



Literature/Links

Below is a selection of some recent forensic science journal and conference proceeding articles related to the current activity of the [Center for Forensic Studies](#). Some useful links are also listed.

Ninhydrin analogs:

J. Almog, A. Hirshfeld, A. Frank, J. Sterling, D. Leonov, "Aminoninhydrins: Fingerprint reagents with direct fluorogenic activity," *J. Forensic Sci.* 36, 104 (1991).

J. Almog, A. Hirshfeld, A. Frank, H. Grant, Z. Harel, Y. Ittah, "5-methylthioninhydrin and related compounds: A novel class of fluorogenic fingerprint reagents," *J. Forensic Sci.* 37, 688 (1992).

A. A. Cantu, D. A. Leben, M. M. Joullie, R. J. Heffner, R. R. Hark, "A comparative examination of several amino acid reagents for visualizing amino acid (glycine) on paper," *J. Forensic Ident.* 43(1), 44 (1993).

R. S. Ramotowski, A. A. Cantu, D. A. Leben, M. M. Joullie, G. C. Saunders, "Recent

advances in latent print visualization techniques at the U. S. Secret Service," in *Forensic Evidence Analysis and Crime Scene Investigation*, J. Hicks, P. R. De Forest, V. M. Baylor, eds., *Proc. SPIE 2941*, 84 (1997). *

R. Ramotowski, A. A. Cantu, M. M. Joullie, O. Petrovskaia, "1,2-Indanediones: a preliminary evaluation of a new class of amino acid visualizing compounds," *Fingerprint Whorld* 23 (90), 131 (1997).

D. B. Hauze, O. Petrovskaia, B. Taylor, M. M. Joullie, R. Ramotowski, A. A. Cantu, "1,2-Indanediones: new reagents for visualizing the amino acid components of latent prints," *J. Forensic Sci.* 43, 744 (1998).

J. Almog, E. Springer, S. Wiesner, A. Frank, O. Khodzhaev, R. Lidor, E. Bahar, H. Varkony, S. Dayan, S. Rozen, "Latent fingerprint visualization by 1,2-Indanedione and related compounds: Preliminary results," *J. Forensic Sci.* 44, 114 (1999).

O-(3,5,5-trimethyl-1-hexyl)ninhydrin. Reagent for fingerprints on thermal paper (M. Takatsu, S. Akaishi, H. Kageyama, Japanese Patent No. 4-124156, 1992). Wako Chemicals USA, Inc., 1600 Bellwood Road, Richmond VA 23237. (804) 271-7677. bioproducts@wakousa.com

R. Elber, A. Frank, J. Almog, "Chemical development of latent fingerprints: Computational design of ninhydrin analogues," *J. Forensic Sci.* 45, 757 (2000).

C. Roux, N. Jones, C. Lennard N. Stoilovic, "Evaluation of 1,2-indanedione and 5,6-dimethoxy-1,2-indanedione for the detection of latent fingerprints on porous surfaces," *J. Forensic Sci.* 45, 761 (2000).

M. Takatsu, N. Sumida, Y. Tateishi, O. Shimoda, "Fluorescent enhancement of ninhydrin and 5-methoxyninhydrin developed fingerprints by indium trichloride," *Japanese Journal of Science and Technology for Identification*. 5 (1), 23 (2000).

S. Wiesner, E. Springer, Y. Sasson, J. Almog, "Chemical development of latent fingerprints: 1,2-Indandione has come of age," *J. Forensic Sci.* 46, 1082 (2001).

L. Schwarz, I. Frerichs, "Advanced solvent-free application of ninhydrin for detection of latent fingerprints on thermal paper and other surfaces," *J. Forensic Sci.* 47, 1274 (2002).

J. Almog, Y. Cohen, M. Azoury, T-R. Hahn, "Genipin - A novel fingerprint reagent with colorimetric and fluorogenic activity," *J. Forensic Sci.* 49, 255 (2004).

Fingerprint composition:

S. K. Bramble, "Separation of latent fingermark residue by thin-layer chromatography," *J. Forensic Sci.* 40, 969 (1995).

M. V. Buchanan, K. Asano, A. Bohanon, "Chemical characterization of fingerprints from adults and children," in *Forensic Evidence Analysis and Crime Scene Investigation*, J. Hicks, P. R. De Forest, V. M. Baylor, eds., *Proc. SPIE 2941*, 89 (1997).

R. A. H. van Oorschot, M. K. Jones, "DNA fingerprints from fingerprints," *Nature* 387, 767 (1997).

G. M. Mong, C. E. Petersen, T. R. W. Clauss, "Advanced fingerprint analysis project fingerprint constituents," Pacific Northwest National Laboratory, Richland, WA 99352, report PNNL-13019, Sept. 1999.

Rare-earth-based fingerprint treatment:

D. A. Wilkinson, J. E. Watkin, "Europium aryl-beta-diketone complexes as fluorescent dyes for the detection of cyanoacrylate developed fingerprints on human skin," *Forensic Sci. Int.* *60, 67* (1993).

E. R. A. Lock, W. D. Mazella, P. Margot, "A new europium chelate as a fluorescent dye for cyanoacrylate pretreated fingerprints - Eu TTA phen: europium thenoyl trifluoroacetone ortho-phenanthroline," *J. Forensic Sci.* *40, 654* (1995).

D. A. Wilkinson, "One-step fluorescent detection of lipid fingerprints," in *Proc. Int. Symposium on Fingerprint Detection and Identification*, J. Almog, E. Springer, eds., *79*, 1996, Israel Natl. Police, Jerusalem.

J. Caldwell, W. Henderson, N. Kim, "Luminescent visualization of latent fingerprints by direct reaction with a lanthanide shift reagent," *J. Forensic Sci.* *46, 1332* (2001).

Fingerprint image processing:

B.E. Dalrymple, "Computer enhancement techniques for forensic evidence - Successful applications", in *Proc. I S & T 48th Annual Conf.*, 486, 1995, The Society for Imaging Science and Technology, 7003 Kilworth Lane, Springfield, VA 22151, USA.

S.K. Bramble and P. Fabrizi, "The use of digital image processing techniques for latent fingermark enhancement" in *Proc. I S & T 48th Annual Conf.*, 490, 1995, The Society for Imaging Science and Technology, 7003 Kilworth Lane, Springfield, VA 22151, USA.

E. Kaymaz and S. Mitra, "A novel approach to Fourier spectral enhancement of laser-luminescent fingerprint images," *J. Forensic Sci.* *38, 530* (1993).

J. Burt, "Use of image processing to enhance latent fingerprints for entry to AFIS," in *Proc. Int. Symposium on Fingerprint Detection and Identification*, J. Almog and E. Springer, eds., *349*, 1996, Israel Natl. Police, Jerusalem.

Fingerprint detection techniques:

K. M. Beesley, S. Damaskinos, A. E. Dixon, "Fingerprint imaging with a confocal scanning laser microscope," *J. Forensic Sci.* *40, 10* (1995).

A.E. Dixon, S. Damaskinos, A. Ribes, "Confocal scanning beam laser microscope/microscope: Applications in fluorescence," in *Fluorescence Detection IV*, E. R. Menzel, ed., *Proc. SPIE 2705, 44* (1996).

J. Kaur, G. S. Sodhi, S. Nath, "The application of phase transfer catalysis to fingerprint detection," *Science & Justice*, *36, 267* (1996)

J. Brennan, S. Bramble, S. Crabtree, G. Wright, "The fuming of latent fingerprints using dimethylaminocinnamaldehyde," *J. Forensic Ident.* 45, 357 (1995).

R. Ramotowski, "Fluorescence visualization of latent fingerprints on paper using p-dimethylaminocinnamaldehyde (PDMAC)," *Proc. Int. Symp. Fingerprint Detection and Identification*, J. Almog, E. Springer, eds., 91, 1996, Israel Natl. Police, Jerusalem.

E. Halahmi, O. Levi, L. Kronik, R. Boxman, "Development of latent fingerprints using a corona discharge," *J. Forensic Sci.* 42, 833 (1997).

D. F. Hewlett, V. G. Sears, "Replacements for CFC113 in the ninhydrin process: Part 1," *J. Forensic Ident.* 47(3), 287 (1997).

D. F. Hewlett, V. G. Sears, S. Suzuki, "Replacements for CFC113 in the ninhydrin process: Part 2," *J. Forensic Ident.* 47(3), 300 (1997).

C. Didierjean, M.-H. Debart, F. Crispino, "New formulation of DFO in HFE 7100," *Fingerprint Whorld* 24(94),163 (1998).

W. C. Sampson, K. L. Sampson, F. Shonberger, "Recovery of latent fingerprint evidence from human skin: causation, isolation and processing techniques," available from Lightning Powder Company, 1230 Hoyt Street SE, Salem, Oregon, USA 97302-2121.

N. B. Yosef, J. Almog, A. Frank, E. Springer, A. A. Cantu, "Short UV luminescence for forensic applications: Design of a real-time observation system for detection of latent fingerprints and body fluids," *J. Forensic Sci.* 43, 2 (1998).

K. A. Murphy, A. M. Cartner, W. Henderson, N. D. Kim, "Appraisal of the porphyrin compound, (TPP)Sn(OH)₂, as a latent fingerprint reagent," *J. Forensic Ident.* 49, 269 (1999).

K. M. Parisi, "Getting the most from fingerprint powders," *J. Forensic Ident.* 49, 495 (1999).

F. Ishizawa, Y. Takamura, T. Fukuchi, M. Shimizu, M. Ito, M. Kanzaki, T. Hasegawa, A. Miyagi, "New sprays for the development of latent fingerprints," *J. Forensic Ident.* 49, 499 (1999).

D. Lloyd, "The development of friction ridge detail on a class of counterfeit currency," *Fingerprint Whorld* 29, No. 111 (2003).

A. Magora, M. Azoury, B. Geller, "Treatment of cocaine contaminated polythene bags prior to fingerprint development by cyanoacrylate fuming," *J. Forensic Ident.* 52, 159 (2002).

Explosive Traces:

A. Kamyshyn, S. Magdassi, Y. Avissar, J. Almog, "Water-soaked evidence:

detectability of explosive traces after immersion in water," *J. Forensic Sci.* *48*, 312 (2003).

J. Oxley, J. Smith, E. Resende, E. Pearce, T. Chamberlain, "Trends in explosive contamination," *J. Forensic Sci.* *48*, 334 (2003).

T. F. Jenkins, M. E. Walsh, "Development of field screening methods for TNT, 2,4-DNT and RDX in soil," *Talanta* *39*, 419 (1992).

J. Almog, S. Kraus, B. Glattstein, "ETK - an operational explosives testing kit," *J. Energetic Materials* *4*, 159 (1986).

Y. Margalit, "Kit for detecting explosives," U.S. Patent 5,480,612, Jan. 2, 1996.

J. Almog, A. Klein, T. Tamiri, Y. Shloosh, S. Abramowich-Bar, "A field diagnostic test for the improvised explosive urea nitrate," *J. Forensic Sci.* *50*, 582-586 (2005).

Miscellaneous:

D. Grieve, "Possession of truth," *J. Forensic Ident.* *46*, 521 (1996).

J. I. Thornton, "The DNA statistical paradigm vs. everything else," *J. Forensic Sci.* *42*, 758 (1997).

B. Comber, "Fingerprints through gloves," *Fingerprint Whorld* *23 (90)*, 125 (1997).

General science articles:

R. Dagani, "Jewel-studded molecular trees," *C&EN*, Feb. 8, pp. 33-36 (1999).

M. Bruchez, Jr, M. Moronne, P. Gin, S. Weiss, AP. Alivisatos, "Semiconductor nanocrystals as fluorescent biological labels," *Science* *281*, 2013 (1998).

WCW. Chan, S. Nie, "Quantum dot bioconjugates for ultrasensitive nonisotopic detection," *Science* *281*, 2016 (1998).

D. Sehgal, IK. Vijay, "A method for the high efficiency of water-soluble carbodiimide-mediated amidation," *Anal. Biochem.* *218*, 87 (1994).

* *SPIE - The International Society for Optical Engineering*, P. O. Box 10, Bellingham, WA 98227-0010, USA.



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