



Latent Print Processing Test No. 16-5191 Summary Report

This test was sent to 130 participants. Each sample pack contained three pieces of simulated crime scene evidence. Participants were asked to process each piece for latent fingerprints and report their findings. Data were returned from 107 participants (82% response rate) and are compiled into the following tables:

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

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

Manufacturer's Information

Each sample pack consisted of three items of simulated crime scene evidence. Each item was divided into labeled sections and contained one latent fingerprint. The items consisted of a glossy photograph (Item 1), a paper resident notification (Item 2), and a plastic zip-top baggie (Item 3). Participants were asked to process each item for latent fingerprints, utilizing the method(s) deemed most appropriate for the substrate being examined.

SAMPLE PREPARATION-

New, unopened packages of glossy photo paper and copy paper were used for those samples that could not be cleaned. The nonporous plastic bag used in this test was cleaned with water and a paper towel before latent prints were applied. Each item was divided into sections labeled A, B, C, and D, as one print would be deposited in only one of the four sections. For each item, either an acid or lipid enhancer was applied to the depositing individual's finger to assist in the longevity of the print. Each print was deposited straight down and firmly onto the substrate. A randomly selected group of samples were processed in-house to confirm the location and viability of the deposited prints before shipping to participants.

SAMPLE PACK ASSEMBLY-

Each item was packed into its pre-labeled item envelope. Following predistribution testing, each item envelope was sealed with evidence tape and initialed with "CTS". These were then placed into a sample pack box and sealed with packaging tape.

VERIFICATION-

Predistribution examiners were able to recover ridge detail in the expected section of each item.

<u>Item Number</u>	<u>Test Samples</u>	<u>Enhancer Used</u>	<u>Print Location</u>	<u>Pattern Detail</u>
1	glossy photograph	oil + acid	D	whorl
2	resident notification	acid	B	whorl
3	plastic baggie	oil	C	whorl

Summary Comments

Each sample pack contained three items of evidence to be processed for latent prints: a glossy photograph (Item 1), a paper resident notification (Item 2), and a zip-top plastic baggie (Item 3). Each item was divided into four sections, which were labeled with the letters A-D. Participants were asked to determine which of the four sections contained a latent print on each piece of evidence. (Refer to the Manufacturer's Information for preparation details).

Due to the tenuous nature of latent fingerprints, it was expected that some participants may not be successful with the recovery of the deposited print on each item. Participants who did not develop a print on an item were therefore not flagged as outliers to the consensus.

Of the 107 participants, 91 (85%) were able to successfully recover a print in the expected section for all three items. For Item 1, all 107 participants located the print in section "D". For Item 2, 92 of 107 participants (86%) located the print in section "B". Fourteen participants (13%) were not able to recover the print on the item, and one participant located a print in section "C". For Item 3, 105 of 107 participants (98%) located the print in section "C". The remaining two participants recovered the print in a different section – one participant identified a print in section "B", and the other participant found the print in section "D".

Summary statistics for the reported development and preservation methods were calculated for each item at the end of each methods table. The techniques included in the summaries are the preloaded options from the CTS Web Portal, and do not reflect every answer provided by participants. These running totals are cumulative for each item; therefore, if a participant listed the same technique multiple times for one item, each occurrence was added into the final total.

A majority of participants reported performing some type of nondestructive visual examination prior to conducting chemical development on each item. Additionally, photography was the predominantly utilized preservation method across all three items.

For print development on the glossy photograph (Item 1), a majority of participants used either cyanoacrylate fuming (reported 92 times) or powder dusting (94), or a combination thereof. Due to the glossy, semi-porous nature of the photograph, some labs elected to follow up the cyanoacrylate fuming with porous processing techniques like ninhydrin (23) or DFO (18). More participants attempted to lift the recovered print from the Item 1 photograph than did for the other two items provided in the test, with 39 reported instances.

For print development on the porous resident notification (Item 2), ninhydrin was the predominantly reported processing technique (reported 98 times). Many participants preceded their ninhydrin treatment with DFO (42) to improve the chances of ridge development. The use of an alternate light source was commonly reported in conjunction with these two methods (35).

For development of prints on the nonporous plastic baggie (Item 3), participants relied heavily on cyanoacrylate (CA) fuming (reported 100 times). The CA treatment was frequently followed by a dye stain treatment (61) as a means to enhance the visibility of the developed ridge detail on the clear baggie. An alternate light source (44) was used both before and after the CA treatment by some participants.

For participants who reported observing first level detail in the prints on all three items, the development of the latent prints was usually sufficient for the ridge pattern of each print to be identified. The Item 2 resident notification had the fewest pattern identifications, which mirrors the lesser success of the print development process for this item. Some participants do not perform print pattern analysis in their routine casework and, as such, reported "N/A" to the pattern type question; therefore, no official consensus is established for any of the items. For those who identified pattern types, the most common responses for each item were: Item 1 – Whorl; Item 2 – Whorl; Item 3 – Whorl. The most frequent response for each item corresponds to the expected results for pattern reporting.

Print Location

TABLE 1 - Item 1

WebCode	Location	WebCode	Location	WebCode	Location
27EQX9	D	7WRH3Y	D	B4CAD9	D
2DYNNG	D	84VMRX	D	BD4Q6X	D
3LQQ6H	D	86LQL6	D	BN9F89	D
3V98V4	D	86NFMG	D	C32P6X	D
437C6Y	D	8X7826	D	CBBUF4	D
44KLDZ	D	93TEY4	D	DAFTRQ	D
4JBNU4	D	987Z8B	D	DBALMA	D
62A28B	D	9NAV3U	D	DHTM8T	D
67HLQ2	D	9X28GV	D	E2EZW3	D
6CCGTA	D	A8K3V2	D	EFJY3N	D
6HDX4F	D	A9XD89	D	EJJAZ9	D
6J7N9U	D	AB33C3	D	ET6E7M	D
6VN778	D	AD7ZJP	D	FANPA2	D
6ZG6K3	D	ATJ8YU	D	FCHB3R	D
78DL8D	D	AUXT9W	D	G7M3XN	D
7DH7TW	D	B38GLV	D	GAHWQJ	D

TABLE 1 - Item 1

WebCode	Location	WebCode	Location	WebCode	Location
GBHWT6	D	NCAZLD	D	U7FAKA	D
GHC6AP	D	NM9WLU	D	UPUUFRR	D
HLTNW6	D	NMTFPF	D	V4Q4ZD	D
HPWHRN	D	NTWJGY	D	V92GFQ	D
HQAUUY	D	NWWPXQ	D	VHATYE	D
HV2YLH	D	NXRBBM	D	VRZE28	D
J26KQQ	D	NXRBRG	D	VY2Q2A	D
JKFCTT	D	NY48WL	D	W89MK8	D
JM6JDP	D	NYYN9J	D	WAE998	D
JNET42	D	PGVFQB	D	WJ29KB	D
K2WXQN	D	QMFT7N	D	WKD36G	D
KPM6JH	D	QP7WYV	D	WTPZAN	D
M3LTNG	D	R7Q82N	D	WW33VJ	D
M6RBPX	D	RR8KRQ	D	WXXMK6	D
M7NLML	D	T78HFM	D	XE2GR4	D
MBWAZN	D	THYAZR	D	YK6LG3	D
NBT8NN	D	TJ9EBU	D	YN4WEN	D

TABLE 1 - Item 1

WebCode	Location	WebCode	Location	WebCode	Location
YNM3A8	D				
YQCAYB	D				
Z4W964	D				
ZC8BNJ	D				
ZEB76Z	D				
ZLXYGZ	D				
ZN6C39	D				
ZTUTEY	D				

Response Summary		Total Participants: 107
Location	Total	

A	0
B	0
C	0
D	107
None	0

TABLE 1 - Item 2

WebCode	Location	WebCode	Location	WebCode	Location
27EQX9	B	84VMRX	B	BN9F89	None
2DYNNG	B	86LQL6	None	C32P6X	B
3LQQ6H	B	86NFMG	None	CBBUF4	B
3V98V4	B	8X7826	B	DAFTRQ	B
437C6Y	B	93TEY4	B	DBALMA	B
44KLDZ	B	987Z8B	B	DHTM8T	B
4JBNU4	None	9NAV3U	B	E2EZW3	B
62A28B	B	9X28GV	B	EFJY3N	B
67HLQ2	None	A8K3V2	B	EJJAZ9	B
6CCGTA	B	A9XD89	B	ET6E7M	B
6HDX4F	None	AB33C3	B	FANPA2	C
6J7N9U	B	AD7ZJP	B	FCHB3R	None
6VN778	B	ATJ8YU	B	G7M3XN	B
6ZG6K3	B	AUXT9W	B	GAHWQJ	None
78DL8D	B	B38GLV	B	GBHWT6	B
7DH7TW	B	B4CAD9	B	GHC6AP	B
7WRH3Y	B	BD4Q6X	B	HLTNW6	B

TABLE 1 - Item 2

WebCode	Location	WebCode	Location	WebCode	Location
HPWHRN	B	NTWJGY	B	V92GFQ	B
HQAUUY	B	NWWPXQ	B	VHATYE	B
HV2YLH	None	NXRBBM	B	VRZE28	B
J26KQQ	B	NXRBRG	B	VY2Q2A	B
JKFCTT	B	NY48WL	B	W89MK8	B
JM6JDP	B	NYYN9J	None	WAE998	B
JNET42	B	PGVFQB	B	WJ29KB	B
K2WXQN	B	QMFT7N	B	WKD36G	B
KPM6JH	B	QP7WYV	B	WTPZAN	B
M3LTNG	B	R7Q82N	B	WW33VJ	B
M6RBPX	B	RR8KRQ	B	WXXMK6	B
M7NLML	B	T78HFM	B	XE2GR4	B
MBWAZN	B	THYAZR	B	YK6LG3	B
NBT8NN	None	TJ9EBU	B	YN4WEN	B
NCAZLD	B	U7FAKA	None	YNM3A8	B
NM9WLU	B	UPUUFU	B	YQCAYB	B
NMTFPF	B	V4Q4ZD	None	Z4W964	B

TABLE 1 - Item 2

WebCode	Location	WebCode	Location	WebCode	Location
ZC8BNJ	B				
ZEB76Z	None				
ZLXYGZ	B				
ZN6C39	B				
ZTUTEY	B				

Response Summary		Total Participants: 107
Location	Total	

A	0
B	92
C	1
D	0
None	14

TABLE 1 - Item 3

WebCode	Location	WebCode	Location	WebCode	Location
27EQX9	C	84VMRX	C	BN9F89	C
2DYNNG	C	86LQL6	C	C32P6X	C
3LQQ6H	C	86NFMG	C	CBBUF4	C
3V98V4	C	8X7826	C	DAFTRQ	C
437C6Y	C	93TEY4	C	DBALMA	C
44KLDZ	C	987Z8B	C	DHTM8T	C
4JBNU4	C	9NAV3U	C	E2EZW3	C
62A28B	C	9X28GV	C	EFJY3N	C
67HLQ2	C	A8K3V2	C	EJJAZ9	C
6CCGTA	C	A9XD89	C	ET6E7M	C
6HDX4F	C	AB33C3	C	FANPA2	B
6J7N9U	C	AD7ZJP	C	FCHB3R	C
6VN778	C	ATJ8YU	C	G7M3XN	C
6ZG6K3	C	AUXT9W	C	GAHWQJ	C
78DL8D	C	B38GLV	C	GBHWT6	C
7DH7TW	C	B4CAD9	C	GHC6AP	C
7WRH3Y	C	BD4Q6X	C	HLTNW6	C

TABLE 1 - Item 3

WebCode	Location	WebCode	Location	WebCode	Location
HPWHRN	C	NTWJGY	C	V92GFQ	C
HQAUUY	C	NWWPXQ	C	VHATYE	C
HV2YLH	C	NXRBBM	C	VRZE28	C
J26KQQ	C	NXRBRG	C	VY2Q2A	C
JKFCTT	C	NY48WL	C	W89MK8	C
JM6JDP	D	NYYN9J	C	WAE998	C
JNET42	C	PGVFQB	C	WJ29KB	C
K2WXQN	C	QMFT7N	C	WKD36G	C
KPM6JH	C	QP7WYV	C	WTPZAN	C
M3LTNG	C	R7Q82N	C	WW33VJ	C
M6RBPX	C	RR8KRQ	C	WXXMK6	C
M7NLML	C	T78HFM	C	XE2GR4	C
MBWAZN	C	THYAZR	C	YK6LG3	C
NBT8NN	C	TJ9EBU	C	YN4WEN	C
NCAZLD	C	U7FAKA	C	YNM3A8	C
NM9WLU	C	UPUUFR	C	YQCAYB	C
NMTFPF	C	V4Q4ZD	C	Z4W964	C

TABLE 1 - Item 3

WebCode	Location	WebCode	Location	WebCode	Location
ZC8BNJ	C				
ZEB76Z	C				
ZLXYGZ	C				
ZN6C39	C				
ZTUTEY	C				

Response Summary		Total Participants: 107
Location	Total	

A	0
B	1
C	105
D	1
None	0

Development Methods

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
27EQX9	Visual Examination	
	Cyanoacrylate Fuming	temp 120, processing time 8 minutes
	Powder Dusting	magnetic black powder
2DYNGG	Visual Examination	white light, visible fingermark
	Cyanoacrylate Fuming	10 minutes fuming time, visible fingermark
	Dye Stain	Basic Yellow 40, visible fingermark
	Powder Dusting	
3LQQ6H	Visual Examination	
	Powder Dusting	
3V98V4	Visual Examination	Naked eye
	Alternate Light Source	RUVIS
	Cyanoacrylate Fuming	Lumicyano
437C6Y	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	Powder Dusting	Magnetic powder
	DFO	
	Ninhydrin	
	Dye Stain	
	Physical Developer PD	
44KLDZ	Visual Examination	Mark down general appearance / size

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Alternate Light Source	BMT and UV (Neg)
	Cyanoacrylate Fuming	Out of Stock - wait for shipment (did not arrive in time)
	Dye Stain	Did not proceed to do without cyanoacrylate fuming first
	Alternate Light Source	Did not proceed to do without dye stain
	Powder Dusting	Black powder and fiberglass brush
4JBNU4	Visual Examination	
	Cyanoacrylate Fuming	10 min., 80% humidity
	1,2-Indanedione	60 min, 50 degrees C, no added humidity
62A28B	Visual Examination	White light
	Powder Dusting	Dusting took 2 min
67HLQ2	Visual Examination	
6CCGTA	Visual Examination	White light
	Cyanoacrylate Fuming	Processing time 10 minutes, cabinet set on 80 RH%, glueplate set on 120 degrees. 2 grams of glue used.
	Powder Dusting	Magna-jet black
6HDX4F	Powder Dusting	15 minutes
6J7N9U	Visual Examination	ambient/conventional white light (reflective surface)
	Cyanoacrylate Fuming	Misonix-CA6000 chamber; 7:00 min. fuming cycle
	DFO	Caron Environmental Chamber; 100°C, 0% RH; 20:00 min
	Ninhydrin	Caron Environmental Chamber; 80°C, 65% RH; 2:00 min
	Physical Developer PD	Sirchie Pre-Mixed solutions; 15:00 min processing time
6VN778	Visual Examination	No latents visible.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Cyanoacrylate Fuming	No latents visible.
	Powder Dusting	Red-wop fluorescent powder. Latent print visible, need further enhancement.
	Alternate Light Source	Latent print of possible value developed and photographed (quadrant D).
6ZG6K3	Visual Examination (white light)	
	Superglue	Temperature: 120°C, humidity: 77.9, processing time: 7 minutes
	Basic Yellow 40	
78DL8D	Cyanoacrylate Fuming	15 min fume at 80% R.H.
	Mag Powder	
7DH7TW	Visual Examination	Ambient light and 532nm Laser with orange goggles
	Cyanoacrylate Fuming	Room temp, 80% humidity for ~9min
	DFO	Applied chemical, dried, heated at 100 degC for 20 min
	Ninhydrin	Applied chemical, dried, heated at 80 deg C with 65% humidity for ~2 min
	Physical Developer PD	Applied in steps, rinsed, dried
7WRH3Y	Visual Examination	oblique lighting
	Cyanoacrylate Fuming	vacuum chamber at 37oC vapor release temp 82oC for 45 min fume. cure 30 min
	1,2-Indanedione	with ZnCl in Pet ether: saturated front and back. let sit 2 hrs. view with laser 532nm with orange filter
	Ninhydrin	in Pet ether: saturated front and back, let sit 24hrs, viewed with visible light
	Powder Dusting	gentle dusting. viewed with visible light
84VMRX	Photography: Printed 1:1	Photographed visible latent prior to any chemical or powder processing

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Cyanoacrylate Fuming	Humidity Cycle for 15 min to reach 80% RH; Glue Cycle for 10 min @ 120 deg C; Purge Cycle for 20 min
	Dye Stain	MBD dye stain applied with squirt bottle, allow to dry, visualize with ALS (blue light 430-470 nm and yellow filter GG495, 476 nm)
	Powder Dusting	Magnetic Powder applied with a magnetic brush until ridge detail developed
86LQL6	Visual Examination	
	Cyanoacrylate Fuming	20 minutes after humidity level was ready
	Visual Examination	
	Powder Dusting	fluorescent fingerprint powder, red wop
	Visual Examination	ALS
	Ninhydrin	on the back of the photograph
	Visual Examination	
86NFMG	Visual Examination	
	Alternate Light Source	used 365nm, 450nm, and 532nm
	Cyanoacrylate Fuming	used 2gm cyanoacrylate
	Visual Examination	
	Alternate Light Source	254nm
	Powder Dusting	magnetic powder
	DFO	100 degrees F for 20 minutes
	Ninhydrin	76% humidity, 76 degrees F for 15 minutes
	Dye Stain	R6G, Ardrex, and MBD
	Alternate Light Source	used 365nm, 450nm, and 532nm
8X7826	Visual Examination	With magnifier
	Alternate Light Source	ALS and LASER

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
93TEY4	Visual	
	Cyanoacrylate	Safefume 48S CA chamber for 12 minutes at 80% humidity
	Magnetic White Powder	
987Z8B	First Visual	Use the PL500 and also the Polilight Flare +2 using the white light mode. Spot a possible fingerprint.
	Anti Stoke Lazer Viewing	Using ASV magnetic powder to enhance the spotted latent on the multicoloured frontside of exhibit.
	Fluorescence	Using fluorescence on the backside of semi-glossy surface at the powder downflow bench.
	PoliCyano	5g PoliCyano by using the MVC 3000 cabinet @ 25 min glue time & 230°C temp.
9NAV3U	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	fuming time 7 min 25 sec
	Powder Dusting	
9X28GV	Cyanoacrylate Fuming	80% humidity 10 minute glue time
	Dye Stain	MBD Dye Stain
	Powder Dusting	Standard Black Powder
	Powder Dusting	Black Magnetic Powder
A8K3V2	Visual Exam	
	Cyanoacrylate Fuming	73°F/ 53% RH, 10 minutes fuming time
	Black Magnetic Powder	
A9XD89	Visual Examination	
	Cyanoacrylate Fuming	15 minutes development time

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Powder Dusting	Magna Jet Black
AB33C3	ambient light	
	Alternate Light Source	Green and blue channels of laser
	Cyanoacrylate Fuming	Fuming chamber, 11 minutes
	Powder Dusting	black magnetic powder
AD7ZJP	Visual Examination	Impression observed
	Cyanoacrylate Fuming	
ATJ8YU	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	Magnetic Powder	
	DFO	
	Ninhydrin	
	RAM	
	Physical Developer PD	
AUXT9W	Visual	112916 @ 1045, photo 001-1
	CA	112916 @ 1152, photo 001-1-1
B38GLV	Visual Examination	under white light
	Cyanoacrylate Fuming	under vacuum, fume ~45m, cure~60m
	1,2-Indanedione	with ZnCl in pet ether: sprayed, air dried & viewed with orange goggles under 532nm laser
	Ninhydrin	in pet ether: sprayed, air dried, ninhydrine heat chamber ~10m (175oF, small amt h2o) view under white light

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Dye Stain	Rhodamine 6G in methanol: sprayed, air dried, viewed with orange goggles under 532nm laser
	Powder Dusting	Bichromatic powder: brushed on, viewed under white light, lifted
B4CAD9	Visual Examination	Examined the evidence in the presence of white Light
	Alternate Light Source	Examined the evidence in the presence of two light sources 445nm and 532nm
	Cyanoacrylate Fuming	Following condition used for Fuming: Humidifying for 15min and attained 80% Humidity then Glue time was 15 min under Temperature of 120degC
	Visual Examination	Examined the fumed evidence in the presence of white Light
	Powder Dusting	Yellow Fluorescent Powder used to powder the evidence
BD4Q6X	Visual Examination	Visual with magnifier using ALS & Laser
	Cyanoacrylate Fuming	
	Visual Examination	Visual with magnifier using ALS
	Powder Dusting	Black magnetic powder
	Visual Examination	Visual with magnifier
BN9F89	1st visual examination	Poliflare light source of various wave lengths range are utilised to search for prints on exhibits.
	Polycyano UV	MVC 3000 chamber at 230°C for 25 min.
	Fingerprint powder: Orange Fluorescent powder	Performed on the downflow bench using Poliflare light source of 450nm and orange goggles.
C32P6X	Visual Examination	
	Cyanoacrylate Fuming	10 min fuming time
	Powder Dusting	carbon black powder
CBBUF4	Visual Examination	
	Cyanoacrylate Fuming	~120°C, ~75% relative humidity, timed auto

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Dye Stain	R.A.M.
	Powder Dusting	White powder
DAFTRQ	Visual Examination	Laser 532 nm 577nm , Episcopal white light, crimescope
	Lumicyano	Lumicyano CST, 120°C , 30 min fumigation
	Powder Dusting	Magnétic Powder
	1,2-Indanedione	165°C for 10 seconds
	Ninhydrin	5 days waiting
DBALMA	Powder Dusting	Blue Magnetic Powder. Item 1 - developed latent in Q-D.
DHTM8T	Visual Examination	white light, UV - 555nm - Polilight PL500, suitable googles
	Cyanoacrylate Fuming	processing time - 15 minutes, humidity - 80%
	Visual Examination	white light
	Powder Dusting	Mag. Black Ruby
	Visual Examination	white light, UV
E2EZW3	Powder Dusting	13.00 - 14.00 +26C
	Visual Examination	
EFJY3N	Visual Examination	White Light - Oblique
	Cyanoacrylate Fuming	Labconco CAPture BT Chamber, 1.5g Cyanoacrylate, 80% humidity, 10 min fume time, CA heat 250 degrees F
	Powder Dusting	Magnetic Powder
EJAZ9	Visual Examination	Found LP prior to additional processing.
	Powder Dusting	Black Magnetic Powder
	Visual Examination	No additional LP's found.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
ET6E7M	Visual Examination	10 min
	Ruvis	35 min
	Cyanoacrylate Fuming	15 min
	Flourescent Powder	10 min
	Alternate Light Source	10 min
	Powder Dusting	15 min
FANPA2	Cyanoacrylate Fuming	8 min, 80 % humidity
	Dye Stain	Basic Yellow 40
FCHB3R	Visual Examination	A visual examination was done with CrimeLiteML with white light and 1.8x magnification. Approximately 2 minutes.
	Cyanoacrylate Fuming	Fuming was done in a Foster + Freeman MVC3000 chamber set to 120 degrees Celcius and 80% RH. Approximately 45 minutes.
	Powder Dusting	Magnetic powder dusting. Item was dusted with magnetic powder at room temperature. Approximately 5 minutes
G7M3XN	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	Powder Dusting	magnetic
	DFO	
	Ninhydrin	
	Dye Stain	RAM
	Physical Developer PD	
GAHWQJ	Visual Examination	Done on 10/21/2016 - viewed under normal lighting -sent to photo

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Cyanoacrylate Fuming	Done on 10/21/2016 - AirScience Chamber: 80% humidity, temperature 22 degrees Celcius/72 degrees Fahrenheit; 30 minute glue time, 30 minute purge cycle; sent to photo
	Powder Dusting	Done on 11/15/2016; White magnetic powder on front; black magnetic powder on back - sent to photo
	Ninhydrin	Done on 11/18/2016, applied by spray bottle; placed in humidity chamber: temperature 38.7 degrees Celcius, 71.8 RH
GBHWT6	Visual Examination	
	Alternate Light Source	365nm (long wave UV), 455nm, 532nm (LASER)
	Cyanoacrylate Fuming	70% relative humidity, fuming time 1:30, 10:00 purge
	Alternate Light Source	RUVIS (short wave UV - 254nm)
	Powder Dusting	black magnetic powder
	DFO	20 min in dry oven
	Alternate Light Source	532nm (LASER)
	Ninhydrin	5-15 min in humidity chamber at 76 degrees C and 76% relative humidity
	Dye Stain	RAM (Rhodamine 6G, Ardrex, MBD)
	Alternate Light Source	365nm (long wave UV), 455nm, 532nm (LASER)
GHC6AP	Visual Examination	
	Cyanoacrylate Fuming	Relative humidity: 80%
	Powder Dusting	Magnetic powder
	DFO	temperature: 100C. Processing time: 10 min
	Ninhydrin	Temperature: 80C. Relative humidity: 65%. Processing time: 5 min
	Physical Developer PD	Processing time: 10 min
	Dye Stain	Basic Yellow 40
HLTNW6	Cyanoacrylate Fuming	01/11/2016 in at 12pm. Lab temp = 21.5C. MVC3000 RH=79

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Dye Stain	2/11/2016. 10.30am
	Crystal Violet	3/11/2016. 8-9am
	Sudan Black	3/11/2016. 9.30-10.15am
	Powder Dusting	3/112016. 12-1.30pm
HPWHRN	Visual Examination	under normal lighting conditions
	Cyanoacrylate Fuming	vacuum fume 60min, cure 30min
	1,2-Indanedione	with ZnCl in pet ether: saturated photo,air dried,view under laser 532nm with orange filter
	Ninhydrin	in pet ether: saturated photo, air dried, placed in ninhydrin chamber until control developed purple test print
	Dye Stain	Rhodamine 6G in methanol: saturated photo, air dried, view under laser 532nm with orange filter
	Powder Dusting	bichromatic powder: dusted photo and viewed under normal lighting conditions
	Powder Dusting	black powder: dusted and viewed under normal lighting conditions
HQAUUY	Cyanoacrylate Fuming	75 % humidity, 9 min
	Dye Stain	Basic Yellow 40
HV2YLH	Visual Examination	
	Cyanoacrylate Fuming	
	MRM1-	
	Magna Powder	
	Basic Yellow	
	Water Rinse	
J26KQQ	Cyanoacrylate Fuming	80% humidity, 7 minute fume time
	Powder Dusting	Black Magnetic Powder

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Dye Stain	Rhodamine 6G
	Alternate Light Source	495nm, Orange goggles
JKFCTT	Visual Examination	Available light/flashlight, Tracer Laser (532nm), Crimescope ALS (350-515nm)
	Powder Dusting	Black magnetic powder
	Powder Dusting	Black powder
JM6JDP	Visual Examination	Examined for visible latent prints
	Alternate Light Source	Examined for visible latent prints
	Cyanoacrylate Fuming	Fumed in Misonix CA-6000, approximately 3 grams cyanoacrylate at 80% humidity for 13 minutes.
	Dye Stain	R6G in methanol carrier, applied with wash bottle
	Powder Dusting	Black magnetic powder applied with magnetic wand
JNET42	Visual Examination	
	Alternate Light Source	UV-365nm, 455nm, LAS-532nm
	Cyanoacrylate Fuming	2 grams
	Visual Examination	
	Alternate Light Source	RUVIS-254nm
	Powder Dusting	Magnetic Powder
	DFO	20 minutes @ 99F
	Ninhydrin	15min @ 76F and 76%RH
	Dye Stain	R6G, Ardrex, MBD
	Alternate Light Source	UV-365nm, 455nm, LAS-532nm
K2WXQN	Visual Examination	White Low Angle Light. Print visible in quadrant "D". Photo obtained.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Alternate Light Source	Low Angle 555 nm filter. Print visible in quadrant "D". Photo obtained.
	Cyanoacrylate Fuming	30 Minutes @ 80% humidity. Print visible in quadrant "D". Photo obtained.
	Powder Dusting	Magnetic Powder. Print visible in quadrant "D". Photo obtained. Lift obtained after photo.
KPM6JH	Visual Examination	
	Cyanoacrylate Fuming	30 drops of glue; 12 minutes of fuming
	Powder Dusting	Magnetic powder
	DFO	20 minutes at 100 degrees Celsius
	Ninhydrin	2 minutes at 80 degrees Celsius and 65% humidity
M3LTNG	Powder Dusting	Use of virgin magnetic powder and wand.
M6RBPX	Visual Examination	
	Cyanoacrylate Fuming	10 mins
	Powder Dusting	Disposable brush and black powder applied
M7NLML	Visual Examination	Looked at under white light and laser (532 nm) with orange goggles
	Cyanoacrylate Fuming	Superglued in a CA-6000 superglue chamber at 80% humidity. Looked at under white light when complete
	Dye Stain	Rhoadmine 6G. Looked at under 532nm laser with orange goggles
	Powder Dusting	Used black powder and then examined under white light
MBWAZN	Visual Examination	
	Cyanoacrylate Fuming	
	Powder Dusting	magnetic powder & black powder
NBT8NN	Visual Inspection	

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	CA - Cyanoacrylate	35 drops of CA in chamber for 12 minutes with 80% humidity
	Standard White Powder	Brushed on
NCAZLD	Visual Examination	Light and Magnification
	Cyanoacrylate Fuming	80% Humidity, 15 minutes
	Powder Dusting	Magnetic Powder
	DFO	100 degrees C, 20 minutes
	Ninhydrin	80 degrees C, 70% humidity, 20 minutes
	Dye Stain	Ardrox
NM9WLU	Visual examination	white light and fluorescence examination 350-650nm
	Cyanoacrylate Fuming	processing in fuming cabinet for 15 min., heat superglue to about 120°C and humidity 75% Rh, exam with white light
	Fluorescence powder	examination in UV light
NMTFPF	Visual Examination	Oblique lighting.
	Powder Dusting	Magnetic powder.
NTWJGY	Cyanoacrylate Fuming	6/11/2016 8.00 - 9.40am. RH =79. MVC3000
	Dye Stain	BY40. 6/11/2016. 10am
	Crystal Violet	6/11/2016 1.30am
	Sudan Black	6/11/2016 11.50am
	Powder Dusting	Black powder. 6/11/2016 1pm
NWWPXQ	Visual Examination	White ambient light, ALS alternate light source, good quality print was detected.
	Cyanoacrylate Fuming	A small improvement of the print.
	Powder Dusting	Black magnetic powder enhanced the existing print.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	DFO	ALS alternate light source (green light, 500 - 550 nm). No print was visualized.
	Ninhydrin	No improvement of the print.
NXRBBM	Vis	Ambient Light
	Superglue Fuming	RH 72%, hot plate, 10 min in Air Science Chamber
	Magnetic Pdr	Grey mag pdr
NXRBRG	Visual Examination	
	Alternate Light Source	UV, LASER, CRIMESCOPE
	Cyanoacrylate Fuming	RUVIS
	MAGNETIC POWDER	
	DFO	
	Ninhydrin	
	Dye Stain	RAM
	Physical Developer PD	
NY48WL	Visual Examination	
	Cyanoacrylate Fuming	
	Powder Dusting	
NYYN9J	Visual Examination	The item was examined for a couple of minutes, how to process the item was determined and information about the surface was recorded.
	Photocopied	The item was photocopied to preserve the look of the item in case the item was damaged or destroyed during examination.
	Cyanoacrylate Fuming	The item was placed inside cyanoacrylate chamber with cyanoacrylate ester in a disposable tray for approximately 45 minutes.
	Powder Dusting	The item was dusted with black magnetic powder for approximately 5 minutes for the finger print to develop.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
PGVFQB	Cyanoacrylate Fuming	Item #1 was placed in the superglue chamber for approximately 10 minutes.
	Powder Dusting	Black powder was gently applied using a latent print brush.
QMFT7N	Visual Examination	white, 350-590 nm
	Alternate Light Source	350-590 nm
	Cyanoacrylate Fuming	80% humidity
	fingerprint powder	black magnetic
QP7WYV	Visual Examination	Visual examination
	Alternate Light Source	Inherent fluorescence exam using 532nm, 455nm, 365nm and 254nm wavelengths - print found
	Cyanoacrylate Fuming	item fumed for 1.5 minutes using 2g superglue heated on 300C hotplate at 70% humidity. Item then examined visually and with 254nm
	Powder Dusting	Black magnetic powder applied using magnetic wand
	DFO	DFO painted onto item then put in 100C oven for 20 minutes. Examined visually and with 532nm
	Ninhydrin	NIN painted on item, allowed to dry, then put in humidity chamber for 15 minutes at 76C 76%RH
	Dye Stain	RAM applied to item then examined using 365nm, 455nm, and 532nm wavelengths
R7Q82N	Cyanoacrylate Fuming	80 % humidity, 8 min
	Dye Stain	Basic Yellow 40
RR8KRQ	Cyanoacrylate Fuming	USING A MASON VACTRON MVC5000 ON AUTO CYCLE
T78HFM	Cyanoacrylate Fuming	The item was placed in the Cyanocrylate Chamber for few minutes.
THYAZR	Visual Examination	

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Powder Dusting	Magnetic
TJ9EBU	Visual examination	
	Fluorescence examination	
	Superglue fuming	temperature heating plate: 100°C, humidity: 80%, time: 30 min
	Indestructible white Hi-Fi powder	
U7FAKA	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	Magnetic Powder	
	DFO	
	Dye Stain	RAM
UPUUFRR	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	6 min
	Powder Dusting	magna black
V4Q4ZD	Visual Examination	side lighting
	Cyanoacrylate Fuming	SafeFume Chamber (20 minutes at ~80% humidity, ~76.5 degrees F.)
	Powder Dusting	Jet Black Magnetic Powder
V92GFQ	Visual Examination	
	Cyanoacrylate Fuming	~120°C, ~75% relative humidity, timed auto
	Dye Stain	Ardrox

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
VHATYE	Visual Examination	with white light
	Alternate Light Source	
	Cyanoacrylate Fuming	15 minutes with 80% RH
	Dye Stain	Rhodamine 6G, viewed under 515nm light with orange filter
	Powder Dusting	Magnetic and Black
VRZE28	Cyanoacrylate Fuming	9 mins fuming, 45 mins venting
	Gel lift	gel lift and gel scanner used
	Powder Dusting	red fluorescent powder
	Alternate Light Source	455-CSS nm
VY2Q2A	Visual Examination	
	Alternate Light Source	532nm, 450nm, 365nm
	Cyanoacrylate Fuming	visual and RUVIS exams after
	magnetic powder	
	DFO	20 min in a dry oven
	Ninhydrin	10 min in a humidity cabinet
	Dye Stain	RAM; 532nm, 450nm, 365nm exams after
	Physical Developer PD	
W89MK8	Visual Examination	
	Alternate Light Source	Used 365nm (UV), 532nm (Laser), 254nm (RUVIS) & 450nm (Crimescope)
	Cyanoacrylate Fuming	Used 254nm (RUVIS)
	Powder Dusting	Magnetic Powder
	DFO	placed item in dry oven for 20mins, 100C temp
	Ninhydrin	75% Humidity, 74C Temp, 10 minutes Processing Time

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Dye Stain	RAM dye stain. Used 532nm (Laser), 365nm (UV), & 450nm (Crimescope)
	Physical Developer PD	
WAE998	Visual Examination	
	Alternate Light Source	UV, LASER, Crimescope
	Cyanoacrylate Fuming	
	Alternate Light Source	RUVIS
	Powder Dusting	Magnetic Powder
	DFO	
	Alternate Light Source	LASER
	Ninhydrin	
	Dye Stain	RAM
	Alternate Light Source	LASER, UV, Crimescope
	Physical Developer PD	
WJ29KB	Cyanoacrylate Chamber	@ 22 min in chamber @ 74°F w/ 80% Humidity
	Magnetic Powder	
WKD36G	Visual Examination	
	Cyanoacrylate Fuming	Processing time 4 min and 30 sec.
	Powder Dusting	Magna-jet black
	Dye Stain	Basic Yellow 40
	Alternate Light Source	Quaser, 400-469 nm, yellow filters.
WTPZAN	Powder Dusting	

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
WW33VJ	Powder Dusting	Application of black ferric oxide.
WXXMK6	Visual Examination	Oblique lighting and examining each quadrant on the item on different angles, a possible print was visible on quadrant D.
	Powder Dusting	Magnetic powder was used to process the front glossy side of the photo on each quadrant. A latent print developed on quadrant D.
XE2GR4	Cyanoacrylate Fuming	Misonix fume hood 80% humidity ~ 1 hour
	Powder Dusting	Fluorescent powder w/ UV light
YK6LG3	Visual Examination	5 MIN
	Cyanoacrylate Fuming	Air Science Chamber 30min processing 80% humidity 69 degree F temp
	Powder Dusting	regular black powder
YN4WEN	Visual Examination	
	Cyanoacrylate Fuming	~120°C, ~75% relative humidity, timed auto
	Dye Stain	Rhodamine 6G
YNM3A8	Visual Examination	Visually examined exhibit
	Alternate Light Source	Examined exhibit using white light, UV, 415nm and 505nm
	Cyanoacrylate Fuming	CF exhibit then visual examination with white light
	Rhodamine 6G	Spray on Rhodamine 6G and visual examination with 505nm and orange filter. Print located in quadrant D
YQCAYB	Visual Examination	
	Cyanoacrylate Fuming	
	Powder Dusting	black magnetic powder

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
Z4W964	Visual Examination	For approximately one minute, the item was visually examined before any latent print development technique was used. The Forensic Light Source Crime-lite ML was used. The white light examination feature was used, and it provided a 1.8 magnification.
	Cyanoacrylate Fuming	For approximately forty minutes, the item was in the Foster & Freeman MVC 3000 Superglue Fingerprint Fuming Cabinet (calibration data for the cabinet indicates a temperature of 120 degrees and RH% of 80%. Arrowhead Forensics Cyanoacrylate bottle 1. lot # A2616 and BP2819-4 water - Molecular Biology grade, lot # 152767 were used.
	Visual Examination	The item was again visually examined (about thirty seconds), using the same equipment as step 1.
	Powder Dusting	The item was gently dusted using a Sirchie Fiberglass Fingerprint Powder, catalog # 1-0015. The Protector Downdraft Powder Station was used for dusting.
	Visual Examination	The item was again visually examined before any attempt to lift any latent prints (approximately one minute).
ZC8BNJ	Visual Examination	White crimelite 2 - ridge detail visible - photograph.
	Cyanoacrylate Fuming	MVC 5000 cabinet no. 4, 120C, 81.7% RH. Autocycle - approx 15 mins humidity, 20 mins glue and 40 mins purge - ridge detail enhanced - photograph.
	Powder dusting/Gel lifting	Appropriate powder e.g. fluorescent to increase contrast against background and/or gel lifting - ridge detail enhanced - photograph.
ZEB76Z	Visual Examination	with magnifying light
	Cyanoacrylate Fuming	Approximately 10 minutes with heat plate and added humidity
	Powder Dusting	regular black powder with brush
ZLXYGZ	Visual Examination	
	Cyanoacrylate Fuming	Appx. 10 minutes in the CAE chamber with added humidity
	Powder Dusting	black magnetic powder
ZN6C39	Visual Examination	Latent print visible and photographed.
	Cyanoacrylate Fuming	Atmospheric pressure, ambient temperature at 80% relative humidity for 4 minutes.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
	Powder Dusting	Magnetic black powder used, latent print re-photographed.
ZTUTEY	Visual exam	
	Superglue fuming	72% relative humidity for 12 minutes
	Magnetic powder gray then black	
	Fingerprint powder grey then black	

Response Summary				Participants: 107
				Methods Utilized
Alternate Light Source	40	Physical Developer	10	**Note: Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.
Cyanoacrylate Fuming	92	Powder Dusting	94	
DFO	18	Visual Examination	99	
Dye Stain	32	1,2-Indanedione	5	
Ninhydrin	23			

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
27EQX9	Visual Examination	
	DFO	
	Alternate Light Source	495 nm, orange filter/ 555nm red filter
	Ninhydrin	
2DYNGG	Visual Examination	white light, no visible fingermark
	Alternate Light Source	Blue fluorescent light, vaguely visible fingermark
	Ninhydrin	5 minutes, 62% humidity, 80 degrees celsius, visible fingermark
3LQQ6H	Visual Examination	
	Ninhydrin	
3V98V4	1,2-Indanedione	+ZnCl ₂ : 165°C / 10 seconds
437C6Y	Visual Examination	
	Alternate Light Source	
	DFO	
	Ninhydrin	
	Physical Developer PD	
44KLDZ	Visual Examination	Mark down general appearance / size
	Alternate Light Source	BMT and UV (Neg)
	Ninhydrin	Dip until saturated, air dry and place in locker. Waited until 11-30-16 to scan for developed latents.
4JBNU4	Visual Examination	
	1,2-Indanedione	60 min, 50 degrees C, no added humidity
62A28B	Ninhydrin	Temperature 80 C, Humidity 60 %

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
67HLQ2	Visual Examination	White
	1,2-Indanedione	Chamber Nin2, 50 Degrees C, 45 Mins
	Visual Examination	Laser
6CCGTA	Visual Examination	White light
	Ninhydrin	Climatecabinet set on 80 degrees and 65 RH%, processingtime 5 minutes.
6HDX4F	Ninhydrin	10 minutes
6J7N9U	Visual Examination	ambient/conventional white light
	Alternate Light Source	Coherent Tracer Laser (green)
	DFO	Caron Environmental Chamber; 100*C, 0% RH; 20:00 min
	Ninhydrin	Caron Environmental Chamber; 80*C, 65% RH; 2:00 min
	Physical Developer PD	Sirchie Pre-Mixed solutions; 15:00 min processing time
6VN778	Visual Examination	No latents visible.
	Ninhydrin	Latent print of possible value developed and scanned (quadrant B)
6ZG6K3	DFO	Dried: 99°C
78DL8D	1,2-Indanedione	100 degrees C for 3 min., Laser
7DH7TW	Visual Examination	Used both ambient light and 532nm laser with orange goggles
	DFO	Applied, dried, heated at 100 degC for ~20 min
	Ninhydrin	Applied, dried, heated at 80 degC with 65% humidity for ~2min
	Physical Developer PD	Applied in steps, rinsed, dried

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
7WRH3Y	1,2-Indanedione	with ZnCl in Pet ether: Saturated paper, let sit 24hrs, viewed with laser 532nm with orange filter
	Ninhydrin	in Pet ether: saturated paper, let sit for 24hs, viewed with visible light
84VMRX	Ninhydrin	Item dipped for 5-10 sec, air dried, placed in Fingerprint Chamber (75 deg C, 80% humidity for 5 min)
86LQL6	Visual Examination	
	Ninhydrin	spray with HFE ninhydrin, 2 times both sides
	steam	
	Visual Examination	
86NFMG	Visual Examination	
	Alternate Light Source	365nm, 450nm, and 532nm
	DFO	100 degrees F for 20 minutes
	Ninhydrin	76% humidity, 76 degrees F for 15 minutes
8X7826	Visual Examination	With magnifier
	Alternate Light Source	ALS and LASER
	DFO	Heated in 100C oven for 20 minutes
	Alternate Light Source	LASER
93TEY4	Visual	
	DFO & ALS	Sprayed pre-mixed DFO and viewed with the UltraLite ALS
	Ninhydrin	Dipped the paper in the ninhydrin and then applied humidity with a steam iron
987Z8B	First Visual	PL500 lightsource with wavelength of 000nm.
	DFO/HFE	Use spraying method and allow to airdry.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
	Climate control cabinet	Using the Nincha cabinet on the DFO mode set at 100°C for 25 minutes (no humidity).
	Ninhydrin/HFE	Use spraying method and allow to airdry
	Climate control cabinet	Using the Nincha cabinet on the Nin mode set at 80°C for 7 minutes and 65% humidity.
9NAV3U	Visual Examination	
	Alternate Light Source	
	DFO	100 C for 20 min
	Ninhydrin	80 C, 65% humidity, 2 min
	Physical Developer PD	20 min
9X28GV	Ninhydrin	80% humidity - 75 degrees c - 5 minutes
A8K3V2	Visual	
	Indanedione/ ZnCl	10 seconds w heat press laser (532nm), orange filter
	Ninhydrin	15 seconds - steam iron
A9XD89	Visual Examination	
	Ninhydrin	2 dippings, weak development
AB33C3	Ambient light	
	1,2-Indanedione	placed in oven at 100 degrees Celsius for 20 minutes, View with green channel of laser
	Ninhydrin	Heated with steam iron
AD7ZJP	Visual Examination	
	Laser	
	Alternate Light Source	
	Ninhydrin	

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
ATJ8YU	Visual Examination	
	Alternate Light Source	
	DFO	
	Ninhydrin	
	Physical Developer PD	
AUXT9W	Visual	112916 @ 1115, neg
	Nin	112916 @ 1340, photo 001-3
B38GLV	Visual Examination	under white light
	1,2-Indanedione	with ZnCl in pet ether: sprayed, air dried, viewed with orange goggles under 532nm laser
	Ninhydrin	in pet ether: sprayed, air dried, placed in ninhydrine heat chamber ~10m (175oF, sm. amt h2o added for humidity), view under white light
B4CAD9	Visual Examination	Examined with Naked eye
	Alternate Light Source	Examined the evidence in the presence of two light sources 445nm and 532nm
	1,2-Indanedione	Evidence was dyed and dried in oven for 20min at 100degC
	Ninhydrin	Evidence was dyed and dried in oven for 20min at 80degC and 65% Humidity
BD4Q6X	Visual Examination	Visual with magnifier using ALS & Laser
	1,2-Indanedione	Heat in oven at 100 degrees C for 20 minutes
	Visual Examination	Visual with magnifier using Laser
BN9F89	First visual examination	Poliflare light source of various wave lengths range are utilised to search for prints
	DFO	Procedure done under chemical fume cabinet at 25°C whereby exhibit is dipped in petri-dish containing DFO.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
	Ninhydrin	Procedure done under chemical fume cabinet at 25°C whereby evidence is dipped in a petri-dish containing Ninhydrin.
C32P6X	Ninhydrin	24h, 26°C, 65% rel. humidity
CBBUF4	Visual Examination	
	DFO	~200°F, 10 minutes
	Ninhydrin	~80°C, ~65% relative humidity
DAFTRQ	Visual Examination	Laser 532 nm 577nm; crimescope
	1,2-Indanedione	165°C for 10 seconds
	Ninhydrin	5 days waiting
DBALMA	DFO	Tray submersion; heated to 212F @ 10 min; ALS @ 495nm with orange filter; latent in Q-B
	Ninhydrin	Tray submersion; steam iron used (weaker development)
DHTM8T	Visual Examination	white light, UV - 555nm - Polilight PL500, suitable googles
	DFO	processing time - 20 minutes, temperature - 95 degree Celsius
	Visual Examination	495 nm, orange coloured google
	Ninhydrin	processing time - 3 hours, temperature - 25 - 30 degree Celsius, humidity - 70%
	Visual Examination	white light
E2EZW3	Ninhydrin	+25 C 17 - 20.10.2016
	Visual Examination	
EFJY3N	Visual Examination	White Light
	Ninhydrin	HFE7100 Solution, pipetted, steam iron
EJJAZ9	Visual Examination	No LP's found.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
	1,2-Indanedione	HFE7100 base, dipped Item 2, allowed to air dry, heated in t-shirt press at 300 degrees F for 12 seconds
	Alternate Light Source	BrightBeam, 532nm, Orange Barrier
	Ninhydrin	HFE7100 base
	Visual Examination	No additional LP's found.
ET6E7M	Visual Examination	5 min
	DFO	20 min
	Alternate Light Source	15 min
	Ninhydrin	15 min
FANPA2	Ninhydrin	5 min, temp. 80C, 65 % humidity
FCHB3R	Visual Examination	A visual examination was done with CrimeLiteML with white light and 1.8x magnification. Approximately 2 minutes.
	Ninhydrin	Sirchie Ninhydrin Special formula was sprayed on evidence in the fume hood and a standard GE iron was used to steam the evidence. Approximately 24 hours.
G7M3XN	Visual Examination	
	Alternate Light Source	
	DFO	
	Ninhydrin	
	Physical Developer PD	
GAHWQJ	Visual Examination	10/21/2016; viewed under normal lighting
	Ninhydrin	10/21/2016; applied by spray bottle; placed in humidity chamber, temp: 38.8 degrees celcius, 70.8 RH
	Ninhydrin	11/17/2016; applied by spray bottle; placed in humidity chamber; temperature 38.7 degrees Celcius, 71 RH
	Physical Developer PD	11/18/2016; Three part solution

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
GBHWT6	Visual Examination	
	Alternate Light Source	365nm (long wave UV), 455nm, 532nm (LASER)
	DFO	20 min in dry oven
	Alternate Light Source	532nm (LASER)
	Ninhydrin	5-15 min in humidity chamber at 76 degrees C and 76% relative humidity
GHC6AP	DFO	Temperature: 100C. Processing time: 10 min
	Ninhydrin	Temperature: 80C. Relative humidity: 65%. Processing time: 5 min
	Physical Developer PD	Processing time: 10 min
HLTNW6	DFO	1/11/2016. 12.20-12.40pm. Humidity Chamber at 100C
	Ninhydrin	2/11/2016. 9.30-9.45 at 65% RH
HPWHRN	Visual Examination	under normal lighting conditions
	1,2-Indanedione	with ZnCl in pet ether: saturated document, air dried, viewed under laser 532nm with orange filter
	Ninhydrin	in pet ether: saturated document, air dried, placed in ninhydrin chamber until control developed purple test print, viewed under normal lighting conditions
HQAUUY	Ninhydrin	temp 80 C, 65 % humidity, 5 min
HV2YLH	Visual Examination	
	Ninhydrin	
	Silver Nitrate	
J26KQQ	DFO	DFO chamber at 100 degrees for 20 Mins
	Alternate Light Source	475nm with orange goggles

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
	Ninhydrin	Ninhydrin Chamber at 75 degrees for 5 Mins
JKFCTT	Visual Examination	Available light, Tracer Laser (532nm), Crimescope ALS (350-515nm)
	1,2-Indanedione	Sprayed on item, dry heat iron (30 seconds-1 minute) and visual exams with available light and Tracer Laser (532 nm)
	Ninhydrin	(HFE 7100 carrier) Sprayed on item, steam iron (30 seconds) and visual exam with available light
JM6JDP	Visual Examination	Coherent 532 nm laser
	1,2-Indanedione	Applied with wash bottle. Heated iron held above evidence with no steam for 3-4 minutes
	Ninhydrin	Ninhydrin in HFE-7100 carrier used. Applied with wash bottle. Heated iron used with steam and held above evidence for 3-4 minutes.
JNET42	Visual Examination	
	Alternate Light Source	UV-365nm, 455nm, LAS-532nm
	DFO	20 minutes @ 99F
	Ninhydrin	15min @ 76F and 76%RH
K2WXQN	Visual Examination	White low angle light. Results negative.
	Alternate Light Source	Multiple filters applied. Results negative.
	DFO	After dipping item in DFO the item was allowed to dry then placed in a 200 F DFO oven for 25 minutes. Print visible in quadrant "B" under ALS@455nm with orange barrier filter. Photo obtained.
	Ninhydrin	Thirty six hour development time. Minimal development noted. Additional twenty four hours development time allowed with no additional development noted. No photo obtained.
KPM6JH	Visual Examination	
	DFO	20 minutes at 100 degrees Celsius
	Ninhydrin	2 minutes at 80 degrees Celsius and 65% humidity

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
	Physical Developer PD	15 minutes in PD solution
M3LTNG	Ninhydrin	A positive and negative control with my prints was made on a white piece of copy paper. Control was dipped and two prints appeared in the positive control area. Item was then dipped and
M6RBPX	Visual Examination	
	Ninhydrin	Print visible after process
	Steam	Applied steam on 10/27/16
M7NLML	Visual Examination	Examined under white light and also 532 nm laser with orange goggles
	1,2-Indanedione	Item was sprayed with indanedione and heated under a heat press at 250 degrees F. Item was then looked at under a 532 nm laser with orange goggles
	Ninhydrin	Item was sprayed with ninhydrin. Iron was used for heat and humidity to develop latent print. Item was looked at under white light
MBWAZN	Visual Examination	
	Ninhydrin	ninhydrin & moist heat
NBT8NN	Iodine	Disposable iodine applicator used
	DFO	Surface sprayed with DFO and then heated with a steam iron; viewed using ALS UltraLite BMT @ 315nm
	Ninhydrin	Dipped in solution, dried, heated with a steam iron
NCAZLD	Visual Examination	light and magnification
	DFO	100 degrees C, 20 minutes
	Ninhydrin	80 degrees C, 70% humidity, 20 minutes
NM9WLU	Visual examination	white light and fluorescence examination 350nm-650nm
	DFO	Item dipped in the liquid, heated in oven for 20 min. at 95°C, examine with 505nm

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
	Ninhydrin	Item dipped in the liquid, heated in oven for 10 min. at 80°C, 65% Rh, examine with white light
NMTFPF	Visual Examination	Viewed at different angles to see if any fingerprint oil, etc. was visible.
	Ninhydrin	Paint method.
NTWJGY	DFO	6/11/2016 10.05 - 1035am Temp 100C.
	Ninhydrin	6/11/2016 11.00 - 11.15am Temp 75C, Humidity 65Rh.
NWWPXQ	Visual Examination	White ambient light, ALS alternate light source, no print detected.
	DFO	ALS alternate light source (green light, 500-550 nm). Good quality print detected.
	Ninhydrin	No improvement of the print detected, same quality as after DFO.
NXRBBM	Vis	Ambient light
	Ninhydrin	Humidity Chamber for 10 min, 80°F & 60% humidity
	Oil Red O	Processed in tray for 30 min
NXRBRG	Visual Examination	
	Alternate Light Source	UV, LASER, CRIMESCOPE
	DFO	
	Ninhydrin	
	Physical Developer PD	
NY48WL	Visual Examination	
	Ninhydrin	
NYYN9J	Visual Examination	The item was examined for a couple of minutes, how to process the item was determined and information about the surface was recorded.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
	Photocopied	The item was photocopied to preserve the look of the item in case the item was damaged or destroyed during examination.
	Ninhydrin	The item was gently sprayed with Ninhydrin with acetone solution to saturate the item for approximately 2 -3 minutes. Once the item was completely dried, a steam iron was used to hover over the item for approximately 5 minutes to develop any fingerprints. No prints were developed so the item reexamined the next morning for print development and the steam iron was used once more.
PGVFQB	1,2-Indanedione	Item #2 was processed for latent prints using Indanedione. I then used the DFO oven and placed item #2 in the oven for approximately 20 minutes at 200 degrees. I was able to view the latent print using an ALS, viewing the print between 450nm-515nm while wearing orange goggles.
QMFT7N	Visual Examination	white
	Alternate Light Source	350-590 nm
	1,2-Indanedione	450-590 nm
	DFO	450-590 nm
	Ninhydrin	white 450-590 nm
QP7WYV	Visual Examination	Visual examination
	Alternate Light Source	Inherent fluorescence exam using 532nm, 455nm, and 365nm wavelengths
	DFO	DFO painted onto item then put in 100C oven for 20 minutes. Examined visually and with 532nm - print found
	Ninhydrin	NIN painted on item, allowed to dry, then put in humidity chamber for 15 minutes at 76C 76%RH
R7Q82N	Ninhydrin	One minute treatment with steam iron
RR8KRQ	DFO	I used a weis gallenkamp oven, set on the DFO setting (100 degrees centigrade and deactivated humidity function) for 20 minutes, followed by examination using high intensity light source green 490-560nm
T78HFM	Ninhydrin	The item was treated with Ninhydrin solution by dipping it for a few seconds. Then, the item was air dried.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
THYAZR	Visual Examination	
	Ninhydrin	
TJ9EBU	Visual examination	
	Fluorescence examination	
	DFO	temperature: 100°C, time: 20 min
	Ninhydrin	temperature: 80°C, humidity: 62%, time: 10 min
U7FAKA	Visual Examination	
	Alternate Light Source	
	DFO	
	Ninhydrin	
	Physical Developer PD	
UPUUFY	Visual Examination	
	Alternate Light Source	
	DFO	20 min
	Ninhydrin	6 min
V4Q4ZD	Ninhydrin	Petroleum Ether carrier, dipped, Oven (80 degrees C. for 60 minutes)
	Visual Examination	After processing and on three (3) different dates
V92GFQ	Visual Examination	
	Ninhydrin	~80°C, ~65% relative humidity
VHATYE	Visual Examination	with white light

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
	Alternate Light Source	
	1,2-Indanedione	placed in 100 C oven for 10 min, viewed under 515nm light with orange filter
	Ninhydrin	placed in 80 C oven with 80% RH for ten min
VRZE28	Ninhydrin	Premixed spray followed by steam heat, repeated once
	Alternate Light Source	All available wavelengths
VY2Q2A	Visual Examination	
	Alternate Light Source	532nm, 450nm, 365nm
	DFO	20 min in dry oven
	Ninhydrin	10 min in humidity cabinet
	Physical Developer PD	
W89MK8	Visual Examination	
	Alternate Light Source	Used 365nm (UV), 532nm (Laser), 254nm (RUVIS) & 450nm (Crimescope)
	DFO	placed item in Dry Oven for 20mins, 100C temp. Visualized with use of Alternate Light Source (Laser & Crimescope)
	Ninhydrin	75% Humidity, 74C Temp, 10 minutes Processing Time
	Physical Developer PD	
WAE998	Visual Examination	
	Alternate Light Source	UV, LASER, Crimescope
	DFO	
	Alternate Light Source	LASER
	Ninhydrin	
	Physical Developer PD	

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
WJ29KB	Ninhydrin (Petroleum Ether ENIN)	Sprayed paper w/ENIN left to Hand-Dry @ 10min at room temp.
	Steam Iron	Applied Heat Source for @ 1-2 minutes.
WKD36G	Visual Examination	
	Ninhydrin	Climatcabinet set on 80 degrees and 65 RH%, 5 minutes processing time.
	Alternate Light Source	Quaser 503-587 nm with orange filters. Visible fingerprint.
	Ninhydrin	Visible fingerprint without lightsource.
WTPZAN	Ninhydrin	used heat press
WW33VJ	Ninhydrin	By adding ninhydrin without acetone for a 24 hours' dry time
WXXMK6	Visual Examination	Viewed items at different angles to see if there was anything visible.
	Ninhydrin	A positive and negative test control was dipped into the ninhydrin. After the results of the test controls were confirmed, ninhydrin was brushed onto Item 2. After Item 2 dried, it was placed in a plastic zip bag and placed in Evidence Vault 1 - Locker #33 for development. On 11-25-16, a latent print developed on quadrant "B".
XE2GR4	Powder Dusting	Magnetic black powder
	Ninhydrin	24 hour dry
	Ninhydrin	with steam heat
YK6LG3	Visual Examination	5 min
	Ninhydrin	Sprayed 2 min, let it sit overnight
	Physical Developer PD	Maleic Acid prewash, 3 part solution physical developer, rinse in water then let it dry overnight
YN4WEN	Visual Examination	
	Ninhydrin	~80°C, ~65% relative humidity

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
YNM3A8	Visual Examination	Visual Examination - no print
	Alternate Light Source	White Light, UV, 415 & 505nm - no print
	1,2-Indanedione	Sprayed 1,2-Indanedione on paper, allowed to dry. Heat press 175 degrees celsius for 10 seconds, visualised 505 nm and orange filter. Print located in quadrant B
	Ninhydrin	Sprayed ninhydrin and allowed to dry, put in humidity chamber for 10 minutes at 80 degrees celsius/65% humidity. Visualised under white light and 555nm - no development
YQCAYB	Visual Examination	
	DFO	heat
	Alternate Light Source	495, orange
	Ninhydrin	heat and humidity
Z4W964	Visual Examination	For approximately one minute, the item was visually examined before any latent print development technique was used. The Forensic Light Source Crime-lite ML was used. The white light examination feature was used, and it provided a 1.8 magnification.
	Ninhydrin	The item was placed under a Labconco Protector Laboratory Hood, and sprayed to saturation with an Arrowhead Forensics Ninhydrin Acetone Solution # A-2681, bottle 1. The item was sprayed for approximately thirty seconds, and allowed to dry for approximately twenty minutes.
	Ironing	A GE Steam Iron was used to hover over the item. This was done for approximately seven minutes
	Visual Examination	Using the same equipment as in step 1, the item was examined for approximately forty seconds.
ZC8BNJ	Visual Examination	White crimelite 2 - no ridge detail visible.
	DFO	DFO oven no. 3, 100C, 20 mins processing time, DFO batch no. 15AT569. Ridge detail enhanced - photograph.
	Ninhydrin	NIN oven no. 1, 80C, 62% RH, 4 mins processing time. NIN batch no. 109782. Ridge detail enhanced - photograph.
	Physical Developer PD	This treatment would have been completed if the case was serious/[protocol] as per lab policy.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
ZEB76Z	Visual Examination	with magnifying light
	1,2-Indanedione	rinsed item with chemical, allowed to dry, place in oven at 200 degrees Fahrenheit for 10 minutes
ZLXYGZ	Visual Examination	
	1,2-Indanedione	Applied IND to the entire surface and let it dry for appx. 7 minutes. I then placed it in an oven at 200 degrees F for appx. 20 minutes
ZN6C39	Visual Examination	No latent prints visible.
	DFO	Treated with DFO, allowed to dry, heated at 100 C for 20 minutes
	Alternate Light Source	Examined at 495nm with orange filter & 555nm with red filter. Latent print photographed.
	Ninhydrin	Treated with ninhydrin, allowed to develop for over 24 hours, latent print re-photographed.
ZTUTEY	Visual exam	
	Indanedione	no additional humidity, oven at 100°C
	Laser	green laser w/orange filter

Response Summary

Participants: 107

Methods Utilized

Alternate Light Source	35	Physical Developer	16
Cyanoacrylate Fuming	0	Powder Dusting	1
DFO	42	Visual Examination	86
Dye Stain	0	1,2-Indanedione	23
Ninhydrin	98		

****Note:** Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
27EQX9	Visual Examination	
	Cyanoacrylate Fuming	temp 120, processing time 8 minutes
	Dye Stain	rhodamine 6G
	Alternate Light Source	495 nm, orange filter
	Powder Dusting	magnetic black powder
2DYNNG	Visual Examination	white light, visible fingermark
	Cyanoacrylate Fuming	10 minutes, visible fingermark
	Dye Stain	Basic yellow 40, visible fingermark
3LQQ6H	Visual Examination	
	Cyanoacrylate Fuming	
	Powder Dusting	
3V98V4	Visual Examination	Naked eye
	Alternate Light Source	RUVIS
	Cyanoacrylate Fuming	Lumicyano
437C6Y	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	Dye Stain	
44KLDZ	Visual Examination	Mark down general appearance / size
	Alternate Light Source	BMT and UV (Neg)
	Cyanoacrylate Fuming	Out of Stock - wait for shipment (did not arrive in time)
	Dye Stain	Did not proceed to do without cyanoacrylate fuming first

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Alternate Light Source	Did not proceed to do without dye stain
	Powder Dusting	Black powder and fiberglass brush
4JBNU4	Visual Examination	
	Cyanoacrylate Fuming	10 min, 80% humidity
	Dye Stain	
62A28B	Visual Examination	White light
	Powder Dusting	Dusting 5 min
67HLQ2	Visual Examination	White, RUVIS
6CCGTA	Visual Examination	White light.
	Cyanoacrylate Fuming	Processing time 10 minutes, cabinet set on 80 RH%, glueplate set on 120 degrees. 2 grams of glue used.
	Dye Stain	Basic Yellow 40
	Alternate Light Source	445 nm, yellow filters.
6HDX4F	Powder Dusting	10 minutes
6J7N9U	Visual Examination	ambient/conventional white light (reflective surface)
	Cyanoacrylate Fuming	Misonix-CA6000; 7:00 min fuming cycle
	Dye Stain	Basic Yellow 40; methanol based solution; viewed with ALS
6VN778	Visual Examination	No latent print visible.
	Cyanoacrylate Fuming	Latent print visible, needs further enhancement.
	Dye Stain	Rhodamine 6G. Latent print visible, needs further enhancement.
	Alternate Light Source	Latent print of possible value developed and photographed (quadrant C).

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
6ZG6K3	Visual Examination (white light)	
	Superglue	Temperature: 120°C, humidity: 77.9, processing time: 7 minutes
	Basic Yellow 40	
78DL8D	Cyanoacrylate Fuming	15 min fume at 80% R. H.
7DH7TW	Visual Examination	Ambient light
	Cyanoacrylate Fuming	Room temp and 80% humidity ~9min
	Dye Stain	Used R6G - applied, rinsed with water, dried
7WRH3Y	Visual Examination	oblique lighting
	Cyanoacrylate Fuming	under vacuum chamber temp 37oC vapor release temp 82oC, fume 45 min, cure 30 min
	Dye Stain	Rhodamine 6G: saturated bag, viewed with laser 532nm with orange filter
84VMRX	Photography	Photographed visible latent prior to any chemical or powder processing
	Cyanoacrylate Fuming	Humidity Cycle for 15 min to reach 80% RH; Glue Cycle for 10 min @ 120 deg C, Purge Cycle for 20 min
	Dye Stain	MBD dye stain applied with squirt bottle, allow to dry, visualize with ALS (blue light 430-470 nm and yellow filter GG 495, 476 nm)
	Powder Dusting	Standard Black Powder applied with standard powder brush and black magnetic powder applied with magnetic brush until ridge detail developed
86LQL6	Visual Examination	
	Cyanoacrylate Fuming	20 minutes after humidity level was ready
	Dye Stain	rhodamine water-based
	Visual Examination	ALS
86NFMG	Visual Examination	

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Alternate Light Source	365nm, 450nm, and 532nm
	Cyanoacrylate Fuming	2gm cyanoacrylate
	Visual Examination	
	Alternate Light Source	254nm
	Dye Stain	R6G, Ardrex, and MBD
	Alternate Light Source	365nm, 450nm, and 532nm
8X7826	Visual Examination	with magnifier
	Alternate Light Source	ALS and LASER
93TEY4	Visual	
	Cyanoacrylate	Safefume 48S CA chamber for 12 minutes at 80% humidity
	MBD & ALS	MBD was applied using a squirt bottle and viewed with the UltraLite ALS
987Z8B	First Visual	Using the Polilight Flare +2 light source on the white light wavelenth.
	Fluorescence powder	Using fluorescence powder and checked by using the orange goggles with a 450 nm light.
	CyanoBloom	Using the MVC 3000 fuming cabinet with the following: Glue time = 25 min, Glue temp = 120°C, at 80% humidity
	Basic Yellow	Stained print by dipping the target area for approx. 2-3 minutes & rinse with slow running water. Airdry and view with orange goggles & blue light.
9NAV3U	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	fuming time 7 min 25 sec
	Dye Stain	
9X28GV	Cyanoacrylate Fuming	80% humidity 10 minute glue time

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Dye Stain	MBD Dye Stain
	Powder Dusting	Black Magnetic Powder
A8K3V2	Visual	
	Cyanoacrylate Fuming	73°F/ 53% RH, 10 minutes fuming time
	Rhodamine 6G (R6G) Dye Stain	Water based dye stain, laser at 532nm, orange filter
A9XD89	Visual Examination	oblique light (i blänk)
	Cyanoacrylate Fuming	15 min development time
	Dye Stain	Basic Yellow 40
AB33C3	Ambient light	
	Alternate Light Source	viewed with green and blue channels
	Cyanoacrylate Fuming	fuming chamber, 11 minutes
	Powder Dusting	black magnetic power
AD7ZJP	Visual Examination	Impression observed
	Cyanoacrylate Fuming	
	Dye Stain	rhodamine 6G
	Laser	
ATJ8YU	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	RAM	
AUXT9W	Visual	112916 @ 1130, int area "C", photo 001-2

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	CA	112916 @ 1152, same mark, photo 001-2-1 with RUVIS
	MBD	112916 @ 1345, same mark, photo 001-2-2 with FLS
B38GLV	Visual Examination	under white light
	Cyanoacrylate Fuming	under vacuum, fume ~45m, cure ~60m
	Dye Stain	Rhodamine 6G in methanol: sprayed, air dried, viewed with orange goggles under 532nm laser
	Powder Dusting	Bichromatic powder: brushed on, viewed under white light
B4CAD9	Visual Examination	Examined the evidence in the presence of white Light
	Alternate Light Source	Examined the evidence in the presence of two light sources 445nm and 532nm
	Cyanoacrylate Fuming	Following condition used for Fuming: Humidifying for 15min and attained 80% Humidity then Glue time was 15 min under Temperature of 120degC
	Visual Examination	Examined the evidence in the presence of white Light
	Dye Stain	Evidence was dyed with Rhodamine 6G
	Powder Dusting	Yellow Fluorescent Powder used to powder the evidence
BD4Q6X	Visual Examination	Visual with magnifier using ALS & Laser
	Cyanoacrylate Fuming	Visual with magnifier using ALS
BN9F89	First visual examination	Poliflare light source with various wave length range are being utilised for searching of prints.
	Polycyano UV	Performed in MVC 3000 chamber at 230°C for 25 min.
C32P6X	Visual Examination	
	Cyanoacrylate Fuming	10 min fuming time
	Dye Stain	Basic Yellow
CBBUF4	Visual Examination	

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Cyanoacrylate Fuming	~120°C, ~75% relative humidity, timed auto
	Dye Stain	R.A.M. (475nm, Orange filter)
DAFTRQ	Visual Examination	Laser 532 nm 577nm; crimescope
	Lumicyano	Lumicyano CST, 120°C , 30 min fumigation
	Dye Stain	BY40 in methanol,sprayed
DBALMA	Cyanoacrylate Fuming	CyanoSafe chamber (atmospheric); humidifier active; 14 drops cyanoacrylate @ 25 minutes latent in Q-C
	Dye Stain	Rhodamine 6G reagent (R6G). Dye stained - spray method - rinsed with cold water & dried
DHTM8T	Visual Examination	white light, UV - 555nm - Polilight PL500, suitable goggles
	Cyanoacrylate Fuming	processing time - 15 minutes, humidity - 80%
	Visual Examination	white light
	Dye Stain	Basic Yellow 40
	Visual Examination	UV-495 nm, yellow coloured google
E2EZW3	Cyanoacrylate Fuming	WET- 80%, TEMP.+30C , TIME 10.00 - 10.50
	Visual Examination	
	Powder Dusting	
EFJY3N	Visual Examination	White Light - Transmitted
	Cyanoacrylate Fuming	Labconco CApture BT Chamber, 1.5g Cyanoacrylate, 80% humidity, 10 min fume time, CA heat 250 degrees F
	Dye Stain	R6G methanol solution
	Alternate Light Source	Cohernt Tracer Laser 532nm
EJAZ9	Visual Examination	Found LP prior to additional processing.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Cyanoacrylate Fuming	Air Science Safefume Chamber 2 at 72 degrees F, 80% humidity, 20 minutes, Arrowhead Forensics CA
	Visual Examination	No additional LP's found.
	Dye Stain	Rhodamine 6G 1:200,000 ratio in water due to previously being marked with permanent marker (Sharpie?) otherwise would have used methanol base
	Alternate Light Source	BrightBeam, 532nm, Orange Barrier, no additional LP's found.
ET6E7M	Visual Examination	10 min
	Ruvis	15 min
	Cyanoacrylate Fuming	15 min
	Dye Stain	20 min R6G
	Alternate Light Source	15 min
FANPA2	Cyanoacrylate Fuming	8 min, 80 % humidity
FCHB3R	Visual Examination	A visual examination was done with CrimeLiteML with white light and 1.8x magnification. Approximately 2 minutes.
	Cyanoacrylate Fuming	Fuming was done in a Foster + Freeman MVC3000 chamber set to 120 degrees Celcius and 80% RH. Approximately 45 minutes.
	Powder Dusting	Magnetic powder dusting. Item was dusted with magnetic powder at room temperature. Approximately 5 minutes.
G7M3XN	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	Dye Stain	RAM
GAHWQJ	Visual Examination	10/21/2016; viewed under normal lighting - sent to photo
	Cyanoacrylate Fuming	10/21/2016; AirScience SafeFume Chamber: 80% humidity; Temperature: 22 degrees Celcius/72 degrees Fahrenheit; 30 minute glue time, 30 minute purge cycle - sent to photo

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Dye Stain	11/15/2016; Ardrox; Applied by wash bottle, rinsed with tap water; viewed under UV light - sent to photo
	Powder Dusting	11/18/2016; Black magnetic powder - sent to photo
GBHWT6	Visual Examination	
	Alternate Light Source	365nm (long wave UV), 455nm, 532nm (LASER)
	Cyanoacrylate Fuming	70% relative humidity, fuming time 1:30, 10:00 purge
	Alternate Light Source	RUVIS (254nm - short wave UV)
	Dye Stain	RAM (Rhodamine 6G, Ardrox, MBD)
	Alternate Light Source	365nm (long wave UV), 455nm, 532nm (LASER)
GHC6AP	Cyanoacrylate Fuming	Relative humidity: 80%
	Dye Stain	Basic Yellow 40
HLTNW6	Cyanoacrylate Fuming	1/11/2016. 12pm. Lab temp = 21.5. MVC3000, RH=79
	Dye Stain	BY40. 2/11/2016. 10.25 - 11.30am
	Crystal Violet	3/11/2016 8.15-9.15am
	Sudan Black	3/11/2016 9.45-10.50am
	Powder Dusting	Black Powder, 3/11/2016 12.15-1.25pm
HPWHRN	Visual Examination	under normal lighting conditions
	Cyanoacrylate Fuming	vacuum fumed for 60min, cured 30min
	Dye Stain	Rhodamine 6G: saturated bag, air dried, viewed under laser 532nm with orange filter
	Powder Dusting	black powder: dusted bag, viewed under normal lighting conditions
HQAUUY	Cyanoacrylate Fuming	75 % humidity, 8 min
	Dye Stain	Basic Yellow 40

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
HV2YLH	Visual Examination	
	Cyanoacrylate Fuming	
	MRM10	
	Basic Yellow	
	Water Rinse	
J26KQQ	Cyanoacrylate Fuming	80% humidity, 7 minute fume cycle
	Dye Stain	Rhodamine 6G
	Alternate Light Source	495nm with orange goggles
JKFCTT	Visual Examination	Available light/flashlight, Tracer Laser (532 nm), Crimescope ALS (350-515 nm)
	Cyanoacrylate Fuming	Enclosed chamber with heat source and humidity (5 minutes)
	Dye Stain	Rhodamine 6G (sprayed on item) and visual exam with Tracer Laser (532 nm)
	Powder Dusting	Black magnetic powder
JM6JDP	Visual Examination	White light applied to visualize latent prints.
	Cyanoacrylate Fuming	Fumed in Misonix CA-6000, approximately 3 grams cyanoacrylate at 80% humidity for 13 minutes.
	Dye Stain	R6G in methanol carrier, applied with wash bottle
JNET42	Visual Examination	
	Alternate Light Source	UV-365nm, 455nm, LAS-532nm
	Cyanoacrylate Fuming	2 grams
	Visual Examination	
	Alternate Light Source	RUVIS-254nm
	Dye Stain	R6G, Ardrox, MBD

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Alternate Light Source	UV-365nm, 455nm, LAS-532nm
K2WXQN	Visual Examination	White low angle light. Print visible in quadrant "C". Photo obtained.
	Alternate Light Source	Low angle 555 nm light. Print visible in quadrant "C". Photo obtained.
	Cyanoacrylate Fuming	30 minutes at 80% humidity. Print visible in quadrant "C". Photo obtained.
	Dye Stain	MBD dye stain. Print visible in quadrant "C" under 455 nm als with orange barrier filter. Photo obtained.
KPM6JH	Visual Examination	
	Cyanoacrylate Fuming	30 drops of glue; 12 minutes of fuming
	Dye Stain	Basic Yellow 40
M3LTNG	Powder Dusting	Virgin black fingerprint powder was used with a new brush
M6RBPX	Visual Examination	
	Cyanoacrylate Fuming	10 minutes
	Powder Dusting	Disposable brush with magnetic and black powders applied
M7NLML	Visual Examination	Item was analyzed under white light and 532 nm laser using orange goggles
	Cyanoacrylate Fuming	Item was fumed in a CA-6000 superglue chamber at 80% humidity. Item was analyzed under white light
	Dye Stain	Item was sprayed with Rhodamine 6G. After drying item was analyzed under a 532nm laser with orange goggles
MBWAZN	Visual Examination	
	Cyanoacrylate Fuming	
	Alternate Light Source	MBD
NBT8NN	Visual Inspection	

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	CA - Cyanoacrylate	35 drops of CA in chamber for 12 minutes with 80% humidity
	MBD Dye Stain	Surface rinsed with dye stain and viewed using UltraLite BMT ALS
NCAZLD	Visual Examination	light and magnification
	Cyanoacrylate Fuming	80% humidity, 15 minutes
	Dye Stain	Ardrox
	Powder Dusting	
NM9WLU	Visual examination	white light and fluorescence examination 350nm-650nm
	Cyanoacrylate	processing in fuming cabinet for 15 min., heat superglue to about 120°C and humidity 75% Rh, exam with white light
	Basic Yellow 40	sprayed item, washed it by water, dried and exam with 450nm
NMTFPF	Visual Examination	Oblique lighting.
	Powder Dusting	Magnetic powder.
NTWJGY	Cyanoacrylate Fuming	6/11/2016 8.00 - 9.40am RH=79 MVC3000
	Dye Stain	BY40 6/11/2016 10am
	Crystal Violet	6/11/2016 11.30am
	Sudan Black	6/11/2016 11.50am
	Powder Dusting	Black Powder 6/11/2016 1pm
NWWPXQ	Visual Examination	White ambient light, ALS alternate light source (blue light, 430-470 nm), good quality print detected in both white ambient light and the ALS light.
	Cyanoacrylate Fuming	Improvement of the print detected especially in the lower area.
	Dye Stain	Basic yellow 40 made the print brighter.
NXRBBM	Vis	Ambient light

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Superglue Fuming	RH 72%, hot plate, 10 min in Air Science chamber
NXRBRG	Visual Examination	
	Alternate Light Source	UV, LASER, CRIMESCOPE
	Cyanoacrylate Fuming	RUVIS
	Dye Stain	RAM
NY48WL	Visual Examination	
	Cyanoacrylate Fuming	
NYYN9J	Visual Examination	The item was examined for a couple of minutes, how to process the item was determined and information about the surface was recorded.
	Cyanoacrylate Fuming	The item was placed inside cyanoacrylate chamber with cyanoacrylate ester in a disposable tray for approximately 45 minutes.
	Powder Dusting	The item was dusted with black magnetic powder for approximately 5 minutes for the finger print to develop.
PGVFQB	Cyanoacrylate Fuming	Item #3 was placed in the superglue chamber for approximately 10 minutes.
	Powder Dusting	Black powder was gently applied using a latent print brush.
QMFT7N	Visual Examination	white
	Alternate Light Source	350-590 nm
	Cyanoacrylate Fuming	80 % humidity
	Ardrox	350-450 nm
	Basic Yellow 40	350-450 nm
QP7WYV	Visual Examination	Visual examination - print found
	Alternate Light Source	Inherent fluorescence exam using 532nm, 455nm, 365nm and 254nm wavelengths

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Cyanoacrylate Fuming	item fumed for 1.5 minutes using 2g superglue heated on 300C hotplate at 70% humidity. Item then examined visually and with 254nm
	Dye Stain	RAM applied to item then examined using 365nm, 455nm, and 532nm wavelengths
R7Q82N	Cyanoacrylate Fuming	80 % humidity, 8 min
RR8KRQ	Cyanoacrylate Fuming	USING A MASON VACTRON MVC5000 CABINET ON AUTO CYCLE
T78HFM	Cyanoacrylate Fuming	The sample was placed in the Cyanocrylate Chamber for few minutes.
THYAZR	Visual Examination	
	Cyanoacrylate Fuming	6 mins
	Powder Dusting	Magnetic
TJ9EBU	Visual examination	
	Fluorescence examination	
	Superglue fuming	temperature heating plate: 100°C, humidity: 80%
	Basic Yellow 40	
U7FAKA	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	Dye Stain	RAM
UPUUFR	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	6 min

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Dye Stain	BY40
V4Q4ZD	Visual Examination	side lighting
	Cyanoacrylate Fuming	Safefume chamber (20 minutes at ~ 80 % humidity, at ~76.5 degrees F.)
	Powder Dusting	Silk Black Powder
V92GFQ	Visual Examination	
	Cyanoacrylate Fuming	~120°C, ~75% relative humidity, timed auto
	Dye Stain	Ardrox
VHATYE	Visual Examination	with white light
	Alternate Light Source	
	Cyanoacrylate Fuming	15 min with 80% RH
	Dye Stain	Rhodamine 6G, viewed under 515 nm light with orange filter
	Powder Dusting	Magnetic and Black
VRZE28	Cyanoacrylate Fuming	9 minutes fuming, 45 mins venting
VY2Q2A	Visual Examination	
	Alternate Light Source	532nm, 450nm, 365nm
	Cyanoacrylate Fuming	visual and RUVIS exams after
	Dye Stain	RAM; 532nm, 450nm, 365nm
W89MK8	Visual Examination	
	Alternate Light Source	Used 365nm (UV), 532nm (Laser), 254nm (RUVIS) & 450nm (Crimescope)
	Cyanoacrylate Fuming	Used 254nm (RUVIS)
	Dye Stain	RAM dye stain. Used 532nm (Laser), 365nm (UV), & 450nm (crimescope)

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Powder Dusting	Black Fingerprint Powder
WAE998	Visual Examination	
	Alternate Light Source	LASER, UV, Crimescope
	Cyanoacrylate Fuming	
	Alternate Light Source	RUVIS
	Dye Stain	RAM
	Alternate Light Source	LASER, UV, Crimescope
WJ29KB	Cyanoacrylate Chamber	@ 22 minutes in chamber @ 74°F w/80% humidity
	R6G (Rhodamine 6G)	R6G was applied to area w/ visible ridge detail - let dry @ 10 min
	Methenol Rinse	Rinse R6G from evidence let dry @ 10 min
	ALL-570 (Alternative Light Source)	Viewed under ALS @ 570 /w orange goggles
WKD36G	Visual Examination	
	Cyanoacrylate Fuming	Processing time 4 min and 30 sec.
	Dye Stain	Basic Yellow 40
	Alternate Light Source	Quaser, 400-469 nm, yellow filters.
WTPZAN	Cyanoacrylate Fuming	8 min
	Powder Dusting	
WW33VJ	Cyanoacrylate Fuming	Cyanoacrylate fuming hood for 60 minutes.
	Powder Dusting	Application of black ferric oxide for its visualization
WXXMK6	Visual Examination	Using oblique lighting and examining Item 3 in different angles, a possible print was visible in quadrant C.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Powder Dusting	Magnetic powder was used to process the interior of Item 3. A latent print developed in quadrant C.
XE2GR4	Cyanoacrylate Fuming	Misonix fume hood 80% humidity ~ 1 hour total
YK6LG3	Visual Examination	5 MIN
	Cyanoacrylate Fuming	Air Science chamber 30 min processing 80% humidity 69 degree F temp
	Dye Stain	30ml Methanol 1000ml Ardrex in wash bottle, rinse item let it air dry
	Powder Dusting	regular black powder
YN4WEN	Visual Examination	ALS (415nm, yellow filter)
	Cyanoacrylate Fuming	~120°C, ~75% relative humidity, timed auto
	Dye Stain	R.A.M.
YNM3A8	Visual Examination	Looked over exhibit
	Alternate Light Source	Used white light, UV, 415nm and 505nm
	Cyanoacrylate Fuming	CF exhibit, visual examination and white light with black backing paper. Print in quadrant C.
	Rhodamine 6G	Apply Rhodamine 6G stain by spraying. Visualise with 505nm and orange filter - further development of print observed
YQCAYB	Visual Examination	
	Cyanoacrylate Fuming	
	Dye Stain	RAM
	Alternate Light Source	495, orange
	Powder Dusting	black magnetic powder

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
Z4W964	Visual Examination	For approximately one minute, the item was visually examined before any latent print development technique was used. The Forensic Light Source Crime-lite ML was used. The white light examination feature was used, and it provided a 1.8 magnification.
	Cyanoacrylate Fuming	For approximately forty minutes, the item was in the Foster & Freeman MVC 3000 Superglue Fingerprint Fuming Cabinet (calibration data for the cabinet indicates a temperature of 120 degrees and RH% of 80%. Arrowhead Forensics Cyanoacrylate bottle 1. lot # A2616 and BP2819-4 water - Molecular Biology grade, lot # 152767 were used.
	Visual Examination	The item was again visually examined (about thirty seconds), using the same equipment as step 1.
	Powder Dusting	The item was gently dusted using a Sirchie Fiberglass Fingerprint Powder, catalog # 1-0015. The Protector Downdraft Powder Station was used for dusting.
	Visual Examination	The item was again visually examined before any attempt to lift any latent prints (approximately one minute).
ZC8BNJ	Visual Examination	White crimelite 2 - ridge detail visible - photograph.
	Cyanoacrylate Fuming	MVC 5000 cabinet no. 4, 120C, 81.7% RH. Autocycle - approx 15 mins humidity, 20 mins glue and 40 mins purge - ridge detail enhanced - not photographed at this stage.
	Dye Stain	Basic Yellow 40 dye stain dissolved in ethanol. Fluoresced using blue high intensity light source 420-470nm - ridge detail enhanced - photograph.
	Basic Violet 3	This treatment would have been completed if the case was serious/[Protocol] as per lab policy.
ZEB76Z	Visual Examination	with magnifying light
	Cyanoacrylate Fuming	approximately 10 minutes with heat plate and added humidity
	Powder Dusting	regular black powder with brush
ZLXYGZ	Visual Examination	I photographed the print with oblique lighting
	Cyanoacrylate Fuming	Appx. 10 minutes in the CAE chamber with added humidity
	Powder Dusting	Black Magnetic Powder
ZN6C39	Visual Examination	Latent print visible and photographed.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
	Cyanoacrylate Fuming	Atmospheric pressure, ambient temperature at 80% relative humidity for 4 minutes.
	Dye Stain	Treated with rhodamine 6G
	Alternate Light Source	Examined at 495 nm with orange filter, latent print re-photographed.
	Powder Dusting	Magnetic black powder used, latent print re-photographed.
ZTUTEY	Visual Exam	
	Superglue fuming	72% relative humidity for 12 minutes

Response Summary

Participants: 107

Methods Utilized

Alternate Light Source	44	Physical Developer	0	**Note: Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.
Cyanoacrylate Fuming	100	Powder Dusting	37	
DFO	0	Visual Examination	94	
Dye Stain	61	1,2-Indanedione	0	
Ninhydrin	0			

Preservation Methods

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
27EQX9	Photography	f20 - f22/ 60mm
2DYNNG	Lifting	Mikrosil
	Lifting	carbon powder
3LQQ6H	Lifting	
3V98V4	Photography	
437C6Y	None	
44KLDZ	Lifting	Black powder lift with latent tape onto a latent card
4JBNU4	Photography	Using RUVIS, and laser with orange filter
62A28B	Lifting	Hinged lifters
67HLQ2	Photography	Ruvis
6CCGTA	Photography	Between methods used.
6HDX4F	Lifting	Frosted Tape
6J7N9U	Photography	Foster+Freeman DCS4 System
6VN778	Photography	Nikon D3X Macro
6ZG6K3	Photography	
7DH7TW	Photography	Foster & Freeman DCS-4 with Nikon D700 camera using white paddle light for both visual and cyanoacrylate photos
7WRH3Y	Photography	Digital camera after processing
	Lifting	after dusting

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
84VMRX	Photography	Visible latent photographed prior to chemical or powder processing. Photographed again after cyanoacrylate fuming. Visible and cyanoacrylate prints photographed with white light and polarizer filter with scale - Printed 1:1. Dye stain did not enhance enough for photography.
	Lifting	Tape lifted after magnetic powder processing with 2" clear tape, placed on white card
86NFMG	None	
8X7826	Photography	Axial lighting
93TEY4	Lift	Lifting tape placed on a black background card
987Z8B	Keep exhibits dry	Package separately
	Photographing	Photograph with scale sticker.
	Keep exhibits seperately	Safe keep exhibits with the fingerprint areas away from possible friction.
9NAV3U	Photography	
9X28GV	Lifting	Tape lift - Standard Black Powder
	Lifting	Duplicate Tape Lift - Black Magnetic Powder
A8K3V2	Photography	Photographed after visual (fiber optic light), cyanoacrylate (fiber optic light), black magnetic powder (fiber optic light)
A9XD89	Photography	
AB33C3	Photography	I used axial light after ambient light and CA. I used direct light after BMP
AD7ZJP	Photography	
ATJ8YU	None	
AUXT9W	Digital Photo	001-1 and 001-1-1
B38GLV	Photography	after Cyanoacrylate fuming, ninhydrine, powder and lifting
	Lifting	after powdering

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
B4CAD9	Photography	Photographed the mark using ALS 445nm using camera filter 445nm and 495nm.
BD4Q6X	Photography	With side lighting
BN9F89	Photographing of the latent print	PL 500 (Poliview light source) and Nikon D700 camera are utilised for capturing the fingerprint image
C32P6X	Photography	
CBBUF4	Photography	
DAFTRQ	Photography	Nikon 105mm on Nikon D300 ; filter TIFFEN 15 and TIFFEN 21
DBALMA	Photography	Item 1 (scaled photo) - poly tape covered area after. Open lighting w/ 60mm MACRO lens (1/3200 sec @ f5)
DHTM8T	Photography	
E2EZW3	Scanning	
EFJY3N	Photography	Nikon D200, Coaxial lighting for unprocessed and post cyanoacrylate, Oblique and diffuse lighting post magnetic powder
EJJAZ9	Photography	Nikon D7000 with macro lens, stored on backed up servers, photographed LP after initial visual exam and after powder.
ET6E7M	Photography	35 min
	Lifting	10 min
FCHB3R	Lifting	Print was lifted with lift tape and placed on a lift card.
	Packaging	Lift card was placed in an envelope and sealed. Item was placed in an envelope and sealed.
G7M3XN	none	none
GAHWQJ	Scanning	CanoScan LiDE 70, Adobe Photoshop CS6; Mitsubishi Printer
	Photography	Nikon D5200 camera, Adobe Photoshop CS6, Mitsubishi Printer

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
GBHWT6	None	
GHC6AP	Photography	
HLTNW6	Lifting	Black powder lift was preserved
	Photography	Photographs taken in every step of the process
HPWHRN	Photography	photograph of print was taken after dusting with bichromatic powder
	Photography	photograph of print taken after dusting with black powder
HQAUUY	Photography	
HV2YLH	Lifting	
	Photography	
J26KQQ	Photography	1:1 digital photo
	Lifting	Tape lift
JKFCTT	Photography	Using ring lighting, green filter, blue filter
JM6JDP	Photography	Nikon D700 used to capture latent print in TIFF format. Saved in digital archive system
JNET42	None	
K2WXQN	Photography	Filled frame with ruler in photo to set scale. Photos were obtained after each process in which the print was visible.
	Lifting	Lift was obtained after powder dusting.
KPM6JH	Photography	Nikon D700 camera and Schott paddle-light attachment
M3LTNG	Lifting	Latent print lifted with standard lifting tape and placed on a Latent Print Card labeled as sub exhibit 165191(SD1274)1A
M6RBPX	Lifting	Lifted using clear tape and transferred to fingerprint card
M7NLML	Photography	Nikon D700

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
MBWAZN	Photography	
NBT8NN	Photography	
NCAZLD	Lifting	Tape lift after magnetic powder
NM9WLU	Photography	Nikon D80, lens Nikon AF MicroNikkor 60mm
NMTFPF	Lifting	Lifting with tape and fixing on latent card.
NTWJGY	Photography Lifting	
NWWPXQ	Photography	After each method except DFO.
NXRBBM	Digital Image	Photographed impression in Quadrant D following Vis exam, Superglue & pdr
NXRBRG	none	
NY48WL	Photography	
NYYN9J	Lifting	Lift tape was gently placed over the fingerprint and removed lifting the fingerprint. The tape was placed on a white lift card. The lift card was filled out with information regarding where the lift was lifted.
PGVFQB	Photography Lifting	The developed latent print was photographed using the digital capturing system (DCS). I used latent lifting tape to preserve the latent print, and apply it to the lift card.
QMFT7N	Photography	CANON EOS 400D
QP7WYV	None	
T78HFM	Lifting	Lift Card
THYAZR	Lifting	

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
TJ9EBU	Photography Black latent print lifting	
U7FAKA	none	
UPUUFR	Photography Photography Lifting	visual cna + powder mikrosil, then photo
V4Q4ZD	Photography	After fuming and dusting (Adobe Photoshop)
V92GFQ	Photography	
VHATYE	Photography Lifting	with white light with white Mikrosil
VRZE28	Photography	digital photography
VY2Q2A	none	
W89MK8	Other	None
WAE998	None	
WJ29KB	Photographed Tape	As is into files in the Foray and Justice Trax Systems Placed clear tape over Ridge Detail to preserve
WKD36G	Photography Lifting	Between methods used. White microsil (liftingpaste) after powder-dusting.
WTPZAN	Lifting Photography	
WW33VJ	Photography Lifting	Taking a picture of the latent revealed Lifting the latent with tape and put it on a contrast card

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
WXXMK6	Lifting	Standard lifting tape was used to lift the latent print from quadrant D and placed on a latent card.
XE2GR4	Photography	Digital Camera
YK6LG3	Photography	digital camera (Nikon D5200) tethered to computer, Adobe photoshop CS6
YN4WEN	Photography	
YNM3A8	Photography	Photographed at every stage of development in case print rubs off
YQCAYB	Photography	
Z4W964	Lifting	Using lifting tape and a lift card, a latent print was lifted/recovered from Quadrant D of this item.
ZC8BNJ	Photography	Nikon D700 camera kit, DCS4 image capture software used
	Lifting	Scene Safe BVDA gellifters black
ZEB76Z	Lifting	with clear tape, attached to lift card
ZLXYGZ	Lifting	I lifted the visible print with adhesive tape and applied it to a lift card
ZN6C39	Photography	Nikon D810 with 60 mm micro lens
ZTUTEY	Digital photography	

Response Summary

Participants: 102

Methods Utilized

Lifting	39
Photography	72
Scanning	2

****Note:** Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
27EQX9	Photography	f20, 60mm
2DYNNG	Photography	
3LQQ6H	Scanning	
3V98V4	Photography	
437C6Y	None	
44KLDZ	Scanning	Placed on Epson V700 with ruler and scanned in at 1000dpi.
62A28B	Photography	
6CCGTA	Photography	Between methods used.
6J7N9U	Photography	Foster+Freeman DCS4 system
6VN778	Scanning	Scanned in at 1000 dpi/.tiff image
6ZG6K3	Photography	515Nm, orange filter
7DH7TW	Photography	Foster & Freeman DCS-4 with Nikon D700 camera used green light with orange filter
7WRH3Y	Photography	after each processing
84VMRX	Photography	Photographed with white light and green filter with scale; printed 1:1
86NFMG	None	
8X7826	Photography	LASER illumination
93TEY4	Photographed	
987Z8B	Photographing	Photograph fingerprint with scale sticker to be able to show originality for court purposes or further investigation.
	Safekeeping	Keep out of extreme heat or sunlight - keep it in a dark place.

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
9NAV3U	Photography	
9X28GV	Photography	DCS4 System - Green Filter - With Scale - Printed Natural Size
A8K3V2	Photography	After Indanedione/ ZnCl (532nm laser & orange filter)
A9XD89	Photography	
AB33C3	Photography Scanning	Used orange filter on camera lens
AD7ZJP	Scanning	
ATJ8YU	None	
AUXT9W	Digital Scan	001-3 @ 1000ppi
B38GLV	Photography	after indanedione and ninhydrin
B4CAD9	Photography	Photographed the mark after 1,2-Indanedione using ALS 532nm using orange camera filter 529nm
BD4Q6X	Photography	using Laser
C32P6X	Photography	
CBBUF4	Photography	
DAFTRQ	Photography	Nikon 105mm on Nikon D300 ; filter TIFFEN 15 and TIFFEN 21
DBALMA	Photography Photography	(DFO) ALS @ 495nm with orange filter on 60mm MACRO lens and scaled (1/15 sec @ f5) (Ninhydrin) open lighting - 60mm Macro lens & scaled (1/8000 sec @f5)
DHTM8T	Photography	
E2EZW3	Scanning	

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
	Photography	
EFJY3N	Photography	Nikon D200, Direct Lighting
EJJAZ9	Photography	Nikon D7000 with macro lens, stored on backed up servers, photographed LP after Indanedione and after Ninhydrin.
ET6E7M	Photography	15 min
FCHB3R	Packaging	Item was placed in envelope and sealed
G7M3XN	none	none
GBHWT6	None	
GHC6AP	Photography	
HLTNW6	Photography	
HPWHRN	Photography	photographs of prints taken after each processing method
HQAUUY	Photography	
HV2YLH	No ridge detail developed	
J26KQQ	Photography	1:1 digital photo
JKFCTT	Photography	Using available lighting and Tracer Laser
JM6JDP	Photography	D700 camera used to capture latent print as TIFF and saved to digital archive system.
JNET42	None	
K2WXQN	Photography	Filled frame with ruler in photo to set scale. Photos were obtained after each process in which the print was visible.
KPM6JH	Photography	Nikon D700 camera with Crime-lite 4x4 (Blue/Green light with orange filter)

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
M3LTNG	Scanning	Item was scanned onto an SD card and submitted via [Laboratory] form to the photo lab for printing. Photos received from the photo lab and labeled and sealed and submitted to the [Laboratory] records and ID Division on 11-30-16 at 0900 hours.
M6RBPX	Scanning	
M7NLML	Photography	Nikon D700
MBWAZN	Photography	
NCAZLD	Photography	With D2Xs after DFO, with ALS and orange filter
NM9WLU	Photography	Nikon D80, lens Nikon AF MicroNikkor 60mm. After DFO method was use orange filter and light 505nm
NMTFPF	Scanning	Epson Perfection V700 photo scanner.
NTWJGY	Photography	
NWWPXQ	Photography	After DFO and ninhydrin.
NXRMBM	Digital Image	Photographed impression in Quadrant B following Ninhydrin process
NXRBRG	none	
NY48WL	Photography	
NYYN9J	Photography	Photography would be used to preserve this type of fingerprint; however, no fingerprints were developed.
PGVFQB	Photography	I used the DCS to photograph the latent print. I used the ALS to view the latent print at 450nm-515nm and an orange filter. I was able to photograph the latent print.
QMFT7N	Photography	CANON EOS 400D
QP7WYV	None	
T78HFM	Photography	

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
THYAZR	Scanning	
TJ9EBU	Photography	
U7FAKA	none	
UPUUFR	Photography	ninhydrin
V4Q4ZD	Scanning	Adobe Photoshop
V92GFQ	Photography	
VHATYE	Photography	under 515nm light with orange filter
VRZE28	Photography	digital photography
VY2Q2A	none	
W89MK8	Other	None
WAE998	None	
WJ29KB	Flat bed scanner	Scanned @ 1:1 ratio w/1200 DPi into files of Foray/Justice Trax systems
WKD36G	Photography	Between methods used.
WTPZAN	Photography	
WW33VJ	Photography	Taking a picture to preserve the latent revealed, because it might be lost through the time
WXXMK6	Scanning	An Epson V700 scanner was used to scan Item 2 - quadrant B in TIFF format.
XE2GR4	Photography	digital camera
YK6LG3	Photography	Scanner (Canon, Canoscan LiDe 70) Adobe Photoshop CS6

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
YN4WEN	Photography	
YNM3A8	Photography	Photographed at every stage of enhancement in case paper got damaged
YQCAYB	Photography	
Z4W964	Photography	Using a red pencil, the ridge detail found in quadrant B was marked, and a request to have a 1:1 photograph of this area was made.
ZC8BNJ	Photography	Nikon D700 camera kit, DCS4 image capture software used
ZLXYGZ	Photography	I took two photographs of the item. One close-up using a yellow/orange filter at 445-550nm. I also took one overall photo
ZN6C39	Photography	Nikon D810 with 60 mm micro lens
ZTUTEY	Digital Photography	

Response Summary

Participants: 102

Methods Utilized

Lifting	0
Photography	70
Scanning	14

****Note:** Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
27EQX9	Photography	f16, f20
2DYNNG	Photography	
3LQQ6H	Lifting	
3V98V4	Photography	
437C6Y	None	
44KLDZ	Lifting	Black powder lift with latent tape onto a latent card
4JBNU4	Photography	using white light, and laser with orange filter
62A28B	Lifting	Hinged lift
67HLQ2	Photography	Backlit, White Light
6CCGTA	Photography	Between methods used.
6HDX4F	Lifting	Frosted Tape
6J7N9U	Photography	Foster+Freeman DCS4 system
6VN778	Photography	Nikon D3X Macro.
6ZG6K3	Photography	
7DH7TW	Photography	Foster & Freeman DCS-4 with Nikon D700 camera used white paddle light for both visual and cyanoacrylate photos
7WRH3Y	Photography	after each processing
84VMRX	Photography	Visible latent photographed prior to any chemical or powder processing (white light & polarizer filter with scale); MBD dye stained latent photographed with ALS (blue light 430-470 nm & yellow filter GG495, 476nm) and a scale; all Printed 1:1
	Lifting	Tape lifted after powder processing with 2" clear tape, placed on white card

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
86NFMG	None	
8X7826	Photography	Room lighting
93TEY4	Photographed	
987Z8B	Photographing	Photograph fingerprint with scale sticker to be able to show originality if required for further investigation or for court purposes.
	Safekeeping	Keep away from extreme heat.
9NAV3U	Photography	
9X28GV	Photography	Black card and polarizer prior to processing DCS4 System with scale printed to natural size
	Photography	Fluorescent light - yellow filter after MBD processing DCS4 System with scale printed to natural size
	Lifting	Tape Lift - Black Magnetic Powder
A8K3V2	Photography	After visual (fiber optic light), cyanoacrylate fuming (fiber optic light), R6G (532nm laser, orange filter)
A9XD89	Photography	
AB33C3	Photography	direct light
AD7ZJP	Photography	
ATJ8YU	None	
AUXT9W	Digital Photo	001-2, 001-2-1 and 001-2-2
B38GLV	Photography	after Cyanoacrylate fuming and Rhodamine 6G
B4CAD9	Photography	Mark was photographed after first visual examination and then after fuming with white light. And after dye stain using ALS 532nm using camera filter 550nm
BD4Q6X	Photography	using white light & dark background

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
BN9F89	Photographing of the latent print	PL 500 (Poliview light source) and Nikon D700 camera are utilised for capturing the fingerprint image
C32P6X	Photography	
CBBUF4	Photography	
DAFTRQ	Photography	Nikon 105mm on Nikon D300 ; filter TIFFEN 15 and TIFFEN 21
DBALMA	Photography	Cyanoacrylate ester. See above; photographed w/ 60mm MACRO lens open lighting for 1/1600 sec @ f5
	Photography	R6G. Photo w/ 60mm MACRO - ALS @ 495nm w/ orange filter for 1/8 sec @ f5
DHTM8T	Photography	
E2EZW3	Photography Scanning	
EFJY3N	Photography	Nikon D200, Direct Transmitted Light for unprocessed and post CA, Tracer Laser post dye stain
EJJAZ9	Photography	Nikon D7000 with macro lens, stored on backed up servers, photographed LP after initial visual exam, after CA fuming, and after dye stain.
ET6E7M	Photography	15 min
FCHB3R	Lifting Packaging	Print was lifted with lift tape and placed on a lift card. Lift card was placed in an envelope and sealed. Item was placed in an envelope and sealed.
G7M3XN	none	none
GAHWQJ	Photography	Nikon D5200 Camera, UV Light, Adobe Photoshop CS6, Mitsubishi Printer
GBHWT6	None	
GHC6AP	Photography	

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
HLTNW6	Photography Lifting	Black powder
HPWHRN	Photography	photograph of prints taken after chemical processing and after dusting with black powder
HQAUUY	Photography	
HV2YLH	Photography	
J26KQQ	Photography	1:1 digital photo
JKFCTT	Photography	Using ring lighting, Crimescope ALS (crime scene search mode), and Tracer Laser
JM6JDP	Photography	D700 camera used to capture latent print as TIFF and saved to digital archive system.
JNET42	None	
K2WXQN	Photography	Filled frame with ruler in photo to set scale. Photos were obtained after each process in which the print was visible.
KPM6JH	Photography	Nikon D700 camera with Crime-lite 4x4 (Green light, white light, and blue light with yellow filter)
M3LTNG	Lifting	Latent print was lifted with standard lifting tape and placed on a Latent Print Card and labeled as sub-exhibit 165191(SD1274)3A
M6RBPX	Lifting	Lifted from baggie using clear tape, then transferred to a fingerprint card
M7NLML	Photography	Nikon D700
MBWAZN	Photography	
NBT8NN	Photography	
NCAZLD	Photography	with D2Xs after visual exam using direct lighting

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
NM9WLU	Photography	Nikon D80, lens Nikon AF MicroNikkor 60mm, light 505nm and orange filter
NMTFPF	Lifting	Lifting with tape and fixing on latent card.
NTWJGY	Photography	
NWWPXQ	Photography	After each step.
NXRBBM	Digital Image	Photographed impression in Quadrant C following Vis Exam & Superglue fuming
NXRBRG	none	
NY48WL	Photography	
NYYN9J	Lifting	Lift tape was gently placed over the fingerprint and removed lifting the fingerprint. The tape was placed on a white lift card. The lift card was filled out with information regarding where the lift was lifted.
PGVFQB	Photography	I was able to capture the patent print using the DCS.
	Lifting	I used latent lifting tape to preserve the latent print and apply it to the lift card.
QMFT7N	Photography	CANON EOS 400D
QP7WYV	None	
T78HFM	Lifting	Lift card
THYAZR	Lifting	
TJ9EBU	Photography	
U7FAKA	none	
UPUJFR	Photography	visual
	Photography	CNA+BY40

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
V4Q4ZD	Photography	After fuming and dusting (Adobe Photoshop)
V92GFQ	Photography	
VHATYE	Photography	under 515nm light with orange filter
VRZE28	Photography	digital photography
VY2Q2A	none	
W89MK8	Other	None
WAE998	None	
WJ29KB	Cut & Mount Photographed	Section cut w/ ridge detail & mounted on 3XS black lift card for better contrast w/orange filter lense and ALS @ 570 for files in Justice Trax & Foray
WKD36G	Photography	Between methods used.
WTPZAN	Lifting Photography	
WW33VJ	Photography Lifting	Taking a picture of the latent revealed Lifting the latent with tape.
WXXMK6	Lifting	Standard lifting tape was used to lift a latent print from quadrant C and placed on a latent card.
XE2GR4	Photography	Digital camera
YK6LG3	Photography	digital camera (Nikon D5200) tethered to computer Adobe photoshop CS6
YN4WEN	Photography	
YNM3A8	Photography	Photograph every stage in case print rubs off

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
YQCAYB	Photography	
Z4W964	Lifting	Using lifting tape and a lift card, a latent print was lifted/recovered from Quadrant D of this item.
ZC8BNJ	Photography	Nikon D700 camera kit, DCS4 image capture software used
ZEB76Z	Photography	direct light with black card underneath item
	Lifting	with clear tape, attached to lift card
ZLXYGZ	Photography	I took two photos of the print. One close-up with oblique lighting and one overall photo.
	Lifting	After applying black powder, I lifted the print with tape and applied it to a lift card
ZN6C39	Photography	Nikon D810 with 60 mm micro lens
ZTUTEY	Digital Photography	

Response Summary

Participants: 102

Methods Utilized

Lifting	21
Photography	80
Scanning	1

****Note:** Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.

First-Level Detail Findings

TABLE 4 - Item 1

WebCode	First Level Detail?	Identified Pattern?
27EQX9	Yes	Whorl
2DYNNG	N/A	N/A
3LQQ6H	Yes	Whorl
3V98V4	Yes	Whorl
437C6Y	Yes	Loop
44KLDZ	N/A	N/A
4JBNU4	Yes	Whorl
62A28B	Yes	Whorl
67HLQ2	Yes	Whorl
6CCGTA	Yes	Loop
6HDX4F	Yes	Whorl
6J7N9U	Yes	Whorl
6VN778	Yes	Whorl
6ZG6K3	No	
78DL8D	Yes	Whorl
7DH7TW	Yes	Whorl
7WRH3Y	N/A	N/A
84VMRX	N/A	N/A
86LQL6	N/A	N/A
86NFMG	Yes	Whorl
8X7826	Yes	Whorl
93TEY4	Yes	Whorl
987Z8B	Yes	Whorl
9NAV3U	Yes	Whorl

TABLE 4 - Item 1

WebCode	First Level Detail?	Identified Pattern?
9X28GV	N/A	N/A
A8K3V2	Yes	Loop
A9XD89	Yes	Whorl
AB33C3	Yes	Whorl
AD7ZJP	Yes	Whorl
ATJ8YU	Yes	Loop
AUXT9W	Yes	Whorl
B38GLV	Yes	Whorl
B4CAD9	Yes	Whorl
BD4Q6X	Yes	Whorl
BN9F89	Yes	Whorl
C32P6X	No	
CBBUF4	Yes	Whorl
DAFTRQ	Yes	Whorl
DBALMA	Yes	Whorl
DHTM8T	Yes	Whorl
E2EZW3	Yes	Whorl
EFJY3N	Yes	Loop
EJJAZ9	Yes	Whorl
ET6E7M	Yes	Whorl
FANPA2	Yes	N/A
FCHB3R	Yes	Whorl
G7M3XN	Yes	Whorl
GAHWQJ	Yes	Whorl
GBHWT6	Yes	Whorl

TABLE 4 - Item 1

WebCode	First Level Detail?	Identified Pattern?
GHC6AP	Yes	Loop
HLTNW6	Yes	Whorl
HPWHRN	N/A	N/A
HQAUUY	Yes	N/A
HV2YLH	N/A	N/A
J26KQQ	Yes	Whorl
JKFCTT	Yes	Whorl
JM6JDP	Yes	Whorl
JNET42	Yes	Whorl
K2WXQN	Yes	Whorl
KPM6JH	Yes	Whorl
M3LTNG	N/A	N/A
M6RBPX	Yes	Whorl
M7NLML	Yes	N/A
MBWAZN	Yes	Whorl
NBT8NN	Yes	Whorl
NCAZLD	Yes	Whorl
NM9WLU	No	
NMTFPF	N/A	N/A
NTWJGY	Yes	Whorl
NWWPXQ	Yes	N/A
NXRBBM	N/A	Whorl
NXRBRG	Yes	Whorl
NY48WL	Yes	Whorl
NYYN9J	Yes	Whorl

TABLE 4 - Item 1

WebCode	First Level Detail?	Identified Pattern?
PGVFQB	N/A	N/A
QMFT7N	Yes	Whorl
QP7WYV	Yes	Loop
R7Q82N	Yes	N/A
RR8KRQ	Yes	Whorl
T78HFM	N/A	N/A
THYAZR	Yes	Whorl
TJ9EBU	Yes	Whorl
U7FAKA	Yes	N/A
UPUUFRR	Yes	Whorl
V4Q4ZD	Yes	Whorl
V92GFQ	Yes	Whorl
VHATYE	Yes	Loop
VRZE28	Yes	Whorl
VY2Q2A	No	N/A
W89MK8	Yes	Whorl
WAE998	Yes	Whorl
WJ29KB	N/A	N/A
WKD36G	Yes	Whorl
WTPZAN	Yes	N/A
WW33VJ	Yes	Whorl
WXXMK6	N/A	N/A
XE2GR4	Yes	Whorl
YK6LG3	Yes	Whorl
YN4WEN	Yes	Whorl

TABLE 4 - Item 1

WebCode	First Level Detail?	Identified Pattern?
YNM3A8	Yes	Whorl
YQCAYB	Yes	Whorl
Z4W964	Yes	Whorl
ZC8BNJ	N/A	N/A
ZEB76Z	N/A	N/A
ZLXYGZ	N/A	N/A
ZN6C39	Yes	Whorl
ZTUTEY	Yes	Whorl

Findings Summary		Total Participants: 107
1st Level	Total	

Arch	0
Loop	8
Whorl	70
No	4
N/A	18

*NOTE: These numbers may not add up to the total # of participants, as not all who found first level detail could determine one specific pattern type.

TABLE 4 - Item 2

WebCode	First Level Detail?	Identified Pattern?
27EQX9	Yes	Whorl
2DYNNG	N/A	N/A
3LQQ6H	Yes	Whorl
3V98V4	Yes	Whorl
437C6Y	Yes	Whorl
44KLDZ	N/A	N/A
4JBNU4	No	
62A28B	Yes	Whorl
67HLQ2	No	N/A
6CCGTA	Yes	Whorl
6HDX4F	N/A	N/A
6J7N9U	Yes	Whorl
6VN778	Yes	Whorl
6ZG6K3	Yes	Whorl
78DL8D	Yes	Whorl
7DH7TW	Yes	Whorl
7WRH3Y	N/A	N/A
84VMRX	N/A	N/A
86LQL6	N/A	N/A
86NFMG	N/A	N/A
8X7826	Yes	Whorl
93TEY4	Yes	Whorl
987Z8B	Yes	Whorl
9NAV3U	Yes	Whorl
9X28GV	N/A	N/A

TABLE 4 - Item 2

WebCode	First Level Detail?	Identified Pattern?
A8K3V2	Yes	Whorl
A9XD89	Yes	Arch
AB33C3	Yes	Whorl
AD7ZJP	No	
ATJ8YU	Yes	Whorl
AUXT9W	Yes	Whorl
B38GLV	Yes	Whorl
B4CAD9	Yes	Whorl
BD4Q6X	Yes	Whorl
BN9F89	No	N/A
C32P6X	Yes	Whorl
CBBUF4	Yes	Whorl
DAFTRQ	Yes	Whorl
DBALMA	Yes	Whorl
DHTM8T	Yes	Whorl
E2EZW3	Yes	Whorl
EFJY3N	Yes	Whorl
EJJAZ9	Yes	Whorl
ET6E7M	Yes	Whorl
FANPA2	Yes	N/A
FCHB3R	No	
G7M3XN	Yes	N/A
GAHWQJ	No	
GBHWT6	Yes	Whorl
GHC6AP	Yes	Whorl

TABLE 4 - Item 2

WebCode	First Level Detail?	Identified Pattern?
HLTNW6	Yes	Whorl
HPWHRN	N/A	N/A
HQAUUY	Yes	N/A
HV2YLH	N/A	N/A
J26KQQ	Yes	Whorl
JKFCTT	Yes	Whorl
JM6JDP	Yes	Whorl
JNET42	Yes	Whorl
K2WXQN	Yes	Whorl
KPM6JH	Yes	Whorl
M3LTNG	N/A	N/A
M6RBPX	Yes	Whorl
M7NLML	Yes	Whorl
MBWAZN	Yes	Whorl
NBT8NN	N/A	N/A
NCAZLD	Yes	Whorl
NM9WLU	Yes	Whorl
NMTFPF	N/A	N/A
NTWJGY	Yes	Whorl
NWWPXQ	Yes	Whorl
NXRMBB	N/A	Whorl
NXRBRG	Yes	Whorl
NY48WL	Yes	Whorl
NYYN9J	No	
PGVFQB	N/A	N/A

TABLE 4 - Item 2

WebCode	First Level Detail?	Identified Pattern?
QMFT7N	No	
QP7WYV	Yes	Whorl
R7Q82N	Yes	N/A
RR8KRQ	Yes	Whorl
T78HFM	N/A	N/A
THYAZR	Yes	N/A
TJ9EBU	Yes	Whorl
U7FAKA	No	N/A
UPUUFRR	Yes	Whorl
V4Q4ZD	No	
V92GFQ	Yes	Whorl
VHATYE	Yes	Whorl
VRZE28	Yes	Whorl
VY2Q2A	Yes	Whorl
W89MK8	Yes	Whorl
WAE998	Yes	Whorl
WJ29KB	N/A	N/A
WKD36G	Yes	N/A
WTPZAN	Yes	N/A
WW33VJ	Yes	Whorl
WXXMK6	N/A	N/A
XE2GR4	Yes	N/A
YK6LG3	Yes	Whorl
YN4WEN	Yes	Whorl
YNM3A8	Yes	Whorl

TABLE 4 - Item 2

WebCode	First Level Detail?	Identified Pattern?
YQCAYB	Yes	Whorl
Z4W964	Yes	Arch
ZC8BNJ	N/A	N/A
ZEB76Z	N/A	N/A
ZLXYGZ	N/A	N/A
ZN6C39	Yes	Whorl
ZTUTEY	Yes	Whorl

Findings Summary		Total Participants: 107
1st Level	Total	
Arch	2	*NOTE: These numbers may not add up to the total # of participants, as not all who found first level detail could determine one specific pattern type.
Loop	0	
Whorl	66	
No	10	
N/A	21	

TABLE 4 - Item 3

WebCode	First Level Detail?	Identified Pattern?
27EQX9	Yes	Whorl
2DYNNG	N/A	N/A
3LQQ6H	Yes	Whorl
3V98V4	Yes	Whorl
437C6Y	Yes	Whorl
44KLDZ	N/A	N/A
4JBNU4	Yes	Whorl
62A28B	Yes	Whorl
67HLQ2	Yes	Whorl
6CCGTA	Yes	Whorl
6HDX4F	Yes	Whorl
6J7N9U	Yes	Whorl
6VN778	Yes	Whorl
6ZG6K3	Yes	Whorl
78DL8D	Yes	Whorl
7DH7TW	Yes	Whorl
7WRH3Y	N/A	N/A
84VMRX	N/A	N/A
86LQL6	N/A	N/A
86NFMG	Yes	Whorl
8X7826	Yes	Whorl
93TEY4	Yes	Whorl
987Z8B	Yes	Whorl
9NAV3U	Yes	Whorl
9X28GV	N/A	N/A

TABLE 4 - Item 3

WebCode	First Level Detail?	Identified Pattern?
A8K3V2	Yes	Whorl
A9XD89	Yes	Loop
AB33C3	Yes	Whorl
AD7ZJP	Yes	Whorl
ATJ8YU	Yes	Whorl
AUXT9W	Yes	Whorl
B38GLV	Yes	Whorl
B4CAD9	Yes	Whorl
BD4Q6X	Yes	Whorl
BN9F89	Yes	Whorl
C32P6X	Yes	Whorl
CBBUF4	Yes	Whorl
DAFTRQ	Yes	Whorl
DBALMA	Yes	Whorl
DHTM8T	Yes	Whorl
E2EZW3	Yes	Whorl
EFJY3N	Yes	Whorl
EJJAZ9	Yes	Whorl
ET6E7M	Yes	Whorl
FANPA2	Yes	N/A
FCHB3R	Yes	Whorl
G7M3XN	Yes	Whorl
GAHWQJ	Yes	Whorl
GBHWT6	Yes	Whorl
GHC6AP	Yes	Whorl

TABLE 4 - Item 3

WebCode	First Level Detail?	Identified Pattern?
HLTNW6	Yes	Whorl
HPWHRN	N/A	N/A
HQAUUY	Yes	N/A
HV2YLH	N/A	N/A
J26KQQ	Yes	Whorl
JKFCTT	Yes	Whorl
JM6JDP	Yes	Whorl
JNET42	Yes	Whorl
K2WXQN	Yes	Whorl
KPM6JH	Yes	Whorl
M3LTNG	N/A	N/A
M6RBPX	Yes	Whorl
M7NLML	Yes	Whorl
MBWAZN	Yes	Whorl
NBT8NN	Yes	Whorl
NCAZLD	Yes	Whorl
NM9WLU	Yes	Whorl
NMTFPF	N/A	N/A
NTWJGY	Yes	Whorl
NWWPXQ	Yes	Whorl
NXRMBB	N/A	Whorl
NXRBRG	Yes	Whorl
NY48WL	Yes	Whorl
NYYN9J	Yes	Whorl
PGVFQB	N/A	N/A

TABLE 4 - Item 3

WebCode	First Level Detail?	Identified Pattern?
QMFT7N	Yes	Whorl
QP7WYV	Yes	Whorl
R7Q82N	Yes	N/A
RR8KRQ	Yes	Whorl
T78HFM	N/A	N/A
THYAZR	Yes	Whorl
TJ9EBU	Yes	Whorl
U7FAKA	Yes	N/A
UPUUFRR	Yes	Whorl
V4Q4ZD	Yes	Whorl
V92GFQ	Yes	Whorl
VHATYE	Yes	Whorl
VRZE28	Yes	Whorl
VY2Q2A	Yes	Whorl
W89MK8	Yes	Whorl
WAE998	Yes	Whorl
WJ29KB	N/A	N/A
WKD36G	Yes	N/A
WTPZAN	Yes	Whorl
WW33VJ	Yes	Whorl
WXXMK6	N/A	N/A
XE2GR4	Yes	Whorl
YK6LG3	Yes	Whorl
YN4WEN	Yes	Whorl
YNM3A8	Yes	Whorl

TABLE 4 - Item 3

WebCode	First Level Detail?	Identified Pattern?
YQCAYB	Yes	Whorl
Z4W964	Yes	Whorl
ZC8BNJ	N/A	N/A
ZEB76Z	N/A	N/A
ZLXYGZ	N/A	N/A
ZN6C39	Yes	Whorl
ZTUTEY	Yes	Whorl

Findings Summary		Total Participants: 107
1st Level	Total	
Arch	0	*NOTE: These numbers may not add up to the total # of participants, as not all who found first level detail could determine one specific pattern type.
Loop	1	
Whorl	83	
No	0	
N/A	18	

Additional Comments

TABLE 5

WebCode	Additional Comments
2DYNNG	The fingerprint on Item 1 was difficult to lift. Best result was accomplished with carbon powder and "fingerprint lifter". Lifting with Mikrosil did not work. In retrospect dying with Basic Yellow 40 might have been a mistake.
3V98V4	Regarding results for item 1, we specify that the general pattern was whorl (double loop). As a part of the general pattern is missing (lower part), it could also be a right loop.
437C6Y	The print detected on Item 1 could be either a loop or a whorl. There was not enough ridge detail detected to make that determination.
7WRH3Y	The photo was a good challenge.
86LQL6	Indanedione is usually used before ninhydrin on our paper items. We did not have all the chemicals to make a new indanedione solution. What we had was expired as we have not used it recently. A quality control is taking before using any processing procedures.
987Z8B	On item no 3 (plastic baggie) were also friction ridge impressions & marks visible but it were not good enough to meet the 7 point criteria as required for identification by the [Country] courts.
A8K3V2	Faint ridge detail in Item 1 indicates it is likely a double loop whorl, but the more developed portion of the print appears to be a loop.
ATJ8YU	The pattern type for the latent print recovered on Item 1 is either a left slant loop or a whorl.
BN9F89	According to my knowledge and experience of working in the crime scene laboratory, methods that I used for processing the evidence of this test, are correct and very effective. My statement is supported by the control samples that were used during the processing. As it can be seen with Item 2 which had no prints and my positive control has print developed on it.
DAFTRQ	For Item 1 and 3, the latent was already visible with optical detection. For Item 2, the latent was already visible with Indanedione treatment. There was a lot of other unexpected latents on Item3 (all sections) found with cyanoacrylate.
DBALMA	latent print 3 is on inside of baggie
E2EZW3	Scanning, photography format- JPG,
EFJY3N	For Item 1, Glossy Photograph: Development of fingerprint revealed 80-90% of the pattern area. The pattern observed was indicated as a Loop for question 1-6), but would be referenced to a whorl in a casework scenario. Based on the ridge flow present at the base of the loop there is a chance that the pattern could actually be a double loop whorl.
FCHB3R	During all examinations proper personal protective equipment was used. This included lab coat, examination gloves and chemical resistant gloves.
G7M3XN	Pattern type for Item 2 was not noted during the processing and is no longer visible.
GAHWQJ	The test strip that was used before the application of Ninhydrin on Item 2 (10/21/2016) did have a positive reaction, however no latent prints were developed on Item 2. The second application of Ninhydrin on that same Item 2 was a new batch that again had a positive reaction on the test strip, but still failed to develop any latent prints on Item 2.
GHC6AP	The fingerprint pattern on item 3 can also be named as a "double loop".
JM6JDP	Item 1 for question #1-6 asks for a pattern type. The system would not let you select both loop and whorl. Latent developed was partial although most likely a whorl, there is a chance it could have been

TABLE 5

WebCode	Additional Comments
	a loop if more detail was present but the testing system makes you choose only one.
K2WXQN	Print from item one should be reference to a loop due to light powder adhesion to the print near the bottom of the pattern area.
M7NLML	Latent developed on glossy photograph (Item #1) was faint and pattern type couldn't be determined.
NM9WLU	Fluorescence examination was with Polilight PL500
NWWPXQ	The print in D on item 1 was difficult to determine first level detail due to lack of lower area/delta in the print.
NYYN9J	This Laboratory normally does not divide the evidence items up into quadrants for development during examination. The entire item is examined for any potential latent prints.
QMFT7N	ITEM 2 1.2 IND - Whorl
QP7WYV	The print on Item 1 could be either a loop or whorl. No delta was visible and the bottom portion of the print was cut off, making it difficult to fully identify the pattern.
RR8KRQ	The marks seen on item 1, item 3 are very obvious and could be photographed as they are with no further treatments being necessary, however if this was real live casework items 1 and 3 could have further enhancement processes carried out on them. For instance item 1 could be powdered and any marks photographed or lifted, as small patch test corner of BY40 fluorescent dye to stain the cyanoacrylate marks (the photograph appears to be almost non porous, however a patch test would ascertain this), a further treatment of basic violet 3 could also be carried out (if the photograph was found to be non-porous). If the photograph was found to be porous then 1,8 - diazafuoren-9-one (DFO) and ninhydrin (nin) could be carried out to fully sequence treat and optimise ridge detail enhancement as recommend by [Agency]. Item 3 could have been treated with BY40 fluorescent dye to stain the cyanoacrylate marks and examined under high intensity light source to visualise the marks. It could then be treated with basic violet 3 for a full sequence as recommended by [Agency]. We only treat items from serious and major crime to a full sequence of treatments. Item 2 was treated with DFO and examined with a high intensity light source (green crime lite 490-560nm). The mark is very clear and would be photographed at this stage if this was live casework. Item 2 could then be treated with nin and then physical developer (PD) if a full sequence of treatments was required, again we tend to do this on items from serious and major crime. Control samples are used for each batch of treatments that are performed. The control samples with items 1,2 and 3 were all positive. All treatments, and equipment used are accredited, calibrated and maintained in accordance with [accreditation body] scientific standards.
THYAZR	Print did not develop fully with Ninhydrin (item 2). Control was used and worked properly.
U7FAKA	I failed to note the pattern types, though I believe they were both whorls just based on memory. We do not typically note pattern type in our notes and I forgot that I was required to on the test.
UPUUFR	Item 3, plastic baggie, fingerprint was om the inside of the bag.
V4Q4ZD	After fuming of the plastic baggie (item 3) ridge detail was detected on the outside of the plastic baggie but was not considered to be part of the test.
VRZE28	The impression on item 2 was partial. The fingertip area (above the core) was clear but the rest of the impression was faint/smeared. Ridge flow indicated that it was a whorl impression, but it could be a loop. For comparison purposes, I would first compare whorls, but I would not rule out any loops.
VY2Q2A	The pattern for item 1 could not be determined. First level detail was recovered, however the pattern could have been a loop or a whorl. Only the top of the core and tip were developed.
W89MK8	Item 1 could also have the potential to be a loop type pattern

TABLE 5

WebCode	Additional Comments
WKD36G	Item 2 should have been examined with several different lightsources before treatment with ninhydrine. Testpatches have been used before application with the different methods.
WW33VJ	Sample 1: Fundamental type is a sinuous whorl fingerprint located in the D zone. Sample 2: Fundamental type is a large ovoid whorl fingerprint located in the B zone. Sample 3: Fundamental type is a double loop whorl fingerprint located in the C zone.
XE2GR4	Ridge detail was developed on Item 2; however, not enough to determine pattern. This print is unsuitable for comparison.
YK6LG3	Had two smudges (no ridge detail) on Item 3 in quadrant B

Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program
Test No. 16-5191: Latent Print Processing

DATA MUST BE RECEIVED BY December 12, 2016 TO BE INCLUDED IN THE REPORT

Participant Code: **U1234A**WebCode: **3CXFT2**

Accreditation Release Statement

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

- This participant's data is intended for submission to ASCLD/LAB, ANAB, and/or A2LA. (Accreditation Release section on the last page must be completed and submitted.)
- This participant's data is **NOT** intended for submission to ASCLD/LAB, ANAB or A2LA.

Scenario:

During the week of 31 July 2016, three items of evidence were recovered from a crime scene. Police have requested that you process each item of evidence for latent prints. These items will not undergo additional testing in other departments, so you may use destructive testing if necessary.

Instructions:

All item packaging has been labeled with a CTS item number and each item divided into four quadrants, which have been indicated as A-D. A single latent print has been deposited in one of these areas for each item. Only those areas within the A-D labeled sections need to be processed.

Items Submitted (Sample Pack LAP2):

Item 1: Glossy photograph, 4.5" x 8", divided into quadrants A-D.

Item 2: Resident notification, 5.5" x 8.5", divided into quadrants A-D.

Item 3: Plastic baggie, 5" x 8", divided into quadrants A-D.

Please inspect your sample sets upon receipt. If the tape seal on any of your individual items is broken, please contact CTS for replacement samples.

For each item, in which quadrant (A, B, C, D) was the latent print recovered?

*Please indicate only the single letter of your determined location; further explanation may be provided in the Additional Comments. If no print is recovered, please enter "None". **Responses such as "N/A", "-", "No Result" are unacceptable.***

Item 1 _____

Item 2 _____

Item 3 _____

Please return all pages of this data sheet.

Page 1 of 6

Participant Code: **U1234A**

WebCode: **3CXFT2**

Results for Item 1:

Glossy photograph, 4.5" x 8", divided into quadrants A-D.

1-1.) Date Received: _____ **1-2.) Date(s) Analyzed:** _____

1-3.) What method(s) of development were used during your examination?

<u>Method (please list in order)</u>	<u>Method-specific information (ex. temperature, processing time)</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

1-4.) What method(s) of preservation were used, if any, following latent print development?

<u>Method (please list in order)</u>	<u>Method-specific information</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

(If additional space is needed, copy this page and attach in the appropriate place within the data sheet.)

1-5.) Was first level detail recovered?

If you are not trained to make detail/pattern determinations, please select "N/A".

Yes No N/A

1-6.) If first level detail was recovered, what pattern was identified?

If you are not trained to make detail/pattern determinations, please select "N/A".

Arch Loop Whorl N/A

Please return all pages of this data sheet.

Participant Code: **U1234A**

WebCode: **3CXFT2**

Results for Item 2:

Resident notification, 5.5" x 8.5", divided into quadrants A-D.

2-1.) Date Received: _____ **2-2.) Date(s) Analyzed:** _____

2-3.) What method(s) of development were used during your examination?

<u>Method (please list in order)</u>	<u>Method-specific information (ex. temperature, processing time)</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2-4.) What method(s) of preservation were used, if any, following latent print development?

<u>Method (please list in order)</u>	<u>Method-specific information</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

(If additional space is needed, copy this page and attach in the appropriate place within the data sheet.)

2-5.) Was first level detail recovered?

If you are not trained to make detail/pattern determinations, please select "N/A".

Yes No N/A

2-6.) If first level detail was recovered, what pattern was identified?

If you are not trained to make detail/pattern determinations, please select "N/A".

Arch Loop Whorl N/A

Please return all pages of this data sheet.

Participant Code: **U1234A**

WebCode: **3CXFT2**

Results for Item 3:

Plastic baggie, 5" x 8", divided into quadrants A-D.

3-1.) Date Received: _____ **3-2.) Date(s) Analyzed:** _____

3-3.) What method(s) of development were used during your examination?

<u>Method (please list in order)</u>	<u>Method-specific information (ex. temperature, processing time)</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

3-4.) What method(s) of preservation were used, if any, following latent print development?

<u>Method (please list in order)</u>	<u>Method-specific information</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

(If additional space is needed, copy this page and attach in the appropriate place within the data sheet.)

3-5.) Was first level detail recovered?

If you are not trained to make detail/pattern determinations, please select "N/A".

Yes No N/A

3-6.) If first level detail was recovered, what pattern was identified?

If you are not trained to make detail/pattern determinations, please select "N/A".

Arch Loop Whorl N/A

Please return all pages of this data sheet.

Participant Code: **U1234A**

WebCode: **3CXFT2**

Additional Comments

Additional Questions (optional)

1.) List the most common items of evidence your laboratory routinely processes for latent prints.

(Ex. plastic bags, paper documents, etc.)

2.) List the most common development method used in your laboratory for nonporous surfaces. What approximate percentage of casework items are processed this way?

3.) List the most common development method used in your laboratory for porous surfaces. What approximate percentage of casework items are processed this way?

<p>Return Instructions: Data must be received via online data entry, fax (please include a cover sheet), or mail by <i>December 12, 2016</i> to be included in the report. Emailed data sheets are not accepted.</p>	<p>Participant Code: U1234A</p>
<p>QUESTIONS? TEL: +1-571-434-1925 (8 am - 4:30 pm EST) EMAIL: forensics@cts-interlab.com www.ctsforensics.com</p>	<p>ONLINE DATA ENTRY: www.cts-portal.com FAX: +1-571-434-1937 MAIL: Collaborative Testing Services, Inc. P.O. Box 650820 Sterling, VA 20165-0820 USA</p>

Please return all pages of this data sheet.

Collaborative Testing Services - Forensic Testing Program

RELEASE OF DATA TO ACCREDITATION BODIES

The following Accreditation Releases will apply only to:

Participant Code: **U1234A**

WebCode: **3CXFT2**

for Test No. **16-5191: Latent Print Processing**

This release page must be completed and received by **December 12, 2016** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

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

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

ASCLD/LAB Certificate No. _____

ANAB Certificate No. _____

A2LA Certificate No. _____

Step 2: Complete the Laboratory Identifying Information in its entirety

Signature and Title _____

Laboratory Name _____

Location (City/State) _____

Accreditation Release**Return Instructions**

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

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

Please return all pages of this data sheet.

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