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FORENSIC TESTING PROGRAM

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Latent Print Processing
Test No. 20-5191 Summary Report

Each sample pack contained three pieces of simulated crime scene evidence. Participants were asked to process each piece for latent prints and report their findings. Data were returned from 241 participants and are compiled into the following tables:

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 windowed security envelope (Item 1), a plastic CD case (Item 2), and a yellow lined sticky note (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-

The nonporous CD case was cleaned with water and a paper towel before the latent print was applied. New, sealed packs of envelopes and sticky notes were used for the samples that could not be cleaned. Each item was divided into sections and labeled A, B, C, and D using a chemical-safe marker. For each item, either an acid or oil enhancer was applied to the individual's finger prior to deposition to assist in the longevity of the print.

SAMPLE PACK ASSEMBLY-

Each item was packed into its pre-labeled item envelope or heat seal packet with necessary protective materials. Following predistribution testing, each item envelope was sealed with evidence tape and initialed with "CTS" while each heat seal was closed using a heat sealer. These were then placed into a sample pack box with bubble wrap and sealed with packaging tape.

VERIFICATION-

A random selection of prepared test items was processed in-house for latent prints to verify their durability and proper latent print location. Predistribution examiners were able to recover ridge detail in the expected section on all three items.

Item No.	Test Material	Enhancer	Print Location	Pattern
1	windowed envelope	acid + oil	A	loop
2	CD case	oil	D	arch
3	lined sticky note	acid	C	loop

Summary Comments

Each sample pack contained three items of evidence to be processed for latent prints: a windowed security envelope (Item 1), a plastic CD case (Item 2), and a yellow lined sticky note (Item 3). Each item was divided into four sections, which were labeled with the letters A-D. Participants were asked to determine in which of the four sections of each evidence item a latent print was contained (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 241 responding participants, 216 (90%) were able to successfully recover a print in the expected section for all three items. Twelve participants did not recover latent ridge detail on one or more of the items, an additional twelve participants did not test one or more of the items provided, and one participant reported no responses for Question 1 regarding recovered ridge detail location for any test items. There were no outlier responses of prints recovered in sections other than the expected areas.

For Item 1, a total of 232 participants (96.3%) developed a print in section "A." Six participants did not test this item (reported "Not Tested"), two participants recovered no ridge detail (reported "None"), and one participant did not provide a response. For Item 2, 238 of 241 participants (98.8%) reported ridge detail in section "D." Two participants gave no response, and one participant recovered no ridge detail. For Item 3, 218 participants (90.5%) recovered ridge detail in section "C" of the sticky note. Twelve participants did not test this item, ten participants recovered no ridge detail, and one participant did not provide a response.

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 necessarily reflect every answer provided by participants. The summary totals are cumulative for each item; therefore, if a participant listed the same technique multiple times for one item, each occurrence is added into the final total. Additionally, the summary statistics only include those methods that are explicitly identified as the generic methodology found in the dropdown menu. That is to say, a Development Method entry of "Dye Stain" will be tabulated while "Rhodamine 6G" will not.

A large portion of participants reported a visual examination as the starting point of their latent print development process for all three items. Alternate light sources were also reported in approximately 25% of participants' methods. Photography was the preferred preservation method, although some participants also elected to lift recovered ridge detail on Items 1 and 2.

For the windowed security envelope (Item 1), most participants performed a combination of porous and nonporous development techniques to account for the paper and plastic elements of the item. Cyanoacrylate fuming (reported 151 times) and ninhydrin (148) were used in near equal measure to develop on both surfaces. The process of powder dusting (139) was commonly used following the CA fuming, but also as a standalone methodology. For the plastic CD case (Item 2), cyanoacrylate fuming (reported 195 times) was the prevalent method of development, also commonly used with a follow-up of a dye stain (97) or powder dusting (95) to enhance recovered details. Finally, Item 3 was processed using a variety of porous development procedures, most commonly ninhydrin (reported 186 times). This was used either alone or in combination with another porous method, such as 1,2-Indanedione (61), DFO (54), or Physical Developer (18).

Summary Comments, continued

The First Level Detail section allows participants to report the potential pattern type(s) of each recovered latent print, if applicable. Some participants do not perform print pattern analysis in their routine casework and reported "N/A" to the pattern type question; therefore, no consensus is established for any of the items. For those who identified pattern types, the most common responses for each item were: Item 1 - Loop; Item 2 - Arch; Item 3 - Loop. 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
28QUP6	A	4BY68P	A	8DWPNK	A
29JRVP	A	4GR9FV	A	8FXTDL	A
2FLYJ7	A	4NC4K6	A	8PNEJJ	A
2HCXX4	A	62DEA4	A	8TNHDR	A
2KXRPX	A	6CUYTZ	A	8XHJCK	A
2QJYR4	A	6EV8T4	A	94LN3J	A
2VC4K8	A	6M897R	A	9DUDJN	A
2VWP9R	A	6PWPCJ	A	9MWF6L	A
389AE7	A	6V6QV3	A	9R9JVN	A
3FHUG2	A	7329LX	A	9YUC8M	A
3JDPXF	A	7BDEAN	A	AA72KJ	A
3L278N	A	7GJXKZ	A	AG6TML	A
3L7EM3	A	7HEGM2	A	ANM8FH	A
3M2XN4	A	7HEJ8Z	A	AUCRJY	A
3QERGU	A	7XP6RP	A	AXX92J	A
3UX2AT	A	847Z8J	A	B4GVAU	A
3XKCR7	A	862HAK	A	B8DRNM	A
3XX8T6	A	8892A3	A	BC8TNF	A
43PGUQ	A	88UC7P	A	BNZ63E	A

TABLE 1 - Item 1

WebCode	Location	WebCode	Location	WebCode	Location
BPHY3P	A	EGAP9R	A	G32YVB	A
BXQLYV	A	EH3MED	A	GGNXAR	A
BYL62W	Not Tested	ELMJZH	A	GJD4UN	A
C9NUC8	Not Tested	EQKV4V	A	GLCRYC	A
CEW6BT	A	EUXXLK	A	GN3PCB	A
CFQ3GE	A	EXKF66	A	GTXJAC	A
CQ46X6	A	EY9WED	A	H326YQ	A
CRZK9G	A	F7NUJC	A	H4T4CN	A
CU4D3F	A	F8JQUR	Not Tested	H6L2HA	A
CWCJLV	A	FAAPBB	A	H99KND	A
D7CHQM	A	FAN6FC	A	HDH2VG	A
DEQKRH	A	FELGG4	A	HGEKYZ	A
DH9LVG	A	FFVNHB	A	HGJXPH	A
DMF9MK	A	FGTTHD	A	HJ3299	A
DTCP8Q	None	FHKV6T	A	HZQCVB	A
E2WKHQ	A	FHYMT4	A	JAFFKP	A
E9K43U	A	FJQMQE	A	JC8ANL	A
ECJEXU	A	FKAERC	A	JDDYMN	A
EE7WFE	A	FMYLCA	A	JM3HAA	A
EE7YYR	A	FXFDUR	A	JM4KTL	A

TABLE 1 - Item 1

WebCode	Location	WebCode	Location	WebCode	Location
JNXAWF	A	MF7YDV	A	NQM3ZK	A
JYEUGC	A	MJ836H	A	NTEW4G	A
JZNYWL	A	MJPXN6	A	NVZQVB	A
KJDMVF	A	MLTT88	A	P8Q467	A
KVU8FC	A	MPZ3MJ	A	PBBR67	A
KVXPLM	A	MQPDEC	A	PMKL3G	A
KW77C7	A	MURA8D	A	PRDLKJ	A
KZ69PM	A	MVMWHW	A	PVXH63	A
L2T7CJ	A	MWJ7UL	A	QJH4JF	A
L6TH8J	A	MXQK4D	A	QK989G	A
LA68P8	A	MYL9DV	A	QKDLLG	A
LBLJAX	A	N7W2ZC	A	QKTMNJ	A
LCDK79	A	N8VZJK	A	QMJ4LX	A
LJEML8	A	NAFYHZ	A	QPQC36	A
LN9R9K	A	NF6JLF	A	QQ27QH	A
M2APN4	A	NFPZ2J	A	QYQ2LR	A
M2EW3J	A	NGHX84	A	R44XA2	A
M4ZQVD	A	NJQ242	A	R6XPW8	A
M9A4FW	A	NMNR4K	A	R9CHWD	A
MALYXH	A	NNJ7VK	Not Tested	R9X2T8	A

TABLE 1 - Item 1

WebCode	Location	WebCode	Location	WebCode	Location
RA6G2Y	A	UF86WC	A	WLQGYQ	A
RB3K22	A	UP9RLN	A	WWPPLV	A
RCWCN8	A	UYKJHD	A	WYBTXY	A
RDNB37	A	UYXFJB	A	XT4D9B	A
RDTMNG	A	UZWEZY	A	YJ9YGA	A
RFVVMZ	A	V3DCGZ	A	YQRAPJ	A
RRATR4	A	V3GPCA	A	YR3Z3U	A
T4WCP7	A	V92V3N	A	YTJ23B	A
TA8BGY	A	VATVZZ	A	YTXRPZ	A
TAKWU8	A	VB4XLY	A	YUU3PA	A
TLHVLD	A	VB972D	A	YV3BXU	A
TUDV6C	A	VFLVH2	Not Tested	YX8PGT	A
TV7UBX	A	VKTLG2	A	YXTJXW	A
TZYPJW	A	VVEMYW	A	YXUEKA	A
U738UU	A	VVUWZA	A	ZC4LWW	Not Tested
U8C2TF	A	VW8HL6	A	ZHUUGQ	A
U8TDC7	A	VWNV7V	A	ZJPCJR	A
UBC9DD	None	VYFQT4	A	ZN28JV	A
UBGPCB	A	W22V4M	A	ZQ6V3R	A
UEUMJY	A	W3X4FC	A	ZQ8PHQ	A

TABLE 1 - Item 1

WebCode	Location	WebCode	Location	WebCode	Location
ZTBK2U	A				
ZTFTF9	A				
ZU68XR	A				

Response Summary - Item 1

Total Participants: 241

Location	Total
A	232
B	0
C	0
D	0
None	2
Not Tested	6

TABLE 1 - Item 2

WebCode	Location	WebCode	Location	WebCode	Location
28QUP6	D	4GR9FV	D	8PNEJJ	D
29JRVP	D	4NC4K6	D	8TNHDR	D
2FLYJ7	D	62DEA4	D	8XHJCK	D
2HCXX4	D	6CUYTZ	D	94LN3J	D
2KXRPX	D	6EV8T4	D	9DUDJN	D
2QJYR4	D	6M897R	D	9MWF6L	D
2VC4K8	D	6PWPCJ	D	9R9JVN	D
2VWP9R	D	6V6QV3	D	9YUC8M	D
389AE7	D	7329LX	D	AA72KJ	D
3FHUG2	D	7BDEAN	D	AG6TML	D
3JDPXF	D	7GJXKZ	D	ANM8FH	D
3L278N	D	7HEGM2	D	AUCRJY	D
3L7EM3	D	7HEJ8Z	D	AXX92J	D
3M2XN4	D	7XP6RP	D	B4GVAU	D
3QERGU	D	847Z8J	D	B8DRNM	D
3UX2AT	D	862HAK	D	BC8TNF	D
3XKCR7	D	8892A3	D	BNZ63E	D
3XX8T6	D	88UC7P	D	BPHY3P	D
43PGUQ	D	8DWPNK	D	BXQLYV	D
4BY68P	D	8FXTDL	D	BYL62W	D

TABLE 1 - Item 2

WebCode	Location	WebCode	Location	WebCode	Location
C9NUC8	D	EQKV4V	D	GLCRYC	D
CEW6BT	D	EUXXLK	D	GN3PCB	D
CFQ3GE	D	EXKF66	D	GTXJAC	D
CQ46X6	D	EY9WED	D	H326YQ	D
CRZK9G	D	F7NUJC	D	H4T4CN	D
CU4D3F	D	F8JQUR	D	H6L2HA	D
CWCJLV	D	FAAPBB	D	H99KND	D
D7CHQM	D	FAN6FC	D	HDH2VG	D
DEQKRH	D	FELGG4	D	HGEKYZ	D
DH9LVG	D	FFVNHB	D	HGJXPH	D
DMF9MK	D	FGTTHD	D	HJ3299	D
DTCP8Q	D	FHKV6T	D	HZQCVB	D
E2WKHQ	None	FHYMT4	D	JAFFKP	D
E9K43U	D	FJQMQE	D	JC8ANL	D
ECJEXU	D	FKAERC	D	JDDYMN	D
EE7WFE	D	FMYLCA	D	JM3HAA	D
EE7YYR	D	FXFDUR	D	JM4KTL	D
EGAP9R	D	G32YVB	D	JNXAWF	D
EH3MED	D	GGNXAR	D	JYEUGC	D
ELMJZH	D	GJD4UN	D	JZNYWL	D

TABLE 1 - Item 2

WebCode	Location	WebCode	Location	WebCode	Location
KJDMVF	D	MLTT88	D	P8Q467	D
KVU8FC	D	MPZ3MJ	D	PBBR67	D
KVXPLM	D	MQPDEC	D	PMKL3G	D
KW77C7	D	MURA8D	D	PRDLKJ	D
KZ69PM	D	MVMWHW	D	PVXH63	D
L2T7CJ	D	MWJ7UL	D	QJH4JF	D
L6TH8J	D	MXQK4D	D	QK989G	D
LA68P8	D	MYL9DV	D	QKDLLG	D
LBLJAX	D	N7W2ZC	D	QKTMNJ	D
LCDK79	D	N8VZJK	D	QMJ4LX	D
LJEML8	D	NAFYHZ	D	QPQC36	D
LN9R9K	D	NF6JLF	D	QQ27QH	D
M2APN4	D	NFPZ2J	D	QYQ2LR	D
M2EW3J	D	NGHX84	D	R44XA2	D
M4ZQVD	D	NJQ242	D	R6XPW8	D
M9A4FW	D	NMNR4K	D	R9CHWD	D
MALYXH	D	NNJ7VK	D	R9X2T8	D
MF7YDV	D	NQM3ZK	D	RA6G2Y	D
MJ836H	D	NTEW4G	D	RB3K22	D
MJPXN6	D	NVZQVB	D	RCWCN8	D

TABLE 1 - Item 2

WebCode	Location	WebCode	Location	WebCode	Location
RDNB37	D	UYXFJB	D	XT4D9B	D
RDTMNG	D	UZWEZY	D	YJ9YGA	D
RFVVMZ	D	V3DCGZ	D	YQRAPJ	D
RRATR4	D	V3GPCA	D	YR3Z3U	D
T4WCP7	D	V92V3N	D	YTJ23B	D
TA8BGY	D	VATVZZ	D	YTXRPZ	D
TAKWU8	D	VB4XLY	D	YUU3PA	D
TLHVLD	D	VB972D	D	YV3BXU	D
TUDV6C	D	VFLVH2	D	YX8PGT	D
TV7UBX	D	VKTLG2	D	YXTJXW	D
TZYPJW	D	VVEMYW	D	YXUEKA	D
U738UU	D	VVUWZA	D	ZHUUGQ	D
U8C2TF	D	VW8HL6	D	ZJPCJR	D
U8TDC7	D	VWNV7V	D	ZN28JV	D
UBC9DD	D	VYFQT4	D	ZQ6V3R	D
UBGPCB	D	W22V4M	D	ZQ8PHQ	D
UEUMJY	D	W3X4FC	D	ZTBK2U	D
UF86WC	D	WLQGYQ	D	ZTFTF9	D
UP9RLN	D	WWPPLV	D	ZU68XR	D
UYKJHD	D	WYBTXY	D		

Response Summary - Item 2

Total Participants: 241

Location	Total
A	0
B	0
C	0
D	238
None	1
Not Tested	0

TABLE 1 - Item 3

WebCode	Location	WebCode	Location	WebCode	Location
28QUP6	C	4GR9FV	C	8PNEJJ	C
29JRVP	C	4NC4K6	C	8TNHDR	C
2FLYJ7	C	62DEA4	C	8XHJCK	C
2HCXX4	None	6CUYTZ	C	94LN3J	C
2KXRPX	C	6EV8T4	C	9DUDJN	C
2QJYR4	C	6M897R	C	9MWF6L	Not Tested
2VC4K8	C	6PWPCJ	C	9R9JVN	C
2VWP9R	C	6V6QV3	C	9YUC8M	C
389AE7	C	7329LX	C	AA72KJ	C
3FHUG2	C	7BDEAN	C	AG6TML	C
3JDPXF	C	7GJXKZ	C	ANM8FH	C
3L278N	C	7HEGM2	C	AUCRJY	C
3L7EM3	C	7HEJ8Z	C	AXX92J	C
3M2XN4	C	7XP6RP	C	B4GVAU	None
3QERGU	C	847Z8J	C	B8DRNM	C
3UX2AT	C	862HAK	C	BC8TNF	C
3XKCR7	C	8892A3	C	BNZ63E	C
3XX8T6	C	88UC7P	C	BPHY3P	C
43PGUQ	C	8DWPNK	C	BXQLYV	C
4BY68P	C	8FXTDL	C	BYL62W	Not Tested

TABLE 1 - Item 3

WebCode	Location	WebCode	Location	WebCode	Location
C9NUC8	Not Tested	EQKV4V	C	GLCRYC	C
CEW6BT	None	EUXXLK	C	GN3PCB	C
CFQ3GE	C	EXKF66	C	GTXJAC	C
CQ46X6	C	EY9WED	C	H326YQ	C
CRZK9G	C	F7NUJC	C	H4T4CN	C
CU4D3F	C	F8JQUR	Not Tested	H6L2HA	C
CWCJLV	C	FAAPBB	C	H99KND	C
D7CHQM	C	FAN6FC	C	HDH2VG	C
DEQKRH	C	FELGG4	C	HGEKYZ	C
DH9LVG	Not Tested	FFVNHB	C	HGJXPH	C
DMF9MK	C	FGTTHD	C	HJ3299	C
DTCP8Q	None	FHKV6T	C	HZQCVB	Not Tested
E2WKHQ	C	FHYMT4	C	JAFFKP	C
E9K43U	C	FJQMQE	C	JC8ANL	None
ECJEXU	C	FKAERC	C	JDDYMN	C
EE7WFE	C	FMYLCA	C	JM3HAA	C
EE7YYR	C	FXFDUR	C	JM4KTL	C
EGAP9R	C	G32YVB	C	JNXAWF	C
EH3MED	C	GGNXAR	C	JYEUGC	C
ELMJZH	C	GJD4UN	C	JZNYWL	None

TABLE 1 - Item 3

WebCode	Location	WebCode	Location	WebCode	Location
KJDMVF	C	MLTT88	C	P8Q467	C
KVU8FC	C	MPZ3MJ	C	PBBR67	C
KVXPLM	C	MQPDEC	C	PMKL3G	C
KW77C7	C	MURA8D	C	PRDLKJ	C
KZ69PM	C	MVMWHW	C	PVXH63	C
L2T7CJ	C	MWJ7UL	C	QJH4JF	None
L6TH8J	C	MXQK4D	C	QK989G	C
LA68P8	C	MYL9DV	C	QKDLLG	C
LBLJAX	C	N7W2ZC	C	QKTMNJ	C
LCDK79	C	N8VZJK	C	QMJ4LX	C
LJEML8	C	NAFYHZ	C	QPQC36	C
LN9R9K	C	NF6JLF	None	QQ27QH	C
M2APN4	C	NFPZ2J	C	QYQ2LR	C
M2EW3J	C	NGHX84	C	R44XA2	C
M4ZQVD	C	NJQ242	C	R6XPW8	C
M9A4FW	C	NMNR4K	C	R9CHWD	C
MALYXH	C	NNJ7VK	Not Tested	R9X2T8	C
MF7YDV	C	NQM3ZK	C	RA6G2Y	C
MJ836H	C	NTEW4G	C	RB3K22	C
MJPXN6	C	NVZQVB	C	RCWCN8	C

TABLE 1 - Item 3

WebCode	Location	WebCode	Location	WebCode	Location
RDNB37	C	UYXFJB	C	XT4D9B	C
RDTMNG	C	UZWEZY	C	YJ9YGA	C
RFVVMZ	C	V3DCGZ	Not Tested	YQRAPJ	C
RRATR4	C	V3GPCA	C	YR3Z3U	C
T4WCP7	C	V92V3N	C	YTJ23B	C
TA8BGY	C	VATVZZ	C	YTXRPZ	C
TAKWU8	C	VB4XLY	Not Tested	YUU3PA	C
TLHVLD	C	VB972D	C	YV3BXU	C
TUDV6C	C	VFLVH2	Not Tested	YX8PGT	C
TV7UBX	C	VKTLG2	C	YXTJXW	None
TZYPJW	C	VVEMYW	C	YXUEKA	C
U738UU	C	VVUWZA	C	ZC4LWW	Not Tested
U8C2TF	C	VW8HL6	None	ZHUUGQ	C
U8TDC7	C	VWNV7V	C	ZJPCJR	C
UBC9DD	C	VYFQT4	C	ZN28JV	C
UBGPCB	C	W22V4M	C	ZQ6V3R	C
UEUMJY	C	W3X4FC	C	ZQ8PHQ	C
UF86WC	C	WLQGYQ	C	ZTBK2U	Not Tested
UP9RLN	C	WWPPLV	C	ZTFTF9	C
UYKJHD	C	WYBTXY	C	ZU68XR	C

Response Summary - Item 3

Total Participants: 241

Location	Total
A	0
B	0
C	218
D	0
None	10
Not Tested	12

Development Methods

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
28QUP6	Visual Examination	Ambient Light & Oblique Light
	Cyanoacrylate Fuming	Foster & Freeman Chamber 80% relative humidity, 20 minute autocycle
	1,2-Indanedione	Caron Fingerprint Chamber 20 minutes
	Ninhydrin	Caron Heat/Humidity Chamber 20 minutes
29JRVP	Alternate Light Source	Visual exam and use alternate white light.
	Cyanoacrylate Fuming	Place the envelope into the fuming chamber, after 10 minutes the finger print is visible to naked eye.
	Powder Dusting	Use the black magnetic powder to enhance the contrast.
2FLYJ7	Visual Examination	Visually inspected under ambient light.
	Powder Dusting	magnetic powder
	Ninhydrin	ninhydrin +control (lot 09292020JRL, exp 09/29/2021); used Misonix FE-8000 humidity chamber (temp: 32.2C, humidity 48.6%, time 30 minutes); secured in evidence locker (approximately 2 days)
2HCXX4	Powder Dusting	Magnetic powder
2KXRPX	Visual Examination	
	DFO	
	Ninhydrin	
	Cyanoacrylate Fuming	
	Powder Dusting	
2QJYR4	Visual Examination	in natural light and light from forensic illuminator, print was observed in section A
	Cyanoacrylate Fuming	time - 15min., RH - 80%, glue - 2 g, discovered fingerprint has not improved
	DFO	time - 20min., temp - 100 C, no new prints
	Ninhydrin	time - 20min., temp 70 C, no new prints
	Powder Dusting	fingerprints powder applied with brush, discovered fingerprint has improved
2VC4K8	Visual Examination	
	Powder Dusting	2 minutes for the magnetic powder on the clear sheet
	Ninhydrin	2 minutes for NIN + 5 mins in the chamber on the rest of the envelope + heat chamber

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
2VWP9R	Visual Examination	Oblique lighting
	Cyanoacrylate Fuming	
	Powder Dusting	Carbon powder
	Ninhydrin	
389AE7	Visual Examination	Oblique white light
	Cyanoacrylate Fuming	02 hours and 20 min in Fish Tank
	Visual Examination	Oblique white light
	Ninhydrin	After treatment with Ninhydrin solution it was left in dark for 5 days
	Visual Examination	White light
	Dye Stain	Rhodamine 6G dye stain was used on the non-porous transparent window portions of the item 1.
	Visual Examination	505nm light with Orange OG550 barrier filter
3FHUG2	Powder Dusting	Black powder applied to plastic of double windowed security panel. Section A was positive for latent print.
3JDPXF	Visual Examination	Visible ridge detail observed prior to processing - observed with white light magnifier
	Cyanoacrylate Fuming	Lot# 202005081. MVC3000 Chamber, Humidity Cycle (80% for 15 minutes), Glue Cycle (10 minutes, 120 deg C), Purge Cycle (20 minutes)
	Visual Examination	Observed cyanoacrylate ridge detail with white light
	Dye Stain	MBD Dye Stain (Lot#100220-01) applied with a pipette
	Alternate Light Source	Blue Light (420-470 nm) / Yellow Filter (476 nm GG 495). Observed fluorescent ridge detail
	Powder Dusting	Black Magnetic Powder (Lot#201504053-04) applied with magnetic brush. Standard Black Powder (Lot#201804187) applied with standard brush
	Visual Examination	Observed powder developed ridge detail with white light
3L278N	Visual Examination	Before powder dusting.
	Powder Dusting	Magnetic powder.
	Visual Examination	After powder dusting.
3L7EM3	Cyanoacrylate Fuming	
	Powder Dusting	
	DFO	
	Ninhydrin	

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
3M2XN4	Powder Dusting	
	Ninhydrin	
3QERGU	Powder Dusting	I processed the plastic portion of item 001 with magnetic powder. An area of friction ridge detail was observed in section A and lifted with clear tape and placed onto a latent lift card. Item 001 was photographed prior to lifting. The lift card was scanned.
3UX2AT	Visual Examination	
	Cyanoacrylate Fuming	
	DFO	incubated at 100 C for 20 minutes
	Dye Stain	basic yellow premixed
3XKCR7	Visual Examination	Oblique and direct lighting
	FSIS	Shortwave UV light and specialized filter
	Cyanoacrylate Fuming	Air Science fuming chamber 15 minutes processing time at ~75% humidity
	FSIS	Shortwave UV light and specialized filter
	1,2-Indanedione	Applied and dried, then applied heat and moisture with steam iron for approximately 3 minutes (see additional notes)
	Alternate Light Source	515nm with orange goggles
	Powder Dusting	Fluorescent magnetic powder Dazzle Orange
	Alternate Light Source	515nm with orange goggles

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
3XX8T6	Visual Examination	The Item was photographed before examination. No Latents Visible.
	Alternate Light Source	Examined with at 430nm - 550nm (Polilight flare 2"ROFIN") and goggles. No Latent Visible.
	Cyanoacrylate Fuming	The cabinet (Scenesafe) settings was : 85 % humidity and the hot plate was set on 120 degrees. Processing time 8-10 minutes. A visible print was seen in section A on the plastic window of the envelope. *Prints were deposited on a similar piece of plastic,by human fingerprints (control Test). Development of this test gave prints of good quality. Fingerprint was photographed with white light and macro camera lens (Nikon D 3300).
	Powder Dusting	Black magnetic powder, Enhanced ridges of latent print. Fingerprint was photographed with white light and macro camera lens (Nikon D 3300).
	Ninhydrin	Soaked envelope (paper portion of envelope) using a pupette, dried and placed in chamber "NINcha S31"(temp. range 65°C, relative humidity 65 %) for aprox. 15min, examine visually, stored in dark location for 72 hours. Complement of the fingerprint was developed on paper portion of envelope. *Prints were deposited on a similar piece of envelope the day before, by human fingerprints (control Test). Development of this envelope gave prints of good quality. Fingerprint was photographed with green light (orange goggles) and macro camera lens (Nikon D 3300). Final print: Both parts of the developed print were photographed with scale. Pattern and 2nd level details were visible in the developed print.
43PGUQ	Powder Dusting	Magnetic Black both plastic window and envelope. Print came out very strong and visible.
4BY68P	Powder Dusting	Black magnetic Powder was applied on clear windows of envelope and surrounding paper edges. Clear window and surrounding white paper of envelope reacted to Black magnetic powder and developed print. NO further process needed.
4GR9FV	Visual Examination	White light + Coaxial light.
	Cyanoacrylate Fuming	Enhancement in fingerprint quality after 15 minutes CA fuming.
	Ninhydrin	Item was immersed in a tray of solution and allowed to air dry then placed in zippered plastic bag.
4NC4K6	Visual Examination	White, blue and green lights were used to examine the material.
	Cyanoacrylate Fuming	Process time: 5.38 min.
	Powder Dusting	Black magnetic powder was used.
	Dye Stain	We seperated the plastic windows from the rest of the envelope. The windows were then stained with Basic Yellow 40.
	1,2-Indanedione	Indanedione was used on the envelope without windows. 100*C and process time 10 min.
	Ninhydrin	Ninhydrin was used on the envelope without windows. 80*C, 62% humidity and process time 2 min.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
62DEA4	Visual Examination	Also used Alternate light source during visual examination
	Cyanoacrylate Fuming	
	1,2-Indanedione	
	Dye Stain	Rhodamine 6G on the windowed portion of the envelope.
	Ninhydrin	
	Powder Dusting	
6CUYTZ	Visual Examination	White light, ambient light, LED flashlight, used black backing card inside envelope to provide contrast for plastic window
	Cyanoacrylate Fuming	60% humidity, 120 degrees Celsius chamber temp, 15 min fume time, ~ 0.8g liquid Cyanoacrylate Carefully separated plastic windows from porous envelope via scalpel to facilitate processing.
	Dye Stain	On plastic windows only. Methanol based Rhodium 6G applied via spray bottle followed by methanol rinse applied via spray bottle
	1,2-Indanedione	On porous envelope only. Applied via pipette. Heated with heat press @ ~160 degrees Celsius for ~ 10 seconds.
	Alternate Light Source	Used on both porous paper and plastic windows. @ 532 nm with orange barrier filter
6EV8T4	LPPM	Cyvac - CA fuming R6GW
6M897R	Cyanoacrylate Fuming	
	1,2-Indanedione	
6PWPCJ	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	1,2-Indanedione	
6V6QV3	Cyanoacrylate Fuming	
	Powder Dusting	
	DFO	
	Ninhydrin	

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
7329LX	Visual Examination	Prior to processing the dual windowed security envelope, I examined it using a flashlight. Various levels of lighting were used for the examination, including direct/overhead and oblique lighting. No latent prints were observed.
	Powder Dusting	The complete envelope was dusted using black magnetic powder. My process began with the clear acetate windows. Once a partial print developed onto the window in quadrant "A", I continued to process the paper portion of the envelope with the magnetic powder, developing a more complete print.
7BDEAN	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	1,2-Indanedione	
	Dye Stain	
	Physical Developer (PD)	
7GJXKZ	Ninhydrin	A control was created before examination of the item. Once the control showed visible results, the item in question was processed. Ninhydrin was sprayed on the item until the item was saturated. The item was allowed to airdry for a few seconds and then placed in the Humidity Chamber. The Humidity Chamber is cleaned before and after use with 70% isopropyl alcohol and is set to 90% humidity and 32.2 degrees Celsius. Paper was laid down inside the machine below the area that the item was hanging. The items were removed after approximately 30 minutes, and transferred to a secure locker to allow the item to set for 24hrs before examination. (Proper PPE was used at all times: gloves, mask, lab coat)
	Powder Dusting	Part of this item was plastic, and therefore black magnetic powder was applied with a magnetic wand on the plastic area to develop any potential prints. The magnetic powder was used after photographs were taken of the item.
7HEGM2	Visual Examination	Viewed item under white light, TracER laser, and CrimeScope CS-16-500 ALS.
	Cyanoacrylate Fuming	Item placed in Misonix CA-6000 superglue chamber for 9 minutes and viewed under white light.
	1,2-Indanedione	Paper area of item sprayed with 1,2-Indanedione and placed under a heat gun for several seconds. The plastic areas of the envelope started to melt and the item was left at room temp for approx. 2 hours. Item was viewed under TracER laser.
	Ninhydrin	Paper area of item sprayed with Ninhydrin and developed using an iron for approx. 5 minutes. Item was viewed under white light.
	Dye Stain	Plastic portion of item sprayed with Rhodamine-6G and viewed under TracER laser.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
7HEJ8Z	Visual Examination	
	FSIS	FSIS
	Cyanoacrylate Fuming	Cyanoacrylate fuming for 20 min., atmospheric
	Visual Examination	
	DFO	DFO 20 minutes, 100 degrees C
	LASER	
	Ninhydrin	20 minutes, 80 degrees F, 80% RH
	Visual Examination	
	Dye Stain	Basic Yellow 40
	LASER	
7XP6RP	Cyanoacrylate Fuming	The envelope was fumed with cyanoacrylate in a vacuum chamber for 3 hours. Afterwards, the envelope was aired for 5 hours in a room.
	Dye Stain	R6G stain was used on a plastic double windowed parts. The sample was aired and dried and then examined without an alternate light source. No visible prints were noted.
	Alternate Light Source	Afterwards, the sample was examined under Alternate Light Source with a print clearly visible in a quadrant A.
	DFO	Remaining of white envelope was stained with DFO dye and baked for 20 minutes in the oven (100 C). Afterwards, sample was cooled and examined without alternate light source. A visible partial print on a paper edge in quadrant A was visible.
	Alternate Light Source	Afterwards, the sample was examined under Alternate Light Source with a print clearly visible in a quadrant A.
847Z8J	black magnetic powder	Photographed before working and then when developing it was photographed with a metric witness.
862HAK	Cyanoacrylate Fuming	Fumed ~9 minutes. Control print positive
	Powder Dusting	Black Magnetic Powder on the clear plastic window areas of the item. Print developed was dusted and lifted twice. Control print positive.
	Ninhydrin	Petroleum Ether formula. Selectively applied to the white paper surfaces of the item. Developed in FDC-5 chamber at ~ 70 degrees/80% humidity for 5-7 minutes.
8892A3	LPPM	Vacuum fumed with cyanoacrylate ester in cyvac for 45min; let cure for 30min. Sprayed with Rhodamine fluorescent dye. Viewed under forensic laser. Paper was treated with Ninhydrin, placed in Caron chamber (T - 80oC; RH - 70%) for 15min.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
88UC7P	Visual Examination	No ridge detail observed.
	Cyanoacrylate Fuming	processing time: 51 Min. Humidity:15 Min @ 80%. Glue Cycle: 16 Min @ 80%, Temp 120 C. Purge Cycle: 20 Min @ 80%
	Ninhydrin	Special Formula sprayed on paper and air dried for 20 min.
	Steam Iron	Steam Iron at highest setting. Processing time: 10-15 Mins to developed
	Powder Dusting	Magnetic Powder
8DWPNK	Visual Examination	Exhibit consisted of a white window envelope. Exhibit examined with a white Crime-Lite. Ridge detail observed in quadrant A on window section. Unclear if the ridge detail was on the inside or outside surface of the envelope. Under normal circumstances, the ridge detail found would have been photographed using the DCS camera system and the Fingerprint Bureau notified to search the mark both ways.
	Cyanoacrylate Fuming	Maston Vactron MVC5000 cabinet No.4. Superglue batch 92869 (SURELOC CA5 #092869) 3.16g of superglue used. Auto cycle processing applied which undergoes a 15 minute fuming cycle. 120°c superglue hearing plate, RH range of 75-90% with ambient temperature. Control test positive. Mark enhanced which under normal conditions would be re-captured due to improvement in contrast in the mark.
	1,2-Indanedione	A control sample and the envelope were placed into a trough of solution of 1,2 Indandione solution (batch #20AA21). This was allowed to dry on a flat surface and then placed into Weiss Gallencamp Oven#1 for 10 minutes at a temperature of 100°c with no humidity. Additional ridge detail developed on the paper section of quadrant A. Under normal conditions the mark would have been re-captured.
	Ninhydrin	Control sample and the envelope were placed into a trough of solution of Ninhydrin solution (batch #154723). This was allowed to dry on a flat surface and then placed into Weiss Gallencamp Oven#3 for 6 minutes at a temperature of 80°c with 62% humidity. No further improvement in the mark.
8FXTDL	1,2-Indanedione	Cyanoacrylate fuming 15min at 120 Celsius in FosterFreeman fuming chamber for plastic window + 30min at 65%RH and 65C temperature in Attestor 31 NinCha cabinet for envelope itself.
8JX69L	Visual Examination	
	Cyanoacrylate Fuming	Temperature of the heating plate: 100C. Humidity: 80%. Time: 35 min
	ARDROX	
	Ninhydrin	Temperature: 80C. Humidity 60%. Time: 10 min

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
8PNEJJ	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	1,2-Indanedione	
	Ninhydrin	
	Dye Stain	
	Physical Developer (PD)	
8TNHDR	Cyanoacrylate Fuming	
	DFO	Submerged in DFO, air dried, heated using a heat gun
	Dye Stain	Basic yellow premixed on plastic portion, air dried
8XHJCK	Cyanoacrylate Fuming	8 min 120 C 80 % rh 1,5 g glue
	Ninhydrin	10 min 70 C 65 % rh
	Dye Stain	Basic Yellow 40 2 g BY40/1 l EtOH
94LN3J	Visual Examination	Quality Control N/A. Paper with plastic windows, no ridge detail visible at this stage.
	Alternate Light Source	Quality Control - Yes/passed. Several wavelengths and filters. No ridge detail visible at this stage.
	Cyanoacrylate Fuming	Quality Control - Yes/passed. Fumed for 11 minutes, at 80 percent humidity. No visible ridges were detected at this time on the plastic window.
	Powder Dusting	Quality Control - N/A. Used magnetic powder on just the plastic exterior portions of the window and found a latent in the plastic window that is located in the A section of the envelope. I lifted the fingerprint twice. Ridge detail was visible but not high in quality.
	Ninhydrin	Quality Control - Yes/passed. No ridge detail was visible from the ninhydrin processing. There appeared to be some small ridge detail visible from magnetic powder still on the white paper portion of the envelope near the plastic window in section A. I photographed this area (L2).
9DUDJN	Visual Examination	lights and magnification
	Cyanoacrylate Fuming	Safefume chamber, 64.9F, 80% humidity, 20 minutes
	Powder Dusting	Dual use magnetic
9MWF6L	Cyanoacrylate Fuming	Visual inspection with white light, fuming cyanoacrylate with portable camera, development with latent print powder silk black reagent, white contrast inside double window security envelope

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
9R9JVN	Visual Examination	naked eye
	Magnetic powder	Magnetic powder applied to plastic window areas using magnetic wand. Ridge detail observed to develop on plastic window and edge of paper around window in quadrant A.
	Ninhydrin	Ninhydrin Special Formula was sprayed on the entire envelope and allowed to dry. Heat and humidity was applied (using a steam iron) over the surface to determine if ridge detail was present. The process was repeated a second time.
9YUC8M	Cyanoacrylate Fuming	Item was fumed for an hour, with the vacuum chamber at 37 deg C and vapor pressure at 82 deg C, using Omega-Print Fuming Compound. The item was dye stained, dried, and viewed under forensic laser. Item was then dye stained with DFO, dried, and heated in a 100 deg C oven for 20 mins and viewed under laser.
AA72KJ	Visual Examination	Item 1 was examined visually with a flashlight.
	Cyanoacrylate Fuming	Item 1 was then treated with cyanoacrylate fuming for 10 minutes.
	RUVIS (Reflected Ultraviolet Imaging System)	Item 1 was then observed with RUVIS devices and 254 nm UV light.
	1,2-Indanedione	1,2-Indanedione solution was prepared as follows:0.125g of 1,2-Indanedione was dissolved in solution of 5 mL glacial acetic acid and 45 mL ethyl acetate followed by 450 mL petroleum ether at room temperature. Item 1 was treated with 1,2-Indanedione solution for 10 seconds. The sample was left to airdry for a few minutes and was then put in an oven at 80 C for 20 minutes.
	Alternate Light Source	Item 1 was observed with light source of 515 nm. An orange filter was used for visual observation.
AG6TML	Visual Examination	
	Powder Dusting	Magnetic powder
ANM8FH	Powder Dusting	Magnetic powder was applied using a magnetic brush
	Ninhydrin	Item was dipped in Ninhydrin, after drying item was placed in a chamber at 65 degree heat 80% humidity for 20 minutes
AUCRJY	Powder Dusting	Magnetic fingerprint powder and tape was used on the envelope.
AXX92J	Powder Dusting	The two plastic window on the envelope were processed with Magnetic fingerprint powder.
	Ninhydrin	The paper portion of the envelope was processed with ninhydrin.
B4GVAU	Powder Dusting	Visual inspection w/side-lighting; Black magnetic powder used; latent developed

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
B8DRNM	Visual Examination	Visual Examination. No latent print observed.
	Powder Dusting	Used magnetic powder. Observed latent print on Section A window. Continued magnetic powder from print onto paper surface. Processed rest of envelope with magnetic powder. No other latent prints observed.
BC8TNF	Visual Examination	Conducted visual examination under white light and magnification.
	Alternate Light Source	Used 365nm UV,450nm Blue Light,and 532nm Laser.
	Cyanoacrylate Fuming	Followed by visual exam and 254nm UV light with RUVIS.
	1,2-Indanedione	Placed in 100 degree Celsius oven for 20 minutes, followed by visual exam and viewed under 532nm Laser.
	Ninhydrin	Placed in humidity cabinet set at 76% humidity and 76 degrees for 15 minutes. Visual exam performed after item cooled.
	Dye Stain	Applied RAM dye stain (Rhodamine, Ardrox, MBD)and allowed to dry. Then used 365nm UV, 450nm Blue Light, and 532nm Laser.
	Physical Developer (PD)	Soaked in Maleic Acid solution for 15 minutes, placed in Redox working solution for 15 minutes, placed in distilled water for rinse, then final rinse in sink. Item dried using a flat dryer. Then a visual exam was performed.
BNZ63E	Cyanoacrylate Fuming	The envelope was fumed with CA. The window was viewed using FSIS.
	FSIS	
	Ninhydrin	The non-porous portion of the envelope was treated with ninhydrin.
BPHY3P	1,2-Indanedione	Standard lab method
	Ninhydrin	Standard lab method
	Cyanoacrylate Fuming	Window. Standard lab method
BXQLYV	magnetic powder	magnetic powder utilized and photographed
CEW6BT	Powder Dusting	Magnetic Powder and brush used on plastic windows.
	Ninhydrin	Liquid ninhydrin used on paper area of envelope. Evidence was allowed to completely dry (approximately 20 min.) steam and heat applied with clothing iron. Clothing iron did not touch evidence.
CFQ3GE	Cyanoacrylate Fuming	Fumed with superglue and stained with Rhodamine 6G. Viewed with Forensic Laser.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
CQ46X6	Visual Examination	Crime-lite 2, E137
	Alternate Light Source	Crime-lite 82S E156
	Cyanoacrylate Fuming	Batch: W158296 13 of 20. Machine: MVC3000 E018
	Visual Examination	Crime-lite 2 E123 & E084
	Powder Dusting	Black Granular Magnetic Powder. Batch: B20805-30 5 of 10. Powder downdraft bench: E030
	Visual Examination	Crime-lite 2 E123 & E084
	DFO	Batch: 008/20 1 of 1. Development Chamber: E067
	Alternate Light Source	Crime-lite 82S E046 & E058
	Ninhydrin	Batch: 011/20 1 of 1. Development Chamber: E055
	Visual Examination	Crime-lite 2 E084
CRZK9G	Visual Examination	Visual examination using ambient light.
	Cyanoacrylate Fuming	CAE chamber for 3 minutes, hot plate @ 400 degrees, 75% humidity.
	Powder Dusting	Applied black magnetic powder to window area of envelope.
CU4D3F	Alternate Light Source	white light, 340-587nm, UV, coaxially reflected
	Cyanoacrylate Fuming	humidity 80%: humidity cycle 15 min, glue cycle 15 min, purge cycle 40 min.
	Alternate Light Source	white light source
	Dye Stain	Staining with Rhodamine 6G
	Alternate Light Source	fluorescence examination with polylight (491nm-548nm)
	DFO	100° Celsius during 20 min in oven
	Alternate Light Source	fluorescence examination with polylight (491nm-548nm)
	Ninhydrin	development in the dark for 24 to 48 hours in an ambient temperature with humidity
	Alternate Light Source	white light source
CWCJLV	Powder Dusting	Item 1 was visually examined and physically processed with black magnetic fingerprint powder. A latent was located in quadrant "A".
D7CHQM	Cyanoacrylate Fuming	
	Ninhydrin	

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
DEQKRH	Cyanoacrylate Fuming	
	DFO	Oven at 100 C for 20 minutes
	Ninhydrin	
	Dye Stain	Basic yellow premixed solutio
DH9LVG	Cyanoacrylate Fuming	Visual inspection with white light, fuming cyanoacrylate with portable camera, development with latent print powder silk black reagent, white contrast inside double window security envelope
DMF9MK	Visual Examination	I took out the envelope and visually inspected it for prints. I noticed that there is two plastic windows on the envelope.
	Powder Dusting	I used "Mag Powder" on the front side of the envelope in the plastic window. I started to develop a latent print in the "A" box on the plastic and continued to powder the paper envelope which then developed the rest of the latent print.
DTCP8Q	Cyanoacrylate Fuming	Processed in the superglue chamber for 40 minutes along with a standard using the Polymerization Standard.
	Ninhydrin	Processed with Liquid Ninhydrin and left to dry overnight along with a standard using PLAP.
E2WKHQ	DFO	DFO applied, baked for 20 minutes, viewed with ALS
	Ninhydrin	Ninhydrin applied, dried overnight
E9K43U	Powder Dusting	Black Magnetic Powder was used on the exterior and interior of the envelope.
ECJEXU	Powder Dusting	Magnetic Powder (black)
EE7WFE	Visual Examination	fluorescent lighting
	Alternate Light Source	FSIS
	Cyanoacrylate Fuming	Safe Fume CA tank; 80%RH; 30 mins fuming and purging time; Lot# CA201002
	Alternate Light Source	FSIS
	Ninhydrin	Lot #HFENIN201023; Steam Iron
	Dye Stain	M-Star on window of envelope. Lot#MS201020; viewed under Crime Scope.
	Powder Dusting	Contrasting powder.
EE7YYR	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	(120°C ± 5°, 75% Relative Humidity ± 15%)
	Ninhydrin	(40°C +/- 5°, 65% +/- 5%, 3 minutes)
	Dye Stain	(R.A.M., 395 nm, yellow filter)

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
EGAP9R	Visual Examination	Item visually examined and analyzed.
	Cyanoacrylate Fuming	Plastic window portion of the envelope was removed and fumed with cyanoacrylate in fume chamber.
	Powder Dusting	black powder applied to plastic window portions.
	Dye Stain	Yellow dye applied to plastic window portions. Yellow Dye, applied, rinsed. Visualized with ALS, 420-470nm. Yellow goggles, lenses.
	Alternate Light Source	Yellow lens, goggles, light spectrum of 420-470 nm used.
	Ninhydrin	Paper portion of envelope was processed with Aerosol Ninhydrin, saturated item. Allowed to dry, then moist heat applied to accelerate process.
EH3MED	Magnetic Powder	Magnetic powder applied to item and ridge detail was observed on the plastic film window and on the paper above. -Photographed
	Ninhydrin	Applied no new ridge detail observed.
ELMJZH	Cyanoacrylate Fuming	Processed in AirScience Fume Chamber for 15 minutes to capture any prints on the plastic window.
	Powder Dusting	I then processed with magnetic powder and lifted one area of ridge detail from box A.
	Ninhydrin	I then processed with ninhydrin, heat, and humidity to develop any areas outside the plastic window. Allowed to sit overnight for further development.
EQKV4V	Ninhydrin	Porous treated with Ninhydrin then placed in chamber at 80C w/ 40%RH for 15min.
	Cyanoacrylate Fuming	Non-porous fumed w/ cyanoacrylate in vacuum.
EUXXLK	Visual Examination	Examined with Krimesite Imager using 254 nm light source. Located Friction ridges in Section A, no friction ridges located in remaining sections.
	Powder Dusting	developed using magnetic powder.
EXKF66	Visual Examination	
	Lumicyano with Tracer Laser	Fluorescent superglue used for the non-porous window on the envelope. 25 min run time in CA chamber, 60% humidity, Lumicyano recommended mixture quantities for a 23 cubic foot chamber. Laser at 532nm.
	1,2-Indanedione	with Tracer laser, 100 degree Celsius, no humidity
	Ninhydrin	80 degrees Celsius, 60% humidity

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
EY9WED	Visual Examination	White light
	Cyanoacrylate Fuming	Following our method description - Equipment: MVC Foster Freeman 3000. Glue: 1,5 g. Humidity: 80% Humidity time: 15 min. Time:8 min
	Powder Dusting	Following our method description - Magnetic powder: Magna Black. Fingerprint on plastic window/paper
	Ninhydrin	Following our method description - Equipment: Weisstechnik fingerprint development cabinet. Humidity: 65%. Temperature: 80 degrees C. Time: 10 min
F7NUJC	Visual Examination	White light and ambient lighting used to examine Item 1 with the naked eye
	Alternate Light Source	Examined Item 1 using: 254nm RUVIS lamp, 365nm UV light source, 455nm blue light source, 532nm laser light source
	Cyanoacrylate Fuming	vaporization of cyanoacrylate glue C to develop latent fingerprints on Item 1 of evidence. Total fume time is 1.5 min. Viewed evidence with white light and ambient lighting, then used 254nm RUVIS lamp for additional examinations
	1,2-Indanedione	Applied 1,2-Indanedione to Item 1, allowed to dry in fume hood, then placed in oven for 20min at 100*C. Item 1 examined with white light and ambient lighting, followed by 532nm Laser exam
	Ninhydrin	Applied ninhydrin to Item 1, allowed to dry, then placed in humidity cabinet for 15min at 76*C at 76% relative humidity Item 1 examined with white light and ambient lighting
	Dye Stain	Applied RAM dye stain to Item 1, allowed to dry, and viewed with following light sources: 365nm UV light source 455nm blue light source 532nm laser light source
	Physical Developer (PD)	Submerged Item 1 in maleic acid bath for 15min before transferring to PD working solution bath for 15min. At end of 15min item was rinsed off with water. Item 1 examined with white light and ambient lighting
FAAPBB	Visual Examination	Performed a visual Exam utilizing ambient light. No identifiable impressions were found.
	Ninhydrin	A control was treated with ninhydrin and followed with direct steam from an iron. The control showed a positive reaction and friction ridge development. Ninhydrin was applied to the envelope and followed with direct steam utilizing an iron. Minimal friction ridge detail was found in quadrant A.
	Cyanoacrylate Fuming	The plastic windows from quadrants A and C were removed from the envelope. These items were superglue fumed in an Air Science Fuming Chamber for 9 minutes. A control was placed on transparent acetate inside the chamber and showed positive cyanoacrylate development. Friction ridge detail was developed on the plastic window from quadrant A only.
	Powder Dusting	The plastic windows from quadrants A and C were dusted with black fingerprint powder.Friction ridge detail was developed on the plastic window from quadrant A only.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
FAN6FC	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	1,2-Indanedione	
	Ninhydrin	
	Dye Stain	
	Physical Developer (PD)	
FELGG4	Cyanoacrylate Fuming	item fumed with CA for 10 minutes at 80% RH. 5 minute purge cycle. Positive control used. latent print developed in quadrant A on the plastic window of envelope.
FFVNHB	Powder Dusting	Window of envelope
	Ninhydrin	paper portion of envelope
FGTTHD	Visual Examination	Various lighting including Crimelite and Laser.
	Cyanoacrylate Fuming	x70 mins. in chamber
	Powder Dusting	Black powder
	DFO	oven at 100 degrees Celsius x 20 minutes
	Ninhydrin	oven at 80 degrees Celsius with 65% humidity x 3-6 minutes
FHKV6T	Visual Examination	with natural ligth
	Alternate Light Source	forensic ligths
	Cyanoacrylate Fuming	to find latent prints on plàstic window
	Powder Dusting	to acolorate latent prints of the plàstic window with Blitz green
	1,2-Indanedione	to revelate latents prints in paper envelope
	Ninhydrin	to revelate latents prints in paper envelope

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
FHYMT4	Visual Examination	Observed patent print on polymer window of quadrant A
	Cyanoacrylate Fuming	Fumed for 12 minutes in superglue chamber. Further development of print in quadrant A observed.
	Powder Dusting	Increased contrast of fumed print in quadrant by dusting with black powder. Both inner and outer regions of polymer windows were dusted as well as the semi-porous adhesive side of the envelope seal. Offered best contrast and porous region was photographed under these conditions.
	1,2-Indanedione	Processed entirety of envelope with 1,2-Indanedione ZnCl in heat/humidity chamber for 20 minutes at 80 degrees F and 65% humidity. Additional RD developed adjacent to previously observed ridge detail in quadrant A, that appears to be from the same impression. Offered best contrast and porous region was photographed under these conditions.
	Alternate Light Source	Visualized IND with 532 nm TraceR laser using an orange barrier filter.
	Ninhydrin	Processed entirety of envelope with Ninhydrin in heat/humidity chamber.
FJQMQE	Cyanoacrylate Fuming	CA to windows only in the small tank (the rest of the envelope was covered with paper).
	R6G	R6G was applied to windows only.
	1,2-Indanedione	IND was applied to the rest of the envelope. The envelope was put in the environmental chamber for 15 min at 80 degrees and 65% humidity.
FKAERC	Visual Examination	Visual examination with direct and indirect lighting.
	Powder Dusting	Bichromatic Magnetic powder.
	Ninhydrin	Sprayed and placed into controlled CARON FP development chamber at 70% humidity and 70 degree Celsius for 20 minutes.
FMYLCA	Cyanoacrylate Fuming	Fumed for 7 minutes at 78% humidity
	Powder Dusting	With magnetic powder on windows of the envelope, and on area of paper where latent print appeared to continue
	1,2-Indanedione	Soaked for 5 minutes and allowed to dry for 24 hours, in an attempt to further develop ridge detail on the paper portion of the envelope - no further ridge detail developed
FXFDUR	Cyanoacrylate Fuming	
	1,2-Indanedione	
	Ninhydrin	

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
G32YVB	Visual Examination	
	Alternate Light Source	
	DFO	used only on paper parts of white envelope; whitout heating
	Ninhydrin	used only on paper parts of white envelope; whitout heating and vapor deposition
	Cyanoacrylate Fuming	used only on double-window security, humidity - 80%, temperature of the heating plate 100 degrees Celsius, time - 35 minutes
	Powder Dusting	used only on double-window security magnetic powder aplicatior
GGNXAR	Powder Dusting	Magnetic powder was used on he exterior and interior sides of Item #1.
GJD4UN	Cyanoacrylate Fuming	12 minutes in smaller chamber.
	Ninhydrin	Ninprint with steam heat via an iron.
	Powder Dusting	Black powder on plastic window of envelope.
	Powder Dusting	Magnetic powder on plastic window and paper of envelope in section A.
GLCRYC	Cyanoacrylate Fuming	Cyanoacrylate fuming for plastic window and Indanedione in Attestore 31 NinCha cabinet 30min at 65Rh + 65C temperature for envelope.
GN3PCB	Visual Examination	Visual exam using white light
	Alternate Light Source	LASER (532 nm), Blue light (450 nm), and UV light (365 nm)
	Cyanoacrylate Fuming	Microburst technique, 2 grams of superglue fumed for 1.5 mins. Visualized with white light and RUVIS (254 nm)
	1,2-Indanedione	Squirt bottle application followed by 20 minutes in the oven at 100 degrees Celsius. Visualized with white light and LASER (532 nm)
	Ninhydrin	Squirt bottle application followed by 15 minutes in the humidity chamber (76% relative humidity). Visualized with white light
	Dye Stain	Applied RAM with a squirt bottle. Visualized with LASER (532 nm), Blue light (450 nm), and UV light (365 nm)
	Physical Developer (PD)	15 mins in maleic acid, 15 mins in the physical developer, 5 minute water bath. Dried and visualized with white light
GTXJAC	Visual Examination	Visual - 3 Minutes
	Powder Dusting	Black Powder - 3 minutes
	Powder Dusting	Magnetic Powder - 2 minutes
	[No Methods Reported.]	Clean up brush - 1 minute

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
H326YQ	Powder Dusting	Magnetic powder used on the exterior and interior sides of Item #1.
	Ninhydrin	Item #1 was also processed with ninhydrin.
H4T4CN	Powder Dusting	Black Magnetic
	Ninhydrin	
H6L2HA	Visual Examination	no latent prints observed upon visual examination.
	Powder Dusting	latent print observed and developed upon processing with black magnetic dust on the window of quadrant A
H99KND	Cyanoacrylate Fuming	Fumed at 80% humidity for 14 minutes
	Dye Stain	Basic yellow 40 on envelope windows
	DFO	DFO on paper part of envelope heated at 100 C for 20 minutes
HDH2VG	Visual Examination	No friction ridges present upon visual examination using oblique lighting. Examination using the Krime Site Imager revealed minimal friction ridge detail in section A.
	Powder Dusting	Item processed using black magnetic powder revealing a friction ridge impression in section A.
HGEKYZ	Visual Examination	white light
	Magnetic Powder	Powdered only the plastic windows until print developed
	Visual Examination	white light
	Ninhydrin	Ninhydrin - HT used on paper/porous areas, followed by steam iron and allowed to sit overnight
HGJXPH	Ninhydrin	Processed envelope with Ninhydrin/HFE and then applied steam.
	Powder Dusting	Applied black powder to plastic windows

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
HJ3299	Visual Examination	White light examination of exhibit as received using ambient laboratory lighting and 'Tiablo' High Power LED Flashlight at varying angles. No useful marks were visible.
	Alternate Light Source	Sequential initial High Intensity Light Source (HILS) examination carried out, following dark adaptation, using Green Crime Lite 490nm-560nm with 571nm viewing filter followed by Blue Crime Lite 420nm-470nm with 476nm viewing filter and UV Crime Lite 350nm- 380nm with 408nm viewing filter. QA adhered to and control test pieces passed. No useful marks were visible. The plastic window from the envelope was separated from the paper part of the envelope using adhesive remover 'Un-du'
	Cyanoacrylate Fuming	The plastic part of item 1 was treated with Cyanoacrylate Fuming. Carried out as per [Laboratory] validated/internally verified procedure (Foster & Freeman MVC5000 Cabinet, Relative Humidity 80%, Glue time 13 minutes & 3g of superglue used). Following treatment, examined using 'Tiablo' High Power LED Flashlight (white light) at varying angles. QA adhered to and control test piece passed. Ridge detail was seen in section 'A'. This was exhibited as 'BAC/2' and photographed.
	Powder Dusting	The plastic part of Item 1 was treated with Powder Dusting. Carried out as per [Laboratory] validated/ internally verified procedure, Jet Black Magnetic Powder used with a Magnetic Applicator. Following treatment, examined using 'Tiablo' High Power LED Flashlight (white light) at varying angles. QA adhered to and control test piece passed. 'BAC/2' was further enhanced and exhibited as 'BAC/2AO'. This was photographed.
	DFO	The paper part of item 1 was treated with DFO. Carried out as per [Laboratory] validated/internally verified procedure. Treated with DFO, allowed to dry, and then placed in oven for 22 minutes (2 minutes recovery time included in time) at 100°C. Following dark adaptation, examined using Green Crime Lite 82S 490-560nm with 571nm viewing filter. QA adhered to throughout and control test piece passed. Ridge detail was seen in section 'A', it was determined that this was part of the same mark as 'BAC/2' which had been laid across the plastic and paper part of the item, therefore this was exhibited as 'BAC/2BO' and photographed.
	Dye Stain	The plastic part of item 1 was treated with ethanol-Based BY40 dye used, carried out as per [Laboratory] validated/ internally verified procedure. BY40 dye applied and left for ~15 seconds. Rinsed with water and left to dry. Examined when dry using blue Crime Lite 420-470nm with 476nm viewing filter, following dark adaptation. QA adhered to and control test piece passed. 'BAC/2' was further enhanced, exhibited as 'BAC/2CO'and photographed.
	Ninhydrin	The paper part of item 1 was treated with Ninhydrin. Carried out as per [Laboratory] validated/internally verified procedure. Treated with Ninhydrin and allowed to dry. Treated in oven set at 62%RH & 80°C for 7 minutes (5 minutes recovery time included in time). Examined using 'Tiablo' High Power LED Flashlight (white light) at varying angles on same day and periodically checked over 5 days. QA adhered to and control test piece

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
		passed. Ridge detail was seen in section 'A', it was determined that this was part of the same mark as 'BAC/2' which had been laid across the plastic and paper part of the item, therefore this was exhibited as 'BAC/2DO' and photographed.
	Wet Powder Suspension	The plastic part of item 1 was treated with Carbon-based powder suspension used, carried out as per [Laboratory] validated/internally verified procedure. Pre-rinsed with water. Powder Suspension applied with soft squirrel hair brush and left for ~10-20 seconds. Powder Suspension rinsed off using gently running water until maximum contrast obtained and then allowed to dry. When dry, examined using 'Tiablo' High Power LED Flashlight (white light) at varying angles and magnifying eyeglass used where required. QA adhered to and control test piece passed. 'BAC/2' was further enhanced, exhibited as 'BAC/2EO' and photographed.
	Physical Developer (PD)	The paper part of item 1 was treated with Physical Developer. Carried out as per [Laboratory] validated/internally verified procedure. Ensured all solutions and room temperature >17°C. Pre-treated with Maleic Acid for 10 minutes, treated with Physical Developer Working Solution for 20 minutes followed by 3 x water rinses as per procedure. All treatment stages carried out on rockers so exhibit was constantly agitated throughout. When dry, item was examined using 'Tiablo' High Power LED Flashlight (white light) at varying angles. QA adhered to and control test piece passed. No useful marks were developed.
HZQCVB	Cyanoacrylate Fuming	Visual inspection with white light, fuming cyanoacrylate with portable camera, development with latent print powder hi - fi white reagent, white contrast inside double window security envelope
JAFFKP	Cyanoacrylate Fuming	Fumed in Cyvac for 1 hour, treated w/ R6G (Batch# SV2020-K6gW-21) viewed under green laser. Treated w/ Ninhydrin (Batch# SV2019 NIN-01), put into environmental chamber @80oC and 70% RH for 15 minutes viewed under white light.
JC8ANL	Powder Dusting	Dusted with magnetic powder on windowed areas.
	Ninhydrin	Item was then dipped into ninhydrin, hung for approximately 2 minutes to dry and then a heat source was added to the paper areas.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
JDDYMN	Visual Examination	Examination with an alternate forensic light source with appropriate filters (light source – POLILIGHT PL 500)
	Cyanoacrylate Fuming	20 min exposure, 120° C, 80% humidity, viewing in white light with POLILIGHT PL 500 in 505-530 nm range + appropriate filters
	DFO	Spraying item with DFO working solution, after drying – heating the item for 10 min in 95° C, viewing with POLILIGHT PL 500 alternate forensic light source in ~515 nm range + appropriate filters
	Ninhydrin	Spraying item with ninhydrin aerosol spray, after drying – heating the item for 90 min in 40 °C, 80% humidity, viewing in a daylight and with POLILIGHT PL 500 alternate forensic light source in white light and in ~515 nm range + appropriate filters, viewing again after few days
	Dye Stain	Spraying window of envelope with "Basic Yellow 40" working solution,viewing with POLILIGHT PL 500 alternate forensic light source in415-495 nm range + appropriate filters
JM3HAA	Visual Examination	Fluorescent overhead light. Magnifier
	Cyanoacrylate Fuming	Air Science Tank #3 (fumed for 30 min at relative humidity of 80%, then purged for 30 min). Cyanoacrylate Ester, lot number CA201002
	Powder Dusting	Black magnetic powder, used magnetic wand to apply
	Ninhydrin	HFENINHYDRIN, lot number HFENIN201023, Sprayed on envelope under fume hood
	Physical Developer (PD)	Three part physical developer, lot number PD201124. Maleic acid prewash, lot number MAP201124
JM4KTL	Visual Examination	under white light
	Alternate Light Source	fluorescence examination (350 nm - 650 nm under appropriate color barrier filters)
	DFO	surfaces envelopes without windows; fluorescence examination after 4 days in alternate light source (505 nm - 530 nm under orange barrier filter)
	Ninhydrin	surfaces envelopes without windows; visual examination after 4 days under white light
	Cyanoacrylate Fuming	in the fuming chamber with a humidity 80% for 11 minutes; visual examination under white light and fluorescence examination (350 nm - 650 nm under appropriate color barrier filters)
	Powder Dusting	Ferromagnetic Powder Black; visual examination under white light

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
JNXAWF	Visual Examination	Under white light.
	Cyanoacrylate Fuming	Atmospheric, fume time 30 minutes, purge time 30 minutes, cure over the weekend.
	FSIS	Under UV light.
	1,2-Indanedione	With HFE 7100:sprayed, air dried, placed in humidity chamber at 200 F with small amount H2O for - 15 minutes and viewed under 532 nm green laser with orange goggles.
	Ninhydrin	With HFE: sprayed, air dried, placed in humidity chamber at 200 F with small amount of H2O for - 15 minutes and viewed under white light.
	Dye Stain	Rhodamine 6G dye stain with methanol: sprayed, air dried, and viewed under 532 nm green laser with orange goggles. Windows of envelope only.
	Powder Dusting	Black powder windows of envelop only.
JYEUGC	Cyanoacrylate Fuming	Envelope was processed by cyanoacrylate ester (superglue) under a vacuum for over 1 hour, allowed to cure then dye stained with R6G (window portion only) and viewed using a 530nm/green forensic laser. Print found and photo was taken.
	DFO	After photo taken, envelope was sprayed with DFO (non-window portion only) and placed into an oven at 100 °C for 20 minutes and viewed using a 530nm/green forensic laser.
JZNYWL	Visual Examination	with lighted magnifier
	Cyanoacrylate Fuming	fumed with cyanowand
	Ninhydrin	dipped and let develop for 24 hours
KJDMVF	Powder Dusting	THE PROCESSING TIME OF THE TREE ITEMS WAS 2 HOURS, THE MAGNETIC LATEND PRINT POWDER REGULAR BLACK REAGENT WAS USED.
KVU8FC	Visual Examination	fingerprint was observed in section A, but ridge details were not clear it was photographed using UV light source.
	Cyanoacrylate Fuming	for double plastic windows. clear Fingerprint was observed in section A
	Ninhydrin	for the paper part of the envelop. small part of a Fingerprint was observed in section A

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
KVXPLM	Visual Examination	1) Observation with the nake eye of the surface of the piece of White, double-windowed security envelope, under different inclinations. We place a black background under the transparent plate of the case. No trace detected.
	Alternate Light Source	2) Light shaving with Crimescope MCS-400 and wearing glasses of appropriate colors under different inclinations. We place a black background under the transparent plate of the case. No trace detected.
	Visual Examination	3) Since the object has a porous (paper) and non-porous (plastic window) surface, we cut the edges of the envelope then the two plastic windows in order to carry out different treatments. We remove the front and back sides of the plastic windows and their positions on the casing.
	Cyanoacrylate Fuming	4) We place the plastic windows in the fumigation tank. Autocyle for 2g of solution of Lumicyano 8% during 1 hour. A contrôle trace is placed in the tank.
	Visual Examination	5) After treatment, the ridges of the fingerprint are visibles with naked eye on the plastic window belonging to "A" case. We don't observe other traces elsewhere on the other plastic window.
	Alternate Light Source	6) We place a black background under the plastic windows . We observe the windows with light shaving with Crimescope MCS-400 and wearing glasses of appropriate colors, under different inclinations. We don't observe trace on the plastic window of "C" and "D" cases. For the fingertprint in the "A" case, we can determine the pattern type of the trace. The upper area and the lower area of the fingerprint trace are cut off.
	1,2-Indanedione	7) We vaporize of a solution 1,2-Indanedione on the enveloppe (without windows), waiting 2 minutes for evaporation of the solution. then the object is placed under a heating press at 165°C during 10 seconds. The solution is tested on a control beforehand.
	Visual Examination	8) We observe papillary ridges, colored in pink, on either side of the window in box "A". We don't observe other traces elsewhere on the object.
	Alternate Light Source	9) The object is illuminated under different wavelengths of the Crimescope MCS-400, whith glasses of appropriate colors. We observe luminescent traces in box "A" of the envelope. Observation at the Crimescope at CSS filter and orange filter glasses for observation in luminescence give a good result.
	Ninhydrin	10) Vaporization ninhydrine on the envelope (without windows), waiting 2 minutes for evaporation of the solution. Then the object is placed in a tank in the dark at room temperature with a beaker of water for 24 to 48 hours for a slow reaction. The object is checked regularly with the naked eye to verify that a fingerprint with purple crests is revealed. The solution is tested on a control beforehand.
	Visual Examination	11) We don't observe any purple coloration on the object. We don't observe additional papillary ridges at box "A". We don't observe other traces elsewhere on the object. The reaction witnesses worked well.
	Alternate Light Source	12) We don't observe additional papillary ridges at the level of

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
		the "A" box of the object or on the rest of the object, when the object is illuminated under different wavelengths of the Crimescope MCS-400, whith glasses of appropriate colors.
KW77C7	Visual Examination	oblique lighting
	Cyanoacrylate Fuming	30 min in a fuming chamber
	Powder Dusting	black magnetic powder
	Ninhydrin	ninhydrin petroleum ether formulation and steam heat
KZ69PM	Visual Examination	*Please note that gloves were worn at all times throughout this processing. Item 1 was first removed from its packaging and visually examined. No ridge detail was observed at this time.
	Ninhydrin	*Please note that gloves were worn at all times throughout this processing. Because Item 1 was observed to be partially made of paper, Ninhydrin chemical processing was selected. A humidity chamber was cleaned prior to use with isopropyl alcohol. A clean sheet of butcher paper was placed onto the shelving within the chamber. A control was created and tested utilizing a plain piece of white paper. The control was sprayed with Ninhydrin (Lot [Number], Exp: 09/29/2021) and placed into the humidity chamber set to 90% humidity and 32.2 degrees Celsius for approximately twenty minutes. Positive results were observed. Item 1 was then sprayed with the Ninhydrin (Lot [Number], Exp: 09/29/2021) and allowed to dry for approximately 30 seconds before being placed into the humidity chamber at the same settings as the control sample. The item remained in the chamber for approximately 35 minutes before it was removed. It was then secured in an evidence locker pending analysis at a later date. The item was retrieved approximately 48 hours later and no latent detail was observed.
	Powder Dusting	*Please note that gloves were worn at all times throughout this processing. Because several areas of the item were observed to be plastic, the application of latent print powder was selected. The item was placed on a clean sheet of butcher paper and the following items were retrieved: black magnetic powder, a magnetic powder applicator, white latent backing cards, and clear fingerprint tape. The black magnetic powder was applied to the front exterior of the item using the magnetic applicator. At no point did the applicator come into direct contact with the item. Ridge detail became visible in the "A" quadrant.
L2T7CJ	Visual Examination	
	Cyanoacrylate Fuming	temp.21OC, time 15 min, humidity 80%
	Powder Dusting	

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
L6TH8J	Alternate Light Source	UV, Blue, Green
	Cyanoacrylate Fuming	2.5g CNA
	Ninhydrin	80 degrees 62% 4 min
	DFO	100 degrees 20 min
LA68P8	Visual Examination	Visually examined the evidence for visible latent prints.
	Powder Dusting	Used black magnetic powder on plastic window of envelope.
LBLJAX	Cyanoacrylate/DFO/ninhydrin	Cyanoacrylate fuming default cycle 120 C, 80% RH, 10 min fuming. DFO solution in HFE 7100, incubation in ~90 C for 15 min. Ninhydrin solution in HFE 7100, incubation in ~90 C for 15 min.
LCDK79	Visual Examination	Visual examination with lights (390 - 850 nm) and photoraphy+photoshop.Windowed area, section A, was found one fingerprint.
	Powder Dusting	Windowed areas, plastic, examination with magnetic jet black powder and photoraphy+photoshop. Section A was to be seen print, both plastic and paper areas.
	Ninhydrin	62% moisture + 80 C degrees, 6 min. operate time. Section A fingerprint get little better.Photoraphy+photoshop
	1,2-Indanedione	65% moisture + 90C degrees, 15 min. operate time. Section A print did't get any better.Different range of lights were used, but result didn't get any better.
LJEML8	Visual Examination	Visual examination under ambient lighting. No apparent fingerprints were observed on any of the sections of the evidence item.
	Ninhydrin	The item of evidence was processed using the ninhydrin. The application of the ninhydrin was done by using the dipping method. A clean, shallow dish large enough to hold the item lying flat was used. Enough of the ninhydrin solution was added to cover the bottom of the container. The item laid in the solution for approximately 5 seconds and then it was hung to air dry. To accelerate the development process, steam from an iron was used. A cotton towel was placed underneath the item and then the item was covered with a second towel. With the iron on steam, it was placed in contact with the top towel. The iron was moved back and forth over the towel for approximately 2-4 minutes. An apparent fingerprint developed in section A of the item of evidence. The apparent fingerprint from section A was partially on the envelope and also on the top window. No apparent fingerprints developed in the remaining sections.
	Powder Dusting	After using the ninhydrin solution to develop the apparent fingerprint on the envelope, black fingerprint powder was used to further enhance the partial apparent fingerprint located on the top window of section A.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
LN9R9K	Visual Examination	Item was examined for possible trace evidence and latent prints.
	Powder Dusting	Magnetic Powder processing on the two clear cellophane windows followed by photography and then lifting the powdered print.
	Ninhydrin	Remaining portions of the envelope were treated with No Run Ninhydrin and allowed to dry. The item was placed in the Air Science Safe Develope Humidity Chamber set at 80 degrees celsius, 65% relative humidity for 6 minutes.
M2APN4	Powder Dusting	Black magnetic powder on clear window
	DFO	DFO w/ LASER
	Ninhydrin	Ninhydrin
M2EW3J	Cyanoacrylate Fuming	
	Powder Dusting	Powder used on plastic window only
	DFO	Paper part of envelope
	Ninhydrin	Paper part of envelope
M4ZQVD	Cyanoacrylate Fuming	portable fuming chamber 15 minutes
	Ninhydrin	(methanol base)dip method, 80C, 65% humidity 20 minutes
	Powder Dusting	Black magnetic powder, swirling technique
M9A4FW	Powder Dusting	Black powder for plastic window of envelope
	Ninhydrin	Spray ninhydrin- allowed 24 hour development window
MALYXH	Powder Dusting	The plastic windows observed in quadrants "A" and "C" were the only areas processed using this method. Black powder and a fiberglass fingerprint brush were used to dust until the development of a potential latent print in quadrant "A" was observed.
	Ninhydrin	Full item was placed into a dish and submerged in Ninhydrin; item was flipped over and re-submerged to ensure chemical covered entire surface area of item. Total time in chemical was approximately 10 seconds. Item was then allowed to air-dry before applying humidity for developmental process. A control was also used to determine chemical functionality, results were positive.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
MF7YDV	Alternate Light Source	polilight and laser
	Cyanoacrylate Fuming	window of envelope
	1,2-Indanedione	paper of envelope
	Ninhydrin	paper of envelope
	Physical Developer (PD)	paper of envelope
	Dye Stain	Rhodamine 6 G, Gentian Violet and BY40 - on window of envelope
	Powder Dusting	window of envelope
MJ836H	Visual Examination	Visually inspected item for obvious friction ridge detail.
	Alternate Light Source	Used ALS (varying wavelengths) to inspect item for obvious friction ridge detail.
	Cyanoacrylate Fuming	C.A. Fume for 10 minutes in chamber, chamber vented for 2 minutes. Control print was placed in chamber with Item 1. Control print was good. Print was developed in quadrant A.
	Magnetic Powder	With a magnetic brush and powder, Item 1 was brushed to further develop the print in quadrant A. No additional prints developed.
	Iodine	Item was placed in a plastic bag with iodine crystals with control print. Control print was good. No additional prints developed.
	Ninhydrin	Item was brushed with ninhydrin and placed in a warming cabinet with control print. Control print good. Used steam iron on item, no additional prints developed. Let item set for several days until 10-23-2020, no additional prints developed.
MJPXN6	Visual Examination	Visually examined item for latent prints.
	Alternate Light Source	Used alternate light source to visually look for prints on the item. First used the laser (532nm) to look for any prints, next used the 450nm light and then finally the 365nm light.
	Cyanoacrylate Fuming	Then superglue fumed the item using cyanoacrylate and after the item was fumed, visually looked at the items for prints, finally looking at the item under the FSIS.
	1,2-Indanedione	Used indanedione on the item and put the item in the oven because the humidity was above 23% in room 601. I put the item in the oven at 100 degrees Celsius for 15 minutes.
	Ninhydrin	I then used Ninhydrin on the item and placed the item in the humidity cabinet for 15 minutes at 76 degrees and 76% humidity.
	Dye Stain	I used the RAM dye stain and squirt the RAM on the windows of the envelope, then used the Laser (532nm), 450nm, and 365nm to visualize any prints
	Physical Developer (PD)	Finally I used physical developer looking for prints on the envelope. I put the envelope in the Maleic acid solution for 15 minutes, then the redox solution for 15 minutes, a water bath to get the redox off and then water to rinse. Finally drying it.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
MLTT88	Visual Examination	Performed VIS exam using oblique lighting. Visualized print.
	Alternate Light Source	Used 532nm Laser, 450nm blue light and 365nm UV light.
	Cyanoacrylate Fuming	Performed VIS then used FSIS at 254nm.
	1,2-Indanedione	Placed item in oven for 20 minutes then used 532nm Laser.
	Ninhydrin	Placed item in humidity chamber for 15 minutes the performed a visual exam.
	Dye Stain	Applied RAM then used 532nm Laser, 450nm blue light, and 365nm UV light.
	Physical Developer (PD)	Placed item in Maleic Acid for 15 minutes. Placed item in Redox working solution for 15 minutes. Rinsed with water
MPZ3MJ	Cyanoacrylate Fuming	
	Powder Dusting	
	DFO	
	Ninhydrin	
MQPDEC	Powder Dusting	I used oblique lighting in search of latent prints on the security envelope. However, to fully develop the ridge detail I used powder dusting. Magnetic powder was used on the exterior of item 1. Latent impression was observed in section A of item 1.
MURA8D	Visual Examination	I visually examined the envelope.
	Powder Dusting	I dusted the two plastic window portions of the item with black magnetic powder. Throughout processing the item was analyzed for friction ridge impressions.
	DFO	I processed the entire paper portion of the envelope with DFO and placed it in the climate chamber at 100 degrees Celsius for 20 minutes. I visually examined the envelope and viewed it with a TracER compact laser. Throughout processing the item was analyzed for friction ridge impressions.
	Ninhydrin	I processed the entire paper portion of the envelope with Ninhydrin and placed it in the climate chamber at 80 degrees Celsius with 67% relative humidity for 10 minutes. Throughout processing the item was analyzed for friction ridge impressions.
MVMWHW	Visual Examination	
	Powder Dusting	- Magnetic powder was applied to the two clear cellophane window panels.
	Ninhydrin	Ninhydrin-special formula was applied to the paper surfaces of the item after the application of magnetic powder to the cellophane window panels. After the ninhyrin sufficiently dried, the steam iron was used. When no ridge detail was observed, a second application of ninhydrin-special was applied. After drying, the steam iron was also used a second time.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
MWJ7UL	Alternate Light Source	General visualization under ALS and white light yielding negative results.
	Powder Dusting	Powder dusting of plastic windows within envelope yielding positive results on window within Section "A".
	[No Methods Reported.]	Photographing of results of powder processing.
	DFO	DFO of envelope yielded positive results within Section "A".
	Alternate Light Source	Visualizing positive results from DFO within Section "A".
	[No Methods Reported.]	Photographing of results of DFO processing.
	Ninhydrin	Ninhydrin of envelope yielded positive results within Section "A".
	[No Methods Reported.]	Photographing of results of Ninhydrin processing.
MXQK4D	Visual Examination	Very faint ridge detail observed in Quadrant labeled A. Lacked contrast for photography.
	Cyanoacrylate Fuming	Item fumed for approximately 7 minutes in a CA chamber. Ridge detail observed in quadrant A and photographed.
	Powder Dusting	Black magnetic powder used on plastic window and paper just below developed impression. Impression in quadrant A photographed and lifted.
	DFO	Porous areas treated with DFO and placed in a climate chamber (heat) for approximately 8 minutes.
	Alternate Light Source	Item was screened with a Crimescope at 495nm and an orange filter. Impression in quadrant A was photographed.
	Ninhydrin	Porous areas treated with ninhydrin and placed in a climate chamber (heat and humidity) for approximately 15 minutes. Impression in quadrant A was photographed.
MYL9DV	Visual Examination	Visually observed
	Lumicyano fuming	8% solution of Lumicyano Solution and Lumicyano Powder used Humidity Cycle -80% RH 15 mins, Glue Cycle-80% RH 120degrees Celcius 25 min, Purge Cycle- <80% RH ~20 mins
	Rhodamine 6G	Rhodamine 6G working solution made of .1g of Rhodamine 6G powder mixed with 1000ml of Methanol. Paint brush application and rinsing with methanol
	Ninhydrin	Ninhydrin Special Formula spray, heated with steam iron, and dried overnight
	Alternate Light Source	Green light wavelength with an orange filter
	Visual Examination	Observed for Ninhydrin development
N7W2ZC	Cyanoacrylate Fuming	window: 20 min, 130°C, 80% humidity (cyanacrylate)
	1,2-Indanedione	paper: 24h, 50°C, 40% humidity
	Ninhydrin	paper: 24h, RT, 65% humidity

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
N8VZJK	Cyanoacrylate Fuming	PRIOR TO CYANO FUMING, WE EXAMINED THE PLASTIC WINDOW WITH NATURAL AND FORENSIC LIGHTS. A FINGERPRINT FRAGMENT WAS SLIGHTLY VISIBLE ON THE OUTSIDE OF THE PLASTIC WINDOW. WE FOLLOWED THE STANDARD [Standard Identifier] ISO PROCEDURES IN ALL THE PROCESS
	Powder Dusting	SIRCHIE MAGNETIC BLACK
	1,2-Indanedione	OBSERVATION AND PHOTOGRAPHY AIDED WITH FORENSIC LIGHTS
	Ninhydrin	
NAFYHZ	Visual examination, Forensic Light Source, CA, MRM10, NIN, Photography	10/26/20: Item 1: During the visual examination visible ridge detail was found within quadrant-A on the non-porous surface(photo lift #1). After photographic documentation was complete, item-1 was exposed to cyanoacrylate fume. Ridge detail was detected after the completion of the cyanoacrylate process and photographic documentation was performed on 10/26/20. To further develop this ridge detail MRM10 was applied to photo lift #1 and additional photos were taken on 10/26/20. MRM10 was tested prior to being applied to case evidence and it performed as expected. Once completed, the porous surfaces of item 1 was treated with Ninhydrin. Item 1 was then secured and left to cure for a minimum of 72 hours. The Ninhydrin was tested prior to being applied to case evidence and it performed as expected. 10/29/20: After 72 hours, photo lift #1 was examined for Ninhydrin development and exposed to steam; however, there was no additional benefit noted.
NF6JLF	Powder Dusting	Black Magnetic Powder
NFPZ2J	Powder Dusting	First, I processed the plastic windows with black powder. One impression was observed.
	Ninhydrin	After I used black powder and photographed one impression, I sprayed the envelope with Ninhydrin.
	Visual Examination	
NGHX84	Visual Examination	Mark search was done Using White Light. And the Mark was found on Section A.
	Cyanoacrylate Fuming	Processing Time: 20 mins, which includes Humidifying, Fuming and Purging. After 20 mins, Mark search was done using White Light. No additional mark found. Mark on Section A, enhanced.
	Powder Dusting	The item was dusted with Magnetic Powder. The Mark on section A was enhanced, viewed under white light.
	1,2-Indanedione	Sprayed with 1,2 Indanedione, kept in Oven for 20 mins to dry at 100C temperature, with 0% humidity. After 20 mins, Mark search was done by using 532nm light (green) with goggle (550nm), No additional mark was found neither the mark on section A was enhanced.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
NJQ242	Visualization, Forensic Light Source, Photography, Cyanoacrylate.	Oct/21/20:Item-1: Prior to chemical processing visible ridge detail was found on the non-porous surface within quadrant-A (Photo lift #1). With initial documentation complete, item-1 was exposed to Cyanoacrylate fume. Development was noted after the completion of the Cyanoacrylate process (documentation performed 10/22/20).
NMNR4K	Cyanoacrylate Fuming	Fumed with Cyanoacrylate ester in vacuum chamber 60 min. Dyed nonporous windows on envelope with Rhodamine solution. Photographed latent print using green forensic laser.
NQM3ZK	Cyanoacrylate Fuming	CA fumed under vacuum, windows were dye stained w/ Rhodamine 6G solution, the paper was treated w/ ninhydrin solution and put in chamber for 15 min at 80oC 70% RH.
	Ninhydrin	CA fumed under vacuum, windows were dye stained w/ Rhodamine 6G solution, the paper was treated w/ ninhydrin solution and put in chamber for 15 min at 80oC 70% RH.
NTEW4G	Visual Examination	Item was observed using ambient and ring lighting. ridge detail was observed on the glassine window located in quadrant A. No other ridge detail was observed.
	Alternate Light Source	Item was observed using Crime Lite ML2 under blue and green light with orange and red filters. No improvement to existing or additional ridge detail was observed.
	Cyanoacrylate Fuming	Item was fumed for 30 minutes in the CA-6000 chamber with ~65% relative humidity.
	Visual Examination	Item was observed under ambient and ring lighting after cyanoacrylate. Improvement to the existing ridge detail was observed. No additional areas of ridge detail were seen.
	Ninhydrin	Ninhydrin was painted on to the paper surfaces of the item. It was dried in the fume hood and then placed into the FDC060 environmental chamber for 30 minutes at ~80°C and ~65% relative humidity.
	Visual Examination	The item was observed under ambient light after ninhydrin. No improvement to existing or additional areas of ridge detail were observed.
	Powder Dusting	Black magnetic powder was brushed onto the glassine windows of the item.
	Visual Examination	Ambient and ring lighting were used to observe the item after powder. No additional ridge detail was observed but better contrast was noted.
NVZQVB	Visual Examination	Visual examination under ambient light. KrimeSite Imager revealed that portion of the print was located in section A (clear plastic window of envelope).
	Powder Dusting	Black magnetic powder. Latent print was developed on the clear plastic window as well as portion of section A of the envelope. Processing time 2 minutes.
	Ninhydrin	Item 1 was sprayed with a solution of Nynhydrin and placed in a Heat and humidity Chamber. Processing time 1 Hour. Partial print was developed on the envelope section A.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
P8Q467	Physical Developer (PD)	IN THE SECTION A and C was used magnetic powder.
	Ninhydrin	IN THE SECTION B and D WAS USED NINHYDRIN
PBBR67	Cyanoacrylate Fuming	The non-porous (plastic) part of the envelope was fumed with cyanoacrylate ester (superglue) in a vacuum chamber (~1 hr), dye stained with rhodamine 6 G (R6G batch NY10020202-1). The porous paper (envelope) was saturated with 1,8-diazafluoren-9-one (DFO), allowed to dry, and then heated in an oven set to 100 deg C (~20 min).
PMKL3G	Visual Examination	Visual examination yielded negative results.
	Alternate Light Source	ALS (white/oblique lighting) was used to inspect for possible partial latent prints; yielded negative results.
	Cyanoacrylate Fuming	Cyanoacrylate ether was used via fuming chamber to enhance development of any possible partial latent prints. A dime size amount of superglue used in tin foil container placed in fuming chamber for 12-15 minutes.
	Ninhydrin	Commercial mixture of Ninhydrin pre-mix spray was applied to porous portion of the white envelope to enhance the development of any possible partial latent prints. The item was dried using heating oven for 10-15 minutes at 32 degrees Celsius.
	Powder Dusting	Black and gray dual fingerprint powder was applied to the clear security double window to enhance the development of possible partial latent prints.
PRDLKJ	Powder Dusting	I used magnetic powder
PVXH63	Visual Examination	White light
	Cyanoacrylate Fuming	Processing time 15 min
QJH4JF	Powder Dusting	Item processed with magnetic powder Latent print developed in section A
	DFO	Item then processed with DFO with negative additional results
	Ninhydrin	Item then processed with ninhydrin with negative results
QK989G	Visual Examination	Visual exam yielded negative results
	Alternate Light Source	Alternate light source (white light/ flashlight) was used to search for possible latent prints; yielding negative results
	Cyanoacrylate Fuming	Cyanoacrylate fuming chamber was used to enhance development of any possible ridge details. Dime size amount of superglue used in tin foil container placed in chamber for 12-15 minutes
	Ninhydrin	Ninhydrin pre-mix spray was applied to white envelope to enhance the development of ridge details. item was dried using heating oven for 10-15 minutes at 32 degrees Celsius
	Powder Dusting	Powder (black) was applied to clear security double window to enhance the development of ridge details.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
QKDLLG	Cyanoacrylate Fuming	Fumed with cyanoacrylate for approximately 15 minutes.
	Dye Stain	Sprayed plastic portions of Item 1 with MBD and visually examined under ALS.
	Ninhydrin	Remaining paper portion was further processed with ninhydrin/humidified incubator.
QKTMNJ	Cyanoacrylate Fuming	R6G
	Ninhydrin	Ninhydrin - Development chamber
QMJ4LX	Visual Examination	Visual examination of item
	Powder Dusting	Black powder
	Ninhydrin	Ninhydrin used for further examination.
QPQC36	Cyanoacrylate Fuming	The envelope double-windowed were processed with cyanoacrylate ester under vacuum for 1 hour, dye stained with Rhodamine 6G and view with a forensic laser.
	DFO	The porous envelope was processed with DFO, baked at 100C for 20 minutes and view with a forensic laser.
QQ27QH	Powder Dusting	black magnetic powder
QYQ2LR	Visual Examination	19/11/2020
	DCS5	DCS5 Full range screen 19/11/2020
	Cyanoacrylate Fuming	Vacuum Fuming 19/11/2020
	Visual Examination	20/11/2020
	DCS5	DCS5 Reflective UV 20/11/2020
	Powder Dusting	20/11/2020
	Visual Examination	20/11/2020
	1,2-Indanedione	20/11/2020
	Alternate Light Source	Polilight at 505nm 20/11/2020
	Ninhydrin	20/11/2020
	Visual Examination	09/12/2020 allowed 20 days to fully develop

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
R44XA2	Visual Examination	ambient lighting and fluorescent lighting
	Alternate Light Source	Full Spectrum Imaging System and UV lighting
	Cyanoacrylate Fuming	Safe Fume CA tank, 80% relative humidity, 30 minute fuming time, LOT# CA201002
	Alternate Light Source	Full Spectrum Imaging System and UV lighting
	Ninhydrin	HFENIN, LOT# HFENIN201023, used on porous portion of envelope
	Dye Stain	MStar LOT# MS201104, viewed under CrimeScope
	Powder Dusting	black powder
R6XPW8	Visual Examination	Oblique lighting.
	Alternate Light Source	Visually inspected the sample with UV light (254 nm), a FSIS camera, and a UV filter (254 nm) for approximately 45 minutes. Test print examined was positive. Latent print sufficient for further review was observed.
	1,2-Indanedione	The paper portion of the sample and a test print were stained with indanedione by applying the indanedione to the appropriate portions with a pipette. The sample and a test print were then set into a humidity chamber for approximately 20 minutes set at 174 F. The sample was then observed under a green laser with orange filter. Latent print sufficient for further review was observed.
	Ninhydrin	The paper portion of the sample and a test print were stained with ninhydrin by applying the ninhydrin (solution) to the appropriate portions with a pipette. The sample and a test print were then set into a humidity chamber for approximately 20 minutes set to 174F. The sample was then observed under green laser with orange filter. Latent print sufficient for further review was observed.
	Cyanoacrylate Fuming	Fumed sample and test print in CY-AT (atmospherically fumed) for approximately 40 minutes with added water for humidity. The sample was allowed to cure for approximately 1 hour. Test print were positive.
	Dye Stain	Rhodamine 6G dye stain was applied to the plastic portions of the sample using a pipette and covering the surrounding paper with sticky notes. The dye stain was allowed to dry and then observed under a green laser with orange filter. Test prints positive. Similar frictions ridge detail to the UV was observed.
	Powder Dusting	White powder was applied to the test prints and to the plastic portion of the sample by using a brush an covering the paper with sticky notes. Test prints positive. Friction ridge detail observed that correlated with the ninhydrin prints. Captured.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
R9CHWD	Cyanoacrylate Fuming	
	Powder Dusting	plastic window only
	DFO	on paper only
	Ninhydrin	on paper only
R9X2T8	Cyanoacrylate Fuming	vacuum fuming at 37 C for 1 hour, curing time 30 minutes, saturation with rhodamine dye
	1,2-Indanedione	saturation, examination with 532 nm light + orange filter
RA6G2Y	Visual Examination	Examined in the white light and the daylight.
	Alternate Light Source	Examined in 320-405 nm, 450 nm, 470 nm, 490 nm, 505 nm, 530 nm and UV.
	Cyanoacrylate Fuming	Processed in the Cyanoacrylate chamber for 15 min., t-120 C, RH-80 %.
	DFO	Solution was HFE 7100 based. The item was processed in the DFO/ninhydrin chamber: t - 100 C., RH - 0 % and examined in the white light and 430-580 nm.
	Ninhydrin	Solution was HFE 7100 based. The item was processed in the DFO/ninhydrin chamber: t - 80 C., RH - 65 % and examined in the white light.
RB3K22	Visual Examination	Laser & ambient lighting
	Cyanoacrylate Fuming	F&F fuming chamber, 70 min cycle time
	Powder Dusting	Black powder on windows of envelope
	DFO	20 min in oven
	Ninhydrin	6 min in oven
RCWCN8	Cyanoacrylate Fuming	portable fuming chamber 15 minutes
	Ninhydrin	fingerprint development chamber 80C, 65% humidity for 20 minutes
RDNB37	Cyanoacrylate Fuming	Visual examination; photography; humidity 81,5%; temperature 130°c
	DFO	Visual examination (000-590nm); 100 °c
RDTMNG	Visual Examination	Fingerprint is barely detected on plastic window. First-level pattern visible.
	Cyanoacrylate Fuming	20-25 min whole process. Fingerprint detected.
	Powder Dusting	White powder as dyer to avoid interference with porous surfaces methods with no enhancement at all.
	1,2-Indanedione	Margins of the previous fingerprint were detected. No additional fingerprints were found.
	Ninhydrin	No more fingerprints were found.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
RFVVMZ	Visual Examination	white light -, blue light -, green light -
	Cyanoacrylate Fuming	Visual print A processing time 7 minutes
	Powder Dusting	Visual print A
	1,2-Indanedione	Visual print A
	Ninhydrin	Weak print A
RRATR4	Ninhydrin	I used magnetic powder on the two windows. I used Ninhydrin on the rest of the envelope. Approximately 5 minutes for the powder, 20 minutes for Ninhydrin. I used steam iron after applying the Ninhydrin.
T4WCP7	[No Methods Reported.]	Method Used in Order (SECTIONED FRONT SIDE): 1) Visual examination with white oblique lighting. 2) Black Magnetic Powder applied to plastic double windows only. 3) Visual examination with white oblique lighting. 4) Latent print preserved. 5) Ninhydrin applied to control item (piece of paper with deposited known latent prints) and over paper surfaces only of Item 1 with a brush. 6) Control Item and Item 1 were placed in a sealed plastic bag for a few hours to allow development. 7) Visual examination with white light. 8) Indirect Steam used to accelerate Ninhydrin development on Control Item and Item 1 due to being out of office.
TA8BGY	Visual Examination	
	Cyanoacrylate Fuming	Humidity 80%, processing time 30 min.
	Ninhydrin	BVDA NIN-PRINT, spray, processing time 70 h, room temperature.
TAKWU8	Cyanoacrylate Fuming	12 minutes in portable fuming chamber.
	Ninhydrin	(Methanol base)Used dip method, dried evidence. Humidity chamber 20 minutes at 80C/65% humidity.
TLHVLD	Visual Examination	Natural light, white light, optical instruments.
	Alternate Light Source	Polilight PL 500, barrier filters, optical instruments.
	1,2-Indanedione	Processing time: 10 minutes, temperature: 90°C.
	Alternate Light Source	Polilight PL 500 (505-530 nm light), orange barrier filter, optical instruments.
	Ninhydrin	Processing time - 72h, room temperature, dark place.
	Visual Examination	White light, optical instruments.
	Cyanoacrylate Fuming	Processing time: 10 min, humidity: 80% (applies to the non-adhesive side).
	Visual Examination	Natural light, white light, optical instruments.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
TUDV6C	Visual Examination	
	Cyanoacrylate Fuming	
	Dye Stain	R6G
	1,2-Indanedione	
	Ninhydrin	
TV7UBX	Cyanoacrylate Fuming	Processing time : 25 min. Dye stain : superglue and MBD solution. The reaction needs 75-80 percent humidity
	DFO	Processing time : 30 min. Dye stain : DfO solution(1,8-Diazafluoren-9-one). The reaction needs heat
TZYPJW	Visual Examination	White light, blue forensic light with yellow filter, green light with red filter.
	Cyanoacrylate Fuming	6 minutes, 120 degrees celcius, 80% RH.
	Powder Dusting	Carbon powder.
	Remove the plastic windows from the envelope	Laborative step, remove the plastic windows from envelope, in order to facilitate further development.
	1,2-Indanedione	10 minutes, 95-100 degrees celcius.
	Ninhydrin	2 minutes, 80 degrees celcius, 62% RH.
	Physical Developer (PD)	Total processing time 50 minutes (20 minutes maleic acid, 20 minutes working solution, 10 minutes distilled water rinsing).
	Dye Stain	Basic yellow 40 solution
U738UU	Visual Examination	
	Cyanoacrylate Fuming	Superglue chamber used (MVC 5000) Fumed for 20 minutes
	Powder Dusting	Magnetic Powder followed by Black Powder
	Ninhydrin	Heptane Ninhydrin (dried 1 hour) Caron Fingerprint Development Chamber (10 minutes)
U8C2TF	LPPM	Non-Porous Windows - Cyvac CA fuming then RG6W stained. Porous Paper - treated w/ Ninhydrin - developed in Caron chamber
U8TDC7	Powder Dusting	Magnetic black on plastic window area of envelope
UBC9DD	Cyanoacrylate Fuming	CAE for cellophane
	DFO	For paper envelope
	Ninhydrin	For paper envelope
	Powder Dusting	White powder for cellophane

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
UBGPCB	Visual Examination	examined under normal white light
	Alternate Light Source	examined using ALS at both 350nm and 515nm
	Cyanoacrylate Fuming	fumed for approximately 15-20 minutes
	Ninhydrin	dipped in Ninhydrin and placed in humidity chamber for approximately 20-30 minutes
UEUMJY	Visual Examination	a) Crimelite. b) TracER LASER. c) Incandescent Light
	Cyanoacrylate Fuming	Approximately 70 minutes in the Foster & Freeman MVC-5000 cabinet
	Powder Dusting	Black powder
	DFO	Approximately 20 minutes in the DFO oven at 100 Celsius degree
	Ninhydrin	a) The Ninhydrin chamber was not used due to it is out of service. b) Ninhydrin development at room temperature for five days.
UF86WC	Visual Examination	Visual Examination
	FSIS	FSIS (Full Spectrum Imaging System)
	Cyanoacrylate Fuming	1 Hour
	Dye Stain	R6G
	DFO	20 min. at 100C
	Ninhydrin	65% RH for 30 min.
UP9RLN	Visual Examination	Latent print on plastic window of envelope visible with white light.
	Cyanoacrylate Fuming	Latent print on plastic window of envelope visible with white light.
	1,2-Indanedione	Applied 1,2-Indanedione on porous surface only. Applied heat with heat press for 10 seconds. No ridge detail developed.
	Ninhydrin	Applied Ninhydrin on porous surface only. Applied heat with heat press for 10 seconds. No ridge detail developed. Placed in closed zip bag. Re-examined 3 days later. No ridge detail developed.
UYKJHD	Powder Dusting	Black magnetic powder on paper portion of envelope. Black powder on plastic "window" of envelope
UYXFJB	Ninhydrin	Prior to processing, a photocopy was taken of the item to preserve its original presence. Item was processed in the hood by 'dipping' the item (front and back) in No-Run Ninhydrin. Item was hung to dry completely before placing in the humidity chamber for approximately 3 minutes. Light ridge detail developed near the plastic window area of the envelope (Quadrant A).
	Powder Dusting	Item was then processed with Magnetic powder by gently 'dusting' the plastic window area of the envelope. A latent print developed on the plastic window area.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
UZWEZY	Visual Examination	Magnifier and fluorescent light
	Ninhydrin	HFE Ninhydrin, Lot # HFENin201023,squirt bottle, air dry and steam iron, magnifier and fluorescent light
	Cyanoacrylate Fuming	Lot # CA201002 in AIR Science Tank (#4)30 minute fuming cycle @ 80% humidity, magnifier and fluorescent light
	Dye Stain	MStar, Lot #MS201104 squirt bottle, air dry, Crimescope @475nm and magnifier
	Powder Dusting	Black powder, magnifier and fluorescent light
	Physical Developer (PD)	3 part PD, Maleic Acid Lot #MAP200528, PD201105, dipped, air dried, magnifier and fluorescent light
V3DCGZ	Physical Developer (PD)	The laboratory only use physical powder.
V3GPCA	Cyanoacrylate Fuming	Cyanoacrylate fuming in a tank for 30 minutes along with a standard test strip.
	Powder Dusting	Magnetic powder to enhance the print that developed with the cyanoacrylate.
V92V3N	Visual Examination	Relative temperature of the processing room was 67 degrees Fahrenheit. Friction ridge detail was observed on the window portion in quadrant A.
	Black magnetic powder	I used a magnetic wand and developed a latent fingerprint in quadrant A. I then lifted it onto a latent lift card.
	Ninhydrin	I then processed the paper portions of the white envelope with Ninhydrin (Heptane base) via the dip method. I allowed it to dry under the vent hood for 30 minutes to 1 hour then I applied heat/humidity via a steam iron. More friction ridge detail developed under the window portion in quadrant A during my visual examination between each processing steps.
	Visual Examination	Conducted a visual examination of the Ninhydrin section after 6 days and then did a final visual examination on 11-18-2020.
VATVZZ	Cyanoacrylate Fuming	first, examined visually and then processed with cyanoacrylate due to non-porous window areas since cyanoacrylate does not interfere with planned methods for the porous areas, negative results
	1,2-Indanedione	processed with spray method of indanedione-zinc to examine the porous areas with negative results
	Ninhydrin	processed with spray method of ninhydrin to examine the porous areas with negative results
	Dye Stain	Rhodamine-6-G used on the non-porous window areas and then examined with the Tracer Laser with positive results noted (LP3)
VB4XLY	Cyanoacrylate Fuming	Visual inspection with white light, fuming cyanoacrylate with portable camera, development with latent print powder silk black reagent, white contrast inside double window security envelope

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
VB972D	Visual Examination	Low angle white light - print visible in quadrant A on the plastic window of the envelope.
	Powder Dusting	Mag powder - print visible in quadrant A on the plastic window of the envelope.
	DFO	Print visible on the paper portion of quadrant A near the plastic window of the envelope.
	Ninhydrin	Print visible on the paper portion of quadrant A near the plastic window of the envelope.
VKTLG2	Powder Dusting	black magnetic powder was used to process both plastic panes, front of envelope and back of envelope. a latent print developed in section A
VVEMYW	Visual Examination	Used oblique lighting and bright white light.
	Alternate Light Source	Three light sources - blue light (450nm), UV light (365nm) and laser (532nm).
	Cyanoacrylate Fuming	Used a superglue chamber and examined the item using a bright white light, oblique lighting and the FSIS(254nm).
	1,2-Indanedione	Processed with 1,2-indanedione (IND). Item dried and was placed in the 100 degree Celsius oven for 20 minutes. Visually examined the item using a bright white light and a 532nm laser.
	Ninhydrin	Processed with Ninhydrin (NIN). Item dried and was placed them in the 76% humidity chamber for approximately 15 minutes. Visually examined the item using a bright white light.
	Dye Stain	Processed with RAM and examined with a 365nm UV light, a 450nm blue light and a 532nm laser.
	Physical Developer (PD)	Processed with physical developer. Placed item in a maleic acid bath for 15 minutes, then placed the item in the Redox Working Solution for 15 minutes, next it was placed in a distilled water rinse followed by a second water rinse. Item dried. Visually examined the item using a bright white light.
VVUWZA	Cyanoacrylate Fuming	Foster Freeman fuming cycle for approximately 40min.
	Powder Dusting	White powder used on plastic window
	DFO	Paper envelope sprayed with DFO and placed in DFO oven at 200 degrees for approximately 20minutes. Viewed under ALS at 455 with orange goggles.
VW8HL6	Physical Developer (PD)	The improvement of the evidence was carried out in 40 minutes, using the magnetic black reagent. Using people protective equipment.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
VWNV7V	Visual Examination	
	Alternate Light Source	Full Spectrum Imaging System (FSIS) Shortwave UV/274nm filter
	Cyanoacrylate Fuming	
	Powder Dusting	Magnetic powder on window
	DFO	
	Ninhydrin	
VYFQT4	Cyanoacrylate Fuming	left part of the specimen: on Vacuum chamber in 30 min. and dye using Basic Yellow 40
	1,2-Indanedione	right part of the specimen :1,2-Indanedione
W22V4M	Visual Examination	Naked eye
	Cyanoacrylate Fuming	Autocycle programmed parameters: Humidity cycle: ~80% RH ~15mins. Glue cycle: 80% RH 120 degrees Celsius ~25mins. Purge cycle: <80% RH ~20mins
	Powder Dusting	Fiberglass brush used to apply bichromatic powder till adequate development observed.
	Ninhydrin	Ninydrin HT Saturated by spraying, air dried, heat & humidity applied using steam iron.
W3X4FC	Visual Examination	One impression visualized in section A
	RUVIS + UV light @254nm	One impression visualized in section A (going from plastic onto the paper)
	1,2-Indanedione	Pre-mixed chemical; Spot processed only paper area in section A
	Cyanoacrylate Fuming	15 min fume cycle @75% humidity; 5 min purge cycle
	RUVIS + UV light @254nm	Nothing further observed
	Dye Stain	Rhodamine 6G reagent (spot processed - R6G applied with painting brush only on the plastic window in section A
	Alternate Light Source	ALS @515nm/orange goggles, one impression visualized in section A going from the plastic window onto the paper
WLQGYQ	Visual Examination	
	FSIS	
	Cyanoacrylate Fuming	18 minutes
	DFO	heating chamber for 20 minutes
	LASER	
	Ninhydrin	in humidity chamber for 20 minutes
	Dye Stain	R6G
	Visual Examination	
	LASER	

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
WWPPLV	Visual Examination	Natural light, white light.
	Ninhydrin	Ninhidrin spray was used to find latent print on a white, double-windowed security envelope (on a paper surface of the item). A white envelope was left in a dark room (about 22 degrees Celsius) for 24 hours.
	Cyanoacrylate Fuming	After 24 hours latent print on a white envelope (on a plastic surface of the item) was developed 25 minutes (80% - humidity). After a white envelope was left in a dark room (about 22 degrees Celsius) for 7 days. The latent print was recovered in section "A".
WYBTXY	Cyanoacrylate Fuming	Atmospheric pressure
XT4D9B	Powder Dusting	Magnetic powder was used on the exterior of this envelope.
YJ9YGA	Cyanoacrylate Fuming	Cyanoacrylate fuming followed by Rhodamine 6G. Looked at with forensic LASER at 532nm with orange filter goggles vacuum fumed for an hour and cured for 30 min.
YQRAPJ	Cyanoacrylate Fuming	For Polythene Portion=Cyanoacrylate fuming for 15 mins.
	Dye Stain	R6G and viewed at 505nm using orange google.
	Ninhydrin	For Paper portion =Treated with Ninhydrin and placed at 60%-70% humidity in dark condition.
YR3Z3U	Visual Examination	viewed with TracER Laser, white Crimelite, & overhead fluorescent lights
	Cyanoacrylate Fuming	did fuming because of plastic windows, where a print was visually observed
	DFO	
	Ninhydrin	because oven wasn't working, allowed item to set out for a week
YTJ23B	Powder Dusting	Application with a magnetic brush directly in the areas
	Ninhydrin	Preserve the evidence, after application in a plastic bag for 15 days
YTXRPZ	Cyanoacrylate Fuming	fumed for 15 minutes
	Ninhydrin	(methoanol) dip method, dried evidence, placed in humidity chamber 80C, 65% humidity

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
YUU3PA	Alternate Light Source	White, blue and green light was used to examine the material. No prints could be observed.
	Cyanoacrylate Fuming	CNA was used to process the material. No prints could be observed after processing.
	Powder Dusting	Powder dusting was used. A print which was on both the paper and plastic part of the envelope in square A could be observed.
	1,2-Indanedione	Fragments of a print could be observed in square A, alongside the plastic part. Processing was carried out at 100°C for 10 minutes.
	Ninhydrin	After processing with Ninhydrin, the print on the paper part was visible. Process settings were 80°C, 62% RH and the material was processed for 2 minutes.
YV3BXU	Visual Examination	TracER Laser and Crimelite
	Cyanoacrylate Fuming	F+F MVC 5000, 70 minute cycle, plastic controls
	Dye Stain	Rhodamine 6G, TracER Laser, applied just on plastic windows, plastic controls
	Powder Dusting	Black magnetic powder applied just on plastic window
	DFO	applied once, dried, applied a second time, dried, and left in 100 C oven for 20 minutes, paper control
	Ninhydrin	applied once, dried, applied a second time, dried, and left at room temperature for 1 week (ninhydrin oven out of service), paper control

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
YX8PGT	Visual Examination	Examined using white crime light, oblique and natural daylight from FAS-Laboratory. Mark was visible on quadrant A and appears to be on the outer side of envelope window.
	Cyanoacrylate Fuming	Using SG cabinet #4 used and SG batch # 092869 used with approx. 3.50g of SG used. A control sample which consisted of shiny card (semi-porous) and foil was used. The control sample was performed by myself (classed as good donor) and was placed in the cabinet at the same time as the exhibit. The control sample was checked by another lab officer. The SG cabinet performed an auto cycle and took around 1 hour 15 minutes to run, with 15 minute fuming cycle at 120c with Relative Humidity of 75-90%. The SG cabinet has been serviced and maintained in July 2020 by an external company and quarterly checks have been carried out by a hygrometer to ensure humidity levels are constant. After the SG run was completed, the mark in quadrant A was enhanced further.
	1,2-Indanedione	Indandione chemical batch No. 20AA41. Solution contains 1,2-indandione, Ethyl Acetate, Methanol, Acetic Acid, HFE7100, Zinc Chloride. Oven No. 1 used for IND development and is a Weiss Gallenkamp oven. The temperature was 100C, and the Humidity on the oven was disabled, so ambient humidity was used. The processing time was 10 minutes. The control sample was performed by myself (classed as good donor) and was placed in the oven at the same time as the exhibit. The control sample was checked by another lab officer. The mark in quadrant A was enhanced further on the porous area of the envelope.
	Ninhydrin	Ninhydrin chemical batch No. 154723. Solution contains Ethyl Acetate, Ethanol 99.7%, Ninhydrin Crystals, Acetic Acid, HFE7100. Oven No. 3 used for processing. This is a Weiss gallenkamp, the process time was 6 minutes and the temperature was 80.7c and 63.1% humidity.The control sample was performed by myself (classed as good donor) and was placed in the oven at the same time as the exhibit. The control sample was checked by another lab officer. Using Nin was to simulate a serious/ major crime and so sequential treatments were used. The mark in quadrant A wasn't enhanced further.
YXTJXW	Powder Dusting	- Black/Grayish Magnetic powder was applied using a medium sized magnetic wand by a gentle hand sway. The processing time of all four quadrants from beginning to end was two minutes and when the powder hit the surface of the area containing the print, the print appeared immediately. No other processing was attempted.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
YXUEKA	Alternate Light Source	Visual examination with white, blue and green light. No prints could be observed.
	Cyanoacrylate Fuming	The method was used for the plastic part of the material. Fragments of a print could be observed after processing.
	Powder Dusting	The method was used to enhance after CNA (Cyanoacrylate fuming). One print could be observed on the plastic part after powder dusting.
	1,2-Indanedione	The method was used for the paper part of the material. 100 degrees C, 10 minutes processing time.
ZHUUGQ	Visual Examination	Fingerprint visible on security window in section A
	Cyanoacrylate Fuming	Cyanoacrylate Fuming on security windows 12min processing time humidity: 80%
	Dye Stain	Ardrox only on security windows
	1,2-Indanedione	only on envelope (no fingerprints visible)
	Ninhydrin	only on envelope the missing part of the fingerprint on the security window was detected on the envelope
ZJPCJR	Powder Dusting	Magnetic powder on plastic windows
	Ninhydrin	Added humidity for 30 minutes and let sit in plastic bag for 3 days.
ZN28JV	Visual Examination	I used oblique lighting to look at the item.
	Alternate Light Source	I used three different light sources to look at the item.
	Cyanoacrylate Fuming	I superglue fumed the item because of the windows then used oblique lighting and RUVIS to look at it afterwards.
	1,2-Indanedione	I used indanedione and developed it in the oven then used a LASER to look at it.
	Ninhydrin	I used ninhydrin and a humidity chamber to help develop it.
	Dye Stain	I used RAM on the windows and used three light sources.
	Physical Developer (PD)	
ZQ6V3R	Visual Examination	Rec'd white double-windowed envelope, front side divided into 4 sections, labeled A, B, C, and D. Item #1 photographed prior to examination. Visual Examination - negative for latent prints
	Alternate Light Source	ALS Examination - negative for latent prints
	Powder Dusting	Window areas of section A and Section C processed for latent prints with black magnetic powder. Latent print with ridge detail located in Section A, on the window and the envelope above the window. Latent print photographed.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
ZQ8PHQ	Powder Dusting	Reflected UV light
	Powder Dusting	Magnetic Powder
	DFO	
	Ninhydrin	
ZTBK2U	Cyanoacrylate Fuming	Visual inspection with white light, fuming cyanoacrylate with portable camera, development with latent print powder silk black reagent, white contrast inside double window security envelope
ZTFTF9	Visual Examination	White light at an oblique angle - print visible in section A.
	Cyanoacrylate Fuming	30-minute fuming time at 75% humidity - print visible in section A.
	Powder Dusting	Magnetic powder used on security windows after cyanoacrylate fuming - print visible in section A on security window and envelope around.
	DFO	DFO oven at about 200 degrees for 30 minutes.
ZU68XR	Powder Dusting	the print was developed using black magnetic powder

Response Summary

Participants: 235

Methods Utilized

Alternate Light Source	64	Physical Developer	18
Cyanoacrylate Fuming	151	Powder Dusting	139
DFO	45	Visual Examination	145
Dye Stain	44	Wet Powder Suspension	1
Ninhydrin	148	1,2-Indanedione	51

**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 2

WebCode	Development Methods	Method Details
28QUP6	Visual Examination	Ambient Light & Oblique Light
	Cyanoacrylate Fuming	Foster & Freeman Chamber 80% relative humidity, 20 minute autocycle
29JRVP	Alternate Light Source	Visual exam and use alternate white light.
	Cyanoacrylate Fuming	Place the plastic cd case into the fuming chamber, after 8 minutes the finger print is visible to naked eye.
2FLYJ7	Visual Examination	Visually inspected under ambient light.
	Cyanoacrylate Fuming	Approximatel 20 drops of arrowhead forensics cyanoacrylate, +control (lot WI27419, exp 03/2021. Used Mystaire CA-6000 fuming chamber: 70% humidity, 10mins fuming, 10mins purging.
	Powder Dusting	bi-chromatic powder
2HCXX4	Cyanoacrylate Fuming	Approximately 34 minute fume time. No dye stain used.
	Powder Dusting	magnetic powder
2KXRPX	Visual Examination	
	Cyanoacrylate Fuming	
	Dye Stain	
2QJYR4	Visual Examination	in natural light and light from forensic illuminator, print was observed in section D
	Cyanoacrylate Fuming	time - 15min., RH - 80%, glue - 2 g, discovered fingerprint has not improved
	SPR (black)	applied for 30 sec., and rinsed under running water, discovered fingerprint has not improved
	Dye Stain	Basic Yellow 40 - to achive even better cotrast - negative result
2VC4K8	Visual Examination	Print visible in section D
	Cyanoacrylate Fuming	Print visible in section D
	Powder Dusting	Lifted from section D
2VWP9R	Visual Examination	Oblique lighting
	Cyanoacrylate Fuming	
	Dye Stain	Basic Yellow 40

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
389AE7	Visual Examination	oblique white light
	Cyanoacrylate Fuming	02 hours and 35 minutes in fish tank
	Visual Examination	white light
	Dye Stain	Rhodamine 6 G
	Visual Examination	505nm light, OG550 orange filter
3FHUG2	Powder Dusting	Black powder applied to outside and inside of plastic CD case lid. Section D showed positive for one latent lift.
3JDPXF	Visual Examination	Visible ridge detail - unable to be photographed
	Cyanoacrylate Fuming	Lot# 202005081. MVC3000 Chamber, Humidity Cycle (80% for 15 minutes), Glue Cycle (10 minutes, 120 deg C), Purge Cycle (20 minutes)
	Visual Examination	Observed cyanoacrylate ridge detail with white light
	Dye Stain	MBD Dye Stain (Lot#100220-01) applied with a pipette
	Alternate Light Source	Blue Light (420-470 nm) / Yellow Filter (476 nm GG 495) Observed fluorescent ridge detail
	Powder Dusting	Black Magnetic Powder (Lot#201504053-04) applied with magnetic brush Standard Black Powder (Lot#201804187) applied with standard brush
	Visual Examination	Observed powder developed ridge detail with white light
3L278N	Visual Examination	Before fuming.
	Cyanoacrylate Fuming	Temperature +120 celsius, humidity 80, Cyanoacrylate fuming 15 minutes. Whole process 45 minutes.
	Visual Examination	After fuming.
3L7EM3	Cyanoacrylate Fuming	
	Powder Dusting	
3M2XN4	Cyanoacrylate Fuming	
	Dye Stain	yellow
3QERGU	Cyanoacrylate Fuming	I processed item 002 with cyanoacrylate fuming. An area of friction ridge detail was observed in section D which was photographed.
3UX2AT	Visual Examination	
	Cyanoacrylate Fuming	
	Dye Stain	Basic yellow premixed solution

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
3XKCR7	Visual Examination	Oblique and direct lighting
	Alternate Light Source	White light with no goggles
	FSIS	Shortwave UV light and specialized filter
	Cyanoacrylate Fuming	Air Science fuming chamber 15 minutes processing time at ~75% humidity
	FSIS	Shortwave UV light and specialized filter
	Dye Stain	Rhodamine 6G
	Alternate Light Source	515nm with orange goggles
3XX8T6	Visual Examination	The Item was photographed before examination.
	Alternate Light Source	Examination in white light (Polilight flare 2"ROFIN"): weak Latents was seen in section D. Fingerprint was photographed with white light and macro camera lens (Nikon D 3300).
	Cyanoacrylate Fuming	The cabinet (Scenesafe) settings was: 85 % humidity and the hot plate was set on 120 degrees. Processing time 8-10 minutes. A visible print was seen in section D (back side). *Prints deposited on a plastic CD case the day before, by human finngerprints (control sample), developed good quality prints. Fingerprint was photographed with white light and macro camera lens (Nikon D 3300).
	Powder Dusting	Black magnetic powder,Enhanced ridges of latent print Fingerprint was photographed with white light and macro camera lens (Nikon D 3300).
43PGUQ	Cyanoacrylate Fuming	Cyanoacrylate fuming in FosterFreeman chamber 15min treament at 120C.
4BY68P	Cyanoacrylate Fuming	Fumed item with Cyanoacrylate glue for two minutes in fuming chamber.
	Dye Stain	Applied RAM (Fluorescent Dye stain) then viewed under Alternate Light Source.
	Alternate Light Source	Viewed Dye stain on CD case under Alternate Light Source.
4GR9FV	Visual Examination	Ridge detail was visible.
	Cyanoacrylate Fuming	Active fume time 15 min.
4NC4K6	Visual Examination	White, blue and green lights were used to examine the material.
	Cyanoacrylate Fuming	Process time: 5.38 min.
	Dye Stain	Basic Yellow 40 was used.
62DEA4	Visual Examination	Also used Alternate light source
	Cyanoacrylate Fuming	
	Dye Stain	Rhodamine 6G
	Powder Dusting	Magnetic powder

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
6CUYTZ	Visual Examination	White light, ambient light, LED flashlight, used black backing card inside envelope to provide contrast for clear cover
	Cyanoacrylate Fuming	60% humidity, 120 degrees Celsius chamber temp, 15 min fume time, ~ 0.8g liquid Cyanoacrylate
	Dye Stain	Methanol based Rhodium 6G applied via spray bottle followed by methanol rinse applied via spray bottle
	Alternate Light Source	@ 532 nm with orange barrier filter
6EV8T4	LPPM	CA fuming R6GW DCS-5 UV Light
6M897R	Cyanoacrylate Fuming	
6PWPCJ	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
6V6QV3	Cyanoacrylate Fuming	
	Powder Dusting	
7329LX	Visual Examination	Prior to processing the CD case I examined it using a flashlight. Various levels of lighting were used for the examination, including direct/overhead and oblique lighting. One possible latent print was observed in quadrant "D".
	Cyanoacrylate Fuming	Following a successfully completed control test using polymerization standard, the CD case was placed in the cyanoacrylate fuming chamber for processing. The case was processed for approximately 20 minutes, checking for level of completion in 5 minute intervals. Once a white crust developed on the CD case, it was removed from the chamber and examined for the development of prints. One (1) latent print was observed in quadrant "D" on the inside of the clear CD case cover.
	Powder Dusting	Following the development of the print, I dusted the print with magnetic black powder.
7BDEAN	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	Dye Stain	

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
7GJXKZ	Cyanoacrylate Fuming	The Cyanoacrylate Fuming Chamber was cleaned before use with 70% isopropyl alcohol, and paper was laid out on the bottom of the machine. A control was created and placed in the machine with the item. This writer made sure that there was sufficient water in the machine before the process began. A tin cup was placed in the machine and a approximately a quarter sized amount of super glue was added to the cup. Once the cycle is turned on, the chamber must reach 70% humidity. Then the chamber fumes for ten minutes, and purges for ten minutes. Once this process was complete, the item was removed and observed for latent print detail. (Proper PPE was used at all times: gloves, mask, lab coat)
	Powder Dusting	Black magnetic powder was dusted onto the plastic CD cover using a magnetic wand.
7HEGM2	Visual Examination	Viewed item under white light, TracER laser, and CrimeScope CS-16-500 ALS.
	Cyanoacrylate Fuming	Item placed in Misonix CA-6000 superglue chamber for 9 minutes and viewed under white light.
	Dye Stain	Item sprayed with Rhodamine-6G and viewed under TracER laser.
7HEJ8Z	Visual Examination	
	FSIS	
	Cyanoacrylate Fuming	20 minutes, atmotspheric
	Visual Examination	
	FSIS	
	Dye Stain	Basic Yellow 40
	LASER	
	Powder Dusting	
	Visual Examination	
7XP6RP	Cyanoacrylate Fuming	The CD case was fumed with cyanoacrylate in a vacuum chamber for 3 hours. Afterwards, the envelope was aired for 5 hours in a room.
	Dye Stain	R6G stain was used to stain entire case. The sample was aired and dried and then examined without an alternate light source. No visible prints were noted.
	Alternate Light Source	Afterwards, the sample was examined under Alternate Light Source with a print clearly visible in a quadrant D.
847Z8J	Cyanoacrylate Fuming	We proceeded to place it in Pandora's box, using the cyanoacrylate for a period of 10-15 minutes, once the print was exposed and documented and preserved.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
862HAK	Cyanoacrylate Fuming	Fumed ~9 minutes. Control print positive
	Powder Dusting	Black magnetic powder, control positive. Print was dusted and lifted twice.
8892A3	LPPM	Vacuum fumed with cyanoacrylate ester in cyvac for 45 minutes. Cure for 30 minutes. Sprayed with Rhodamine fluorescent dye. Viewed with laser and reflective light (UV).
88UC7P	Visual Examination	No ridge detail observed.
	Cyanoacrylate Fuming	processing time:51 Min. Humidity:15 Min @ 80%. Glue Cycle: 16 Min @ 80%, Temp 120 C. Purge Cycle: 20 Min @ 80%
	Powder Dusting	Bichromatic Applied to CD case to observe ridge detail
8DWPNK	Visual Examination	Exhibit consisted of a black CD case with clear front cover. Exhibit examined with a white CrimeLite. Ridge detail observed in quadrant D. Unclear if the ridge detail was on the inside or outside surface of the CD case. Under normal circumstances, the ridge detail found would have been photographed using the DCS camera system and the Fingerprint Bureau notified to search the mark both ways.
	Cyanoacrylate Fuming	Maston Vactron MVC5000 cabinet No.4. Superglue batch 92869 (SURELOC CA5 #092869) 3.16g of superglue used. Auto cycle processing applied which undergoes a 15 minute fuming cycle. 120°c superglue hearing plate, RH range of 75-90% with ambient temperature. Control test positive. Mark enhanced and under normal conditions would be sent straight to BY40 Dye Stain without re-capturing at this stage.
	Dye Stain	Basic Yellow Dye Stain – BY40 (SIRCHIE) applied after cyanoacrylate fuming. The dye stain contains Ethanol 96% and Basic Yellow Stain. Exhibit stained then rinsed using tap water. Process completed in Dye Tank 2 using BY40 batch no 20AA21. Control test positive. Mark appears to be located on the inside of the CD case. Mark would be re-captured the correct way and sent to the Fingerprint Bureau.
	Solvent Black 3	Solvent Black 3 applied to the clear front of the case only. Not applied to the back of the case due to the dark colour meaning no contrast would be achieved. Batch #20AA17 used, control test positive.
8FXTDL	Visual Examination	Fingerprint was visible in white light. Not any chemical threament required.
8JX69L	Visual Examination	Angular lighting
	Alternate Light Source	
	Cyanoacrylate Fuming	Temperature of the heating plate: 100C. Humidity: 80%. Time: 35 min
	ARDROX	

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
8PNEJJ	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	Dye Stain	
8TNHDR	Cyanoacrylate Fuming	
	Dye Stain	Basic yellow premixed solution, air dried
8XHJCK	Cyanoacrylate Fuming	8 min 120 C 80 % rh 1,5 g glue
	Dye Stain	Basic Yellow 40 2 g BY40/l 96 % EtOH
94LN3J	Visual Examination	Quality Control-N/A. Latents detected, however they would not photograph. They were detected in section D.
	Alternate Light Source	Quality Control-Yes/Passed. No ridge detail visible
	Cyanoacrylate Fuming	Quality Control-Yes/Passed. Insufficient ridge detail. Latent wound not photograph. Very faint and located in section D.
	Dye Stain	Rhodamine 6-G/ALS. Quality Control-Yes/Passed. Latent developed. Latent L1 photographed in section D.
9DUDJN	Visual Examination	lights and magnification
	Cyanoacrylate Fuming	Safefume chamber, 64.9F, 80% humidity, 20 minutes
	Powder Dusting	Dual use magnetic
9MWF6L	Cyanoacrylate Fuming	Visual inspection with white light, application with fuming cyanoacrylate with portable camera lofoscopic fragment development with print powder hi - fi white reagent, white contrast on the outside of the translucent lid
9R9JVN	Visual Examination	Naked eye
	Cyanoacrylate Fuming	MVC3000 used on auto cycle Humidity cycle: <80% RH (increasing) approx. 15 min. Glue cycle: 80% RH approx. 25 min. Purge cycle: <80% RH (decreasing) approx. 20 min
	Powder Dusting	Fiberglass brush with bichromatic powder used to develop ridge detail observed on surface after CA fuming.
9YUC8M	Cyanoacrylate Fuming	Item was fumed for an hour with a vacuum chamber at 37 deg C and vapor pressure at 82 deg C using Omega-Print Fuming Compound. The item was dye-stained, dried, and viewed under forensic laser.
AA72KJ	Visual Examination	Item 2 was examined visually with a flashlight.
	Cyanoacrylate Fuming	Item 2 was then treated with cyanoacrylate fuming for 10 minutes.
AG6TML	Visual Examination	

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
ANM8FH	Powder Dusting	magnetic powder was applied using a magnetic brush
AUCRJY	Powder Dusting	Magnetic powder
AXX92J	Powder Dusting	This item was processed with black fingerprint powder.
B4GVAU	Powder Dusting	Visual inspection w/side-lighting observed impression; then White powder processing; latent developed
B8DRNM	Visual Examination	Examined CD case. Observed print on inside of case in section D.
	Powder Dusting	Processed inside of CD case using magnetic powder. Developed latent print in section D.
BC8TNF	Visual Examination	Conducted visual examination under white light and magnification.
	Alternate Light Source	Used 365nm UV,450nm Blue Light,and 532nm Laser.
	Cyanoacrylate Fuming	Followed by visual exam and 254nm UV light with RUVIS.
	Dye Stain	Applied RAM dye stain (Rhodamine, Ardrox, MBD)and allowed to dry. Then used 365nm UV, 450nm Blue Light, and 532nm Laser.
BNZ63E	Cyanoacrylate Fuming	The CD case was fumed with CA
	Dye Stain	R6G
BPHY3P	Cyanoacrylate Fuming	Standard lab method
	VMD	Vacuum Metal Deposition. Standard lab method
BXQLYV	Powder Dusting	black powder utilized and photographed, clear lift tape utilized
BYL62W	Powder Dusting	Black powder
C9NUC8	Visual Examination	Oblique lighting
	Cyanoacrylate Fuming	Fuming wand
	Powder Dusting	Black powder
CEW6BT	Cyanoacrylate Fuming	Fumed with positive and negative control for 12 min. Allowed to cyanoacrylate to harden for 5 mins
	Powder Dusting	Magnetic powder and brush
CFQ3GE	Cyanoacrylate Fuming	Item fumed with superglue and stained with Rhodamine 6G. Viewed with Forensic Laser.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
CQ46X6	Visual Examination	Crime-lite 2 E137 & E139
	Alternate Light Source	Crime-lite 82S E156
	Cyanoacrylate Fuming	Batch: W159296 13 of 20. Machine: MVC3000 E018
	Visual Examination	Crime-lite 2 E123 & E084
	Dye Stain	Ethanol Based Basic Yellow Dye. Batch: 014/20 1 of 1. Downdraft bench: E066
	Alternate Light Source	Crime-lite 82S E157
CRZK9G	Visual Examination	Visual examination using ambient light.
	Cyanoacrylate Fuming	CAE chamber for 3 minutes, hot plate @ 400 degrees, 75% humidity.
	Dye Stain	Applied RAM to item.
	Alternate Light Source	Used ALS after dye stain to view and photograph.
CU4D3F	Alternate Light Source	white light, 340-587nm, UV, coaxially reflected
	Cyanoacrylate Fuming	humidity 80%: humidity cycle 15 min, glue cycle 15 min, purge cycle 40 min.
	Alternate Light Source	white light source
	Dye Stain	Staining with Rhodamine 6G
	Alternate Light Source	fluorescence examination with polylight (491nm-548nm)
CWCJLV	Powder Dusting	Item 2 was visually examined and physically processed with silver black fingerprint powder. Prior to powder being applied the latent was observable in quadrant "D" and I attempted to photograph it. After powder was applied the latent became more visible and was photographed.
D7CHQM	Cyanoacrylate Fuming	
DEQKRH	Cyanoacrylate Fuming	
	Dye Stain	Basic yellow premixed solution
DH9LVG	Cyanoacrylate Fuming	Visual inspection with white light, application with fuming cyanoacrylate with portable camera lofoscopic fragment development with print powder silk black reagent, white contrast on the outside of the translucent lid
DMF9MK	Visual Examination	I took out the plastic case and opened it up and visually inspected it for prints.
	Powder Dusting	I then used "Mag Powder" on the inside plastic window and I found a latent print in Box "D".
DTCP8Q	Powder Dusting	Processed with Black Powder.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
E2WKHQ	Cyanoacrylate Fuming	
	Dye Stain	Basic yellow applied after cyanoacrylate, dried over night, viewed with ALS
	Powder Dusting	black powder applied after basic yellow
E9K43U	Cyanoacrylate Fuming	CD Jewel Case was processed with Cyanoacrylate in fuming chamber CA-6000 for 20 minutes.
	Powder Dusting	Black Magnetic powder was applied to the ridge detail.
ECJEXU	Cyanoacrylate Fuming	CD case was processed with Cyanoacrylate in a CA-6000 fuming chamber 20 minuets
	Powder Dusting	Magnetic Powder (black)
EE7WFE	Visual Examination	Fluorescent lighting
	Alternate Light Source	FSIS
	Cyanoacrylate Fuming	Safe Fume CA tank; 80% RH; 30 mins. fuming and purging time; Lot#CA201002
	Alternate Light Source	FSIS
	Dye Stain	M-Star; Lot#MS201020; viewed under Crime Scope.
	Powder Dusting	Contrasting powder.
EE7YYR	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	(120°C ± 5°, 75% Relative Humidity ± 15%)
	Dye Stain	(R.A.M., 395 nm, yellow filter)
EGAP9R	Visual Examination	Item examined.
	Cyanoacrylate Fuming	Fumed in chamber.
	Dye Stain	Yellow Dye, applied, rinsed. Visualized with ALS, 420-470nm. Yellow goggles, lenses.
EH3MED	Cyanoacrylate Fuming	Item placed in fuming hood and ridge detail was enhanced. -Photographed
	Magnetic Powder	Magnetic powder was applied and ridge detail was enhanced. -Lifted
ELMJZH	Cyanoacrylate Fuming	Processed in AirScience Fume Chamber for 15 minutes.
	Dye Stain	I then used Rhodamine 6G and allowed the item to dry. I then used ALS at 515nm with an orange filter to observe item 002.
EQKV4V	Cyanoacrylate Fuming	Item fumed w/ cyanoacrylate in vacuum visible print.
EUXXLK	Visual Examination	Visual examination via oblique lighting revealed ridge detail.
	Powder Dusting	Latent print developed via Magnetic Powder

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
EXKF66	Visual Examination	
	Lumicyano with Tracer Laser	Fluorescent superglue used for the non-porous window on the envelope. 25 min in CA chamber, 80% humidity, Lumicyano recommended mixture quantities for a 23 cubic foot chamber. Laser is 532nm
EY9WED	Visual Examination	White light
	Cyanoacrylate Fuming	Following our method description - Equipment: MVC Foster Freeman 3000. Glue: 1,5 g. Humidity: 80%. Humidity time: 15 min. Time:8 min
	Dye Stain	Following our method description - Basic Yellow 40 50% solution
	Alternate Light Source	Following our method description - Blue light yellow goggles
F7NUJC	Visual Examination	White light and ambient lighting used to examine Item 2 with the naked eye
	Alternate Light Source	Examined Item 2 using: 254nm RUVIS lamp, 365nm UV light source, 455nm blue light source, 532nm laser light source
	Cyanoacrylate Fuming	vaporization of cyanoacrylate glue C to develop latent fingerprints on Item 2 of evidence. Total fume time is 1.5 min. Viewed evidence with white light and ambient lighting, then used 254nm RUVIS lamp for additional examinations
	Dye Stain	Applied RAM dye stain to Item 2, allowed to dry, then examined with three light sources: 365nm UV light source 455nm blue light source 532nm Laser light source
F8JQUR	Powder Dusting	Processed with black powder. After powder processing planned on photography, but development was poor - no photography done.
FAAPBB	Visual Examination	Performed a visual Exam utilizing ambient light. Friction ridge detail was observed in quadrant D.
	Cyanoacrylate Fuming	This item was superglue fumed in an Air Science Fuming Chamber for 9 minutes. A control was not necessary due to the positive development noted on Item 1. Friction ridge detail was developed in quadrant D.
	Powder Dusting	The friction ridge detail in quadrant D was dusted with black fingerprint powder.
FAN6FC	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	
	Dye Stain	

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
FELGG4	Cyanoacrylate Fuming	Item fumed with CA for 10 minutes at 80% RH. 5 Minute purge cycle. positive control used. Faint detail developed in quadrant D.
	Dye Stain	Item sprayed with basic yellow solution, rinsed with tap water, allowed to dry.
	Alternate Light Source	ALS/FLS set to 450 nm, orange filter used. Latent print detail developed in quadrant D.
FFVNHB	Cyanoacrylate Fuming	
	Powder Dusting	
FGTTHD	Visual Examination	Various lighting including Crimelite and Laser.
	Cyanoacrylate Fuming	x70 mins. in chamber
	Dye Stain	R6G and additionally a MeOH rinse
	Powder Dusting	Black powder
FHKV6T	Visual Examination	natural light
	Alternate Light Source	forensic lights
	Cyanoacrylate Fuming	to find latent prints on plàstic case
	Dye Stain	ardrox development and wàter to clean to find or acolorate latent prints
FHYMT4	Visual Examination	Observed patent print on polymer CD cover interior of quadrant D
	Cyanoacrylate Fuming	Fumed for 12 minutes in superglue chamber. Further development of print in quadrant D observed.
	Dye Stain	Item dyed with rhodamine 6G.
	Alternate Light Source	Visualized R6G with 532 nm TraceR laser using an orange barrier filter. Developed latent photographed at this stage.
FJQMQE	Cyanoacrylate Fuming	CA in the small tank.
	R6G	R6G was applied to the item
	Alternate Light Source	Item was exposed to the TracER laser
FKAERC	Visual Examination	Visual examination with direct and indirect lighting.
	Cyanoacrylate Fuming	Placed into controlled Mystaire CA fuming chamber for 20 minutes.
	Dye Stain	Sprayed with Rhodamine 6G (Methanol) and then examined under laser.
FMYLCA	Cyanoacrylate Fuming	Opened the CD case and fumed for 7 minutes at 78% humidity
	Powder Dusting	Processed with black powder

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
FXFDUR	Cyanoacrylate Fuming	
	Dye Stain	By40 ethanol base
G32YVB	Visual Examination	
	Alternate Light Source	
	Cyanoacrylate Fuming	humidity - 80%, temperature of the heating plate 100 degrees Celsius, time - 35 minutes
	Basic Yellow 40	
GGNXAR	Powder Dusting	Item #2 was processed with black powder on the exterior and interior of the plastic case.
GJD4UN	Cyanoacrylate Fuming	12 minutes in smaller chamber.
	Dye Stain	Basic Yellow dye used. Allowed to sit for 5 seconds then rinsed with water.
	Alternate Light Source	Blue laser with an orange barrier filter.
GLCRYC	Cyanoacrylate Fuming	Using cyanoacrylate in Foster+Freeman fuming chamber 15min at 120C temperature.
GN3PCB	Visual Examination	Visual exam using white light
	Alternate Light Source	LASER (532 nm), Blue light (450 nm), and UV light (365 nm)
	Cyanoacrylate Fuming	Microburst technique, 2 grams of superglue fumed for 1.5 mins. Visualized with white light and RUVIS (254 nm)
	Dye Stain	Applied RAM with a squirt bottle. Visualized with LASER (532 nm), Blue light (450 nm), and UV light (365 nm)
GTXJAC	Visual Examination	Visual - 3 minutes
	Cyanoacrylate Fuming	Superglue - 20 minutes
	Dye Stain	R.A.M. - 30 minutes including dry time
H326YQ	Cyanoacrylate Fuming	Item #2 was placed inside the CA-6000 Cyanoacrylate Fuming Chamber.
	Powder Dusting	After the fuming process was complete, black powder was then used.
H4T4CN	Cyanoacrylate Fuming	
	Powder Dusting	White Powder
H6L2HA	Visual Examination	latent print observed in quadrant D upon visual examination approx. 1 min.
	Powder Dusting	developed with black magnetic dust approx. 5 min.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
H99KND	Cyanoacrylate Fuming	fumed at 80% humidity for 14 minutes
	Dye Stain	Basic yellow 40
	Powder Dusting	Black powder after basic yellow staining
HDH2VG	Visual Examination	Visible examination using oblique lighting revealed a friction ridge impression present in section D.
	Powder Dusting	Black magnetic powder applied to surface enhancing friction ridge impression in section D.
HGEKYZ	Visual Examination	white light
	Lumicyano	MVC3000 fuming chamber was used following Auto cycle settings
	Alternate Light Source	Laser- green wavelength
	Dye Stain	Rhodamine 6G- methanol based solution, spray method
	Alternate Light Source	Laser - green wavelength
HGJXPH	Cyanoacrylate Fuming	Item was fumed with superglue in chamber at 80 % humidity, approximate time for entire process was 20 min.
	Powder Dusting	Applied black powder

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
HJ3299	Visual Examination	White light examination of exhibit as received using ambient laboratory lighting and 'Tiablo' High Power LED Flashlight at varying angles. Ridge detail was seen in section 'D', however could not be sufficiently photographed, it was decided as this ridge detail was seen under Alternate Light Sources that it would be photographed at this stage instead.
	Alternate Light Source	Sequential initial High Intensity Light Source (HILS) examination carried out, following dark adaptation, using Green Crime Lite 490nm-560nm with 571nm viewing filter followed by Blue Crime Lite 420nm-470nm with 476nm viewing filter and UV Crime Lite 350nm- 380nm with 408nm viewing filter. QA adhered to and control test pieces passed. Ridge detail was seen in section 'D' and exhibited as 'BAC/1'. This was photographed.
	Cyanoacrylate Fuming	Carried out as per [Laboratory] validated/internally verified procedure (Foster & Freeman MVC5000 Cabinet, Relative Humidity 80%, Glue time 13 minutes & 3g of superglue used). Following treatment, examined using 'Tiablo' High Power LED Flashlight (white light) at varying angles. QA adhered to and control test piece passed. 'BAC/1' was further enhanced and exhibited as 'BAC/1AO'. This was photographed.
	Powder Dusting	Carried out as per [Laboratory] validated/ internally verified procedure, Jet Black Powder used with a Magnetic Applicator. Following treatment, examined using 'Tiablo' High Power LED Flashlight (white light) at varying angles. QA adhered to and control test piece passed. 'BAC/1' was further enhanced and exhibited as 'BAC/1BO'. This was photographed.
	Dye Stain	Ethanol-Based BY40 dye used, carried out as per [Laboratory] validated/ internally verified procedure. BY40 dye applied and left for ~15 seconds. Rinsed with water and left to dry. Examined when dry using blue Crime Lite 420-470nm with 476nm viewing filter, following dark adaptation. QA adhered to and control test piece passed. 'BAC/1' was further enhanced and exhibited as 'BAC/1CO'. This was photographed.
	Wet Powder Suspension	Carbon-based powder suspension used, carried out as per [Laboratory] validated/internally verified procedure. Pre-rinsed with water. Powder Suspension applied with soft squirrel hair brush and left for ~10-20 seconds. Powder Suspension rinsed off using gently running water until maximum contrast obtained and then allowed to dry. When dry, examined using 'Tiablo' High Power LED Flashlight (white light) at varying angles and magnifying eyeglass used where required. QA adhered to and control test piece passed. 'BAC/1' was further enhanced and exhibited as 'BAC/1DO'. This was photographed.
HZQCVB	Cyanoacrylate Fuming	Visual inspection with white light, application with fuming cyanoacrylate with portable camera lofoscopic fragment development with print powder hi - fi white reagent, white contrast on the outside of the translucent lid
JAFFKP	Cyanoacrylate Fuming	Non-porous fumed in cyvac for 1 hour, treated w/ R6G (Batch# SV2020-R6GW-21) viewed under green laser, viewed w/ RUVIS
JC8ANL	Powder Dusting	Dusted with magnetic powder.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
JDDYMN	Visual Examination	Examination with an alternate forensic light source with appropriate filters (light source – POLILIGHT PL 500)
	Cyanoacrylate Fuming	20 min exposure, 120° C, 80% humidity, viewing in white light with POLILIGHT PL 500 in 505-530 nm range + appropriate filters
	Dye Stain	Spraying item with "Basic Yellow 40" working solution, after 1 min exposure the excess of reagent wasrinsed under running tap water,viewing with POLILIGHT PL 500 alternate forensic light source in415-495 nm range + appropriate filters
JM3HAA	Visual Examination	Fluorescent overhead light. Magnifier
	Cyanoacrylate Fuming	Air Science Tank #3 (fumed for 30 min at relative humidity of 80%, then purged for 30 min). Cyanoacrylate Ester, lot number CA201002
	Dye Stain	Mstar, lot number MS201104 sprayed on item under fume hood. Crime scope CS-16-500
	Powder Dusting	Black powder used under fume hood
JM4KTL	Visual Examination	under white light
	Alternate Light Source	fluorescence examination (350 nm - 650 nm under appropriate color barrier filters)
	Cyanoacrylate Fuming	in the fuming chamber with a humidity 80% for 11 minutes; visual examination under white light and fluorescence examination (350 nm - 650 nm under appropriate color barrier filters)
	Basic Yellow 40	fluorescence examination in alternate light source (350 nm - 450 nm under yellow or orange color barrier filters)
JNXAWF	Visual Examination	Under white light
	Cyanoacrylate Fuming	Atmospheric, fume time 30 minutes, cure over the weekend under UV light.
	Dye Stain	Rhodamine 6G dye stain with methanol: sprayed, air dried, and viewed under 532 nm green laser with orange goggles.
	Powder Dusting	Black powder.
JYEUGC	Cyanoacrylate Fuming	CD was processed by cyanoacrylate ester (superglue) under a vacuum for over 1 hour, allowed to cure then dye stained with R6G and viewed using a 530nm/green forensic laser.
JZNYWL	Visual Examination	with lighted magnifier
	Cyanoacrylate Fuming	air science chamber, 15 minute processing time, 70 % humidity, 70 degrees F
	Powder Dusting	black mag powder
KJDMVF	Powder Dusting	THE PROCESSING TIME OF THE TREE ITEMS WAS 2 HOURS, THE HIFI LATENT PRINT POWDER HEAVI BLACK VOLCANO REAGENT WAS USED.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
KVU8FC	Visual Examination	fingerprint was observed in section D from the inner side, it was photographed using baddle ring light in DCS-5
	Cyanoacrylate Fuming	in chamber for 12 minutes
	Powder Dusting	clear fingerprint was observed in section D. it was photographed using UV light source.
KVXPLM	Visual Examination	1) The plastic CD is closed. We open it so that we can observe the transparent surface inside. We place a black background under the transparent plate of the case. Observation with the nake eye of the surface of the piece of plastic CD case under different inclinations. No trace detected.
	Alternate Light Source	2) Black background under the transparent plate of the case and light shaving with Crimescope MCS-400 under different wavelengths and wearing glasses of appropriate colors. No trace detected.
	Cyanoacrylate Fuming	3) In view of unporous support, autocyle for 2g of solution of Lumicyano 8% during 1 hour. A contrôle trace is placed in the tank.
	Visual Examination	4) We observe with naked eye a white deposit of Lumicyano on the transparent plastic part in case "D". We place a black background under the transparent plate of the case, to have a better contrast. We don't observe other traces elsewhere on the object.
	Alternate Light Source	5) We observe the object with light shaving with Crimescope MCS-400 under different wavelengths and wearing glasses of appropriate colors. The fingerprint in the case "D" is even more visibly illuminated with white light or in CSS of the Crimescope. We don't observe other traces elsewhere on the object.
KW77C7	Visual Examination	oblique lighting
	Cyanoacrylate Fuming	30 min. in a fuming chamber
	Dye Stain	Rhodamine 6G dye stain
	Alternate Light Source	Forensic laser

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
KZ69PM	Visual Examination	*Please note that gloves were worn at all times throughout this processing. Item 2 was first removed from its packaging and visually examined. Slight ridge detail was observed in quadrant "D" at this time.
	Cyanoacrylate Fuming	*Please note that gloves were worn at all times throughout this processing. Because Item 2 was observed to be plastic during visual examination, cyanoacrylate fuming was selected to use. A Cyanoacrylate Fuming chamber was cleaned prior to use with isopropyl alcohol. A clean sheet of butcher paper was placed at the bottom of the chamber. A control was created utilizing black, non-porous cardstock and was hung from a clip inside the chamber. Several drops of liquid superglue (Lot#WI27419, Exp: 03-2021) were placed into a small metallic container, which was placed on top of a small heating plate inside the chamber. Sufficient water levels were observed in the machine. Item 2 was then opened to expose all surfaces and hung from another clip within the chamber. The chamber was then closed and a fuming cycle was started. The control and Item 2 were fumed for ten minutes at a 70% humidity level. Once complete, the chamber then purged the fumes for an additional ten minutes. Positive results were observed on the control. Item 2 was visually examined and ridge detail was clearly observed in the "D" quadrant.
	Powder Dusting	*Please note that gloves were worn at all times throughout this processing. In order to attempt lifting the observed ridge detail, black powder was selected to apply to Item 2. The item was placed on a clean sheet of butcher paper and black powder was applied to the interior of the front cover using a fingerprint brush. Ridge detail became clearly visible in the "D" quadrant.
L2T7CJ	Visual Examination	a trace observed in section D (light white)
	Cyanoacrylate Fuming	temp.21OC, time 15 min, humidity 80%
	Basic Yellow	light 350-505 nm
L6TH8J	Alternate Light Source	UV, Blue, Green
	Cyanoacrylate Fuming	MVC3000 15min glue time
	Dye Stain	BY40
LA68P8	Visual Examination	Visually examined the evidence for visible latent prints.
	Cyanoacrylate Fuming	Superglued the evidence for 3 minutes in the superglue chamber.
LBLJAX	Cyanoacrylate/Ardrox	Cyanoacrylate fuming default cycle 120 C, 80% RH, 10 min fuming. Ardrox - ready solution, rinsed with tap water, left to dry.
LCDK79	Visual Examination	Visual examination with lights (390-850 nm) and photoraphy+photoshop.Fingerprint was found at section D, back side of the cd -front cover.
	Powder Dusting	Magnetic Jet Black fingerprint powder for finding and improving more possible fingerprints. No more print weren't found.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
LJEML8	Visual Examination	Visual examination under ambient lighting. An apparent latent print was observed under the ambient light in section D of the interior side of the clear plastic CD case cover.
	Powder Dusting	Black fingerprint powder was used. An apparent fingerprint developed in section D of the interior side of the clear plastic CD case cover. No apparent fingerprints were observed in the remaining sections.
LN9R9K	Visual Examination	Item was examined for possible trace evidence and latent prints. Using oblique lighting a latent print was observed on the item.
	Cyanoacrylate Fuming	The item was placed in the Foster & Freeman MVC1000 Cyanoacrylate Chamber with the Following settings: Temperature 120 degrees celsius, 80% relative humidity, nine drops of cyanoacrylate chemical, for 10 minutes. One latent print developed on the inside portion of the front cover in Quadrant D. Latent print was then photographed.
	Powder Dusting	The developed latent print was then dusted with Black Powder and then lifted.
M2APN4	Cyanoacrylate Fuming	10 minutes
	Powder Dusting	Black powder on clear 1/2 of case
	Dye Stain	Rhodamine dye stain on black 1/2 of case
M2EW3J	Cyanoacrylate Fuming	
	Powder Dusting	
M4ZQVD	Cyanoacrylate Fuming	portable chamber 15 minutes
M9A4FW	Powder Dusting	Black powder
MALYXH	Cyanoacrylate Fuming	The plastic CD case was opened at the hinges and made to stand inside a cyanoacrylate fuming chamber. A control was also placed into the chamber at the time of processing (results were positive). The total time of the fuming process was approximately 40 minutes. Upon the completion of the process, a potential latent was observed in quadrant "D" of the item.
	Powder Dusting	The item was dusted using black powder and a fiberglass fingerprint brush, until a potential latent was developed in quadrant "D" of the item.
MF7YDV	Alternate Light Source	polilight and laser used
	Cyanoacrylate Fuming	CD case
	Dye Stain	Rhodamine 6 G, Gentian Violet and BY40 - CD case
	Powder Dusting	CD case

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
MJ836H	Visual Examination	Visually inspected item for obvious friction ridge detail.
	Alternate Light Source	Used ALS (varying wavelengths) to inspect item for obvious friction ridge detail.
	Cyanoacrylate Fuming	C.A. Fume for 10 minutes in chamber, chamber vented for 2 minutes. Control print was placed in chamber with Item 2. Control print was good.
	Ardrox	Item was brushed with ardrox after C.A. fume and rinsed with water. Control print from C.A. fume also brushed with ardrox and rinsed with water. Control print good. Print developed in quadrant D.
MJPXN6	Visual Examination	Visually looked at the items for latent prints
	Alternate Light Source	Used the alternate light source to look for prints. First used the laser (532nm), then the 450nm, then the 365nm to try and visualize any prints.
	Cyanoacrylate Fuming	I superglued the item using cyanoacrylate and then did a visual exam looking for prints, afterwards I did a FSIS exam looking at the item for prints.
	Dye Stain	I used the RAM and squirt the RAM on the item, then used the Laser (532nm), the 450nm, and the 365nm light sources to try and view any prints on the item.
MLTT88	Visual Examination	Performed VIS using oblique lighting. Visualized print.
	Alternate Light Source	Used 532nm Laser, 450nm blue light, and 365nm UV light.
	Cyanoacrylate Fuming	Performed VIS then used FSIS at 254nm.
	Dye Stain	Applied RAM then used 532nm Laser, 450nm blue light, and 365nm UV light.
MPZ3MJ	Cyanoacrylate Fuming	
	Powder Dusting	
MQPDEC	Powder Dusting	I used oblique lighting in search of latent prints on the plastic CD case. However, to fully develop the ridge detail I used powder dusting. Magnetic powder was used on the interior of item 2. Latent impression was observed in section D of item 2.
MURA8D	Visual Examination	I visually examined the plastic CD case.
	Powder Dusting	I dusted the exterior and interior sides of the plastic CD case front cover with black magnetic powder. Throughout processing the item was analyzed for friction ridge impressions.
MVMWHW	Visual Examination	The item was examined under oblique lighting.
	Cyanoacrylate Fuming	- Humidity Cycle (~80% humidity, approx. 15 mins.). - Glue Cycle (~80% humidity, approx. 20 mins.). - Purge Cycle (<80% humidity, approx. 20 mins.)
	Powder Dusting	- Bichromatic powder

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
MWJ7UL	Alternate Light Source	General visualization under ALS and white light yielding negative results.
	Cyanoacrylate Fuming	Yielding negative results.
	Dye Stain	MBD dye staining yielding positive results in Section "C".
	[No Methods Reported.]	Photographing of positive results in Section "C".
MXQK4D	Visual Examination	Very faint impression observed in quadrant D (interior of CD cover). Lacked contrast for photography.
	Cyanoacrylate Fuming	Item fumed for approximately 7 minutes in a CA chamber. Ridge detail observed in quadrant D and photographed.
	Dye Stain	Rhodamine 6G was used on the entire object.
	Alternate Light Source	Item screened with Crimescope 495nm with orange filter. Impression in quadrant D was photographed.
MYL9DV	Visual Examination	Visually observed
	Lumicyano fuming	8% solution of Lumicyano Solution and Lumicyano Powder used Humidity Cycle -80% RH 15 mins, Glue Cycle-80% RH 120degrees Celcius 25 min, Purge Cycle- <80% RH ~20 mins
	Rhodamine 6G	Rhodamine 6G working solution made of .1g of Rhodamine 6G powder mixed with 1000ml of Methanol. Paint brush application and rinsing with methanol
	Alternate Light Source	Green light 525 nm wavelegnth
N7W2ZC	Cyanoacrylate Fuming	20 min, 130°C, 80% humidity (cyanacrylate)
N8VZJK	Cyanoacrylate Fuming	PRIOR TO CYANO FUMING, WE EXAMINED THE CD CASE WITH NATURAL AND FORENSIC LIGHTS. A FINGERPRINT FRAGMENT WAS SLIGHTLY VISIBLE ON THE INSIDE. WE OBTAINED A VALID PHOTOGRAPH PRIOR TO CYANO FUMING.
	Dye Stain	ARDROX, FORENSIC LIGHTS.
NAFYHZ	Visual examination, Forensic Light Source, CA, MRM10, Photography	10/27/20: During the visual examination visible ridge detail was detected on quadrant-D, photographic documentation was then performed(photo lift #1)on 10/27/20. Item 2 was then exposed to cyanoacrylate fume. Development was noted after completion of the cyanoacrylate process and photographic documentation of photo lift #1 was performed on 10/27/20. In an attempt to further develop ridge detail MRM10 was applied to photo lift #1, additional photos were taken after the application of MRM10. MRM10 was tested prior to being applied to case evidence and it performed as expected.
NF6JLF	Powder Dusting	Black Magnetic Powder

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
NFPZ2J	Cyanoacrylate Fuming	
	Dye Stain	Yellow dye
	Alternate Light Source	415, yellow filter
	Visual Examination	
NGHX84	Visual Examination	Mark search was done Using White Light. And the Mark was found on Section D.
	Cyanoacrylate Fuming	Processing Time: 20 mins, which includes Humidifying, Fuming and Purging. After 20 mins, Mark search was done using White Light. No additional mark found. Mark on Section D, enhanced.
	Dye Stain	After Dying with BY40, kept to dry for 20 mins in fumehood. After 20 mins, Mark search was done using 445nm light (blue light) with goggle (495nm). No Additional marks found. But the mark on Section D, enhanced.
NJQ242	Visualization, Forensic Light Source, Photography, Cyanoacrylate.	Oct/21/20: Item-2: Prior to chemical processing, visible ridge detail was found within quadrant-D (Photo lift #2). With initial documentation complete, item-2 was exposed to Cyanoacrylate fume. Development was noted after the completion of the Cyanoacrylate process (documentation performed 10/22/20).
NMNR4K	Cyanoacrylate Fuming	Fumed non-porous item with cyanoacrylate ester in vacuum chamber for 60 min.
NNJ7VK	Powder Dusting	Dusted all areas with black powder. Photographed before and after powder.
NQM3ZK	Cyanoacrylate Fuming	Cyanoacrylate fumed under vacuum. Dye stained w/ Rhodamine 6G (R6G)
NTEW4G	Visual Examination	Item was observed using ambient and ring lighting. Ridge detail was observed in quadrant D. No other ridge detail was observed.
	Alternate Light Source	Item was observed using the Crime Lite ML-2 under blue and green light with orange and red filters. No improvement to existing or additional ridge detail was observed.
	Cyanoacrylate Fuming	The item was fumed with cyanoacrylate in the CA-6000 chamber for 30 minutes at ~65% relative humidity.
	Visual Examination	The item was observed with ambient and ring lighting after cyanoacrylate. Minimal improvement to the existing ridge detail was observed. No additional areas of ridge detail were seen.
	Powder Dusting	Black magnetic powder was brushed onto the item.
	Visual Examination	The item was observed under ambient light after black magnetic powder. No additional ridge detail was observed. Better contrast of the existing ridge detail was noted.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
NVZQVB	Visual Examination	Visual examination under ambient light. KrimeSite Imager revealed that portion of the print was located on section D.
	Cyanoacrylate Fuming	Cyanoacrylate Fuming Chamber for 20 minutes. Item 2 was then viewed under white light with magnification with a latent print impression observed in section D.
	Powder Dusting	Item 2 was dusted with black powder.
P8Q467	Physical Developer (PD)	It was used magnetic powder in all section
PBBR67	Cyanoacrylate Fuming	The CD case was fumed with cyanoacrylate ester (superglue) in a vacuum chamber (~1 hr), dye stained with rhodamine 6 G (R6G batch NY10020202-1)
PMKL3G	Visual Examination	Visual examination yielded negative insufficient details.
	Alternate Light Source	ALS (white/oblique lighting) was used to inspect for possible partial latent prints; yielded negative results.
	Cyanoacrylate Fuming	Cyanoacrylate ether was used via fuming chamber to enhance development of any possible partial latent prints. A dime size amount of superglue used in tin foil container placed in fuming chamber for 12-15 minutes.
	Powder Dusting	Black and gray dual fingerprint powder was applied to the plastic CD case to enhance the development of possible partial latent prints.
PRDLKJ	Cyanoacrylate Fuming	I used the Misonex CA-6000 Cyanoacrylate Fuming Chamber. The Humidity was 80%, the fume cycle was 15 minutes and the purge time was 15 minutes.
PVXH63	Visual Examination	White light
	Cyanoacrylate Fuming	Processing time 15 min
	Dye Stain	Basic Yellow 40
QJH4JF	Powder Dusting	CD case was processed for latent prints using black powder. Latent fingerprint developed on interior said of Section D
QK989G	Visual Examination	Visual exam yielded negative insufficient details.
	Alternate Light Source	Alternate light source (white light/ flashlight) was used to search for possible latent prints; yielding negative results
	Cyanoacrylate Fuming	Cyanoacrylate fuming chamber was used to enhance development of any possible ridge details. Dime size amount of superglue used in tin foil container placed in chamber for 12-15 minutes
	Powder Dusting	Florescent was applied to plastic CD case to enhance the development of ridge details.
QKDLLG	Cyanoacrylate Fuming	Opened Item 2 and fumed with cyanoacrylate for approximately 15 minutes.
	Dye Stain	Sprayed with MBD and visually examined under ALS.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
QKTMNJ	Cyanoacrylate Fuming	
QMJ4LX	Visual Examination	Visual examination of item
	Cyanoacrylate Fuming	Air Science chamber used
	Powder Dusting	Black powder
QPQC36	Cyanoacrylate Fuming	The plastic cd case was processed with cyanoacrylate ester under vacuum for 1 hour, dye stained with Rhodamine 6G and view with a forensic laser.
QQ27QH	Cyanoacrylate Fuming	30min in glue chamber
	Dye Stain	
QYQ2LR	Visual Examination	19/11/2020
	DCS5	DCS5 Full range screen 19/11/2020
	Cyanoacrylate Fuming	Vacuum Cyanoacrylate fuming 19/11/2020
	Visual Examination	20/11/2020
	DCS5	DCS5 Reflective UV 20/11/2020
	Dye Stain	Basic Yellow 40 / Panacryl 20/11/2020
	Alternate Light Source	Polilight 415nm to 450nm examination 20/11/2020
R44XA2	Visual Examination	ambient lighting and fluorescent lighting
	Alternate Light Source	Full Spectrum Imaging System and UV lighting
	Cyanoacrylate Fuming	Safe Fume CA tank, 80% relative humidity, 30 minute fuming time, LOT# CA201002
	Alternate Light Source	Full Spectrum Imaging System and UV lighting
	Dye Stain	MStar LOT# MS201020, viewed under CrimeScope
	Powder Dusting	black powder
R6XPW8	Visual Examination	Inspected sample with oblique light.
	Alternate Light Source	Visually inspected the sample with UV light (254 nm), a FSIS camera, and a UV filter (254 nm) for approximately 45 min. Test print examined was positive. Latent print sufficient for further review was observed.
	Cyanoacrylate Fuming	Fumed sample and test print in CY-VAC (vacuum fumed) for approximately 1 hour and allowed to cure for 30 min. Test prints were positive
	Dye Stain	Rhodamine 6G dye stain was applied to the plastic portions of the sample using a spray bottle. The dye stain was allowed to dry and then observed under a green laser with orange filter. Test prints positive. Similar friction ridge detail to the UV was observed.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
R9CHWD	Cyanoacrylate Fuming	
	Powder Dusting	white powder
R9X2T8	Cyanoacrylate Fuming	Cyanoacrylate ester fuming/rhodamine 6G dye stain – vacuum fuming at 37 C for 1 hour, curing time 30 minutes, saturation with rhodamine dye
RA6G2Y	Visual Examination	Examined in the white light and the daylight.
	Cyanoacrylate Fuming	Processed in the Cyanoacrylate chamber for 15 min., t-120 C, RH-80 %.
RB3K22	Visual Examination	laser and ambient lighting
	Cyanoacrylate Fuming	F&F chamber, 70 min cycle
	Powder Dusting	Black powder
RCWCN8	Cyanoacrylate Fuming	portable chamber for 15 minutes
RDNB37	Cyanoacrylate Fuming	Visual examination (000-495 nm); photography; basic yellow; humidity 81,5%; temperature 130°c
RDTMNG	Visual Examination	Fingerprint was visualized. No pattern distinguishable.
	Cyanoacrylate Fuming	20-25 min approx. the whole process. Low quality fingerprint was found.
	Dye Stain	Ardrox as dyer. No enhancement at all.
RFVVMZ	Visual Examination	white light D, blue light -, green light - Visual print D
	Cyanoacrylate Fuming	Visual print D processing time 7 minutes
	Dye Stain	Basic Yellow 40 Visual print D
RRATR4	Powder Dusting	I used magnetic powder on the CD case. Approximately 10 minutes
T4WCP7	[No Methods Reported.]	Method Used in Order (SECTIONED INTERIOR CLEAR SIDE): 1) Visual examination with white oblique lighting. 2) The Cyanoacrylate Ester Fuming Chamber was used to process a Control Item (plastic piece) and Item 2. 3) Visual examination with white oblique lighting. 4) Black Magnetic Powder. 5) Visual examination with white oblique lighting. 6) Latent print preserved.
TA8BGY	Visual Examination	
	Cyanoacrylate Fuming	Humidity 80%, processing time 30 min.
TAKWU8	Cyanoacrylate Fuming	12 minutes portable fuming chamber

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
TLHVLD	Visual Examination	Natural light, white light /angle light, optical instruments.
	Cyanoacrylate Fuming	Processing time: 10 min, humidity: 80% (applies to the non-adhesive side).
	Visual Examination	White light /angle light, optical instruments.
	Dye Stain	Basic Yellow 40.
	Alternate Light Source	Polilight PL 500 (350-505nm)+ barrier filters, optical instruments.
TUDV6C	Visual Examination	
	Cyanoacrylate Fuming	
	Dye Stain	R6G
TV7UBX	Cyanoacrylate Fuming	Processing time : 25 min. Dye stain : super glue and MBD solution. The reaction needs 75-80 percent humidity
TZYPJW	Visual Examination	White light, blue forensic light with yellow filter, green light with red filter.
	Cyanoacrylate Fuming	6 minutes, 120 degrees celcius, 80% RH.
	Dye Stain	Basic yellow 40 solution
U738UU	Visual Examination	
	Cyanoacrylate Fuming	Superglue chamber used (MVC 5000) Fumed for 20 minutes
	Powder Dusting	Magnetic Powder followed by Black Powder
U8C2TF	LPPM	Non-porous - Cyvac CA fuming then R6GW stain
U8TDC7	Cyanoacrylate Fuming	.2 Grams of CA, Humidity at 80%, CA heat at 250 F, Fuming time = 4:00
	Dye Stain	Basic Yellow
UBC9DD	Cyanoacrylate Fuming	CAE
	Powder Dusting	White Powder
UBGPCB	Visual Examination	examined under normal white light
	Alternate Light Source	examined using ALS at both 350nm and 515nm
	Cyanoacrylate Fuming	fumed for approximately 15-20 minutes
	Dye Stain	sprayed with Rhodamine (R6G) and then rinsed with methanol and examined using the ALS at 515 nm.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
UEUMJY	Visual Examination	a) Crimelite. b) TracER LASER. c) Incandescent Light
	Cyanoacrylate Fuming	Approximately 70 minutes in the Foster & Freeman MVC-5000 cabinet
	Dye Stain	Rhodamine 6G followed by Methanol rinse
	Powder Dusting	Black powder
UF86WC	Visual Examination	Visual Examination
	FSIS	FSIS (Full Spectrum Imaging System)
	Cyanoacrylate Fuming	1 Hour
	Dye Stain	R6G
UP9RLN	Visual Examination	Latent print visible with ambient light.
	Cyanoacrylate Fuming	Fumed for 11 minutes. Latent print with ambient light.
	Dye Stain	Applied MBD. Latent print visible with Crimescope.
UYKJHD	Powder Dusting	black powder
UYXFJB	Cyanoacrylate Fuming	Item was processed in the Cyanoacrylate (superglue) chamber. The process takes approximately 30 minutes to complete. Ridge detail developed on the interior front side of the item in Quadrant D.
	Powder Dusting	Item was then processed with a mixture of Black powder and Bichromatic powder. Item was gently 'dusted' on the interior front side. A latent print developed in Quadrant D.
UZWEZY	Visual Examination	Magnifier and fluorescent light
	Cyanoacrylate Fuming	Lot #CA201002 in AIR Science Tank (#4) 30 minute fuming cycle @80% humidity, magnifier and fluorescent light
	Dye Stain	MStar, Lot #MS201104, squirt bottle, air dry, Crimescope@475nm and magnifier
	Powder Dusting	Black powder, magnifier and fluorescent light
V3DCGZ	Physical Developer (PD)	the laboratory use only physical powder
V3GPCA	Cyanoacrylate Fuming	Cyanoacrylate fuming in a tank for 30 minutes along with a standard test strip.
	Powder Dusting	Magnetic powder to enhance the print that developed with the cyanoacrylate.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
V92V3N	Visual Examination	Relative temperature of the processing room was 67 degrees Fahrenheit. Friction ridge detail was observed on the inside of the clear plastic portion of the disc case in quadrant D.
	Cyanoacrylate Fuming	I then superglue fumed (CA) this item in a Foster and Freeman MVC 3000 fuming chamber.
	Black latent fingerprint powder	I conducted another visual examination and then followed up with the application of Black Latent Fingerprint Powder. I developed a latent fingerprint of value in quadrant D. I then lifted it onto a fingerprint card. Upon visual examination of the lift card, the latent print of value did not lift well and was photographed. This developed print was very difficult to capture and had to be held at sharp angles to see the visible friction ridge detail. Multiple lighting techniques were used in order to capture this print of value.
	Black magnetic powder	I then used Black Magnetic Powder with a magnetic wand to further develop this latent fingerprint of value. I lifted this print onto the same card as the BLFP (black latent fingerprint powder). Photographs were taken.
	Basic Yellow dye stain	I then applied a dye stain to this item of evidence in an attempt to bring out further friction ridge detail. I applied the dye stain via the spray method, allowed to dry under the vent hood for 30 minutes.
	Alternate Light Source	I then conducted a visual examination with a Rofin polilight PL500 at 450nm. Orange goggles were used and an orange filter was placed on the camera in order to capture and preserve this print of value. Photographs were taken.
VATVZZ	Visual Examination	negative results, apparent disturbance to surface in section D
	Cyanoacrylate Fuming	insufficient ridge detail is visible in section D, but it is not clear and not able to photograph, even after running it through the chamber a second time
	Dye Stain	Rhodamine-6-G used with the Tracer Laser with positive results (LP1) in section D
VB4XLY	Cyanoacrylate Fuming	Visual inspection with white light, application with fuming cyanoacrylate with portable camera lofoscopic fragment development with print powder silk black reagent, white contrast on the outside of the translucent lid
VB972D	Visual Examination	Print visible on the interior portion of the CD case in quadrant D.
	Cyanoacrylate Fuming	Print visible on the interior portion of the CD case in quadrant D.
	Dye Stain	MBD dye stain after cyano fuming. Print visible on the interior portion of the CD case in quadrant D.
VFLVH2	Visual Examination	Powder dusting - Bichromatic

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
VKTLG2	Cyanoacrylate Fuming	Processed item with cyanoacrylate in AirScience fuming chamber for 15 minutes. a latent print was developed in section D.
	Dye Stain	After cyanoacrylate process, I used dye stain ardrox to further enhance developed latent print in section D. the item was allowed to dry overnight.
VVEMYW	Visual Examination	Used oblique lighting and bright white light.
	Alternate Light Source	Three light sources - blue light (450nm), UV light (365nm) and laser (532nm).
	Cyanoacrylate Fuming	Used a superglue chamber and examined the item using a bright white light, oblique lighting and the FSIS(254nm).
	Dye Stain	Processed with RAM. Examined item 3 with a 365nm UV light, a 450nm blue light and a 532nm laser.
VVUWZA	Cyanoacrylate Fuming	Foster Freeman fuming cycle of approximately 40min.
	Dye Stain	Basic Yellow dye stain applied to item after fuming.
VW8HL6	Physical Developer (PD)	The improvement of the evidence was carried out in 40 minutes, using the reagent magnetic black and non-destructible white. Using people protective equipment.
VWNV7V	Visual Examination	
	Alternate Light Source	Full Spectrum Imaging System (FSIS) Shortwave UV/274nm filter
	Cyanoacrylate Fuming	
	Dye Stain	Ardrox Rhodamine
	Powder Dusting	
VYFQT4	Cyanoacrylate Fuming	on Vacuum chamber in 30 min. and dye using Basic Yellow 40
W22V4M	Visual Examination	Naked eye
	Cyanoacrylate Fuming	Autocycle programmed parameters: Humidity cycle: ~80% RH ~15mins. Glue cycle: 80% RH 120 degrees Celsius ~25mins. Purge cycle: <80% RH ~20mins
	Powder Dusting	Fiberglass brush used to apply bichromatic powder till adequate development observed.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
W3X4FC	Visual Examination	One impression visualized in section D
	FSIS + UV light @254nm	Examined all sides of the item - one impression with insufficient contrast in section D
	RUVIS + UV light @254nm	Examined all sides of the item - one impression with insufficient contrast in section D
	Cyanoacrylate Fuming	15 min fume cycle @75% humidity; 5 min purge cycle
	RUVIS + UV light @254nm	Examined all sides of the item - one impression with insufficient contrast in section D
	Dye Stain	Rhodamine 6G reagent (spot processed - R6G applied with painting brush only in section D)
	Alternate Light Source	ALS @515nm/orange goggles, examined the whole item, one impression visualized in section D
WLQGYQ	Visual Examination	
	FSIS	
	Cyanoacrylate Fuming	in the fuming chamber for 18 minutes
	Dye Stain	R6G
	LASER	
WWPPLV	Visual Examination	Natural light, white light.
	Cyanoacrylate Fuming	The latent print on a plastic CD case was developed 25 minutes (80% - humidity). The latent print was recovered in section "D".
WYBTXY	Cyanoacrylate Fuming	Atmospheric pressure
XT4D9B	Cyanoacrylate Fuming	Cyanoacrylate was used in a fuming chamber and fingerprint powder was subsequently used to develop ridge detail.
YJ9YGA	Cyanoacrylate Fuming	Cyanoacrylate fuming followed by Rhodamine 6G. Looked at with forensic LASER at 532nm with orange filter goggles. Vacuumed fumed for an hour and cured for 30min.
YQRAPJ	Cyanoacrylate Fuming	Cyanoacrylate fuming for 15 mins.
	Dye Stain	R6G and viewed at 505nm using orange google.
YR3Z3U	Visual Examination	viewed with TracER Laser, white Crimelite, & overhead fluorescent lights
	Cyanoacrylate Fuming	
	Dye Stain	Rhodamine 6G
	Powder Dusting	black powder
YTJ23B	Powder Dusting	Application with a magnetic brush directly in the areas
	Cyanoacrylate Fuming	Application of the chemical to moisten the evidence for 10 minutes and 30 minutes of the chemical vapor

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
YTXRPZ	Cyanoacrylate Fuming	Fumed for 15 minutes
YUU3PA	Alternate Light Source	White, blue and green light was used to examine the material. A print could be observed in square D using white light.
	Cyanoacrylate Fuming	The print in square D was enhanced after processing the material with CNA.
	Dye Stain	Basic Yellow 40 was used and further enhanced the print.
YV3BXU	Visual Examination	TracER Laser and Crimelite
	Cyanoacrylate Fuming	F+F MVC 5000, 70 minute cycle, plastic controls
	Dye Stain	Rhodamine 6G, TracER Laser, plastic controls
	Powder Dusting	Regular black powder on transparent cover of case, and regular white powder on black portion of CD case
YX8PGT	Visual Examination	Examined using white crime light, oblique and natural daylight from FAS-Laboratory. Mark was visible on quadrant D and appears to be on the inner side of clear plastic CD case.
	Cyanoacrylate Fuming	Using SG cabinet #4 used and SG batch # 092869 used with approx. 3.50g of SG used. A control sample which consisted of shiny card (semi-porous) and foil was used. The control sample was performed by myself (classed as good donor) and was placed in the cabinet at the same time as the exhibit. The control sample was checked by another lab officer. The SG cabinet performed an auto cycle and took around 1 hour 15 minutes to run, with 15 minute fuming cycle at 120c with Relative Humidity of 75-90%. The SG cabinet has been serviced and maintained in July 2020 by an external company and quarterly checks have been carried out by a hygrometer to ensure humidity levels are constant. After the SG run was completed, the mark in quadrant D was enhanced further.
	Dye Stain	Using dye tank and dye batch no. AA4. The Basic Yellow Dye Stain consists of BY40 (SIRCHIE) applied after SG fuming. The Dye stain contains Ethanol 96% and Basic Yellow Stain. The exhibit was stained for approx. 10 seconds and then washed off with cold water. The control sample was previously used with SG and performed by myself (classed as good donor) and was placed in the cabinet at the same time as the exhibit. The control sample was checked by another lab officer. The mark was enhanced further in quadrant D.
	Solvent Black	The exhibit was then with Solvent Black (SB3) as this was treated with as a serious/ major crime and sequential processing was used. SB3 treatment was used with batch number 20AA29. SB3 treatment was used for 1 minute and then washed off with cold water. Solution contains Solvent Black 3, Methoxy-2-Propanol (PGME) and water. The control sample was performed by myself (classed as good donor). The control sample was checked by another lab officer.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
YXTJXW	Powder Dusting	- Black/Grayish Magnetic powder was applied using a medium sized magnetic wand by a gentle hand sway. The processing time of all four quadrants from beginning to end was two minutes and when the powder hit the surface of the area containing the print, the print appeared immediately. The portion of the print on the transparent portion of the envelope, when developed was darker than the portion on the paper. No other processing was attempted.
YXUEKA	Alternate Light Source	Visual examination with white, blue and green light. A fragment of a print could be observed in white light.
	Cyanoacrylate Fuming	A fragment of a print could be ovserved after processing with CNA (Cyanoacrylate fuming).
	Dye Stain	BY40. A print could be observed after treating the material with the dye.
ZC4LWW	Powder Dusting	black magnetic
ZHUUGQ	Visual Examination	Fingerprint visible in section D
	Cyanoacrylate Fuming	12min processing time humidity: 80%
	Dye Stain	Ardrox
ZJPCJR	Cyanoacrylate Fuming	MVC3000, 15 minutes glue time
	Dye Stain	Rhodamine-6-G
	Alternate Light Source	TracER laser with orange barrier filter
	Visual Examination	Prior to processing
ZN28JV	Visual Examination	I used oblique lighting to look at the object.
	Alternate Light Source	I used three different light sources to look at this item.
	Cyanoacrylate Fuming	I fumed the item and used oblique lighting and RUVIS to examine it.
	Dye Stain	I used RAM as a dye stain and then used three different light sources.
ZQ6V3R	Visual Examination	Rec'd plastic Jewel (CD) case, clear cover and black back. Interior of clear cover sectioned into 4 areas, labeled A, B, C, and D. Item #2 photographed prior to examination. What appeared to be a latent print was located in section D.
	Alternate Light Source	ALS examination - located same latent print from visual examination.
	Powder Dusting	Item #2, interior cover, was processed for latent prints using black magnetic powder. Latent print located near center of section D (same area seen on visual examination). Latent print photographed.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
ZQ8PHQ	Visual Examination	
	Cyanoacrylate Fuming	Atmospheric - 12 minutes
	Powder Dusting	Black powder
ZTBK2U	Cyanoacrylate Fuming	Visual inspection with white light, application with fuming cyanoacrylate with portable camera lofoscopic fragment development with print powder silk black reagent, white contrast on the outside of the translucent lid
ZTFTF9	Visual Examination	White light at an oblique angle - print visible in section D.
	Cyanoacrylate Fuming	30-minute fuming time at 75% humidity - print visible in section D.
	Dye Stain	MBD with ALS to visualize print - print visible in section D.
ZU68XR	Visual Examination	the print was determined using light source

Response Summary

Participants: 241

Methods Utilized

Alternate Light Source	67	Physical Developer	3
Cyanoacrylate Fuming	195	Powder Dusting	95
DFO	0	Visual Examination	138
Dye Stain	97	Wet Powder Suspension	1
Ninhydrin	0	1,2-Indanedione	0

**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
28QUP6	Visual Examination	Ambient Light
	1,2-Indanedione	Caron Fingerprint Chamber, 20 minutes
	Ninhydrin	Caron heat/humidity Chamber, 20 minutes
29JRVP	Alternate Light Source	Visual exam and use a alternate white, blue and violet light and with none i could find the finger print.
	Ninhydrin	Use a Ninhydrin spray and apply heat with the hair blower, the finger print turned purple.
2FLYJ7	Visual Examination	Visually inspected under ambient light.
	Ninhydrin	ninhydrin +control (lot [Number], exp 09/29/2021); Used Misonix FE-8000 humidity chamber (temp 32.2C, humidity 48.6%, time 30 minutes); secured in evidence locker (approximately 2 days).
2HCXX4	Ninhydrin	Saturated piece of note paper
	Air Dry	Approximately 5 minutes
	Steamed with iron	No suspected print observed.
2KXRPX	Visual Examination	
	DFO	
	Ninhydrin	
2QJYR4	Visual Examination	in natural light and light from forensic illuminator print was observed in section C
	DFO	time - 20 min., temp. - 100 C, discovered fingerprint has improved
	Ninhydrin	time - 20 min., temp - 70 C, RH - 62%, discovered fingerprint has not improved
2VC4K8	Visual Examination	
	Ninhydrin	Visible mark in section C
2VWP9R	Ninhydrin	
389AE7	Ninhydrin	3 days in dark
	Visual Examination	White Light
3FHUG2	Ninhydrin	After positive control, Ninhydrin was applied to evidence. After drying, an iron was used to humidity to process the lined sticky note. Section C showed positive for print.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
3JDPXF	Visual Examination	No ridge detail observed
	Ninhydrin	Lot #030420-01. Dip in chemical for 5-10 seconds, ambient air dry. Place in fingerprint chamber (75 deg C, 80% humidity, 5 minutes)
	Visual Examination	Visible ridge detail observed after processing
3L278N	Visual Examination	Before ninhydrin.
	Ninhydrin	Relative humidity 65%, temperature +65 celsius. Process 30 minutes.
	Visual Examination	After ninhydrin.
3L7EM3	DFO	
3M2XN4	DFO	
3QERGU	Ninhydrin	I processed item 003 with Ninhydrin and heat. One area of friction ridge detail was observed in section C. I scanned item 003.
3UX2AT	Visual Examination	
	DFO	incubated at 100 C for 20 minutes
3XKCR7	Visual Examination	Oblique and direct lighting
	FSIS	Shortwave UV light and specialized filter
	1,2-Indanedione	Applied and dried, then applied heat and moisture with a steam iron for approximately 5 minutes
	Alternate Light Source	515nm with orange goggles
3XX8T6	Visual Examination	The Item was photographed before examination. No Latent Visible.
	Alternate Light Source	Examination in white light (Polilight flare 2"ROFIN"). No Latent Visible Examined with at 430nm - 550nm (Polilight flare 2"ROFIN") and goggles. No Latent Visible
	Ninhydrin	Submerged evidence in Ninhydrin, dried and placed in chamber "NINcha S31"(temp. range 65°C, relative humidity 65 %) for aprox. 15min, examine visually, stored in dark location for 72 hours. A visible print was seen in Quadrant C. Fingerprint was photographed with green light (orange goggles) and macro camera lens (Nikon D 3300). *Prints deposited on similar piece of paper the day before, by human fingerprints (control Test). Development of paper gave prints of good quality.
43PGUQ	1,2-Indanedione	Indanedione treatment in Attestor 31 cabinet 30min time at 65Rh + 65C temperature.
4BY68P	Ninhydrin	Applied Thermal Ninhydrin to sticky note. Placed evidence in humidifier chamber for 30 minutes. Evidence was then Packaged back up and placed in evidence room for 2 days to continue to allow the Thermal Ninhydrin to process/develop the print.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
4GR9FV	Visual Examination	
	Ninhydrin	Item 3 was processed using Nihydrin on 10/21/2020 at 1200 hours.A test print was conducted with positive results.
4NC4K6	Visual Examination	White, blue and green lights were used to examine the material.
	1,2-Indanedione	100*C and process time 10 min.
	Ninhydrin	80*C, 62% humidity and process time 2 min.
62DEA4	1,2-Indanedione	
	Ninhydrin	
	Powder Dusting	
6CUYTZ	Visual Examination	Ambient light and LED flashlight.
	1,2-Indanedione	Applied via pipette. Heated with heat press @ ~160 degrees Celsius for ~ 10 seconds.
	Alternate Light Source	@ 532 nm with orange barrier filter
6EV8T4	LPPM	Ninhydrin Caron Chamber
6M897R	1,2-Indanedione	
	Ninhydrin	
6PWPCJ	Visual Examination	
	Alternate Light Source	
	1,2-Indanedione	
6V6QV3	DFO	
7329LX	Visual Examination	Prior to processing the lined yellow sticky note I examined it using a flashlight. Various levels of lighting were used for the examination, including direct/overhead and oblique lighting. No latent prints were observed.
	Powder Dusting	Following the visual exam, I processed the lined yellow sticky note using black magnetic power. One (1) partial print was observed in quadrant "C".
	Wet Powder Suspension	After the partial print was affixed using lifting tape, I processed the adhesive portion of the sticky note using black wet wop. No latent prints were developed.
7BDEAN	Visual Examination	
	Alternate Light Source	
	1,2-Indanedione	
	Physical Developer (PD)	

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
7GJXKZ	Ninhydrin	A control was created before examination of the item. Once the control showed visible results, the item in question was processed. Ninhydrin was sprayed on the item until the item was saturated. The item was allowed to airdry for a few seconds and then placed in the Humidity Chamber. The Humidity Chamber is cleaned before and after use with 70% isopropyl alcohol and is set to 90% humidity and 32.2 degrees Celsius. Paper was laid down inside the machine below the area that the item was hanging. The item was removed after approximately 30 minutes, and transferred to a secure locker to allow the item to set for 24hrs before examination. (Proper PPE was used at all times: gloves, mask, lab coat)
7HEGM2	Visual Examination	Viewed item under white light, TracER laser, and CrimeScope CS-16-500 ALS.
	1,2-Indanedione	Item sprayed with 1,2-Indanedione and placed under a heat gun for approx. 2 minutes. Item was viewed under TracER laser.
	Ninhydrin	Item sprayed with Ninhydrin and developed using an iron for approx. 2 minutes. Item was viewed under white light.
7HEJ8Z	Visual Examination	
	FSIS	
	DFO	20 minutes, 100 degrees C
	LASER	
	Ninhydrin	20 minutes, 80 degrees F, 80% RH
	Visual Examination	
7XP6RP	DFO	The piece of paper was stained with DFO dye and baked for 20 minutes in the oven (100 C). Afterwards, sample was cooled and examined without alternate light source. A barely visible print on a paper in the quadrant C was.
	Alternate Light Source	Afterwards, the sample was examined under Alternate Light Source with a print clearly visible in a quadrant C.
847Z8J	Ninhydrin	It was placed in a fuming chamber, sprayed with the ninhydrine spray reagent, and heat was applied until the impression was exposed to view.
862HAK	Ninhydrin	Petroleum Ether formula. Developed in FDC-5 chamber at ~ 70 degrees/80% humidity for 5-7 minutes.
8892A3	LPPM	Sprayed with Ninhydrin. Placed in Caron chamber (T - 80oC; RH - 70%) for 15min. Used reflective UV

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
88UC7P	Visual Examination	No ridge detail observed.
	Cyanoacrylate Fuming	processing time: 51 Min. Humidity:15 Min @ 80%. Glue Cycle: 16 Min @ 80%, Temp 120 C. Purge Cycle: 20 Min @ 80%
	Ninhydrin	Special Formula sprayed on paper and air dried for 20 min.
	Steam Iron	Steam Iron at highest setting. Processing time: 10-15 Mins to developed
8DWPNK	Visual Examination	Exhibit consisted of a lined yellow post it note. Exhibit examined with a white Crime-Lite. No ridge detail observed.
	ESDA	Electro static Detection Apparatus was used as the first sequential process to allow for a range of treatments to be CTS tested. Control test and exhibit placed on the ESDA 2 instrument and a charge passed through the items using the corona wand. Foster & Freeman Cascade 2 Developer batch No A49/02 used. Control sample positive, exhibit negative.
	1,2-Indanedione	A control sample and the lined post it were placed into a trough of solution of 1,2 Indandione solution (batch #20AA21). This was allowed to dry on a flat surface and then placed into Weiss Gallencamp Oven#1 for 10 minutes at a temperature of 100°c with no humidity. Ridge detail developed on the front of the post it in quadrant C. Under normal conditions the mark would have been captured on the DCS camera system.
	Ninhydrin	Control sample and post it note were both placed into a trough of solution of Ninhydrin solution (batch #154723). This was allowed to dry on a flat surface and then placed into Weiss Gallencamp Oven#3 for 6 minutes at a temperature of 80°c with 62% humidity. No further improvement in the mark.
8FXTDL	1,2-Indanedione	Indanedione treatment in Attestor 31 NinCha cabinet 30min at 65Rh + 65C temperature.
8JX69L	Visual Examination	
	Alternate Light Source	
	DFO	Temperature: 100C. Time: 10 min
	Ninhydrin	Temperature: 80C. Humidity 60%. Time: 10 min
8PNEJJ	Visual Examination	
	Alternate Light Source	
	1,2-Indanedione	
	Ninhydrin	
	Physical Developer (PD)	
8TNHDR	DFO	Submerged in DFO, air dried, heated in oven at 100 C for 20 minutes
8XHJCK	Ninhydrin	10 min 70 C 65 % rh

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
94LN3J	Visual Examination	Quality Control-N/A. No ridge detail visible at this stage.
	Alternate Light Source	Quality Control-Yes/Passed. Insufficient ridge detail detected. Using 450 wavelength handheld ALS flashlight with a Orange filter. Insufficient ridge detail was detected in section C.
	Ninhydrin	Quality Control-Yes/Passed. Latent (L1) developed in Section C. Latent was photographed.
9DUDJN	Visual Examination	lights and magnification
	Ninhydrin	Ninhydrin in Acetone (spray). Oven (55C for 20 minutes)
9R9JVN	Visual Examination	Naked eye
	Ninhydrin	Ninhydrin Special Formula was sprayed on the entire envelope and allowed to dry. Heat and humidity was applied over the surface to develop ridge detail. The process was repeated a second time to enhance the ridge detail that was developed in quadrant C.
9YUC8M	DFO	Item was treated with DFO, dried, and heated in a 100 deg C oven for 20 minutes and viewed under laser.
AA72KJ	1,2-Indanedione	1,2-Indanedione solution was prepared as follows:0.125g of 1,2-Indanedione was dissolved in solution of 5 mL glacial acetic acid and 45 mL ethyl acetate followed by 450 mL petroleum ether at room temperature. Item 3 was treated with 1,2-Indanedione solution for 10 seconds. The sample was left to airdry for a few minutes and was then put in an oven at 80 C for 20 minutes.
	Alternate Light Source	Item 3 was observed with light source of 515 nm. An orange filter was used for visual observation.
AG6TML	Visual Examination	
	Ninhydrin	
ANM8FH	Ninhydrin	The item was dipped in Ninhydrin, after is dried it was placed in a chamber at 65 degree heat and 80% humidity for 20 minutes
AUCRJY	Ninhydrin	I dipped the item in Ninhydrin and immediately hung the item and allowed it to dry for a few minutes, I then used heat and steam from an iron, placed a few inches above the item for 2 mins on each area of the item. Ridge detail was observed on the section marked "C".
AXX92J	Ninhydrin	The sticky note was processed with ninhydrin.
B4GVAU	Black magnetic powder & sticky-side powder	Visual inspection w/side-lighting, then black magnetic powder done on paper portion, then sticky-side powder done on adhesive portion. *No Ridge detail observed*

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
B8DRNM	Visual Examination	Examined paper. No prints observed.
	Ninhydrin	Sprayed paper with Ninhydrin Premixed Special Formula and allowed to air dry. Placed in fingerprint chamber in 80 degrees centigrade temperature for 3 minutes. Removed from chamber and observed latent print in section C.
BC8TNF	Visual Examination	Conducted visual examination under white light and magnification.
	Alternate Light Source	Used 365nm UV,450nm Blue Light,and 532nm Laser.
	1,2-Indanedione	Placed in 100 degree Celsius oven for 20 minutes, followed by visual exam and viewed under 532nm Laser.
	Ninhydrin	Placed in humidity cabinet set at 76% humidity and 76 degrees for 15 minutes. Visual exam performed after item cooled.
	Physical Developer (PD)	Soaked in Maleic Acid solution for 15 minutes, placed in Redox working solution for 15 minutes, placed in distilled water for rinse, then final rinse in sink. Item dried using a flat dryer. Then a visual exam was performed.
BNZ63E	DFO	The paper was treated with DFO and viewed using a laser. (532 nm)
BPHY3P	1,2-Indanedione	Standard lab method
	Ninhydrin	Standard lab method
BXQLYV	DFO	DFo utilized, placed in chamber at 100degrees Celsius for 20 minutes, Photographed and viewed under Alternate Light Source,
	magnetic powder	Magnetic powder utilized and photographed
	Ninhydrin	ninhydrin utilized, placed in chamber for 3 minutes at 65% humidity at 80 degress Celsius, and photographed
	Alternate Light Source	
CEW6BT	Ninhydrin	Processed with liquid ninhydrin. Evidence allowed to completely dry (approximately 20 min.) steam and heat applied with clothing iron. Clothing iron did not touch evidence.
CFQ3GE	Ninhydrin	Treated with Ninhydrin and viewed under natural light
CQ46X6	Visual Examination	Crime-lite 2 E137
	Alternate Light Source	Crime-lite 82S E156
	DFO	Batch: 008/20 1 of 1. Development Chamber: E067
	Alternate Light Source	Crime-lite 82S E058
	Ninhydrin	Batch: 011/20 1 of 1. Development Chamber: E055
	Visual Examination	Crime-lite 2 E084

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
CRZK9G	Visual Examination	Visual examination using ambient light and UV light.
	1,2-Indanedione	Saturated item with 1,2-Indanedione and applied heat to item.
CU4D3F	Alternate Light Source	white light, 340-587nm, UV, coaxially reflected
	DFO	100° Celsius during 20 min in oven
	Alternate Light Source	fluorescence examination with polylight (491nm-548nm)
	Ninhydrin	development in the dark for 24 to 48 hours in an ambient temperature with humidity
	Alternate Light Source	white light source
CWCJLV	Ninhydrin	Item 3 was visually examined and chemically processed using ninhydrin. The ninhydrin was placed in a ventilated hood to dry for approximately 30 minutes. After the application of ninhydrin moist heat was applied to accelerate the process. A latent was located in quadrant "C".
D7CHQM	Ninhydrin	
DEQKRH	DFO	heat in oven at 100 C for 20 minutes
	Ninhydrin	
DMF9MK	Visual Examination	I took out the piece of cardboard that had a lined yellow sticky note that was stuck onto the cardboard. I then visually inspected it for prints.
	1,2-Indanedione	I then sprayed the 1,2 Indanedione on the note in the vented hood. I hung it and allowed it to air dry for 2 minutes. I turned on the oven and then put the test sheet in the oven and set the timer for 10 minutes. I then took it out and allowed it to cool for 3 minutes in the vented hood. I then sprayed the paper with Zinc Chloride solution and allowed it to dry in the vented hood for 5 mins. I then turned on the Alternative Light Source and turned it to 505nm. I used orange goggles and visually inspected the note for prints and I found a print. I found a latent print in box "C".
DTCP8Q	Ninhydrin	Processed with Liquid Ninhydrin along with a standard using PLAP.
E2WKHQ	DFO	DFO applied, baked 20 minutes, viewed with ALS
	Ninhydrin	Ninhydrin applied, dried overnight
E9K43U	Ninhydrin	One piece of yellow paper was placed in ninhydrin, then hung to dry. Steam from a steam iron was then applied to the paper and ridge detail was observed.
ECJEXU	Ninhydrin	Item placed in Ninhydrin, dried and processed with steam from a steam iron. Ridge detail was observed

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
EE7WFE	Visual Examination	fluorescent lighting
	Alternate Light Source	FSIS
	Ninhydrin	HFENINHYDRIN; Lot# HFENIN201023; Steam iron.
	Physical Developer (PD)	Physical Developer Parts A,B,C; Lot#PD201027. Maleic Acid Lot#MAP200528
EE7YYR	Visual Examination	
	Alternate Light Source	
	Ninhydrin	(40°C +/- 5°, 65% +/- 5%, 3 minutes)
EGAP9R	Visual Examination	Item visually examined.
	Ninhydrin	Aerosol Ninhydrin, saturated item. Allowed to dry, then moist heat applied to accelerate process.
EH3MED	Ninhydrin	Applied, dried and exposed to steam with positive enhancement of ridge detail observed.
ELMJZH	Ninhydrin	I processed item 003 with ninhydrin, heat, and humidity. Allowed to sit overnight for further development.
EQKV4V	Ninhydrin	Treated w/ Ninhydrin then placed in chamber at 80C w/ 70%RH for 15min. Clear print seen in Quadrant C.
EUXXLK	Visual Examination	Examined with Krimesite using 254 nm light source. No ridge detail located.
	Ninhydrin	Ninhydrin tested against known sample to verify effectiveness. Item saturated with Ninhydrin, then cured at 80 Deg Celsius at 65% humidity for 3 minutes. Print developed in Section C.
EXKF66	Visual Examination	
	1,2-Indanedione	with Tracer laser(532nm), 100 degree Celsius, no humidity, 20 minute run time
	Ninhydrin	80 degrees Celsius, 60% humidity, 20 minute run time
EY9WED	Visual Examination	White light
	Ninhydrin	Following our method description - Equipment: Weisstechnik fingerprint development cabinet. Humidity: 65%. Temperature: 80 degrees C. Time: 10 min

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
F7NUJC	Visual Examination	White light and ambient lighting used to examine Item 3 with the naked eye
	Alternate Light Source	Examined Item 3 using: 365nm UV light source, 455nm blue light source, 532nm laser light source
	1,2-Indanedione	Applied 1,2-Indanedione to Item 3, allowed to dry in fume hood, then placed in oven for 20min at 100*C. Item 3 examined with white light and ambient lighting, followed by 532nm Laser exam
	Ninhydrin	Applied ninhydrin to Item 3, allowed to dry, then placed in humidity cabinet for 15min at 76*C at 76% relative humidity Item 3 examined with white light and ambient lighting
	Physical Developer (PD)	Submerged Item 3 in maleic acid bath for 15min before transferring to PD working solution bath for 15min. At end of 15min item was rinsed off with water. Item 3 examined with white light and ambient lighting
FAAPBB	Visual Examination	Performed a visual Exam utilizing ambient light. No Friction ridge detail was observed.
	1,2-Indanedione	A control was treated with indanedione and placed in a humidity chamber (No Humidity added) for 10 minutes. The control was viewed under a Laser with Blue and Green filters. This showed a positive reaction and friction ridge development. Indanedione was applied to the yellow lined paper. The paper was placed in a humidity chamber (No Humidity added) for 10 minutes and viewed under a Laser with Blue and Green filters. Friction ridge detail was found in quadrant C.
	Ninhydrin	A control was not necessary due to the positive reaction noted from Item 1. Ninhydrin was applied to the yellow lined paper and followed with direct steam utilizing an iron. Extremely limited friction ridge detail was found in quadrant C.
FAN6FC	Visual Examination	
	Alternate Light Source	
	1,2-Indanedione	
	Ninhydrin	
	Physical Developer (PD)	
FELGG4	Ninhydrin	item submerged in freon based ninhydrin solution. Allowed to fully dry. Iron on steam setting used to further develop ninhydrin based latent print. Latent print developed in quadrant C.
FFVNHB	Ninhydrin	
FGTTHD	Visual Examination	Various lighting including Crimelite and Laser.
	DFO	oven at 100 degrees Celsius x 20 minutes
	Ninhydrin	oven at 80 degrees Celsius with 65% humidity x 3-6 minutes

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
FHKV6T	Visual Examination	natural light
	Alternate Light Source	forensic lights
	Wet Powder Suspension	on adhesive side
	1,2-Indanedione	on the paper
	Ninhydrin	on the paper
FHYMT4	Visual Examination	No ridge detail observed.
	1,2-Indanedione	Processed entirety of sticky note with 1,2-Indanedione ZnCl in heat/humidity chamber for 20 minutes at 80 degrees F and 65% humidity.
	Alternate Light Source	Visualized IND with 532 nm TraceR laser using an orange barrier filter. Offered best contrast and print observed in quadrant C was photographed under these conditions.
	Ninhydrin	Processed entirety of envelope with Ninhydrin in heat/humidity chamber.
FJQMQE	Ninhydrin	NIN was applied to the item. The item was then placed between butcher paper and ironed using steam.
FKAERC	Visual Examination	Visual examination with direct and indirect lighting.
	Ninhydrin	Sprayed and placed into controlled CARON FP development chamber at 70% humidity and 70 degree Celsius for 20 minutes.
FMYLCA	1,2-Indanedione	Soaked for 5 minutes and allowed to dry for 24 hours
FXFDUR	1,2-Indanedione	
	Ninhydrin	
G32YVB	Visual Examination	
	Alternate Light Source	
	DFO	temperature - 100 degrees Celsius, time - 10 minutes
	Ninhydrin	humidity - 62%, temperature 80 degrees Celsius, time - 10 minutes
GGNXAR	Powder Dusting	Item 3 was processed with magnetic black powder.
	Ninhydrin	Item 3 was also processed with ninhydrin.
GJD4UN	Ninhydrin	Ninprint followed by steam heat via an iron.
GLCRYC	1,2-Indanedione	Paper treated in Attestor 31 NinCha cabinet for 30min at 65Rh + 65C temperature.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
GN3PCB	Visual Examination	Visual exam using white light
	Alternate Light Source	LASER (532 nm), Blue light (450 nm), and UV light (365 nm)
	1,2-Indanedione	Squirt bottle application followed by 20 minutes in the oven at 100 degrees Celsius. Visualized with white light and LASER (532 nm)
	Ninhydrin	Squirt bottle application followed by 15 minutes in the humidity chamber (76% relative humidity). Visualized with white light
	Physical Developer (PD)	15 mins in maleic acid, 15 mins in the physical developer, 5 minute water bath. Dried and visualized with white light
GTXJAC	Visual Examination	Visual - 3 minutes
	1,2-Indanedione	Indanedione - 2 minutes application, 20 min dry
	Ninhydrin	Ninhydrin - 2 minute application. Preserved in dark, dry area from 11/24/2020 to 11/30/2020 to develop.
H326YQ	Ninhydrin	Item #3 was placed in ninhydrin and then steam was used to further process any latent ridge details.
H4T4CN	DFO	ALS 475NM w/ Orange Filter
	Ninhydrin	
H6L2HA	Visual Examination	no latent prints observed upon visual examination approx. 1 min.
	Ninhydrin	latent print developed with ninhydrin, approx. 30 min
H99KND	DFO	Heated at 100 C for 20 minutes
HDH2VG	Visual Examination	No friction ridges present upon visual examination using oblique lighting. Subsequent examination using the Krime Site Imager was negative.
	Ninhydrin	Item sprayed with Ninhydrin under fuming hood and placed in forensic oven for 3 minutes at 80c, 65%RH. Friction ridge impression developed in section C.
HGEKYZ	Visual Examination	white light
	Ninhydrin	ninhydrin special formula followed by steam iron, let to sit over night
	Visual Examination	white light
HGJXPH	Ninhydrin	Processed item with NIN/HFE and then applied steam.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
HJ3299	Visual Examination	White light examination of exhibit as received using ambient laboratory lighting and 'Tiablo' High Power LED Flashlight at varying angles. No useful marks were visible.
	Alternate Light Source	Sequential initial High Intensity Light Source (HILS) examination carried out, following dark adaptation, using Green Crime Lite 490nm-560nm with 571nm viewing filter followed by Blue Crime Lite 420nm-470nm with 476nm viewing filter and UV Crime Lite 350nm- 380nm with 408nm viewing filter. QA adhered to and control test pieces passed. No useful marks were visible
	DFO	Carried out as per [Laboratory] validated/internally verified procedure. Treated with DFO, allowed to dry, and then placed in oven for 22 minutes (2 minutes recovery time included in time) at 100°C. Following dark adaptation, examined using Green Crime Lite 82S 490-560nm with 571nm viewing filter. QA adhered to throughout and control test piece passed. Ridge detail was seen in section 'C' and exhibited as 'BAC/3'. This was photographed.
	Ninhydrin	Carried out as per [Laboratory] validated/internally verified procedure. Treated with Ninhydrin and allowed to dry. Treated in oven set at 62%RH & 80°C for 7 minutes (5 minutes recovery time included in time). Examined using 'Tiablo' High Power LED Flashlight (white light) at varying angles on same day and periodically checked over 5 days. QA adhered to and control test piece passed. 'BAC/3' was further enhanced and exhibited as 'BAC/3A0' and photographed.
	Physical Developer (PD)	Carried out as per [Laboratory] validated/internally verified procedure. Ensured all solutions and room temperature >17°C. Pre-treated with Maleic Acid for 10 minutes, treated with Physical Developer Working Solution for 20 minutes followed by 3 x water rinses as per procedure. All treatment stages carried out on rockers so exhibit was constantly agitated throughout. When dry, item was examined using 'Tiablo' High Power LED Flashlight (white light) at varying angles. QA adhered to and control test piece passed. No useful marks were developed.
JAFFKP	Ninhydrin	Treated w/ ninhydrin (Batch# SV2019-NIN-01) viewed under white light, put in environmental chamber @ 80oC and 70% humidity for 15min.
JC8ANL	Ninhydrin	Item was dipped into ninhydrin, hung for approximately 2 minutes to dry and then a heat source was added.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
JDDYMN	Visual Examination	Examination with an alternate forensic light source with appropriate filters (light source – POLILIGHT PL 500)
	DFO	Spraying item with DFO working solution, after drying – heating the item for 10 min in 95° C, viewing with POLILIGHT PL 500 alternate forensic light source in ~515 nm range + appropriate filters
	Ninhydrin	Spraying item with ninhydrin aerosol spray, after drying – heating the item for 90 min in 40 °C, 80% humidity, viewing in a daylight and with POLILIGHT PL 500 alternate forensic light source in white light and in ~515 nm range + appropriate filters, viewing again after few days
JM3HAA	Visual Examination	Fluorescent overhead light. Magnifier
	Ninhydrin	HFENINHYDRIN, lot number HFENIN201023, Sprayed on note under fume hood
	Physical Developer (PD)	Three part physical developer, lot number PD201124. Maleic acid prewash, lot number MAP201124
JM4KTL	Visual Examination	under white light
	Alternate Light Source	fluorescence examination (350 nm - 650 nm under appropriate color barrier filters)
	DFO	baked in the chamber DFO at approximately 100°C (212°F) for 10 minutes; fluorescence examination in alternate light source (505 nm - 530 nm under orange barrier filter)
	Ninhydrin	in the chamber with a humidity 56 % and temperature 50°C for 15 minutes; visual examination under white light
JNXAWF	Visual Examination	Under white light
	FSIS	Under UV light
	1,2-Indanedione	With HFE 7100: sprayed, air dried, placed in humidity chamber at 200 F with small amount of H2O for - 15 minutes and viewed under 532 NM green laser with orange goggles.
	Ninhydrin	With HFE: sprayed, air dried, placed in humidity chamber at 200 F with small amount of H2O for - 15 minutes and viewed under whit light.
JYEUGC	DFO	Yellow paper was sprayed with DFO placed into an oven at 100 °C for 20 minutes and viewed using a 530nm/green forensic laser
JZNYWL	Visual Examination	lighted magnifier
	Ninhydrin	dipped and let develop for 24 hours
KJDMVF	Ninhydrin	THE PROCESSING TIME OF THE TREE ITEMS WAS 2 HOURS, THE NINHYDRIN AEROSOL REAGENT WAS USED.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
KVU8FC	Visual Examination	Not clear fingerprint
	Florescence Examination	Not clear fingerprint
	1,2-Indanedione	Not clear fingerprint
	Ninhydrin	fingerprint was observed in section C, it was photographed using DCS-5
KVXPLM	Visual Examination	1) The lined yellow sticky note is stuck on card stock. We separate it from the cardboard sheet. The yellow sticky note is observed with the nake eye. No trace detected.
	Alternate Light Source	2) Light shaving with Crimescope MCS-400 and wearing glasses of appropriate colors. A fingerprint is visible in case "C" with Crimescope MCS-400 at CSS filter and orange filter glasses for observation. The papillary trace is not complete and not very marked, we can't determine the pattern type of the trace.
	1,2-Indanedione	3) In view of porous support, vaporisation of a solution 1,2-Indanedione on the lined yellow sticky note, waiting 2 minutes for evaporation of the solution. then the object is placed under a heating press at 165°C during 10 seconds. The solution 1,2-Indanedione is tested on a control beforehand.
	Visual Examination	4) The trace of the "C" box is colored pink and the pattern type is visible with naked eyed. We can determine the pattern type of the trace. We don't observe other traces elsewhere on the object.
	Alternate Light Source	5) Crimescope MCS-400 at CSS filter and orange filter glasses for observation. The trace is observed in luminescence in box "C". We can clearly determine the pattern type of the trace. We don't observe other traces elsewhere on the object.
	Ninhydrin	6) Vaporization ninhydrine on the lined yellow sticky note, waiting 2 minutes for evaporation of the solution. Then the object is placed in a tank in the dark at room temperature with a beaker of water for 24 to 48 hours for a slow reaction. The object is checked regularly with the naked eye to verify that a fingerprint with purple crests is revealed. The ninhydrine solution is tested on a control beforehand.
	Visual Examination	7) The trace of the "C" box is colored in purple with white light. We don't observe other traces elsewhere on the object.
	Alternate Light Source	8) The fingerprint in case "C" is illuminated under different wavelengths of the Crimescope, whith glasses of appropriate colors, to get the best contrast. The whithe light of Crimescope give a good result. We don't observe other traces elsewhere on the object.
KW77C7	Visual Examination	oblique lighting
	Alternate Light Source	Forensic laser
	1,2-Indanedione	with dry heat
	Alternate Light Source	Forensic laser
	Ninhydrin	ninhydrin petroleum ether formulation and steam heat

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
KZ69PM	Visual Examination	*Please note that gloves were worn at all times throughout this processing. Item 3 was first removed from its packaging and visually examined. No ridge detail was observed at this time.
	Ninhydrin	*Please note that gloves were worn at all times throughout this processing. Because Item 3 was observed to be paper, Ninhydrin chemical processing was selected. A humidity chamber was cleaned prior to use with isopropyl alcohol. A clean sheet of butcher paper was placed onto the shelving within the chamber. A control was created and tested utilizing a plain piece of white paper. The control was sprayed with Ninhydrin (Lot [Number], Exp: 09/29/2021) and placed into the humidity chamber set to 90% humidity and 32.2 degrees Celsius for approximately twenty minutes. Positive results were observed. Item 3 was then sprayed with the Ninhydrin (Lot [Number], Exp: 09/29/2021) and allowed to dry for approximately 30 seconds before being placed into the humidity chamber at the same settings as the control sample. The item remained in the chamber for approximately 30 minutes before it was removed. It was then secured in an evidence locker pending analysis at a later date. The item was retrieved approximately 48 hours later and ridge detail was observed in quadrant "C".
L2T7CJ	Visual Examination	
	1,2-Indanedione	temp. 90 o C, time 15 mi, humidity 5% a trace observed in section c (light 505 nm)
	Ninhydrin	emp.21OC, time 30 min, humidity 80%
L6TH8J	Alternate Light Source	UV, Blue, Green
	DFO	20 mins 100 degrees 0%
	Ninhydrin	4 min 80 degrees 62%
LA68P8	Visual Examination	Visually examined the evidence for visible latent prints.
	1,2-Indanedione	Sprayed Indanedione on the evidence, air dry for about 10-15 minutes, applied heat by using an iron.
LBLJAX	DFO/Ninhydrin	DFO solution in HFE 7100, incubation in ~90 C for 15 min. Ninhydrin solution in HFE 7100, incubation in ~90 C for 15 min.
LCDK79	Visual Examination	Visual examination with lights (390-850 nm) and photoraphy+photoshop. Prints was not to be found.
	Ninhydrin	62% moisture + 80 C degrees, 6 min. operate time. Section C was found very clear fingerprint.Photoraphy+photoshop.
	1,2-Indanedione	65% moisture + 90C degrees, 15 min. operate time. Section C print did't get any better. Different range of lights were used, but result didn't get any better.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
LJEML8	Visual Examination	Visual examination under ambient lighting. No apparent fingerprints were observed on any of the sections of the evidence item.
	Ninhydrin	The item of evidence was processed using the ninhydrin. The application of the ninhydrin was done by using the dipping method. A clean, shallow dish large enough to hold the item lying flat was used. Enough of the ninhydrin solution was added to cover the bottom of the container. The item laid in the solution for approximately 5 seconds and then it was hung to air dry. To accelerate the development process, steam from an iron was used. A cotton towel was placed underneath the item and then the item was covered with a second towel. With the iron on steam, it was placed in contact with the top towel. The iron was moved back and forth over the towel for approximately 2-4 minutes. An apparent fingerprint developed in section C of the item of evidence. No apparent fingerprints developed in the remaining sections.
LN9R9K	Visual Examination	Item was examined for possible trace evidence and latent prints.
	Ninhydrin	The item was treated with No Run Ninhydrin and allowed to dry. The item was placed in the Air Science Safe Develope Humidity Chamber set at 80 degrees celsius, 65% relative humidity for 6 minutes.
M2APN4	DFO	DFO with LASER
	Ninhydrin	Ninhydrin
M2EW3J	DFO	
	Ninhydrin	
M4ZQVD	Ninhydrin	(Methanol base) dip method, fingerprint development chamber 80C, 65% humidity for 20 minutes
M9A4FW	Ninhydrin	Spray ninhydrin- allowed 24 hour development window
MALYXH	Ninhydrin	Full item was placed into a dish and submerged in Ninhydrin; item was flipped over and re-submerged to ensure chemical covered entire surface area of item. Total time in chemical was approximately 10 seconds. Item was then allowed to air-dry before applying humidity for developmental process. A control was also used to determine chemical functionality, results were positive. Upon completion of applied humidity, a potential latent was observed in quadrant "C" of the item.
MF7YDV	Alternate Light Source	polilight and laser used
	1,2-Indanedione	Sticky note
	Ninhydrin	Sticky note
	Physical Developer (PD)	Sticky note

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
MJ836H	Visual Examination	Visually inspected item for obvious friction ridge detail.
	Alternate Light Source	Used ALS (varying wavelengths) to inspect item for obvious friction ridge detail.
	Iodine	Item was placed in a plastic bag with iodine crystals with control print. Control print was good. Print developed in quadrant C.
MJPXN6	Visual Examination	Visually looked at the item for prints
	Alternate Light Source	Used the alternate light sources to try and visualize any prints, first used the laser (532nm), then the 450nm light source, finally the 365nm light source.
	1,2-Indanedione	Used the indanedione on the item and then put the item in the oven because the humidity was over 23% in room 601. Put it in the oven at 100 degrees Celsius for 15 minutes.
	Ninhydrin	I used ninhydrin on the item and then put the item in the humidity chamber which was set at 76 degrees and 76% humidity. the item was in the humidity chamber for 15 minutes.
	Physical Developer (PD)	Finally I used physical developer on the item. I first put the item in the Maleic acid for 15 minutes, then the redox solution for 10-15 minutes, then a water bath to get off the redox solution, then rinse the item and dry it.
MLTT88	Visual Examination	Performed VIS using oblique lighting.
	Alternate Light Source	Used 532nm Laser, 450nm blue light, 365nm UV light
	1,2-Indanedione	Placed item in oven for 20 minutes then used 532nm Laser. Visualized print.
	Ninhydrin	Placed item in humidity chamber for 15 minutes then performed visual exam.
	Physical Developer (PD)	Placed item in Maleic Acid for 15 minutes. Placed item in Redox working solution for 15 minutes. Rinsed with water.
MPZ3MJ	DFO	
MQPDEC	Ninhydrin	I used oblique lighting in search of latent prints on the lined sticky note paper. I observed some slight ridge detail. However, to fully develop the ridge detail I used Ninhydrin. The ninhydrin process took about 40 minutes. The lot number for the ninhydrin was recorded. A test print paper for the ninhydrin was created and ran through the ninhydrin chamber first to make sure the ninhydrin and ninhydrin chamber are properly functioning. Once the test paper comes back positive which it did, I then sprayed item 3 with the ninhydrin and put item 3 in the ninhydrin chamber. Latent impression was observed in section C of item 3.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
MURA8D	Visual Examination	I visually examined the post-it note.
	DFO	I processed the post-it note with DFO and placed it in the climate chamber at 100 degrees Celsius for 20 minutes. I visually examined the post-it note and viewed it with a TracER compact laser. Throughout processing the item was analyzed for friction ridge impressions.
	Ninhydrin	I processed the post-it note with Ninhydrin and placed it in the climate chamber at 80 degrees Celsius with 67% relative humidity for 10 minutes. Throughout processing the item was analyzed for friction ridge impressions.
MVMWHW	Visual Examination	
	Ninhydrin	- Ninhydrin special formula was applied to the entire surface, allowed to air dry and the steam iron was used.
MWJ7UL	Alternate Light Source	General visualization under ALS and white light yielding negative results.
	DFO	DFO processing of envelope yielded positive results within Section "C"
	[No Methods Reported.]	Photographing of positive DFO results in Section "C".
	Ninhydrin	Ninhydrin processing yielding positive results in Section "C".
	[No Methods Reported.]	Photographing of positive Ninhydrin results in Section "C".
MXQK4D	Visual Examination	Visually examined, no ridge detail observed.
	DFO	Paper treated with DFO and placed in a climate chamber (heat) for approximately 8 minutes.
	Alternate Light Source	Item was screened with a Crimescope at 495nm and an orange filter. Impression observed in quadrant C and was photographed.
	Ninhydrin	Paper treated with ninhydrin and placed in a climate chamber for approximately 15 minutes (heat and humidity). Impression was photographed.
MYL9DV	Visual Examination	Visually observed
	Ninhydrin	Ninhydrin Special Formula spray, heated with steam iron, and dried overnight
N7W2ZC	1,2-Indanedione	24h, 50°C, 40% humidity
	Ninhydrin	24h, RT, 65% humidity
N8VZJK	1,2-Indanedione	USE OF FORENSIC LIGHTS.
	Ninhydrin	

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
NAFYHZ	Visual Examination, Forensic Light Source, NIN, Photography	11/16/20: Item 3: After the visual examination the evidence was treated with Ninhydrin. Item 3 was then secured and left to cure for 72 hours. Ninhydrin was tested prior to being applied to case evidence and it performed as expected. 11/19/20: A visual examination was performed on Item 3. No color shift was noted. Item 3 was then exposed to steam, photo lift #1 was developed within quadrant-C and photographic documentation of photo lift #1 was performed.
NF6JLF	Ninhydrin	Ninhydrin with a heat source following
NFPZ2J	Ninhydrin	
	Visual Examination	
NGHX84	Visual Examination	Mark search was done Using White Light/Naked Eye. And No ridges were found.
	Alternate Light Source	Blue Light (445 nm) using Goggle (495 nm), Traces of Mark were found on Section C.
	1,2-Indanedione	Sprayed with 1,2 Indanedione, kept in Oven for 20 mins to dry at 100C temperature, with 0% humidity. After 20 mins, Mark search was done by using 532nm light (green) with goggle (550nm), Mark found on Section C.
	Ninhydrin	Sprayed with Ninhydrin, kept in Oven for 20 mins to dry at 80C temperature, with 65% humidity. After 20 mins, Mark search was done by using Naked eye and White light, no additional mark found. Mark on Section C was enhanced.
NJQ242	Photography, Visualization, Forensic Light Source, Ninhydrin.	Oct/22/20: Item-3: After performing a visual exam, utilizing a forensic light source, all four quadrants were treated with Ninhydrin. Item-3 was then secured and left to cure for a minimum of 72 hrs. Ninhydrin tested prior to being applied to case evidence, and performed as expected.
NMNR4K	Ninhydrin	Treated porous surface with Ninhydrin solution processed in atmospheric chamber @ 70%RH, 80oC for 15min. Viewed and captured image with white light.
NQM3ZK	Ninhydrin	Treated w/ Ninhydrin solution, put in chamber for 15 min at 80oC 70% RH.
NTEW4G	Visual Examination	The item was observed under ambient and ring lighting. No ridge detail was observed.
	Alternate Light Source	The item was observed using the Crime Lite ML-2 under blue and green light with orange and red filters. No ridge detail was observed. Several fluorescent particles were observed throughout.
	Ninhydrin	Ninhydrin was painted onto the item. It was dried in the fume hood and then placed into the FDC060 environmental chamber for 30 minutes at ~80°C and ~65% relative humidity.
	Visual Examination	The item was observed under ambient light. Ridge detail was observed in quadrant C. No other ridge detail was seen.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
NVZQVB	Iodine fuming	Item 3 was processed with an Iodine fuming applicator, with the entire surface treated. A fingerprint impression was developed on section C.
	Ninhydrin	Item 3 was processed with Ninhydrin and allowed to dry for 30 minutes, then placed in a heat and humidity chamber for 1 hour. A fingerprint impression was developed on section C.
P8Q467	Ninhydrin	It was used in all section.
PBBR67	DFO	The paper was saturated with 1,8-diazafluoren-9-one (DFO), allowed to dry, and then heated in an oven set to 100 deg C (~20 min).
PMKL3G	Visual Examination	Visual examination yielded negative results.
	Alternate Light Source	ALS (white/oblique lighting) was used to inspect for possible partial latent prints; yielded negative results.
	Ninhydrin	Commercial mixture of Ninhydrin pre-mix spray was applied to porous Lined yellow sticky note to enhance the development of any possible partial latent prints. The item was dried using heating oven for 10-15 minutes at 32 degrees Celsius.
PRDLKJ	Ninhydrin	I poured Ninhydrin into a glass tray, dipped the item into the solution making sure it was wet. I air dried the item then added heat and steam from an iron to develop the latent print
PVXH63	Visual Examination	White light
	Alternate Light Source	Foster+Freeman Crime-lite ML2 - all available wavelengths
	DFO	100° C, 0% RH Processing time 10 min
	Ninhydrin	80° C, 65% RH Processing time 5 min
QJH4JF	Powder Dusting	The item was processed with black magnetic powder
	DFO	The item was then processed with DFO with negative results
	Ninhydrin	The item was then processed with ninhydrin with results
QK989G	Visual Examination	Visual exam yielded negative results
	Alternate Light Source	Alternate light source (white light/ flashlight) was used to search for possible latent prints; yielding negative results
	Ninhydrin	Ninhydrin pre-mix spray was applied to lined yellow sticky note to enhance the development of ridge details. item was dried using heating oven for 10-15 minutes at 32 degrees Celsius
QKDLLG	Ninhydrin	Sprayed Item 3 with ninhydrin and further processed with humidified incubator.
QKTMNJ	Ninhydrin	NIN - Development chamber

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
QMJ4LX	Visual Examination	Visual examination of item
	Ninhydrin	Ninhydrin was used and reapplied a second time on 12/02/20. Steam was applied on 12/02/20 for development of latents.
QPQC36	DFO	The lined yellow sticky note was processed with DFO, baked at 100C for 20 minutes and view with a forensic laser.
QQ27QH	Powder Dusting	
	DFO	20 min DFO
	Ninhydrin	3 min
QYQ2LR	Visual Examination	19/11/2020
	DCS5	DCS5 Full range screening 19/11/2020
	Cyanoacrylate Fuming	Vacuum Cyanoacrylate Fuming 19/11/2020
	Visual Examination	20/11/2020
	DCS5	DCS5 Reflective UV 20/11/2020
	1,2-Indanedione	20/11/2020
	Alternate Light Source	Polilight 20/11/2020
	Ninhydrin	20/11/2020
	Visual Examination	09/12/2020 allowed 20 days to fully develop
R44XA2	Visual Examination	ambient lighting and fluorescent lighting
	Ninhydrin	HFENIN, LOT# HFENIN201023
	Physical Developer (PD)	LOT# MAP200528, PD201105
R6XPW8	Visual Examination	Visually inspected sample with oblique lighting
	Alternate Light Source	Visually inspected the sample with UV light (254 nm), a FSIS camera, and a UV filter (254 nm) for approximately 5 min. Test print examined was positive. No latent print observed
	1,2-Indanedione	The paper portion of the sample and a test print were stained with indanedione by applying the indanedione with a pipette. The sample and a test print were then set into a humidity chamber for approximately 20 min set to 174 F. The sample was then observed under a green laser with orange filter. Latent print sufficient for further review was observed.
	Ninhydrin	The paper portion of the sample and a test print were stained with ninhydrin by applying the ninhydrin (SOLUTION) with a pipette. The sample and a test print were then set into a humidity chamber for approximately 20 min set to 174 F. The sample was then observed under a green laser with orange filter. Friction ridge detail not sufficient for further review observed

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
R9CHWD	DFO	
	Ninhydrin	
R9X2T8	1,2-Indanedione	saturation, examination with 532 nm light + orange filter
	Ninhydrin	saturation, examination with visible light
RA6G2Y	Visual Examination	Examined in the white light and the daylight.
	Alternate Light Source	Examined in 320-405 nm, 450 nm, 470 nm, 490 nm, 505 nm, 530 nm and UV.
	DFO	Solution was HFE 7100 based. The item was processed in the DFO/ninhydrin chamber: t - 100 C., RH - 0 % and examined in the white light and 430-580 nm.
	Ninhydrin	Solution was HFE 7100 based. The item was processed in the DFO/ninhydrin chamber: t - 80 C., RH - 65 % and examined in the white light.
RB3K22	Visual Examination	Laser and ambient lighting
	DFO	20 min in oven
	Ninhydrin	6 min in oven
RCWCN8	Ninhydrin	fingerprint development chamber 80C, 65% humidity for 20 minutes
RDNB37	DFO	Visual examination (000-590nm); photography; 100 °c
RDTMNG	1,2-Indanedione	23 min. heated to 100°C. No humidity added. A fingerprint was developed.
	Ninhydrin	23 min. heated to 80°C. Humidity increased to 62%. No further enhancement. No additional fingerprints were found.
RFVVMZ	Visual Examination	white light -, blue light -, green light -
	1,2-Indanedione	Visual print C
	Ninhydrin	Visual print C
RRATR4	Ninhydrin	Ninhydrin on the entire note. Approximately 20 minutes. Used steam iron after applying Ninhydrin.
T4WCP7	[No Methods Reported.]	Method Used in Order (SECTIONED LINE/NON-ADHESIVE SIDE): 1) Visual examination with white light. 2) Ninhydrin applied to control item (piece of paper with deposited known latent prints) and Item 3 with a brush. 3) Control Item and Item 3 were placed in a sealed plastic bag for a few hours to allow development. 4) Visual examination with white light. 5) Indirect Steam used to accelerate Ninhydrin development on Control Item and Item 3 due to being out of office. 6) Latent print preserved.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
TA8BGY	Visual Examination	
	Ninhydrin	BVDA NIN-PRINT, spray, processing time 70 h, room temperature.
TAKWU8	Ninhydrin	(Methanol base) Used dip method. Dried evidence. Humidity chamber 20 minutes at 80C/65% humidity.
TLHVLD	Visual Examination	Natural light, white light, optical instruments.
	Alternate Light Source	Polilight PL 500, barrier filters, optical instruments.
	1,2-Indanedione	Processing time: 10 minutes, temperature: 90°C.
	Alternate Light Source	Polilight PL 500 (505-530 nm light), orange barrier filter, optical instruments.
	Ninhydrin	Processing time - 72h, room temperature, dark place.
	Visual Examination	White light, optical instruments.
TUDV6C	Visual Examination	
	1,2-Indanedione	
	Ninhydrin	
TV7UBX	Ninhydrin	Processing Time : 48 hrs. Dye stain : Ninhydrine solution (2,2-dihydroxyindane-1,3-dione). The reaction needs humidity and dark place
TZYPJW	Visual Examination	White light, blue forensic light with yellow filter, green light with red filter.
	1,2-Indanedione	10 minutes, 95-100 degrees celcius.
	Ninhydrin	2 minutes, 80 degrees celcius, 62% RH.
	Physical Developer (PD)	Total processing time 50 minutes (20 minutes maleic acid, 15 minutes working solution, 15 minutes distilled water rinsing).
U738UU	Visual Examination	
	Ninhydrin	Heptane Ninhydrin (dried 1 hour) Caron Fingerprint Development Chamber (10 minutes)
U8C2TF	LPPM	Porous Paper - treated w/ Ninhydrin, developed in Caron chamber
U8TDC7	1,2-Indanedione	Indanedione plus zinc chloride, 20 mins, oven at 100 degrees C
	Ninhydrin	60% humidity, 80 degrees C
UBC9DD	Ninhydrin	Spray, let dry. Steam Iron.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
UBGPCB	Visual Examination	examined under normal white light
	Alternate Light Source	examined using ALS at both 350nm and 515nm
	Ninhydrin	dipped in Ninhydrin and placed in humidity chamber for approximately 20-30 minutes
UEUMJY	Visual Examination	a) Crimelite. b) TracER LASER. c) Incandescent Light
	DFO	Approximately 20 minutes in the DFO oven at 100 Celsius degree
	Ninhydrin	a) The Ninhydrin oven was not used due to it is out of service. b) Ninhydrin development at room temperature for five days.
UF86WC	Visual Examination	Visual Examination
	FSIS	FSIS (Full Spectrum Imaging System)
	DFO	
UP9RLN	Visual Examination	No ridge detail observed with ambient light.
	1,2-Indanedione	Applied 1,2-Indanedione. Applied heat with heat press for 10 seconds.
UYKJHD	Powder Dusting	Black magnetic powder
	DFO	20min @ 100'C after spraying item with DFO
	Ninhydrin	3min @ 80'C, 65% humidity after spraying item
UYXFJB	Ninhydrin	Prior to processing, a photocopy was taken of the item to preserve its original presence. Item was processed in the hood by 'dipping' the item (front and back) in No-Run Ninhydrin. Item was hung to dry completely before placing in the humidity chamber for approximately 3 minutes. Ridge detail developed in Quadrant C of the item.
UZWEZY	Visual Examination	Magnifier and fluorescent light
	Ninhydrin	HFE Ninhydrin, Lot# HFENin201023, squirt bottle, air dry, steam iron, magnifier and fluorescent light
	Physical Developer (PD)	3 Part PD, Maleic Acid Lot #MAP200528, PD201105, air dry, magnifier and fluorescent light
V3GPCA	Ninhydrin	Ninhydrin was used to help enhance any fingerprints on the stick note but dipping the note into the solution and then using a heat source to allow the print to develop.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
V92V3N	Visual Examination	Relative temperature of the processing room was 67 degrees Fahrenheit. No friction ridge detail was observed.
	Ninhydrin	I then processed this item with Ninhydrin (Heptane base) via the dip method. I allowed it to dry under the vent hood for 30 minutes to 1 hour then I applied heat/humidity via a steam iron. A fingerprint of value was developed in quadrant C.
	Visual Examination	Conducted a visual examination of this item after 6 days and then did a final visual examination on 11-18-2020.
VATVZZ	Visual Examination	negative results
	1,2-Indanedione	applied indanedione-zinc used the spray method. LP2 was visible when using the Tracer Laser
	Ninhydrin	Attempted to further develop using spray method of ninhydrin, but insufficient ridge detail was noted
VB972D	Visual Examination	No print visible.
	DFO	Print visible in quadrant C.
	Ninhydrin	Print visible in quadrant C.
VKTLG2	Ninhydrin	processed item with ninhydrin, allowed to dry overnight.110520 applied heat and humidity to further develop latent print in section C. 110620
VVEMYW	Visual Examination	Used oblique lighting and bright white light.
	Alternate Light Source	Three light sources - blue light (450nm), UV light (365nm) and laser (532nm).
	1,2-Indanedione	Processed with 1,2-indanedione (IND). Item dried and was placed in the 100 degree Celsius oven for 20 minutes. Visually examined the item using a bright white light and a 532nm laser.
	Ninhydrin	Processed with Ninhydrin (NIN). Item dried and was placed them in the 76% humidity chamber for approximately 15 minutes. Visually examined the item using a bright white light.
	Physical Developer (PD)	Processed with physical developer. Placed item in a maleic acid bath for 15 minutes, then placed the item in the Redox Working Solution for 15 minutes, next it was placed in a distilled water rinse followed by a second water rinse. Item dried. Visually examined the item using a bright white light.
VVUWZA	DFO	Sprayed with DFO and placed in DFO oven for approximately 20minutes at 200 degrees.
VW8HL6	Physical Developer (PD)	The improvement of the evidence was carried out in 40 minutes, using the magnetic black reagent.
VWNV7V	Visual Examination	
	Alternate Light Source	Full Spectrum Imaging System (FSIS) Shortwave UV/274nm filter
	DFO	
	Ninhydrin	

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
VYFQT4	1,2-Indanedione	
W22V4M	Visual Examination	Naked eye
	Ninhydrin	Special formula used. Saturated by spraying, air dried, heat & humidity applied using steam iron. Repeated a 2nd time and allowed to sit overnight.
W3X4FC	Visual Examination	No ridge detail observed
	1,2-Indanedione	Pre-mixed chemical; Applied on the whole item
	Steam/heat	Used an iron for ~2 min to apply steam/heat
	Alternate Light Source	ALS @515nm/orange goggles, examined the whole item, one impression visualized in section C
WLQGYQ	Visual Examination	
	FSIS	
	DFO	in heating chamber for 20 minutes
	LASER	
	Ninhydrin	in humidity chamber for 20 minutes
	Visual Examination	
WWPPLV	Visual Examination	Natural light, white light.
	Ninhydrin	Ninhidrin spray was used to find latent print on a lined yellow sticky note. The sticky note was left in a dark room (about 22 degrees Celsius) for 8 days. The latent print was recovered in section "C".
WYBTXY	DFO	
XT4D9B	Ninhydrin	Item number 3 was placed in ninhydrin. Steam and heat were subsequently used to develop ridge detail.
YJ9YGA	1,2-Indanedione	Heat and humidity applied. Indanedione went before Ninhydrin.
YQRAPJ	Ninhydrin	Treated with Ninhydrin and placed at 60%-70% humidity in dark condition.
YR3Z3U	Visual Examination	viewed with TracER Laser, white Crimelite, & overhead fluorescent lights
	DFO	
	Ninhydrin	because oven wasn't working, allowed item to set out for a week
YTJ23B	Ninhydrin	Preserve the evidence, after application in a plastic bag for 15 days
YTXRPZ	Ninhydrin	(methanol dip method, dried evidence, placed in humidity chamber 80C, 65% humidity

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
YUU3PA	Alternate Light Source	White, blue and green light was used to examine the material. No prints could be observed.
	1,2-Indanedione	A print could be observed in square C after processing. Processing was carried out at 100°C for 10 minutes.
	Ninhydrin	A print could be observed in square C after processing. Process settings were 80°C, 62% RH and the material was processed for 2 minutes.
YV3BXU	Visual Examination	TracER Laser and Crimelite
	DFO	applied once, dried, applied a second time, dried, and left in 100 C oven for 20 minutes, paper control
	Ninhydrin	applied once, dried, applied a second time, dried, and left at room temperature for 1 week (ninhydrin oven out of service), paper control
YX8PGT	ESDA	The exhibit was treated with ESDA (Electrostatic Detection Apparatus). ESDA2 instrument used along with Foster & Freeman Cascade 2 Developer and the Batch No. was A49/02. A control sample was used for both indented writing and ridge detail- this was tested positive and a lab officer second checked this. The exhibit was negative.
	1,2-Indanedione	Indandione chemical batch No. 20AA41. Solution contains 1,2-indandione, Ethyl Acetate, Methanol, Acetic Acid, HFE7100, Zinc Chloride. Oven No. 1 used for IND development and is a Weiss Gallenkamp oven. The temperature was 100C, and the Humidity on the oven was disabled, so ambient humidity was used. The processing time was 10 minutes. The control sample was performed by myself (classed as good donor) and was placed in the oven at the same time as the exhibit. The control sample was checked by another lab officer. The mark in quadrant C was enhanced further on the porous area of the envelope.
	Ninhydrin	Ninhydrin chemical batch No. 154723. Solution contains Ethyl Acetate, Ethanol 99.7%, Ninhydrin Crystals, Acetic Acid, HFE7100. Oven No. 3 used for processing. This is a Weiss gallenkamp, the process time was 6 minutes and the temperature was 80.7c and 63.1% humidity. The control sample was performed by myself (classed as good donor) and was placed in the oven at the same time as the exhibit. The control sample was checked by another lab officer. Using Nin was to simulate a serious/ major crime and so sequential treatments were used. The mark in quadrant C was enhanced further.
YXTJXW	Powder Dusting	- Black/Grayish Magnetic powder was applied using a medium sized magnetic wand by a gentle hand sway. The processing time of all four quadrants from beginning to end was two minutes and no prints appeared on the surface processed.
YXUEKA	Alternate Light Source	Visual examination with white, blue and green light. A fragment of a print could be observed with the green light source.
	1,2-Indanedione	100 degrees C, 10 minutes processing time. A print could be observed after the processing.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
ZHUUGQ	Visual Examination	no fingerprints were visible on the yellow sticky note
	Ninhydrin	only Ninhydrin was applied; our experience with yellow sticky notes is that 1,2-indandione does not work on that kind of surface
ZJPCJR	Visual Examination	Prior to processing
	Ninhydrin	Added humidity for 30 minutes, stored in plastic bag for 3 days
ZN28JV	Visual Examination	I used oblique lighting to visualize the item.
	Alternate Light Source	I used three different light sources to examine the item.
	1,2-Indanedione	I used Indanedione and used the oven to help develop it. I then used the LASER to visualize.
	Ninhydrin	I processed with Ninhydrin and used a humidity chamber to help develop it.
	Physical Developer (PD)	
ZQ6V3R	Visual Examination	Rec'd lined yellow sticky note, secured to cardboard by top adhesive strip. Note sectioned into 4 quadrants, labeled A, B, C, and D. Item #3 photographed prior to examination Visual Examination - no latent prints noted.
	Alternate Light Source	ALS Examination - no latent prints noted.
	RTX Chemical	RTX (Ruthenium Tetroxide) chemical QC'ed on test print with positive results. Item #3 processed with RTX Developer. Negative for latent prints.
	Ninhydrin	Ninhydrin aerosol spray chemical QC'ed on test print with positive results. Item #3 processed with Ninhydrin aerosol spray. Item #3 placed in Gallenkamp oven at 80 degrees C at 70% humidity for 30 minutes. Latent print visible in Section C. Item re-photographed.
ZQ8PHQ	Visual Examination	
	DFO	20 min in chamber Green laser/Red filter
	Ninhydrin	3 min in chamber with 65% humidity White light
ZTFTF9	Visual Examination	White light at an oblique angle - no print visible.
	DFO	DFO oven at about 200 degrees for 30 minutes - print visible in section C.
	Ninhydrin	Dipped for one minute and exposed to heat and humidity - print semi-visible, but pattern-type not visible.
ZU68XR	Ninhydrin	the yellow sticky note paper was dipped in ninhydrin , and was left for 24 hours for the print to develop

TABLE 2 - Item 3

WebCode	Development Methods	Method Details

Response Summary

Participants: 229

Methods Utilized

Alternate Light Source	58	Physical Developer	18
Cyanoacrylate Fuming	2	Powder Dusting	9
DFO	54	Visual Examination	128
Dye Stain	0	Wet Powder Suspension	2
Ninhydrin	186	1,2-Indanedione	61

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

Preservation Methods

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
28QUP6	Photography	Foster & Freeman DCS-4 w/Nikon D700
29JRVP	Photography	Photographed with metric scale, use a Nikon D7000.
2FLYJ7	Lifting	lifted using JAFL tape/white backing card after applying magnetic powder, but prior to the use of ninhydrin.
2HCXX4	Preserved with Latent Print Tape	Preserved with latent print tape for further lab examination.
2KXRPX	Photography	
2QJYR4	Photography	fingerprint was photographed with a macro camera lens and linear scale
2VC4K8	Lifting	
2VWP9R	Photography	
389AE7	Photography	White flashlight, Polilight PL500 at 505nm, OG550 orange barrier filter for camera, FORAY ADMAS Imaging System.
3FHUG2	Lifting	(1) latent lift obtained from section A of plastic double windowed security panel. Lifted the print with latent print tape and placed on a latent lift card.
3JDPXF	Photography	Latent Print (L01) DCS-4 System - Nikon D700 camera w/ 105mm lens White light / polarizer filter / with scale Digital Enhancement, calibrated and printed 1:1
	Photography	Latent Print (L02) DCS-4 System - Nikon D700 camera with 105mm lens Blue Light (430-470 nm) / Yellow Filter (476nm - GG 495) / with scale Digital Enhancement, calibrated and printed 1:1
	Lifting	Latent Print (L03) 2" tape placed on white fingerprint card
3L278N	Photography	DSLR camera
3L7EM3	Photography	digital photography of latent
3M2XN4	Photography	scale, raw/fine
3QERGU	Ninhydrin	After magnetic powder, I processed item 001 with Ninhydrin and heat and left it secured for 24 hours. A small area of friction ridge detail was observed on the paper below the plastic window that was continuous with the impression lifted in section A. Item 001 was scanned.

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
3UX2AT	Photography	Digital photograph under white light
	Photography	Digital photograph under blue laser light
	Photography	Digital photograph under blue laser light
3XKCR7	Photography	Using the FSIS
	Photography	Using the Nikon D200 (RAW)
	Adobe Photoshop	Digital image processing to remove any color and create a grayscale composite sheet for the case file
3XX8T6	Photography	The developed latent print was preserved by digital imaging at high resolution capturing. The photo of the latent print is archived in the AFIS database of fingerprints.
43PGUQ	Photography	Reprophotography in white light (four lamps) at 45 angle above the print.
4BY68P	Photography	Photographed with Foster Freeman DCS5, the visible print developed after applying black magnetic powder.
4GR9FV	Photography	Digital Capture. Item 1 submitted into evidence with detected fingerprint located in Area "A".
4NC4K6	Photography	Photograhy was used to preserv the fingerprint after Cyanoacrylate fuming, powder dusting, Basic yellow 40, Indanedione.
62DEA4	Photography	
6CUYTZ	Photography	Ambient light, LED flashlight, and alternate light source (ALS) used - orange barrier filter used to photograph with ALS
6EV8T4	Photography	Digital Photos
6M897R	Photography	
6V6QV3	Photography	
7329LX	Affixed to Object (lifting tape)	The print was affixed with standard 2 inch lifting tape to prevent distortion and/or destruction in transport.

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
7GJXKZ	Photography	Photographs were taken of the item after it was allowed to set for 24 hours. Overall, midrange, and close-up digital photographs were taken of the item from a camera copy stand. A close-up of the potential print detail were taken with a scale. All of the photographs were taken with the following settings: Macro lens, RAW format, and at a 90 degree angle. The close-up photograph taken with a scale was then opened in Adobe Photoshop. Using standard operating procedures, the close-up photograph was enhanced, calibrated to a 1:1 ratio, and printed.
	Lifting	Once digital photographs were taken of the item, the magnetic powder was applied to the plastic portion of the item with a magnetic wand. A print was lifted with tape and placed on a latent print lift card for preservation. A directionality arrow was added to the front of the card, and case information and lifting location were added to the back of the card.
7HEGM2	Photography	Photos of latent print were taken using a Nikon D800. Photos were taken under white light following Cyanoacrylate fuming and under the TracER laser using an orange barrier filter following dye staining with Rhodamine-6G.
7HEJ8Z	Photography	Digital imaging
7XP6RP	Photography	The pictures was taken by Canon camera with yellow filter.
847Z8J	Photography	A digital camera was used for documentary photos, a metric witness was used.
862HAK	Scanning	Scanned with Epson Perfection 4990 @ 1200ppi with measurement scale.
	Lifting	Two latent lifts were made from the plastic window area. The ridge detail in this area was processed as noted above then scanned and a latent print lift was collected. The print was processed a second time with Black Magnetic Powder, scanned again, and a second lift was collected.
8892A3	Photography	Digital Photo with D810. Digital photo with DCS5 reflective UV
88UC7P	Lifting	Tape was used to lift the ridge detail observed onto a lift card.

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
8DWPNK	White Light Examination	White light examination using white Crime-Lite 400-700nm at the initial stage of the sequential process, following cyanoacrylate fuming and after Ninhydrin treatment. Under the circumstances of live case work, the mark would have been captured on the DCS camera system at both the visual and glue stage however, as no improvement in the mark, this would not have been re-captured at the Ninhydrin stage.
	Green Light Examination	Fluorescent light examination under a green light source (490-560nm) using 590nm viewing goggles following IND treatment. Again, the mark would have been captured using the appropriate lighting technique and filter on the DCS camera system.
8FXTDL	Photography	Photography in white light in reprosystem for plastic window + photography with FosterFreeman S82 515nm green handlight + OG590 filter in front of cameralens for envelope.
8JX69L	Photography	
8TNHDR	Photography	Digital photograph under blue laser light
8XHJCK	Photography	Twice: after CNA+Ninhydrin and again after BY40 RAW, enhancement in Photoshop CS
94LN3J	Lifting	Two lift cards from the powder dusting (magnetic) step. I attempted to lifts. Each lift was successful resulting in two latent lift cards. Item 1-L1.1 and Item 1-L1.2
	Photography	Photograph of some ridges left in powder on the edge of the paper near the plastic portion of the envelope, Item 1-L2. After photographed it was uploaded to our secure imaging system.
9DUDJN	Scanning	Photoshop, scanner (1000dpi)
9MWF6L	Lifting	Photographic documentation of the lofoscopic fragment with a reflex camera, using fingerprint lifting tape, placing on transplant card which is packaged, labeled and sealed with security tape
9R9JVN	Photography	Overall, mid-range, and close-up photographs were taken of the entire item and ridge detail developed in quandrant A. Photographs taken by Processing Technical Leader in my presence.
9YUC8M	Photography	Took a photograph using a Nikon D800 Camera, Nikon 105 mm microlens, and Nikon 056 orange filter.
AA72KJ	Photography	Photographed with scale.
AG6TML	Photography	Canon Canon 760D + white light

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
ANM8FH	Photography	Ridge detail was developed on both plastic window and some on adjacent paper using the magnetic powder. This detail was captured first using a camera
	Lifting	The ridge detail on the plastic window was then tape lifted
AUCRJY	Photography	Photographed
	Lifting	Lifting tape
AXX92J	Lifting	A magnetic powder processed print was lifted with fingerprint tape and placed on a lift card.
B4GVAU	Lifting	- Placed tape-lift on impression; photographed in place; Lifted impression. - Impression is a left-slant loop that is sufficient for comparison
B8DRNM	Photography	Placed white card inside envelope behind print. Photographed latent print using digital camera on stand and scale.
BNZ63E	Photography	The FSIS camera was used to capture the latent on the plastic window as well as a color image. The latent on the plastic window was captured using a uv light and band pass filter.
BPHY3P	Photography	N/A
BXQLYV	Photography	Photographed 1:1 with a scale
CEW6BT	Lifting	Clear latent print lifting tape
CFQ3GE	Photography	Photograph taken of print
CQ46X6	Photography	DCS4 & DCS5
CRZK9G	Photography	Enhanced image with white light.
CU4D3F	Photography	Digital Capturing System (DCS-4). Cyanoacrylate: white light source. Dye stain (Rhodamine 6G): blue/green (460-510nm) with filter OG-550. DFO: green (500-550nm) with filter OG-570. Ninhydrine: White light source
CWCJLV	Photography	The latent located in Quadrant "A" was photographed for preservation.
D7CHQM	Photography	
DEQKRH	Photography	Digital photograph with a Nikon D850 under white light
	[No Methods Reported.]	Digital photograph under blue laser light

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
DH9LVG	Lifting	Photographic documentation of the lofoscopic fragment with a reflex camera, using fingerprint lifting tape, placing on transplant card which is packaged, labeled and sealed with security tape
DMF9MK	Photography	I then placed a scale sticker next to the latent print and photographed the latent print to preserve it.
E2WKHQ	Photography	Photographed the print developed with DFO with an orange filter
E9K43U	Photography	Macro Lens, ISO 100, photograph scale, additional lighting.
	Lifting	Lifting tape was used to lift the ridge detail observed on the envelope paper and cellophane window. The lifting tape was then applied to a fingerprint card.
ECJEXU	Photography	Macro Lens with the use of a scale camera set to RAW ISO 100
	Lifting	Lift tape applied to finger print lift card
EE7WFE	Photography	Red Nikon D5200; Photoshop CS6 for enhancements.
EE7YYR	Photography	
EGAP9R	Photography	Raw and JPEG, calibration tool, ALS, yellow goggles and lens for camera. 420-470 nm.
EH3MED	Photography	Photographed magnetic powder with and without scale.
ELMJZH	Lifting	One lift card collected from plastic window and part of the envelope.
	Scanning	I scanned item 001 after ninhydrin processing to capture more of the area located on the white envelope.
EQKV4V	Photography	Non-porous showed clear print that was photographed under UV. Part of that print seems to overlap onto paper but little to no detail could be seen.
EUXXLK	Lifting Tape	Print was preserved under lifting tape, but was not removed from it's original surface.
	Photography	Print was photographed with a scale.
EXKF66	Photography	Comparison quality photo, 1000 ppi, scale (mm)
EY9WED	Lifting	Microsil after powder before ninhydrin
	Photography	

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
FAAPBB	Photography	The controls and developed friction ridge detail was photographed using a D7500 camera in quadrant A following the applications of ninhydrin, cyanoacrylate fuming and powder dusting. The images were evaluated by utilizing Adobe Photoshop and CSIPix.
FELGG4	Scanning	1000 dpi, black backing card used behind clear window. Further enhanced with photoshop
FFVNHB	Lifting	
FGTTHD	Photography	digital images
	Lifting	to lift card
FHKV6T	Photography	WITH A DIVERSE FORENSIC LIGTHS
FHYMT4	Photography	Photographed powder print with oblique white light and IND developed print with 532 nm TraceR laser using an orange barrier filter.
FJQMQE	Photography	Photos with a filter were taken using the TracER laser.
FKAERC	Photography	Photographs taken in RAW.
FMYLCA	Lifting	DIFF-Lift used to lift print from both the window and the paper. This was unsuccessful so I moved on to photography
	Photography	Placed a white background behind the window portion and photographed using white light
FXFDUR	Photography	
G32YVB	Photography	
GGNXAR	Lifting	Latent Lift "C," was recovered from the exterior front side of Item #1, in section A.
GJD4UN	Photography	Impression in section A digitally photographed after CA step and after powder steps.
	Lifting	Two gel lifts taken from section A. Gel lifts scanned with gel scanner.
GLCRYC	Photography	Photography in reprosystem with white light for print in plastic window and using our brand new Foster+Freeman Crime-Lite Auto Forensic Search & Capture tool- with 515nm green light to photograph print in envelope.
GTXJAC	Photography	Foster Freeman DCS-5 Photograph

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
H326YQ	Lifting	Latent lift "A," which was recovered form the exterior front side of Item #1, in section A.
H4T4CN	Photography	
H6L2HA	Lifting	lifted developed latent print with cut section of footprint lifter.
H99KND	Photography	Digital photograph with camera filter BP515 under blue laser light for basic yellow processing
	Photography	Digital photograph with camera filter BP550 under blue laser light for DFO processing
HDH2VG	Photography	Scaled photograph taken of friction ridge impression using oblique lighting. Impression preserved in place with tape.
HGEKYZ	Photography	Overall, midrange, and closeups were taken. post powder and post ninhydrin photos were taken
HGJXPH	Photography	Photographed latent of value with scale and then uploaded image to ADAMS.
HJ3299	Photography	Any suitable marks developed throughout sequential treatment were marked up and photographed 1:1 using a D810 Nikon digital camera with an AF-5 micro nikkor 105mm lens, 8x4 Crime Lite light source(s) and appropriate camera filter(s). The camera is linked to DCS5 (Digital Capture System 5)software where the images are exhibited with full audit trails and further DCS5 enhancement tools can be used to improve contrast/remove background interference where applicable. Exhibited images then submitted to the Fingerprint Bureau for further analysis and comparison.
HZQCVB	Lifting	Photographic documentation of the lofoscopic fragment with a reflex camera, using fingerprint lifting tape, placing on transplant card which is packaged, labeled and sealed with security tape
JAFFKP	Photography	Photographed w/ Nikon D810 camera w/ green laser and white light.
JC8ANL	Lifting	One print was developed using magnetic powder and collected using lift tape and placed onto a latent lift card. Lift card will be submitted to the Latent Print Unit for analysis.
JDDYMN	Photography	NIKON D5600
JM3HAA	Photography	Nikon D5200 camera, Led lights on camera stand, Adobe Photoshop CS6, Dell precision 7820 computer

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
JM4KTL	Photography	after DFO - in alternate light source at 505 nm using a orange colored bandpass filter (the part latent print)
	Photography	after Cyanoacrylate Fuming - under white light (all latent print)
	Photography	after Powder Dusting - under white light (all latent print)
JNXAWF	Photography	after cyanoacrylate, FSIS, Indanedione, and Rhodamine 6G.
JYEUGC	Photography	photo taken of latent print in quadrant A
JZNYWL	Scanning	scanned developed latent print at 2400 ppi, print designated as P1, superglue developed print on plastic window, backed print with black lift card for contrast with superglue.
KJDMVF	Photography	PROTECTION OF THE LOPHOSCOPIC FRAGMENT AND PHOTOGRAPHIC DOCUMENTATION.
KVU8FC	Photography	using DCS-5 with UV examination
KVXPLM	Photography	During step 6), a black background is placed under the plastic window of the object. The trace is illuminated with the Crimescope in white light and CSS, with orange filter fixed on the camera, to get the best contrast. We place a centimeter test being near the fingerprint, careful to place it on the side where the trace was revealed, and photographies are taken.
	Photography	During step 9), orange filter is fixed on the camera when the trace is illuminated with the Crimescope in CSS. We place a centimeter test being near the fingerprint on the envelope and photographies are realized. After replacing the cut plastic window at its initial location in box "A", we observe that the papillary traces present on the plasticized window and on the envelope belong to the same trace. We don't observe other traces elsewhere on the object.
KW77C7	Photography	digital SLR camera
KZ69PM	Lifting	*Please note that gloves were worn at all times throughout this processing. Clear tape was placed across the area of observed ridge detail and lifted from the item. The tape lift was then placed onto a white backing card for contrast and preservation. A directionality arrow was drawn onto the front of the card for orientation. All case information was added to the back of the card. The latent lift card was then placed into an evidence envelope and sealed with evidence tape.
L2T7CJ	Photography	
L6TH8J	Photography	Nikon D5 and Photoshop

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
LA68P8	Photography	Used Foster Freeman - DCS 5 for photographing developed latent prints
LBLJAX	Photography/PhotoShop enhancement	Photography: excitation range 430-510nm, orange filter. Adobe Photoshop enhancement: curves, selectivity for regions of the fingerprint left on paper and on plastic.
LCDK79	Photography	Canon 5D + 90mm macro-lens 1:1 and white light.Finally photoshop.
LJEML8	Photography	Examination quality photographs (4 images) were taken of the apparent fingerprint detected in section A of the white double-windowed security envelope.
LN9R9K	Photography	Once the latent print was developed with Magnetic Powder the latent print was photographed with the Fujifilm IS Pro camera. The Latent was imported into the Foray Computer system. The latent print was scaled and enhanced in Photoshop with the following settings: Green filter then converted to grayscale, adjust levels to enhance brightness and contrast and burn to darken up the lighter areas.
	Lifting	The latent print on the clear cellophane window in magnetic powder was lifted lifted with lifting tape and placed on a latent print card with all required information.
M2APN4	Lifting	Lifted the powdered print
	Photography	Photographed the powdered print prior to lifting & the portion on the envelope that developed with porous processing techniques.
M2EW3J	Photography	
M4ZQVD	Photography	RAW format. Uploaded to Foray for storage.
M9A4FW	Photography	
MALYXH	Photography	The potential latent print which had developed in quadrant "A", as a result of the black powder processing was digitally photographed with scale. This image was then enhanced using a digital software program (Foray) and printed out for submission.
	Lifting	The potential latent print observed in quadrant "A", as a result of the black powder processing was lifted using latent print lift tape and a standard latent print card. The latent was taped, "lifted" and then placed onto the card for submission.
MF7YDV	Photography	Canon camera and print produced

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
MJ836H	Photography	photographed overall before and after, labeled print L1 and photographed after cyanoacrylate fuming and after magnetic powder.
MPZ3MJ	Photography	
MQPDEC	Lifting	Clear fingerprint lifting tape was used to preserve and lift the latent impression onto a latent print card.
MURA8D	Photography	After dusting with powder, I photographed the ridge detail in quadrant A with a scale. After DFO processing, I photographed the same area of ridge detail with a scale and utilizing a laser. After Ninhydrin processing, I photographed the same area of ridge detail with a scale. I also photographed an overall orientation image of the item.
MVMWHW	Lifting	- Lift tape and a lift card were used.
MWJ7UL	Photography	One to one photography after each stage which yielded a positive result.
MXQK4D	Photography	Nikon D810 Camera at F16 with an orange filter for fluorescent images. Incandescent light for overall images. Oblique light for non-fluorescent images.
	Lifting	One latent lift card was generated.
MYL9DV	Photography	1:1 Photography. Overall, midrange and close-up photos taken.
N7W2ZC	Photography	
N8VZJK	Photography	WE TOOK PHOTOGRAPHS TO PRESERVE EVERY STEP OF THE EXAMINATION PROCESS, BEFORE AND AFTER EVERY REAGENT.
NAFYHZ	Photographic Documentation	All photographic documentation performed within resolution guidelines, which included a surface to sensor distance of no greater then 0.49m (Canon 100mm macro lens)and in RAW format. A Canon 5D Mark III full frame camera was used.
NF6JLF	Lifting	Applied lift tape and transferred to a lift card
NFPZ2J	Photography	I observed one impression in "A" after processing the plastic windows with black powder and photographed the impression.
NGHX84	Photography	1. After Cyanoacrylate fuming, Mark was photographed using White light. 2. After Magnetic powder, Mark was photographed again by using White light.

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
NJQ242	Photography, Visualization, Forensic Light Source, MRM10, Ninhydrin.	Oct/22/20: Documentation of development obtained through the Cyanoacrylate process was performed. MRM10 was applied to photo lift #1, which merited additional documentation. Once completed the porous surfaces of item-1 were treated with NIN. Item-1 was then secured and left to cure for a minimum of 72 hrs. MRM10 & NIN were tested prior to being applied to case evidence and performed as expected. Oct/26/20: Having been treated with Ninhydrin on Oct/22/20, a visual exam was now performed on item-1. A color shift was observed within quadrant-A, however no ridge detail of a recordable level was present. Item-1 was exposed to steam, with no additional development or benefit noted. Processing and documentation completed on item-1 10/26/20.
	Photographic Documentation	All photographic documentation performed within resolution guidelines, which included a surface to sensor distance of no greater than 0.49 meters (Canon 100mm macro lens), and in RAW format (Canon 5D Mark-III full frame camera).
NMNR4K	NIN dyeing	Processed porous surface with ninhydrin solution placed in chamber @ 70%RH, 80oC for 15min. Viewed with visible light.
NNJ7VK	Photography	Photographed for documentation purposes.
NQM3ZK	Photography	Windows viewed w/ forensic laser. Paper viewed w/ visible light. Print digitally imaged
NTEW4G	Photography	One (1) image was captured with the DCS5 using coaxial lighting. One (1) image was captured with the DCS5 using white light from the Crime Lite 8x4. Both images were saved as TIFFs.
	Scanning	One (1) image was scanned at 1200 ppi using the Epson V800 scanner. The image was saved as a TIFF.
NVZQVB	Photography	The latent impression developed in section A was photographed using a Canon Rebel T7i digital camera with a macro lens.
	Lifting	The latent impression developed in section A was lifted with a two inch clear tape and placed on a latent lift card
P8Q467	Lifting	
PBBR67	Photography	Laser (BrightBeam Model 8708G4 Dual Forensic Laser System) used to visualize detail developed Nikon d800, orange filter, and macro lens captured digital image.
PMKL3G	Photography	Photographic documentation using a Nikon D7500 camera with a Macro 1:1 Lens with an orange filter perpendicular to the plain (90 degree angle) using Crime Scope CS 16-500 at 455nm. Photos taken with and without scale.

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
PRDLKJ	Preserved it with tape	The lift was preserved with tape because I did not want to tear the paper trying to lift it.
	Photography	I also photographed the print
PVXH63	Photography	White light
QJH4JF	Photography	Latent print in Section A was photographed. Item was placed in envelope provided and sealed with evidence tape and initialed and dated.
QK989G	Photography	Photographed using a Nikon DS5500 camera with a Macro 1:1 lens and an orange filter at a 90 degree angle using Crime Score CS 16-500 at 455nm. Photos taken with and without scale.
QKDLLG	Photography	Would have used photography in actual casework.
QKTMNJ	Laser Visual	
QMJ4LX	Photography	DCS4 system used
	Lifting	Clear tape used
QPQC36	Photography	photographed under a forensic laser.
QQ27QH	Photography	photograph 1:1
QYQ2LR	Photography	Preserved as Image B
R44XA2	Photography	photography, Nikon D5200, Photoshop CS6 for enhancements
	Scanning	Epson V37 scanner for HFENin print, 1200 DPI
R6XPW8	Photography	Photos were taken of the UV, Indanedione, and White Powder/Ninhydrin prints.
R9CHWD	Photography	
R9X2T8	Photography	532 nm light and orange filter.
RA6G2Y	Photography	Digital capture (Nikon D300): in white light.
RB3K22	Photography	Nikon D810, 60mm lens
RCWCN8	Photography	Raw format. Uploaded to Foray for storage.

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
RDNB37	Photography	
RDTMNG	Photography	Forensic lights were used. Withe source.
RFVVMZ	Lifting	
	Photography	
RRATR4	Photography	Comparative photography. ISO 100, f20. I lifted the print after photography.
T4WCP7	[No Methods Reported.]	Method Used in Order: 1) Lifting tape and a latent print card were used to preserve/collect the latent print developed with Black Magnetic Powder in SECTION A.
TA8BGY	Photography	
TAKWU8	Photography	Used Nikon camera. Used scale in photograph. Upload to Foray.
TLHVLD	Photography	Digital photos - Canon EOS 60D, 100 mm lens, scale ruler.
	CD-R	Recording digital photos of latent print to CD-R disc.
TUDV6C	Photography	Laser and filter were used to photograph
TV7UBX	Photography	The latent prints recovered are photographed by using DCS4 Imaging device : 1. cyanoacrylate : Blue light and yellow filter(530nm). 2. DFO: Green light and bright red filter (590nm). A paper copy is sent to the information branch for comparison on the data base and the soft copy are kept on the hard disk.
TZYPJW	Photography	Visual Examination
	Photography	Cyanoacrylate Fuming
	Photography	Powder Dusting
	Photography	1,2-Indandione
	Photography	Dye Stain
U738UU	Lifting	Tape lift (2 inch lifting tape)
U8C2TF	Photography	Digital Photos with both visible and laser light
U8TDC7	Photography	
UBC9DD	Lifting	Black Gel lift used after white powder on cellophane, no ridge detail observed

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
UBGPCB	Photography	The ridge detail was photographed after Cyanoacrylate Fuming as well as after Ninhydrin processing.
UEUMJY	Photography	
UF86WC	Photography	
UP9RLN	Photography	Photographed latent print during visual examination and after cyanoacrylate fuming.
UYKJHD	Lifting	Lift tape over print
	Photography	DCS-5 fingerprint machine F1 photography
UYXFJB	Photography	Next the item was photographed with a scale, using different external lighting to capture the latent print. Several photographs were taken.
	Scanning	The photographs were then scanned into Foray, enhanced in Photoshop and printed to be submitted to the Latent Print Unit.
	Lifting	Finally, latent print was lifted using clear lift tape and placed on a lift card to be submitted to the latent print unit.
UZWEZY	Photography	Nikon D5200, ADOBE PHOTOSHOP CS6
	Scanning	Adobe Photoshop CS6, Epson Perfection V500 scanner
V3DCGZ	Photography	As a protection measure, a transparent adhesive tape was placed on it.
V3GPCA	Lifting	The print was lifted using fingerprint tape and then placed on a latent lift print card.
V92V3N	Photography	I used a Nikon D800, lens 60 mm, ISO 400 in manual mode with F-stop 25 and shutter speed 80. Lighting technique was direct. I then calibrated my photographs, enhanced them in Photoshop (CS4), saved them, and created a composite sheet that was printed out. A clear ruler was placed in my photographs to bring them to scale (1:1).
	Lifting	I lifted the print and placed it on a white latent lift card.
	Scanning	I then scanned the lifts at 1200 ppi with an Epson Expression 10000XL and placed all my images captured in this case onto a composite sheet. I also scanned the envelope (whole and quadrant A) at 1200 ppi and placed them onto a composite sheet.
VATVZZ	Photography	Photographed per policy

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
VB4XLY	Lifting	Photographic documentation of the lofoscopic fragment with a reflex camera, using fingerprint lifting tape, placing on transplant card which is packaged, labeled and sealed with security tape
VB972D	Photography	Photos obtained after each step in which the print was visible.
	Lifting	Lift obtained after powder dusting.
VKTLG2	Photography	photographed section A with/without scale to preserve the image. Images downloaded to secured drive for further examination.
VVUWZA	Photography	Photographed (RAW/JPEG)one latent impression on window under white light. Same impression continued onto paper envelope. This was photographed using ALS at 455 with orange filter.
VW8HL6	Photography	Once the lofoscopic fragments were located with the use of white light, applying search techniques, they were identified and photographed, with records of medium planes, close-up without metric and with metric witness, finally the evidence savanna
	Lifting	After the photographic documentation, a transplanter was used, being a transparent tape (lifting tape) to protect the lofoscopic fragment.
VWNV7V	Photography	
	Lifting	
	Photography	
W22V4M	Photography	Overalls, midranges, and close ups of ridge detail taken by processing technical leader using digital camera. Photos taken with natural or oblique lighting and in JPEG and RAW formats.
W3X4FC	Photography	Digital photography + orange filter + ALS @515nm/orange goggles; One impression photographed in section A
	Adobe Photoshop CC	Digital image was calibrated and processed for best detail; created composite; created CD with value impression(s) at completion of the case
WLQGYQ	Photography	Canon D850 camera
WWPPLV	Photography	The latent print was photographed. Camera: Canon Power Shot SX20 IS.
WYBTXY	Scanning	1200 DPI, dark field illumination
XT4D9B	Lifting	Fingerprint tape was used to lift the ridge detail and the tape was placed on a lift card.

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
YJ9YGA	Indandione with ZnCl and Ninhydrin	Heat and humidity applied. Indandione before Ninhydrin. Digital photography was used to preserve the prints.
YQRAPJ	Photography	D-3300 Camera was used for photography.
YR3Z3U	Photography	
YTJ23B	Lifting	The partial latent print was lifted and preserve in a card
YTXRPZ	Photography	Scale in photo, taken with a Nikon camera
YUU3PA	Photography	If preserving the print would have been a part of the test, photography would have been used.
YV3BXU	Photography	Mounted Nikon D810 camera
YX8PGT	Light Examination	After visual examination and SG treatment, white light was used to enhance the mark in quadrant A. This would have been captured using white light on the DCS capture system if live casework. After NIN treatment, the mark was enhanced using white light and there wasn't any improvement, so would not typically have been captured at this stage.
	Green light Examination	After IND treatment, item 1 was viewed under a green high intensity light (490-560nm) using 590nm viewing goggles. This would have been captured using green light on the DCS capture system if live casework.
YXTJXW	Lifting	- Slightly frosted 2" fingerprint tape was applied to the surface with developed print and then applied to a standard white latent print card.
YXUEKA	Photography	The print was not preserved, but photography would have been the method of choice for that purpose.
ZHUUGQ	Photography	After each method of development the fingerprint was photographed. Ardrox-Photography: Excitation Filter: 380nm; Observation Filter: 500nm Ninhydrin-Photography: white light; no filters
ZJPCJR	Photography	
ZQ6V3R	Photography	Latent print photographed, without and with a scale. 1 to 1 photograph taken with digital camera at 35mm, with a scale
ZQ8PHQ	Photography	DCS5 capture system. White light.
	Lifting	Tape/Card

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
ZTBK2U	Lifting	Photographic documentation of the lofoscopic fragment with a reflex camera, using fingerprint lifting tape, placing on transplant card which is packaged, labeled and sealed with security tape
ZTFTF9	Photography	Phots taken after each processing step where the print was visible.
ZU68XR	photography and tape lifter	the print was lifted using photography , and tape lifter

Response Summary

Participants: 223

Methods Utilized

Lifting	55
Photography	194
Scanning	11

**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
28QUP6	Photography	Foster & Freeman DCS-4 w/Nikon D700
29JRVP	Lifting	Use the black magnetic powder to enhance the contrast then lift the finger print with white plastic patch. Fill the information in the patch.
2FLYJ7	Lifting	lifted using JAFL tape and white backing card
2HCXX4	Lifting	Lifting tape used and placed on lift card for further laboratory examination.
2KXRPX	Photography	
2QJYR4	Photography	fingerprint was photographed with a macro camera and lens and linear scale
2VC4K8	Lifting	
2VWP9R	Photography	
389AE7	Photography	White flash light, Polylight PL500 at 505nm, OG550 orange filter, FORAY ADAMS Imaging system
3FHUG2	Lifting	(2) latent lifts collected from CD case. Same fingerprint attempted to lift two times due to darkness of first lift. Latent lift tape used to lift print and placed on latent lift card.
3JDPXF	Photography	Latent Print (L04) DCS-4 System - Nikon D700 camera with 105mm lens Blue Light (430-470 nm) / Yellow Filter (476nm - GG 495) / with scale Digital Enhancement, calibrated and printed 1:1
	Lifting	Latent Print (L05) 2" tape placed on white fingerprint card
3L278N	Photography	DSLR camera.
3L7EM3	Photography	
3M2XN4	Photography	scale, raw/fine
3QERGU	Ardrox Dye Stain	After cyanoacrylate fuming I applied Ardrox dye stain and used ALS. The same area of friction ridge detail was observed in section D which was photographed while using ALS.
3UX2AT	Photography	Digital photograph under white light
	Photography	Digital photograph under blue laser light

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
3XKCR7	Photography	Using the Nikon D200 (RAW)
	Photography	Using the FSIS
	Adobe Photoshop	Digital image processing to remove any color and create a grayscale composite sheet for the case file
3XX8T6	Photography	The developed latent print was preserved by digital imaging at high resolution capturing. The photo of the latent print is archived in the AFIS database of fingerprints.
43PGUQ	Photography	Phototgraphy in dark room with normal flashlight kept over the fingerprint. Print came out very visble in photo.
4BY68P	Photography	Viewed print on CD case under Alternate Light Source and Photographed print.
4GR9FV	Photography	With Canon EOS TOD using direct light. Item 2 submitted into evidence with detected fingerprint located in Area "D".
4NC4K6	Photography	Photograhy was used to preserv the fingerprint after Visual examination (white light), Cyanoacrylate fuming, Basic yellow 40.
62DEA4	Photography	
6CUYTZ	Photography	Ambient light, LED flashlight, and alternate light source (ALS) used - orange barrier filter used to photograph with ALS
6EV8T4	Photography	DCS-5 Camera
6M897R	Photography	
6V6QV3	Photography	
7329LX	Lifting	One (1) lift was collected with standard 2 inch lifting tape and secured onto a latent print lift card ([Laboratory] Form #74).
7GJXKZ	Lifting	Once sufficient print detail was observed on the item from the magnetic powder, latent print tape was used to lift the print. This tape was then placed on a latent lift card for preservation. A directionality arrow was added to the front of the card, and case information and location description were added to the back of the card.
7HEGM2	Photography	Photos of latent print were taken using a Nikon D800. Photos were taken under white light following initial visual exam, Cyanoacrylate fuming and under the TracER laser using an orange barrier filter following dye staining with Rhodamine-6G.
7HEJ8Z	Photography	Digital imaging

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
7XP6RP	Photography	The pictures was taken by Canon camera with yellow filter.
847Z8J	Photography	A document was photographed using metric witness to preserve it, it was preserved I use a transparent plastic patch.
862HAK	Photography	Photography with Nikon D7000 and macro lens on copy stand with scale. Developed print photographed after each application of black magnetic powder.
	Lifting	After development and photography, a latent lift was collected. This was performed after each application of black magnetic powder (two times total).
	Scanning	The latent lift cards were scanned with an Epson Perfection 4990 at 1200ppi with scale once collected.
8892A3	Photography	Digital photo: DCS5 camera
88UC7P	Lifting	Tape was used to lift the ridge detail onto a lift card
8DWPNK	White Light Examination	White light examination using white Crime-Lite 400-700nm at the initial stage of the sequential process and following SB3. Under the circumstances of live case work the mark would have been captured on the DCS camera system at the visual and at the SB3 stage due to improved contrast in the mark.
	Blue Light Examination	Fluorescent light examination under a blue light source (430-470nm) using 495nm viewing goggles following Dye Strain treatment. Again, the mark would have been captured using the appropriate lighting technique and filter on the DCS camera system.
8FXTDL	Photography	Photography in our "Carlsson's box". Strong white light horisontally from leftside of fingerprint through half pass mirror which locates about 45 degree angle over the fingerprint. Camera in reprostative above the fingerprint. Print could be seen very clearly in photo.
8JX69L	Photography	
8TNHDR	Photography	Digital photograph under blue laser light
8XHJCK	Photography	Twice: after CNA and again after BY40 RAW, enhancement in Photoshop CS
94LN3J	Photography	Photographed Latent Item 2-L1 and uploaded to our secure imagining system.
9DUDJN	Scanning	Photoshop, scanner (1000dpi)

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
9MWF6L	Lifting	Photographic documentation of the lofoscopic fragment with a reflex camera, using fingerprint lifting tape, placing on transplant card which is packaged, labeled and sealed with security tape
9R9JVN	Lifting	Ridge detail observed in quadrant D was lifted using lift tape and placed on a lift card for further analysis by Latent Print Unit.
9YUC8M	Photography	Took a photograph using a Nikon D800 camera, Nikon 105 mm microlens, and Nikon 056 orange filter.
AA72KJ	Photography	Photographed with scale.
AG6TML	Photography	Canon Canon 760D + white light
ANM8FH	Lifting	The ridge detail was tape lifted
AUCRJY	Photography Lifting	Photographed Lifting tape
AXX92J	Lifting	One developed are of ridge detail was lifted with fingerprint tape.
B4GVAU	Lifting	- Placed tape-lift over impression, lift was photographed in place, impression was lifted. - Impression is sufficient for comparison, first joint, pressure distortion hides the core but there is good detail in the tip
B8DRNM	Lifting	Lifted latent print using fingerprint tape and latent print card.
BNZ63E	Photography	Using a 532 nm laser to illuminate the latent, a Nikon D800 camera was used to capture an image of the latent.
BPHY3P	Photography	N/A
BXQLYV	Photography Lifting	
BYL62W	Photography Lifting	Print was photographed for comparison Print was lifted repowered and lifted a second time. Both lifts were submitted
C9NUC8	Photography Lifting	Comparison quality raw digital images Print was lifted and placed on white latent lift card

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
CEW6BT	Lifting	Clear latent print lifting tape
CFQ3GE	Photography	Photograph taken of print.
CQ46X6	Photography	DCS4 & DCS5
CRZK9G	Photography	1st photo enhanced with white light after CAE. 2nd photo enhanced using ALS after dye stain application.
CU4D3F	Photography	Digital Capturing System (DCS-4) Cyanoacrylate: white light source Dye stain (Rhodamine 6G): blue/green (460-510nm) with filter OG-550
CWCJLV	Lifting	The latent located in quadrant "D" was lifted and placed on a white backing card.
D7CHQM	Photography	
DEQKRH	Photography	Digital photography under white light
	Photography	Digital photography under blue laser light
DH9LVG	Lifting	Photographic documentation of the lofoscopic fragment with a reflex camera, using fingerprint lifting tape, placing on transplant card which is packaged, labeled and sealed with security tape
DMF9MK	Photography	I then put a scale sticker next to the print and photographed the print to preserve it.
DTCP8Q	Lifting	Lifted the latent print with lift tape and placed on an [Laboratory] Form 74 (latent lift card).
E2WKHQ	[No Methods Reported.]	none used, no prints developed
E9K43U	Lifting	The ridge detail in grid "D" was lifted using fingerprint tape and was then applied to a fingerprint card.
ECJEXU	Lifting	Lift tape applied to finger print lift card
EE7WFE	Photography	Red Nikon 5200; Photoshop CS6 for enhancements.
EE7YYR	Photography	
EGAP9R	Photography	ALS, 420-470nm. Yellow goggles, lenses. Calibration tool added, JPEG/RAW format.

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
EH3MED	Photography	Photographed Cyanoacrylate Fuming enhancement with and without scale.
	Lifting	Magnetic powder enhancement was lifted.
ELMJZH	Photography	I photographed one area of ridge detail located in box D (interior of cd case).
EQKV4V	Photography	Photographed under UV w/ RUVIS system.
EUXXLK	Photography	Latent was photographed in place with a scale.
	Lifting	Print was lifted from the surface and secured to a latent lift card for documentation and preservation.
EXKF66	Photography	Comparison quality photo, 1000 ppi, scale (mm)
EY9WED	Photography	
F8JQUR	Lifting	Area lifted to be sent back to lab.
FAAPBB	Photography	Friction ridge detail was photographed using a D7500 camera in quadrant D following a visual exam and the applications of cyanoacrylate fuming and powder dusting. The images were evaluated by utilizing Adobe Photoshop and CSIPix.
FELGG4	Photography	photograph taken. image further enhancement in photoshop
FFVNHB	Lifting	
FGTTHD	Photography	digital images
FHKV6T	Photography	WITH A DIVERSE FORENSIC LIGTHS
FHYMT4	Photography	Photographed CA, R6G developed latent with 532 nm TraceR laser using an orange barrier filter.
FJQMQE	Photography	Photos with a filter were taken using the TracER laser
FKAERC	Photography	Photographs taken in RAW.
FMYLCA	Lifting	Lifted with clear fingerprint tape
FXFDUR	Photography	
G32YVB	Photography	

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
GGNXAR	Lifting	Latent Lift "A," was recovered from the interior clear plastic case lid of item #2, in section D.
GJD4UN	Photography	Impression in section D digitally photographed after CA step and while using a blue laser with an orange barrier filter.
GLCRYC	Photography	Straight photography in reprosystem with white light at 45 degree above CD- box.
GTXJAC	Photography	Foster Freeman DCS5 Photographs
H326YQ	Lifting	Latent lift "B," which was recovered form the interior clear plastic case lid of Item #2, in section D.
H4T4CN	Photography	
H6L2HA	Lifting	developed print lifted with tape.
H99KND	Photography	Digital photograph using oblique light
HDH2VG	Photography	Scaled photograph taken of friction ridge impression.
	Lifting	Friction ridge impression lifted using lift tape and placed on a lift card.
HGEKYZ	Photography	overall, midrange and closeups were taken with and without the ALS after rhodamine 6G application
HGJXPH	Photography	Photographed latent of value with scale and uploaded image to ADAMS.
HJ3299	Photography	Any suitable marks developed throughout sequential treatment were marked up and photographed 1:1 using a D810 Nikon digital camera with an AF-5 micro nikkor 105mm lens, 8x4 Crime Lite light source(s) and appropriate camera filter(s). The camera is linked to DCS5 (Digital Capture System 5)software where the images are exhibited with full audit trails and further DCS5 enhancement tools can be used to improve contrast/remove background interference where applicable. Exhibited images then submitted to the Fingerprint Bureau for further analysis and comparison.
	Lifting	Once all treatments had been completed, a gel lift was taken on the side of the mark and exhibited as 'BAC/1EO'.
HZQCVB	Lifting	Photographic documentation of the lofoscopic fragment with a reflex camera, using fingerprint lifting tape, placing on transplant card which is packaged, labeled and sealed with security tape
JAFFKP	Photography	Used Nikon D810 camera to photograph w/ green laser, used Horiba Universal imaging system to photograph w/ RUVIS.

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
JC8ANL	Lifting	One print was developed using magnetic powder and collected using lift tape and placed onto a latent lift card. Lift card will be submitted to the Latent Print Unit for analysis.
JDDYMN	Photography	Nikon D5600
JM3HAA	Photography	Nikon D5200 camera, Led lights on camera stand, Adobe Photoshop CS6, Orange filter (promaster YA2) used on Mstar print, Dell precision 7820 computer
JM4KTL	Photography	after Visual Examination – under white light
	Photography	after Cyanoacrylate Fuming - under white light
	Photography	after Basic Yellow 40 - in alternate light source at 450 nm using a orange colored bandpass filter
JNXAWF	Photography	after cyanoacrylate
JYEUGC	Photography	Photo taken of latent print in quadrant D
JZNYWL	Photography	
	Lifting	tape and white lifting card
KJDMVF	Photography	PHOTOGRAPHIC DOCUMENTATION OF THE REVEALED LOFOSCOPIC FRAGMENT IS MADE
	Lifting	LIFTING WITH LIFTING TAPE FOR FINGERPRINTS AND TRANSPLANTING ON A BACKUP CARD.
KVU8FC	Photography	using DCS-5 with UV examination
KVXPLM	Photography	During step 5), a black background is placed under the transparent plate of the plastic CD case. Applying a centimeter test near the fingerprint and the trace is illuminated with the Crimescope in CSS or white light to get the best contrast. Photographie is taken.
KW77C7	Photography	digital SLR camera with an orange filter while being illuminated with a Forensic laser
KZ69PM	Lifting	*Please note that gloves were worn at all times throughout this processing. Clear tape was placed across the area of observed ridge detail and lifted from the item. The tape lift was then placed onto a white backing card for contrast and preservation. A directionality arrow was drawn onto the front of the card for orientation. All case information was added to the back of the card. The latent lift card was then placed into an evidence envelope and sealed with evidence tape.
L2T7CJ	Photography	

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
L6TH8J	Photography	Nikon D5 and Photoshop
LA68P8	Photography	Used Foster Freeman DCS 5 camera for photographing both visible and developed latent print.
LBLJAX	Photography	Excitation range 430-510nm, orange filter, no further enhancement needed.
LCDK79	Lifting	White silicon (casting material for forensic use).
	Photography	Canon 5D + 90mm macro-lens 1:1 and white light.Finally photoshop.
LJEML8	Photography	Examination quality photographs (7 images)were taken of the apparent fingerprint developed in section D of the interior side of the clear plastic CD case cover. Photographs were taken prior to lifting the print from the item of evidence.
	Lifting	The tape lift of the apparent fingerprint from section D of the CD case was placed on a latent print card where the orientation of the apparent fingerprint was documented. The latent print card was then packaged and sealed in a manila envelope.
LN9R9K	Photography	The item was Photographed with the Fujifilm IS Pro camera. Lighting used was defused back lighting technique. The photograph was then imported into the Foray computer system and scaled one to one. The photograph was then enhanced with Photoshop with the following methods. Blue filter followed by gray scale, The latent was then inverted and Level adjustments were then made for brightness and contrast. The item was then printed out with all required information.
	Lifting	After photography and Black Powder dusting the developed print was lifted with lifting tape and placed on a latent print card with all required information.
M2APN4	Lifting	Lifted powder developed print
M2EW3J	Photography	
M4ZQVD	Photography	RAW format. Uploaded to Foray for storage.
M9A4FW	Lifting	Placed on contrasting white backer
MALYXH	Lifting	The potential latent print observed in quadrant "D", as a result of the cyanoacrylate and black powder processing was lifted using latent print lift tape and a standard latent print card. The latent was taped, "lifted" and then placed onto the card for submission.
MF7YDV	Photography	Canon camera - photograph produced

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
MJ836H	Photography	Photographed before and after. Labeled print L2 and photographed using Alternate Light Source (415) and a yellow barrier filter.
MPZ3MJ	Photography	
MQPDEC	Lifting	Clear fingerprint lifting tape was used to preserve and lift the latent impression onto a latent print card.
MURA8D	Photography	I photographed, with a scale, the ridge detail in quadrant D.
MVMWHW	Lifting	- Lift tape & lift card
MWJ7UL	Photography	One to one photography of positive results.
MXQK4D	Photography	Nikon D810 Camera at F16 with an orange filter for fluorescent images. Incandescent light for overall images. Oblique light for non-fluorescent images.
MYL9DV	Photography	1:1 Photography. Overall, midrange and close-up photos taken.
N7W2ZC	Photography	
N8VZJK	Photography	
NAFYHZ	Photographic Documentation	All photographic documentation performed within resolution guidelines, which included a surface to sensor distance of no greater than 0.49m (Canon 100mm macro lens)and in RAW format (Canon 5D Mark III full frame camera.
NF6JLF	Lifting	Applied lift tape and transferred to a lift card
NFPZ2J	Photography	I observed one impression in "D" and photographed the impression.
NGHX84	Photography	1. After Cyanoacrylate fuming, Mark was photographed using White light. 2. After Dye Stain, Mark was photographed using 445nm light with 495nm Filter.

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
NJQ242	Photography, Visualization, Forensic Light Source, MRM10.	Oct/22/20: Documentation of development obtained through the Cyanoacrylate process was performed. MRM10 was applied to photo lift #2, which merited additional documentation. MRM10 tested prior to being applied to case evidence and performed as expected. Processing and documentation completed on item-2 10/22/20.
	Photographic Documentation	All photographic documentation performed within resolution guidelines, which included a surface to sensor distance of no greater than 0.49 meters (Canon 100mm macro lens), and in RAW format (Canon 5D Mark-III full frame camera).
NMNR4K	Photography	Examine item using RUVIS and Captured image with RUVIS camera.
NNJ7VK	Lifting	Lifted ridge detail in section D with clear tape and preserved on a white index card.
	Photography	Photographed before and after applying powder and prior to lifting with tape.
NQM3ZK	Photography	Viewed w/ forensic laser. Viewed w/ RUVIS. Print digitally imaged w/ both
NTEW4G	Photography	Two (2) images were captured with the DCS5 using coaxial lighting. The images were saved as TIFFs.
	Lifting	One (1) tape lift was generated after black magnetic powder.
NVZQVB	Photography	The latent impression developed in section D was photographed using a Canon Rebel T7i digital camera with a macro lens.
	Lifting	The latent impression developed in section D was lifted with a two inch clear tape and placed on a latent lift card.
P8Q467	Lifting	
PBBR67	Photography	Laser (BrightBeam Model 8707G4 Dual Forensic Laser System) used to visualize detail developed Nikon d800, orange filter, and macro lens captured digital image.
PMKL3G	Photography	Photographic documentation using a Nikon D7500 camera with a Macro 1:1 Lens with an orange filter perpendicular to the plain (90 degree angle) using Crime Scope CS 16-500 at 455nm. Photos taken with and without scale.
PRDLKJ	Lifting	I used powder then lifted it with tape.
	Photography	I also photographed the item.
PVXH63	Photography	White light for CA, blue light and yellow filter for BY40

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
QJH4JF	Lifting	The latent print was lifted using clear fingerprint and placed on a white fingerprint card
QK989G	Photography	Photographed using a Nikon DS5500 camera with a Macro 1:1 lens and an orange filter at a 90 degree angle using Crime Score CS 16-500 at 455nm. Photos taken with and without scale.
QKDLLG	Photography	Would have used photography in actual casework.
QKTMNJ	Photography	RUVIS DCS-5
QMJ4LX	Lifting	Clear tape used
QPQC36	Photography	photographed under a forensic laser.
QQ27QH	Photography	
QYQ2LR	Photography	Preserved as image A
R44XA2	Photography	photography, Nikon D5200, Photoshop CS6 for enhancements
R6XPW8	Photography	Photos were taken of the UV prints
R9CHWD	Photography	
R9X2T8	Photography	532 nm light and orange filter.
RA6G2Y	Photography	DCS5: in white light.
RB3K22	Photography	Nikon D810, 60mm lens
RCWCN8	Photography	Raw format. Uploaded to Foray for storage.
RDNB37	Photography	
RDTMNG	Photography	Forensic light was used.
RFVVMZ	Photography	
RRATR4	Photography	Comparative photography. ISO 100, f20. Lifted the print after photography.

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
T4WCP7	[No Methods Reported.]	Method Used in Order: 1) Lifting tape and a latent print card were used to preserve/collect the latent print developed with Cyanoacrylate Ester and Black Magnetic Powder in SECTION D.
TA8BGY	Photography	
TAKWU8	Photography	Used Nikon camera. Used scale in photograph. Upload to Foray.
TLHVLD	Photography	Digital photos - Canon EOS 60D, 100 mm lens, scale ruler.
	CD-R	Recording digital photos of latent print to CD-R disc.
TUDV6C	Photography	Laser and filter used
TV7UBX	Photography	The latent prints recovered are photographed by using DCS4 Imaging device(cyanoacrylate : Blue light and yellow filter(530nm)). A paper copy is sent to the information branch for comparison on the data base and the soft copy are kept on the hard disk.
TZYPJW	Photography	Visual Examination
	Photography	Cyanoacrylate Fuming
	Photography	Dye Stain
U738UU	Photography	One photograph taken at or greater than 1000 DPI
	Lifting	Tape lift (2 inch lifting tape)
U8C2TF	Photography	Digital Photos with both visible and UV light
U8TDC7	Photography	
	ALS	415nm for photographing
UBC9DD	Photography	Photographed with scale
UBGPCB	Photography	The ridge detail was photographed after Cyanoacrylate Fuming as well as after Rhodamine processing.
UEUMJY	Photography	
	Lifting	One tape-lift was obtained.
UF86WC	Photography	

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
UP9RLN	Photography	Latent print was photographed using white light during visual examination and after cyanoacrylate fuming. Latent print was photographed after MBD using Crimescope at CSS setting and orange filter.
UYKJHD	Lifting	Print lifted with clear tape and put on white lift card
	Photography	DCS-5 fingerprint machine 1:1 photography
UYXFJB	Lifting	Finally, the latent print was lifted using clear lift tape and placed on a lift card to be submitted to the latent print unit. A second attempt lift was taken on this item and both lifts were submitted.
UZWEZY	Photography	Nikon D5200, ADOBE PHOTOSHOP CS6
V3DCGZ	Lifting	
V3GPCA	Lifting	The print was lifted using fingerprint tape and then placed on a latent lift print card.
V92V3N	Photography	This developed print was very difficult to capture and had to be held at sharp angles to see the visible friction ridge detail. Multiple lighting techniques were used in order to capture this print of value. I used a Nikon D800, lens 60 mm, ISO 400 in manual mode with F-stop 25 and shutter speed 10/400 second. i varied my shutter speeds throughout the different lighting techniques. Lighting techniques were direct, side lighting, bounce, diffused, and backlit (light box). I then calibrated my photographs, enhanced them in Photoshop (CS4), saved them, and created a composite sheet that was printed out. A clear ruler was placed in my photographs to bring them to scale (1:1).
	Lifting	I lifted the latent fingerprint of value onto a white latent lift card.
	Scanning	I scanned the latent lifts at 1200 ppi with an Epson Expression 10000XL scanner and placed all these scanned images onto a composite sheet.
	Photography	I photographed the Basic Yellow latent fingerprint of value using an orange filter over the camera lens and used orange goggles. I captured this print in manual mode, F-stop 25, shutter speed 13/10 second. A fluorescent ruler was placed in my photographs to bring them to scale (1:1).
VATVZZ	Photography	Photographed per department policy
VB4XLY	Lifting	Photographic documentation of the lofoscopic fragment with a reflex camera, using fingerprint lifting tape, placing on transplant card which is packaged, labeled and sealed with security tape

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
VB972D	Photography	Photos obtained after each step in which the print was visible.
VFLVH2	Lifting	
VKTLG2	Photography	An alternate light source was used at 450nm and yellow googles to examine developed print. A yellow filter was added to camera lens to capture image in section D. The images were downloaded on a secured drive for further examination.
VVUWZA	Photography	Photographed (RAW/JPEG) one latent impression in section D using ALS at 455 with orange filter.
VW8HL6	Photography	Once the lofoscopic fragments were located with the use of white light, applying search techniques, they were identified and photographed, with records of medium planes, close-up without metric and with metric witness, finally the evidence savanna.
	Lifting	After the photographic documentation, a transplanter was used, being a transparent tape (lifting tape) to protect the lofoscopic fragment.
VWNV7V	Photography	
	Lifting	
W22V4M	Lifting	Tape used to lift fingerprint and secured on lift card.
W3X4FC	Photography	Digital photography + orange filter + ALS @515nm/orange goggles; One impression photographed in section D
	Adobe Photoshop CC	Digital image was calibrated and processed for best detail; created composite; created CD with value impression(s) at completion of the case
WLQGYQ	Photography	Canon D850 camera
WWPPLV	Photography	The latent print was photographed. Camera: Canon Power Shot SX20 IS.
WYBTXY	Scanning	1200 DPI dark field illumination
XT4D9B	Lifting	Fingerprint tape was used to lift the ridge detail and the tape was placed on a lift card.
YJ9YGA	[No Methods Reported.]	Digital photography was used to preserve the prints.
YQRAPJ	Photography	D-3300 Camera was used for photography.

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
YR3Z3U	Photography	
	Lifting	
YTJ23B	Lifting	The partial latent print was lifted and preserve in a card
YTXRPZ	Photography	Scale in photo, taken with Nikon camera
YUU3PA	Photography	If preserving the print would have been a part of the test, photography would have been used.
YV3BXU	Photography	Mounted Nikon D810 camera
	Lifting	Took two lifts of the same area, dusted twice
YX8PGT	White light examination	After visual examination, white light was used to enhance the mark in quadrant D. This would have been captured using white light on the DCS capture system if live casework. After SB3 treatment, item 2 was viewed with white light. The mark in quadrant D wasn't enhanced further.
	Blue light Examination	After the exhibit was treated with SG and then DYE,this was then viewed under a blue light source (430-470nm) using 495nm viewing goggles. Under circumstances of live casework, the ridge detail developed would have been captured using this light wavelength on the DCS capture system.
YXTJXW	Lifting	- Slightly frosted 2" fingerprint tape was applied to the surface with the developed print and then applied to a standard white latent print card.
YXUEKA	Photography	The print was not preserved, but photography would have been the method of choice for that purpose.
ZC4LWW	Lifting	2in frosted tape
ZHUUGQ	Photography	After each method of development the fingerprint was photographed. Visual Examination and Cyanoacrylate fuming Photography: white light; no filters. Ardrox-Photography: Excitation Filter: 380nm; Observation Filter: 500nm
ZJPCJR	Photography	
ZQ6V3R	Lifting	Latent print lifted from section D on item #2 using clear lifting tape and placed on white latent print card. Latent print card labeled with case information and location lifted. Latent print on card photographed without and with a scale. Photographed with digital camera at 35mm for 1 to 1 photograph.
ZQ8PHQ	Lifting	Tape/Card

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
ZTBK2U	Lifting	Photographic documentation of the lofoscopic fragment with a reflex camera, using fingerprint lifting tape, placing on transplant card which is packaged, labeled and sealed with security tape
ZTFTF9	Photography	Phots taken after each processing step where the print was visible.
ZU68XR	Photography	the print was photographed using oblique light source

Response Summary

Participants: 229

Methods Utilized

Lifting	78
Photography	179
Scanning	4

**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
28QUP6	Photography	Foster & Freeman DCS-4 w/Nikon D700
29JRVP	Photography	Photographed with metric scale, use a Nikon D7000.
2FLYJ7	Photography	photographed in RAW image w/scale, enhanced via Photoshop
2KXRPX	Photography	
2QJYR4	Photography	fingerprint was photographed with a macro camera lens and linear scale
2VC4K8	Scanning	
2VWP9R	Photography	
389AE7	Photography	FORAY ADAMS Imaging System
3FHUG2	Submit to latent print unit	After processing lined sticky note, item was placed back into original packaging to be submitted to the latent print unit for further processing.
3JDPXF	Photography	Latent Print (L06) DCS-4 System, Nikon D700 camera, 105 mm lens, w/ scale White Light / Green Filter Digital Enhancement, Calibrated, Printed 1:1
3L278N	Photography	DSLR camera.
3L7EM3	Photography	ALS orange filter
3M2XN4	Photography	scale,raw/fine
3UX2AT	Photography	Digital photograph under blue laser light
3XKCR7	Photography Adobe Photoshop	Using the Nikon D200 (RAW) Digital image processing to remove any color and create a grayscale composite sheet for the case file
3XX8T6	Photography	The developed latent print was preserved by digital imaging at high resolution capturing. The photo of the latent print is archived in the AFIS database of fingerprints.
43PGUQ	Photography	Phtography with our new FosterFreeman Crime-lite Auto Forensic Search & Capture tool using 515nm green light.
4BY68P	Photography	Photographed visible print developed after applying Thermal Ninhydrin.

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
4GR9FV	Photography	Item 3 submitted into evidence with detected fingerprint located in Area "C".
4NC4K6	Photography	Photograhy was used to preserv the fingerprint after Indanedione.
62DEA4	Photography	
6CUYTZ	Photography	alternate light source (ALS) used - orange barrier filter used to photograph with ALS
6EV8T4	Photography	DCS-5 Camera System
6M897R	Photography	
6V6QV3	Photography	photographed using alternate light source
7329LX	Affixed to Object (lifting tape)	The partial print, of questionable examination quality, was affixed using standard 2 inch lifting tape to prevent destruction and/or distortion in transport.
7GJXKZ	Photography	Photographs were taken of the item after it was allowed to set for 24 hours. Overall, midrange, and close-up digital photographs were taken of the item from a camera copy stand. Close-ups of the potential print detail were taken with a scale. These photographs were taken with the following settings: Macro lens, RAW format, and at a 90 degree angle. The close-up photograph taken with a scale was then opened in Adobe Photoshop. Using standard operating procedures, the close-up photograph was enhanced, calibrated to a 1:1 ratio, and printed.
7HEGM2	Photography	Photos of latent print were taken using a Nikon D800. Photos were taken under the TracER laser using an orange barrier filter following 1,2-Indanedione and under white light following Ninhydrin.
7HEJ8Z	Photography	Digital Imaging
7XP6RP	Photography	The pictures was taken by Canon camera with yellow filter.
847Z8J	Photography	A document was photographed using metric witness to preserve it.
862HAK	Scanning	Scanned with Epson Perfection 4990 scanner at 1200ppi with measurement scale.
8892A3	Photography	Digital photo: DCS5 Camera

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
88UC7P	Photography	Photos taken by [Analyst]
8DWPNK	White Light Examination	White light examination using white Crime-Lite 400-700nm at the visual, ESDA and Ninhydrin stages of the sequential process. Examination negative following Visual and ESDA treatment. No enhancement in the mark following Ninhydrin treatment so under live casework conditions the mark would not be re-captured.
	Greem Light Examination	Fluorescent light examination under a green light source (490-560nm) using 590nm viewing goggles following IND treatment. The mark would have been captured using the appropriate lighting technique and filter on the DCS camera system.
8FXTDL	Photography	Reprophotography with Foster+Freeman S82 515nm green handlight with OG590 orange filter in front of camera lens.
8JX69L	Photography	
8TNHDR	Photography	Digital photograph under blue laser light
8XHJCK	Photography	RAW, enhancement in Photoshop CS
94LN3J	Photography	Photographed Latent Item 3-L1 and uploaded to our secure imaging system.
9DUDJN	Scanning	Photoshop, scanner (1000dpi)
9R9JVN	Photography	Overall, mid-range, and close-up photographs were taken of the entire item and ridge detail developed in quandrant C. Photographs taken by Processing Technical Leader in my presence.
9YUC8M	Photography	Took a photograph using a Nikon D800 camera, Nikon 105 mm microlens, and Nikon 056 orange filter.
AA72KJ	Photography	Photographed with scale.
AG6TML	Photography	Canon 760D + white light
ANM8FH	Scanning	The ridge detail was scanned on a flatbed scanner
AUCRJY	Photography	I photographed the ridge detail using examination quality photographs.
AXX92J	Scanning	One area of ridge detail was scanned, enhanced and printed out.
B4GVAU	[No Methods Reported.]	*No ridge detail was observed*

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
B8DRNM	Photography	Photographed latent print using digital camera on stand and scale.
BNZ63E	Photography	The illuminated latent was captured using a Nikon D800 camera.
BPHY3P	Photography	N/A
BXQLYV	Photography	Photographed 1:1 with scale
CFQ3GE	Scanning	Scanned Print
CQ46X6	Photography	DCS4 & DCS5
CRZK9G	Photography	Enhanced using ALS after application of Indanedione.
CU4D3F	Photography	Digital Capturing System (DCS-4). DFO: green (500-550nm) with filter OG-570. Ninhydrine: White light source
CWCJLV	Photography	The latent located in quadrant "C" was photographed for preservation.
D7CHQM	Photography	
DEQKRH	Photography Scanning	Digital photography with a Nikon D850 under blue laser light.
DMF9MK	Photography	I then placed a scaled sticker next to the print and photographed it while using an orange filter.
E2WKHQ	Photography	photographed the print that was developed with DFO with an orange filter
E9K43U	Photography	The ridge detail was photographed with a macro lens, 100 ISO, additional lighting, and a photographic scale.
ECJEXU	Photography	Macro Lens with the use of a scale camera set to RAW ISO 100
EE7WFE	Scanning	Photoshop CS6 for enhancements; 1200 Resolution; Scanned on Epson V370 scanner; printed on Mitsubishi printer.
EE7YYR	Photography	
EGAP9R	Photography	Calibration tool added, filled frame, JPEG/Raw format.
EH3MED	Photography	Ninhydrin enhancement of ridge detail photographed with and without scale.

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
ELMJZH	Scanning	I scanned the front and back of item 003 to capture one area of ridge detail located in box C.
EQKV4V	Photography	Photographed under natural light w/ DCS-5 system.
EUXXLK	Photography	Print photographed with a scale.
EXKF66	Photography	Comparison quality photo, 1000 ppi, scale (mm)
EY9WED	Photography	
FAAPBB	Photography	The indanedione control and developed friction ridge detail in quadrant C were photographed using a D7500 camera following the applications of indanedione and ninhydrin. The indanedione photography process required an orange filter being placed on the camera lens and photographed using 532 nm of light emitted from the laser.The images were evaluated by utilizing Adobe Photoshop and CSIPix.
FELGG4	Scanning	Item scanned at 1000 dpi. Further enhanced with photoshop
FFVNHB	Photography	
FGTTHD	Photography	digital images
FHKV6T	Photography	with diverse forensic ligths
FHYMT4	Photography	Photographed IND developed print with 532 nm TraceR laser using an orange barrier filter.
FJQMQE	Photography	Photos were taken of the fingerprint.
FKAERC	Photography	Photographs taken in RAW.
FMYLCA	Photography	Photographed with 533 nm light and a 570 nm (red) filter
FXFDUR	Photography	
G32YVB	Photography	
GGNXAR	Lifting	Latent Lift "B," was recovered on the paper in section C.
GJD4UN	Photography	Impression in section C digitally photographed after Ninhydrin and steam step.

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
GLCRYC	Photography	Photography using our brand new Foster+Freeman Crime-Lite Auto Forensic Search & Capture tool- system with 515nm green light to photograph print in paper.
GTXJAC	Photography	Foster Freeman DCS5 Photographs
H326YQ	Photography	Sufficient ridge detail was located in section C, which was then photographed, utilizing a macro-lens.
H4T4CN	Photography	
H6L2HA	Scanning	ninhydrin developed latent print was scanned, printed, and saved to disc.
H99KND	Photography	Digital photograph with camera filter BP550 under blue laser light
HDH2VG	Photography	Scaled photograph taken of friction ridge impression.
HGEKYZ	Photography	overall, midrange and closeups were taken
HGJXPH	Photography	Photographed latent of value with scale and uploaded image to ADAMS.
HJ3299	Photography	Any suitable marks developed throughout sequential treatment were marked up and photographed 1:1 using a D810 Nikon digital camera with an AF-5 micro nikkor 105mm lens, 8x4 Crime Lite light source(s) and appropriate camera filter(s). The camera is linked to DCS5 (Digital Capture System 5) software where the images are exhibited with full audit trails and further DCS5 enhancement tools can be used to improve contrast/remove background interference where applicable. Exhibited images then submitted to the Fingerprint Bureau for further analysis and comparison.
JAFFKP	Photography	Used Nikon D810 camera to photography w/ white light
JC8ANL	No development	No latent print development was observed.
JDDYMN	Photography	NIKON D5600
JM3HAA	Scanning	Epson V Perfection V370 Photo scanner, Adobe Photoshop CS6, Dell precision 7820 computer
JM4KTL	Photography	after DFO - in alternate light source at 505 nm using a orange colored bandpass filter
	Photography	after Ninhydrin - under white light
JNXAWF	Photography	After Indanedione

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
JYEUGC	Photography	Photo taken of latent print in quadrant C
KJDMVF	Photography	PHOTOGRAPHIC DOCUMENTATION OF THE REVEALED LOFOSCOPIC FRAGMENT IS MADE
KVU8FC	Photography	using DCS-5
KVXPLM	Photography	During step 4), applying a centimeter test near the fingerprint in "C" box and photographies are realized.
	Photography	During step 5), orange filter is fixed on the camera when the trace in "C" box is illuminated with the Crimescope in CSS. Photographies are realised.
	Photography	During step 8), no filter is fixed on the camera when the trace in "C" box is illuminated with the Crimescope in white light. Photographies are realised.
KW77C7	Photography	digital SLR camera with an orange filter will being illuminated with a forensic laser
KZ69PM	Photography	*Please note that gloves were worn at all times throughout this processing. Overall, midrange, and close-up digital photographs were taken of the front of Item 3 at a 90 degree angle, utilizing a camera copy stand. A macro lens was used and the images were taken with JPEG and RAW formatting. A scale was placed next to the area with observed ridge detail in quadrant "C" and additional mid-range and close-up photographs were captured. All photographs were uploaded as evidence into a digital evidence tracking system. The scaled close-up photograph of the ridge detail in quadrant "C" was then opened in Adobe Photoshop. The image was enhanced and calibrated to a 1:1 ratio. All image history is documented in the evidence tracking system and the original image remains unaltered and preserved. The enhanced photograph was then printed on photo paper and secured in an evidence envelope.
L2T7CJ	Photography	
L6TH8J	Photography	Nikon D5 and Photoshop
LA68P8	Photography	Used Foster Freeman DCS 5 camera for photographing the developed latent print.
LBLJAX	Photography	Excitation range 430-510nm, orange filter, no further enhancement needed.
LCDK79	Photography	Canon 5D + 90mm macro-lens 1:1 and white light.Finally photoshop.
LJEML8	Photography	Examination quality photographs (2 images) were taken of the apparent fingerprint detected in section C of the lined yellow sticky note.

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
LN9R9K	Scanning	The latent print developed on the item was scanned into the Foray computer system with the Epson Perfection V700 Photo scanner. The latent print was scaled and enhanced in Photoshop in the following manner: Green filter, convert to gray scale, and then adjust levels for brightness and contrast. The item was then printed out with all required information.
M2APN4	Photography	Photographed DFO with LASER & Orange filter. Ninhydrin was photographed regularly.
M2EW3J	Photography	
M4ZQVD	Photography	RAW format. Uploaded to Foray for storage.
M9A4FW	Photography	
MALYXH	Scanning	Item was placed along with a scale, onto a flatbed scanner and entered into a digital enhancement software program (Foray). This image was then printed out for submission.
MF7YDV	Photography	Canon camera - photograph produced
MJ836H	Photography	Photographed before and after. Labeled print L3 and photographed.
MPZ3MJ	Photography	Photographed with ALS
MQPDEC	Photography	Exam Quality photographs were taken of the latent impression observed in section C of item 3.
MURA8D	Photography	I photographed, with a scale, the ridge detail in quadrant C.
MVMWHW	Scanning Photography	- Photocopied - Overall x 1 - Midrange x 1 - Close-up x2
MWJ7UL	Photography	One to one photography after each stage which yielded a positive result.
MXQK4D	Photography	Nikon D810 Camera at F16 with an orange filter for fluorescent images. Incandescent light for overall images. Oblique light for non-fluorescent images.
MYL9DV	Photography	1:1 Photography. Overall, midrange and close-up photos taken.
N7W2ZC	Photography	
N8VZJK	Photography	

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
NAFYHZ	Photographic Documentation	All photographic documentation performed within resolution guidelines, which included a surface distance of no greater than 0.49 meters. (Canon 100mm macro lens), and in RAW format (Canon 5D Mark-III full frame camera.
NF6JLF	no latent development to preserve	n/a
NFPZ2J	Photography	I observed one impression in "C" and photographed the impression.
NGHX84	Photography	Mark found on section C was photographed after 1,2-Indanedione using 532nm light (green light) and camera filter 550nm. And also it was photographed after Ninhydrin using white light.
NJQ242	Visualization, Forensic Light Source, Ninhydrin (steam).	Oct/26/20: A visual exam was performed on item-3. A color shift was observed within quadrant-C, however no ridge detail of a recordable level was present. Item-3 was exposed to steam, and photo lift #3 was developed within quadrant-C. Processing and documentation completed on item-3 Oct/26/20.
	Scanning	All photographic documentation performed within resolution guidelines, which included the ridge detail being captured in TIFF file format at 1200 DPI (Epson V-750 Pro Scanner).
NNJ7VK	Photography	Photographed for documentation purposes.
NQM3ZK	Photography	Viewed w/ visible light. Print digitally imaged
NTEW4G	Scanning	One (1) image was scanned at 1200 ppi using the Epson V800 scanner. The image was saved as a TIFF.
NVZQVB	Photography	The latent impression developed in section C was photographed using a Canon Rebel T7i digital camera with a macro lens.
	Ninhydrin fixative	Item 3 was sprayed with Ninhydrin Fixative and allowed to dry for 30 minutes.
P8Q467	Photography	
PBBR67	Photography	Laser (BrightBeam Model 8708G4 Dual Forensic Laser System) used to visualize detail developed Nikon d800, orange filter, and macro lens captured digital image.
PMKL3G	Photography	Photographic documentation using a Nikon D7500 camera with a Macro 1:1 Lens with an orange filter perpendicular to the plain (90 degree angle) using Crime Scope CS 16-500 at 455nm. Photos taken with and without scale.

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
PRDLKJ	Photography	I also photographed the print
PVXH63	Photography	for DFO blue-green light and orange filter
	Scanning	for ninhydrin
QJH4JF	Photography	The envelope provided was sealed with evidence and signed and dated
QK989G	Photography	Photographed using a Nikon DS5500 camera with a Macro 1:1 lens and an orange filter at a 90 degree angle using Crime Score CS 16-500 at 455nm. Photos are taken with and without scale.
QKDLLG	Photography	Would have used photography in actual casework.
QKTMNJ	Photography	Visual
QMJ4LX	Photography	DCS4 system used
QPQC36	Photography	photographed under a forensic laser.
QQ27QH	Photography	
QYQ2LR	Photography	Preserved as image C
R44XA2	Scanning	Epson V37 scanner for HFENin print, 1200 DPI
R6XPW8	Photography	Photos were taken of the indanedione staining
R9CHWD	Photography	
R9X2T8	Photography	For indanedione - 532 nm light and orange filter.
	Photography	Ninhydrin - visible light.
RA6G2Y	Photography	DCS5: in white light, 320-580 nm and UV.
RB3K22	Photography	Nikon D810, 60mm lens
RCWCN8	Photography	RAW format. Uploaded to Foray for storage.
RDNB37	Photography	
RDTMNG	Photography	forensic lights used

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
RFVVMZ	Photography	
RRATR4	Photography	Comparative photography. ISO 100, f20
T4WCP7	[No Methods Reported.]	Method Used in Order: 1) A scanner was used to preserve/collect overall and close-up digital images, without and with a scale, of the latent print developed with Ninhydrin in SECTION C.
TA8BGY	Photography	
TAKWU8	Photography	Used Nikon camera. Used scale in photograph. Upload to Foray.
TLHVLD	Photography	Digital photos - Canon EOS 60D, 100 mm lens, scale ruler.
	Scanning	Scan resolution: 1000 dpi
	CD-R	Recording digital photos of latent print to CD-R disc.
TUDV6C	Photography	Laser and filter used
TV7UBX	Photography	The latent prints recovered are photographed by using DCS4 Imaging device (White light and 495nm filter). A paper copy is sent to the information branch for comparison on the data base and the soft copy are kept on the hard disk.
TZYPJW	Photography	1,2-Indanedione
U738UU	Scanning	EPSON Perfection Scanner One scan taken at or greater than 1000 DPI
U8C2TF	Photography	Digital Photos via visible light
U8TDC7	Photography	
	ALS	505nm for photographing
UBC9DD	Photography	Photographed latent with scale
UBGPCB	Photography	The ridge detail was photographed after Ninhydrin processing.
UEUMJY	Photography	
UF86WC	Photography	
UP9RLN	Photography	Photographed latent print using Crimescope at wavelength 515 with orange filter.

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
UYKJHD	Photography	DCS-5 fingerprint machine 1:1 photography
UYXFJB	Scanning	The potential print was scanned into Foray with a scale, enhanced in Photoshop, and printed to be submitted to the Latent Print Unit.
UZWEZY	Photography	Nikon D5200, ADOBE PHOTOSHOP CS6
V3GPCA	Collection	The sticky note with the possible fingerprint was collected and packaged for analysis.
V92V3N	Scanning	I then scanned the piece of yellow sticky note type paper (whole and quadrant C) at 1200 ppi with an Epson Expression 10000XL and placed them onto a composite sheet.
VATVZZ	Photography	photographed per policy
VB972D	Photography	Photos obtained after each step in which the print was visible.
VKTLG2	Photography	photographed section C with/without scale using oblique lighting with LED light, then used tungsten lighting on copy stand. Images were downloaded on secured drive for further examination.
VVUWZA	Photography	Photographed (RAW/JPEG) one latent in section C using ALS at 455 and orange filter.
VWNV7V	Photography	
W22V4M	Photography	Overalls, midranges, and close ups of ridge detail taken by processing technical leader using digital camera. Photos taken with natural or oblique lighting and in JPEG and RAW formats.
W3X4FC	Photography	Digital photography + orange filter + ALS @515nm/orange goggles; One impression captured in section C
	Adobe Photoshop CC	Digital image was calibrated and processed for best detail; created composite; created CD with value impression(s) at completion of the case
WLQGYQ	Photography	Canon D850 camera
WWPPLV	Photography	The latent print was photographed. Camera: Canon Power Shot SX20 IS.
WYBTXY	Photography	Digital photograph with yellow filter under blue laser light
XT4D9B	Photography	The ridge detail which was visible after ninhydrin processing was photographed using examination quality methods.

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
YJ9YGA	[No Methods Reported.]	Digital photography was used to preserve the print.
YQRAPJ	Photography	D-3300 Camera was used for photography.
YR3Z3U	Photography	
YTJ23B	Photography	Photograph print with a macro lens
YTXRPZ	Photography	Scale in photo, taken with Nikon camera
YUU3PA	Photography	If preserving the print would have been a part of the test, photography would have been used.
YV3BXU	Photography	Mounted Nikon D810 camera
YX8PGT	White Light Examination	After ESDA treatment, a visual examination, white light was used to enhance the mark in quadrant C. This would have been captured using white light on the DCS capture system if live casework. After NIN treatment, item 3 was viewed with white light. The mark in quadrant C was enhanced further.
	Green Light Examination	After IND treatment, item 3 was viewed under a green high intensity light (490-560nm) using 590nm viewing goggles. This would have been captured using green light on the DCS capture system if live casework.
YXTJXW	N/A	- No prints were observed after processing, as a result, no prints lifted and preserved.
YXUEKA	Photography	The print was not preserved, but photography would have been the method of choice for that purpose.
ZHUUGQ	Photography	Photography with white light and no filters
ZJPCJR	Photography	
ZQ6V3R	Photography	Latent print on Item #3 was photographed without and with a scale. Photographed with digital camera at 35mm for 1 to 1 photograph.
ZQ8PHQ	Photography	DCS5 capture system with Green LED/Red filter and white light
ZTFTF9	Photography	Phots taken after each processing step where the print was visible.
ZU68XR	Scanning	print was scanned at 1200 resolution on epson scanner

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details

Response Summary

Participants: 211

Methods Utilized

Lifting	1
Photography	183
Scanning	24

**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 Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
28QUP6			✓		6PWPCJ			✓	
29JRVP	N/A				6V6QV3			✓	✓
2FLYJ7	N/A				7329LX	N/A			
2HCXX4	N/A				7BDEAN			✓	
2KXRPX			✓		7GJXKZ	N/A			
2QJYR4			✓		7HEGM2			✓	
2VC4K8			✓		7HEJ8Z			✓	
2VWP9R	N/A				7XP6RP	N/A			
389AE7			✓		847Z8J	N/A			
3FHUG2			✓		862HAK	Not Suitable			
3JDPXF	N/A				8892A3	N/A			
3L278N	N/A				88UC7P	N/A			
3L7EM3			✓	✓	8DWPNK	N/A			
3M2XN4			✓		8FXTDL		✓	✓	
3QERGU			✓		8JX69L			✓	
3UX2AT	N/A				8PNEJJ			✓	
3XKCR7			✓		8TNHDR	N/A			
3XX8T6			✓		8XHJCK	N/A			
43PGUQ		✓	✓	✓	94LN3J	Not Suitable			
4BY68P			✓		9DUDJN			✓	
4GR9FV			✓	✓	9MWF6L	Not Suitable			
4NC4K6	N/A				9R9JVN	N/A			
62DEA4			✓		9YUC8M	N/A			
6CUYTZ			✓		AA72KJ			✓	
6EV8T4	N/A				AG6TML	N/A			
6M897R	N/A				ANM8FH	N/A			

TABLE 4 - Item 1

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
AUCRJY	N/A				EH3MED	N/A			
AXX92J	N/A				ELMJZH			✓	
B4GVAU			✓		EQKV4V	N/A			
B8DRNM			✓		EUXXLK			✓	
BC8TNF			✓		EXKF66			✓	
BNZ63E			✓		EY9WED	N/A			
BPHY3P			✓		F7NUJC			✓	
BXQLYV	N/A				F8JQUR	N/A			
BYL62W	N/A				FAAPBB			✓	
C9NUC8	N/A				FAN6FC			✓	
CEW6BT	N/A				FELGG4			✓	✓
CFQ3GE	N/A				FFVNHB	Not Suitable			
CQ46X6	N/A				FGTTHD	N/A			
CRZK9G			✓	✓	FHKV6T			✓	
CU4D3F			✓		FHYMT4			✓	
CWCJLV	N/A				FJQMQE	N/A			
D7CHQM			✓		FKAERC			✓	
DEQKRH	N/A				FMYLCA	N/A			
DH9LVG			✓		FXFDUR			✓	
DMF9MK				✓	G32YVB			✓	
DTCP8Q	N/A				GGNXAR	Not Suitable			
E2WKHQ			✓	✓	GJD4UN			✓	✓
E9K43U	N/A				GLCRYC		✓	✓	
ECJEXU	N/A				GN3PCB			✓	
EE7WFE	N/A				GTXJAC			✓	
EE7YYR			✓	✓	H326YQ	N/A			
EGAP9R			✓		H4T4CN			✓	

TABLE 4 - Item 1

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
H6L2HA	N/A				M2EW3J	Not Suitable			
H99KND	N/A				M4ZQVD			✓	
HDH2VG			✓		M9A4FW	Not Suitable			
HGEKYZ	N/A				MALYXH	N/A			
HGJXPH				✓	MF7YDV	N/A			
HJ3299			✓		MJ836H			✓	
HZQCVB	Not Suitable				MJPXN6			✓	
JAFFKP	N/A				MLTT88	Not Suitable			
JC8ANL			✓		MPZ3MJ			✓	✓
JDDYMN			✓		MQPDEC	N/A			
JM3HAA			✓		MURA8D			✓	
JM4KTL			✓		MVMWHW	N/A			
JNXAWF			✓	✓	MWJ7UL			✓	
JYEUGC	N/A				MXQK4D			✓	
JZNYWL			✓	✓	MYL9DV	N/A			
KJDMVF			✓		N7W2ZC	Not Suitable			
KVU8FC			✓		N8VZJK			✓	
KVXPLM			✓		NAFYHZ	N/A			
KW77C7			✓		NF6JLF	N/A			
KZ69PM	N/A				NFPZ2J			✓	
L2T7CJ			✓		NGHX84			✓	
L6TH8J			✓		NJQ242	N/A			
LA68P8			✓		NMNR4K	N/A			
LBLJAX			✓		NNJ7VK	N/A			
LJEML8	N/A				NQM3ZK	N/A			
LN9R9K			✓		NTEW4G			✓	
M2APN4			✓		NVZQVB			✓	

TABLE 4 - Item 1

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
P8Q467			✓		TUDV6C			✓	
PBBR67	N/A				TV7UBX			✓	
PMKL3G	N/A				TZYPJW			✓	
PRDLKJ	N/A				U738UU	N/A			
PVXH63			✓	✓	U8C2TF	N/A			
QJH4JF	N/A				U8TDC7			✓	
QK989G	N/A				UBGPCB			✓	
QKDLLG			✓		UEUMJY	N/A			
QKTMNJ	N/A				UF86WC	N/A			
QMJ4LX	N/A				UP9RLN			✓	
QPQC36	N/A				UYKJHD	N/A			
QQ27QH				✓	UYXFJB	N/A			
QYQ2LR			✓		UZWEZY		✓	✓	
R44XA2	N/A				V3DCGZ	N/A			
R6XPW8	N/A				V3GPCA	N/A			
R9CHWD				✓	V92V3N			✓	
R9X2T8			✓		VATVZZ	N/A			
RA6G2Y			✓	✓	VB4XLY			✓	
RB3K22	N/A				VB972D			✓	
RCWCN8			✓		VKTLG2			✓	
RDNB37			✓		VVEMYW	Not Suitable			
RDTMNG			✓		VVUWZA			✓	
RFVVMZ			✓		VW8HL6	N/A			
T4WCP7			✓	✓	VWNV7V			✓	
TA8BGY			✓		VYFQT4			✓	
TAKWU8			✓		W22V4M	N/A			
TLHVLD			✓		W3X4FC			✓	

TABLE 4 - Item 1

WebCode	First Level Pattern(s)? Arch	Loop	Whorl	WebCode	First Level Pattern(s)? Arch	Loop	Whorl
WLQGYQ		✓					
WWPPLV		✓					
WYBTXY	N/A						
XT4D9B	N/A						
YJ9YGA	N/A						
YQRAPJ		✓					
YR3Z3U	N/A						
YTJ23B	Not Suitable						
YTXRPZ		✓					
YUU3PA	N/A						
YV3BXU	N/A						
YX8PGT	N/A						
YXTJXW	N/A						
YXUEKA	N/A						
ZHUUGQ		✓					
ZJPCJR	Not Suitable						
ZN28JV		✓					
ZQ6V3R	N/A						
ZQ8PHQ		✓					
ZTBK2U		✓					
ZTFTF9		✓					
ZU68XR		✓					

Item 1 - Findings Summary Total Participants: 241

1st Level	Arch	Loop	Whorl	Not Suitable	N/A
Total	4	124	19	13	95

**NOTE: These numbers may not add up to the total # of participants, as a participant may have selected more than one pattern option.*

TABLE 4 - Item 2

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
28QUP6		✓			6V6QV3		✓	✓	
29JRVP	N/A				7329LX	N/A			
2FLYJ7	N/A				7BDEAN		✓		
2HCXX4	N/A				7GJXKZ	N/A			
2KXRPX		✓			7HEGM2		✓		
2QJYR4		✓			7HEJ8Z		✓		
2VC4K8		✓			7XP6RP	N/A			
2VWP9R	N/A				847Z8J	N/A			
389AE7		✓			862HAK		✓	✓	
3FHUG2		✓			8892A3	N/A			
3JDPXF	N/A				88UC7P	N/A			
3L278N	N/A				8DWPNK	N/A			
3L7EM3		✓	✓		8FXTDL		✓	✓	✓
3M2XN4		✓			8JX69L		✓		
3QERGU		✓			8PNEJJ		✓	✓	
3UX2AT	N/A				8TNHDR	N/A			
3XKCR7		✓			8XHJCK	N/A			
3XX8T6			✓		94LN3J		✓		
43PGUQ		✓	✓	✓	9DUDJN		✓		
4BY68P		✓			9MWF6L		✓		
4GR9FV		✓			9R9JVN	N/A			
4NC4K6	N/A				9YUC8M	N/A			
62DEA4		✓	✓		AA72KJ		✓		
6CUYTZ		✓			AG6TML	N/A			
6EV8T4	N/A				ANM8FH	N/A			
6M897R	N/A				AUCRJY	N/A			
6PWPCJ		✓			AXX92J	N/A			

TABLE 4 - Item 2

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
B4GVAU			✓	✓	EQKV4V	N/A			
B8DRNM	Not Suitable				EUXXLK		✓		
BC8TNF		✓			EXKF66		✓	✓	
BNZ63E		✓			EY9WED	N/A			
BPHY3P		✓			F7NUJC		✓	✓	
BXQLYV	N/A				F8JQUR	N/A			
BYL62W	N/A				FAAPBB		✓		
C9NUC8	N/A				FAN6FC		✓		
CEW6BT	N/A				FELGG4		✓	✓	
CFQ3GE	N/A				FFVNHB		✓		
CQ46X6	N/A				FGTTHD	N/A			
CRZK9G		✓	✓		FHKV6T			✓	
CU4D3F		✓			FHYMT4		✓		
CWCJLV	N/A				FJQMQE	N/A			
D7CHQM		✓			FKAERC		✓		
DEQKRH	N/A				FMYLCA	N/A			
DH9LVG		✓			FXFDUR		✓	✓	
DMF9MK		✓			G32YVB		✓		
DTCP8Q	N/A				GGNXAR	N/A			
E2WKHQ	Not Suitable				GJD4UN		✓		
E9K43U	N/A				GLCRYC		✓	✓	✓
ECJEXU	N/A				GN3PCB		✓		
EE7WFE	N/A				GTXJAC		✓	✓	
EE7YYR		✓	✓		H326YQ	N/A			
EGAP9R		✓			H4T4CN		✓	✓	
EH3MED	N/A				H6L2HA	N/A			
ELMJZH		✓			H99KND	N/A			

TABLE 4 - Item 2

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
HDH2VG		✓			M9A4FW		✓		
HGEKYZ	N/A				MALYXH	N/A			
HGJXPH		✓			MF7YDV	N/A			
HJ3299	Not Suitable				MJ836H		✓		
HZQCVB		✓			MJPXN6		✓		
JAFFKP	N/A				MLTT88		✓		
JC8ANL	Not Suitable				MPZ3MJ		✓	✓	
JDDYMN		✓			MQPDEC	N/A			
JM3HAA		✓	✓		MURA8D		✓		
JM4KTL		✓			MVMWHW	N/A			
JNXAWF		✓			MWJ7UL		✓		
JYEUGC	N/A				MXQK4D		✓		
JZNYWL		✓	✓		MYL9DV	N/A			
KJDMVF		✓			N7W2ZC		✓		
KVU8FC		✓			N8VZJK		✓		
KVXPLM		✓			NAFYHZ	N/A			
KW77C7		✓			NF6JLF	N/A			
KZ69PM	N/A				NFPZ2J		✓		
L2T7CJ		✓			NGHX84		✓	✓	
L6TH8J		✓			NJQ242	N/A			
LA68P8		✓		✓	NMNR4K	N/A			
LBLJAX		✓			NNJ7VK	N/A			
LJEML8	N/A				NQM3ZK	N/A			
LN9R9K		✓			NTEW4G		✓		
M2APN4		✓			NVZQVB		✓		
M2EW3J	Not Suitable				P8Q467		✓	✓	
M4ZQVD		✓			PBBR67	N/A			

TABLE 4 - Item 2

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
PMKL3G	N/A				TZYPJW		✓		
PRDLKJ	N/A				U738UU	N/A			
PVXH63		✓	✓		U8C2TF	N/A			
QJH4JF	N/A				U8TDC7		✓		
QK989G	N/A				UBC9DD		✓		
QKDLLG		✓	✓		UBGPCB		✓		
QKTMNJ	N/A				UEUMJY	N/A			
QMJ4LX	N/A				UF86WC	N/A			
QPQC36	N/A				UP9RLN		✓		
QQ27QH		✓			UYKJHD	N/A			
QYQ2LR		✓			UYXFJB	N/A			
R44XA2	N/A				UZWEZY		✓		
R6XPW8	N/A				V3DCGZ	N/A			
R9CHWD		✓			V3GPCA	N/A			
R9X2T8		✓			V92V3N		✓	✓	
RA6G2Y		✓			VATVZZ	N/A			
RB3K22	N/A				VB4XLY		✓		
RCWCN8	Not Suitable				VB972D		✓	✓	
RDNB37		✓			VFLVH2	N/A			
RDTMNG	Not Suitable				VKTLG2		✓	✓	
RFVVMZ		✓			VVEMYW		✓		
T4WCP7		✓			VVUWZA		✓		
TA8BGY	Not Suitable				VW8HL6	N/A			
TAKWU8		✓			VWNV7V		✓		
TLHVLD		✓			VYFQT4		✓		
TUDV6C		✓			W22V4M	N/A			
TV7UBX		✓			W3X4FC		✓		

TABLE 4 - Item 2

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode	First Level Pattern(s)? Arch	Loop	Whorl
WLQGYQ		✓	✓					
WWPPLV		✓						
WYBTXY	N/A							
XT4D9B	N/A							
YJ9YGA	N/A							
YQRAPJ		✓						
YR3Z3U	N/A							
YTJ23B		✓						
YTXRPZ	Not Suitable							
YUU3PA	N/A							
YV3BXU	N/A							
YX8PGT	N/A							
YXTJXW	N/A							
YXUEKA	N/A							
ZC4LWW	N/A							
ZHUUGQ		✓						
ZJPCJR		✓						
ZN28JV		✓						
ZQ6V3R	N/A							
ZQ8PHQ		✓						
ZTBK2U		✓						
ZTFTF9		✓						
ZU68XR			✓					

Item 2 - Findings Summary Total Participants: 241

1st Level	Arch	Loop	Whorl	Not Suitable	N/A
Total	128	31	5	9	98

**NOTE: These numbers may not add up to the total # of participants, as a participant may have selected more than one pattern option.*

TABLE 4 - Item 3

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
28QUP6			✓		6V6QV3			✓	
29JRVP	N/A				7329LX	N/A			
2FLYJ7	N/A				7BDEAN			✓	
2HCXX4	Not Suitable				7GJXKZ	N/A			
2KXRPX			✓		7HEGM2			✓	
2QJYR4			✓		7HEJ8Z			✓	
2VC4K8			✓		7XP6RP	N/A			
2VWP9R	N/A				847Z8J	N/A			
389AE7			✓		862HAK			✓	
3FHUG2	Not Suitable				8892A3	N/A			
3JDPXF	N/A				88UC7P	N/A			
3L278N	N/A				8DWPNK	N/A			
3L7EM3			✓	✓	8FXTDL		✓	✓	✓
3M2XN4			✓		8JX69L			✓	
3QERGU			✓		8PNEJJ			✓	
3UX2AT	N/A				8TNHDR	N/A			
3XKCR7			✓		8XHJCK	N/A			
3XX8T6			✓		94LN3J			✓	
43PGUQ		✓	✓	✓	9DUDJN			✓	
4BY68P			✓		9MWF6L	N/A			
4GR9FV			✓	✓	9R9JVN	N/A			
4NC4K6	N/A				9YUC8M	N/A			
62DEA4			✓		AA72KJ	Not Suitable			
6CUYTZ			✓		ANM8FH	N/A			
6EV8T4	N/A				AUCRJY	N/A			
6M897R	N/A				AXX92J	N/A			
6PWPCJ			✓		B4GVAU	N/A			

TABLE 4 - Item 3

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
B8DRNM			✓		EUXXLK			✓	
BC8TNF			✓		EXKF66			✓	
BNZ63E			✓		EY9WED	N/A			
BPHY3P			✓		F7NUJC			✓	
BXQLYV	N/A				F8JQUR	N/A			
BYL62W	N/A				FAAPBB			✓	
C9NUC8	N/A				FAN6FC			✓	
CEW6BT	N/A				FELGG4			✓	
CFQ3GE	N/A				FFVNHB	Not Suitable			
CQ46X6	N/A				FGTTHD	N/A			
CRZK9G			✓		FHKV6T			✓	
CU4D3F			✓		FHYMT4			✓	
CWCJLV	N/A				FJQMQE	N/A			
D7CHQM			✓		FKAERC			✓	
DEQKRH	N/A				FMYLCA	N/A			
DH9LVG	N/A				FXFDUR			✓	
DMF9MK			✓		G32YVB			✓	
DTCP8Q	N/A				GGNXAR	Not Suitable			
E2WKHQ			✓		GJD4UN			✓	
E9K43U	N/A				GLCRYC		✓	✓	✓
ECJEXU	N/A				GN3PCB			✓	
EE7WFE	N/A				GTXJAC			✓	✓
EE7YYR			✓	✓	H326YQ	N/A			
EGAP9R			✓		H4T4CN			✓	
EH3MED	N/A				H6L2HA	N/A			
ELMJZH			✓		H99KND	N/A			
EQKV4V	N/A				HDH2VG			✓	

TABLE 4 - Item 3

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
HGEKYZ	N/A				MALYXH	N/A			
HGJXPH			✓		MF7YDV	N/A			
HJ3299			✓		MJ836H			✓	
HZQCVB	N/A				MJPXN6			✓	
JAFFKP	N/A				MLTT88			✓	
JC8ANL	N/A				MPZ3MJ			✓	
JDDYMN			✓		MQPDEC	N/A			
JM3HAA	Not Suitable				MURA8D			✓	
JM4KTL			✓		MVMWHW	N/A			
JNXAWF			✓		MWJ7UL			✓	
JYEUGC	N/A				MXQK4D			✓	
JZNYWL	Not Suitable				MYL9DV	N/A			
KJDMVF			✓		N7W2ZC			✓	
KVU8FC			✓		N8VZJK			✓	
KVXPLM			✓		NAFYHZ	N/A			
KW77C7			✓		NF6JLF	N/A			
KZ69PM	N/A				NFPZ2J			✓	
L2T7CJ			✓		NGHX84			✓	
L6TH8J			✓		NJQ242	N/A			
LA68P8		✓	✓		NMNR4K	N/A			
LBLJAX			✓		NNJ7VK	N/A			
LJEML8	N/A				NQM3ZK	N/A			
LN9R9K			✓		NTEW4G			✓	
M2APN4			✓		NVZQVB			✓	
M2EW3J			✓		P8Q467			✓	✓
M4ZQVD			✓		PBBR67	N/A			
M9A4FW	Not Suitable				PMKL3G	N/A			

TABLE 4 - Item 3

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode		First Level Pattern(s)? Arch	Loop	Whorl
PRDLKJ	N/A				U738UU	N/A			
PVXH63			✓	✓	U8C2TF	N/A			
QJH4JF	Not Suitable				U8TDC7			✓	
QK989G	N/A				UBC9DD			✓	
QKDLLG			✓	✓	UBGPCB			✓	
QKTMNJ	N/A				UEUMJY	N/A			
QMJ4LX	N/A				UF86WC	N/A			
QPQC36	N/A				UP9RLN			✓	
QQ27QH	Not Suitable				UYKJHD	N/A			
QYQ2LR			✓		UYXFJB	N/A			
R44XA2	N/A				UZWEZY			✓	
R6XPW8	N/A				V3GPCA	N/A			
R9CHWD	Not Suitable				V92V3N			✓	
R9X2T8			✓		VATVZZ	N/A			
RA6G2Y	Not Suitable				VB4XLY	N/A			
RB3K22	N/A				VB972D			✓	
RCWCN8			✓		VKTLG2			✓	
RDNB37			✓		VVEMYW			✓	
RDTMNG			✓		VVUWZA			✓	
RFVVMZ			✓		VW8HL6	N/A			
T4WCP7			✓		VWNV7V			✓	
TA8BGY			✓		VYFQT4			✓	
TAKWU8			✓		W22V4M	N/A			
TLHVLD			✓		W3X4FC			✓	
TUDV6C			✓		WLQGYQ			✓	
TV7UBX			✓		WWPPLV			✓	
TZYPJW			✓		WYBTXY	N/A			

TABLE 4 - Item 3

WebCode		First Level Pattern(s)? Arch	Loop	Whorl	WebCode	First Level Pattern(s)? Arch	Loop	Whorl
XT4D9B	N/A							
YJ9YGA	N/A							
YQRAPJ			✓					
YR3Z3U	N/A							
YTJ23B			✓					
YTXRPZ			✓					
YUU3PA	N/A							
YV3BXU	N/A							
YX8PGT	N/A							
YXUEKA	N/A							
ZHUUGQ			✓					
ZJPCJR			✓					
ZN28JV			✓					
ZQ6V3R	N/A							
ZQ8PHQ			✓					
ZTBK2U	N/A							
ZTFTF9			✓					
ZU68XR			✓					

Item 3 - Findings Summary Total Participants: 241

1st Level	Arch	Loop	Whorl	Not Suitable	N/A
Total	4	125	10	12	97

**NOTE: These numbers may not add up to the total # of participants, as a participant may have selected more than one pattern option.*

Additional Comments

TABLE 5

WebCode	Additional Comments
29JRVP	The latent print that developed on item 3, in the section C, was very light.
3XKCR7	More development could have possibly been obtained with additional steaming using the iron on the item 1A impression after it had been processed with Indanedione. However, to minimize the possibility of melting the plastic window that a portion of the impression was on, the steaming was kept to a minimum, and more towards the outer edge of the envelope. Item 1C was removed from the thin cardboard piece of packaging for latent processing. Once latent processing was completed, item 1C was adhered back onto the piece of thin cardboard.
43PGUQ	Item 2 was made by [City] - forensic's. Items 1 and 3 was made here in [City] Forensic-center because there is no required methods for paper materials (exept Magnetic Black) in [City].
62DEA4	For Item 2 would state possible low count loop or possible arch
6EV8T4	Item 2 viewed with forensic laser; however, RUVIS from DCS-5 gave optimal image.
847Z8J	Thank you, this helps us to keep up to date with our analyzes and procedures,
88UC7P	The results apply to the items tested or data provided, as received. All relevant samples have been retained by the [Laboratory] as required by the Annotated Code of [State]. This report contains conclusions based on the interpretation and opinions of the below signed author. This test is accredited under the laboratory's ISO/IEC 17025 accreditation issued by the ANSI American National Accreditation Board.
8DWPNK	All health and safety procedures, PPE and equipment were utilised during processing and examination of the exhibits. Processing was undertaken in accordance with both the Force and Organisation policies and technical procedures. I have sequentially processed the items as if they were received from a serious crime and have kept appropriate records on our case management system.
8FXTDL	All items were examinated in [City] forensic- center.
9R9JVN	The results apply to the items tested or data provided, as received. All relevant samples have been retained by the [Laboratory] as required by the Annotated Code of [State]. This report contains conclusions based on the interpretation and opinions of the below signed author. This test is accredited under the laboratory's ISO/IEC 17025 accreditation issued by the ANSI National Accreditation Board.
B4GVAU	I processed each item in it's entirety. Meaning, I didn't just process the areas within the gridded spaces marked A-D. I realized after completing the processing that you probably only wanted the specific spaces/side that was marked with the grid to be process. The only difference this made in my actual processing was with Item 3 (lined paper with adhesive). I did magnetic powder on the paper portion and sticky-side powder on the adhesive section. Had I only processed the gridded area I would not have needed the sticky-side powder and would possibly have used Indanedione & Ninhydrin for the paper. Although magnetic powder is something that we use regularly here on paper items that aren't overly old (long time since items was touched).
BYL62W	[Laboratory] Crime Lab does not have a Latent Prints Unit, so items 1 and 3 were collected and submitted to the [Laboratory] Crime Lab for processing.
C9NUC8	Item #1 and #3 were not processed. Analyst is qualified for non-porous processing only.
CU4D3F	Tests on similar surfaces were done to make sure that the methodes were correctly realized.
EH3MED	All items were initialed with case number, date and my initials. They were repackaged in original packaging. All photographs and lifts of ridge detail were collected as Item 100.
EXKF66	For item 1 there were two latent prints recovered, one being a left slant loop and the other a fingerprint of unknown pattern type. Both in the quadrant A. For item 2, the pattern type could be an arch or a low count right slant loop, it is difficult to be certain if the recurve is or is not spoiled.

TABLE 5

WebCode	Additional Comments
F8JQUR	As this was supposed to be a crime scene processing proficiency test, items 1 and 3 were not processed; the [Laboratory] crime scene team does not process porous evidence on scene. It would be packaged and sent back to the lab for processing. Ridges in quadrant "D" on item 2 did not develop well. Ridges were barely visible after dust. Lift still made to preserve ridges.
GGNXAR	Item #1 was inadvertently labeled "C" instead of "A". Nothing further.
GJD4UN	The impression marked R1 on item 1, the envelope, was located on a the paper and plastic sections of the envelope. The impression did not fully transcribe or develop on the paper area of the envelope. The impression appears to be a loop but it could be a whorl. The ridges on the paper are not clear.
GLCRYC	Item 2 was treated by [City] Forensic's. Items 1 and 3 was committed here in [City] Forensic- center because there is no required methods for paper (exept Magnetic Black) materials in [City].
HGEKYZ	The above results apply to the items tested or data provided, as received. All relevant samples have been retained by the [Laboratory] as required by the annotated Code of [State]. This report contains conclusions based on the interpretation and opinions of the below signed author. This test is accredited under the laboratory's ISO/IEC 17025 accreditation issued by the ANSI American Nation Accreditation Board.
JDDYMN	Item 1 - there were visible fragmentary fingerprints on paper part of envelope after DFO application (not siutable to determination) - probably they were parts of fingerprint, which was visualised on window of envelope. Item 3 - pattern was visible after DFO application.
LBLJAX	Items were photographed before examination and after every step. The best results were obtained after applying fluorescent methods (Ardrox, DFO). Applying ninhydrin on the traces deposited on paper following DFO didn't give immediate results. In our practice it was determined it is best to wait at least two weeks after applying ninhydrin for the fingerprints to become visible.
MVMWHW	Only methods currently used in this laboratory which this analyst is authorized to perform were utilized for this test. The results apply to the items tested or data provided, as received. All relevant samples have been retained by the [Laboratory] as required by the Annotated Code of [State]. This report contains conclusions based on the interpretation and opinions of the below signed author. This test is accredited under the laboratory's ISO/IEC 17025 accreditation issued by ANSI National Accreditation Board.
MYL9DV	The results apply to the items tested or data provided, as received. All relevant samples have been retained by the [Laboratory] as required by the Annotated Code of [State]. This report contains conclusions based on the interpretation and opinions of the below signed author. This test is accredited under the laboratory's ISO/IEC 17025 accreditation issued by the ANSI National Accreditation Board.
NNJ7VK	The [Laboratory] is composed of forensic scientists from every unit of the lab, not just latent print examiners. On scene examination consists of photographing evidence for documentation, collecting items to be processed later at the lab, and/or processing select items on scene that cannot be transported to the lab. Additionally, since not all crime scene members are trained latent print examiners, a pattern determination is not made on scene; just the presence or absence of ridge detail. According to [Laboratory] policy, any item(s) that can be collected for processing at the lab should be except for any large and/or immovable items. For this reason, items 1 and 3 were not tested.
PMKL3G	On the indicated times and dates the following item were inspected and processed using chemical/physical methods and yielded the indicated results: On Monday, December 7, 2020 at approximately 8:00 am- Item (1) white, double-windowed security envelope (porous surface), divided into four sections A-D. Sections A-D were processed using Ninhydrin; one (1) possible latent print was developed from section A of the specimen. The clear security window (non-porous) was processed using dual dual fingerprint powder; negative results. One Monday, December 7, 2020 at approximately 8:35 am- Item (2) Plastic CD case (non-porous surface), divided into sections A-D were processed using Rhodamine 6G, one (1) possible partial latent print was developed from section C of the specimen. On Monday, December 7, 2020 at approximately 9:00 am- Item (3) Lined yellow sticky note (porous surface), divided into sections A-D were processed using Iodine Fuming; one (1) possible partial latent print was developed from section C of the specimen. The examiner provided no further

TABLE 5

WebCode	Additional Comments
	services. All partial latent prints were photo-documented using a Marco 1:1 Lens with and without scale. Upon completion, the evidence was resealed, dated and initialed by the examiner and returned to the Central Evidence and Property. NOTE: Quality Control (QC) were performed on all chemicals prior to use.
QK989G	At the indicated times and dates the following items were processed using the indicated chemical/physical methods and yielded indicated results: 12-07-2020 7:30 am- Item 1 White, double-windowed security envelope (porous surface), divided into sections A-D was processed using Ninhydrin; One (1) possible partial latent print was developed from section A. Clear security window(Non-porous) surface processed using black powder; negative results. 12-07-2020 7:49 am- Item 2 Plastic CD case (non-porous surface), divided into sections A-D was processed using Rhodamine 6G, One (1) possible partial latent print was developed from section D. 12-07-2020 8:35 am- Item 3 Lined yellow sticky note (porous surface), divided into sections A-D was processed using Ninhydrin; One (1) possible partial latent print was developed from section C. Examiner provided no further services. All possible partial latent prints were photographed using a Macro 1:1 lens with and without scale. Upon completion, the evidence was resealed, dated and initialed by Examiner and returned to Evidence room. NOTE: QC was performed on all chemical prior to uses.
T4WCP7	Method utilized was not selected in drop down menu due to specific details listed under Methodology-specific information section in number order.
UP9RLN	Latent print on item 1 appears to be a loop but could possibly be a double loop whorl. The very bottom portion of the pattern is not visible so an additional looping formation and an additional delta may have not been developed.
V3DCGZ	Item 3 was not analyzed because the laboratory only uses physical powders. so it was only photographed and packed.
VB972D	For item 2 the print that developed appears to be an arch. Due to poor development on the middle of the pattern, it is possible the print could be a one or two count loop.
W22V4M	Only methods currently approved by this unit, and ones that this analyst is signed off on, were used for analysis. No lift cards or photographs were forwarded to the Latent Print Unit at this time. The results apply to the items tested or data provided, as received. All relevant samples have been retained by the [Laboratory] as required by the Annotated Code of [State]. These tests are accredited under the laboratory's ISO/IEC 17025 accreditation issued by the ANSI National Accreditation Board. This report contains conclusions based on the interpretation and opinions of the below signed author.
W3X4FC	Latent impression developed on item 2, section D contains smudges, pressure distortion and inverted ridge detail. Level I detail is not discernible (possible Arch), and was noted as "unknown" in case notes. Level II detail at the top and bottom areas of the developed impression is sufficient (Of Value - OV) for comparison purposes.
YJ9YGA	Results to be submitted to A2LA
YTJ23B	In Item 1 was found an extra partial latent print in C area, however it was not suitable for analysis. It was lifted and preserve in a card.
YX8PGT	When carrying out all processes and procedures, it was in accordance with the laboratory's ISO 17025 accreditation and all health and safety precautions were taken, including adequate PPE used and worn. I have completed sequential examinations as per instructions advising me this test was to simulate a serious/major crime. All processes were selected accordingly due to their dry nature and have been logged onto our forensic case management system. All three items did not have photography completed for this test, however all items had visible/ enhanced marks found and quadrant answers were filled out accordingly. In live casework, this would have been captured using the DCS capture system and then submitted to Regional Fingerprint bureau for analysis.
ZC4LWW	for Items 1&3, since it is paper material, the best method would be ninhydrin, which for our department is done upstairs in our Latent Unit. So I, as a Crime Lab Tech, would not process them as I do not have the best method available to me.

TABLE 5

WebCode	Additional Comments
ZQ6V3R	On October 27, 2020 I received a sealed white box labeled 2020 CTS Forensic Testing Program (Test No. 20-5191: LATENT PRINT PROCESSING, Sample Pack: LAP2. On November 6, 2020 I [Analyst] opened the box and noted three envelopes inside. The envelopes were labeled Item #1, Item #2 and Item #3. All envelopes were sealed. All three items were photographed and processed for latent prints. A single latent print was located on all three items. Item #1 - Section A, Item #2 - Section D, Item #3 - Section C. Latent prints located on items were photographed both with and without a scale. 1 to 1 photographs were taken for comparison purposes. All three latent prints recovered were suitable for comparison. (Latent prints would be forwarded to AFIS unit for pattern determination and comparison.)
ZQ8PHQ	Ninhydrin passed Quality Control, but had a very weak reaction at 1 microgram. Poor visualization on Item #003 print with Ninhydrin.

-End of Report-
(Appendix may follow)

Collaborative Testing Services ~ Forensic Testing Program

Test No. 20-5191: Latent Print Processing

DATA MUST BE SUBMITTED BY **Dec. 14, 2020, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A WebCode: 2PRW6N

The Accreditation Release section can be accessed by using the "Continue to Final Submission" button above. This information can be entered at any time prior to submitting to CTS.

Scenario:

During the week of 27 September 2020, several 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.

All item packaging has been labeled with a CTS item number and each item divided into four sections, which have been indicated as A-D. A single latent print has been deposited in one of these areas for each item.

Packaging and protective material is not intended to be processed.

Items Submitted (Sample Pack LAP2):

Item 1: White, double-windowed security envelope, divided into sections A-D.
Item 2: Plastic CD case, divided into sections A-D.
Item 3: Lined yellow sticky note, divided into sections A-D.

Please inspect your sample sets upon receipt. If the packaging of any of your individual items appears to be compromised, please contact CTS for replacement samples.

1.) For each item, in which section (A, B, C, D) was the latent ridge detail recovered?

Please indicate only the single letter of your determined location from the dropdown menu. Further explanation may be provided in the Additional Comments. If no ridge detail was recovered, please select "None." If you do not process the type of evidence offered, please select "Not Tested". ***A selection of "Not Tested" for an item will lock the corresponding methodology tab for that item. No methodology data will be captured in the report for that item.***

1
2
3

Results for Item 1:

White, double-windowed security envelope, divided into sections A-D.

1-1.) Date Samples Received:

1-2.) Date(s) Samples Analyzed:

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

Method Used	Methodology-specific information (ex. processing time, type of dye stain)

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

Method Used	Methodology-specific information

1-5.) What first-level pattern(s) are referenced in the recovered latent print?
If ridge detail was recovered, choose up to 2 pattern types. If ridge detail was not sufficiently recovered, please select "Not suitable for determination." If you are not trained to make pattern determinations, please select "N/A".

☐ Arch ☐ Loop ☐ Whorl ○ Not suitable for determination ○ N/A

Results for Item 2:

Plastic CD case, divided into sections A-D.

2-1.) Date Samples Received:

2-2.) Date(s) Samples Analyzed:

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

Method Used	Methodology-specific information (ex. processing time, type of dye stain)

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

Method Used	Methodology-specific information

2-5.) What first-level pattern(s) are referenced in the recovered latent print?
If ridge detail was recovered, choose up to 2 pattern types. If ridge detail was not sufficiently recovered, please select "Not suitable for determination." If you are not trained to make pattern determinations, please select "N/A".

☐ Arch ☐ Loop ☐ Whorl ○ Not suitable for determination ○ N/A

Results for Item 3:

Lined yellow sticky note, divided into sections A-D.

3-1.) Date Samples Received:

3-2.) Date(s) Samples Analyzed:

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

Method Used	Methodology-specific information (ex. processing time, type of dye stain)

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

Method Used	Methodology-specific information

3-5.) What first-level pattern(s) are referenced in the recovered latent print?
If ridge detail was recovered, choose up to 2 pattern types. If ridge detail was not sufficiently recovered, please select "Not suitable for determination." If you are not trained to make pattern determinations, please select "N/A".

☐ Arch ☐ Loop ☐ Whorl ○ Not suitable for determination ○ N/A

4.) Additional Comments

Please note: *Any additional formatting applied in the free form space below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.*

RELEASE OF DATA TO ACCREDITATION BODIES

The Accreditation Release is accessed by pressing the "Continue to Final Submission" button online and can be completed at any time prior to submission to CTS.

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB, and/or 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 below must be completed.)
○ This participant's data is **not** intended for submission to ASCLD/LAB, ANAB, and/or A2LA.

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

ANAB Certificate No.
(Include ASCLD/LAB Certificate here)

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety

Authorized Contact Person and Title

Laboratory Name

Location (City/State)