be omitted from the training program" is vaguely worded.	Either delete (is there anything here any lab using CODIS would not need to know? Do some labs only do offender samples and not casework?) or reword to be clearer, i.e. " The laboratory's training program for the use of CODIS shall include all requirements applicable to the work conducted by the laboratory and by the individual in training." (I borrowed and modified that language from Standard 022 4.2.2.)	Accept

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15	4.1	E	Section 4.1 is different than in previously ASB published training standards.	Make this section as consistent as possible with other training standards.	Accept, added wording similar to standard 023
27	4.1	T	Why allow this discretion	Delete	Accept with modification " The laboratory's training program shall include all requirements applicable to the work conducted by the laboratory and by the individual in training."
29	4.1	E	This section does not match 4.1 in previously published training standards.	Make all sections consistent throughout all training standards.	Accept
42	4.1	T	The catch-all sentence, "Based upon the laboratory procedures, some of the requirements in this section may be omitted from the training program," could use more definition.	Identify the requirements that cannot be omitted and specify when the others can be omitted.	Accept
52	4.1	T	It is unclear why any portion of this standard would not be applicable to the laboratory and to an analyst training to process data. This statement seems unnecessary and could be extremely misleading.	consider deleting this statement completely or appropriately qualifying it if there is some portion of this standard that could reasonably be deleted from the training program for an analyst. However, it seems very unlikely that any portion of this could be deleted from the training program itself so would need to be re-written in the context of an analyst only and not for the whole training program.	Accept with modification " The laboratory's training program shall include all requirements applicable to the work conducted by the laboratory and by the individual in training."
16	4.2.1	E	This section is missing a paragraph that was in previously ASB published training standards.	Make this section as consistent as possible with other training standards.	Accept, added wording similar to standard 023
30	4.2.1	E	Missing a paragraph that is in previously published training standards.	Make all sections consistent throughout all training standards.	Accept, added wording similar to standard 023
43	4.2.1	E or T	This section refers to laboratory protocols and the laboratory's efforts to show that it can apply a validated method properly ("the laboratory's applicable validation studies"), but it does not explicitly specify learning about validation conducted outside the laboratory prior to the laboratory's adoption of the validated method. That information may be in "literature that supports the laboratory's validation" or "literature that supports the laboratory's data analysis protocol," but the knowledge-based training should start with what is known more generally, then move to the laboratory-specific material.	Include an explicit requirement for learning about the validation of the STR procedures in the scientific literature. At a minimum, insert the word "scientific" in front of "literature" in the existing subsections. JL: Include literature supporting and critical of the STR procedures.	Reject, covered under 4.2.1, g
53	4.2.1 b)	E	This probably needs more clarity for the laboratory and any auditor such that the laboratory must define the "relevant" validation studies.	suggest changing to something like "all of the validation studies relied upon by the laboratory to support the development of the STR data analysis protocol including choice of thresholds and stutter filters"	Reject, the working group feel that b. plus c. covers the same requirements succinctly
54	4.2.1 e)	E	should also include users manual for any software used; unclear what reagents are used in data analysis; is equipment referring to computers?	add software to the list; delete reagents and equipment	Accept
31	4.2.1.e	T	"equipment and reagents" do not seem applicable to data analysis.	Remove 'equipment and reagents' and replace with 'genotyping software and amplification kit user guides'.	Accept
18	4.2.1e	T	"Equipment and reagents" is not applicable to data analysis.	Replace "equipment and reagents" with "genotyping software and amplification kit user guides."	Accept
44	4.2.1(f)	E or T	The standard describes itself as presenting minimum standards, but "applicable literature as assigned by the trainer" provides no floor on what the trainer is supposed to assign.	List readings on each topic that might be assigned, linked to that topic, and require those "or comparable" readings to be assigned.	Reject, it is intended that the laboratory define their individual training program
6	4.2.2	E	"gender"	These are sex chromosomes (markers), not "gender" chromosomes (which do not exist)	Accept
9	4.2.2	T	This clause lists the topics that shall be included in the training program. It does not include cognitive bias or how it may impact STR analyses.	Add a new part e) to 4.2.2 that states: e) The role of cognitive bias in the analysis of STRs 1) literature on cognitive bias in forensic analyses 2) examples of how cognitive bias can impact STR analysis 3) Strategies to insulate the examiner from cognitive bias 4) laboratory procedures that implement cognitive bias protections	Accept with modification, see 4.2.1(f).
12	4.2.2	T	Smoothing can affect peak height which can be an issue if falls above/below a threshold. Not sure if smoothing would fall under 4.2.2(a) or (d)	Add "smoothing and its effect on data interpretation"	Accept with modification, added to 4.2.2, a) 7)

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19	4.2.2	T	"Training shall provide instruction on the difficulties that arise in data analysis for samples amplified outside of the target range" seems out of place in the paragraph. It's too important and needs its own section under 4.2.2	Move "Training shall provide instruction on the difficulties that arise in data analysis for samples amplified outside of the target range" to a subsection of 4.2.2. "4.2.2.d should cover: the difficulties that arise in data analysis for samples amplified with too much DNA, resulting in off-scale data, baseline issues and pull-up in the DNA profile as well as effects on stutter and samples amplified with low-template DNA, resulting in stochastic effects to include increased stutter, allele drop-out or drop-in, and peak height imbalances.""	Accept in part, we removed the awkward sentence and added "off-scale data" to new item 4.2.2 d) 2) Limitations affecting analysis are now covered in 4.2.1 b)
32	4.2.2	T	Data outside optimal range considerations should have its own section. This topic is too important to have in a leading sentence.	Remove line in 4.2.2 "Training shall provide instruction on the difficulties that arise in data analysis for samples amplified outside of the target range".	Accept, "Training...." has been removed
33	4.2.2	T	Create new section 4.2.2.d and move current 4.2.2.d to 4.2.2.e	4.2.2.d should cover: the difficulties that arise in data analysis for samples amplified with too much DNA, resulting in off-scale data, baseline issues and pull-up in the DNA profile as well as effects on stutter and samples amplified with low-template DNA, resulting in stochastic effects to include increased stutter, allele drop-out or drop-in, and peak height imbalances."	Accept with modification, we removed the awkward sentence. New section created in d)
46	4.2.2	T	This section should include a requirement that the trainee understand the system's limitations, sources of potential error and uncertainty.	Add that the trainee shall "understand the system's limitations, sources of potential error and uncertainty."	Accept with modification: Limitations are now covered in 4.2.1 b)
55	4.2.2	E	awkward & confusing language	replace "analyses" in the third line with "DNA testing"	Accept with modification, that sentence was removed
57	4.2.2 a)	T	need to understand about stutter filters on peak detection	Add "application and use of stutter filter" to this list	Accept with modification, 4.2.2 a) 7) now includes data filters - including stutter
56	4.2.2 a) 2), 3), 4), 5)	E	recommend clarifying language	insert "the role of" or "the use of" or other equivalent helpful language before the statement	Reject, it is a list of topics
58	4.2.2 a) 4)	E	need to include reviewing the size standard for assessing the quality of the run	use of size standard for detecting poor quality electrophoresis and separation	Reject, it is a list of topics
59	4.2.2 b) 1)	E	n-2 is "typical" stutter for some loci; language is misleading	change "atypical" to "stutter that is less than a full repeat unit" or just say "...that exhibit n-2 and n+2 stutter"	Accept with modification: b) 1) i) now includes "loci with stutter less than a full repeat unit "
60	4.2.2 b) 1) ii)	T	drop out and peak height imbalance are not artifacts - this statement is misleading	suggest modifying to: stochastic effects of possible elevated stutter or drop in events due to the amplification of low template DNA	Accept with modification: New section created in d)
61	4.2.2 b) 5)	T	drop out belongs with stochastic effects (see comment 12 above); drop out is NOT an artifact so doesn't belong in this category	delete this phrase entirely; move drop in to 4.2.2 b) 1) ii) as stated in 12 above; make new 4.2.2 a) 8) and include peak height imbalance and allele drop out under peak detection (drop out is simply the extreme of peak height imbalance)	Accept with modification: New section created in d)
28	4.2.2(b)(5)	T	Drop-in and drop-out should not be characterized as artifacts, when defined differently elsewhere	Move drop-in and drop-out to their own section	Accept with modification: New section created in d)
34	4.2.2.b.5	T	Would not consider drop-in and drop-out as artifacts	remove - would be covered under new section 4.2.2.d data outside optimal range	Accept with modification: New section created in d)
20	4.2.2.b5	T	Drop-in and drop-out are not artifacts.	Move drop-in and drop-out to separate category under data outside optimal range (new section).	Accept with modification: New section created in d)
7	4.2.2.c2	E	"microvariants"	This term should be added to section 3 (Definitions)	Accept with modification, the definition of variant alleles was added to section 3, to include off-ladder and microvariant alleles.
62	4.2.2 c) 3)	E	this is not really an "allelic variation"; suggest adding some additional language for possible clarification	add at the end: "within a genotype (e.g., due to degradation, preferential amplification and/or low template DNA amplification)"	Accept with modification, moved to c) 2)
35	4.2.2.c.3	T	Sister allele imbalance is not an allelic variation.	remove - would be covered under new section 4.2.2.d data outside optimal range	Accept with modification, moved to d) 1) ii)
21	4.2.2.c3	T	Sister allele imbalance is not allelic variation.	Move to separate category under data outside optimal range (new section).	Accept with modification, moved to d) 1) ii)
3	4.2.2d	Clarification	Should this have <i>as applicable</i> added, as not all labs will have expert systems. Additionally, even though our lab does not use an expert system, we do use GMID X PQVs as a guide, and reading this it seems to make 4.2.2d1-6 applicable.	d)Expert System- <i>as applicable</i> . Labs using components of a rating system even if not as an expert system must still provide training on the following:	Accept with modification now 4.2.2 e) "if validated by the laboratory" added.
45	4.2.2 (d) (1)	T	For this section general needs to be defined. What is meant by a "general understanding of how the system works and the expected output"?	List what the trainer is and is not expected to understand about how the systems work.	Reject, the lab should develop their own training materials now 4.2.2 e)

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63	4.2.2 d) 3) & 5)	T	it is unclear why these are separated; if covering different concepts, then that is unclear based on what is written	is it possible to combine these two? Or expand the text to provide more clarity if they are covering different concepts to include when the filters are to be used or not used	Accept with modification, 3 has been deleted now 4.2.2 e)
36	4.2.2.d.4	T	(e.g. evaluation of MCMC outputs)' does not apply to data analysis expert systems and infers prob gen which is not a system used during the data analysis step.	Remove '(e.g. evaluation of MCMC outputs)'. Leaving it in will be inconsistent with SWGDAM publication on Expert Systems (soon to be published)	Accept now 4.2.2 e)
22	4.2.2.d4	T	"(e.g. evaluation of MCMC outputs)" does not apply to data analysis expert systems. Its for probabilistic genotyping systems which are not used for the data analysis step.	Remove this example.	Accept now 4.2.2 e)
13	4.2.2(d)(5)	T	Important to understand how parameters could affect data interpretation downstream	Add "effect on data interpretation"	Accept with modification "and the effect of the chosen parameters on data interpretation" now 4.2.2 e)
1	4.3.2	E	The manner in which 4.3.2 is written and formatted is not consistent with 078, 080, or 081	Consider changing the others to this format	Accept, 4.3 is now consistent across standards
64	4.3.2	E	It's unclear how a protocol can be observed and this requirement monitored in an audit	Suggest changing to "the use of the protocol..." or "the application of the protocol to DNA data..." or some similar language	Accept, 4.3 is now consistent across standards
65	4.3.2	E	the last second sentence is given in a NOTE in other training standards	Perhaps make as a NOTE for consistency with other DNA training standards	Accept, 4.3 is now consistent across standards
66	4.3.3	E	need to include DNA data	insert "and DNA data" after "samples"	Accept
67	4.3.4	E	interpretation is not the appropriate word to use here as that comes after the electropherogram is generated	substitute "generate" for "interpretation"	Accept with modification. Revised to "generate, interpret, and compare"
10	4.4	T	The Competency Component should require the results for each analyst to be easily accessible.	Add a 4.4.4 that requires competency results to be easily accessible: "The results of competency testing for the analyst(s) involved in the case should be made available to all stakeholders."	Reject, Documentation is covered in the Normative Reference, ANSI/ASB Std 022. Availability to stakeholders is beyond the scope of this standard.
14	4.4	T	The competency test should be performed on sample(s) representative of the range, type, complexity encountered in casework. Standard 022, 4.3.2(a)(2) does contain a requirement that a practical test on a lab's analytical procedure be performed on samples representative of the range, type, and complexity typically analyzed by the lab but that requirement is important enough to be repeated here.	Add language: "Practical competency tests shall include samples representative of the range, type, and complexity typically analyzed by the laboratory."	Accept, with modification - language added to 4.4.3: DNA data from samples representative of the range, type, and complexity for which the trainee will be authorized to perform the analysis of forensic STR data shall be included in the practical competency test.
47	4.4	T	This section should require that the criteria for passing a competency test be documented and established in advance.	Add a requirement that the criteria for passing should be documented and established in advance.	Accept, requirements added to 4.4.1 for all training standards
38	4.4.1	E	Missing title of document for ASB 022	Add "Standard for Forensic Training DNA Analysis Training Programs"	Accept
17	4.4.2	E	This section is different than in previously ASB published training standards.	Make this section as consistent as possible with other training standards.	Accept
37	4.4.2	E	This section does not match 4.4.2 in previously published training standards.	Make all sections consistent throughout all training standards.	Accept
48	4.4.2	T	This section provides no guidance on the development of effective testing tool(s) and instead provides just a checklist of topics to be covered in a test. A trainer is free to choose between an easy multiple choice test that has one basic question relating to each topic listed or one that requires the trainee to explain the concepts underlying each item listed in 4.2 or one that requires the trainee to explain the concepts and the relationship between a variety of the topics listed.	Develop guidance for the trainer in crafting a test(s) that challenges the trainees understanding of each of the topics in 4.2 and where appropriate how they relate to one another.	Reject, this level of detail can be determined by the laboratory and/or technical leader
68	4.4.2	E	use language from other training documents for someone other than Technical Leader for labs that do not use that term	put in language used for other training standards for alternative to the Technical Leader	Accept with modification, Technical Leader was deleted. Paragraph was clarified based on other comments.
2	4.4.3	T	Last sentence: "All types of samples..." is unnecessarily strict and vague at the same time.	Consider changing to less prescriptive and slightly more specific wording like "A representation of the range of sample types..."	Accept
69	4.4.3	E	incorrect word used	change "samples" to "DNA profiles" or "DNA data"	Accept
8	Bibliography	E	Hyphen (-) between page numbers	These should be n-dashes (-), not hyphens	Accept
70	Bibliography	E	suggested additions	suggest adding Standards 018, 020 and 040 to the Bibliography	Partial Accept. Standard 040 was added. Bibliography is not intended to be all-inclusive

Deadline of
Submission of 15-Jan-24
Comments:
Document
Number: ANSI/ASB Std 091

Document Title: Standard for Training in Analysis of Forensic Short Tandem Repeat (STR) DNA Data

Comment #	Text Line # (s)	Document Section	Type of Comment E-Editorial T-Technical	Current Document Wording	Proposed Revision	Revision Justification	For Working Group and Consensus Body use only, not to be completed by commenter.
							Final Resolution
		Forward		This standard defines the minimum required elements for a forensic DNA training program on ...	This standard defines the minimum requirements to be met in a forensic DNA analyst training program for ..."	consistency across training standards	accept
		Scope		This standard outlines the minimum requirements in training programs for analysis of ...	This standard outlines the minimum requirements to be met in a training program for ...	consistency across training standards	accept
		3.2	Editorial	The minimum height requirement at and above which detected peaks on a STR DNA profile electropherogram can be reliably distinguished from instrument background noise; peaks above this threshold are either artifacts or true alleles.	The minimum height requirement at and above which detected peaks on a STR DNA profile electropherogram can be reliably distinguished from instrument background noise; peaks above this threshold are generally not considered noise and are either artifacts or true alleles.	consistency across training standards	accept
2		3.9	Editorial	"...Productor..."	"...product or..."		accept
3		3.9	Ballot Comment	Found one spacing error - line 60 in 3.9; "productor" to "product or"			accept
4		3.9	Ballot Comment	Need in a space in "productor" in 3.9.			accept
5		3.9	Ballot Comment	Need a space in 3.9 between product and or.			accept
6		3.9	Ballot Comment	Please add a space in section 3.9 line 60 to read "product or"			accept
1	76	3.12	T	Fluorescence from unincorporated PCR primers present in all amplified DNA product that is detected before the sizing range in an electropherogram	Add a note after the definition to state "NOTE: Primer peaks may be diminished or absent following any post-PCR clean-up processes."	Post-clean up may produce e-grams with no primer peaks and provides understanding of a new trainee that they may not exist.	accept with modification, removed all
		3.19	T	A non-standard form of an allele due to a point mutation, an insertion or a deletion relative to other commonly seen alleles. NOTE May also be called off-ladder allele or microvariant.	A form of an allele due to a point mutation, an insertion or a deletion relative to other commonly seen alleles in the allelic ladder.	changes made based on comment on standard 78 for consistency across training standards.	accept
7		4.2.1	Editorial	"...in decision making..." and "analysis"	"...on decision making..." and "analyses"		reject, proposed resolution does not change clarity of the statement
		4.2.1 c	Editorial	literature that supports the laboratory's validation;	terature used to support validation;	consistency across training standards	accept
8		4.2.1 f)	Technical	This item seems too narrow in scope	Remove the second part of this item (i.e., "associated with analysis used for forensic STR DNA data")		Reject. It is important that the bias training be specific to the scope of this document.
		4.2.2			added "knowledge-based training component..." to match the other docs	consistency across training standards	accept
9		4.3.2	Technical	"...include the observation of a trained analyst performing the analyses at least once..."	Twice would be better than once since random chance may mean a lone correct analysis lucky. Actually the number of trials should probably be greater since the paragraph calls for a range of challenges and one or two trials is unlikely to cover a range of challenges that might be experienced. Or maybe the intent is to call for success and understanding across several challenges chosen to capture the range of what an analyst might be called on to do. In this case one challenge for each posed may be reasonable but it should be made clear that there will be multiple different challenges observed.		Accept with modification: 4.3.2 was modified in reponse to comments in standard 79 and for consistency across all training documents.
		4.4.2 and 4.4.3					(as defined by the laboratory's policy) added to 4.4.2 and 4.4.3 in all training documents for consistency in response to a comment in standard 78 and 80. sentence structure edited for consistency across all training standards.
		Annex A				7/8 CB meeting voted to add references to standards 20, 40 and STRbase	accept

Deadline of Submission of Comments: 13-Oct-25
Document Number: ASB Std 091
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			E-Editorial T-Technical				Final Resolution
1		Foreword	E	minimum requirements	delete minimum	we voted to delete minimum from the Scope; should also be deleted from the Foreword	Accept
2		Scope	E		Add "provides" to first line	the word provides is missing	Accept
3		1-Scope	T	This standard the requirements for a forensic DNA laboratory's training program for analysis of capillary electrophoresis data including autosomal STRs, X-STRs and Y-STRs.	This standard provides the minimum requirements for a forensic DNA laboratory's training program for analysis of capillary electrophoresis data including autosomal STRs, X-STRs and Y-STRs.	1) grammar error and 2) It is important to underscore these are minimum requirements as a lab may wish to implement even more rigorous requirements and should not be 'discouraged' from doing so	Reject with modification, added provides
4		3.19	E	A non-standard form of an allele due to a point mutation, an insertion or a deletion relative to other commonly seen alleles in the allelic ladder.	From Standard 078 modification made by CB: A form of an allele due to a point mutation, an insertion or a deletion relative to other commonly seen alleles in the allelic ladder.	These 2 documents (078 and 091) should have the same definition of the term variant allele and they currently do not.	Accept, used definition from 078
5			Ballot Comment	minor comment #1: definition for 3.19 variant allele is not consistent with the definition provided in standard 078.			Accept
6		3.2	E	a STR	an STR	S has an "es" sound; therefore needs an	Accept
7		4.2.1 b)	E	studiess	studies;	remove extra "s" at the end and add the semi-colon	Accept
8		4.2.1 b		b) the laboratory's applicable validation studiess	b) the laboratory's applicable validation studies	The last word has a typo - remove the extra "s" from "studiess"	Accept
9			Ballot Comment	minor comment #2: in 4.2.2, make short tandem repeat lower case letters			Accept
10		4.2.2 c			4.2.2. c 6) Outside Marker Range allele	OMRs aren't listed here; since it's possible to determine with locus it goes with in certain instances when it's between 2 loci, should this be added?	Accept with modifaicton, added to C 1)
11		4.3.2	T	At a minimum, the practical portion of the training program shall include the observation of a trained analyst performing activities representative of the range, type, and complexity of DNA data from routine casework or database samples processed by the laboratory, including a minimum number of sampes until clearly understood.	At a minimum, the practical portion of the training program shall include the observation of a trained analyst performing activities representative of the range, type, and complexity of DNA data from routine casework or database samples processed by the laboratory, at least once or until demonstration by the trainee that the material is completely and clearly understood.	Trainee might watch the trainer but not grasp anything or might grasp it but not be able to apply it. The trainee needs to demonstrate that they are understanding what is being taught prior to doing the training exercises, which especially comes into play for interpretation of mixtures, which is a heavy part of this type of training (especially manual interpretation of complex mixtures or even NOC determination of complex mixtures using PG software).	Reject: The demonstration is accomplished with the competency portion. Additionally 4.3.4 discusses the trainee's ability to demonstrate.
12		4.4.2		As applicable to the trainee's job responsibilities, the trainee shall successfully complete (as defined by the laboratory's policy) a knowledge-based test covering the critical information obtained during the training on analysis of forensic STR DNA data. The test(s) shall cover, at a minimum, the topics outlined in 4.2 and its subsections.	As applicable to the trainee's job responsibilities, the trainee shall successfully complete a knowledge-based test (as defined by the laboratory's policy) covering the critical information obtained during the training on analysis of forensic STR DNA data. The test(s) shall cover, at a minimum, the topics outlined in 4.2 and its subsections.	is the parenthetical meant to modify "complete"? If yes, ok as is. If not, consider moving to after knowledge-based test	Reject- the parenthetical is meant to modify "complete". The intent is the laboratory policy defines the acceptable passing rate for their test.
13		Annex A	E			Standard 020 is not listed in the bibliography as stated regarding CB 7/8 meeting that 020, 040, and STRbase will be added.	Accept
14		Bibliography #5 (now #6)	E	5) Butler and SWGDAM; 6) SWGDAM Y	5) Butler...; 6) SWGDAM autosomal; 7) SWGDAM Y	separate out the two references	Accept
15			Ballot Comment	minor comment #3: in bibliography redline version, fix #5 reference (there are two in there) so that the total # of references is 7.			Accept
16		Bibliography	E	-	Add both the NIST Foundational Review and Human Factors documents	Two critical documents missing (I thought we voted last time to add these)	Accept