

Analysis of Explosives

Reference List



Fire Debris and Explosives Subcommittee

Table of Contents

1 – Books	1
2- Reviews/Guides/Studies/On-line Resources	9
3 - Devices	16
4 - Health & Safety	18
5 - Low Explosives	18
6 - Canine Detection	24
7 – Laboratory Sampling and Sample Prep	25
8 – Intact Explosives Analysis.....	29
9 – Homemade/Improvised Explosives/Peroxides	55
10 –Trace and Post Blast Residues Analysis	67
11 – Markers and Taggants.....	86
12 – Smokeless Powder	88
13 - Data Handling and Interpretation	95
14 - Quality Control.....	97
15 – DNA and Fingerprints.....	98
16 – Packaging for Submission.....	102
17 – Scene Response, Investigation and Sampling.....	102
18 – Explosives Detection	111

To navigate to a particular section directly from the table of contents:

Ctrl + Click the name of the section of interest; it may be necessary to then move the cursor to another part of the page.

Note: This is a comprehensive list of text books and papers related to the forensic analysis of explosives. It is provided primarily as an aid for forensic science practitioners and is not all encompassing.

The latest update of the list is shown in the document footer.

The citation format is that used by ASTM International (American Society for Testing and Materials).

1 – Books

1928

1. Nitroglycerine and Nitroglycerine Explosives. Naouum, P. P., and Montgomery, E. 1928. Baltimore Williams and Wilkins Co.

1932

1. Explosives Volumes I-III 2nd Edition, Marshall, A., Gordon Press Reprint 1981

1943

1. Chemistry of Powder and Explosives, Volumes I and II, Davis, T. L., John Wiley and Sons Inc., New York.

1947

1. Pyrotechnics. 2nd Edition, Weingart, G. W., Chemical Publishing Company Inc., New York.

1960

1. Encyclopedia of Explosives and Related Items, Vol. 1. Fedoroff, B. T., Aaronson, H.A., Reese, E.F., Sheffield, O.E., Clift, G.D., 1960. PATR 2700. Picatinny Arsenal, Dover, NJ (vols. 2–10, different authors and years of publication).

1961

1. Modern Pyrotechnics – Fundamentals of Applied Physical Pyrochemistry, First Edition 1961. Ellern, E., Chemical Publishing Company.

1962

1. The B.D.H Spot-Test Outfit Handbook 1962. British Drug Houses Limited, 2nd Edition.

1963

1. DuPont Blaster's Handbook. 14th Edition. Wilmington, DE: E. I. Du Pont de Nemours & Company (Inc.), Prepared by the Technical Service Section of the Explosives Department, 1963.

1964

1. Chemistry and Technology of Explosives. Urbanski, T., 1964, Pergamon Press.

1967

1. Army Field Manual FM 5-25, Explosives and Demolitions. Department of the United States of America War Office, May 1967.
2. Chemistry and Technology of Explosives: Vol III, Urbanski, T., Pergamon Press, Oxford, England, 1967.

1968

1. Military and Civilian Pyrotechnics. 1968 Ellern, H., Chemical Publishing Company Inc., New York.

1971

1. Spot Tests for Explosives and Explosive Residues. Lange, N. A. Handbook of Chemistry. 10th edition 1971. McGraw Hill.
2. The Anarchist Cookbook. Powell, W. Lyle Stuart, 1971.

1972

1. Spot Tests in Inorganic Analysis. 6th Edition, Feigl, F., and Anger, V., 1972, Elsevier Science.

1974

1. Handbook of Pyrotechnics, Brauer, K. O., 1974. Chemical Pub Co; Reprint edition Dec 1 1995.

1976

1. The Analysis of Rocket Propellants, Malone, H. E., (Analysis of Organic Materials; no. 12) 1976. Academic Press.
2. The Particle Atlas, Vol 1, McCrone, W.C, Ann Arbor Science, Ann Arbor, MI, 1976.

1977

1. Encyclopedia of Explosives and Related Items. Picatinny Arsenal, Dover.
2. Explosives and Homemade Bombs Second Edition. Charles C. Thomas Publisher, 1977.

1978

1. Improvised Munitions Black Book. Frankford Arsenal Philadelphia. Desert Publications.

1979

1. The Alchemist's Cookbook: 80 Demonstrations, 3rd Edition. Humphrey, D. A., 1979.

1980

1. Dupont. Blaster's Handbook. 175th Anniversary Edition.
2. Explosion Investigation, First Edition 1980. Yallop, H. J., Harrogate, UK: Forensic Science Society and Edinburgh UK: Scottish Academic Press.
3. High Explosives and Propellants. Fordham, S., Pergamon Press, UK, 1980.

1981

1. The Analysis of Explosives. Yinon, J., and Zitron, S., 1st ed. Pergamon Press, Oxford.
2. Fireworks: The Art, Science and Technique. Shimizu, T. Pyrotechnica Publications, 1981.

1982

1. Encyclopaedia of Explosives and Related Items, Volumes 1–10. Picatinny Arsenal, 1960–1982. Picatinny Arsenal (US AARADCOM), Dover, NJ.

1983

1. Encyclopedia of Explosives and Related Items, Kaye, S. M., Picatinny Arsenal, Vol 10, Dover 1983.

1985

1. LLNL Explosives Handbook. Dobratz, B.M., Crawford, P.C., 1985. Lawrence Livermore National Laboratory, CA.

1989

1. Explosives, Propellants and Pyrotechnics. Bailey, A., Murray, S. G., Brassey's, UK.

1991

1. Applied Explosives Technology for Construction and Mining. Olofsson, S.O., 1991. Applex, Arla, Sweden.
2. The Poor Man's James Bond. Vol 1. Saxon, K., Desert Publications, 1991.

1992

1. Advances in Analysis and Detection of Explosives, Yinon, J. Kluwer Academic Publishers, Norwell MA, 1992.
2. Fireworks Principles and Practice. 2nd Edition 1992. Lancaster, R., Chemical Publishing Company Inc., New York.
3. The Do-It-Yourself Gunpowder Cookbook, 1992. McLean, D., Paladin Press.

1993

4. Explosives for Engineers: Fourth Edition. Gregory, C.E., 1993. Clausthal - Zellerfeld, Zurich.
5. Modern Methods and Applications in Analysis of Explosives. Yinon, J., Zitrin, S., 1993. John Wiley & Sons Ltd, West Sussex, England.

1994

1. Emulsion Explosives. Wang, X., 1994. Metallurgical Industry Press, Cleveland, OH.
2. Rock Blasting and Explosives Engineering. Persson, P. A., Holmberg, R., Lee, J., 1994. CRC Press, Boca Raton.

1995

1. The Illustrated Dictionary of Pyrotechnics, 1995. Kosanke, K. L. Journal of Pyrotechnics Inc.

1996

1. Explosives Engineering. Cooper, P.W., 1996. Wiley-VCH, New York.
2. Introduction to the Technology of Explosives. Cooper, P. W., Kurowski, S. R., Wiley-VCH 1996.
3. Spot Test Analysis: Clinical, Environmental, Forensic and Geochemical Applications, Second Edition 1996. Jungreis, E. John Wiley and Sons, Inc.

1997

1. Explosives in the Service of Man: the Nobel Heritage. Dolan, J. E., and Langer, S. S., 1997. The Royal Society of Chemistry.
2. A Professionals Guide to Pyrotechnics. Donner, J., Paladin Press, 1997.

3. Spot Test Analysis - Clinical, Environmental, Forensic and Geochemical Applications. 2nd Edition, 1997, Jungreis, E., Ed. J.D. Winefordner, New York: John Wiley and Sons, Inc. Chapter 4.3.

1998

1. Black and smokeless powders: technologies for finding bombs and the bomb makers. National Research Council, National Academies Press, 1998.
2. Blasters Handbook, Seventeenth Edition. Hopler, R.B., 1998. International Society of Explosives Engineers, Cleveland.
3. Criminalistics: An Introduction to Forensic Science, sixth ed. Saferstein, R., 1998. Prentice-Hall, Englewood Cliffs, NJ.
4. Forensic Investigation of Explosions, Beveridge A. (Ed). 1998. Taylor and Francis, London.
5. Nitroglycerine and Nitroglycerine Explosives, 5th Edition. Naoum, P., Angriff Press.

1999

1. A History of Greek Fire and Gunpowder. Partington, J. R., Baltimore, MD, Johns Hopkins University Press, 1999.
2. Forensic and Environmental Detection of Explosives, Yinon, J., John Wiley & Sons, Ltd, New York, NY, 1999.

2000

1. Encyclopedia of Forensic Sciences, 2000. Siegel, J., Knupfer, G., and Saukko, P., (Eds). Academic Press London, England.

2002

1. Handbook of Vibrational Spectroscopy, 2002. Bartick, E. G., Wiley Hoboken, NJ.
2. Encyclopedia of Terrorism, 2002. Kushner, H. W., SAGE Publications Inc.
3. Explosives 5th Edition. Meyer, R., Kohler, J., and Homburg, A., 2002. John Wiley-VCH, Weinheim.
4. Forensic Science Handbook. Volume 1. 2nd edition 2002. Saferstein, R. Upper Saddle River, NJ: Prentice Hall.
5. The Firecracker Cookbook. Lough, E., 2002. Delta Group Press.

2003

1. Advances in Forensic Applications of Mass Spectroscopy, 2003. Yinon, J. CRC Press, Boca Raton, FL.
2. Handbook of Thermal Analysis and Calorimetry: Applications to Inorganic and Miscellaneous Materials. P. K., Gallagher and M. E., Brown, Eds, Elsevier, Amsterdam, 2003.
3. Understanding Explosions. Crowl, D.A., 2003. Wiley, Hoboken, NJ.

2004

1. Encyclopedia of Chemical Technology 5th Edition, Kirk-Othmer 2004. John Wiley & Sons, Hoboken, NJ.
2. Explosives Identification Guide, Second Edition. Pickett, M., 2004. Delmar Cengage Learning.
3. Gunpowder – Alchemy, Bombards, & Pyrotechnics: The History of the Explosive that Changed the World. Kelly, J., New York, NY: Basic Books, 2004.
4. Pyrotechnic Chemistry, Kosanke, B. J., Sturman, B., Shimizu, T., Wilson, M. A., et al. Journal of Pyrotechnics Inc. 2004,
5. The Preparatory Manual of Explosives. 2nd Edition. Ledgard, J. B. The Paranoid Publications Group, 2004.

2005

1. Energetic Materials: Particle Processing and Characterization. Teipel, U., 2005. Wiley-VCH.
2. Fireworks Principles and Practice, 4th Edition, Lancaster, R., Chemical Publishing Company Inc., New York.

2006

1. Explosives and Chemical Weapons Identification. Crippin, J. B., CRC Press Taylor & Francis.
2. Trace Chemical Sensing of Explosives. Woodfin, R. L., Editor. John Wiley & Sons Inc. New Jersey 2006.

2007

1. Counter Terrorism for Emergency Responders, Second Edition 2007. Taylor & Francis, Boca Raton.
2. Counterterrorist Detection Techniques of Explosives. First Edition 2007. Yinon, J. (Ed), Elsevier, Amsterdam.
3. Explosives. Sixth Edition. Meyer, R., Köhler, J., Homburg, A., 2007. Wiley-VCH.
4. Propellants and Explosives: Thermochemical Aspects of Combustion, Second Edition. Kubota, N., 2007. Wiley-VCH.
5. Organic Chemistry of Explosives. Agrawal, J. P., Hodgson, R. D. 2007 J. Wiley & Sons.

2008

1. Emergency Characterization of Unknown Materials, Houghton, L. R. 2008, CRC Press, Taylor and Francis Group.
2. Explosives. 6th Edition, Meyer, R., Kohler, J., and Homburg, A., Wiley-VCH.
3. The Chemistry of Fireworks. 2nd Edition 2008. Russell, M. S. RSC Publishing.

2009

1. Aspects of Explosives Detection. Marshall, M., Oxley, J.C. (Eds.), 2009. Elsevier, Oxford.
2. Field Confirmation Testing for Suspicious Substances. First Edition, 2009. Houghton, R., CRC Press, Boca Raton.
3. The Chemistry of Fireworks." 2nd Edition, Russell, M. S., Royal Society of Chemistry Publishing.
4. Wiley Encyclopedia of Forensic Science, Jamieson, A. and Moenssens, A. (Eds). Wiley, Chichester, UK 2009.

2010

1. Chemistry of Pyrotechnics Basic Principles and Theory, Conkling, J. A., CRC Press, Taylor and Francis Group LLC.
2. Forensic Science Handbook, Saferstein, R. Prentice Hall, Vol. 3, 2010.
3. High Energy Materials: Propellants, Explosives and Pyrotechnics. Agrawal, J. P., 2010. Wiley-VCH.

2011

1. The Chemistry of Explosives: Edition 3. Akhavan, J., 2011. Royal Society of Chemistry.
2. Practical Bomb Scene Investigation. Second Edition, Thurman, J. T., CRC Press.

2012

1. Forensic Investigation of Explosions. Second Edition 2012. Beveridge, A. CRC Press, Boca Raton, FL.
2. Infrared and Raman Spectroscopy in Forensic Science, Chalmers, J. M., Edwards, H. G. M., and Hargreaves, M. D., (Eds) Wiley, 2012.
3. Principles and Issues in Forensic Analysis of Explosives. Oxley, J. C., Marshall, M., and Lancaster S. L., Forensic Chemistry Handbook, 2012. Ed. L. Kobilinsky, , Wiley, Chapter 2;23-39.

2013

1. Primary Explosives, Matyas, R., and Pachman, J., Springer, Heidelberg, 2013.

2014

1. Criminalistics: An Introduction to Forensic Science, 11th ed., Saferstein, R., Pearson Education.
2. The Preparatory Manual of Explosives. 4th Edition. Ledgard, J.B., UVKCHEM 2014.

2015

1. Brodie's Bombs and Bombings - A Handbook to protection, security, detection, disposal and investigation for Industry, Police and Fire Departments. 4th Edition 2015. Smith, J. (Author), Charles C Thomas Pub Ltd.
2. The Chemistry of Explosives, 3rd Edition, Akhavan, J., The Royal Society of Chemistry, UK.
3. Forensic Chemistry. 1st Edition, 2015. Section 5 Explosives. Editor. Houck, M. M. Academic Press.

2016

1. Crime Scene to Court: The Essentials of Forensic Science, Edition 4. White, P. Ed. 2016. Royal Society of Chemistry, Cambridge.
2. Explosives. 7th Edition, Meyer, R. Kohler, J. and Homburg, A., Wiley-VCH.

3. Forensic Chemistry Fundamentals and Applications. Chapter. 5 Explosives, Goodpaster, J., Editor. Siegel, J. A. 2016. Wiley Blackwell.
4. Materials Analysis in Forensic Science, First Edition 2016. Houck, M., Editor. Academic Press.

2017

1. NFPA 921: Guide for Fire and Explosion Investigations. National Fire Protection Agency, Quincy, MA.
2. Practical Bomb Scene Investigation. Thurman, J. T., 2017 Third Edition, CRC Press.

2018

1. A Life of Crime: My Career in Forensic Science. Lucas, D.M.L, Chapters 8-11. CRC Press 2018.
2. Field Confirmation Testing for Suspicious Substances. Hardback 2009, Paperback First Edition 2018. Houghton, R., CRC Press, Taylor & Francis Group, Boca Raton.

2019

1. Forensic Analysis of Fire Debris and Explosives. Editors, Evans-Nguyen, K., and Hutches, K., Springer Nature Switzerland AG, 2019.

2- Reviews/Guides/Studies/On-line Resources

1967

1. Technical Manual. 1967 No. 9-1300-214 Technical Order No. 11A-1-34.

1970

1. Explosives and Bomb Disposal Guide. Lenz, R.R. Charles C. Thomas, 1970.

1972

1. Introduction to Explosives. Newhouser, C. R., Gaithersburg, MD: National Bomb Data Center, 1972.

1973

1. Blasting Cap Recognition and Identification Manual, Brucker, E. W., 1973, Publisher; International Assn. Chiefs of Police.

1975

1. Friend, Robert C., "Explosives Training Manual: A Complete Illustrated Course dealing with the Safe Handling and Effective Use of Explosives." Wilmington, DE: ABA Publishing Co.

1978

1. Higgs, D. G., Jones, P. N., Markham, J. A. and Newton, E., "A review of explosives sabotage and its investigation in civil aircraft," *Journal of the Forensic Science Society* 1978 18, 137.

1987

1. Atlas Powder Co, 1987. "Explosives and Rock Blasting," Field Technical Operations. Atlas Powder Co, Dallas.

1989

1. Karpas, Z. "Forensic Science Applications of Ion Mobility Spectrometry" *Forensic Sci. Rev.* 1989, 1(2) 103-119 December.

1990

1. "Industrial Explosives - A Brief History of Their Development and Use." Meyers, S., and Shanley, E.S., *J. Hazard. Mater.* 1990, 23() 183-201.
2. Meyers, S. and Shanley, E.S. "Industrial Explosives - A Brief History of Their Development and Use" *J. Hazard. Mater.* 1990, 23 183-201.

1992

1. Feraday, A.W., "The Semtex-H Story." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 67-72.
2. Hubball, J. "The Use of Chromatography in Forensic Science" *Adv. Chromatogr.* Vol. 32 Giddings, J.C.; Grushka, E. and Brown, P.R. (Editors) New York Marcel Dekker 1992, pp. 131-172.

1993

1. Hiley, R.W., "Investigations of Thin Layer Chromatographic Techniques Used for Forensic Explosives Analysis in the Early 1970s." *J. Forensic Sci.* 1993, 38(4) 864-873 July.

2. Kolla, P. and Hohenstatt, P. "Stability of Explosives Traces on Different Supports" *Forensic Sci. Int.* June 1993, 60 (1, 2) 127-137.

1994

1. McCord, B.R.; Hargadon, K.A.; Hall, K.E. and Burmeister, S.G. "Forensic Analysis of Explosives Using Ion Chromatographic Methods" *Anal. Chim. Acta* 1994, 288(1-2) 43-56 March 30.

1995

1. Donaldson, T. P., "Overview of United Kingdom Research." *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 111 - 117.
2. Foulger, B., and Hubbard, P. J., "A Review of Techniques Examined by U.K. Authorities to Prevent or Inhibit the Illegal Use of Fertiliser in Terrorist Devices." *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 129-133.

1996

1. Crowson, A., Cullum, H. E., Hiley, R. W., and Lowe, A. M., "A survey of high explosives traces in public places" 1996. *J. Forensic Sci.* 41(6): 980-989.
2. Fink, C. L., Micklich, B. J., Sagalovsky, L., Smith, D. L., and Yule, T. J., "Explosives Detection Studies Using Fast-Neutron Transmission Spectroscopy." *Proc. 2nd Explos. Detect. Technol. Symp. Aviation Secur. Technol. Conf.* Makky, W. -Chair November 12-15, 1996 FAA Atlantic City, NJ pp. 142-147.
3. Fox, F., Sisk, S., DiBartolo, R., Miller, J. F. and Gandy, J., "Immersion Studies of Aircraft Parts Exposed to Plastic Explosives." *Proc. 2nd Explos. Detect. Technol. Symp. Aviation Secur. Technol. Conf.* Makky, W. -Chair November 12-15, 1996 FAA Atlantic City, NJ pp. 31-37.

1997

1. Jones, M.L. and Lee, E. "Impact Sensitivity of Nitroglycerin" *J. Energ. Mat.* 1997, **15** 193-204.

1998

1. Black and Smokeless Powders: Technologies for Finding Bombs and the Bomb Makers. National Research Council. National Academy Press, 1998.

2. McCord, B.R. and Bender, E.C. "Chromatography of Explosives" in: *Forensic Invest. Explos.* Beveridge, A.D. - Ed. London, Taylor & Francis 1998 pp. 231-265.
3. Hopler, R.B. "The History, Development and Characteristics of Explosives and Propellants." in: *Forensic Invest. Explos.* Beveridge, A.D. - Ed. London, Taylor & Francis 1998 pp. 1-13.
4. Leach, C.; Flower, P.; Hollands, R.; Flynn, S.; Marshall, E. and Kendrick, J. "Plasticisers in Energetic Materials Formulations. A UK Overview" *Int. Annu. Conf. ICT* 1998 29th (Energetic Materials) 2.1-2.14.

1999

1. McAvoy, Y. Backstrom, B.; Janhunen, K. Stewart, A. and Cole, M.D. "Supercritical Fluid Chromatography in Forensic Science: A Critical Appraisal" *Forensic Sci. Int.* 1999, 99 (2) 107-122.
2. Midkiff, C. R., "Analysis and Detection of Explosives, Published Papers, Results and Presentations: 1988-1998. August 1999. Available at <https://www.swgfex.com/publications>.
3. Picket, M., "Explosives Identification Guide." Albany, NY, Delmar Publishers, 1999.

2000

1. National Institute of Justice, "A Guide for Explosion and Bombing Scene Investigation." 2000. Available at <https://www.swgfex.com/publications>.
2. TWGFEX/NCFS, 2000. "A Guide for Explosion and Bombing Scene Investigation." DOJ, Washington, DC.
3. A Guide for Explosion and Bombing Scene Investigation. National Institute of Justice, written and approved by the Technical Working Group for Bombing Scene Investigation. U.S. Department of Justice, 2000.

2001

1. Walker, C., Cullum, H. E., Hiley, R. W., "An Environmental Survey Relating to Improvised and Emulsion Gel Explosives" *J. Forensic Sci.* 2001: 46(2): 254-267.

2003

1. Oxley, J. C., "The thermal stability of explosives." in *Handbook of Thermal Analysis and Calorimetry: Applications to Inorganic and Miscellaneous Materials*, P. K., Gallagher and M. E., Brown, Eds, Elsevier, Chapter 8, Amsterdam, 2003 Vol. 2, pp. 349–369.

- Oxley, J. C., Smith, J. L., Resende, E., Pearce, E., and Chamberlain, T. "Trends in explosive contamination." *Journal of Forensic Sciences* 2003 48(2), 1–9.

2004

- Cullum, H. E., McGavigan, C., Uttley, C. Z., Stroud, M. A., and Warren, D. C., "A second survey of background levels of explosives and related compounds in the environment" 2004. *J. Forensic Sci.* 49(4): 684-690.
- Hopen, T., J., "Dr. Walter C. McCrone's Contribution to the Characterization and Identification of Explosives." *J Forensic Sci.* 2004 Mar; 49(2):275-6.
- Nambayah, M., and Quickenden, T., "A Quantitative Assessment of Chemical Techniques for Detecting Traces of Explosives at Counter-Terrorist Portals." *Talanta.* 2004 May 28; 63(2):461-7.
- The Technical and Scientific Working Group on Fire and Explosion Analysis (T/SWGFX). "Recommended Guidelines for Forensic Identification of Intact Explosives." July 2004. Available at <https://www.swgex.com/publications>.

2005

- University of Rhode Island, "Explosives Database.". Available at <http://expdb.chm.uri.edu/>

2006

- Technical/Scientific Working Group for Fire and Explosions/National Center for Forensic Science (T/SWGFX/NCFS), "Smokeless Powder Database." Available at <http://www.ilrc.ucf.edu/powders/>

2007

- Borusiewicz, R., 'A review of methods of preparing samples for chromatographic analysis for the presence of organic explosive substances.' *Problems of Forensic Sciences* 2007 LXIX, 5-29.
- Gaurav, D., Malik, A. K., and Rai, P. K., 'High performance liquid chromatographic methods for the analysis of explosives.' *Critical Reviews in Analytical Chemistry* 2007 37, 227–268.
- The Technical and Scientific Working Group on Fire and Explosion Analysis (T/SWGFX). "Recommended Guidelines for Forensic Identification of Post Blast Explosive Residues." 2007. Available at <https://www.swgex.com/publications>.
- Technical Support Working Group. "Indicators and Warnings for Homemade Explosives." First Edition, December 2007, *For Official Use Only*.

2008

1. Lahoda, K.G., Collin, O.L., Mathis, H.E., LeClair, Wise, S.H., and McCord, B. R., “A survey of background levels of explosives and related compounds in the environment” 2008 *J. Forensic Sci.* 53(4): 802-806.
2. Tagliaro, F., and Bortolotti, F., “Recent Advances in the Applications of CE to Forensic Sciences (2005 – 2007).” *Electrophoresis*. 2008 Jan; 29(1):260-8.

2009

1. Burks, R. M., and Hage, D. S., “Current trends in the detection of peroxide-based explosives.” *Anal Bioanal Chem*. 2009 Sep; 395(2):301-13. doi: 10.1007/s00216-009-2968-5. Epub 2009 Jul 31.
2. Gottfried, J. L., De Lucia, F. C., Munson, C. A., and Mizolek, A. W., “Laser-induced breakdown spectroscopy for detection of explosives residues: a review of recent advances, challenges, and future prospects.” *Anal Bioanal Chem*, 2009. DOI 10.1007/s00216-009-2802-0.
3. Naval Explosive Ordnance Disposal Technology Division, Explosives: Military, Commercial, Homemade, and Precursors Identification Guide, Version 2.0 2009. *For Official Use Only*.
4. Oxley, J. C., Smith, J. L., Bernier, E., Moran, J. S., and Luongo, J., “Hair as forensic evidence of explosive handling.” *Propellants, Explosives, Pyrotechnics* 2009 **34**(4), 307–314.
5. Wallin, S., Pettersson, A., Ostmark, H., and Hobro, A., “Laser-Based Standoff Detection of Explosives: A Critical Review.” *Anal Bioanal Chem*. 2009 Sep; 395(2):259-74.

2010

1. Nair, U. R., Asthana, S. N., Subhananda Rao, A., and Gandhe, B. R., “Advances in High Energy Materials.” *Defence Science Journal*, Vol. 60, No. 2, March 2010, pp. 137-151.

2011

1. Fernandez de la Ossa, A., Lopez-Lopez, M., Torre, M., and Garcia-Ruiz, C., “Analytical techniques in the study of highly-nitrated nitrocellulose.” *Trends in Analytical Chemistry*, Vol 30, No. 11, 2011.
2. Makinen, M., Nousiainen, M., and Sillanpaa, M., “Ion Spectrometric Detection Technologies for Ultra-Traces of Explosives: A Review.” *Mass Spectrometry Reviews*, 2011, 30, 940–973.

3. Sorensen, A., McGill, W. L., "What to look for in the aftermath of an explosion? A review of blast scene damage observables." *Engineering Failure Analysis* 2011; 18(3):836-845.

2012

1. Caygill, J. S., Davis, and Higson, S. P. J., "Current trends in explosive detection techniques." *Talanta*, Volume 88, 15 January 2012, Pages 14-29.
2. Ostmark, H., Wallin, A., and Ang, H., "Vapor pressure of explosives: a critical review." *Propellants Explos, Pyrotech* 37 (2012) 12-13.
3. Oxley, J. C., Smith, J. L., Kirschenbaum, L. J., Marimiganti, S., Efremenko, I., Zach, R., and Zeiri, Y., "Accumulation of explosives in hair – part 3: binding site study." *Journal of Forensic Sciences* 2012 57, 623–635.

2013

1. Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) Department of Justice "List of Explosives Materials." Available at <https://www.atf.gov/file/97716/download>
2. Morelato, M, Beavis, A., Kirkbride, P., and Roux, C., "Forensic applications of desorption electrospray ionisation mass spectrometry (DESI-MS)." *Forensic Science International* 2013; 226(1-3):10-21.

2014

1. Barron, L., and Gilchrist, E., "Ion chromatography-mass spectrometry: A review of recent technologies and applications in forensic and environmental explosives analysis." *Analytica Chimica Acta* 2014; 806:27-54.
2. Fountain, A. I., Christesen, S., Moon, R., and Guicheteau, J., "Recent advances and remaining challenges for spectroscopic detection of explosives threats." *Appl. Spectrosc.* OA 68 (2014) 795-811.
3. Oxley, J.C., "Explosive detection: How we got here and where are we going?" *International Journal of Energetic Materials and Chemical Propulsion* 2014; 13(4):373-381.

2017

1. NFPA 921: "Guide for Fire and Explosion Investigations," National Fire Protection Agency, Quincy, MA.

2018

1. Smyth, A., and Sims, M.R., "Detection of fingermarks from post-blast debris: A review." *Journal of Forensic Identification* 2018; 63(8):369-378.

2019

1. Gillen, G., Verkouteren, J., Najarro, M., Staymates, M., Verkouteren, M., Fletcher, R., Muramoto, S., Staymates, J., Lawrence, J., Robinson, L., and Sisco, E. "Review of the National Institute of Standards and Technology Research Program in Trace Contraband Detection." *Homeland Security and Public Safety: Research, Applications and Standards* 2019 Oct. ASTM International.
https://www.astm.org/DIGITAL_LIBRARY/STP/PAGES/STP161420180050.htm
2. Greibl, W., "End User Commentary on Advances in the Analysis of Explosives. Emerging Technologies for the Analysis of Forensic Traces." 2019; 241-243.
https://link.springer.com/chapter/10.1007/978-3-030-20542-3_16
3. Romolo, F. S., and Palucci, A., "Advances in the Analysis of Explosives. Emerging Technologies for the Analysis of Forensic Traces." 2019;207-240.
https://link.springer.com/chapter/10.1007/978-3-030-20542-3_15

3 – Explosive Devices

1976

1. Crockett, T. S., and Newhouser, C. R., "Recognition of Explosive and Incendiary Devices. Part I – Hand and Rifle Grenades 03-1 and Part II – Land Mines; Artillery, Mortar, and Rocket Projectiles 03-2." The National Bomb Data Centre Research Division, International Association of Chiefs of Police, 1976.
2. McAuley, D., "Unusual Remotely Delivered Devices" Presented: Explosion Investigation Symposium Belfast, Northern Ireland March 20-21, 1995 Abstract: *Sci. Justice* 1998, **38**(1) 49-50 January-March.
3. McAuley, D. "The Development of Improvised Mortar Bombs in Northern Ireland by the Provisional IRA" Presented: Explosion Investigation Symposium Belfast, Northern Ireland March 20-21, 1995 Abstract: *Sci. Justice* 1998, 38(1) 50 January-March.

1992

1. Prime, R. J., and McGee, E., "The Evaluation and Analysis of Plasticine or Modeling Clay After its Use as a Hoax Explosive Substance" Presented: 39th Annual Meeting, C.S.F.S. Halifax, Nova Scotia August 20-25, 1992 abstract: *Can. Soc. Forensic Sci. J.* 1992, **25**(3) 158 September

1994

1. Scott, L., "Pipe and Fire Bomb Designs: A Guide for Police Bomb Technicians." Paladin Press, 1994.

1997

1. Missliwetz, J., Schneider, B., Oppenheim, H., and Wieser, I., "Injuries Due to Letter Bombs" *J. Forensic Sci.* 1997, 42(6) 981-985 November.

2001

1. Oxley, J. C., Smith, J. L., Resende E., Rogers, E., Strobel, R. A., and Bender, E. C., "Improvised explosive devices: pipe bombs." 2001 *Journal of Forensic Sciences* 46 (3), 510–534.
2. Oxley, J. C., Smith, J. L., and Resende, E., "Determining Explosivity Part II: Comparison of Small Scale Cartridge Tests to Actual Pipe Bombs." *J Forensic Sci.* 2001 Sep; 46(5):1070-5.

2003

1. Walsh, G., A., Inal, O, T., and Romero, V. D., "A potential metallographic technique for the investigation of pipe bombings." *Journal of Forensic Sciences* 2003: 48(5), 484–500.

2005

1. Chumbley, L. S., and Laabs, F. C., "Analysis of Explosive Damage in Metals Using Orientation Imaging Microscopy." *J Forensic Sci* 2005 Jan 50(1):104-111.

2009

1. Quirk, A. T., Bellerby, J. M., Carter, J. F., Thomas, F. A., and Hill, J. C., "An initial evaluation of stable isotopic characterisation of post-blast plastic debris from improvised explosive devices." *Science and Justice* 49 (2009) 87–93.

2010

1. Gregory, O., Oxley, J. C., Smith, J. L., Platek, M., Ghonem, H., Bernier, E., Downey, M., and Cumminskey, C., "Microstructural characterization of pipe bomb fragments," *Materials Characterization* 2010 61(3), 347–354.
2. Kuzmin, V., Mikheev, D., and Kozak, G., Detonability of Ammonium Nitrate and mixtures on its Base.' *Central European Journal of Energetic Materials*, 7(4) · January 2010.

2011

1. Lichorobiec, S., "Development of alternative projectile to deactivate an improvised explosive device - Pipe bomb." *Komunikacie* 2011; 13(2):20-25.
2. Ramasamy, A., Hill, A. M., Masouros, S., Gibb, I., Bull, A.M.J., and Clasper, J. C., "Blast-related fracture patterns: A forensic biomechanical approach." *Journal of the Royal Society Interface* 2011; 8(58):689-698.

2012

1. Chakrabortty, A., Bagchi, S., and Lahiri, S. C., "Investigation on improvised explosive devices and the physicochemical nature of the fuel binders." *Journal of the Indian Chemical Society* 2012; 89(11):1515-1524.

2019

1. da Silva, L. A., Johnson, S., Critchley, R., Clements, J., Norris, K., and Stennett, C. "Experimental fragmentation of pipe bombs with varying case thickness." *Forensic Science International*. Vol 306, January 2020, 110034.
<https://doi.org/10.1016/j.forsciint.2019.110034>

4 - Health & Safety

1987

1. Levin, B. C., "A Summary of the NBS Literature Reviews on the Chemical Nature and Toxicity of the Pyrolysis and Combustion Products from Seven Plastics: Acrylonitrile-Butadiene-Styrenes (ABS), Nylons, Polyesters, Polyethylenes, Polystyrenes, Poly (VinylChlorides) and Rigid Polyurethane Foams," *Fire and Materials*, Vol 11, 1987, pp. 143-157.

5 – Low Explosives

1978

1. Meyers, R. E., "A Systematic Approach to the Forensic Examination of Flash Powders," *JFS*, Vol. 23, No. 1 Jan. 1978.

1987

1. Dahl, D. B., and Lott, P. F., "Determination of Black and Smokeless Powder Residues in Firearms and Improvised Explosive Devices." *Microchemical Journal* 1987, Vol 35 (1); 40-50.

1989

1. Bender, E.C. "Indirect Photometric Detection of Anions for the Analysis of Low Explosives" *Crime Lab. Dig.* 1989, 16(3) 78-83 October.
2. Bender, E.C. "The Analysis of Dicyandiamide and Sodium Benzoate in Pyrodex by HPLC" *Crime Lab. Dig.* 1989, 16(3) 76-77 October.
3. Brown, M.E. and Rugunanan, R.A. "A Temperature-Profile Study of the Combustion of Black Powder and its Constituent Binary Mixtures" *Propellants, Explos. Pyrotech.* 1989, 14(2) 69-75 April.
4. Midkiff, C.R. Jr., "Identification and Characterization of Flash Powders" *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 17-1 to 17-17.

1990

1. Hussain, G. and Rees, G.J. "Combustion of Black Powder. Part 1: Thermo-Analytical Studies" *Propellants, Explos. Pyrotech.* 1990, 15(2) 43-47 April.
2. Kee, T.G.; Holmes, D.M.; Doolan, K.; Hamill, J.A. and Griffin, R.M.E. "The Identification of Individual Propellant Particles" *J. Forensic Sci. Soc.* 1990, 30(5) 285-292 September/October.
3. Krone, U., and Treumann, H., "Pyrotechnic Flash Compositions" *Propellants, Explos. Pyrotech.* 1990, 15(3) 115-120 June.
4. Kudoh, M., "Analysis of Combustion Residue of Chlorate Black Powder" *Kagaku Keisatsu Kenkyusho Hokoku Hokagaku-hen* 1990, 43(4) 161-167 from *Chem. Abstr.* 115:152603
5. Mulcahey, L.J., and Taylor, L.T., "Application of Coupled Gel Permeation Chromatography and Fourier Transform Infrared Spectrometry to the Analysis of Propellants" *LC-GC* 1990, 8(12) 927-932 December.
6. Zaki, M. T. M., Bassioni, H. H., Sedra, M. N. R., and Attiya, S. M., "Spectrophotometric Determination of Lead in Some Propellants" *Propellants, Explos. Pyrotech.* 1990, 15(1) 11-13 February.

1991

1. Glattstein, B., Landau, E., and Zeichner, A., "Identification of match head residues in post-explosion debris." 1991 *Journal of Forensic Sciences* 36(5), 1360–1367.
2. Hussain, G. and Rees, G.J. "Combustion of Black Powder. Part II: FTIR Emission Spectroscopic Studies" *Propellants, Explos. Pyrotech.* 1991, 16(1) 6-11 February.

3. Hussain, G. and Rees, G.J. "Combustion of Black Powder. Part III: Hot Stage Microscopy Studies" *Propellants, Explos. Pyrotech.* 1991, 16(5) 227-231 October.
4. Munder, A., Christensen, R.G., Wise, S.A., "Microanalysis of Explosives and Propellants by On-Line Supercritical Fluid Extraction/Chromatography with Triple Detection" *J. Microcol. Sep.* 1991, 3(2) 127-140.
5. Northrop, D. M.; Martire, D.E. and MacCrehan, W.A. "Separation and Identification of Organic Gunshot and Explosive Constituents by Micellar Electrokinetic Capillary Electrophoresis" *Anal. Chem.* 1991, 63(10) 1038-1042 May 15.
6. Stine, G. Y., "An Investigation into Propellant Stability" *Anal. Chem.* 1991, 63(8) 475A-478A April 15.

1992

1. Hussain, G. and Rees, G.J. "Combustion of Black Powder. Part IV: Effect of Carbon and Other Parameters" *Propellants, Explos. Pyrotech.* 1992, 17(1) 1-4 February.
2. Koons, R. D., and Whitehurst, F. C., "Discrimination of Flash Powders by Elemental Composition of the Aluminum Component" Presented: 44th Annual Meeting, American Academy of Forensic Sciences, New Orleans, LA February 17-22, 1992 Abstract # B52.

1993

1. Miszczak, M., and Bladek, J., "Quantitative Measurement of Propellant Stabilizers with TLC and Liquid Crystalline Method of Visualization" *Propellants, Explos. Pyrotech.* 1993, 18(1) 29-32 February.
2. Okuyama, S.; Mitsui, T. Fijimura, Y. "Determination of Mixing Ratios of Potassium Benzoate and Potassium Perchlorate by Multivariate Analysis with X-ray Diffraction Method" *X-sen Bunseki no Shinpo* 1992, (Publ. 1993) 24 161-169 (Japanese).

1994

1. McCord, B.R., "A Comparative Analysis of Pipe Bomb Residues Using Ion Chromatographic Techniques" Presented: 46th Annual Meeting AAFS San Antonio, TX February 14-19, 1994 Abstract # B82.
2. McNesby, K.L., Wolfe, J.E., Morris, J.B., and Pesce-Rodriguez, R.A., "Fourier Transform Raman Spectroscopy of Some Energetic Materials and Propellant Formulations" *J. Raman Spectrosc.* 1994, 25() 75-87.

1998

1. Bender, E.C. "Analysis of Low Explosives" in: *Forensic Invest. Explos.* 1998 Beveridge, A. - Ed. Taylor & Francis London, U.K. pp. 343-388.

2. Doyle, J.N. and McCord, B.R. "Novel Electrolyte for the Analysis of Cations in Low Explosive Residue by Capillary Electrophoresis" *J. Chromatogr., B: Biomed. Sci. Appl.* 1998, 714(1) 105-111.

1999

1. Suceska, M., "Calculation of Thermodynamic Parameters of Combustion Products of Propellants under Constant Volume Conditions Using the Virial Equation of State. Influence of Values of Virial Coefficients" *J. Energ. Mater.* 1999, 17(2/3) 253-278.

2001

1. Dujay, R. C., "Manufacturing and Processing Techniques Affecting Morphology of Pyrotechnic Oxidizer Particles." *Microscopy Society of America* 2001; 9(4); 8-13.
2. Phillips, S., "Pyrotechnic residue analysis – detection and analysis of characteristic particles by scanning electron microscopy/energy dispersive spectroscopy." *Science & Justice* 2001 41(2), 73–80.

2003

1. Kosanke, K., Dujay, R., and Kosanke, B., "Characterization of pyrotechnic reaction residue particles by SEM/EDS" 2003 *Journal of Forensic Sciences* 48(2), 531–537.

2004

1. Babu, E. S., and Kaur, S., "A DSC Analysis of Inverse Salt-pair Explosive Composition." *Propellants, Explosives and Pyrotechnics* 2004; Vol 29: Issue 1:50-55.
2. Goodpaster, J. V., and Keto, R. O., "Identification of Ascorbic Acid and Its Degradation Products in Black Powder Substitutes." *J Forensic Sci*, May 2004, Vol. 49, No. 3.

2005

1. Bradley, K. S., "Determination of elemental sulfur in explosives and explosive residues by gas chromatography-mass spectrometry." *J Forensic Sci.* 2005 Jan; 50(1):96-103.
2. Kasamatsu, M., Suzuki, Y., Sugita, R., and Suzuki, S., "Forensic Discrimination of Match Heads by Elemental Analysis with Inductively Coupled Plasma-Atomic Emission Spectrometry." *J Forensic Sci.* 2005 Jul; 50(4):883-6.

2006

1. Kosanke, K.L., Dujay, R.C., and Kosanke, B.J., "Pyrotechnic reaction residue particle analysis." *J Forensic Sci.* 2006 Mar; 51(2):296-302.
2. Mahoney, C. M., Gillen, G., and Fahey, A. J., "Characterization of Gunpowder Samples Using Time-of-Flight Secondary Ion Mass Spectrometry (TOF-SIMS)." *Forensic Sci Int.* 2006 Apr 20; 158(1):39-51.

2007

1. Laza, D., Nys, B., Kinder, J. D., Kirsch-De Mesmaeker, A., and Moucheron, C., “Development of a Quantitative LC-MS/MS Method for the Analysis of Common Propellant Powder Stabilizers in Gunshot Residue.” *J Forensic Sci.* 2007 Jul; 52(4):842-50.

2008

1. Koch, E. C., “Special Materials in Pyrotechnics: V. Military Applications of Phosphorus and its Compounds.” *Propellants, Explosives, Pyrotechnics*, Vol. 33(3); June 2008, 165-176.

2009

1. Gentile, N., Siegwolf, R. T. W., and Delemont, O., “Study of isotopic variations in black powder: reflections on the use of stable isotopes in forensic science for source inference.” *Rapid Commun. Mass Spectrom.* 2009; 23: 2559–2567.
2. Lang, G.H., and Boyle, K.M., “The analysis of black powder substitutes containing ascorbic acid by ion chromatography/mass spectrometry.” *J Forensic Sci.* 2009 Nov; 54(6):1315-22. Available at: doi: 10.1111/j.1556-4029.2009.01144.x. Epub 2009 Aug 28.
3. Oxley, J. C., Smith, J. L., Higgins, C., Bowden, P., Moran, J. S., Brady, J., Aziz, C. E. and Cox, E., “Efficiency of perchlorate consumption in road flares, propellants and explosives.” *Journal of Environmental Management* 2009 90(11), 3629–3634.
4. Vermeij, E., Duvalois, W., Webb, R., and Koeberg, M., “Morphology and Composition of Pyrotechnic Residues Formed at Different Levels of Confinement.” *Forensic Sci Int.* 2009 Apr 15; 186(1-3):68-74.

2010

1. Bottegal, M., Lang, L., Miller, M., and McCord, B. “Analysis of ascorbic acid based black powder substitutes by high-performance liquid chromatography\electrospray ionization quadrupole time-of-flight mass spectrometry.” *Rapid Commun. Mass Spectrom.* 2010; 24: 1377-1386.
2. Crawford, C. L., Boudries, H., Reda, R. J., Roscioli, K. M., Kaplan, K. A., Siems, W. F., and Hill Jr, H. H., “Analysis of Black Powder by Ion Mobility-Time-of-Flight Mass Spectrometry.” *Anal. Chem.* 2010, 82, 387–393.
3. Dalby, O., Birkett, J. W., “The evaluation of solid phase micro-extraction fibre types for the analysis of organic components in unburned propellant powders.” *Journal of Chromatography A.* 2010; 1217(46):7183-7188.
4. Damour, P. L., Freedman, A., Wormhoudt, J., 2010. “Knudsen effusion measurement of organic peroxide vapour pressures.” *Propellants, Explosives, Pyrotechnics.* 35 (6), 514–520.

2011

1. Castro, K., Fdez-Ortiz de Vallejuelo, S., Astondoa, I., and Madariaga, J. M., "Are these liquids explosive? Forensic analysis of confiscated indoor fireworks." *Analytical and Bioanalytical Chemistry*, July 2011, 400:3065-3071.
2. Castro, K., Fdez-Ortiz de Vallejuelo, S., Astondoa, I., Goñi, F. M., and Madariaga, J. M., "Analysis of confiscated fireworks using Raman spectroscopy assisted with SEM-EDS and FTIR." *Journal of Raman Spectroscopy*, 2011; Vol 42: Issue 11, pages 2000-2005.
3. Routon, B. J., Kocher, B. B., and Goodpaster, J. V. "Discriminating Hodgdon Pyrodex® and Triple Seven® using gas chromatography-mass spectrometry," *Journal of Forensic Sciences* 2011; Jan;56(1):194-199.

2014

1. Martin-Alberca, C., de la Ossa, M.A.F., Saiz, J., Ferrando, J.L., and Garcia-Ruiz, C., "Anions in pre- and post-blast consumer fireworks by capillary electrophoresis." *Electrophoresis* 2014; 35(21-22):3273-3280.
2. Martin-Alberca, C., and Garcia-Ruiz, C., "Analytical techniques for the analysis of consumer fireworks." *TrAC* 2014; 56:27-36.

2016

1. E2998-16 "Standard Practice for Characterization and Classification of Smokeless Powder." (2016). American Society for Testing and Materials International (ASTM).

2017

1. E2999-17 "Standard Test Method for Analysis of Organic Compounds in Smokeless Powder by Gas Chromatography-Mass Spectrometry and Fourier Transform Infrared Spectroscopy." (2017). American Society for Testing and Materials International (ASTM).

2018

1. Chabaud, K.R., Thomas, J.L., Torres, M.N., Oliveira, S., and McCord, B.R., "Simultaneous colorimetric detection of metallic salts contained in low explosives residue using a microfluidic paper-based analytical device (mPAD)." *Forensic Chemistry* 2018; 9:35-41.

2019

1. Bezemer, K. D. B., van Duin, L. V. A., Martin-Alberca, C., Somsen, G. W., Schoenmakers, P. J., Haselberg, R., and van Asten, A. C., "Rapid forensic chemical

classification of confiscated flash banger fireworks using capillary electrophoresis.” *Forensic Chemistry* 2019; 16:100187.
<https://www.sciencedirect.com/science/article/abs/pii/S2468170919300840>

6 – Canine Detection

2001

1. Furton, K. G., and Myers, L. J., “The scientific foundation and efficacy of the use of canines as chemical detectors for explosives.” *Talanta* 54 (2001) 487-500.

2004

1. Oxley, J. C., Smith, J. L., Moran, J., Nelson, K., and Utley, W. E., “Training dogs to detect triacetone triperoxide (TATP).” In Proceedings of SPIE: Sensors, and Command, Control, Communications, and Intelligence Technologies for Homeland Security and Homeland Defense III, Bellingham, WA, 2004.

2006

1. Schoon, A., Heuven, Gotz, and Vogel. “Training and Testing Explosive Detection Dogs in Detecting Triacetone Triperoxide.” *National Criminal Justice reference Service*, 2006: 218539

2010

1. Curran, A. M., Prada, P. A., and Furton, K. G., “Canine human scent identifications with post-blast debris collected from improvised explosive devices.” *Forensic Science International* 2010; 199(1-3):103-108.
2. DeGreeff, Lauryn E., "Development of a Dynamic Headspace Concentration Technique for the Non-Contact Sampling of Human Odor Samples and the Creation of Canine Training Aids" (2010). *FIU Electronic Theses and Dissertations*. Paper 291.
<http://digitalcommons.fiu.edu/etd/291>.

2012

1. Lotspeich, E., Kitts, K., and Goodpaster, J., “Headspace Concentrations of Explosive Vapors in Containers Designed for Canine Testing and Training: Theory, Experiment, and Canine Trials.” *Forensic Sci Int.* 2012 Jul 10; 220(1-3):130-4.

2011

1. Moore, S., MacCrehan, W., and Schantz, M., “Evaluation of vapor profiles of explosives over time using ATASS (Automated Training Aid Simulation using SPME).” *Forensic Science International* 212 (2011) 90–95.

2017

1. Canine Explosives Detection Guidelines 2017, Canadian Safety and Security Program.
For official use only.
2. DeGreeff, L.E., Cerreta, M.M., and Katilie, C.J., “Variation in the headspace of bulk hexamethylene triperoxide diamine (HMTD) with time, environment, and formulation.” *Forensic Chemistry* 2017; 4:41-50.

2018

1. MacCrehan, W.A., Young, M., and Schantz, M.M., “Measurements of vapor capture-and-release behavior of PDMS-based canine training aids for explosive odorants.” *Forensic Chemistry* 2018; 11:58-64.

7 – Sampling and Sample Prep

1976

1. Chrostowski, J. E., Holmes, R. N., and Rehn, B. W., “The Collection and Determination of Ethylene Glycol Dinitrate, Nitroglycerine, and Trinitrotoluene Explosive Vapors.” *J Forensic Sci* 1976 Jul, 21(3):611-615.

1982

1. Twibell, J. D., Home, J. M., Smalldon, K. W., Higgs, D. G., and Hayes, T. S., “Assessment of Solvents for the Recovery of Nitroglycerine from Hands using Cotton Swabs.” *J Forensic Sci.* 1982 Oct; 27(4):792-800.

1984

1. Russel, L. W., “The universal hand-swab – does it exist?” *J. Forensic Sci. Soc.* 24 (1984) 349.
2. Twibell, J. D., Wright, T., Sanger, D. G., Bramley, R. K., Lloyd, J. B. F., and Downs, N. S., “The efficient extraction of some common organic explosives from hand swabs for analysis by gas liquid and thin-layer chromatography.” *J. Forensic Sci.* 29 (1984) 277-283.

1985

1. Lloyd, J. B. F., “Adsorption Characteristics of Organic Explosives Compounds on Adsorbents Typically Used in Clean-up and Related Trace Analysis.” *Journal of Chromatography A*, Volume 328, 1985, Pages 145-154.

1990

1. Lloyd, J. B. F., and King, R. M., "One-pot processing of swabs for organic explosives and firearms residue traces." *J. Forensic Sci.* 35 (1990) 956-959.

1991

1. Fraim, F.W., Achter, E.K., Carroll, A. L., and Hainsworth, E., "Efficient Collection of Explosive Vapors, Particles and Aerosols." *Proc. First Int. Symp. Explos. Detect. Technol.* FAA Atlantic City, NJ November 13-15, 1991 pp. 559-570.
2. Hintze, M. M., Hansen, B. L., and Heath, R. L., "Real-Time Explosives/Narcotics Vapor Enhancement and Collection Systems for Use with the Atmospheric Pressure Ionization Time-of-Flight Mass Spectrometer." *Proc. First Inter. Symp. Explos. Detect. Technol.* Khan, S.M. -Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 634-636.

1993

1. Wallace, J.S. and McKeown, W.J. "Sampling Procedures for Firearms and/or Explosives Residues" *J. Forensic Sci. Soc.* 1993, 33(2) 107-116 June.

1995

1. Buechler, S., Ornath, F., and Bigman, J., "Advanced Methods of Sample Collection in Trace Explosives Detection." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.

1996

1. Flagan, R. C., Smedley, G. T., and Phares, D. J., "Aerodynamic Sampling of Particles from Surfaces." *Proc. 2nd Explos. Detect. Technol. Symp. Aviation Secur. Technol. Conf.* Makky, W. -Chair November 12-15, 1996 FAA Atlantic City, NJ pp. 71-76.

1998

1. Kirkbride, K.P., Klass, G., and Pigou, P. E., "Application of Solid-Phase Microextraction to the Recovery of Organic Explosives." *J. Forensic Sci.* 1998, 43(1) 76-81 January.
2. Warren, D., Hiley, R. W., Philips, S. A., and Ritchie, K., "Novel technique for the combined recovery, extraction and clean-up of forensic organic and inorganic trace explosives samples." *Sci. Justice* 31 (1998) 11-18.

1999

1. Thompson, R., Fetterolf, D., Miller, M., and Mothershead, R., "Aqueous Recovery from Cotton Swabs of Organic Explosives Residue Followed by Solid Phase Extraction," *Journal of Forensic Sciences*, Vol. 44, No. 4, 1999, pp. 795-804, Available at: <https://doi.org/10.1520/JFS14555J>. ISSN 0022-1198.

2. Warren, D.; Hiley, R.W.; Phillips, S.S. and Ritchie, K. "Novel Technique for the Combined Recovery, Extraction and Clean-up of Forensic Organic and Inorganic Trace Explosives Samples" *Science & Justice* 1999, **39**(1) 11-18 January-March.

2007

1. Borusiewicz, R., ' A review of methods of preparing samples for chromatographic analysis for the presence of organic explosive substances.' *Problems of Forensic Sciences* 2007 LXIX, 5-29.
2. Duff, M. C., Crump, S. L., Ray, R. J., Cotham, W. E., LaMont, S., Beals, D., Mount, K., Koons, R. D., and Leggitt, J., 'Solid phase microextraction sampling of high explosive residues in the presence of radionuclide surrogate metals.' *Journal of Radioanalytical and Nuclear Chemistry*, Vol. 275, No.3 (2008) 579–593.

2008

1. Perret, D., Marchese, S., Gentili, A., Curini, R., Terracciano, A., Bafile, E., and Romolo, F., "LC-MS-MS Determination of Stabilizers and Explosives Residues in Hand-Swabs." *Chromatographia* 2008, 68, October (No. 7/8).
2. Tachon, R., Pichon, V., Le Borgne, M. B., and Minet, J-J., "Comparison of solid-phase extraction sorbents for sample clean-up in the analysis of organic explosives." *Journal of Chromatography A*, 1185 (2008) 1–8.

2010

1. Dalby, O., Birkett, J. W., "The evaluation of solid phase micro-extraction fibre types for the analysis of organic components in unburned propellant powders." *Journal of Chromatography A*. 2010; 1217(46):7183-7188.

2012

1. Song-im N., Benson, S., and Lennard, C., "Evaluation of different sampling media for their potential use as a combined swab for the collection of both organic and inorganic explosive residues." *Forensic Science International* 2012; 222(1-3):102-110.
2. Song-im, N., Benson, S., and Lennard C., "Establishing a universal swabbing and clean-up protocol for the combined recovery of organic and inorganic explosive residues." *Forensic Science International* 2012; 223(1-3):136-147.

2013

1. DeTata, D.A., Collins, P.A., and McKinley, A.J., "A Comparison of Common Swabbing Materials for the Recovery of Organic and Inorganic Explosive Residues." *Journal of Forensic Sciences* 2013; 58(3):757-763.

2. DeTata, D.A., Collins, P.A., and McKinley, A.J., “A Comparison of Solvent Extract Cleanup Procedures in the Analysis of Organic Explosives.” *Journal of Forensic Sciences* 2013; 58(2):500-507.
3. Fan, W., and Almirall, J., “High-efficiency headspace sampling of volatile organic compounds in explosives using capillary microextraction of volatiles (CMV) coupled to gas chromatography-mass spectrometry (GC-MS).” *Anal Bioanal Chem*, 2013, DOI 10.1007/s00216-013-7410-3.
4. Szomborg, K., Jongekrijg, F., Gilchrist, E., Webb, T., Wood, D., and Barron, L., “Residues from low-order energetic materials: The comparative performance of a range of sampling approaches prior to analysis by ion chromatography.” *Forensic Science International* 2013; 233(1-3):55-62.
5. Romolo, F.S., Cassioli, L., Grossi, S., Cinelli, G., and Russo, M.V., “Surface-sampling and analysis of TATP by swabbing and gas chromatography/mass spectrometry.” *Forensic Science International* 2013; 224(1-3):96-100.

2015

1. Bianchi, F., Gregori, A., Braun, G., Crescenzi, C., and Careri, M., “Micro-solid-phase extraction coupled to desorption electrospray ionization-high-resolution mass spectrometry for the analysis of explosives in soil.” *Analytical and Bioanalytical Chemistry* 2015; 407(3):931-938.
2. DeGreeff, L., Rogers, D. A., Katilie, C., Johnson, K., and Rose-Pehrsson, S., “Technical note: Headspace analysis of explosive compounds using a novel sampling chamber.” *Forensic Science International*, 248 (2015) 55-60.

2016

1. Howa, J.D., Lott, M.J., Chesson, L.A., and Ehleringer, J.R., “Isolation of components of plastic explosives for isotope ratio mass spectrometry.” *Forensic Chemistry* 2016; 1:6-12.
2. Yu, H.A., Lewis, S.W., Beardah, M.S., and Nic Daeid, N., “Assessing a novel contact heater as a new method of recovering explosives traces from porous surfaces.” *Talanta* 2016; 148:721-728.

2017

1. Daeid, N.N., Yu, H.A., and Beardah, M.S., “Investigating TNT loss between sample collection and analysis.” *Science and Justice* 2017; 57(2):95-100.

2. Yu, H.A., Becker, T., Daeid, N.N., and Lewis, S.W., "Fundamental studies of the adhesion of explosives to textile and non-textile surfaces." *Forensic Science International* 2017; 273:88-95.

2018

1. Lees, H., Zapata, F., Vaher, M., and Garcia-Ruiz, C., "Study of the adhesion of explosive residues to the finger and transfer to clothing and luggage." *Science and Justice* 2018.
2. Thomas, J.L., Donnelly, C.C., Lloyd, E.W., Mothershead, R.F., Miller, J.V., McCollam, D.A., and Miller, M.L., "Application of a co-polymeric solid phase extraction cartridge to residues containing nitro-organic explosives." *Forensic Chemistry* 2018; 11:38-46.
3. Thomas, J.L., Donnelly, C.C., Lloyd, E.W., Mothershead, R.F., and Miller, M.L., "Development and validation of a solid phase extraction sample cleanup procedure for the recovery of trace levels of nitro-organic explosives in soil." *Forensic Science International* 2018; 284:65-77.

2020

1. Pagliano, E., "Versatile derivatization for GC-MS and LC-MS: alkylation with trialkyloxonium tetrafluoroborates for inorganic anions, chemical warfare agent degradation products, organic acids, and proteomic analysis." *Analytical and Bioanalytical Chemistry*. 2020 Jan 9:1-9.
<https://link.springer.com/article/10.1007/s00216-019-02299-8>

8 – Intact Explosives Analysis

1952

1. Miller, F. A., and Wilkins, C. H., "Infrared spectra and characteristic frequencies of inorganic ions." *Analytical Chemistry* 1952 24(8), 1253–1294.

1960

1. Carol, J., "Infrared analysis of erythritol tetrinitrate, pentaerythritol tetrinitrate, and mannitol hexanitrate." *J Assoc of Agricul Chem* 1960; 43:259-61.
2. Pristera, F., Halik, M., Castelli, A., and Fredericks, W., "Analysis of explosives using infrared spectroscopy." *Analytical Chemistry* 1960 **32**(4), 495–508.

1963

1. Urbanski, T., and Witanowski, M., "Infra-red spectra of nitric esters." *Trans Faraday Soc* 1963; 59:1046-54.

1966

1. Amas, S. A. H., and Yallop, H. G., "The Identification of Industrial Blasting Explosives of the Gelignite Type." *Journal of the Forensic Science Society*, Volume 6, Issue 4, July 1966, Pages 185-188.

1969

1. Rosen, J. M., and Dickinson, C., "Vapor pressures and heats of sublimation of some high-melting organic explosives." *Journal of Chemical Engineering Data* 1969 14(1), 120–124.

1972

1. Feigl, F., and Anger, V., "Spot Tests in Inorganic Analysis." 6th Edition, 1972, Elsevier Science.

1975

1. Parker, R. G., Stephenson, M., McOwen, J. M., and Cherolis, J. A., "Analysis of Explosives and Explosive Residues. Part 1: Chemical Tests," *Journal of Forensic Sciences*, Vol. 20, No. 1, 1975, pp. 133-140. Available at:
<https://doi.org/10.1520/JFS10249J>.
2. Parker, R. G., McOwen, J. M., and Cherolis, J. A., "Analysis of Explosives and Explosive Residues. Part 2: Thin Layer Chromatography," *Journal of Forensic Sciences*, 1975, pp. 254-260.
3. Parker, R. G. "Analysis of explosives and explosive residues. Part 3: monomethylamine nitrate." *Journal of Forensic Sciences* 1975 20(2), 257–260.

1976

1. Chrostowski, J. E., Holmes, R. N., and Rehn, B. W., "The Collection and Determination of Ethylene Glycol Dinitrate, Nitroglycerine, and Trinitrotoluene Explosive Vapors." *J Forensic Sci* 1976 Jul, 21(3):611-615.

1977

1. Pella, P. A., "Measurement of the vapor pressures of TNT, 2, 4-DNT, 2, 6-DNT, and EGDN." *The Journal of Chemical Thermodynamics* 1977 9(4), 301–305.

1980

1. Reimer, R. E., Washington, W. D., and Snow, K. B., "On the Examination of the Military Explosive, C4." *Journal of Forensic Sciences*, 1980; vol. 25(2).

1981

1. Wu, C. C., Sokoloski, D., Burkman, A. M., and Wu, L. S., "Separation, Identification and Quantification of Nitroglycerin and its Metabolic or Hydrolysis Products." *Journal of Chromatography A*. Volume 216, 30 October 1981, Pages 239-249.

1983

1. Lyter, A. H., "A High Performance Liquid Chromatographic (HPLC) Study of Seven Common Explosive Materials." *Journal of Forensic Sciences* 28(2):446-450 · April 1983.
2. Yinon, J., Hwang, D. G., "High Performance Liquid Chromatography-Mass Spectrometry of Explosives." *Journal of Chromatography A*, Volume 268, 1983, Pages 45-53.
3. Zitrin, S., Kraus, S., and Glattstein, B., "Identification of two rare explosives", in: Proceedings of the 1st International Symposium on the Analysis and Detection of Explosives, US Department of Justice, FBI, Quantico, VA, 1983, pp. 137–141.

1984

1. Dean, W. L., "Examination of fire debris for flare (fusee) residues by energy dispersive X-ray spectrometry." In: Proceedings of the international association of forensic sciences, Oxford, 1984.

1985

1. Hopen, T. J., Kilbourn, J. H., "Characterization and Identification of Water-Soluble Explosives," *The Microscope* 1985, Vol. 33, pp. 1-22.
2. Kilbourn, J. H., McCrone, W. C., "Fusion Methods Identification of Inorganic Explosives," *The Microscope*, 1985, Vol. 33, pp. 73-90.
3. Langseth-Manrique, K, Bredesen, J. E., and Greibrokk, T., "Rapid, Isothermal Gas-Liquid Chromatographic Determination of Nitroglycerine in Plasma using Electron-Capture Detector. II. *J Chromatogr.* 1985 Dec 11; 349(2):421-4.

1986

1. Dionne, B. C., Rounbehler, D. P., Achter, E. K., Hobbs, J. R. and Fine, D. H, "Vapour pressure of explosives" *Journal of Energetic Materials* 1986 **4**, 447–472.
2. Keto, R., O., "Improved Method for the Analysis of the Military Explosive Composition C-4." *Journal of Forensic Sciences* 31(1):241-249 · January 1986.

1988

1. Berberich, D. W., Yost, R. A., and Fetterolf, D. D., "Analysis of Explosives by Liquid Chromatography/Thermospray/Mass Spectrometry." *J. Forensic Sci.* 1988, 33(4) 946-959 July.
2. Crippin, J. B., "An Explosive Field Test Kit." Presented: Fall 1988 Meeting, Southern Association of Forensic Scientists.
3. Douse, J. M. F., "Trace Analysis of Explosives by Capillary Supercritical Fluid Chromatography with Thermal Energy Analysis Detection." *J. Chromatogr.* 1988, 445(1) 244-250.
4. Fu, R., Tian, L., Liu, H., and Pang, Z., "Identification of Thirteen Kinds of Explosives by Pyrolysis Gas Chromatography." *Binggong Xuebao* 1988, (1) 52-58 (in Chinese).
5. Lawrence, A.H., and Neudorf, P., "Detection of Ethylene Glycol Dinitrate Vapors by Ion Mobility Spectrometry Using Chloride Reagent Ions" *Anal. Chem.* 1988, 60(2) 104-109 January 15.
6. Yelverton, B. J. "Analysis of RDX Vapors in Pre- and Post-detonations Using the Ion Mobility Spectrometer Under Field Conditions" *J. Energ. Mater.* 1988, 6(1-2) 73-80 March/June.
7. Yinon, J., "Identification of Explosives' Mixtures by Tandem Mass Spectrometry (MS/MS)" *Can. Soc. Forensic Sci. J.* 1988, 21(1/2) 46-53 March/June.

1989

1. Ark, F., and Chen, T. H., "Multicomponent Analysis of Explosives." *Proc. Third Symposium. Anal. Detect. Explosives.* Mannheim, FRG July 10-13, 1989 pp. 29-1 to 29-13.
2. Bamberger, Y., Levy, S., Tamiri, T., and Zitrin, S., "The Identification of Musk Ambrette During a Routine Test for Explosives." *Proc. Third Symposium. Anal. Detect. Explosives.* Mannheim, FRG July 10-13, 1989 pp. 4-1 to 4-9.
3. Bender, E. C., "Indirect Photometric Detection of Anions for the Analysis of Low Explosives." *Crime Lab. Dig.* 1989, 16(3) 78-83 October.
4. Bender, E. C., "The Analysis of Dicyandiamide and Sodium Benzoate in Pyrodex by HPLC." *Crime Lab. Dig.* 1989, 16(3) 76-77 October.
5. Bergens, A., and Asplund, J., "Determination of Nitrogen Dioxide Generated in Propellants and Explosives by Polarography and HPLC with Electrochemical Detection." *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 15 -1 to 15 -10.

6. Brown, M. E., and Rugunanan, R. A., "A Temperature-Profile Study of the Combustion of Black Powder and its Constituent Binary Mixtures." *Propellants, Explos. Pyrotech.* 1989, 14(2) 69-75 April.
7. Fetterolf, D. D., "FBI Laboratory Evaluation of Portable Explosives Vapor Detectors." *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 33-1 to 33-18 Presented: International Association of Forensic Sciences Meeting Adelaide, Australia 1990 Abstract FE193.
8. Griest, W. H., Guzman, C., and Dekker, M., "Packed-column Supercritical Fluid Chromatographic Separation of Highly Explosive Compounds." *J. Chromatogr.* 1989, **467** 423-429.
9. Hobbs, J. R. and Conde, E., "Comparison of Different Techniques for the Headspace Analysis of Explosives." *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10 -13, 1989 pp. 41-1 to 41-18.
10. Inoue, Y., Arakawa, S., Ueda, N., Yamamoto, J., and Nakashima, R., "Rapid and Sensitive Analysis of Explosives by High Performance Liquid Chromatography and Gas Chromatography/Mass Spectrometry." *Tottori Daigaku Kogakubu Kenkyu Hokoku* 1989, 20(1) 97-104 from *Chem. Abstr.* 113:81656.
11. Kaiser, M., "Detection and Identification of Impurities in RDX and HMX by NMR Spectroscopy." *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 28-1 to 28-18.
12. Karpas, Z., "Forensic Science Applications of Ion Mobility Spectrometry." *Forensic Sci. Rev.* 1989, 1(2) 103-119 December.
13. Keto, R. O., "Analysis of the Eastern Bloc Explosive Semtex-H." *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 11-1 to 11-20.
14. Kohler, H., "Application of Chromatographic Methods for Identification and Separation of Explosives, their Degradation and By-Products in Different Matrices e.g. Formulations, Water, Soil and Air." *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 11-1 to 11-20.

1990

1. Allen, R., Miller, R., Sanderson, P., and Bartick, E., "FTIR in the Forensic Analysis of Explosives and Epoxy Glues." Presented: 200th ACS National Meeting Washington, DC August 26-31, 1990 Abstract: HIST 19.
2. Baran, T., "Identification of Explosive Materials." *Forensic Sci. Int.* 1990, 46(1-2) 139-142.

3. Bartick, E. G., "Infrared Analysis of Plastic Explosives by Internal Reflectance Spectroscopy." Presented: International Association of Forensic Sciences Meeting Adelaide, Australia 1990 Abstract CC335.
4. Druet, L. M., and Degenhardt, C. A. E. M., "Development of a Pyrolysis-Gas Chromatographic Method for Characterization of Plastic-Bonded Explosives." *Propellants, Explos. Pyrotech.* 1990, 15(1) 14-18 February.
5. Hodges, C. M., and Akhavan, J. "The Use of Fourier Transform Raman Spectroscopy in the Forensic Identification of Illicit Drugs and Explosives." *Spectrochim. Acta* 1990, 46A(2) 303-307.
6. McCord, B.R., "Applications of Supercritical Fluid Chromatography to Explosives Analysis" Presented: 200th ACS National Meeting Washington, DC August 26-31, 1990 Abstract: HIST 18.
7. Snyder, A.P., Liebman, S. A., Schroeder, M. A., and Fifer, R. A., "Characterization of Cyclotrimethylenetrinitramine (RDX) by Pyrolysis Water/Deuterium Oxide Atmospheric-Pressure Ionization Tandem Mass Spectrometry." *Org. Mass Spectrom.* 1990, 25(1) 61-66.

1991

1. Bartick, E. G., and Merrill, R. A., "Analysis of Plastic Bonded Explosives II: Bulk Analysis by Infrared Internal Reflection Spectroscopy." *Proc. Inter. Symp. Forensic Aspects Trace Evid.* FBI Quantico, VA June 24-28, 1991 pp. 277-279 Avail. NTIS PB94-145877.
2. Baytos, J. F., "Field Spot-Test Kit for Explosives." Report 1991, LA-12071-MS Los Alamos National Lab., NM Order No. DE91015321 7 pp. Avail. NTIS from: *Energy Res. Abstr.* 1991, 16(10) Abstract # 28440.
3. Beveridge, A. D., "Analysis of Explosives." *Proc. Inter. Symp. Forensic Aspects Trace Evid.* FBI Quantico, VA June 24-28, 1991 pp. 177-189 avail. NTIS PB94-145877.
4. Bromberg, E. E. A., Carroll, A. L., Fraim, F. W., and Lieb, D. P., "Vapor Sampling Using Controlled Heating." *Proc. First Inter. Symp. Explos. Detect. Technol.* Khan, S.M. - Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 552-558.
5. Chutjian, A., Boumsellek, S., and Alajajian, S. H., "Negative-Ion Formation in the Explosives RDX, PETN, and TNT Using the Reversal Electron Attachment Detection (READ) Technique." *Proc. First Inter. Symp. Explos. Detect. Technol.* Khan, S.M. - Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 571-583.
6. Danylewych-May, L.L., "Modifications to the Ionization Process to Enhance the Detection of Explosives by IMS." *Proc. First Inter. Symp. Explos. Detect. Technol.* Khan, S.M. - Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 672-686.

7. Davidson, W. R., Stott, W. R., Akery, A. K., and Sleeman, R., "The Role of Mass Spectrometry in the Detection of Explosives." *Proc. First Inter. Symp. Explos. Detect. Technol.* Khan, S.M. -Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 663-671.
8. Davidson, W. R., Thomson, B. A., Sakuma, T., Stott, W. R., Akery, A. K., and Sleeman, R., "Modifications to the Ionization Process to Enhance the Detection of Explosives by API/MS/MS." *Proc. First Inter. Symp. Explos. Detect. Technol.* Khan, S.M. -Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 653-662.
9. Giam, C.S., Ahmed, M. S., Weller, R. R., and Derrickson, J., "Fourier Transform Ion-Cyclotron Resonance (FT-ICR) Mass Spectrometry of RDX, PETN and Other Explosives." *Proc. First Inter. Symp. Explos. Detect. Technol.* Khan, S.M. -Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 687-688.
10. Glish, G. L., McLuckey, S. A., Grant, B. C., and McKown, H. S., "Tandem Mass Spectrometry for Explosives Vapor Detection." *Proc. First Inter. Symp. Explos. Detect. Technol.* Khan, S.M. -Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 642-652.
11. Henderson, D. O., Silberman, E., and Snyder, F.W., "Fourier-Transform Infrared Spectroscopy Applied to Explosive Vapor Detection." *Proc. First Inter. Symp. Explos. Detect. Technol.* Khan, S.M. -Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 604-618.
12. Hiskey, M. A., Brower, K. R., and Oxley, J. C., "Thermal decomposition of nitrate esters." *Journal of Physical Chemistry* 1991 **95**, 3955–3960.
13. Hobbs, J. R., and Conde, E. P., "A Simple Inexpensive Thermal Desorption Method for the Trace Analysis of Headspace Vapors from Explosives and Organic Nitro Compounds." *Proc. Inter. Symp. Forensic Aspects Trace Evid.* FBI Quantico, VA June 24-28, 1991 p. 269 Avail. NTIS PB94-145877.
14. Hwang, D. G., and Lee, M. R., "Positive Chemical Ionization Mass Spectrometry of Nitrate Ester Explosives." *Huoyao Jishu* 1991, 7(4) 63-68 (in Chinese).
15. Hwang, D. G., Lee, M. R., and Chien, C. C., "Electron Impact Mass Spectrometry of Nitrate Ester Explosives." *Huoyao Jishu* 1991, 7(3) 11-16 (in Chinese).
16. Krol, J., Alden, P., and Morawaski, J., "Ion Chromatography of Alkyl and Alkanol Amines Using Conductivity Detection" Presented: International Ion Chromatography Symposium 1991 Denver, CO October 6-9, 1991 Abstract # 61.
17. Lee, M.R.; Hwang, D.G.; Kao, T.S.; Chien, C.C.; Lin, F.H. and Fang, J.M. "Tandem Mass Spectrometry of HMX and RDX" *Huoyao Jishu* 1991, 7(1) 1-6 (Chinese).

18. Snyder, A. P., Liebman, S. A., Bulusu, S., Schroeder, M. A., and Fifer, R. A. "Characterization of Cyclotetramethylenetrinitramine (HMX) Thermal Degradation by Isotope Analysis with Analytical Pyrolysis - Atmospheric Pressure Ionization Tandem Mass Spectrometry." *Org. Mass Spectrom.* 1991, **26**(12) 1109-1118.
19. Yinon, J., "Forensic Identification of Explosives by Mass Spectrometry and Allied Techniques" *Forensic Sci. Rev.* 1991, **3**(1) 17-27 June.
20. Yinon, J. "MS/MS Techniques in Forensic Science" in: *Forensic Science Progress 5* 1991, Springer-Verlag Berlin Heidelberg, Germany pp. 2-29.

1992

1. Abramovich-Bar, S., Bamberger, Y., Ravreby, M., and Levy, S., "Applications of Ion Chromatography for Determination and Identification of Chlorate, Nitrite, and Nitrate in Explosives and Explosive Residues." *Adv. Anal. Detect. Explos. Proc. 4th Int. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 41-54.
2. Ark, F., and Chen, T. H., "Determination of the Impurity Concentration Profile in TNT." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 165-172.
3. Bender, E., Hogan, A., Leggett, D., Miskolczy, G., and MacDonald, S., "Surface Contamination by TNT." *J. Forensic Sci.* 1992, **37**(6) 1673-1678 November.
4. Bender, E. C., and Crump, J., "The Instrumental Analysis of Intact and Post Blast Water Gel and Emulsion Explosives." in: *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 179-188.
5. Beveridge, A. D., 1992. "Development in the detection and identification of explosives residues." *Forensic Science Review* 4, 18-49.
6. Biederman, G. B., "Vapor Preconcentration in the Detection of Explosives by Animals in an Automated Laboratory Setting." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 463-472.
7. Boumsellek, S., Alajajian, S. H., and Chutjian, A., "Negative-Ion Formation in the Explosives RDX, PETN, and TNT by Using the Reversal Electron Attachment Detection Technique." *J. Am. Soc. Mass Spectrom.* 1992, **3**(3) 243-247.
8. Burrows, E. P., "Adduct Ions in Mass Spectrometry of Nitramine Munitions Compounds." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-

10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 299-307.

9. Chen, T. H., "Comparative Study of RDX and HMX by DEPMS and TSLC/MS." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 309-321.
10. Chen, T. H., and Campbell, C., "Diagnostic Scheme for Polynitrocage Compounds." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 265-269.
11. Chladek, J., "The Identification of Organic Peroxides." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 73-76.
12. Danylewych-May, L.L., and Cumming, C., "Explosive and Taggant Detection with Ionscan." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1993 pp. 385-401.
13. Doyle, R. J. Jr., "Tandem Mass Spectrometry of Two New Nitramines: Hexanitrohexaazaisowurtzitane (HNIW) and Ammonium Dinitramide (ADN)." Presented: 4th Inter. Symp. Anal. Detect. Explos. Jerusalem, Israel September 7-10, 1992 Abstract E1.
14. Fetterolf, D. D., "Detection of Explosives Residue by Ion Mobility Spectrometry." Presented: 44th Annual Meeting, American Academy of Forensic Sciences New Orleans, LA February 17-22, 1992 Abstract # B51.
15. Henderson, I. K., and Saari-Nordhaus, R., "Analysis of Commercial Explosives by Single Column Ion Chromatography." *J. Chromatogr.* 1992, 602 149-154.
16. Hobbs, J. R., "Analysis of Semtex Explosives." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 409 – 427.
17. Hobbs, J. R., and Conde, E. P., "Gas Chromatographic Retention Indices for Explosives." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 153-164.
18. Hwang, D. G., and Lee, M. R., "Negative Chemical Ionization Mass Spectrometry of Nitrate Ester Explosives." *Huoyao Jishu* 1992, 8(1) 17-24 (in Chinese).

19. Kishi, T., Nakamura, J., Komo-oka, Y., and Fukuda, "A Scheme for the Analysis of Explosives and Explosive Residues in Japan." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 11-17.
20. Kohler, H., "Characterization of Coal-Mining Explosives by Classical Wet and Instrumental Methods." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 189-197.
21. Lloyd, J.B.F., "HPLC of Explosives Materials" *Adv. Chromatogr.* Vol. 32 Giddings, J.C.; Grushka, E. and Brown, P.R. (Editors) New York Marcel Dekker 1992, pp. 173-261.
22. McCord, B.R., and Hargadon, K.A., "Explosive Analysis by Capillary Electrophoresis" *Adv. Anal. Detect. Explos: Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 133-144.
23. McCord, B.R., Hall, K.E., Hargadon, K.A., and Whitehurst. F.W., "A Systematic Approach to Inorganic Explosive Residue Analysis" Presented: 44th Annual Meeting, American Academy of Forensic Sciences, New Orleans, LA February 17-22, 1992 Abstract # B50.
24. McCord, B.R., and Whitehurst. F.W., "The Analysis and Characterization of TNT Using Liquid Chromatography with Photodiode Array Detection" *J. Forensic Sci.* 1992, 37(6) 1574-1584 November.
25. McGann, W., Jenkins, A., and Ribeiro, K., "A Thermodynamic Study of the Vapor Pressures of C-4 and Pure RDX" *Proc. First Int. Symp. Explos. Detect. Technol.* Khan. S.M. – Ed .FAA, Atlantic City, NJ November 13-15, 1992 pp. 518-531.
26. Midkiff, C.R. Jr., and Walters, A.N., "Slurry and Emulsion Explosives: New Tools for Terrorists, New Challenges for Detection and Identification" *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1993 pp. 77-90.
27. Okuyama, S., Mitsui, T., Fijimura, Y., "Determination of Mixing Ratios of Potassium Benzoate and Potassium Perchlorate by Multivariate Analysis with X-ray Diffraction Method" *X-sen Bunseki no Shinpo* 1992, (Publ. 1993) 24 161-169 (Japanese).
28. Slack, G.C., McNair, H. M., and Wasserzug, L., "Characterization of Semtex by Supercritical Fluid Extraction and Off-Line GC-ECD and GC-MS." *J. High Resolut. Chromatogr.* 1992, 15(2) 102-104 February.

1993

1. Chow, T. C., "Characterization of Nitroaromatic Explosive Compounds by Particle Beam Liquid Chromatography/Mass Spectrometry." Presented: 205th ACS National Meeting Denver, CO March 28-April 2, 1993 ANYL # 28.
2. Doyle, R. J. Jr., "Sputtered Ammonium Dinitramide: Tandem Mass Spectrometry of a New Ionic Nitramine." *Org. Mass Spectrom* 1993, 28(2) 83-91.
3. Engelhardt, H., Meister, J. and Kolla, P., "Optimization of Post-Column Reaction Detector for HPLC of Explosives." *Chromatographia* 1993, 35(1/2) 5-12 January.
4. Fetterolf, D. D., and Clark, T. D., "Detection of Trace Explosive Evidence by Ion Mobility Spectrometry." *Proc. First Inter. Symp. Explos. Detect. Technol.* FAA Atlantic City, NJ November 13-15, 1991 pp. 689-702 *J. Forensic Sci.* 1993, 38(1) 28-39 January.
5. McCrone, W.C., Andreen, J.H., and Tsang, S-M., "Identification of Organic High Explosives" *Microscope* 1993, 41(4) 161-182.
6. Rodacy, P., "The Minimum Detection Limits of RDX and TNT Deposited on Various Surfaces as Determined by Ion Mobility Spectroscopy" *Report* 1993, SAND-92-0229; Order No. DE93018521 27 pp. from: *Energy Res. Abstr.* 1993, 18(11) Abstract No. 33315.
7. Verweij, A., De Bruyn, P., Choufoer, C. and Lipman, P. J. L., "Liquid Chromatographic, Thermospray/Negative Ion, Tandem Mass Spectrometric (LC/TSP/MS/MS) Analysis of Some Explosives" *Forensic Sci. Inter.* 1993, 60(1, 2) 7-13 June.
8. Whelan, J. P., Kusterbeck, A. W., Wemhoff, G.A., Bredehorst, R., and Ligler, F. S., "Continuous-Flow Immunosensor for Detection of Explosives" *Anal. Chem.* 1993, 65(24) 3561-3565 December 15.

1994

1. Casetta, B., and Garofolo, F., "Characterization of Explosives by Liquid Chromatography/Mass Spectrometry Using Electrospray Ionization and Parent-Ion Scanning Techniques." *Org. Mass Spectrom.* 1994, 29(10) 517-525.
2. Erwin, L. T., and Hedglin, D. L., "Identification of Cyanoguanidine in Pyrodex and Post Blast Residues of Pyrodex." Presented: 46th Annual Meeting AAFS San Antonio, TX February 14-19, 1994 Abstract #B81.
3. Giam, C. S., Holliday, T. L., Ahmed, M. S., Reed, G. E., and Zhao, G., "Pseudo-molecular Ion Formation of Explosives in FT-ICR-MS." *Proceedings of SPIE --the International Society for Optical Engineering* 1994, 2092 Substance Detection Systems Proceedings October 5-8, 1993 pp. 227-237.

4. McCord, B. R., Hargadon, K. A., Hall, K. E., and Burmeister, S. G., 1994. "Forensic analysis of explosives using ion chromatographic methods." *Analytica Chimica Acta* 288, 43–56.
5. McCord, B.R., Hargadon, K.A., Hall, K.E., and Burmeister, S.G., "Forensic Analysis of Explosives Using Ion Chromatographic Methods" *Anal. Chim. Acta* 1994, **288**(1-2) 43-56 March 30.
6. McCrone, W.C., Andreen, J.H., and Tsang, S-M., "Identification of Organic High Explosives II" *Microscope* 1994, 42(2) 61-73.
7. McGann, W., Bradley, V., Borsody, A., and Lepine, S., "A New High Efficiency Ion Trap Mobility Detection System for Narcotics and Explosives" *Proc. SPIE-Int. Soc. Opt. Eng.* 1994, 2276 (Cargo Inspection Technologies) 424-436.
8. McNesby, K.L., Wolfe, J.E., Morris, J.B., and Pesce-Rodriguez, R.A., "Fourier Transform Raman Spectroscopy of Some Energetic Materials and Propellant Formulations" *J. Raman Spectrosc.* 1994, 25; 75-87.
9. Sullenger, D. B., Cantrell, J.S., and Beiter, T. A., "X-ray Powder Diffraction Patterns of Energetic Materials" *Powder Diffraction* 1994, 9(1) 2-14
10. Yinon, J., Bulusu, S., Axenrod, T., and Yazdekhasti, H., "Mass Spectral Fragmentation Pathways in Some Glycoluril -type Explosives: A Study by Collision-induced Dissociation and Isotope Labeling" *Org. Mass Spectrom.* 1994, **29** 625-631.
11. Yinon, J., Yost, R. A., and Bulusu, S., "Thermal Decomposition Characterization of Explosives by Pyrolysis-Gas Chromatography-Mass Spectrometry" *J. Chromatogr.* 1994, 688 231-242.

1995

1. Bladek, J., Miszczak, M., and Popiel, S., "Separation and Quantitation of High Explosives by Thin Layer Chromatography." *Chem. Anal. (Warsaw)*, 40, 723 (1995).
2. Burns, D. T., and Lewis, R. J., "Analysis and Characterization of Nitroglycerin-based Explosives by Gas Chromatography-Mass Spectrometry." *Anal. Chim. Acta* 1995, 307(1) 89-95.
3. Burns, D. T., and Lewis, R. J., "Analysis and Characterisation of Nitroglycerin Based Explosives by Proton Magnetic Resonance Spectroscopy and Gas Chromatography with Flame Ionisation Detection." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. - Ed Dept. of Treasury, BATF October, 1997.
4. Cheng, C., Kirkbride, T., Batchelder, D., Lacey, R., and Sheldon, T., "In Situ Detection and Identification of Trace Explosives by Raman Microscopy," *Journal of Forensic*

Sciences, Vol. 40, No. 1, 1995, pp. 31-37, <https://doi.org/10.1520/JFS13756J>. ISSN 0022-1198.

5. Clark, A., Deas, M. R., Kosmidis, C., Ledingham, K. W. D., Marshall, A., and Singhal, R. P., "Explosives Vapor Identification in Ion Mobility Spectrometry Using a Tunable Laser Ionization Source: A Comparison with Conventional ^{63}Ni Ionization" *JAERI - Conf.* 1995, 95-005 (Vol. 2) 521-529.
6. Crippin, J. B., "Methylene Blue: A Microcrystalline Test for Perchlorates and Chlorates." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995*.
7. Donaldson, T. P., "Research into the Deposition of Fertiliser Particulate." *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 118 -121.
8. Fell, N.F., Widder, J. M., Medlin, S.V., Pesce -Rodriguez, R. A., and McNesby, K. L., "Fourier Transform Raman Spectroscopy of Some Energetic Materials and Propellant Formulations." *Proc. Beijing Int. Symp. Pyrotech. Explos. 3rd* 1995, 124-134 Yuiang, Ou - Ed. China Ordnance Society Beijing, Peopp. Rep. China.
9. Fetterolf, D. D., "Detection and Identification of Explosives by Mass Spectrometry." *Forensic Appl. Mass Spectrom.* 1995, 45-57 Yinon, Y. - Ed. CRC: Boca Raton, FL 1995.
10. Gilbert, B. D., Janni, J., Moss, D., Field, R. W., Steinfeld, J. I., Kniepp, K., Wang, Y., Dasari, R. R., and Feld, M. S., "Spectroscopic Detection Methods for Explosive Molecules and Their Fragmentation Products." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995*. Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
11. Hayward, I. P., Kirkbride, T. E., Batchelder, D. N., and Lacey, R. J., "Use of a Fiber Optic Probe for the Detection and Identification of Explosive Materials by Raman Spectroscopy." *J. Forensic Sci.* 1995, 40(5) 883-884 September.
12. Kennedy, S., Caddy, B., and Douse, J. M. F., "Capillary Electrophoresis of Explosives." *Adv. Forensic Sci., Proc. Meet. Int. Assoc. Forensic Sci. 13th* Jacob and Bonte (Eds) 1995, 3 204-209.
13. Kishi, T., Nakamura, J., Komo-oka, Y., and Arai, H., "Instrumental Analysis of Japanese Emulsion Explosives." *Adv. Forensic Sci. Proc. Meet. Inter. Assoc. Forensic Sci., 13th* 1995, 3 210-213 Jacob, B. and Bonte, W. Eds. Verlag Dr. Koester Berlin.
14. Lau, L.K.M., Fung, T., Ohashi, K.N., and Beveridge, A.D., "Pre-Blast and Post-Blast Examination of Emulsion Explosives" *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995*.

15. Lewis, R., "NMR Method for the Analysis of NG-based Explosives" Presented: Explosion Investigation Symposium Belfast, Northern Ireland March 20-21, 1995 Abstract: *Sci. Justice* 1998, 38(1) 52 January-March.
16. Nacson, S., "Adsorption Phenomena in Explosive Detection" *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
17. Yinon, J., Johnson, J. V., Bernier, U. R., Yost, Y.A., Mayfield, H.T., Mahone, W. C., and Vorbeck, C., "Reactions in the Mass Spectrometry of a Hydride Meisenheimer Complex of 2,4,6-Trinitrotoluene (TNT)" *J. Mass Spectrom.* 1995, 30(5) 715-722.

1996

1. Cappiello, A., Famiglini, G., Lombardozzi, A., Massari, A., and Vadalia, G. G., "Electron Capture Ionization of Explosives with a Microflow Rate Particle Beam Interface." *J. Am. Soc. Mass Spectrom.* 1996, 7(8) 753-758.
2. Fell, N.F., Widder, J. M., Medlin, S.V., Morris, J.B., Pesce-Rodriguez, R. A. and McNesby, K.L., "Fourier Transform Raman Spectroscopy of Some Energetic Materials and Propellant Formulations. II." *J. Raman Spectroscopy.* 1996, 27; 1-8.
3. Garofolo, F., Longo, A., Migliozi, V., and Tallarico, C., "Quantitative Analysis of Thermostable Explosive Compounds by Combined Liquid Chromatography/Tandem Mass Spectrometry." *Rapid Comm. Mass Spectrom.* 1996, 10(10) 1273 -1277.
4. Garofolo, F., Marziali, F., Migliozi, V. and Stama, A., "Rapid Quantitative Determination of 2, 4, 6-trinitrotoluene by Ion Mobility Spectrometry." *Rapid Comm. Mass Spectrom.* 1996, 10(11) 1321-1326.
5. Kennedy, S., Caddy, B., and Douse, J. M. F., "Micellar Electrokinetic Capillary Chromatography of High Explosives Utilising Indirect Fluorescence Detection." *J. Chromatogr. A* 1996, 726(1-2) 211-222.
6. McLuckey, S.A., Goeringer, D.E., Asano, K.G., Vaidyanathan, G., and Stephenson Jr., J.L. "High Explosives Vapor Detection by Glo Discharge-Ion Trap Mass Spectrometry" *Rapid Commun. Mass Spectrom.* 1996, 10(3) 287-298.
7. Oehrle, S. A., "Analysis of Nitramine and Nitroaromatic Explosives by Capillary Electrophoresis" *J. Chromatogr. A* 1996, 745(1/2) 233-237.

1997

1. Andrasko, J., "Detection of Organic Explosives by Solid Phase Microextraction." *Curr. Top. Forensic Sci. Proc. Meet. Int. Assoc. Forensic Sci. 14th Volume 4.* Takatori, T. and Takasu, A., (Eds) Shunderson Communications Ottawa, Ont.1997 pp. 206-208.

2. Arai, H., and Nakamura, J., "Analysis of Triacetonetriperoxide." *Curr. Top. Forensic Sci. Proc. Meet. Int. Assoc. Forensic Sci.* 14th Volume 4 Takatori, T. And Takasu, A. (Eds) Shunderson Communications Ottawa, Ont. 1997 pp. 209-214.
3. Bi, M., Almirall, J. R., and Furton, K. G., "Analysis of Explosives and Explosive Odors by Solid-Phase Microextraction Followed by HPLC and GC-MS." Presented: 214th ACS National Meeting Los Vegas, NV September 7-11, 1997 ANAL # 35.
4. Blackwood, L.G., Gresham, G.L., Larson, R. A., and Rae, C., "Surface Contamination of Electronic Threat Device Prepared with Composition C-4 Plastic Explosives." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. - Ed Treasury Dept. BATF October, 1997.
5. Kaur, M., Kumar, R., and Sharma, R. M., "Analysis of Some Undetonated Explosives by Derivative-UV Spectrophotometry." *Curr. Top. Forensic Sci., Proc. Meet. Int. Assoc. Forensic Sci.* 14th Volume 4 Takatori, T. and Takasu, A. (Eds.) 1997 Shunderson Communications Ottawa, Ont. pp. 228-234.
6. Lapat, A., Szekelyhidi, L., and Hornyak, I., "Spectrofluorometric Determination of 1, 3, 5-trinitro-1, 3, 5-triazacyclohexane (hexogen, RDX) as a Nitramine Type Explosive" *Biomed. Chromatogr.* 1997, 11(2) 102-104.
7. Linehan, S.T., and Fultz, M.L., "The Separation of Explosives Using Non-Chlorinated Mobile Phases in Thin Layer Chromatography" *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
8. Nam, S. I., "On-Site Analysis of Explosives in Soil; Evaluation of Thin-Layer Chromatography for Confirmation of Analyte Identity." CRREL Special Report, August 1997.
9. Park, S.W., Yang, Y. G., Hong, S. W., Kim, T. J. and Paeng, K. J., "Improved Separation of Organic Explosives by Modified Micellar Electrokinetic Capillary Chromatography" *Anal. Sci. Technol.* 1997, 10(5) 325-331.
10. Pukkila, J., and Jantti, S., "Head Space Sampling of Volatile Explosive Residues by SPME" *Curr. Top. Forensic Sci. Proc. Meet. Int. Assoc. Forensic Sci.* 14th Volume 4 214-217 Takatori, T. and Takasu, A. - Eds. Shunderson Communications Ottawa, Ont. 1997.
11. Randle, W. A., "A Microchemical Test for Monomethylamine Nitrate" *Microscope* 1997, 45(3) 85-88.
12. Skidmore, C. B., Phillips, D. S., and Crane, N. B., "Microscopical Examination of Plastic Bonded Explosives." *Microscope* 1997, 45(4) 127-136 4th Quarter.

1998

1. Almirall, J. R., Bi, G., and Furton, K. G., "The Analysis of High Explosives Residues by Solid-Phase Microextraction followed by HPLC, GC/ECD and GC/MS." Presented: 50th Anniversary Meeting, AAFS San Francisco, CA February 9-14, 1998 Abstract# B71 Abstract: Supelco SPME Brochure T498217 1998.
2. Bender, E. C., "Analysis of Low Explosives." in: *Forensic Invest. Explos.* 1998 Beveridge, A. - Ed. Taylor & Francis London, U.K. pp. 343-388.
3. Burns, D. T., Lewis, R. J., and Bridges, J., "Systematic Approach to the Identification of Water-Gel Explosives." *Anal. Chim. Acta* 1998, 375 255-260.
4. Caddy, B., "Capillary Electrophoresis of Explosives." Presented: Explosive Investigation Symposium Belfast, Northern Ireland March 20 -21, 1995 Abstract: *Sci. Justice* 1998, 38(1) 52 January-March.
5. Doyle, J. N., and McCord, B. R., "Novel Electrolyte for the Analysis of Cations in Low Explosive Residue by Capillary Electrophoresis." *J. Chromatogr., B: Biomed. Sci. Appl.* 1998, 714(1) 105-111.
6. Edge, C. C., Gibb, J. M. and Wasserzug, L. S., "Comparative Analysis of the Vapor Headspace of Military-Grade TNT versus NESTT TNT under Dynamic and Static Conditions." *Proc. SPIE-Int. Soc. Opt. Eng.* 1998, 3392 (Pt. 1, Detection and Remediation Technologies for Mines and Minelike Targets III) 502-508.
7. Kastler, J., Dubourg, V., Diesenhofer, R., and Ballschmitter, K., "Group Separation of Organic Nitrates on a New Nitric Acid Ester NP-LC Stationary Phase." *Chromatographia* 1998, 47(3/4) 157-163 February.
8. Leach, C., Flower, P., Hollands, R., Flynn, S., Marshall, E., and Kendrick, J., "Plasticisers in Energetic Materials Formulations. A UK Overview" *Int. Annu. Conf. ICT* 1998 29th (Energetic Materials) 2.1-2.14.
9. McCord, B.R., and Bender, E.C., "Chromatography of Explosives" in: *Forensic Invest. Explos.* Beveridge, A.D. - Ed. London, Taylor & Francis 1998 pp. 231-265.
10. Mindrup, R.F., "SPME of Explosives for Analysis by Capillary GC" *The Reporter* (Supelco) 1998, 17(3) 3.
11. Mitsui, T., and Satoh, M., "Determination of Ammonium Nitrate in Dynamite Without Separation by Multivariate Analysis Using X-ray Diffractometer" *J. Chem. Software* 1998, 4(1) 33-40.
12. Park, S.W., Kin, D. H., and You, J. H., "Forensic Analysis of Explosives (II)" *Anal. Sci. Technol.* 1998, 11(3) 33A-43A (Korean).

13. Steinfeld, J. I., and Wormhoudt, J., "Explosives Detection: A Challenge for Physical Chemistry." *Annu. Rev. Phys. Chem.* 1998, 49 203-232.
14. Zitrin, S. "Analysis of Explosives by Infrared Spectrometry and Mass Spectrometry" in: *Forensic Invest. Explos.* Beveridge, A.D. - Ed. London, Taylor & Francis 1998 pp. 231-265.

1999

1. Hilmi, A., Luong, J. H. T., and Nguyen, A-L., "Development of Electrokinetic Capillary Electrophoresis Equipped with Amperometric Detection for Analysis of Explosive Compounds." *Anal. Chem.* 1999, 71 873-878.
2. Huntamer, D. D., "Microscopical Characterization of an Emulsion Explosive." *Microscope* 1999, 47(1) 1-4 First Quarter.
3. Liu, M.; Zhang, X. and Jiang, X. "Low Pressure Ion Chromatography in Explosive Case Studies" *Shiou Huagong Gaodeng Xuexiao Xuebao* 1999, 12(1) 26-28 (Chinese).
4. McAvoy, Y., Dost, K., Jones, D.C., Cole, M.D., George, M.W., and Davidson, G., "A Preliminary Study of the Analysis of Explosives Using Packed-Column Supercritical Fluid Chromatography with Atmospheric Pressure Chemical Ionization Mass Spectrometric Detection" *Forensic Sci. Int.* 1999, 99(2) 123-141.
5. Midkiff, C. R., "Analysis and Detection of Explosives, Published Papers, Results and Presentations: 1988-1998. August 1999. Available at <https://www.swgfix.com/publications>.

2000

1. Tamiri, T., "Explosives analysis." In Encyclopedia of Forensic Sciences, 2000. Siegel, J., Knupfer, G., and Saukko, P., (Eds). Academic Press London, England.

2001

1. Sigman, M. E., and Ma, C. Y., 'Detection limits for GC/MS analysis of organic explosives.' *Journal of Forensic Sciences* 2001: 46(1), 6-11.

2003

1. Casamento, S., Kwok, B., Roux, C., Dawson, M., and Dobie, P., "Optimization of the Separation of Organic Explosives by Capillary Electrophoresis with Artificial Neural Networks." *J Forensic Sci.* 2003 Sep; 48(5):1075-83.

2004

1. Brown, H., Kirkbride, K. P., Pigou, P. E., and Walker, G. S., "New Developments in SPME Part 2: Analysis of Ammonium Nitrate-based Explosives." *J Forensic Sci.* 2004 Mar; 49(2):215-21.
2. Calderera, S., Gardebas, D., Martinez, F., and Khong, S. P., "Organic Explosives Analysis Using On Column-Ion Trap EI/NICI GC-MS with and External Source." *J Forensic Sci.* 2004 Sep; 49(5):1005-8.
3. Paull, B., Roux, C., Dawson, M., and Doble, P., "Rapid Screening of Selected Organic Explosives by High Performance Liquid Chromatography using Reversed-Phase Monolithic Columns" *J Forensic Sci.* 2004 Nov;49(6):1181-6.
4. The Technical and Scientific Working Group on Fire and Explosion Analysis (T/SWGEX). "*Recommended Guidelines for Forensic Identification of Intact Explosives.*" July 2004. Available at <https://www.swgex.com/publications>.

2005

1. Agüí, L., Vega-Montenegro, D., Yáñez-Sedeño, P., and Pingarrón, J. M., "Rapid voltammetric determination of nitroaromatic explosives at electrochemically activated carbon-fibre electrodes." *Anal Bioanal Chem.* 2005 May; 382(2):381-7. Epub 2005 Apr 14.
2. Bradley, K. S., "Determination of Elemental Sulfur in Explosives and Explosive Residues by Gas Chromatography-Mass Spectrometry." *J Forensic Sci.* 2005 Jan; 50(1):96-103.
3. Hodyss, R., and Beauchamp, J. L., "Multidimensional Detection of Nitroorganic Explosives by Gas Chromatography-Pyrolysis-Ultraviolet Detection." *Anal. Chem.*, 2005, 77 (11), pp 3607–3610.
4. Perr, J. M., Furton, K. G., and Almirall, J. R., "Gas Chromatography Positive Chemical Ionization and Tandem Mass Spectrometry for the Analysis of organic high Explosives." *Talanta.* 2005 Aug 15; 67(2):430-6.
5. Reardon M. R., Bender, E. C., "Differentiation of Composition C-4 based on the analysis of the process oil." *Journal of Forensic Sciences*, 2005; 50:564-570.
6. Sharma, S. P., and Lahiri, S. C., "Characterization and Identification of Explosives and Explosive Residues Using GC-MS, an FTIR Microscope and HPTLC." *Journal of Energetic Materials*, 2005: vol. 23(4); 239-264.
7. Sharma, S. P., and Lahiri, S. C., "GC-MS and HPTLC Analysis of Constituents of an Unexploded Bomb." *Journal of the Indian Chemical Society*, 82(2):131-133 · February 2005.

2006

1. Alzate, L. F., et al., "The vibrational spectroscopic signature of TNT in clay minerals." *Vibrat, Spectrosc.* 42: 357-368.
2. Collin, O. L., Niegel, C., DeRhodes, K. E., McCord, B. R., and Jackson, G. P., "Fast Gas Chromatography of Explosive Compounds Using a Pulsed-Discharge Electron Capture Detector," *Journal of Forensic Sciences*, Vol 51, No. 4, July 2006, pp. 815–818.
3. Cotte - Rodriguez, I., and Cooks, R.G., 2006. "Non-proximate detection of explosives and chemical warfare agent simulants by desorption electrospray ionization mass spectrometry." *Chemical Communications* 28, 2968–2970.
4. De Tata, D., Collins, P., Campbell, N., "The identification of the emulsifier component of emulsion explosives by liquid chromatography-mass spectrometry." *Journal of Forensic Sciences* 2006; 51:303-307.
5. Oehrle, S. A., "Analysis of CL-20 and TNAZ in the Presence of other Nitroaromatic and Nitramine Explosives using HPLC with Diode Array (PDA) Detection." *Journal of Energetic Materials*, vol. 12 1994; Issue 4; 211-222.
6. Reynolds, J., Nunes, P., Whipple, R., and Alcaraz, A., (2006). "On-Site Analysis of Explosives in Various Matrices," *NATO Security through Science Series*, Springer, the Netherlands.
7. Schmidt, A. C., Herzschuh, R., Matysik, F. M., and Engewald, W., "Investigation of the Ionisation and Fragmentation Behaviour of Different Nitroaromatic Compounds Occurring as Polar Metabolites of Explosives using Electrospray Ionisation Tandem Mass Spectrometry." *Rapid Commun Mass Spectrom.* 2006; 20(15):2293-302.

2007

1. Gaurav, D., Malik, A. K., and Rai, P. K., 'High performance liquid chromatographic methods for the analysis of explosives.' *Critical Reviews in Analytical Chemistry* 2007 37, 227–268.
2. Pierrini, G., Doyle, S., Champod, C., Taroni, F., Wakelin, D., and lock, C., Evaluation of Preliminary Isotopic Analysis (^{13}C and ^{15}N) of Explosives: A Likelihood Ratio Approach to Assess the Links between Semtex Samples." *Forensic Science International*, Volume 167, Issue 1, 22 March 2007, Pages 43-48.
3. Reardon, M.R., and Proudfoot, J. E., "Oils and waxes in Composition C-4 and emulsions: A comparison of intact samples to post-blast residues." In: Proceedings of the 9th International Symposium on the Analysis and Detection of Explosives, Paris, July 5, 2007.
4. Tachon, R., Pichon, V., Le Borgne, M. B., and Minet, J-J., "Use of Porous Graphitic Carbon for the Analysis of Nitrate Ester, Nitramine, and Nitroaromatic Explosives and By-products by Liquid Chromatography-Atmospheric Pressure Chemical Ionisation-Mass Spectrometry." *J Chromatogr A.* 2007 Jun 22; 1154(1-2):174-81.

2008

1. Comanescu, G., Manka, C. K., Grun, J., Nikitin, S., and Zabetakis, D., "Identification of Explosives with Two-Dimensional Resonance Raman Spectroscopy." *Applied Spectroscopy*, Volume 62, Number 8, 2008.
2. Husakova, L., Sramkova, J., Stankova, J, Nemec, P., Vecera, M., Krejcova, A., Stancl, M., and Akstein, Z., "Characterization of Industrial Explosives Based on the Determination of Metal Oxides in the Identification Particles by Microwave Digestion and Atomic Absorption Spectrometry Method." *Forensic Sci Int.* 2008 Jul 4; 178(2-3):146-52.
3. Johns, C., Shellie, R. A., Potter, O. G., et al "Identification of homemade inorganic explosives by ion chromatographic analysis of post-blast residues." *J Chrom*, A, 2008 Vol. 1182:205-214.
4. Lai, H., Guerra, P., Joshi, M., and Almirall, J. R., "Analysis of Volatile Components of Drugs and Explosives by Solid phase Microextraction-Ion Mobility Spectrometry." *J Sep Sci.* 2008 Feb; 31(2):402-12.
5. Oehrle, S. A., "Analysis of Explosives Using Ultra Performance Liquid Chromatography (UPLC®) with UV and/or Mass Spectrometry Detection." *Journal of Energetic Materials*, 26: 197–206, 2008.

2009

1. Benson, S. J., Lennard, C. J., Maynard, P., Hill, D. M., Andrew, A. S., and Roux, C., "Forensic analysis of explosives using isotope ratio mass spectrometry (IRMS) - Discrimination of ammonium nitrate sources." *Sci Justice.* 2009 Jun; 49(2):73-80. doi: 10.1016/j.scijus.2009.04.005.
2. Douglas, T.A.; Walsh, M.E., McGrath, C.J., and Weiss, C.A., "Investigating the fate of nitroaromatic (TNT) and nitramine (RDX and HMX) explosives in fractured and pristine soils." *J Environ Qual.* 2009 Oct 29; 38(6); 2285-2294.

2010

1. Benson, S. J., Lennard, C. J., Hill, D. M., Maynard, P., and Roux, C., "Forensic analysis of explosives using isotope ratios mass spectrometry (IRMS) - Part1: Instrument validation of the Delta (plus) XP IRMS for bulk nitrogen isotope ratio measurements." *J Forensic Sci.* 2010 Jan; 55(1):193-204. doi: 10.1111/j.1556-4029.2009.01241.x. Epub 2009 Dec 10.
2. Benson, S. J., Lennard, C. J., Maynard, P., Hill, D. Andrew, A. S., Neal, K., Stuart-Williams, H., Hope, J., Walker, G. S., and Roux, C., "Forensic analysis of explosives using isotope ratios mass spectrometry (IRMS) - Part2: Forensic inter-laboratory trial: Bulk carbon and nitrogen stable isotopes in a range of chemical compounds (Australia

and New Zealand)." *J Forensic Sci*. 2010 Jan; 55(1):205-12. doi: 10.1111/j.1556-4029.2009.01242.x. Epub 2009 Dec 10.

3. Brady, J., Judge, E., and Levis, R. J., "Identification of explosives and explosive formulations using laser electrospray mass spectrometry." *Rapid Communications in Mass Spectrometry*, 2010. Vol 24, Issue 11 1659-1664.
4. Cook, G. W., La Puma, P. T., Hook, G. L., and Eckernrode, B. A., "Using Gas Chromatography with Ion Mobility Spectrometry to Resolve Explosive Compounds in the Presence of Interferents." *J Forensic Sci*, November 2010, Vol. 55, No. 6; 1582-1591.
5. Lai, H., Leung, A., Magee, M., and Almirall, J. R., "Identification of Volatile Chemical Signatures from Plastic Explosives by SPME-GC/MS and Detection by Ion Mobility Spectrometry." *Anal Bioanal Chem*. 2010 Apr; 396(8):2997-3007.
6. Mahoney, C. M., Fahey, A. J., Steffens, K. L., Benner, B. A., and Lareau, R. T., "Characterization of composition C4 explosives using time-of-flight secondary ion mass spectrometry and x-ray photoelectron spectroscopy." *Analytical Chemistry* 2010; 82(17):7237-7248.
7. Nilles, J. M., Connell, T. R., Stokes, S. T., and Dupont Durst, H., "Explosives Detection Using Direct Analysis in Real Time (DART) Mass Spectrometry," *Propellants, Explosives, Pyrotechnics*. 2010 Volume 35, Issue 5, pp 446-451.
8. Verkouteren, J. R., Coleman, J. L., and Cho, I., "Automated Mapping of Explosives Particles in Composition C-4 Fingerprints." *J Forensic Sci*, March 2010, Vol. 55, No. 2.

2011

1. Cummins, J., Hull, J., Kits, K., and Goodpaster, J. V., "Separation and identification of anions using porous graphite carbon and electrospray ionization mass spectrometry: Application to inorganic explosives and their post blast residues. *Anal. Methods*, 2011, 3, 1682-1687.
2. Dudek, K., Matyas, R., and Dorazil, T., "Detection and Identification of Explosive Precursors and Explosives." *New Trends Res. Energ. Mater, Proc. Semin.*, 14th Pardubice, April 13-15, 2011, 595-601.
3. Fernandez de la Ossa, M. T., Lopez-Lopez, M., Torre, M., and Garcia-Ruiz, C., "Analytical techniques in the study of highly-nitrated nitrocellulose." *TrAC* 2011; 30(11):1740-1755.
4. Lucena, P., Dona, A., Tobaria, L. M., and Laserna, J. J., "New challenges and insights in the detection and spectral identification of organic explosives by laser induced breakdown spectroscopy." *Spectrochimica Acta Part B* 66 (2011) 12–20.

5. Moore, S., MacCrehan, W., and Schantz, M., "Evaluation of vapor profiles of explosives over time using ATASS (Automated Training Aid Simulation using SPME)." *Forensic Science International* 2011; 212(1-3):90-95.
6. Routon, B. J., Kocher, B. B., and Goodpaster, J. V., "Discriminating Hodgdon Pyrodex® and Triple Seven® using gas chromatography-mass spectrometry," *Journal of Forensic Sciences*. 2011 Jan; 56(1):194-9.
7. Saiz, J., Bravo, J. C., Velasco, A. E., Torre, M., and Garcia-Ruiz, C., "Determination of Ethylene Glycol Dinitrate in Dynamites using HPLC: Application to the Plastic Explosive Goma-2 ECO." *J Sep Sci*. 2011 Dec; 34(23):3353-8.
8. Tian, F-F., Yu, J., Hu, J-H., Zhang, Y., Xie, M-X., Liu, Y., Wang, X-F., Liu, H-L., and Han, J., "Determination of emulsion explosives with Span-80 as emulsifier by gas chromatography-mass spectrometry." *Journal of Chromatography A*, 1218 (2011) 3521–3528.
9. Tyrrell, E., Dicinoski, G. W., Hilder, E. F., Shellie, R. A., Breadmore, M. C., Pohl, C. A., and Haddad, P. R., "Coupled reversed-phase and ion chromatographic system for the simultaneous identification of inorganic and organic explosives." *Journal of Chromatography A* 2011; 1218(20):3007-3012.

2012

1. Bansal, P., Gaurav, G., Nidhi, N., Malik, A. K., and Matysik, F.M., "Liquid chromatographic determination of 1, 3, 5-trinitroperhydro-1, 3, 5- triazine and 2, 4, 6-trinitrotoluene in human plasma and groundwater samples utilizing microextraction in packed syringe." *Chromatographia* 2012; 75(13-14):739-745.
2. Brady, J. E., Smith, J. L., Hart, C. E., and Oxley, J. C., "Estimating ambient vapor pressures of low volatility explosives by rising-temperature thermogravimetry." *Propellants, Explosives, Pyrotechnics* 2012 37(2), 215–222.
3. Nesvold, S., Pacholke, K., "Detecting and confirming the presence of road flare residue in fire investigations." In: Proceedings of the 5th international symposium on fire investigation science and technology, National Association of Fire Investigators, International, Sarasota, 2012.
4. Oxley, J. C., Smith, J. L., Brady, J. E., and Brown, A. C., "Characterization and analysis of tetranitrate esters." *Propellants, Explos, Pyrotech* 2012; 37:24-39.
5. Tamini, T., and Zitrin, S., "Analysis of Explosives by Mass Spectrometry" In Forensic Investigation of Explosives, Second Edition, ed. A. Beveridge. 2012 Boca Raton, FL. CRC Press (Taylor and Francis Group).

6. Tellez, H., Vadillo, J. M., and Laserna, J. J., "Secondary ion mass spectrometry of powdered explosive compounds for forensic evidence analysis." *Rapid Communications in Mass Spectrometry* 2012; 26: 1203-1207.

2013

1. Carriere, J.T.A., Havermeyer, F., and Heyler, R.A., "THz-Raman spectroscopy for explosives, chemical and biological detection." *Proceedings of SPIE* 2013; 8710:87100M.
2. Delgado, T., Alcantara, J.F., Vadillo, J.M., and Laserna, J.J., "Condensed-phase laser ionization time-of-flight mass spectrometry of highly energetic nitro-aromatic compounds." *Rapid Communications in Mass Spectrometry* 2013; 27(15):1807-1813.
3. DeTata, D., Collins, P., and McKinley, A., "A fast liquid chromatography quadrupole time-of-flight mass spectrometry (LC-QToF-MS) method for the identification of organic explosives and propellants." *Forensic Science International* 2013; 233(1-3):63-74.
4. DeTata, D.A., Collins, P.A., and McKinley, A.J., "A comparison of solvent extract cleanup procedures in the analysis of organic explosives." *Journal of Forensic Sciences* 2013; 58(2):500-507.
5. Heyler, R.A., Carriere, J.T.A., and Havermeyer, F., "THz-Raman - Accessing molecular structure with Raman spectroscopy for enhanced chemical identification, analysis and monitoring." *Proceedings of SPIE* 2013; 8726:87260J.
6. Lopez-Lopez, M., Ferrando, J. L., and Garcia-Ruiz, C., "Dynamite Analysis by Raman Spectroscopy as a Unique Analytical Tool." *Anal. Chem.*, 2013, 85 (5), pp 2595–2600.
7. Lv, J., Feng, J., Zhang, W., Shi, R., Liu, Y., Wang, Z., and Zhao, M., "Identification of Carbonates as Additives in Pressure-Sensitive Adhesive Tape Substrate with Fourier Transform Infrared Spectroscopy (FTIR) and Its Application in Three Explosive Cases." *Journal of Forensic Sciences* 2013; 58(1):134-137.

2014

1. Kaplan-Sandquist, K., LeBeau, M., and Miller, M., 2014. "Chemical analysis of pharmaceuticals and explosives in fingermarks using matrix-assisted laser desorption ionization/time-of flight mass spectrometry." *Forensic Science International* 235, 68–77.
2. Xu, X., Koeberg, M., Kuijpers, C. J., and Kok, E., 2014. "Development and validation of highly selective screening and confirmatory methods for the qualitative forensic analysis of organic explosive compounds with high performance liquid chromatography coupled with (photodiode array and) LTQ ion trap/Orbitrap mass spectrometric detections (HPLC-(PDA)-LTQOrbitrap)." *Science & Justice* 54 (1), 3–21.

3. Brust, H., van Asten, A., Koeberg, M., Dalmolen, J., van der Heijden, A., and Schoenmakers, P., “Accurate quantitation of pentaerythritol tetranitrate and its degradation products using liquid chromatography-atmospheric pressure chemical ionization-mass spectrometry.” *Journal of Chromatography A*. 2014; 1338:111-116.
4. Brust, H., Willemse, S., Zeng, T., van Asten, A., Koeberg, M., van der Heijden., Bolck, A., and Schoenmakers, P., “Impurity profiling of trinitrotoluene using vacuum-outlet gas chromatography-mass spectrometry.” *Journal of Chromatography A*. 2014; 1374:224-230.
5. Howa, J.D., Lott, M.J., and Ehleringer, J.R., “Isolation and stable nitrogen isotope analysis of ammonium ions in ammonium nitrate prills using sodium tetraphenylborate.” *Rapid Communications in Mass Spectrometry* 2014; 28(13):1530-1534.
6. Howa, J.D., Lott, M.J., and Ehleringer, J.R., “Observations and sources of carbon and nitrogen isotope ratio variation of pentaerythritol tetranitrate (PETN).” *Forensic Science International* 2014; 244:152-157.
7. Lopez-Lopez, M., and Garcia-Ruiz, C., “Infrared and Raman spectroscopy techniques applied to identification of explosives.” *TrAC* 2014; 54:36-44.
8. Schwarzenberg, A., Dossmann, H., Cole, R.B., Machuron-Mandard, X., and Tablet, J.C., “Differentiation of isomeric dinitrotoluenes and aminodinitrotoluenes using electrospray high resolution mass spectrometry.” *Journal of Mass Spectrometry* 2014; 49(12):1330-1337.
9. Xu, X., Koeberg, M., Kuijpers, C.J., and Kok, E., “Development and validation of highly selective screening and confirmatory methods for the qualitative forensic analysis of organic explosive compounds with high performance liquid chromatography coupled with (photodiode array and) LTQ ion trap/Orbitrap mass spectrometric detections (HPLC-(PDA)-LTQOrbitrap).” *Science and Justice* 2014; 54(1):3-21.

2015

1. Chakraborty, A., Bagchi, S., Lahiri, S. C., “Studies of fire debris from bomb blasts using ion chromatography, gas chromatography-mass spectrometry and fluorescence measurements – evidence of ammonium nitrate, wax-based explosives and identification of a biomarker.” *Australian Journal of Forensic Science*, 47:83-94.
2. DeGreeff, L., Rogers, D.A., Katilie, C., Johnson, K., and Rose-Pehrsson, S., “Technical note: Headspace analysis of explosive compounds using a novel sampling chamber.” *Forensic Science International* 2015; 248:55-60.
3. Hernandes, V.V., Franco, M.F., Santos, J.M., Melendez-Perez, J.J., Morais, D.R., Rocha, W.F.D.C., Borges, R., de Souza, W., Zacca, J.J., Logrado, L.P.L., Eberline, M.N., and Correa, D.N.. “Characterization of ANFO explosive by high accuracy ESI (\pm)-FTMS

with forensic identification on real samples by EASI (-)-MS.” *Forensic Science International* 2015; 249:156-164.

2016

1. Bezemer, K.D.B., Koeberg, M., van der Heijden, A.E.D.M., van Driel, C.A., Blaga, C., Bruinsma, J., and van Asten, A.C., “The Potential of Isotope Ratio Mass Spectrometry (IRMS) and Gas Chromatography-IRMS Analysis of Triacetone Triperoxide in Forensic Explosives Investigations.” *Journal of Forensic Sciences* 2016; (5):1198-1207.
2. Brensinger, K., Rollman, C., Copper, C., Genzman, A., Rine, J., Lurie, I., and Moini, M., “Novel CE-MS technique for detection of high explosives using perfluoroctanoic acid as a MEKC and mass spectrometric complexation reagent.” *Forensic Science International* 2016; 258:74-79.
3. Bridoux, M.C., Schwarzenberg, A., Schramm, S., and Cole, R.B. “Combined use of direct analysis in real-time/Orbitrap mass spectrometry and micro-Raman spectroscopy for the comprehensive characterization of real explosive samples.” *Analytical and Bioanalytical Chemistry* 2016; 408(21):5677-5687.
4. Chajistamatiou, A.S., and Bakeas, E.B., “A rapid method for the identification of nitrocellulose in high explosives and smokeless powders using GC-EI-MS.” *Talanta* 2016; 151: 192-201.
5. Chesson, L.A., Howa, J.D., Lott, M.J., and Ehleringer, J.R., “Development of a methodological framework for applying isotope ratio mass spectrometry to explosive components.” *Forensic Chemistry* 2016; 2:9-14.
6. Leigh, B.S., Monson, K.L., and Kim, J.E., “Visible and UV resonance Raman spectroscopy of the peroxide-based explosive HMTD and its photoproducts.” *Forensic Chemistry* 2016; 2:22-28.

2017

1. Almeida, M.R., Logrado, L.P.L, Zacca, J.J., Correa, D.N., and Poppi, R.J., “Raman hyperspectral imaging in conjunction with independent component analysis as a forensic tool for explosive analysis: The case of an ATM explosion.” *Talanta* 2017; 174:628-632.
2. Andrasko, J., Lagesson-Andrasko, L., Dahlen, J., and Jonsson, B.H., “Analysis of Explosives by GC-UV.” *Journal of Forensic Sciences* 2017; 62(4):1022-1027.
3. DeGreeff, L.E., Malito, M., Katilie, C.J., Brandon, A., Conroy, M.W., Peranich, K., Ananth, R., and Rose-Pehrsson, S.L., “Passive delivery of mixed explosives vapor from separated components.” *Forensic Chemistry* 2017; 4:19-31.

4. Ostrinskaya, A., Kelley, J.A., and Kunz, R.R., "Characterization of nitrated sugar alcohols by atmospheric-pressure chemical-ionization mass spectrometry." *Rapid Communications in Mass Spectrometry* 2017; 31(4):333-343.
5. Tsai, C.W., Milam, S.J., and Tipple, C.A., "Exploring the analysis and differentiation of plastic explosives by comprehensive multidimensional gas chromatography-mass spectrometry (GC x GC-MS) with a statistical approach." *Forensic Chemistry* 2017; 6:10-18.

2018

1. Banas, K., Banas, A.M., Heussler, S.P, Breese, and M.B.H., "Influence of spectral resolution, spectral range and signal-to-noise ratio of Fourier transform infra-red spectra on identification of high explosive substances." *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy* 2018; 188:106-112.
2. Boggess, A, Crump, S., Gregory, C., Young, J., and Kessinger, G., "Analytical method for nitroaromatic explosives in radiologically contaminated soil for ISO/IEC 17025 accreditation." *Forensic Chemistry* 2018; 7:26-32.
3. Dunn, L., Obaidly, H.S.A.A., and Khalil, S.E., "Development and validation of fast liquid chromatography high-resolution mass spectrometric (LC-APCI-QToF-MS) methods for the analysis of hexamethylene triperoxide diamine (HMTD) and triacetone triperoxide (TATP)." *Forensic Chemistry* 2018; 10:5-14.
4. Elbasuney, S., El-Sharkawy, Y.H., "Instant identification of explosive material: Laser induced photoacoustic spectroscopy versus Fourier transform infrared." *TrAC* 2018; 108:269-277.
5. Grimm, B.L., Stern, L.A., and Lowe, A.J., "Forensic utility of a nitrogen and oxygen isotope ratio time series of ammonium nitrate and its isolated ions." *Talanta* 2018; 178:94-101.
6. Ostrinskaya, A., Kunz, R.R., Clark, M., Kingsborough, R.P, Ong, T.H., and Deneault, S., "Rapid Quantitative Analysis of Multiple Explosive Compound Classes on a Single Instrument via Flow-Injection Analysis Tandem Mass Spectrometry." *Journal of Forensic Sciences* May 2018. Available at:
<https://onlinelibrary.wiley.com/doi/full/10.1111/1556-4029.13827>
7. Reiss, R., Ehlert, S., Heide, J., Putz, M., Forster, T., and Zimmermann, R., "Ambient pressure laser desorption-chemical ionization mass spectrometry for fast and reliable detection of explosives, drugs, and their precursors." *Applied Sciences* 2018; 8(6):933.
8. Zapata, F., and Garcia-Ruiz, C., "The discrimination of 72 nitrate, chlorate and perchlorate salts using IR and Raman spectroscopy." *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy* 2018; 189:535-542.

2019

1. He, N., Ni, Y., Teng, J., Li, H., Yao, L., and Zhao, P. "Identification of inorganic oxidizing salts in homemade explosives using Fourier transform infrared spectroscopy." *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 2019; 221:117164.
<https://www.sciencedirect.com/science/article/pii/S1386142519305542>
2. Suppajariyawat, P., Elie, M., Baron, M., and Gonzalez-Rodriguez, J. "Classification of ANFO samples based on their fuel composition by GC—MS and FTIR combined with chemometrics." *Forensic Science International* 2019.
<https://www.sciencedirect.com/science/article/pii/S0379073818306583>
3. Taranto, V., Ueland, M., Forbes, S.L., and Blanes, L. "The analysis of nitrate explosive vapour samples using Lab-on-a-chip instrumentation." *Journal of Chromatography A* 2019.
<https://www.sciencedirect.com/science/article/pii/S0021967319306004>

2020

1. Joubert, V., Silvestre, V., Ladroue, V., Besacier, F., Blondel, P., Akoka, S., Baguet, E., and Remaud, G. S., "Forensic application of position-specific isotopic analysis of trinitrotoluene (TNT) by NMR to determine ^{13}C and ^{15}N intramolecular isotopic profiles." *Talanta*. 2020 Feb 13:120819.
<https://www.sciencedirect.com/science/article/abs/pii/S0039914020301107>
2. Schachel, T. D., Stork, A., Schulte-Ladbeck, R., Vielhaber, T., and Karst, U. "Identification and Differentiation of Commercial and Military Explosives via High Performance Liquid Chromatography–High Resolution Mass Spectrometry (HPLC-HRMS), X-Ray Diffractometry (XRD) and X-Ray Fluorescence spectroscopy (XRF): Towards a Forensic Substance Database on Explosives." *Forensic Science International*. 2020 Feb 4:110180.
<https://www.sciencedirect.com/science/article/pii/S0379073820300426>

9 – Homemade/Improvised Explosives

1924

1. Taylor, C., and Rinkenbach, W., "HMTD – a new detonating explosive." *Army Ordnance*, 5 (1924) 463-466.

1959

1. Milas, N. A., and Golubov, A., "Studies in Organic Peroxides XXVI. Organic Peroxides Derived from Acetone and Hydrogen Peroxide." *J. Am. Chem. Soc.*, 1959, 81 (24), pp 6461–6462.

1973

1. Sumi, K., and Tsuchiya, Y., "Combustion Products of Polymeric Materials Containing Nitrogen in their Chemical Structure," *Journal of Fire and Flammability*, Vol 4, 1973, pp. 15-22.

1985

1. Schaefer, W., Fourkas, J., and Tiemann, B., "Structure of hexamethylene triperoxide diamine." *J. Am. Chem. Soc.* 107 (1985) 2461-2463.

1986

1. Evans, H. K., Tulleners, F. A. J., Sanchez, B. L., and Rasmussen, C. A., "An unusual explosive, triacetonetriperoxide (TATP). *J. Forensic Sci.* 31 (1986) 1119-1125.

1988

1. Nowicki, J., and Pauling, S., "Identification of Sugars in Explosive Residues by Gas Chromatography-Mass Spectrometry." *J Forensic Sciences* 1988 Sep; 33(5):1254-1261 · September 1988.

1989

1. Brower, K. R., Oxley, J. C., and Tewari, M. P., "Homolytic decomposition of ammonium nitrate at high temperature." *Journal of Physical Chemistry* 1989 **93**, 4029–4033.

1991

1. Kirkbride, K.P. and Kobus, H.J. "The Explosive Reaction between Swimming Pool Chlorine and Brake Fluid" *J. Forensic Sci.* 1991, **36**(3) 902-907 May.

1992

1. Chladek, J., "The Identification of Organic Peroxides." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 73-76.

1994

1. Oxley, J. C., Smith, J. L., and Wang, W., "Compatibility of ammonium nitrate with monomolecular explosives, part I." *Journal of Physical Chemistry* 1994 **98**, 3893–3900.

- Oxley, J. C., Smith, J. L., and Wang, W., "Compatibility of ammonium nitrate with monomolecular explosives, part II: nitroarenes." *Journal of Physical Chemistry* 1994 **98**, 3901–3907.

1995

- Murray, G., "The Terrorist Development of Improvised Explosives in Northern Ireland" *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 141-144.
- Oxley, J. C., Smith, J. L., Ye, H., McKenney, R. L., and Bolduc, P. R., "Thermal stability studies on homologous series of nitroarenes." *Journal of Physical Chemistry* 1995 **99**, 9593–9602.

1997

- Arai, H., and Nakamura, J., "Analysis of Triacetonetriperoxide." *Curr. Top. Forensic Sci. Proc. Meet. Int. Assoc. Forensic Sci.* 14th Volume 4 Takatori, T. And Takasu, A. (Eds) Shunderson Communications Ottawa, Ont. 1997 pp. 209-214.

1999

- Bellamy, A., "Triacetone Triperoxide: Its Chemical Destruction," *Journal of Forensic Sciences*, Vol. 44, No. 3, 1999, pp. 603-608, <https://doi.org/10.1520/JFS14517J>. ISSN 0022-1198.

2000

- Zhang, J., Oxley, J. C., Smith, J., and Cioffi, E., "Mass spectra of unlabeled and isotopically labeled hexamethylene triperoxide diamine (HMTD)." *Propellants, Explosives, Pyrotechnics* 2000 **25**, 1-4.

2001

- Bartick, E. G., and Mount, K. H., "Analysis of a suspect explosive component: hydrogen peroxide in hair coloring developer." *Forensic Sci. Commun.*, 3(4).

2002

- McKay, G. L., "Forensic characterisation of organic peroxide explosives (TATP, HMTD, DADP)." *Kayaku Gakkaishi* 2002 **63**(6), 323–329.
- Oxley, J. C., Smith, J. L., and Chen, H., "Decomposition of multi-peroxidic compound: triacetone triperoxides (TATP)." *Propellants, Explosives, Pyrotechnics* 2002 **27**, 209–216.

3. Oxley, J. C., Smith, J. L., Chen, H., and Cioffi, E., 2002. "Decomposition of multi-peroxidic compounds: Part II. Hexamethylene triperoxide diamine (HMTD)." *Thermochimica Acta* 388, 215–225.
4. Oxley, J. C., Smith, J. L., Rogers, E., and Yu, M., "Kinetic studies on ammonium nitrate formulations: the search for explosivity modifiers." *Thermochimica Acta* 2002 **384**(1–2), 23–45.
5. Widmer, L., Watson, S., Schlater, K., and Crowson, A., "Development of an LC/MS method for the trace analysis of triacetone triperoxide." *Analyst*. 127 (2002) 1627-1632.

2003

1. Matyas, R., "Chemical Destruction of Triacetone Triperoxide and Hexamethylenetriperoxidediamine." *New Trends Res. Energ. Mater. Proc. Semin.*, 6th, Pardubice, April 2003, 164-173.
2. Schulte-Ladbeck, R., and Karst, U., "Determination of triacetonetriperoxide in ambient air." *Anal. Chim. Acta*. 482 (2003) 183-188.
3. Schulte-Ladbeck, R., Kolla, P., and Karst, U., "Trace analysis of peroxide-based explosives." *Analytical Chemistry* 2003 **75**(4), 731–735.

2004

1. Muller, D., Levy, A., Shelef, R., Abramovich-Bar, S., Sonenfeld, D., and Tamiri T. "Improved method for the detection of TATP after explosion." *J Forensic Sci.* 2004 Sep; 49(5):935-938.
2. Schreck, A., Knorr, A., Wehrstedt, K. D., Wandrey, P. A., Gmeinwieser, T., and Steinbach, J., "Investigation of the Explosive Hazard of mixtures containing Hydrogen Peroxide and Different Alcohols." *J Hazard Mater.* 2004 Apr 30; 108(1-2):1-7.
3. Stambouli, A., El Bouri, A., Bouayoun, T., and Belliman, M. A., "Headspace GC-MS detection of TATP traces in post-explosion debris." *Forensic Sci. Int.* 146 (2004) S191-S194.
4. Xu, X., van de Craats, A.M., Kok, E.M., and de Bruyn, P.C., "Trace analysis of peroxide explosives by high performance liquid chromatography-atmospheric pressure chemical ionization-tandem mass spectrometry (HPLC-APCI-MS/MS) for forensic applications." *J Forensic Sci.* 2004: Nov; 49(6):1230-1236.

2005

1. Almog, J., Klein, A., Tamiri, T., Shloosh, Y., and Abramovich-Bar, S., "A field diagnostic test for the improvised explosive urea nitrate." *Journal of Forensic Sciences* 2005 **50**(3), 582–586.

2. Danekamp, C., Gottlieb, L., Tamiri, T., Tsoglin, A., Shilav, R., Kapon, M., 2005. "Two separable conformers of TATP and analogues exist at room temperature." *Organic Letters* 7 (12), 2461–2464.
3. Dubnikova, F., Kosloff, R., Almog, J., et al., 2005. "Decomposition of triacetone triperoxide is an entropic explosion." *Journal of the American Chemical Society* 127, 1146–1159.
4. Oxley, J. C., Smith, J. L., Shinde, K., and Moran, J., "Determination of the vapor density of triacetone triperoxide (TATP) using a gas chromatography headspace technique." *Propellants, Explosives, Pyrotechnics* 2005: 30, 127-130.
5. Pena-Quevedo, A. J., Figueroa, J., Pacheco-Londono, L. C., and Rivera-Montalvo, L. A., "Characterization and differentiation of High energy Cyclic Organic Peroxides by GC/FTIR, GC-MS, FTIR and Raman Microscopy." *Proc SPIE*, 5778:347-358 · June 2005.
6. Tamiri, T., "Characterization of the improvised explosive urea nitrate using electrospray ionization and atmospheric pressure chemical ionization." *Rapid Communications in Mass Spectroscopy* 2005 19, 2094–2098.

2006

1. Greenway, G. M., Leelasattarathkul, T., Liawruangrath, S., Wheatley R. A., and Youngvises, N., "Ultrasound-Enhanced Flow Injection Chemiluminescence for Determination of Hydrogen peroxide." *Analyst* Issue 4, 2006.
2. Lu, D, Cagan, A., Munoz, R., Tangkuaram, T., and Wang, J., "Highly Sensitive Electrochemical Detection of Trace Liquid Peroxide Explosives at a Prussian-blue 'Artificial-Peroxidase' modified Electrode." *The Analyst*, Issue 12, 2006.
3. Menzel, E. R., "Fluorescence Detection of the Explosive Urea Nitrate with p-DMAC." *Journal of Forensic Identification*, 56(3):325-332 · May 2006.
4. Schulte-Ladbeck, R., Vogel, M., and Karst, U., "Recent methods for the determination of peroxide-based explosives." *Anal. Bioanal. Chem.* 386 (2006) 559-565.
5. Schulte-Ladbeck, R., Edelmann, A., Quintas, G., Lendl, B., and Karst, U., "Determination of peroxide based explosives using liquid chromatography with on-line infrared detection." *Analytical Chemistry* 2006: 78(23), 8150–8155.
6. Sigman, M. E., Clark, C. D., Fidler, R., Geiger, C. L., and Clausen, C. A., "Analysis of triacetone triperoxide by gas chromatography/mass spectrometry and gas chromatography/tandem mass spectrometry by electron and chemical ionization." *Rapid Commun. Mass Spectrom.* 20 (2006) 2851-2857.

2007

1. Almog, J., Burda, G., Shloosh, Y., Abramovich-Bar, S., Wolf, E., and Tamiri, T., “Recovery and detection of urea nitrate in traces.” *Journal of Forensic Sciences* 2007 52(6), 1284–1290.
2. Hargather, M. J., and Settles, G. S., “Optical Measurement and Scaling of Blasts from Gram-Range Explosive Charges.” *Shock Waves*, Dec 2007; 17(4); 215-223.
3. Hiyoshi, R. I., Nakamura, J., and Brill, T. B., “Thermal Decomposition of Organic Peroxides TATP and HMTD by T-Jump/FTIR Spectroscopy.” *Propellants, Explosives, Pyrotechnics*, 11 April 2007. Available at: <https://doi.org/10.1002/prep.200700002>
4. Lemberger, N., and Almog, J., “Structure Elucidation of Dyes That Are Formed in the Colorimetric Detection of the Improvised Explosive Urea Nitrate.” *J Forensic Sci*, September 2007, Vol. 52, No. 5.
5. Pena-Quevedo, A. J., Mina-Camilde, N., Cody, R., and Ramos, M., “Characterization and differentiation of High energy Amine Peroxides by Direct Analysis in Real Time TOF/MS.” *Proc SPIE*, 6538; May 2007.
6. Technical Support Working Group. “Indicators and Warnings for Homemade Explosives.” First Edition, December 2007, *For Official Use Only*.
7. Zeman, S., Trzcinski, W. A., and Matyas, R., “Properties of explosive mixtures containing peroxides Part1. Relative performance and detonation of mixtures with triacetone triperoxide.” *Journal of Hazardous Materials*, 154 (2008) 192–198
8. Zeman, S., and Bartei, C., “Some properties of explosive mixtures containing peroxides Part II. Relationships between detonation parameters and thermal reactivity of the mixtures with triacetone triperoxide.” *Journal of Hazardous Materials*, 154 (2008) 199–203.

2008

1. American Institute of Chemical Engineers. “Is Sugar an Explosive Hazard?” *J Fail. Anal. and Preven.* (2008) 8:311–312 DOI 10.1007/s11668-008-9157-2
2. Cotte-Rodriguez, I., Hernandez-Soto, H., Chen, H., and Cooks, R. G., “In situ trace detection of peroxide explosives by desorption electrospray ionization and desorption atmospheric pressure chemical ionization.” *Anal. Chem.* 80 (2008) 1512-1519.
3. Germain, M. E., and Knapp, M. J., “Turn-on Fluorescence Detection of H₂O₂ and TATP.” *Inorganic Chemistry*, Vol. 47, No. 21, 2008.
4. Johns, C., Shellie, R. A., Potter, O. G., O'Reilly, J. W., Hutchinson, J. P., Guijt, R. M., Breadmore, M. C., Hilder, E. F., Dicinoski, G. W., and Haddad, P. R., “Identification of

homemade inorganic explosives by ion chromatographic analysis of post-blast residues.” *Journal of Chromatography A*, 1182 (2008) 205–214.

5. Kuzmin, V., Solovev, M., Tuzkov, Y., 2008. “Forensic investigation of some peroxides explosives.” *Central European Journal of Energetic Materials* 5, 77–85.
6. Laine, D. F., and Cheng, I. F., “Electrochemical Detection of the Explosive, Hexamethylene Triperoxide Diamine (HMTD).” *Microchemical Journal*, Volume 91, Issue 1, January 2009, Pages 125-128.
7. Matyas, R., Pachman, J., and Ang, H. G., “Study of TATP: spontaneous transformation of TATP to DADP.” *Prop. Explos. Pyrotech.* 33 (2008) 89-91.
8. Oxley, J. C., Smith, J. L., Brady, J., Dubnikova, F., Kosloff, R., Zeiri, L., and Zeiri, Y., “Raman and infrared fingerprint spectroscopy of peroxide-based explosives.” *Applied Spectroscopy* 2008 **62**(8), 906–915.
9. Oxley, J. C., Smith, J. L., Naik, S., and Moran, J. S., “Decompositions of urea and guanidine nitrates.” *Journal of Energetic Materials* 2008 **27**(1), 17–39.
10. Sigman, M. E., Clark, C. D., Caiano, T., and Mullen, R., “Analysis of triacetone triperoxide (TATP) and TATP synthetic intermediates by electrospray ionization mass spectrometry.” *Rapid Commun. Mass Spectrom.* 22 (2008) 84-90.

2009

1. Anaya, D. R., et al. “Analysis of explosives' precursors by means of a portable Raman spectrometer.” *Proc of SPIE* 2009 Vol 7499, id. 749902.
2. Burks, R. M., and Hage, D. S., “Current trends in the detection of peroxide-based explosives.” *Anal Bioanal Chem.* 2009 Sep; 395(2):301-13. doi: 10.1007/s00216-009-2968-5. Epub 2009 Jul 31.
3. Banerjee, S., Mohapatra, S. K., Misra, M., and Mishra, I., “The detection of improvised non-military peroxide based explosives using a titania nanotube array sensor.” *Nanotechnology* 2009, Vol 20 Number 7.
4. Egorshov, V., Sinditskii, V., Smirnov, S., Glinkovsky, E., and Kuzmin, V., “A Comparative Study on Cyclic Acetone Peroxides.” *New Trends Re. Energ. Mater. Proc. Semin.*, 12th, Pardubice, April 1-3, 2009, 113-123.
5. Ellenbogen, M., and Bijjani, R., “Liquids and Homemade Explosive Detection.” *Proc. of SPIE*, Vol. 7306 7306Y-1.
6. Itozaki, H., and Yamauchi, Y., “Liquid explosive detection from outside of the bottle by NIR.” Optically Based Biological and Chemical Detection for Defence V, *Proc. of SPIE*, 2009 Vol. 7484, 748405 doi: 10.1117/12.830333

7. Matyas, R., Selesovsky, J., "Power of TATP based explosives." *Journal of Hazardous Materials*, 2009, 165, 95–99.
8. Matyas, R., and Pachman, J., "Study of TATP: spontaneous transformation of TATP to DADP." *Prop. Explos. Pyrotech.* 34 (2009) 484-488.
9. Naval Explosive Ordnance Disposal Technology Division, Explosives: Military, Commercial, Homemade, and Precursors Identification Guide, Version 2.0 2009. *For Official Use Only*.
10. Oxley, J. C., Smith, J. L., Luo, W., and Brady, J., "Determining the vapor pressures of diacetone diperoxide (DADP) and hexamethylene triperoxide diamine (HMTD)." *Propellants Explos. Pyrotech.* 34 (2009) 539-543.
11. Reany, O., Kapon, M., Botoshansky, M., and Keinan, E., "Rich Polymorphism in Triacetone Triperoxide." *Cryst. Growth Des.* 2009, 9 (8), pp 3661–367. Available at: DOI: 10.1021/cg900390y
12. Sigman, M. E., Clark, C. D., Painter, K., Milton, C., Simatos, E., and Frisch, J., "Analysis of oligomeric peroxides in synthetic triacetone triperoxide samples by tandem mass spectrometry." *Rapid Commun. Mass Spectrom.* 23 (2009) 349-356.
13. Tamiri, T., Rozin, R., Lemberger, N., and Almog, J., "Urea nitrate, an exceptionally easy-to-make improvised explosive: studies towards trace characterization." *Analytical and Bioanalytical Chemistry* 2009: 395, 421–428.

2010

1. Fidler Albo, R. L., Legron, T., Elie, M. R., Saitta, E. H., Sigman, M. E., Geiger, C. L., and Clausen, C., "Degradation of Triacetone Triperoxide (TATP) Using Mechanically Alloyed Mg/Pd." *Propellants, Explosives and Pyrotechnics* 2010. Available at: <https://doi.org/10.1002/prep.200900011>
1. Matyas, R., and Pachman, J., "Study of TATP: Influence of reaction conditions on product composition." *Propellants. Explos. Pyrotech.* 2010, 35 (1), 31-37.
2. Oxley, J. C., Smith, J. L. and Naik, S., "Determination of urea nitrate and guanidine nitrate vapor pressures by isothermal thermogravimetry." *Propellants, Explosives, Pyrotechnics* 2010 35(3), 278–283.
3. Partridge, A., Walker, S., and Armitt, D., "Detection of impurities in organic peroxide explosives from precursor chemicals." *Australian Journal of Chemistry* 2010; 63(1):30-37.

4. Sarazin, C., Delaunay, N., Varenne, A., Costanza, C., Eudes, V., and Gareil, P., "Simultaneous Capillary Electrophoretic Analysis of Inorganic Ions and Cations in Post-Blast Extracts of Acid-Aluminum Mixtures." *J Sep Sci.* 2010 Oct; 33(20):3177-83.
5. Spidell, M. T., Gordon, J. M., Pitz, J., Gross, K. C., Perram, G. P., "High speed radiometric measurements of IED detonation fireballs." *Proceedings of SPIE* 2010; 7668:76680C.

2011

1. Aranda, R., Stern, L. A., Dietz, M. E., McCormick, M. C., Barrow, J. A., and Mothershead, M. F., "Forensic utility of isotope ratio analysis of the explosive urea nitrate and its precursors." *Forensic Sci Int.* 2011 Mar 20; 206(1-3):143-9.
2. Barnette, J. E., Lott, M. J., Howa, J. D., Podlesak, D. W., and Ehieringer, J. R., "Hydrogen and oxygen isotope values in hydrogen peroxide." *Rapid Commun Mass Spectrom.* 2011 May 30; 25(10):1422-8. doi: 10.1002/rcm.5004
3. de Perre, C., Prado, A., and McCord, B., "Rapid and specific detection of urea nitrate and ammonium nitrate by electrospray ionization time-of-flight mass spectrometry using infusion with crown ethers." *Rapid Commun. Mass Spectrom.* 2012, 26, 154–162.
4. Dudek, K., Matyas, R., and Dorazil, T., "Detection and Identification of Explosive Precursors and Explosives." *New Trends Res. Energ. Mater. Proc. Semin.*, 14th Pardubice, April 13-15, 2011, 595-601.
5. Felix-Rivera, H., Ramirez - Cedeno, M. L., Sanchez - Cuprill, R. A., Hernadez - Rivera, S.P., 2011. "Triacetone triperoxide thermogravimetric study of vapor pressure and enthalpy of sublimation in 303–338 K temperature range." *Thermochimica Acta* 514, 37–43.
6. Fitzgerald, M., and Bilusich, D., "Sulfuric, Hydrochloric, and Nitric Acid-Catalyzed Triacetone Triperoxide (TATP) Reaction Mixtures: An Aging Study." *J Forensic Sci*, September 2011, Vol. 56, No. 5; 1143-1149.
7. Flanigan, P. M., Brady, J. J., Judge, E. J., and Levis, R. J., "Determination of Inorganic Improvised Explosive Device Signatures Using Laser Electrospray Mass Spectrometry Detection with Offline Classification." *Anal. Chem.* 2011, 83, 7115–7122.
8. Girotti, S., Ferri, E., Maiolini, E., Bolelli, L., D'Elia, M., Coppe, D., and Romolo, F. S., "A quantitative chemiluminescent assay for analysis of peroxide-based explosives." *Anal. Bioanal. Chem.* 400 (2011) 313-320.
9. Haroune, N., Crowson, A., and Campbell, B., "Characterisation of triacetone triperoxide (TATP) conformers using LC NMR." *Sci. Justice* 51 (2011) 50-56.

10. Lichorobiec, S., "Development of alternative projectile to deactivate an improvised explosive device - Pipe bomb." *Komunikacie* 2011; 13(2):20-25.
11. Pachman, J., and Matyas, R., "Study of TATP: Stability of TATP solutions." *Forensic Science International* 207 (2011) 212–214.
12. Pena-Quevedo, A. J., Laramee, J.A., Durst, H. D., and Hernandez-Rivera, S. P., "Cyclic organic peroxides characterization by mass spectrometry and Raman microscopy." *IEEE Sensors Journal* 2011 11(4), 1053–1060.
13. Rozin, R., and Almog, J., "Colorimetric detection of urea nitrate: The missing link." *Forensic Science International* 2011; 208(1-3):25-28.
14. Tarvin, M., McCord, B., Mount, K., and Miller, M. L., "Analysis of hydrogen peroxide field samples by HPLC/FD and HPLC/ED in DC mode." *Forensic Science International* 2011; 209(1-3):166-172.

2012

1. Amani, M., Chu, Y., Waterman, K. L., Hurley, C. M., Platek, M. J., and Gergory, O. J., "Detection of triacetone triperoxide (TATP) using a thermodynamic based gas sensor." *Sensors and Actuators B: Chemical* 2012 162(1), 7–13.
2. Fan, W., Young, M., Canino, J., Smith, J., Oxley, J. and Almirati, J. R., "Fast detection of triacetone triperoxide (TATP) from headspace using planar solid-phase microextraction (PSPME) coupled to and IMS detector." *Analytical and Bioanalytical Chemistry* 2012 403(2), 401–408.
3. Fitzgerald, M., and Bilusich, D., "The Identification of Chlorinated Acetones in Analyses of Aged Triacetone Triperoxide (TATP)." *Journal of Forensic Sciences* 2012; 57(5):1299-1302.
4. Lock, C. M., Brust, H., Van Breukelen, M., Dalmolen, J., Koeberg, M., and Stoker, D. A., "Investigation of isotopic linkages between precursor materials and the improvised high explosive product hexamethylene triperoxide diamine." *Analytical Chemistry* 2012; 84(11):4984-4992.
5. Matyas, R., Selesovsky, J., and Musil, T., "Sensitivity to Friction for Primary Explosives." *J. Hazard. Mater.* 2012, 213-214, 236-241.
6. Oxley, J. C., Smith, J. L., Vadlamannati, S., Brown, A. C., Zhang, G., Swanson, D. S., and Canino, J., "Synthesis and characterization of urea nitrate and nitrourea." *Propellants, Explosives, Pyrotechnics*.

2013

1. Kunzel, M., Nemec, O., and Matyas, R., “Erythritol tetranitrate in ammonium nitrate based explosives.” *Cent Eur J Energ Mater* 2013; 10:351-8.
2. Matyas, R., and Chylkova, J., “Study of TATP: Method for determination of residual acids in TATP.” *Forensic Science International* 2013; 228(1-3):170-173.
3. Matyas, R., Selesovsky, J., and Musil, T., “Decreasing the Friction Sensitivity of TATP, DADP and HMTD.” *Central European journal of Energetic Materials* 2013, 10(2), 263 – 275.
4. Peterson, G.R., Bassett, W.P., Weeks, B.L., and Hope-Weeks, L.J., “Phase pure triacetone triperoxide: The influence of ionic strength, oxidant source, and acid catalyst.” *Crystal Growth and Design* 2013; 13(6):2307-2311.
5. Romolo, F.S., Cassioli, L., Grossi, S., Cinelli, G., and Russo, M.V., “Surface-sampling and analysis of TATP by swabbing and gas chromatography/mass spectrometry.” *Forensic Science International* 2013; 224(1-3):96-100.

2014

1. Bali, M.S., Armitt, D., Wallace, L., and Day, A.I., “Cyclic pentanone peroxide: Sensitiveness and suitability as a model for triacetone triperoxide.” *Journal of Forensic Sciences* 2014; 59(4):936-942.
2. Gerber, M., Walsh, G., and Hopmeier, M., “Sensitivity of TATP to a TASER electrical output.” *Journal of Forensic Sciences* 2014; 59(6):1638-1641.
3. Giordano, B. C., Lubrano, A. L., Field, C. R., and Collins, G. E., “Dynamic headspace generation and quantitation of triacetone triperoxide vapor.” *J. Chromatogr. A.* 1331 (2014) 38-43.
4. Klapotke, T. M., and Wloka, T., “Peroxide Explosives.” *PATAI'S Chemistry of Functional Groups*, Online 2009–2014 John Wiley & Sons, Ltd. doi: 10.1002/9780470682531.pat0879
5. Kotrly, M., and Turkova, I., “Analysis of nonstandard and home-made explosives and post-blast residues in forensic practice.” *Proceedings of SPIE* 2014; 9073:90730U.
6. Kunzel, M., Yan, Q-L., Selesovsky, J., Zemen, S., and Matyas, R., “Thermal behavior and decomposition kinetics of ETN and its mixtures with PETN and RDX.” *J Therm Anal Calorim* 2014; 115:289-99.
7. Manner, V. W., Tappan, B. C., Scott, B. L., Preston, D. N., and Brown, G. W., “Crystal structure, packing analysis, and structural-sensitivity correlations of erythritol tetranitrate.” *Cryst Growth Des* 2014; 14:6154-60.

8. Nazarian, A., Presser, C., 2014. "Forensic analysis methodology for thermal and chemical characterization of homemade explosives." *Thermochimica Acta* 576, 60–70.

2015

1. Manner, V. W., Preston, D. N., Tappan, B. C., Sander, V. E., Brown, G. W., Hartline, E., and Jensen, B., "Explosive performance properties of erythritol tetranitrate (ETN)." *Propellants, Explos, Pyrotech* 2015; 40:460-462.
2. Marsh, C.M., Mothershead, R.F., and Miller, M.L., "Post-Blast Analysis of Hexamethylene Triperoxide Diamine using Liquid Chromatography-Atmospheric Pressure Chemical Ionization-Mass Spectrometry." *Science and Justice* 2015; 55(5):299-306.
3. Matyas, R., Kunzel, M., Ruzicka, A., Knotek, P., and Vodochodsky, O., "Characterization of erythritol tetranitrate. Part 1: physical properties." *Propellants Explos, Pyrotech.* 2015; 40:185-8.
4. Oxley, J. C., Smith, J. L., Porter, M., McLennan, L., Colizza, K., Zeiri, Y., Kosloff, R., and Dubnikova, F., "Synthesis and degradation of hexamethylene triperoxide diamine (HMTD)." *Propellants Explos, Pyrotech.* 40 (2015) 1-18.

2016

1. Kotrly, M., Mares, B., Turkova, I., and Beroun, I., "Identification of improvised explosives residues using physical-chemical analytical methods under real conditions after an explosion." *Proceedings of SPIE* 2016; 9823:98230S.
2. Matyas, R., Lycka, A., Jirasko, R., Jakovy, Z., Maixner, J., and Miskova, L., "Analytical Characterization of Erythritol Tetranitrate, an Improvised Explosive." *Journal of Forensic Sciences* 2016; 61(3):759-764.
3. Steinkamp, F. L., DeGreeff, L. E., Collins, G., and Rose-Pehrsson, S. L., "Factors affecting the intramolecular decomposition of hexamethylene triperoxide diamine and implications for detection." *J. Chromatogr A.* 1451 (2016) 83-90.

2017

1. DeGreeff, L.E., Cerreta, M.M., and Katilie, C.J., "Variation in the headspace of bulk hexamethylene triperoxide diamine (HMTD) with time, environment, and formulation." *Forensic Chemistry* 2017; 4:41-50.
2. Fraga, C.G., Mitroshkov, A.V., Mirjankar, N.S., Dockendorff, B.P., and Melville, A.M., "Elemental source attribution signatures for calcium ammonium nitrate (CAN) fertilizers used in homemade explosives." *Talanta* 2017; 174:131-138.

3. Gamble, S.C., Campos, L.C., and Morgan, R.M., "Detection of trace peroxide explosives in environmental samples using solid phase extraction and liquid chromatography mass spectrometry." *Environmental Forensics* 2017; 18(1-2):50-61.

2019

1. Assis, A. C. A., Caetano, J., Florencio, M. H., and Cordeiro, C., "Triacetone triperoxide characterization by FT-ICR mass spectrometry: Uncovering multiple forensic evidence." *Forensic Science International* 2019; 301:37-45.
<https://www.sciencedirect.com/science/article/pii/S0379073819301549?via%3Dhub>
2. Balachandar, K. G., and Thangamani, A., "Studies on Some of the Improvised Energetic Materials (IEMs): Detonation, Blast Impulse and TNT Equivalence Parameters." *Oriental Journal of Chemistry*. 2019; 35(6):1813-23.
<https://www.orientjchem.org/vol35no6/studies-on-some-of-the-improvised-energetic-materials-iems-detonation-blast-impulse-and-tnt-equivalence-parameters/>
3. Bezemer, K., McLennan, L., van Duin, L., Kuijpers, C. J., Koeberg, M., van den Elshout, J., van der Heijden, A., Busby, T., Yevdokimov, A., Schoenmakers, P., and Smith, J., "Chemical attribution of the home-made explosive ETN—Part I: Liquid chromatography-mass spectrometry analysis of partially nitrated erythritol impurities." *Forensic Science International*. 2019 Dec 19:110102.
<https://www.sciencedirect.com/science/article/pii/S0379073819305146>

10 –Trace and Post Blast Residues Analysis

1967

1. Lloyd, J. B. F., "Detection of microgram Amounts of Nitroglycerin and Related Compounds." *Journal of the Forensic Science Society*, Volume 7, Issue 4, October 1967, Page 198.

1970

1. Jenkins, R., and Yallop, H. J., "The identification of explosives in trace quantities on objects near an explosion." *Explosivstoffe* 1970 6: 139–141.

1975

1. Parker, R.G., et al, "Analysis of Explosives and Explosive Residues. Part I: Chemical Tests," JFS, Vol 20, No. 1, Jan. 1975, pp. 133-140.

2. Parker, R. G. "Analysis of explosives and explosive residues. Part 3: monomethylamine nitrate." *Journal of Forensic Sciences* 1975 20(2), 257–260.

1980

1. Prime, R. J., and Krebs, J., "The Recovery and identification of ethyleneglycoldinitrate and nitroglycerine in explosion debris using preconcentration and high performance liquid chromatography." *Canadian Society of Forensic Science Journal* March 1980, pages 27-33.

1981

1. Hayes, T. S., "A Systematic Procedure for the Identification of Post-Explosion Samples of Commercial Blasting Explosives." *J Forensic Sci Soc.* 1981 Oct; 21(4):307-16.

1982

1. Higgs, D. G., and Hayes, T. S., "Post-detonation traces of nitroglycerine on polymeric materials: recovery and persistence." *Journal of Forensic Sciences* 1982 22, 343.
2. Twibell, J. D., Home, J. M., Smalldon, K. W., and Higgs, D. G., "Transfer of nitroglycerine to hands during contact with commercial explosives." *J. Forensic Sci.* 27 (1982) 783-791.
3. Wu, C. C., Sokoloski, D., Burkman, A. M., Blanford, M. F., and Wu, L. S., "Methods for the Quantitation of Nitroglycerin and its Metabolites in Human Plasma." *J Chromatogr.* 1982 Mar 12; 228:333-9.

1984

1. Fine, D. H., Yu, W., Goff, U. E., Bender, E. C., and Reutter, D. J., "Picogram analysis of explosive residues using the thermal energy analyser (TEA)." *Journal of Forensic Sciences* 1984 29, 732–746.
2. Prime, R. J., and Krebs, J., "The analysis of Ethyleneglycolmononitrate and Monomethylaminenitrate from commercial blasting agents in post blast samples." *Canadian Society of Forensic Science Journal* March 1984, Vol 17 pages 35-40.

1985

1. Belkin, F., Bishop, R. W., and Sheely, M. V., "Analysis of Explosives in Water by Capillary Gas Chromatography." *Journal of Chromatographic Science*, Volume 23, Issue 12, 1 December 1985, Pages 532–534, <https://doi.org/10.1093/chromsci/23.12.532>
2. Douse, J. M. F., "Trace analysis of explosives at the low nanogram level in hand swab extracts using columns of Amberlite XAD-7 porous polymer beads and silica capillary column gas chromatography with thermal energy analysis and electron capture detection." *Journal of Chromatography* 1985 328, 155–165.

1986

1. Jenkins, T. F., Leggett, D. C., Grant, C. L., and Bauer, C. F., "Reversed-Phase High Performance liquid Chromatographic Determination of Nitroorganics in Munitions Wastewater." *Anal. Chem.*, 1986, 58 (1), pp 170–175.

1988

1. Douse, J. M. F., "Trace Analysis of Explosives by Capillary Supercritical Fluid Chromatography with Thermal Energy Analysis Detection." *J. Chromatogr.* 1988, 445(1) 244-250.
2. Nowicki, J., and Pauling, S., "Identification of Sugars in Explosive Residues by Gas Chromatography-Mass Spectrometry" *J. Forensic Sci.* 1988, 33(5) 1254-1261 September.
3. Yelverton, B. J. "Analysis of RDX Vapors in Pre and Post-detonations Using the Ion Mobility Spectrometer under Field Conditions" *J. Energ. Mater.* 1988, 6(1-2) 73-80 March/June.

1989

1. Bamberger, Y., Margalit, Y., and Zitrin, S., "Post Explosion Analysis by NMR Spectrometry." *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 24-1 to 24-8.
2. Collins, D. A., "Modification to a Thermal Energy Analyzer with Associated Electronic Filtering for Improved Gas Chromatographic Analysis of Explosive Traces." *J. Chromatogr.* 1989, 483 379-383.
3. Deak, J. S., Clark, H., Dagenais, C., Jones, S., McClure, D., and Richardson, B. W., "Post-Blast Residue Analysis in the R.C.M.P. Laboratories." *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 18-1 to 18-19.
4. Lee, M-R., Hwang, D-G., and Tang, C-P., "Trace Analysis of Explosives by Mass Spectrometry" *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 5-1 to 5-12.
5. Lloyd, J.B.F., and King, R.M., "Detection and Persistence of Traces of Semtex and Some Other Explosives on Skin Surfaces" *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 9-1 to 9-14.

1990

1. Axon, B.W., and Gilbert, J. D., "Recovery of Explosive Traces Using a Solution of Beta-cyclodextrin on Cotton Wool Swabs: Formation of Inclusion Complexes." Presented: International Association of Forensic Sciences Meeting Adelaide, Australia 1990, Abstract FE364.

2. Fetterolf, D. D., "Contact Transfer of Explosives from Hands to Surfaces." Presented: International Association of Forensic Sciences Meeting Adelaide, Australia 1990 Abstract FE191.
3. Lloyd, J.B.F., and King, R.M., "One-Pot Processing of Swabs for Organic Explosives and Firearms Residue Traces" *J. Forensic Sci.* 1990, 35(4) 956-959 July.
4. McLuckey, S.A., Glish, G.L., and Grant, B.C., "Simultaneous Monitoring for Parent Ions of Targeted Daughter Ions: A Method for Rapid Screening Using Mass Spectrometry/Mass Spectrometry" *Anal. Chem.* 1990, 62(1) 56-61 January 1.
5. Woolfson-Bartfeld, D., Grushka, E., Abramovich-Bar, S., Levy, S., and Bamberger, Y., "Reversed-Phase Ion-Pair Chromatography with Indirect Photometric Detection of Inorganic Anions from Residues of Low Explosives" *J. Chromatogr.* 1990, 517; 305-315.

1991

1. Fetterolf, D. D., Mudd, J. L., and Teten, K., "An Enzyme-Linked Immunosorbent Assay (ELISA) for Trinitrotoluene (TNT) Residues on Hands." *J. Forensic Sci.* 1991, 36(2) 343-349 March.
2. Glattstein, B., Landau, E., and Zeichner, A., "Identification of Match Head Residues in Post Explosion Debris." *J. Forensic Sci.* 1991, 36(5) 1360-1367 September.
3. Kolla, P. "Trace Analysis of Explosives from Complex Mixtures with Sample Pretreatment and Selective Detection" *J. Forensic Sci.* 1991, 36(5) 1342-1359 September.
4. Kolla, P. "Trace Analysis of Salt Based Explosives by Ion Chromatography" *Forensic Sci. Int.* 1991, 50(2) 217-226.
5. Lloyd, J.B.F., "Forensic Explosives and Firearms Traces: Trapping of HPLC Peaks for Gas Chromatography" *J. Energ. Mater.* 1991, 9(1-2) 1-17 March-June.

1992

1. Bender, E. C., and Crump, J., "The Instrumental Analysis of Intact and Post Blast Water Gel and Emulsion Explosives." in: *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 179-188.
2. Bender, E.; Hogan, A.; Leggett, D.; Miskolczy, G. and MacDonald, S. "Surface Contamination by TNT" *J. Forensic Sci.* 1992, 37(6) 1673-1678 November.
3. Beveridge, A. D., "Developments in the Detection and Identification of Explosive Residues." *Forensic Sci. Rev.* 1992, 4(1) 18-49 June.

4. Fetterolf, D. D., "Detection of Trace Explosives Evidence by Ion Mobility Spectrometry." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 117-131.
5. Hargadon, K. A., and McCord, B. R., "Explosive Residue Analysis by Capillary Electrophoresis and Ion Chromatography." *J. Chromatogr.* 1992, 602(1-2) 241-247.
6. Hwang, D. G., and Lee, M. R., "Trace Analysis of Nitrate Ester Explosives by Mass Spectrometry" *Huoyao Jishu* 1992, 8(1) 57-65 (in Chinese).
7. Kolla, P.; Engelhardt, H. and Zapp, J. "Sample Preparation by Supercritical Fluid Extraction in Explosives Trace Analysis" *Adv. Anal. Detect. Explos: Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 55-65.
8. Kumooka, Y., Nakamura, J., and Kishi, T., "Analysis of Anions in Explosive Residues by Capillary Electrophoresis" *Kagaku Keisatsu Kenkyusho Hokoky, Hokagaku-hen* 1992, 45(4) 159-161 (in Japanese).

1993

1. Fetterolf, D.D. and Clark, T.D. "Detection of Trace Explosive Evidence by Ion Mobility Spectrometry" *J. Forensic Sci.* 1993, 38(1) 28-39 January.
2. Hall, K. E., and McCord, B. R., "The Analysis of Mono and Divalent Cations Present in Explosive Residues Using Ion Chromatography with Conductivity Detection." *J. Forensic Sci.* 1993, 38(4) 928-934 July.
3. Kolla, P. and Hohenstatt, P. "Stability of Explosives Traces on Different Supports" *Forensic Sci. Int.* 1993, 60(1,2) 127-137 June.
4. Rodacy, P. "The Minimum Detection Limits of RDX and TNT Deposited on Various Surfaces as Determined by Ion Mobility Spectroscopy" *Report* 1993, SAND-92-0229; Order No. DE93018521 27 pp. from: *Energy Res. Abstr.* 1993, 18(11) Abstract No. 33315.
5. Wallace, J. S., and McKeown, W. J., "Sampling Procedures for Firearms and/or Explosives Residues" *J. Forensic Sci. Soc.* 1993, 33(2) 107-116 June.

1994

1. Erwin, L. T., and Hedglin, D. L., "Identification of Cyanoguanidine in Pyrodex and Post Blast Residues of Pyrodex." Presented: 46th Annual Meeting AAFS San Antonio, TX February 14-19, 1994 Abstract #B81.

2. Garofolo, F., Migliozi, V., and Roio, B., "Application of Ion Mobility Spectrometry to the Identification of Trace Levels of Explosives in the Presence of Complex Matrices." *Rapid Comm. Mass Spectrom.* 1994, 8 527-532.
3. Kolla, P., "Gas Chromatography, Liquid Chromatography and Ion Chromatography Adapted to the Trace Analysis of Explosives." *Journal of Chromatography A*, Volume 674, Issues 1–2, 15 July 1994, Pages 309-318.
4. McCord, B.R.; Hargadon, K.A.; Hall, K.E. and Burmeister, S.G. "Forensic Analysis of Explosives Using Ion Chromatographic Methods" *Anal. Chim. Acta* 1994, 288(1-2) 43-56 March 30.

1995

1. Buechler, S., Ornath, F., and Bigman, J., "Advanced Methods of Sample Collection in Trace Explosives Detection." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
2. Calisti, C., La Claviere, M. C., Minet J. J., and Hamart, A. M., "Analysis of Explosives and Identification of Post-Blast Explosive Residues after a Bomb Attack." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. - Ed. Treasury Dept., BATF October, 1997.
3. Cheng, C., Kirkbride, T. E., Batchelder, D. N., Lacey, R. J., and Sheldon, T. G., "In Situ Detection and Identification of Trace Explosives by Raman Microscopy." *J. Forensic Sci.* 1995, 40(1) 31-37 January.
4. Fox, F., Green, D., Sisk, S., Boghosian, J. and DiBartolo, R., "Particle Characterization of Trace Explosives Solid Samples." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
5. Glattstein, B., Abramovich-Bar, S., Tamiri, T., and Zitrin, S., "A New Approach to the Post-Explosion Analysis of Inorganic Ions." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995*. Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
6. Irwin, A., "Contamination Avoidance." Presented: Explosion Investigation Symposium Belfast, Northern Ireland March 20-21, 1995 Abstract: *Sci. Justice* 1998, 38(1) 51-51 January–March.
7. Kolla, P. "Detecting Hidden Explosives" *Anal. Chem.* 1995, **67**(5) 184A-189A March 1.
8. Kolla, P. and Sprunkel, A. "Identification of Dynamite Explosives in Post Explosion Residues" *J. Forensic Sci.* 1995, 40(3) 406-411 May.

9. Murray, G., "Post-Blast Analysis: The Forensic Response. *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 134-140.
10. Nakamura, J., and Norman, E.W.W., "Supercritical Fluid Extraction of Post-Blast Debris" *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
11. Nakamura, J., Kumooka, Y., and Arai, H., "The Instrumental Analysis of Emulsion Explosive Residues" *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
12. Smith, K. D., McCord, B. R., MacCrehan, W. A., Mount, K., and Rowe, W. F., "Detection of Smokeless Powder Residue on Pipe Bombs by Micellar Electrokinetic Capillary Electrophoresis" *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed Dept. of Treasury, BATF October, 1997 *J. Forensic Sci.* 1999, 44(4) 789-794 July.

1996

1. Crowson, A., Cullum, H. E., Hiley, R. W., and Lowe, A. M., "A survey of high explosives traces in public places" 1996. *J. Forensic Sci.* 41(6): 980-989.
2. Fox, F., Green, D., Miller, J., Sisk, S., and DiBartolo, R., "Particle Characterization of Explosives Fingerprints and Standard Deposits" *Proc. 2nd Explos. Detect. Technol. Symp. Aviation Secur. Technol. Conf.* Makky, W. -Chair November 12-15, 1996 FAA Atlantic City, NJ pp. 77-84.
3. Goulding, C., "Trace Explosives Detection Systems in the Royal Canadian Mounted Police." *Proc. 2nd Explos. Detect. Technol. Symp. Aviation Secur. Technol. Conf.* Makky, W. -Chair November 12-15, 1996 FAA Atlantic City, NJ pp. 193-206.
4. Hiley, R.W., "Dinitrosopentalmethylenetetramine - A Potential Interference in the Detection of Explosive Traces." *J. Forensic Sci.* 1996, 41(6) 975-979.
5. McKeown, W.J., and Speers, S.J., "Automated Method for the Analysis by HPLC of Organic Explosive Residues by HPLC with a Pendant Mercury Drop Electrode Detector" *Science and Justice* 1996, 36(1) 15-20 January-March.

1997

1. Crowson, A., Hiley, R. W., Ingham, T., McCready, T., Pilgrim, A. J., and Townsend, A., "Investigation into the Detection of Nitrated Organic Compounds and Explosives by Direct Chemiluminescence Emission during Thermally Induced Gas Phase Decomposition Reactions." *Anal. Comm.* 1997 34(8) 213-216.

2. Kolla, P. "Selective Detection in the Chromatographic Analysis of Explosives Residues" *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. - Ed Treasury Dept., BATF October, 1997.
3. Kolla, P. "The Application of Analytical Methods to the Detection of Hidden Explosives and Explosive Devices" *Agnew. Chem. Int. Ed. Engl.* 1997, 36(8) 801-811.
4. Kolla, P. "Stability of Explosives Traces on Different Supports Respecting the Detectability by EVD" *Proc. SPIE-Int. Soc. Opt. Eng.* 1997, 2937 (Chemistry- and Biology- Based Technologies for Contraband Detection) 236-244.
5. Kumooka, Y., and Beveridge, A. D., "Post Explosion Analysis of Emulsion Explosives" *Kayaku Gakkaishi* 1997, 58(1) 36-41 (Japanese).
6. McGuire, R.R., Lee, C.G., Velsko, C.A., and Raber, E., "Application of Stable Isotope Ratios to the Analysis of Explosive Residues" *Proceedings: 5th Inter. Symp. Anal. Detect. Explos. December 4-8 Washington, DC* Midkiff, C.-Ed Treasury Dept., BATF October, 1997.
7. Nakamura, J., Arai, H., and Ichiki, R., "Simultaneous Determination of Trace Amounts of Organic Explosives and Related Compounds by GC/TEA" *Kayaku Gakkai* 1997, 58(1) 29-35 (Japanese).

1998

1. Almirall, J. R., Bi, G., and Furton, K. G., "The Analysis of High Explosives Residues by Solid-Phase Microextraction followed by HPLC, GC/ECD and GC/MS." Presented: 50th Anniversary Meeting, AAFS San Francisco, CA February 9-14, 1998 Abstract# B71 Abstract: Supelco SPME Brochure T498217 1998.
2. Barshick, S. A., and Griest, W. H., "Trace Analysis of Explosives in Seawater Using Solid-Phase Microextraction and Gas Chromatography/Ion Trap Mass Spectrometry." *Anal. Chem.*, 1998, 70 (14), pp 3015–3020.
3. Doyle, J. N., and McCord, B. R., "Novel Electrolyte for the Analysis of Cations in Low Explosive Residue by Capillary Electrophoresis." *J. Chromatogr., B: Biomed. Sci. Appl.* 1998, 714(1) 105-111.
4. Hamels, S., and DeBisschop, H. C., "Screening of Post-Explosive Samples for Common High Explosive Components by MECC." *Biomed. Chromatogr.* 1998, 12(3) 107-108.
5. Hiley, R.W., "Quality Control in the Detection and Identification of Traces of Organic High Explosives." *Forensic Invest. Explos.* 1998 Beveridge, A. - Ed. Taylor & Francis London, U.K. pp. 315-342.
6. Kirkbride, K.P., Klass, G., and Pigou, P. E., "Application of Solid-Phase Microextraction to the Recovery of Organic Explosives." *J. Forensic Sci.* 1998, 43(1) 76-81 January.

7. McCord, B.R. and Bender, E.C. "Chromatography of Explosives" in: *Forensic Invest. Explos.* Beveridge, A.D. - Ed. London, Taylor & Francis 1998 pp. 231-265.
8. Warren, D., Hiley, R. W., Phillips, S. A., and Ritchie, K., "Novel technique for the combined recovery, extraction and clean-up of forensic organic and inorganic trace explosives samples." *Sci. Justice* 31 (1998) 11-18.

1999

1. Almirall, J.R.; Wu, L.; Bi, G.; Shannon, M.W. and Furton, K.G. "The Field Recovery of Explosive Residues Using Solid-Phase Microextraction Followed by Chromatographic Analysis" *Proc. SPIE-Int. Soc. Opt. Eng.*, 1999 3576 (Investigation and Forensic Science Technologies) 18-23.
2. Warren, D., Hiley, R. W., Phillips, S. S., and Ritchie, K., "Novel Technique for the Combined Recovery, Extraction and Clean-up of Forensic Organic and Inorganic Trace Explosives Samples" *Science & Justice* 1999, 39(1) 11-18 January-March.
3. Sigman, M. E., Ma, C. Y., "In-injection Port Thermal Desorption for Explosives Trace Evidence Analysis." *Anal Chem.* 1999: Oct 1; 71(19):4119-24.

2001

1. Crowson, A., and Beardah, M. S., "Development of an LC/MS method for the trace analysis of hexamethylenetriperoxidediamine (HMTD)" *Analyst*, 2001, 126, 1689–1693.
2. Klapc, D. J., and Ng, D., 'The Use of Capillary Electrophoresis in the Detection of Monomethylamine and Benzoate Ions in the Forensic Examination of Explosives Residues.' *J Forensic Sci.* 2001 Sep; 46(5):1168-73.
3. Sigman, M. E., and Ma, C. Y., 'Detection limits for GC/MS analysis of organic explosives.' *Journal of Forensic Sciences* 2001 46(1), 6–11.
4. Sigman, M. E., Ma, C. Y., and Ilgner, R. H., "Performance Evaluation of an In-injection Port Thermal Desorption /Gas Chromatographic/Negative Ion Chemical Ionization Mass Spectrometric Method for Trace Explosive Vapor Analysis." *Anal Chem.* 2001 Feb 15; 73(4):792-8.

2002

1. Kelleher, J. D., "Explosives residue: origin and Q5 distribution." *Forensic Science Communications* 2002. 4(2).

2003

1. Calderera, S., Gardebas, G., and Martinez, F., "Solid phase micro extraction coupled with on-column GC/ECD for the post-blast analysis of organic explosives." *Forensic Sci*

Int. 2003 Oct 14; 137(1):6-12.

2. Kamyshny, A., Magdassi, S., Avissar, Y., and Almog, J., "Water-soaked evidence: detectability of explosive traces after immersion in water." *J Forensic Sci.* 2003 Mar; 48(2):312-7.
3. Kosanke, K.L., Dujay, R.C., and Kosanke, B., "Characterization of pyrotechnic reaction residue particles by SEM/EDS." *J Forensic Sci.* 2003 May; 48(3):531-7.
4. Oxley, J. C., Smith, J. L., Resende, E., and Pearce, E., "Quantification and aging of the post-blast residue of TNT landmines." *J Forensic Sci.* 2003 Jul; 48(4):742-53.

2004

1. Biswas, S., Chowdhury, B., and Ray, B. C., "A novel Spectrofluorometric method for the ultra-trace analysis of nitrite and nitrate in aqueous medium and its application to air, water, soil and forensic samples." *Talanta.* 2004 Oct 8; 64(2):308-12. doi: 10.1016/j.talanta.2004.02.018.
2. Cullum, H. E., McGavigan, C., Uttley, C. Z., Stroud, M. A., and Warren, D. C., "A second survey of background levels of explosives and related compounds in the environment" 2004. *J. Forensic Sci* 49(4): 684-690.
3. Muller, D., Levy, A., Shelef, R., Abramovich-Bar, S., Sonenfeld, D., and Tamiri T. "Improved method for the detection of TATP after explosion." *J Forensic Sci.* 2004 Sep; 49(5):935-8.
4. Xu, X., van de Craats, A.M., Kok, E.M., and de Bruyn, P.C., "Trace analysis of peroxide explosives by high performance liquid chromatography-atmospheric pressure chemical ionization-tandem mass spectrometry (HPLC-APCI-MS/MS) for forensic applications." *J Forensic Sci.* 2004 Nov; 49(6):1230-6.
5. Xu, X., van de Craats, A.M., and de Bruyn, P. C., "Highly sensitive screening method for nitroaromatic, nitramine and nitrate ester explosives by high performance liquid chromatography-atmospheric pressure ionization-mass spectrometry (HPLC-API-MS) in forensic applications." *J Forensic Sci.* 2004 Nov; 49(6):1171-80.

2005

1. Bradley, K. S., "Determination of Elemental Sulfur in Explosives and Explosive Residues by Gas Chromatography-Mass Spectrometry." *J Forensic Sci.* 2005 Jan; 50(1):96-103.
2. Hopper, K. G., LeClair, H., and McCord, B. R., "A Novel Method for Analysis of Explosives Residue by Simultaneous Detection of Anions and Cations via Capillary Zone Electrophoresis." *Talanta.* 2005 Aug 15; 67(2):304-12. doi: 10.1016/j.talanta.2005.01.037. Epub 2005 Feb 24.

3. Kinghorn, R., and Miller, C., “Analysis of Trace Residues of Explosive Materials by Time-of-Flight LC/MS”, Agilent Technologies, Wilmington, DE, 2005.
4. Oxley, J. C., Smith, J. L., Kirschenbaum, L., Shinde, K. P., and Marimganti, S., “Accumulation of explosives in hair.” *Journal of Forensic Sciences* 2005 50(4), 826–831.

2006

1. Borton, C., and Olson, L., “Trace Level Analysis of Explosives in Ground Water and Soil”, Applied Biosystems/MDS Sciex, Foster City, CA, 2006.

2007

1. Almog, J., Burda, G., Shloosh, Y., Abramovich-Bar, S., Wolf, E., and Tamiri, T., “Recovery and Detection of Urea Nitrate in Traces.” *J Forensic Sci.* 2007 Sep. Available at: <https://doi.org/10.1111/j.1556-4029.2007.00551.x>
2. Martin, A. N., Farqar, G. R., Gard, E. E., Frank, M., and Fergensen, D. P., “Identification of High Explosives Using Single-Particle Aerosol Mass Spectrometry.” *Anal Chem.* 2007 Mar 1; 79(5):1918-25.
3. Oxley, J. C., Smith, J. L., Kirschenbaum, L., and Marimganti, S., “Accumulation of explosives in hair: part II: factors affecting sorption.” *Journal of Forensic Sciences* 2007 52(6), 1291–1296.
4. Sanchez, J.C., Toal, S. J., Wang, Z., Dugan, R.E., and Troglar, W.C., “Selective detection of trace nitroaromatic, nitramine, and nitrate ester explosive residues using a three-step fluorimetric sensing process: a tandem turn-off, turn-on sensor.” *J Forensic Sci.* 2007 Nov; 52(6):1308-13. Epub 2007 Oct 17.
5. The Technical and Scientific Working Group on Fire and Explosion Analysis (T/SWGFX). “*Recommended Guidelines for Forensic Identification of Post Blast Explosive Residues.*” 2007. Available at <https://www.swgfix.com/publications>.
6. Verkouteren, J. R., “Particle Characteristics of Trace High Explosives: RDX and PETN.” *J Forensic Sci.* 2007 Mar; 52(2):335-40.

2008

1. Hutchinson, J.P., Johns, C., Breadmore, M.C., Hilder, E.F., Guijt, R.M., Lennard, C., Dicinoski, G., and Haddad, P.R., “Identification of inorganic ions in post-blast explosive residues using portable CE instrumentation and capacitively coupled contactless conductivity detection.” *Electrophoresis.* 2008 Nov; 29(22):4593-602. Available at: doi: 10.1002/elps.200800226.
2. Johns, C., Shellie, R. A., Potter, O. G., O'Reilly, J. W., Hutchinson, J. P., Guijt, R. M., Breadmore, M. C., Hilder, E. F., Dicinoski, G. W., and Haddad, P. R., “Identification of

homemade inorganic explosives by ion chromatographic analysis of post-blast residues.” *Journal of Chromatography A*, 1182 (2008) 205–214.

3. Lahoda, K.G., Collin, O.L., Mathis, H.E., LeClair, Wise, S.H., and McCord, B. R., “A survey of background levels of explosives and related compounds in the environment” 2008 *J. Forensic Sci.* 53(4): 802-806.
4. Meng, H-B., Wang, T-R., Guo, B-Y., Hashi, Y., Guo, C-X., and Lin, J-M., “Simultaneous determination of inorganic anions and cations in explosive residues by ion chromatography.” *Talanta* 76 (2008) 241–245.
5. Oxley, J. C., Smith, J. L., Kirschenbaum, L. J., Marimganti, S., and Vadlamannati, S., “Detection of explosives in hair using ion mobility spectrometry.” *Journal of Forensic Sciences* 2008 **53**, 690–693.
6. Perret, D., Marchese, S., Gentili, A., Terracciano, A., Bafile, E., and Romolo, F. S., “LC-MS-MS determination of stabilizers and explosives residues in hand-swabs.” *Chromatographia*. 68 (2008) 517-524.
7. Prest, J. E., Beardah, M. S., Baldock, S. J., Doyle, S. P., Fielden, P. R., Goddard, N. J., Treves Brown, B. J., “Determination of chlorine containing species in explosive residues using chip-based isotachophoresis” *Journal of Chromatography A*, 1195 (2008) 157–163.
8. Sharma, S. P., and Lahiri, S. C., “Preparation of a Database for the Determination and Estimation of High Explosives and a Comparative Study of Different Methods of Estimation of RDX.” *Journal of the Indian Chemical Society*, 85(3):273-279 · March 2008.
9. Talaty, M., Mulligan, C. C., Justes, D. R., Jackson, A. U., Noll, R. J., and Cooks, R. G., “Fabric Analysis by Ambient Mass Spectrometry for Explosives and Drugs.’ *Analyst*. 2008 Nov; 133(11):1532-40.

2009

1. Banas, A., Banas, K., Bahou, M., Moser, H. O., Wen, L., Yang, P., Li, Z. J., Cholewa, M., Lim, S. K., and Lim, Ch. H., “Post-blast detection of traces of explosives by means of Fourier transform infrared spectroscopy.” *Vibrational Spectroscopy* Volume 51, Issue 2, 10 November 2009, Pages 168-176.
2. Gottfried, J. L., De Lucia, F. C., and Mizolek, A. W., “Discrimination of explosive residues on organic and inorganic substrates using laser-induced breakdown spectroscopy.” *Journal of Analytical Atomic Spectrometry*, Volume 24, Number 3, March 2009, 249-356.
3. Jander, P., and Noll, R., “Automated Detection of Fingerprint Traces of High Explosives Using Ultraviolet Raman Spectroscopy.” *Appl Spectrosc.* 2009 May; 63(5):559-63.

4. Lancaster, S. L., Marshall, M., and Oxley, J. C., “Laboratory Analysis of Explosion Debris”, Wiley Encyclopedia of Forensic Science, Sept 2009. Available at: <https://doi.org/10.1002/9780470061589.fsa213>.
5. Lancaster, S. L., Marshall, M., and Oxley, J. C., “Explosion Debris: Laboratory Analysis of.” in Wiley Encyclopedia of Forensic Science, Jamieson, A., and Moenssens, A., (Eds). Wiley, Chichester, UK 2009.
6. Lazic, V., Palucci, A., Poggi, C., and Buono, E., “Analysis of explosive and other organic residues by laser induced breakdown spectroscopy.” *Spectrochimica Acta Part B* 64 (2009) 1028–1039.
7. MacCrehan, W. A., “A NIST Standard Reference Material (SRM) to Support the Detection of Trace Explosives.” *Anal Chem.* 2009 Sep 1; 81(17):7189-96.
8. Martinez-Lozano, P., Rus, J., Fernandez de la Mora, G., Hernandez, m., and Fernandez de la Mora, J., “Secondary Electrospray Ionization (SESI) of Ambient Vapors for Explosive Detection at Concentrations Below Parts Per Trillion.” *J Am Soc Mass Spectrom* 2009, 20, 287–294.
9. Oxley, J. C., Smith, J. L., Bernier, E., Moran, J. S., and Luongo, J., “Hair as forensic evidence of explosive handling.” *Propellants, Explosives, Pyrotechnics* 2009 **34**(4), 307–314.
10. Quirk, A. T., Bellerby, J. M., Carter, J. F., Thomas, F. A., and Hill, J. C., “An initial evaluation of stable isotopic characterisation of post-blast plastic debris from improvised explosive devices.” *Science and Justice* 49 (2009) 87–93.
11. Szakal, C., and Brewer, T. M., “Analysis and Mechanisms of Cyclotrimethylenetrinitramine Ion Formation in Desorption Electrospray Ionization.” *Analytical Chemistry*, 81(13):5257-66 · July 2009.

2010

1. Banas, A., Banas, K., Bahou, M., Moser, H. O., Yang, P., Li, Z. J., Cholewa, M., and Lim, S. K., “Multivariate analysis techniques in the forensic investigation of the post blast residues by means of Fourier transform infrared spectroscopy.” *Anal. Chem.*, 2010, 82 (7), pp 3038-3044.
2. Prest, J. E., Beardah, M. S., Baldock, S. J., Doyle, S. P., Fielden, P. R., Goddard, N. J., Treves Brown, B. J., “Determination of the potassium content of explosive residues using miniaturised Isotachophoresis” *Electrophoresis* 2010, 31, 3775–3782.
3. Sarazin, C., Delaunay, N., Varenne, A., Costanza, C., Eudes, V., and Gareil, P., “Simultaneous Capillary Electrophoretic Analysis of Inorganic Ions and Cations in Post-Blast Extracts of Acid-Aluminum Mixtures.” *J Sep Sci.* 2010 Oct; 33(20):3177-83.

4. Sarazin, C., Delaunay, N., Varenne, A., Vial, J., Costanza, C., Eudes, V., Minet, J. J., and Gareil, P., "Identification and Determination of Inorganic Anions in Real Extracts from Pre - and Post - Blast Residues by Capillary Electrophoresis." *J Chromatogr A*. 2010 Oct 29; 1217(44):6971-8.
5. Turillazzi, E., Monaci, F., Neri, M., Pomara, C., Riezzo, I., Baroni, D., and Fineschi, V., "Collection of trace evidence of explosive residues from the skin in a death due to a disguised letter bomb. The synergy between confocal laser scanning microscope and inductively coupled plasma atomic emission spectrometer analyses." *Forensic Science International* 2010; 197(1-3):e7-e12.

2011

1. Ahmad, U. K., Tze, O. S., Ghazali, M. F., Hooi, Y. C., and Abdullah, M. K., "Analysis of anionic post-blast residues of low explosives from soil samples of forensic interest." *Malaysian Journal of Analytical Sciences* 2011; 15:213-226.
2. Bowen, A. M., "A method for isolating very small particles from plastic explosive samples." *The Microscope* 2011, Vol 59:3, pp 117-128.
3. Cummins, J., Hull, J., Kits, K., and Goodpaster, J. V., "Separation and identification of anions using porous graphite carbon and electrospray ionization mass spectrometry: Application to inorganic explosives and their post blast residues. *Anal. Methods*, 2011, 3, 1682.
4. de Perre, C., and McCord, B., "Trace analysis of urea nitrate by liquid chromatography-UV/fluorescence." *Forensic Science International* 211 (2011) 76–82.
5. Douglas, T.A.; Walsh, M.E.; McGrath, C.J.; Weiss, C.A.; Jaramillo, A.M.; and Trainor, T.P., "Desorption of nitramine and nitroaromatic explosive residues from soils detonated under controlled conditions." *Environ Toxicol Chem*. 2011 Feb; 30(2):345-53. Available at: doi: 10.1002/etc.383.
6. Gregory, K. E., Kunz, R. R., Hardy, D. E., Fountain III, A. W., and Ostazeski, S. A., "Quantitative Comparison of Trace Organonitrate Explosives Detection by GC-MS and GC-ECD Methods with Emphasis on Sensitivity." *Journal of Chromatographic Science*, Vol 49, January 2011.
7. Saiz, J., Ferrando, J. L., Atoche, J. C., Torre, M., and Garcia-Ruiz, C., "Study of losses of volatile compounds from dynamites. Investigation of cross-contamination between dynamites stored in polyethylene bags." *Forensic Science International* 2011; 211(1-3):27-33.

2012

1. Doyle, S., "Quality and Trace Detection and Identification of Organic High Explosives" In *Forensic Investigation of Explosives*, Second Edition, ed. A. Beveridge. 2012 Boca Raton, FL. CRC Press (Taylor and Francis Group).
2. Kozole, J., Tomlinson-Philips, J., Stairs, J. R., Harpe, J. D., Lukow, S., Lareau, R., Boudries, H., Lai, H., and Brauer, C. S., "Characterizing the gas phase ion chemistry of an ion trap mobility spectrometry based explosive trace detector using a tandem mass spectrometer." *Talanta* 99 (2012) 799-810.
3. Oxley, J. C., Smith, J. L., Kirschenbaum, L. J., Marimiganti, S., Efremenko, I., Zach, R., and Zeiri, Y., "Accumulation of Explosives in Hair-Part 3: Binding Site Study." *Journal of Forensic Sciences* 2012; 57(3):623-635.
4. Song-im N., Benson, S., and Lennard, C., "Evaluation of different sampling media for their potential use as a combined swab for the collection of both organic and inorganic explosive residues." *Forensic Science International* 2012; 222(1-3):102-110.

2013

1. Abdul-Karim, N., Morgan, R., Binions, R., Temple, T., and Harrison, K., "The spatial distribution of post blast rdx residue: Forensic implications." *Journal of Forensic Sciences* 2013; 58(2):365-371.
2. Ahmad, U.K., Liew, C.Y., Huri, M.A.M., and Abdullah, S.A.A.S., "Forensic analysis of inorganic anions from post-blast pyrotechnic residues." *Journal Teknologi* 2013; 62(3):77-82.
3. Almog, J., Espino, D., Tamiri, T., and Sonenfeld, D., "Trace analysis of urea nitrate in post-blast debris by GC/MS." *Forensic Science International* 2013; 224(1-3):80-83.
4. Borusiewicz, R., Zadora, G., and Zieba-Palus, J., "Chemical analysis of post explosion samples obtained as a result of model field experiments." *Talanta*, 116 (2013) 630-636.
5. Brust, H., van Asten, A., Koeberg, M., van der Heijden, A., Kuijpers, C-J., and Schoenmakers, P., "Pentaerythritol tetranitrate (PETN) profiling in post-explosion residues to constitute evidence of crime-scene presence." *Forensic Science International* 230 (2013) 37–45.
6. Clemons, K., Dake, J., Sisco, E., and Verbeck, G.F., "Trace analysis of energetic materials via direct analyte-probed nanoextraction coupled to direct analysis in real time mass spectrometry." *Forensic Science International* 2013; 231(1-3):98-101.
7. DeTata, D., Collins, P., and McKinley, A., "An investigation into the fate of organic explosives in soil." *Australian Journal of Forensic Sciences* 2013; 45(1):71-84.
8. Forbes, T.P., and Sisco, E., "Recent advances in ambient mass spectrometry of trace explosives." *Analyst* 2018; 143(9):1948-1969.

9. King, S., Benson, S., Kelly, T., and Lennard, C., "Determining the effects of routine fingermark detection techniques on the subsequent recovery and analysis of explosive residues on various substrates." *Forensic Science International* 2013; 233(1-3):257-264.
10. Lordel-Madeleine, S., Eudes, V., and Pichon, V., "Identification of the nitroaromatic explosives in post-blast samples by online solid phase extraction using molecularly imprinted silica sorbent coupled with reversed-phase chromatography." *Anal Bioanal Chem* (2013) 405:5237–5247.
11. Nuntawong, N., Eiamchai, P., Limwichean, S., Wong, B., Horprathum, M., Patthanasettakul, V., Leelapojanaporn, A., Nakngoenthong, S., and Chindaodom, P., "Trace detection of perchlorate in industrial-grade emulsion explosive with portable surface-enhanced Raman spectroscopy." *Forensic Science International* 2013; 233(1-3):174-178.
12. Saha, S., Mandal, M. K., Chen, L. C., Nimoniya, S., Shida, Y., and Hiraoka, K., "Trace Level Detection of Explosives in Solution Using Leidenfrost Phenomenon Assisted Thermal Desorption Ambient Mass Spectrometry." *Mass Spectrometry*, Vol 2, 2013, S0008.
13. Sisco, E., Dake, J., and Bridge, C., "Screening for trace explosives by AccuTOF™-DART®: An in-depth validation study." *Forensic Science International* 2013; 232(1-3):160-168.
14. Swider, J.R., "Optimizing Accu Time-of-Flight/Direct Analysis in Real Time for Explosive Residue Analysis." *Journal of Forensic Sciences* 2013; 58(6):1601-1606.

2014

1. Bors, D., Cummins, J., and Goodpaster, J., 2014. "The anatomy of a pipe bomb explosion: Measuring the mass and velocity distributions of container fragments." *Journal of Forensic Sciences* 59 (1), 42–51.
2. Ceco, E., Onnerud, H., Menning, D., Gilljam, J.L., Baath, P., and Ostmark, H., "Stand-off imaging Raman spectroscopy for forensic analysis of post-blast scenes: Trace detection of ammonium nitrate and 2, 4, 6-trinitrotoluene." *Proceedings of SPIE* 2014; 9073:90730G.
3. Huri, M.A.M., and Ahmad, U.K., "Forensic analysis of high explosive residues from selected cloth." *Malaysian Journal of Analytical Sciences* 2014; 18(1):68-77.
4. Kotrly, M., and Turkova, I., "Analysis of nonstandard and home-made explosives and post-blast residues in forensic practice." *Proceedings of SPIE* 2014; 9073:90730U.

5. Martin-Alberca, C., de la Ossa, M.A.F., Saiz, J., Ferrando, J.L., and Garcia-Ruiz, C., “Anions in pre- and post-blast consumer fireworks by capillary electrophoresis.” *Electrophoresis* 2014; 35(21-22):3273-3280.
6. Nguyen, V., Furstenberg, R., Carr, N., McGill, R., Mott, D.R., Papantonakis, M., Kendziora, C.A., and McGill, R.A., “Fate and effects of trace particulate explosives.” *Proceedings of SPIE* 2014; 9073:90730R.
7. Wright, S., and Gillen, G., “Cathodoluminescence and DART mass spectrometry for the forensic identification of explosive and narcotic particle residues on surfaces.” *Microscopy and Microanalysis* 2014; 20(3):920-921.

2015

1. Bianchi, F., Gregori, A., Braun, G., Crescenzi, C., and Careri, M., “Micro-solid-phase extraction coupled to desorption electrospray ionization-high-resolution mass spectrometry for the analysis of explosives in soil.” *Analytical and Bioanalytical Chemistry* 2015; 407(3):931-938.
2. Brust, H., Koeberg, M., Van Der Heijden, A., Wiarda, W., Mugler, I., Schrader, M., Vivo-Truyols, G., Schoenmakers, P., and Van Asten, A., “Isotopic and elemental profiling of ammonium nitrate in forensic explosives investigations.” *Forensic Science International* 2015; 248:101-112.
3. Chakrabortty, A., Bagchi, S., and Chandra Lahiri, S., “Studies of fire debris from bomb blasts using ion chromatography, gas chromatography-mass spectrometry and fluorescence measurements-evidence of ammonium nitrate, wax-based explosives and identification of a biomarker.” *Australian Journal of Forensic Sciences* 2015; 47(1):83-94.
4. ENFSI. “Best Practice Manual for the Forensic Recovery, Identification and Analysis of Explosives Traces”. ENFSI-BPM-EXP-01, Version 01, November 2015.
5. Furstenberg, R., Nguyen, V., Fischer, T., Abrishami, T., Papantonakis, M., Kendziora, C., Mott, D.R., and McGill, R.A., “Advances in sublimation studies for particles of explosives.” *Proceedings of SPIE* 2015; 9455:94550R.
6. Kotrly, M., and Turkova, I., “New possibilities to analyse non-standard explosives and post blast residues in forensic practice.” *Proceedings of SPI* 2015; 9486:948614.
7. Marsh, C.M., Mothershead, R.F., and Miller, M.L., “Post-Blast Analysis of Hexamethylene Triperoxide Diamine using Liquid Chromatography-Atmospheric Pressure Chemical Ionization-Mass Spectrometry.” *Science and Justice* 2015; 55(5):299-306.

8. van der Voort, M.M., van Wees, R.M.M., Brouwer, S.D., van der Jagt-Deutekom, M.J., and Verreault, J., "Forensic analysis of explosions: Inverse calculation of the charge mass." *Forensic Science International* 2015; 252:11-21.

2016

1. Zapata, F., de la Ossa, M.A.F., Gilchrist, E., Barron, L., and Garcia-Ruiz, C., "Progressing the analysis of Improvised Explosive Devices: Comparative study for trace detection of explosive residues in handprints by Raman spectroscopy and liquid chromatography." *Talanta* 2016; 161:219-227.
2. Yu, H., A., Lewis, S. W., Beardah, M. S., and NicDaeid, N., "Assessing a novel contact heater as a new method of recovering explosives traces from porous surfaces" *Talanta* Volume 148 1 February 2016, Pages 721-728.
3. Degnan, J. R., Böhlke, J. K. Pelham, K., Langlais, D. M., and Walsh, G. J., "Identification of Groundwater Nitrate Contamination from Explosives Used in Road Construction: Isotopic, Chemical, and Hydrologic Evidence." *Environ. Sci. Technol.*, 2016, 50 (2), pp 593–603.

2017

1. Fraga, C.G., Mitroshkov, A.V., Mirjankar, N.S., Dockendorff, B.P., and Melville, A.M., "Elemental source attribution signatures for calcium ammonium nitrate (CAN) fertilizers used in homemade explosives." *Talanta* 2017; 174:131-138.
2. Gamble, S.C., Campos, L.C., and Morgan, R.M., "Detection of trace peroxide explosives in environmental samples using solid phase extraction and liquid chromatography mass spectrometry." *Environmental Forensics* 2017; 18(1-2):50-61.
3. Kotrly, M., Mares, B., Turkova, I., and Beroun, I., "Identification of improvised explosives residues using physical-chemical analytical methods under real conditions after an explosion." *Proceedings of SPIE* 2016; 9823:98230S.
4. Mauricio, F.G.M., Pralon, A.Z., Talhavini, M., Rodrigues, M.O., and Weber, I.T., "Identification of ANFO: Use of luminescent taggants in post-blast residues." *Forensic Science International* 2017; 275:8-13.
5. Nic Daeid, N., Yu, H. A., and Beardah, M. S., "Investigating TNT loss between sample collection and analysis" *Science and Justice* 57 (2017) 95–100.
6. Rapp -Wright, H., McEneff, G., Murphy, B., Gamble, S., Morgan, R., Beardah, M., and Barron, L., "Suspect screening and quantification of trace organic explosives in wastewater using solid phase extraction and liquid chromatography-high resolution accurate mass spectrometry" *Journal of Hazardous Materials* Volume 329, 5 May 2017, Pages 11-21.

7. Yenel Avci, G.F., Anilanmert, B., and Cengiz, S., "Rapid and simple analysis of trace levels of three explosives in soil by liquid chromatography-tandem mass spectrometry." *Acta Chromatographica* 2017; 29(1):45-56.
8. Yu HA, DeTata, D.A., Lewis, S.W., and Daeid, N.N., "The stability of TNT, RDX and PETN in simulated post-explosion soils: Implications of sample preparation for analysis." *Talanta* 2017; 164:716-726.

2018

1. Wen, P., Amin, M., Herzog, W.D., and Kunz, R.R., "Key challenges and prospects for optical standoff trace detection of explosives." *TrAC* 2018; 100:136-144.

2019

- 1) Black, C., D'Souza, T., Smith, J.C., and Hearns, N.G.R. "Identification of Post-Blast Explosive Residue using Direct-Analysis-in-Real-Time and Mass Spectrometry (DART-MS)." *Forensic Chemistry* 2019. <https://doi.org/10.1016/j.forc.2019.100185>
- 2) Gaiffe, G., Cole, R.B., Sonnette, A., Floch, N., and Bridoux, M.C. "Identification of Post-blast Residues by DART-High Resolution Mass Spectrometry Combined with Multivariate Statistical Analysis of the Kendrick Mass Defect." *Analytical Chemistry* 2019.
<https://pubs.acs.org/doi/abs/10.1021/acs.analchem.9b00137>
- 3) Irlam, R.C., Parkin, M.C., Brabazon, D.P., Beardah, M.S., O'Donnell, M., and Barron, L.P. "Improved determination of femtogram-level organic explosives in multiple matrices using dual-sorbent solid phase extraction and liquid chromatography-high resolution accurate mass spectrometry." *Talanta* 2019; 203:65-76.
<https://www.sciencedirect.com/science/article/pii/S0039914019305314>
4. Kober, S. L., Hollert, H., and Frohme, M., "Quantification of nitroaromatic explosives in contaminated soil using MALDI-TOF mass spectrometry." *Analytical and Bioanalytical Chemistry* 2019;411(23):5993-6003.
<https://link.springer.com/article/10.1007/s00216-019-01976-y>
5. Kotrly, M., Eisner, A., Beroun, I., Ventura, K., and Turkova, I. "New possibilities of post-blast residues analysis in forensic science." *Proceedings SPIE 11012, Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXIV* 2019:1101212.
<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/11012/1101212/New-possibilities-of-post-blast-residues-analysis-in-forensic-science/10.1117/12.2519118.short>
6. Mauricio, F. G. M., Abritta, V. R. M., Aquino, R. L., Ambrosio, J. C. L., Logrado, L. P. L., and Weber, I. T., "Evaluation of Interferers in Sampling Materials Used in Explosive Residue Analysis by Ion Chromatography." *Forensic Science International* 2019;109908.

<https://www.sciencedirect.com/science/article/pii/S0379073819303202>

7. Murphy, B. R. "Suspect screening and identification of energetic materials using liquid chromatography coupled to high-resolution mass spectrometry (*Doctoral dissertation, King's College London*)."
<https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.789232>
8. Romolo, F. S., and Palucci, A., "Advances in the Analysis of Explosives. Emerging Technologies for the Analysis of Forensic Traces." 2019;207-240.
https://link.springer.com/chapter/10.1007/978-3-030-20542-3_15
9. Taranto, V., Ueland, M., Forbes, S.L., and Blanes, L. "The analysis of nitrate explosive vapour samples using Lab-on-a-chip instrumentation." *Journal of Chromatography A* 2019. <https://www.sciencedirect.com/science/article/pii/S0021967319306004>
10. Thangadurai, S., "Ion Mobility Spectrometry: A Tool in the Forensic Science for the Post Detonation Residue Analysis." *Journal of Forensic Science and Criminology* 2019;7(2):201. <http://www.annexpublishers.com/articles/JFSC/7201-Ion-Mobility-Spectrometry-A-Tool-in-the-Forensic-Science-for-the-Post-Detonation-Residue-Analysis.pdf>

11 – Markers and Taggants

1981

1. Atlas, R. M., "Microbial Degradation of Petroleum Hydrocarbons; An Environmental Perspective," *Microbiological Reviews*, Vol 45, No. 1, 1981, pp. 180-209.

1991

1. Nacson, S., Mitchner, B., Legrady, O., Siu, T. and Nargolwalla, S., "A GC/ECD Approach for the Detection of Explosives and Taggants" *Proc. First Int. Symp. Explos. Detect. Technol.* Khan, S.M. -Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 714-722.

1992

1. Danylewych-May, L.L., and Cumming, C., "Explosive and Taggant Detection with Ionscan." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1993 pp. 385-401.

2. Mostak, P., Stancl, M., and Preussler, V., "Consideration of Some Aspects of Marking Plastic Explosive Semtex" *Adv. Anal. Detect. Explos: Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 429-436.
3. Reed, R., Campbell, C., and Chen, T. H., "Prediction of the Life-Time of a Taggant in a Composition" *Adv. Anal. Detect. Explos: Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. -Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 403-408.

1995

1. Boyars, C., "Compatibility (Safety) Tests for Taggants in Explosives and Reducing the Explosion Sensitivity of Ammonium Nitrate Fertilizer." *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 111-115.
2. Chen, T. H., "History of Military Explosives Tagging Efforts - ICAO Tagging of Plastic Explosives." *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18 - 22, 1995 Treasury Dept., BATF April 1996 pp. 41-66.
3. Foulger, B., "Additives to Aid Detection and Tracing of Explosives." *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 145-148.
4. Fuller, G. H., "The Nationwide Pilot Test for the Identification and Tagging of Explosives: Description and Results Summary." *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 271-277.
5. Gonzalez, M. E., Anderson, D. K., and Spall, D., "Identity Tagging for Explosives with Ultra-Trace Rare Isotopic Elements." *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 1-6.
6. Kolla, P. "The Electronic Detonator System for Coded Initiation of Explosives - A Possible Alternative to the Tagging of Explosives" *Compendium, Inter. Explos. Symp.* Fairfax, VA September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 176-181.
7. Mohler, R.B., "Detection Tagging of Packaged Cap Sensitive Explosives" *Compendium, Inter. Explos. Symp.* Fairfax, VA, September 18-22, 1995 Treasury Dept., BATF April 1996 pp. 252-270.
8. Mostak, P. and Stancl, M. "Marking of Emulsion Explosives for Detection" *Proc. 5th Inter. Symp. Anal. Detect. Explos.* Washington, DC December 4-8, 1995 Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.

1996

1. Nacson, S., McNelles, L., Nargolwalla, S., and Greenberg, D., "Method of Detecting Taggants in Plastic Explosives Airport Trials and Solubility of Explosives" *Proc. 2nd Explos. Detect. Technol. Symp. Aviation Secur. Technol. Conf.* Makky, W. -Chair November 12-15, 1996 FAA Atlantic City, NJ pp. 38-48.

2005

1. Perr, J. M., Furton, K. G., and Almirall, J. R., "Solid Phase Microextraction Ion Mobility Spectrometer Interface for Explosive and Taggant Detection." *J Sep Sci.* 2005 Feb; 28(2):177-83.

2008

1. Sheaff, C. N., Eastwood, D., Wai, C. M., and Addleman, R. S., "Fluorescence Detection and Identification of Tagging Agents and Impurities Found in Explosives." *Applied Spectroscopy*, Volume 62, Number 7, 2008.

2015

1. Chakrabortty, A., Bagchi, S., and Chandra Lahiri, S., "Studies of fire debris from bomb blasts using ion chromatography, gas chromatography-mass spectrometry and fluorescence measurements-evidence of ammonium nitrate, wax-based explosives and identification of a biomarker." *Australian Journal of Forensic Sciences* 2015; 47(1):83-94.

2017

1. Mauricio, F.G.M., Pralon, A.Z., Talhavini, M., Rodrigues, M.O., and Weber, I.T., "Identification of ANFO: Use of luminescent taggants in post-blast residues." *Forensic Science International* 2017; 275:8-13.

2019

1. Seman, J., Giraldo, C. H., and Johnson, C. E., "Effects of delaying measurements of concentration using neutron activation analysis on explosive taggants." *Applied Radiation and Isotopes*. 2019 Nov 28:109007.
<https://www.sciencedirect.com/science/article/abs/pii/S0969804319302738>

12 – Smokeless Powder

1978

1. Zack, P. J., and House, J. E., "Propellant Identification by Particle Size Measurement." *Journal of Forensic Sciences*, 1978: Vol. 23(1); 74-77.

1983

1. Martz, R. M., Lasswell, L. D., "Identification of smokeless powders and their residues by capillary column gas chromatography/mass spectrometry," *Proceedings of the International Symposium on the Analysis and Detection of Explosives; 1983 March 29-31*, Quantico, VA: FBI Academy, 1983; pp. 245–254.

1988

1. De Jong, A. L., and Verweij, A., "High-Performance Liquid Chromatographic Separation of Diphenylamine and its Reaction Products with Nitrogen Oxides." *Propellants, Explos. Pyrotech.* 1988 **13**(5) 152-156 October.
2. Druet, L. M., and Angers, J., "LC/MS Studies of Ethyl Centralite Stabilized Propellants." *Propellants, Explos. Pyrotech.* 1988, 13(2) 87-94 June
3. Espinoza, E., "Nitrated Derivatives of Diphenylamine in Smokeless Gunpowder." Presented: 71st Semi-Annual Seminar, California Association of Criminalists Berkeley, CA May 19-21, 1988.

1989

1. Ashraf-Khorassani, M., and Taylor, L.T., "Qualitative Supercritical Fluid Chromatography/Fourier Transform Infrared Spectroscopy Study of Methylene Chloride and Supercritical Carbon Dioxide Extracts of Double-Base Propellant." *Anal. Chem.* 1989, 61(2) 145-148 January 15.
2. Ashraf-Khorassani, M., and Taylor, L.T., "Analysis of Propellant Stabilizer Components via Packed and Capillary Supercritical Fluid Chromatography/Fourier Transform Infrared Spectrometry." *J. High Resolut. Chromatogr.* 1989, 12(1) 40-44 January.
3. Curtis, N. J., and Berry, P., "Derivatives of Ethyl Centralite in Australian Gun Propellants." *Propellants, Explos. Pyrotech.* 1989, 14(6) 260-265 December.
4. De Bruyne, P. A. M., Arijs, J., Vergauwe, D. A. G. and De Bisschop, H. C. J. V., "The HPLC Determination of Some Propellant Additives." *Proc. Third Symp. Anal. Detect. Explos.* Mannheim, FRG July 10-13, 1989 pp. 27-1 to 27-15.
5. Keto, R. O., "Comparison of Smokeless Powders by Pyrolysis Capillary Gas Chromatography and Pattern Recognition." *J. Forensic Sci.* 1989, 34(1) 74-82 January.

1990

1. Curtis, N. J., "Isomer Distribution of Nitro Derivatives of Diphenylamine in Gun Propellants: Nitrosamine Chemistry." *Propellants, Explos. Pyrotech.* 1990, 15(5) 222-230 October.

2. Kee, T.G., Holmes, D. M., Doolan, K., Hamill, J. A., and Griffin, R. M. E., "The Identification of Individual Propellant Particles." *J. Forensic Sci. Soc.* 1990, 30(5) 285-292 September/October.

1991

1. Johnson, D. J., and Compton, D. A. C., "Quantitative Analysis of Nitrocellulose and Pulp in Gunpowder Using TGA-FTIR." *Amer. Lab.* 1991, 23(1) 37-43 January.
2. Northrop, D. M., Martire, D.E., and MacCrehan, W.A., "Separation and Identification of Organic Gunshot and Explosive Constituents by Micellar Electrokinetic Capillary Electrophoresis" *Anal. Chem.* 1991, 63(10) 1038-1042 May 15.

1992

1. Bladek, J., and Miszczak, M., "Rapid Methods for Quantitation of Stabilizers and their Reaction Products in Propellants." *Adv. Anal. Detect. Explos. Proc. 4th Inter. Symp. Anal. Detect. Explos.*, September 7-10, 1992 Jerusalem, Israel Yinon, J. - Ed. Kluwer Academic Publishers Dordrecht, Holland 1992 pp. 199-207.
2. Thornton, J. I., and Espinoza, E. O'N., "Hazard of Testing Smokeless Gunpowder with Nitric Acid" (letter) *J. Forensic Sci.* 1992, 37(1) 5 January.
3. Via, J. C., and Taylor, L. T., "Chromatographic Analysis of Nonpolymeric Single Base Propellant Components" *J. Chromatogr. Sci.* 1992, 30(3) 106 -110 March.

1993

1. Bellamy, A. J., and Sammour, M. H., "Stabilizer Reactions in Cast Double Base Rocket Propellants. Part III: Evidence for Stabilizer Interaction during Extraction of Propellant for HPLC Quantitative Analysis." *Propellants, Explos. Pyrotech.* 1993, 18(1) 46-50 February.
2. Fu, H., Wang, J., and Wu, Y., "Study on Field Desorption Mass Spectra and Desorption Electron Impact Mass Spectra of Four New Type Gunpowders" *Fenxi Huaxue* 1993, 21(9) 1068-1070 (in Chinese).
3. Miszczak, M. and Bladek, J. "Quantitative Measurement of Propellant Stabilizers with TLC and Liquid Crystalline Method of Visualization" *Propellants, Explos. Pyrotech.* 1993, 18(1) 29-32 February.
4. Taylor, L., "The Supercritical Fluid Extraction and Analysis of Aged Single-Base Propellants" *Amer. Lab.* 1993, 25(8) 22-26 May.

1994

1. Espinoza, E., and Thornton, J. I., "Characterization of Smokeless Gunpowder by Means of Diphenylamine Stabilizer and its Nitrated Derivatives." *Anal. Chim. Acta* 1994, 288(1-2) 57-69 March 30.

1995

1. Chen, T. H., and Ward, K., "Rapid Analysis of DPA in Single-Base Propellants by Chemometric Methods." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C -Ed Dept. of Treasury, BATF October, 1997.
2. Christian, D., "The Identification of 'Gun Powder' Particles." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed Dept. of Treasury, BATF October, 1997.
3. Hartell, M. G., Pierce, M. Q., Meyers, L J., Hallowell, S. F., and Petrousky, J. A., "Comparative Analysis of Smokeless Powder Vapor Signatures Derived Under Static Versus Dynamic Conditions." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
4. Hobbs, J. R., "Analysis of Propellants by Pyrolysis Gas Chromatography/Mass Spectrometry." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
5. Smith, K. D., McCord, B. R., MacCrehan, W. A., Mount, K., and Rowe, W. F., "Detection of Smokeless Powder Residue on Pipe Bombs by Micellar Electrokinetic Capillary Electrophoresis" *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed Dept. of Treasury, BATF October, 1997 *J. Forensic Sci.* 1999, 44(4) 789-794 July.

1996

1. Fell, N.F.; Widder, J.M.; Medlin, S.V., Morris, J.B.; Pesce-Rodriguez, R.A. and McNesby, K.L. "Fourier Transform Raman Spectroscopy of Some Energetic Materials and Propellant Formulations. II *J. Raman Spectrosc.* 1996, 27() 1-8.

1998

1. Hida, M. and Mitsui, T. "Determination of Nitrocellulose in Smokeless Powders Using a Multivariate Analysis for Infrared Spectra" *Bunseki Kagaku* 1998, 47(11) 867-871.
2. MacCrehan, W.A., Smith, K.D., and Rowe, W.F., "Sampling Protocols for the Detection of Smokeless Powder Residues Using Capillary Electrophoresis" *J. Forensic Sci.* 1998, 43(1) 119-124 January.
3. National Research Council, "Black and smokeless powders: technologies for finding bombs and the bomb makers," National Academies Press, 1998.

1999

1. Smith, K.D.; McCord, B.R.; MacCrehan, W.A.; Mount, K. and Rowe, W.F. "Detection of Smokeless Powder Residue on Pipe Bombs by Micellar Electrokinetic Capillary Electrophoresis" *J. Forensic Sci.* 1999, 44(4) 789-794 July.

2001

1. MacCrehan, W. A., and Reardon, M. R., "Developing a quantitative extraction technique for determining the organic additives in smokeless handgun powder," *Journal of Forensic Sciences*, Vol 46, No. 4, 2001, pp. 802–807.

2002

1. Heramb, R. M., and McCord, B. R., "The manufacture of smokeless powders and their forensic analysis: a brief review," *Forensic Science Communications*, Vol 4, April 2002, pp. 1–7.
2. MacCrehan, W. A., Reardon, M. R., "A qualitative comparison of smokeless powder measurements." *Journal of Forensic Sciences*, 2002, Vol 47, No. 5, pp. 996–1000.
3. MacCrehan, W. A., and Reardon, M. R., "A quantitative comparison of smokeless powder measurements," *Journal of Forensic Sciences*, Vol 47, No. 6, 2002, pp. 1283–1287.
4. Wissinger, C. E., and McCord, B. R., "A Gradient Reversed phase HPLC Procedure for Smokeless Powder Comparison." *Journal of Forensic Sciences*, 2002: Vol. 47(1); 168–174.

2003

1. Mathis, J. A., and McCord, B. R., "Gradient reversed-phase liquid chromatography-electrospray mass spectrometric method for the comparison of smokeless powders," *Journal of Chromatography A*, Vol 988, 2003, pp. 107–116.

2005

1. Hernandez, N. M., Rosario, S. V., Hernandez, S. P., and Mina, N., "Detection and Characterization of Smokeless Powders with Ion mobility Spectrometry." Proceedings of the SPIE, Volume 5778, p. 607-616 (2005).
2. Hopper, K. G., and McCord, B. R., "A Comparison of Smokeless Powders and Mixtures by Capillary Zone Electrophoresis," *Journal of Forensic Sciences*, Vol 50, No. 2, March 2005, pp. 307–315.
3. Mathis, J. A., and McCord, B. R., "Mobile phase influence on electrospray ionization of the analysis of smokeless powders by gradient reversed phase high performance liquid chromatography-ESIMS," *Forensic Science International*, Vol 154, 2005, pp. 159–166.

2006

1. Mahoney, C. M., Gillen, G., and Fahey, A. J., “Characterization of Gunpowder Samples Using Time-of-Flight Secondary Ion Mass Spectrometry (TOF-SIMS).” *Forensic Sci Int.* 2006 Apr 20; 158(1):39-51.

2007

1. Muller, D., et al., “A Novel Method for the Analysis of Discharged Smokeless Powder Residues.” *Journal of Forensic Sciences*, Vol 52, No. 1, January 2007, pp. 75–78.
2. West, C., Baron, G., and Minet, J. J., “Detection of Gunpowder Stabilizers with Ion Mobility Spectrometry.” *Forensic Sci Int.* 2007 Mar 2; 166(2-3):91-101.

2009

1. Burleson, G. L., Gonzalez, B., Simons, K., and Yu, J. C., “Forensic analysis of a single particle of partially burnt gunpowder by solid phase micro-extraction-gas chromatography-nitrogen phosphorus detector.” *J Chromatogr A.* 2009 May 29; 1216(22):4679-83. doi: 10.1016/j.chroma.2009.03.074. Epub 2009 Apr 1.
2. Joshi, M., Delgado, Y., Guerra, P., Lai, H., and Almirall, J. R., “Detection of odor signatures of smokeless powders using solid phase microextraction coupled to an ion mobility spectrometer.” *Forensic Science International* 188 (2009) 112–118.
3. Scherperel, G., Reid, G. E., and Waddell Smith, R., “*Anal Bioanal Chem.* 2009 Aug; 394(8):2019-28.

2011

1. Joshi, M., Rigsby, K., and Almirall, J.R., “Analysis of the headspace composition of smokeless powders using GC-MS, GC- μ ECD and ion mobility spectrometry.” *Forensic Sci Int.* 2011 May 20; 208(1-3):29-36. Available at: doi: 10.1016/j.forsciint.2010.10.024. Epub 2010 Nov 24.

2012

1. López-López, M., Ferrandoa, J. L., and García-Ruiz, C., “Comparative analysis of smokeless gunpowders by Fourier transform infrared and Raman spectroscopy.” *Analytica Chimica Acta* 717 (2012) 92– 99.

2013

1. Fernandez de la Ossa, M. A., Ortega-Ojeda, F., and Garcia-Ruiz, C., “Discrimination of non-explosive and explosive samples through nitrocellulose fingerprints obtained by capillary electrophoresis.” *Journal of Chromatography A*, 1302 (2013) 197– 204.
2. Thomas, J. L., Lincoln, D., and McCord, B. R., “Separation and Detection of Smokeless Powder Additives by Ultra Performance Liquid Chromatography with Tandem Mass

Spectrometry (UPLC/MS/MS),” *Journal of Forensic Sciences*, Vol 58, No. 3, May 2013, pp. 609–615.

2014

1. Chang, K.H., Yew, C.H., and Abdullah, A.F.L., “Optimization of headspace solid-phase microextraction technique for extraction of volatile smokeless powder compounds in forensic applications.” *Journal of Forensic Sciences* 2014; 59(4):1100-1108.

2015

1. Roberts, M., Petraco, N., and Gittings, M., “Novel method for the detection of nitroglycerin in smokeless powders.” *Science and Justice* 2015; 55(6):467-471.

2016

1. ASTM E2998-16 “*Standard Practice for Characterization and Classification of Smokeless Powder.*” ASTM International, West Conshohocken, PA, 2016, Available at www.astm.org
2. Dennis, D.M.K., Williams, M.R., and Sigman, M.E., “Assessing the evidentiary value of smokeless powder comparisons.” *Forensic Science International* 2016; 259:179-187.
3. Chajistamatiou, A.S., and Bakeas, E.B., “A rapid method for the identification of nitrocellulose in high explosives and smokeless powders using GC-EI-MS.” *Talanta* 2016; 151:192-201.
4. Li, F., Tice, J., Musselman, B.D., and Hall, A.B., “A method for rapid sampling and characterization of smokeless powder using sorbent-coated wire mesh and direct analysis in real time - mass spectrometry (DART-MS).” *Science and Justice* 2016; 56(5):321-328.
5. Lopez-Lopez, M., Merk, V., Garcia-Ruiz, C., and Kneipp, J., “Surface-enhanced Raman spectroscopy for the analysis of smokeless gunpowders and macroscopic gunshot residues.” *Analytical and Bioanalytical Chemistry* 2016; 408:4965-4973.

2017

1. Alvarez, A., Yanez, J., Contreras, D., Saavedra, R., Saez, P., and Amarasiriwardena, D., “Propellant’s differentiation using FTIR-photoacoustic detection for forensic studies of improvised explosive devices.” *Forensic Science International* 2017; 280:169-175.
2. ASTM E2999-17 “*Standard Test Method for Analysis of Organic Compounds in Smokeless Powder by Gas Chromatography-Mass Spectrometry and Fourier Transform Infrared Spectroscopy.*” ASTM International, West Conshohocken, PA, 2017, Available at www.astm.org

3. Bors, D., and Goodpaster, J., "Mapping smokeless powder residue on PVC pipe bomb fragments using total vaporization solid phase microextraction." *Forensic Science International* 2017; 276:71-76.
4. Reese, K. L., Jones, A. D., and Smith R. W., "Characterization of smokeless powders using multiplexed collision-induced dissociation mass spectrometry and Chemometric procedures." *Forensic Science International*, 272 (2017) 16–27.
5. Taudte, R. V., Roux, C., and Beavis, A., "Stability of smokeless powder compounds on collection devices." *Forensic Science International*, 270 (2017) 55–60.

13 - Data Handling and Interpretation

Databases

1. National Center for Forensic Science – Ignitable Liquids Reference and Substrate Online Databases Available at: <http://ilrc.ucf.edu>

1958

1. Bass Becking, L. G. M., "Perchlorate, an Important Constituent of Sea Water." *Nature* volume 182, pages 645–647 (1958).

1962

1. Loach, K. W., "Estimation of Low Concentrations of Perchlorate in Natural Materials." *Nature* volume 196, pages 754–755 (1962).

1977

1. Yinon, J., and Zitrin, S., "Processing and Interpreting Mass Spectral Data in Forensic Identification of Drugs and Explosives." *Journal of Forensic Sciences*, 1977: Vol. 22(4); 742-747.

1991

1. Fine, D. H. Rounbehler, D. P., and Curby, W. A., "Dichotomous Key Approach for High Confidence Level Identification of Selected Explosive Vapors." *Proc. First Inter. Symp. Explos. Detect. Technol.* Khan, S.M. -Ed. FAA Atlantic City, NJ November 13-15, 1991 pp. 505-509.

1996

1. Crowson, A., Cullum, H. E., Hiley, R. W., and Lowe, A. M., "A survey of high explosives traces in public places" 1996. *J. Forensic Sci.* 41(6): 980-989.

1998

1. Hida, M., and Mitsui, T., "Determination of Nitrocellulose in Smokeless Powders Using a Multivariate Analysis for Infrared Spectra." *Bunseki Kagaku* 1998, 47(11) 867-871.

2001

1. Walker, C., Cullum, H. E., and Hiley, R. W., "An Environmental Survey Relating to Improvised and Emulsion Gel Explosives" 2001 *J. Forensic Sci* 46(2): 254-267.

2003

1. Oxley, J. C., Smith, J. L., Resende, E., Pearce, E., and Chamberlain, T. "Trends in explosive contamination." *Journal of Forensic Sciences* 2003 48(2), 1–9.

2004

1. Cullum, H. E., McGavigan, C., Uttley, C. Z., Stroud, M. A., and Warren, D. C., "A second survey of background levels of explosives and related compounds in the environment" 2004. *J. Forensic Sci* 49(4): 684-690.
2. Gapeev, A., and Yinon, J., "Application of spectral libraries for characterization of oxidizers in post-blast residues by electrospray mass spectrometry." *J Forensic Sci*. 2004 Mar; 49(2):227-37.

2008

1. Lahoda, K.G., Collin, O.L., Mathis, H.E., LeClair, Wise, S.H., and McCord, B. R., "A survey of background levels of explosives and related compounds in the environment" 2008 *J. Forensic Sci.* 53(4): 802-806.

2009

1. Oxley, J. C., Smith, J. L., Bernier, E., Moran, J. S., and Luongo, J., "Hair as forensic evidence of explosive handling." *Propellants, Explosives, Pyrotechnics* 2009 **34**(4), 307–314.
2. Parker, D. R., "Perchlorate in the Environment: The Emerging Emphasis on Natural Occurrence." *Environmental Chemistry* 6(1) · January 2009.

2012

1. Jardine, J. W., "Presentation of Explosive Casework Evidence" 2012. In: *Investigation of Explosives*, Second Edition, ed. A. Beveridge. 2012 Boca Raton, FL. CRC Press (Taylor and Francis Group).

2013

1. Lv J, Feng J, Zhang W, Shi R, Liu Y, Wang Z, Zhao M. Identification of Carbonates as Additives in Pressure-Sensitive Adhesive Tape Substrate with Fourier Transform Infrared Spectroscopy (FTIR) and Its Application in Three Explosive Cases. *Journal of Forensic Sciences* 2013; 58(1):134-137.

2016

1. Dennis, D.M.K., Williams, M.R., and Sigman, M.E., "Assessing the evidentiary value of smokeless powder comparisons." *Forensic Science International* 2016; 259:179-187

2019

- 1) Suppajariyawat, P., Elie, M., Baron, M., and Gonzalez-Rodriguez, J. "Classification of ANFO samples based on their fuel composition by GC—MS and FTIR combined with chemometrics." *Forensic Science International* 2019.
<https://www.sciencedirect.com/science/article/pii/S0379073818306583>

14 - Quality Control

1982

1. Twibell, J. D., Home, J. M., Smalldon, K. W., and Higgs, D. G., "Transfer of nitroglycerine to hands during contact with commercial explosives." *J. Forensic Sci.* 27 (1982) 783-791.

1990

1. Hiley, R.W., "Quality Control in the Detection and Identification of Traces of Organic High Explosives." *Forensic Invest. Explos.* 1998 Beveridge, A. - Ed. Taylor & Francis London, U.K. pp. 315-342.

1998

1. Hiley, R.W. "Quality Control in the Detection and Identification of Traces of Organic High Explosives" in: *Forensic Invest. Explos.* 1998 Beveridge, A. - Ed. Taylor & Francis London, U.K. pp. 315-342.

2001

1. Crowson, A., Hiley, R. W., and Todd, C. C., "Quality assurance testing of an explosive trace analysis laboratory." *J. Forensic Sci.* 46 (1) (2001) 53-56.

2006

1. MacCrehan, W. A., and Bedner, M., "Development of a Smokeless Powder Reference Material for Propellant and Explosives Analysis." *Forensic Science International*, Volume 163, Issues 1–2, 10 November 2006, Pages 119-124.
2. MacCrehan, W. A., "Investigating Guns, Bombs, and Rockets: A New NIST Reference Material for Smokeless Powder Measurements." *American laboratory* article 38(1):30-32, January 2006.

2007

1. Beardah, M. S., Doyle, S. P., and Hendey, C. E., "Effectiveness of contamination prevention procedures in a Trace Explosives Laboratory" *Science and Justice* 47 (2007) 120–124.
2. Crowson, A., Doyle, S. P., Todd, C. C., Watson, S., and Zolnhofer, N., "Quality assurance testing of an explosive trace analysis laboratory – further improvements." *J. Forensic Sci.* 52 (4) (2007) 830-837.

2009

1. MacCrehan, W. A., "A NIST Standard Reference Material (SRM) to Support the Detection of Trace Explosives." *Anal Chem.* 2009 Sep 1; 81(17):7189-96.

2012

1. Crowson, A., Cawthorne, R., "Quality assurance testing of an explosives trace analysis laboratory - Further improvements to include peroxide explosives" *Science and Justice* 52 (2012) 217–225.
2. Doyle, S., "Quality and Trace Detection and Identification of Organic High Explosives" In *Forensic Investigation of Explosives*, Second Edition, ed. A. Beveridge. 2012 Boca Raton, FL. CRC Press (Taylor and Francis Group).

2015

1. ENFSI. "Best Practice Manual for the Forensic Recovery, Identification and Analysis of Explosives Traces". ENFSI-BPM-EXP-01, Version 01, November 2015.

2017

1. Pawlowski, W., Matyjasek, L., Cieslak, K., and Karpinska, M., "Contamination with explosives in analytical laboratory procedure." *Forensic Science International* 2017; 281:13-17.

15 – DNA and Fingerprints

2004

1. Esslinger, K. J., Siegel, J. A., Spillane, H., and Stallworth, S., "Using STR Analysis to Detect Human DNA from Exploded Pipe Bomb Devices." *J Forensic Sci*, May 2004, Vol. 49, (3) 481-484.

2007

1. Verkouteren, J. R., "Particle Characteristics of Trace High Explosives: RDX and PETN." *J Forensic Sci*. 2007 Mar; 52(2):335-40.

2009

1. Bell, S. C., Gayton-Ely, M., and Nida, C. M., "Bioassays for bomb-makers: proof of concept." *Anal Bioanal Chem*. 2009 Sep; 395(2):401-9. doi: 10.1007/s00216-009-2851-4. Epub 2009 May 31.
2. Bille, T. W., Cromartie, C., and Farr, M., "Effects of Cyanoacrylate Fuming, Time After Recovery, and Location of Biological Material on the Recovery and Analysis of DNA from Post-Blast Pipe Bomb Fragments." *J Forensic Sci*, September 2009, Vol. 54, No. 5.
3. Emmons, E. D., Tripathi, A., Guicheteau, J. A., Christesen, S. D., and Fountain III, A. W., "Raman Chemical Imaging of Explosive-Contaminated Fingerprints." *Applied Spectroscopy*, Volume 63, Number 11, 2009.
4. Foran, D. R., Gehring, M. E., and Stallworth, S. E., "The Recovery and Analysis of Mitochondrial DNA from Exploded Pipe Bombs." *J Forensic Sci*, January 2009, Vol. 54, No. 1.
5. Mou, Y., and Rabalais, J. W., "Detection and Identification of Explosive Particles in Fingerprints Using Attenuated Total Reflection-Fourier Transform Infrared Spectromicroscopy." *J Forensic Sci*, July 2009, Vol. 54, No. 4.
6. Phillips, C., Prieto, L., Fondevila, M., Salas, A., Go'mez-Tato, A., et al. (2009) "Ancestry Analysis in the 11-M Madrid Bomb Attack Investigation." PLoS ONE 4(8): e6583. doi:10.1371/journal.pone.0006583.

2010

1. Curran, A. M., Prada, P. A., and Furton, K. G., "Canine human scent identifications with post-blast debris collected from improvised explosive devices." *Forensic Science International* 2010; 199(1-3):103-108.
2. Gardner, E., "Using a reflected ultraviolet imaging system to recover friction ridge impressions on post-blast material." *Journal of Forensic Identification* 2010; 60(1):104-118.

3. Tripathi, A., Emmons, E. D., Guicheteau, J. A., Christesen, S. D., Wilcox, P. G., Emge, D. K., and Fountain, A. W., "Trace explosive detection in fingerprints with Raman chemical imaging." *Proceedings of SPIE* 2010; 7665:76650N.
4. Verkouteren, J. R., Coleman, J. L., and Cho, I., "Automated Mapping of Explosives Particles in Composition C-4 Fingerprints." *J Forensic Sci*, March 2010, Vol. 55, No. 2; 334-340.

2011

1. Berti, A., Barni, F., Virgili, A., Colozza, C., Maiorino, F., and Tocca, M., "The recovery of DNA profiles from saliva and touch evidences after postal bomb explosion." *Forensic Science International: Genetics Supplement Series* 3 (2011) e471–e472.
2. Ramasamy, S., Houspian, A., and Knott, F., "Recovery of DNA and fingermarks following deployment of render-safe tools for vehicle-borne improvised explosive devices (VBIED)." *Forensic Science International* 210 (2011) 182–187.
3. Sanders, N., "Recovery of fingerprint evidence from post-blast device materials." *Journal of Forensic Identification* 2011; 61(3):281-291.
4. Tripathi, A., Emmons, E. D., Wilcox, P. G., Guicheteau, J. A., Emge, D. K., Christesen, S. D., and Fountain, A. W., "Semi-Automated detection of trace explosives in fingerprints on strongly interfering surfaces with raman chemical imaging." *Applied Spectroscopy* 2011; 65(6):611-619.

2012

1. Hoffmann, S. G., Stallworth, S. E., and Foran, D. R., "Investigative Studies into the Recovery of DNA from Improvised Explosive Device Containers." *J Forensic Sci*, 2012; 57(3):602-609.
2. McCarthy, D., "Latent fingerprint recovery from simulated vehicle-borne improvised explosive devices." *Journal of Forensic Identification* 2012; 62(5):488-516.

2013

1. Bond, J.W, and Brady, T.F., "Physical Characterization and Recovery of Corroded Fingerprint Impressions from Postblast Copper Pipe Bomb Fragments." *Journal of Forensic Sciences* 2013; 58(3):776-781.
2. King, S., Benson, S., Kelly, T., and Lennard, C., "Determining the effects of routine fingermark detection techniques on the subsequent recovery and analysis of explosive residues on various substrates." *Forensic Science International* 2013; 233(1-3):257-264.
3. Taskera, E., LaRueb, B., Behereca, C., Gangitanoa, D., and Hughes-Stamma, S.,

“Analysis of DNA from post-blast pipe bomb fragments for identification and determination of ancestry.” *Forensic Science International: Genetics*, 28 (2017) 195–202.

4. Phetpeng, S., Kitpipit, T., Asavutmangkul, V., Duangshatome, W., Pongsuwan, W., and Thanakiatkrai, P., “Touch DNA collection from improvised explosive devices: A comprehensive study of swabs and moistening agents.” *Forensic Science International: Genetics Supplement Series* 4 (2013) e29–e30.

2015

1. Peng, T., Qin, W., Wang, K., Shi, J., Fan, C., and Li, D., “Nanoplasmonic Imaging of Latent Fingerprints with Explosive RDX Residues.” *Analytical Chemistry* 2015; 87(18):9403-9407.
2. Phetpeng, S., Kitpipit, T., and Thanakiatkrai, P., “Systematic study for DNA recovery and profiling from common IED substrates: From laboratory to casework.” *Forensic Science International: Genetics* 17 (2015) 53–60.

2017

1. Dangsriwana, S., Thanakiatkraia, P., Asawutmangkulb, W., Phetpengc, S., and Kitpipita, T. “Direct PCR improves STR profiles from substrate of improvised explosive device.” *Forensic Science International: Genetics Supplement Series* 6 (2017) e507–e509.
2. Tasker, E., LaRue, B., Beherec, C., Gangitano, D., and Hughes-Stamm, S., “Analysis of DNA from post-blast pipe bomb fragments for identification and determination of ancestry.” *Forensic Science International: Genetics* 2017; 28:195-202.
3. Thanakiatkrai, P., Phetpeng, S., Sothibandhu, S., Asawutmangkul, W., Piwpankaew, Y., Foong, J.E., Koo, J., and Kitpipit, T., “Performance comparison of MiSeq forensic genomics system and STR-CE using control and mock IED samples.” *Forensic Science International: Genetics Supplement Series* 2017; 6:e320-e321.
4. Tonkrongjuna, P., Thanakiatkraia, P., Phetpeng, S., Asawutmangkulc, W., Sothibandhud, S., and Kitpipita, T., “Touch DNA localization and direct PCR: An improved workflow for STR typing from improvise explosive devices.” *Forensic Science International: Genetics Supplement Series* 6 (2017) e610–e612.

2018

1. Smyth, A., and Sims, M.R., “Detection of fingermarks from post-blast debris: A review.” *Journal of Forensic Identification* 2018; 63(8):369-378.

2019

1. Tasker, E., Mayes, C., LaRue, B., and Hughes-Stamm, S. "Collection and direct amplification methods using the GlobalFiler™ kit for DNA recovered from common pipe bomb substrates." *Science & Justice* 2019.
<https://www.sciencedirect.com/science/article/pii/S1355030619300292>
2. Martin, B., Kanokwongnuwut, P., Taylor, D., Kirkbride, K. P., Armitt, D., and Linacre, A., "Successful STR Amplification of Post-Blast IED Samples by Fluorescent Visualization and Direct PCR." *Forensic Science International: Genetics*. 2020 Jan 29:102256.
<https://www.sciencedirect.com/science/article/pii/S1872497320300272>

16 – Packaging for Submission

1992

1. Shantha, N., and Napolitano G. "Gas Chromatography of Fatty Acids," *Journal of Chromatography*, Vol 624, No. 1-2, 1992, pp. 37–51.

2011

1. Saiz, J., Ferrando, J. L., Atoche, J. C., Torre, M., and Garcia-Ruiz, C., "Study of losses of volatile compounds from dynamites. Investigation of cross-contamination between dynamites stored in polyethylene bags." *Forensic Science International* 2011; 211(1-3):27-33.

17 – Scene Response, Investigation and Sampling

1938

1. Muehlberger, C. W., "The Investigation of Bombs and Explosions" *The Journal of Criminal Law and Criminology*, 1938, vol. xxviii, no. 3.
<https://doi.org/10.1177/0032258X3801100110>.

1970

1. Jenkins, R., and Yallop, H. J., "The identification of explosives in trace quantities on objects near an explosion." *Explosivstoffe*, 6: 139-142.

1975

1. Fisco, W., "A Portable Explosives Identification Kit for Field Use." *J Forensic Sci.* 1975 Jan; 20(1):141-8.

1978

1. Higgs, D. G., Jones, P. N., Markham, J. A. and Newton, E., "A review of explosives sabotage and its investigation in civil aircraft," *Journal of the Forensic Science Society* 1978 **18**, 137.

1980

1. Yallop, H. J., *Explosion Investigation*, First Edition 1980. Harrogate, UK: Forensic Science Society and Edinburgh UK: Scottish Academic Press.

1984

1. Russel, L. W., "The universal hand-swab – does it exist?" *J. Forensic Sci.* 24 (1984) 349.
2. Twibell, J. D., Wright, T., Sanger, D. G., Bramley, R. K., Lloyd, J. B. F., and Downs, N. S., "The efficient extraction of some common organic explosives from hand swabs for analysis by gas liquid and thin-layer chromatography." *J. Forensic Sci.* 29 (1984) 277-283.

1985

1. Bakowski, N. L., Bender, E. C., and Munson, T. O., "Comparison and identification of adhesives used in improvised explosive devices by pyrolysis-capillary column gas chromatography-mass spectrometry." *Journal of Analytical and Applied Pyrolysis* Volume 8, April 1985, Pages 483-492.

1988

1. Crippin, J. B., "An Explosive Field Test Kit." Presented: Fall 1988 Meeting, Southern Association of Forensic Scientists.
2. DeHaan, J. D., "After the Blast - Investigation of Explosion Scenes." Presented: 72nd Semi-Annual Seminar Calif. Assoc. Crim. Costa Mesa, CA October 20-22, 1988 Abstract: *J. Forensic Sci. Soc.* 1989, 29(1) 43 January/February.
3. Yelverton, B.J. "Analysis of RDX Vapors in Pre- and Post-detonations Using the Ion Mobility Spectrometer Under Field Conditions" *J. Energ. Mater.* 1988, 6(1-2) 73-80 March/June.

1989

1. Garcia, M.M. and Harpalani, S. "Distribution and Characterization of Gases Produced by Detonation of Explosives in an Underground Mine" *Min. Sci. Technol.* 1989, 8(1) 49-58.

1990

1. Barnes, R. C., "Making the Connection - The Nature of Bomb Scene Forensic Evidence." Presented: International Association of Forensic Sciences Meeting Adelaide, Australia 1990 Abstract FE388.
2. Fetterolf, D. D., "Antibody-Based Field Test Kits for Drugs and Explosives." Presented: 200th ACS National Meeting Washington, DC August 26-31, 1990 Abstract: HIST 16 *Adv. Forensic Sci. Proc. Int. Assoc Forensic Sci., 13th* Volume 5 296-301 Jacob, B. and Bonte, W. - Eds. Berlin, Verlag Dr. Koester 1995.
3. Lloyd, J. B. F., and King, R. M., "One-pot processing of swabs for organic explosives and firearms residue traces." *J. Forensic Sci.* 35 (1990) 956-959.

1991

1. Baytos, J. F., "Field Spot-Test Kit for Explosives." Report 1991, LA-12071-MS Los Alamos National Lab., NM Order No. DE91015321 7 pp. Avail. NTIS from: *Energy Res. Abstr.* 1991, 16(10) Abstract # 28440.
2. Fetterolf, D.D.; Mudd, J.L. and Teten, K. "An Enzyme-Linked Immunosorbent Assay (ELISA) for Trinitrotoluene (TNT) Residues on Hands" *J. Forensic Sci.* 1991, 36(2) 343-349 March.
3. Hall, R.A. "Booby Traps Associated with Violent Crime Investigations" *J. Forensic Sci. Soc.* 1991, 31(2) 255-257 April/June.

1992

1. Bender, E.; Hogan, A.; Leggett, D.; Miskolczy, G. and MacDonald, S. "Surface Contamination by TNT" *J. Forensic Sci.* 1992, 37(6) 1673-1678 November.
2. Prime, R.J. and McGee, E. "The Evaluation and Analysis of Plasticine or Modeling Clay After its Use as a Hoax Explosive Substance" Presented: 39th Annual Meeting, C.S.F.S. Halifax, Nova Scotia August 20-25, 1992 abstract: *Can. Soc. Forensic Sci. J.* 1992, 25(3) 158 September.
3. White, G. M., "An Explosive Drug Case" *J. Forensic Sci.* 1992, 37(2) 652-656 March.

1993

1. Fu, H.; Wang, J. and Wu, Y. "Study on Field Desorption Mass Spectra and Desorption Electron Impact Mass Spectra of Four New Type Gunpowders" *Fenxi Huaxue* 1993, 21(9) 1068-1070 (in Chinese).

1994

1. Bender, E. C., "Recent Trends in Terrorist Bombings." Presented: 46th Annual Meeting AAFS San Antonio, TX February 14-19, 1994 Abstract # B77.
2. Mohnal, T.J., "UNABOM" *Crime Lab. Dig.* 1994, 21(3) 41-45 July.

1995

1. Burns, D. T., "The May Inquiry." Presented: Explosion Investigation Symposium Belfast, Northern Ireland March 20-21, 1995 Abstract: *Sci. Justice* 1998, 38(1) 51 January-March.
2. Cano de Tatis, L. d. C., "Explosives Incidents in Columbia 1993 -1995." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Treasury Dept., BATF October, 1997.
3. Crowson, A., "Planes, Trains and Automobiles." Presented: Explosive Investigation Symposium Belfast, Northern Ireland March 20 -21, 1995 Abstract: *Sci. Justice* 1998, 38(1) 50 January-March.
4. DeHaan, J. D., "Combustion Explosions Involving Household Aerosol Products." *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
5. Eitan, I., "Sabotage Attempt on an Israeli Target Bangkok, March 1994." Presented: Explosive Investigation Symposium Belfast, Northern Ireland March 20-21, 1995 Abstract: *Sci. Justice* 1998, 38(1) 49 January-March *Proc. 5th Inter. Symp. Anal. Detect. Explos. Washington, DC December 4-8, 1995* Midkiff, C. -Ed. Dept. of Treasury, BATF October, 1997.
6. Feraday, A., "Large Fertiliser Bombs." Presented: Explosive Investigation Symposium Belfast, Northern Ireland March 20-21, 1995 Abstract: *Sci. Justice* 1998, 38(1) 50 January-March.
7. Williams, D., "The Bombing of the World Trade Center in New York City" *Inter. Crim. Pol. Rev.* 1995, 452-453 32-36.

1997

1. Missliwetz, J.; Schneider, B.; Oppenheim, H. and Wieser, I. "Injuries Due to Letter Bombs" *J. Forensic Sci.* 1997, 42(6) 981-985 November.
2. Ronay, C. "Security and Forensic Science as Applied to Modern Explosives" *Spec. Pub. - R. Soc. Chem.* 1997, 203 (Explosives in the Service of Man) 102-106.

1998

1. Murray, G. "The Significance of Analytical Results in Explosives Investigation" in: *Forensic Invest. Explos.* 1998 Beveridge, A. - Ed. Taylor & Francis London, U.K. pp. 389-401.

1999

1. Almirall, J.R.; Wu, L.; Bi, G.; Shannon, M.W. and Furton, K.G. "The Field Recovery of Explosive Residues Using Solid-Phase Microextraction Followed by Chromatographic Analysis" *Proc. SPIE-Int. Soc. Opt. Eng.*, 1999 3576 (Investigation and Forensic Science Technologies) 18-23.

2000

1. National Institute of Justice, "*A Guide for Explosion and Bombing Scene Investigation.*" 2000. Available at <https://www.swgfdex.com/publications>
2. Cullum, H., Lowe, A., Marshall, M. and Hubbard, P. "Physical and chemical evidence remaining after the explosion of large improvised bombs. Part 2: firings of calcium ammonium nitrate/sugar mixtures." 2000 *Journal of Forensic Sciences* 45(2), 333–348.
3. Phillips, S. A., Lowe, A., Marshall, M., Hubbard, P., Burmeister, S. G., and Williams, D.R., "Physical and chemical evidence remaining after the explosion of large improvised bombs. Part 1: firings of ammonium nitrate/sugar and urea nitrate." 2000 *Journal of Forensic Sciences* 45(2), 324–332.

2001

1. Gowadia, H. A., and Settles, G. S., "The Natural Sampling of Airborne Trace Signals from Explosives Concealed Upon the Human Body." *J Forensic Sci.* 2001 Nov; 46(6):1324-31.
2. Lowe A. M., Marshall M., Walker C. L., and Hubbard P. "Physical and chemical evidence remaining after the explosion of large improvised bombs. Part 3: firings of calcium carbonate ammonium nitrate/sugar." 2001 *Journal of Forensic Sciences* 46 (3), 535–548.
3. Oxley, J. C., Smith, J. L, Resende E., Rogers, E., Strobel, R. A., and Bender, E. C., "Improvised explosive devices: pipe bombs." 2001 *Journal of Forensic Sciences* 46 (3), 510–534.

2002

1. Kelleher, J. D., "Explosives residue: origin and Q5 distribution." *Forensic Science Communications* 2002. 4(2)

2. NIJ A Guide for Explosion and Bombing Scene Investigations. 2002 NCJ 181869, U.S. Department of Justice.

2003

1. Understanding Explosions. Crowl, D.A., 2003. Wiley, Hoboken, NJ.

2005

1. Christian, D. R., "The multifaceted demands and dangers you face when investigating clandestine laboratories." *Evidence Technol, Mag* 2005, May-June 18-21.
2. Royds, D., Lewis, S. W., and Taylor, A. M., "A Case Study in Forensic Chemistry: The Bali Bombings." *Talanta*. 2005 Aug 15; 67(2):262-8.

2006

1. Barakey, M., "Complacency can kill at haz-mat incidents." *Fire Engineering*, 2006. http://www.fireengineering.com/display_article/251456/25/none/none/Feat/Complacency-can-kill-at-haz-matincidents.
2. Kuila, D. K., Sharma, S. P., Chakrabortty, A., and Lahiri, S. C., "Composition Profile of Low Explosives Cases in India." *Forensic Science International*, 159(2):127-131, June 2006.
3. Reynolds, J., Nunes, P., Whipple, R., and Alcaraz, A., (2006). "On-Site Analysis of Explosives in Various Matrices," *NATO Security through Science Series*, Springer, the Netherlands.

2007

1. Hargather, M. J., and Settles, G. S., "Optical Measurement and Scaling of Blasts from Gram-Range Explosive Charges." *Shock Waves*, Dec 2007; 17(4); 215-223.

2008

1. Kuzmin, V., Solovev, M., Tuzkov, Y., 2008. "Forensic investigation of some peroxides explosives." *Central European Journal of Energetic Materials* 5, 77–85.

2009

1. Kunz, R. R., Gregory, K. C., Hardy, D., Oyler, J., Ostazeski, A., and Fountain III, A. W., "Measurement of trace explosive residues in a surrogate operational environment: implications for tactical use of chemical sensing in C-IED operations." *Anal Bioanal Chem* (2009) 395:357–369.
2. Laska, P. R., "Post Blast Crime Scenes." *Evidence Technology Magazine*, July-August 2009.

3. Oxley, J. C., Smith, J. L., Bernier, E., Moran, J. S., and Luongo, J., "Hair as forensic evidence of explosive handling." *Propellants, Explosives, Pyrotechnics* 2009 **34**(4), 307–314.
4. Oxley, J. C., Smith, J. L., Yue, J., and Moran, J., "Hypergolic Reactions of TNT." *Propellants, Explosives, Pyrotechnics*, 2009; vol. 34(5); 421-426.
5. Widory, D., Minet, J. J., Barbe-Leborgne, B., "Sourcing Explosives: A Multi-Isotope Approach." *Sci Justice*. 2009 Jun; 49(2):62-72.
6. Zeichner, A., Abramovich-Bar, S., Tamiri, T., and Almog, J., "A Feasibility Study on the use of Double-Sided Adhesive Coated Stubs for Sampling of Explosive Traces from Hands.' *Forensic Sci Int*. 2009 Jan 30; 184(1-3):42-6.

2010

1. Turillazzi, E., Monaci, F., Neri, M., Pomara, C., Riezzo, I., Baroni, D., and Fineschi, V., "Collection of trace evidence of explosive residues from the skin in a death due to a disguised letter bomb. The synergy between confocal laser scanning microscope and inductively coupled plasma atomic emission spectrometer analyses." *Forensic Science International* 2010; 197(1-3):e7-e12.

2011

1. Ramasamy, A., Hill, A. M., Masouros, S., Gibb, I., Bull, A.M.J., and Clasper, J. C., "Blast-related fracture patterns: A forensic biomechanical approach." *Journal of the Royal Society Interface* 2011; 8(58):689-698.
2. Sorensen, A., McGill, W. L., "What to look for in the aftermath of an explosion? A review of blast scene damage observables." *Engineering Failure Analysis* 2011; 18(3):836-845.
3. Tarvin, M., McCord, B., Mount, K., and Miller, M. L., "Analysis of hydrogen peroxide field samples by HPLC/FD and HPLC/ED in DC mode." *Forensic Science International* 2011; 209(1-3):166-172.
4. Thurman, J. T., "Practical Bomb Scene Investigation." Second Edition, CRC Press.

2012

1. Beveridge, A. D., editor. "Forensic Investigation of Explosions." CRC Press Taylor & Francis.
2. Bjelovuk, I. D., Jaramaz, S., and Mickovic, D., "Estimation of explosive charge mass used for explosions on concrete surface for the forensic purpose." *Science and Justice* 2012; 52(1):20-24.

3. Jardine, J. W., "Presentation of Explosive Casework Evidence" 2012. In: Investigation of Explosives, Second Edition, ed. A. Beveridge. 2012 Boca Raton, FL. CRC Press (Taylor and Francis Group).
4. Matyas, R., Selesovsky, J., and Musil, T., "Sensitivity to Friction for Primary Explosives." *J. Hazard. Mater.* 2012, 213-214, 236-241.
5. Miller, C. J., and Cespedes, E. R., "Methodologies for removing/desorbing and transporting particles from surfaces to instrumentation." *Sensing and Imaging* 2012; 13(3-4):101-117.
6. Sachleben, D. J., "Vehicle-borne Improvised Explosives Devices: Collection Analysis and Presentation of Evidence in Forensic Investigation of Explosives" 2012 Second Edition, ed. A. Beveridge, Boca Raton, FL. CRC Press (Taylor and Francis Group).
7. Sorensen, A., McGill, W. L., "Utilization of existing blast analysis software packages for the back-calculation of blast loads." *Journal of Performance of Constructed Facilities* 2012; 26(4):544-546.
8. Strobel, R. A., "Recovery of Material from the Scene of an Explosion and its Subsequent Forensic Laboratory Examination – A Team Approach" In Forensic Investigation of Explosives, Second Edition, ed. A. Beveridge. 2012 Boca Raton, FL. CRC Press (Taylor and Francis Group).
9. Vermette, J. Y., "General Protocols at the Scene of an Explosion in Forensic Investigation of Explosives." 2012 Second Edition, ed. A. Beveridge, Boca Raton, FL. CRC Press (Taylor and Francis Group).

2013

1. Bjelovuk, I., Jaramaz, S., Elek, P., Mickovic, D., and Kricak, L., "Preliminary estimation of the explosive mass based on the crater resulting from the surface explosion on asphalt." *Strojarstvo* 2013; 55(3):203-210.
2. Breeze, J., Hunt, N., Gibb, I., James, G., Hepper, A., and Clasper, J., "Experimental penetration of fragment simulating projectiles into porcine tissues compared with simulants." *Journal of Forensic and Legal Medicine* 2013; 20(4):296-299.
3. DeTata, D.A., Collins, P.A., and McKinley, A.J., "A Comparison of Common Swabbing Materials for the Recovery of Organic and Inorganic Explosive Residues." *Journal of Forensic Sciences* 2013; 58(3):757-763.
4. Matyas, R., Selesovsky, J., and Musil, T., "Decreasing the Friction Sensitivity of TATP, DADP and HMTD." *Central European journal of Energetic Materials* 2013, 10(2), 263 – 275.

2014

1. Bainazarova, G.Z., and Dilbarkanova, Z.R., "Complex counter explosive examination in investigations of the acts of terrorism accomplished with the use of explosive devices." *Life Science Journal* 2014; 11(11):367-371.
2. Bors, D., Cummins, J., and Goodpaster, J., "The anatomy of a pipe bomb explosion: Measuring the mass and velocity distributions of container fragments." *Journal of Forensic Sciences* 2014 59 (1), 42–51.
3. Bors, D., Cummins, J., and Goodpaster J., "The anatomy of a pipe bomb explosion: The effect of explosive filler, container material and ambient temperature on device fragmentation." *Forensic Science International* 2014; 234:95-102.
4. Gonzalez-Nicieza, C., Alvarez-Fernandez, R., Alvarez-Fernandez, M.I., Lopez-Gayarre, F., and Fabian-Alvarez, V., "Forensic analysis of a methane gas explosion in a block of apartments." *Engineering Failure Analysis* 2014; 36:243-252.

2015

1. Bjelovuk, I.D., Jaramaz, S., Elek, P., Mickovic, D., and Kricak, L., "Estimation of the explosive mass based on the surface explosion crater on asphalt." *Tehnicki Vjesnik* 2015; 22(1):227-232.
2. Smith, J., "Brodie's Bombs and Bombings - A Handbook to protection, security, detection, disposal and investigation for Industry, Police and Fire Departments." 4th Edition 2015. Charles C Thomas Pub Ltd.

2016

1. Chetti, S.O., Malve, M.K., and Daundkar, B.B., "Crime scene management of low intensity explosion near Air India Colony." *Journal of Forensic Medicine and Toxicology* 2016; 33(2):110-112.

2017

1. Diaz, E., and Thiboutot, S., "Deposition Rates from Blow-in-Place of Different Donor Charges: Comparison of Composition C-4 and Shaped Charges." *Propellants, Explosives, Pyrotechnics* 2017; 42(1):90-97.
2. Kotrly, M., Mares, B., Turkova, I., and Beroun, I., "Identification of improvised explosives residues using physical-chemical analytical methods under real conditions after an explosion." *Proceedings of SPIE* 2016; 9823:98230S.
3. Thurman, J.T., Practical bomb scene investigation, third edition. July 2017 CRC Press.

4. Wilks, B., Morgan, R.M., and Rose, N.L., "An experimental study addressing the use of geoforensic analysis for the exploitation of improvised explosive devices (IEDs)." *Forensic Science International* 2017; 278:52-67.

2018

1. Verolme, E.K., Van der Voort, M.M., Smits, R., Weerheijm, J., Koh, Y.H., and Kang, K.W., "A method for backward calculation of debris in a post blast scene." *Journal of Loss Prevention in the Process Industries* 2018; 51:54-64.

2019

1. Czetina, A., Hofstätter, M., Schraml, S., Hubner, M., Sulzer, P., Rothbacher, D., Wurglitsch, R., Riedl, E., Sonntag, M., Moser, S., and Fey, J. "Robot assisted analysis of suspicious objects in public spaces using CBRN sensors in combination with high-resolution LIDAR." *IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR)* 2019 Sep 2 (pp. 256-262). IEEE.
<https://ieeexplore.ieee.org/abstract/document/8848950>

18 – Explosives Detection

1958

1. Coldwell, B. B., and McLean, S. R., "A New Spot Test for Nitrate ion." *Canadian Journal of Chemistry*, 1958, 36: 652-655.

1959

1. Coldwell, B. B., and McLean, S. R., "The Reaction between Diphenylamine and Nitrates in Ultraviolet Light." *Canadian Journal of Chemistry*, 1959, 37(10): 1637-1643.

1984

1. Cohen, M. J., Stimac, R. M., and Wernlund, R. F., "The Ion Mobility Spectrometer for High Explosive Vapor Detection." *Nuclear Materials Management* Vol 13, 220-225.
2. Paul, K. R., and Gupta, V. K., "A New Spot Test for Nitro Compounds." *Microchemical Journal*, 30(3):280-282 · December 1984.

1988

1. Lawrence, A.H. and Neudorfl, P. "Detection of Ethylene Glycol Dinitrate Vapors by Ion Mobility Spectrometry Using Chloride Reagent Ions" *Anal. Chem.* 1988, 60(2) 104-109 January 15.

1992

1. Beveridge, A.D. "Developments in the Detection and Identification of Explosive Residues" *Forensic Sci. Rev.* 1992, 4(1) 18-49 June.
2. Boumsellek, S.; Alajajian, S.H. and Chutjian, A. "Negative-Ion Formation in the Explosives RDX, PETN, and TNT by Using the Reversal Electron Attachment Detection Technique" *J. Am. Soc. Mass Spectrom.* 1992, 3(3) 243-247.
3. Jenkins, T. F., and Walsh, M. E., "Development of Field Screening Methods for TNT, 2, 4-DNT and RDX in Soil." *Talanta*. 1992 Apr; 39(4):419-28.

1993

1. Whelan, J.P.; Kusterbeck, A.W.; Wemhoff, G.A.; Bredehorst, R. and Ligler, F.S. "Continuous-Flow Immunosensor for Detection of Explosives" *Anal. Chem.* 1993, 65(24) 3561-3565 December 15.

1995

1. Jones, D. E. G., Augsten, R. A., Murnaghan, K. P., Handa, Y. P., and Ratcliffe, C. I., "Characterization of DMNB, a Detection Agent for Explosives by Thermal Analysis and Solid State NMR." *Journal of Thermal Analysis*, March 1995, Volume 44, Issue 3, pp 547–561.
2. Kolla, P. "Detecting Hidden Explosives" *Anal. Chem.* 1995, 67(5) 184A-189A March 1

1996

1. McLuckey, S.A.; Goeringer, D.E.; Asano, K.G.; Vaidyanathan, G. and Stephenson Jr., J.L. "High Explosives Vapor Detection by Glo Discharge-Ion Trap Mass Spectrometry" *Rapid Commun. Mass Spectrom.* 1996, 10(3) 287-298.

1997

1. Andrasko, J. "Detection of Organic Explosives by Solid Phase Microextraction" *Curr. Top. Forensic Sci. Proc. Int. Assoc. Forensic Sci. 14th* Volume 4 Takatori, T. and Takasu, A. (Eds) Shunderson Communications Ottawa, Ont. 1997 pp. 206-208.
2. Crowson, A.; Hiley, R.W.; Ingham, T.; McCready, T.; Pilgrim, A.J. and Townshend, A. "Investigation into the Detection of Nitrated Organic Compounds and Explosives by Direct Chemiluminescence Emission during Thermally Induced Gas Phase Decomposition Reactions" *Anal. Comm.* 1997 34(8) 213-216.
3. Kolla, P. "The Application of Analytical Methods to the Detection of Hidden Explosives and Explosive Devices" *Agnew. Chem. Int. Ed. Engl.* 1997, 36(8) 801-811.

1998

1. Steinfeld, J.I. and Wormhoudt, J. "Explosives Detection: A Challenge for Physical Chemistry" *Annu. Rev. Phys. Chem.* 1998, 49 203-232.

1999

1. Hilmi, A.; Luong, J.H.T. and Nguyen, A-L. "Development of Electrokinetic Capillary Electrophoresis Equipped with Amperometric Detection for Analysis of Explosive Compounds" *Anal. Chem.* 1999, 71 873-878.

2002

1. Yinon, J., "Field detection and monitoring of explosives." *TrAC Trends Anal. Chem.*, 21 (2002) 292-301.

2003

1. Buttigieg, G. A., Knight, A. K., Denson, S., Pommier, C., and Denton, M. B., "Characterisation of the explosive triacetone triperoxide and detection by ion mobility spectrometry." *Forensic Science International*, Volume 135, Issue 1, 29 July 2003, pages 53-59.
2. Buryakov, I. A., Kolomiets, Y. N., "Rapid Determination of Explosives and Narcotics Using Multicapillary-Column Gas Chromatograph and an Ion-Mobility Spectrometer." *Journal of Analytical Chemistry*, October 2003, Volume 58, Issue 10, pp 944–950.

2004

1. Buryakov, I. A., "Express Analysis of Explosives, chemical warfare agents and drugs with multi capillary column gas chromatography and ion mobility increment spectroscopy." *J Chromatogr B Analyt Technol Biomed Life Sci.* 2004 Feb 5; 800(1-2):75-82.
2. Jimenez, A. M., and Navas, M. J., "Chemiluminescence Detection Systems for the Analysis of Explosives." *Journal of Hazardous Materials*, Volume 106, Issue 1, 2 January 2004, Pages 1-8.
3. Lewis, M. L., Lewis, I. R., and Griffiths, P. R., "Anti-Stokes Raman Spectrometry with 1064-nm Excitation: an Effective Instrumental Approach for Field Detection of Explosives." *Appl Spectrosc.* 2004 Apr; 58(4):420-7.
4. Moore, D., "Instrumentation for trace detection of high explosives." *Rev. Sci. Instrum.* 75 (2004) 2499.
5. Primera-Pedrozo, O. M., De la Torre-Quintana, L. F., Pacheco-Londono, L. C., and Hernandez-Rivera, S. P., "Use of Fiber Optic Coupled FT-IR in Detection of Explosives on Surfaces." *Proc SPIE*, 5403:237-245 · January 2004.

6. Tam, M., and Hill Jr, H. H., "Secondary Electrospray Ionization-Ion Mobility Spectrometry for Explosive Vapor Detection." *Anal Chem.* 2004 May 15; 76(10):2741-7.

2005

1. Almog, J., Klein, A., Tamiri, T., Shloosh, Y., and Abramovich-Bar, S., "A field diagnostic test for the improvised explosive urea nitrate." *Journal of Forensic Sciences* 2005 50(3), 582–586.
2. Cabrini, L. G., Sparapani, R., Mendes, M. A., Moraes, L. A. B., and Eberlin, M. N., "Screening of organic nitrate explosives: selective ion/molecule reactions for the diagnostic ion NO₂." *Journal of Mass Spectrometry*, Letter, 2005; 40:1506-1508.
3. Perr, J. M., Furton, K. G., and Almirall, J. R., "Solid Phase Microextraction Ion Mobility Spectrometer Interface for Explosive and Taggant Detection." *J Sep Sci.* 2005 Feb; 28(2):177-83.
4. Perr, J. M., Furton, K. G., and Almirall, J. R., "Application of a SPME-IMS Detection System for Explosives Detection." *Proceedings of SPIE - The International Society for Optical Engineering*, 5778:667-672 · January 2005.

2006

1. Anderson, G. P., Moreira, S. C., Charles, P. T., Medintz, I. L., Goldman, E. R., Zeinall, M., and Taitt, C. R., "TNT Detection Using Multiplexed Liquid Array Displacement Immunoassays." *Anal Chem.* 2006 Apr 1; 78(7):2279-85.
2. Keller, T., Keller, A., Tutsch-Bauer, E., and Monticelli, F., "Application of Ion Mobility Spectrometry in Cases of Forensic interest." *Forensic Sci Int.* 2006 Sep 12; 161(2-3):130-40. Epub 2006 Jul 10.
3. Mullen, C., Irwin, A., Bethany, V. B., Huestis, D. L., Coggiola, M. J., and Oser, H., "Detection of Explosives and Explosives-Related Compounds by Single Photon Laser Ionization Time-of-Flight Mass Spectrometry." *Anal. Chem.*, 2006, 78 (11), pp 3807–3814.
4. Pumera, M., "Analysis of Explosives via Microchip Electrophoresis and Conventional Capillary Electrophoresis; A Review." *Electrophoresis*, 2006: vol. 27(1); 244-256.
5. Sharma, S. P., and Lahiri, S. C., "A Rapid and Low Cost Sensitive Method of On-Spot Detection of RDX (Cyclonite)." *Journal of the Indian Chemical Society*, 83(9):934-935 · September 2006.

2007

1. Clarke, J., "A Nitrate to Remember: Explosives Detection in Airport Security." *Canadian Chemical News* July 2007.

2. Lemberger, N., and Almog, J., "Structure Elucidation of Dyes That Are Formed in the Colorimetric Detection of the Improvised Explosive Urea Nitrate." *J Forensic Sci*, September 2007, Vol. 52, No. 5.
3. Liu, Y. S., Ugaz, V. M., North, S. W., Rogers, W. J., and Mannan, M. S., "Development of a miniature Calorimeter for identification and Detection of Explosives and other Energetic Compounds." *J Hazard Mater.* 2007 Apr 11; 142(3):662-8.
4. Moore, D. S., "Recent advances in trace explosives detection instrumentation," *Sensing and Imaging* 2007. 8(1), 9–38.
5. Na, N., Zhang, C., Zhao, M., Zhang, S., Yang, C., Fang, X., and Zhang, X., "Direct Detection of Explosives on Solid Surfaces by Mass Spectrometry with an Ambient Ion Source Based on Dielectric Barrier Discharge." *J Mass Spectrom.* 2007 Aug; 42(8):1079-85.
6. Singh, S., "Sensors – an effective approach to the detection of explosives." *J. Hazard. Mater.* 144 (2007) 15-28.
7. Toal, S. J., Sanchez, J. C., Dugan, R. E., and Troglar, W. C., "Visual Detection of trace Nitroaromatic Explosive Residue using Photoluminescent Metallocene-Containing Polymers." *J Forensic Sci.* 2007 Jan; 52(1):79-83.
8. Yeager, K., "Dangerous Innovations." Trace Chemical Sensing of Explosives. Woodfin, R. L., Editor. John Wiley & Sons, New Jersey, 2007, pp. 43-67.

2008

1. Ali, E. M., Edwards, H. G. M., and Scowen, I. J., "In-situ detection of single particles of explosive on clothing with confocal Raman microscopy." *Talanta.* 2008 May 15; 78(3):1201-1203. doi: 10.1016/j.talanta.2008.12.038. Epub 2008 Dec 25.
2. Cotte-Rodriguez, I., Hernandez-Soto, H., Chen, H., and Cooks, R. G., "In situ trace detection of peroxide explosives by desorption electrospray ionization and desorption atmospheric pressure chemical ionization." *Anal. Chem.* 80 (2008) 1512-1519.
3. Eliasson, C., MacLeod, N. A., and Matousek, P., "Non-invasive detection of powders concealed within diffusely scattering plastic containers." *Vibrational Spectroscopy*, 48 (2008) 8–11.
4. Guerra, P., Lai, H., and Almirall, J. R., "Analysis of the volatile chemical markers of explosives using novel solid phase microextraction coupled to ion mobility spectrometry." *J. Sep. Sci.* 2008, 31, 2891 – 2898.
5. Laudien, R., Riebe, D., Beitz, T., and Lohmannsroben, H-G., "Detection of explosive related nitroaromatic compounds (ERNC) by laser-based ion mobility spectrometry." *Proc. of SPIE* 2008 Vol. 7116 71160T-1.

6. Lindley, R., Normand, E., McCulloch, M., Black, P., Howieson, I., Lewis, C., and Foulger, B., "Bulk and trace detection of ammonia and hydrogen peroxide using quantum cascade laser technology – a tool for identifying improvised explosive devices." *Proc. of SPIE* 2008 Vol. 7119 71190K-1.
7. Meaney, M. S., and McGuffin, V. L., "Luminescence –based methods for sensing and detection of explosives." *Anal Bioanal Chem* (2008) 391:2557–2576.
8. Piccin, E., Dossi, N., Cagan, A., Carrilho, E., and Wang, J., "Rapid and sensitive measurements of nitrate ester explosives using microchip electrophoresis with electrochemical detection." *Analyst*, 2009, 134, 528–532.
9. Ponnu, A., Edwards, N. Y., and Anslyn, E. V., "Pattern recognition based identification of nitrated explosives." *New J. Chem.*, 2008, 32, 848–855.
10. Zuck, A., Greenblatt, J., Zifman, A., Zaltsman, A., Kendler, S., Frishman, G., Meltzer, S., and Fisher, I., "Explosive Detection by Microthermal Analysis." *Journal of Energetic Materials*, 26: 163–180, 2008.

2009

1. Ali, E. M., Edwards, H. G. M., and Scowen, I. J., "Raman spectroscopy and security applications: the detection of explosives and precursors on clothing." *J Raman Spectrosc* 2009 Vol 40.
2. Ali, E. M., Edwards, H. G. M., Hargreaves, M. D., and Scowen, I. J., "Detection of explosives on human nail using confocal Raman microscopy." *J Raman Spectrosc* 2008. Available at: <https://doi.org/10.1002/jrs.2096>
3. Babis, J. S., Sperline, R. P., Knight, J. K., Jones, D. A., Gresham, C. A., and Denton, M. B., "Performance evaluation of a miniature ion mobility spectrometer drift cell for application in hand-held explosives detection ion mobility spectrometers." *Anal Bioanal Chem*. 2009 Sep; 395(2):411-9. doi: 10.1007/s00216-009-2818-5. Epub 2009 May 8.
4. Banerjee, S., Mohapatra, S. K., Misra, M., and Mishra, I., "The detection of improvised non-military peroxide-based explosives using a titania nanotube array sensor." *Nanotechnology* 2009, Vol 20 Number 7.
5. Benedet, J, Lu, D, Cizek, K., La Belle, J., and Wang, J., "Amperometric sensing of hydrogen peroxide vapor for security screening." *Analytical and Bioanalytical Chemistry*, September 2009, Volume 395, Issue 2, pp 371–376.
6. Burks, R. M., and Hage, D. S., "Current trends in the detection of peroxide-based explosives." *Anal Bioanal Chem*. 2009 Sep; 395(2):301-13. doi: 10.1007/s00216-009-2968-5. Epub 2009 Jul 31. See Erratum 2010.

7. Capua, E., Cao, R., Sukenik, R., and Naaman, R., "Detection of triacetone triperoxide (TATP) with an array of sensors based on specific interactions." *Sens. Actuators B: Chem.* 140 (2009) 122-127.
8. Fang, X., and Ahmad, S. R., "Detection of explosive vapour using surface-enhanced Raman spectroscopy." *Appl Phys B*, (2009) 97: 723–726.
9. Germain, M. E., and Knapp, M. J., "Optical explosives detection: from color changes to fluorescence turn-on." *Chem. Soc. Rev.*, 2009, 38, 2543–2555.
10. Gonzalez, R., Lucena, P., Tobarria, L. M., and Laserna, J. J., "Standoff LIBS detection of explosive residues behind a barrier." *J. Anal. At. Spectrom.*, 2009, 24, 1123–1126.
11. Harvey, S. D., and Ewing, R. G., "Selective sampling with direct ion mobility spectrometric detection for explosives analysis." *Int. J. Ion Mobil. Spec.* (2009) 12:115–121.
12. Hildenbrand, J., Herbst, J., Wollenstein, J., and Lambrecht, A., "Explosive detection using infrared laser spectroscopy." *Proc. of SPIE*, 2009, Vol. 7222 72220B-1
13. Jander, P., and Noll, R., "Automated Detection of Fingerprint Traces of High Explosives Using Ultraviolet Raman Spectroscopy." *Appl Spectrosc.* 2009 May; 63(5):559-63.
14. Langmeier, A., Heep, W., Oberhuettinger, C., Oberpriller, H., Kessler, M., Goebel, J., and Mueller, G., "Detection and classification of explosive compounds utilizing Laser ion Mobility Spectrometry." Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Sensing X, *Proc. of SPIE* 2009, Vol. 7304, doi: 10.1117/12.820856.
15. Oxley, J. C., Smith, J. L., Luo, W., and Brady, J., "Determining the vapor pressures of diacetone diperoxide (DADP) and hexamethylene triperoxide diamine (HMTD)." *Propellants Explos. Pyrotech.* 34 (2009) 539-543.
16. Oxley, J. C., Smith, J. L., Huang, J., and Luo, W., "Destruction of peroxide explosives." *Journal of Forensic Sciences* 2009 54, 1029–1033.
17. Pettersson, A., Johansson, I., Wallin, S., Nordberg, M., and Ostmark, H., "Near Real-Time Standoff Detection of Explosives in a Realistic Outdoor Environment at 55 m Distance." *Propellants Explos. Pyrotech.* 2009, 34, 297 – 306.

2010

1. Bonnot, K., Bernhardt, P., Hassler, D., Baras, C., Comet, M., Keller, V., and Spitzer, D., "Tunable generation and adsorption of energetic compounds in the vapor phase at trace levels: A tool for testing and developing sensitive and selective substrates for explosive detection." *Anal Chem.* 2010 Apr 15; 82(8):3389-93. doi: 10.1021/ac902930e

2. Burks, R. M., and Hage, D. S., "Erratum to: Current trends in the detection of peroxide-based explosives." *Anal Bioanal Chem.* 2010 Sep; 396:3113-3114. DOI 10.1007/s00216-010-3480-7.
3. Caron, T., Guillemot, M., Montmeat, P., Veignal, F., Perraut, F., Prene, P., and Serein-Spirau, F., "Ultra trace detection of explosives in air: Development of a portable fluorescent detector." *Talanta.* 2010 Apr 15; 81(1-2):543-548.
4. Chu, F., "Optical fiber sensor for nitroaromatic explosives based on fluorescence quenching." *Proceedings of SPIE* 2010; 7658:765825.
5. Dasary, S.S.R., Senapati, D., Singh, A. K., Anjaneyulu, Y., Yu, H., and Ray, P. C., "Highly sensitive and selective dynamic light-scattering assay for TNT detection using p-ATP attached gold nanoparticle." *ACS Applied Materials and Interfaces* 2010; 2(12):3455-3460.
6. Guerra-Diaz, P., Gura, S., and Almirall, J. R., "Dynamic Planar Solid Phase Microextraction-Ion Mobility Spectrometry for Rapid Field Air Sampling and Analysis of Illicit Drugs and Explosives." *Anal. Chem.* 2010, 82, 2826–2835.
7. Lin, H., and Suslick, K. S., "A Colorimetric Sensor Array for Detection of Triacetone Triperoxide Vapor." *Journal American Chemical Society*, 2010.
8. Sarazin, C., Delaunay, N., Varenne, A., Costanza, C., Eudes, V., and Gareil, P., "Capillary and Microchip Electrophoretic Analyses of Explosives and their Residues." *Separation and Purification Reviews*, 2010; vol. 39 (1-2); 63-94.
9. Tabrizchi, M., and Ilbeigi, V., "Detection of explosives by positive corona discharge ion mobility spectrometry." *Journal of Hazardous Materials*, 176 (2010) 692–696.

2011

1. Algarra, M., Campos, B. B., Miranda, M.S., and Da Silva, JC. G.E., "CdSe quantum dots capped PAMAM dendrimer nanocomposites for sensing nitroaromatic compounds." *Talanta* 2011; 83(5):1335-1340.
2. Buryakov, I. A., "Detection of Explosives by Ion Mobility Spectrometry." *Journal of Analytical Chemistry*, August 2011, 66:674.
3. Dasary, S.S.R., Singh, A. K., Senapati, D., Yu, H., Dubey, M., Amirtharaj, P., and Ray P. C., "Ultrasensitive and highly selective detection of TNT from environmental sample using two-photon scattering properties of aminothiophenol-modified gold nanoparticle." *IEEE Transactions on Nanotechnology* 2011; 10(5):1083-1088.
4. Dubnikova, F., Kosloff, R., Oxley, J. C., Smith, J. L., and Zeiri, Y., "Role of metal ions in the destruction of TATP: theoretical considerations." *Journal of Physical Chemistry A.* 2011 115(38), 10565–10575.

5. Galik, M., O'Mahony, A. M., and Wang, J., "Cyclic and square-wave voltammetric signatures of nitro-containing explosives." *Electroanalysis* 2011; 23(5):1193-1204.
6. Gregory, K. E., Kunz, R. R., Hardy, D. E., Fountain III, A. W., and Ostazeski, S. A., "Quantitative Comparison of Trace Organonitrate Explosives Detection by GC-MS and GC-ECD Methods with Emphasis on Sensitivity." *Journal of Chromatographic Science*, Vol 49, January 2011.
7. Iping Petterson, I. E., Lopez-Lopez, M., Garcia-Ruiz, C., Gooijer, C., Buijs, J. B., and Ariese, F., "Noninvasive Detection of Concealed Explosives: Depth Profiling through Opaque Plastics by Time-Resolved Raman Spectroscopy." *Analytical Chemistry* 2011; 83(22):8517-8523.
8. Rozin, R., and Almog, J., "Colorimetric detection of urea nitrate: The missing link." *Forensic Science International* 2011; 208(1-3):25-28.
9. Sokol, E., Jackson, A. U., and Cooks, R. G., "Trace detection of inorganic oxidants using desorption electrospray ionization (DESI) mass spectrometry." *Cent. Eur. J. Chem.* 9(5) 2011, 790 -797.
10. Tripathi, A., Emmons, E. D., Wilcox, P. G., Guicheteau, J. A., Emge, D. K., Christesen, S. D., and Fountain, A. W., "Semi-Automated detection of trace explosives in fingerprints on strongly interfering surfaces with raman chemical imaging." *Applied Spectroscopy* 2011; 65(6):611-619.
11. Xin, Y., He, G., Wang, Q., and Fang, Y., "A portable fluorescence detector for fast ultra trace detection of explosive vapors." *Review of Scientific Instruments* 2011; 82(10):103102.

2012

1. Amani, M., Chu, Y., Waterman, K. L., Hurley, C. M., Platek, M. J., and Gergory, O. J., "Detection of triacetone triperoxide (TATP) using a thermodynamic based gas sensor." *Sensors and Actuators B: Chemical* 2012 162(1), 7–13.
2. Benson, S., Speers, N., and Otieno-Alego, V., "Portable Explosive Detection Instruments" In *Forensic Investigation of Explosives*, Second Edition, ed. A. Beveridge. 2012 Boca Raton, FL. CRC Press (Taylor and Francis Group).
3. Carlyle, F., Nic Daeid, N., Normand, E., and McCulloch, M., "Exploiting high resolution Fourier transform spectroscopy to inform the development of a quantum cascade laser based explosives detection systems." *Proceedings of SPIE* 2012; 8546:85460Z.
4. Caygill, J. S., Davis, and Higson, S. P. J., "Current trends in explosive detection techniques." *Talanta*, Volume 88, 15 January 2012, Pages 14-29.

5. Cletus, B., Olds, W., Izake, E. L., Sundarajoo, S., Fredericks, P. M., and Jaatinen, E., "Field portable time resolved SORS sensor for the identification of concealed hazards." *Proceedings of SPIE* 2012; 8374:837403.
6. Mirasoli, M., Buragina, A., Dolci, L. S., Guardigli, M., Simoni, P., Montoya, A., Maiolini, E., Girotti, S., and Roda, A., "Development of a chemiluminescence-based quantitative lateral flow immunoassay for on-field detection of 2, 4, 6-trinitrotoluene." *Analytica Chimica Acta* 2012; 721:167-172.
7. Oxley, J.C., Brady, J., Wilson, S. A., and Smith, J. L., "The risk of mixing dilute hydrogen peroxide and acetone solutions." *Journal of Chemical Health and Safety* 2012 19(2), 27–33.
8. Rowell, F., Seviour, J., Lim, A. Y., Elumbaring-Salazar, C. G., Loke, J., and Ma, J., "Detection of Nitro-Organic and Peroxide Explosives in Latent Fingermarks by DART and Saldi-TOF-Mass Spectrometry." *Forensic Sci Int.* 2012 Sep 10; 221(1-3):84-91.
9. Ruxton, K., Robertson, G., Miller, W., Malcolm, G. P. A., and Maker, G. T., "Mid-infrared hyperspectral imaging for the detection of explosive compounds." *Proceedings of SPIE* 2012; 8546:85460V.
10. Stewart, S. P., Bell, S. E. J., McAuley, D., Baird, I., Speers, S. J., and Kee, G., "Determination of hydrogen peroxide concentration using a handheld Raman spectrometer: Detection of an explosives precursor." *Forensic Science International*, 216 (2012) e5-e8.

2013

1. Bandodkar, A.J., O'Mahony, A.M., Ramirez, J., Samek, I.A., Anderson, S.M., Windmiller, J.R., and Wang, J., "Solid-state forensic finger sensor for integrated sampling and detection of gunshot residue and explosives: Towards 'Lab-on-a-finger'." *Analyst* 2013; 138(18):5288-5295.
2. Borusiewicz, R., Zadora, G., and Zieba-Palus, J., "Chemical analysis of post explosion samples obtained as a result of model field experiments." *Talanta* 2013; 116:630-636.
3. Clemons, K., Dake, J., Sisco, E., and Verbeck, G.F., "Trace analysis of energetic materials via direct analyte-probed nanoextraction coupled to direct analysis in real time mass spectrometry." *Forensic Science International* 2013; 231(1-3):98-101.
4. Cletus, B., Olds, W., Fredericks, P.M., Jaatinen, E., and Izake, E.L., "Real-time detection of concealed chemical hazards under ambient light conditions using raman spectroscopy." *Journal of Forensic Sciences* 2013; 58(4):1008-1014.
5. Ehlert, S., Holzer, J., Rittgen, J., Putz, M., Schulte-Ladbeck, R., and Zimmermann, R., "Rapid on-site detection of explosives on surfaces by ambient pressure laser desorption

and direct inlet single photon ionization or chemical ionization mass spectrometry.” *Analytical and Bioanalytical Chemistry* 2013; 405(22):6979-6993.

6. Etayo, D., Maestrojuan, I., Teniente, J., Ederra, I., and Gonzalo, R., “Experimental explosive characterization for counterterrorist investigation.” *Journal of Infrared, Millimeter, and Terahertz Waves* 2013; 34(7-8):468-479.
7. Ewing, R. G., Waltman, M. J., Atkinson, D. A., and Grate, J. W., “The vapor pressure of explosives.” *TrAC Trends Anal. Chem.* 42 (2013) 35-48.
8. Leitch, O., Anderson, A., Kirkbride, K.P., and Lennard, C., “Biological organisms as volatile compound detectors: A review.” *Forensic Science International* 2013; 232(1-3):92-103.
9. Love, C., Gilchrist, E., Smith, N., and Barron, L., “Detection of anionic energetic material residues in enhanced fingermarks on porous and non-porous surfaces using ion chromatography.” *Forensic Science International* 2013; 231(1-3):150-156.
10. Lucena, P., Gaona, I., Moros, J., and Laserna, J.J., “Location and detection of explosive-contaminated human fingerprints on distant targets using standoff laser-induced breakdown spectroscopy.” *Spectrochimica Acta - Part B Atomic Spectroscopy* 2013; 85:71-77.
11. Morelato, M, Beavis, A., Kirkbride, P., and Roux, C., “Forensic applications of desorption electrospray ionisation mass spectrometry (DESI-MS).” *Forensic Science International* 2013; 226(1-3):10-21.
12. Nuntawong, N., Eiamchai, P., Limwichean, S., Wong, B., Horprathum, M., Patthanasettakul, V., Leelapojanaporn, A., Nakngoenthong, S., and Chindaodom, P., “Trace detection of perchlorate in industrial-grade emulsion explosive with portable surface-enhanced Raman spectroscopy.” *Forensic Science International* 2013; 233(1-3):174-178.
13. Sisco, E., Dake, J., and Bridge, C., “Screening for trace explosives by AccuTOF™-DART®: An in-depth validation study.” *Forensic Science International* 2013; 232(1-3):160-168.
14. Tam, M., Pilon, P., and Zagnoun, H., “Quantified explosives transfer on surfaces for the evaluation of trace detection equipment.” *Journal of Forensic Sciences* 2013; 58(5):1336-1340.
15. Swider, J.R., “Optimizing Accu Time-of-Flight/Direct Analysis in Real Time for Explosive Residue Analysis.” *Journal of Forensic Sciences* 2013; 58(6):1601-1606.

16. Zalewska, A., Pawlowski, W., and Tomaszewski, W., "Limits of detection of explosives as determined with IMS and field asymmetric IMS vapour detectors." *Forensic Science International*. 2013.

2014

1. Fernandez de la Ossa, M.T., Amigo, J.M., and Garcia-Ruiz, C., "Detection of residues from explosive manipulation by near infrared hyperspectral imaging: A promising forensic tool." *Forensic Science International* 2014; 242:228-235.
2. Forbes, T.P., and Sisco, E., "Mass spectrometry detection and imaging of inorganic and organic explosive device signatures using desorption electro-flow focusing ionization." *Analytical Chemistry* 2014; 86(15):7788-7797.
3. Gross, J. H., "Direct Analysis in Real Time – a Critical Review on DART-MS." *Anal Bioanal Chem*. 2014 Jan; 406(1):63-80. doi: 10.1007/s00216-013-7316-0. Epub 2013 Sep 15.
4. He, X., Wang, H., Li, Z., Chen, D., and Zhang, Q., "ZnO-Ag hybrids for ultrasensitive detection of trinitrotoluene by surface-enhanced Raman spectroscopy." *Physical Chemistry Chemical Physics* 2014; 16(28):14706-14712.
5. Mamo, S.K., and Gonzalez-Rodriguez, J., "Optimisation and production of a molecular-imprinted-polymer for the electrochemical determination of triacetone triperoxide (TATP)." *Proceedings of SPIE* 2014; 9253:925315.
6. Mamo, S.K., Gonzalez-Rodriguez, J., "Development of a molecularly imprinted polymer-based sensor for the electrochemical determination of triacetone triperoxide (TATP)." *Sensors* 2014; 14(12):23269-23282.
7. Nelson, M.P., Gardner, C.W., Klueva, O., and Tomas, D., "Continued development of a portable wide field hyperspectral imaging (HSI) sensor for standoff detection of explosive, chemical, and narcotic residues." *Proceedings of SPIE* 2014; 9073:907300.
8. Oxley, J.C., "Explosive detection: How we got here and where are we going?" *International Journal of Energetic Materials and Chemical Propulsion* 2014; 13(4):373-381.

2015

1. Ali, E.M.A., Edwards, H.G.M., and Cox, R., "Forensic and security applications of a long-wavelength dispersive Raman system." *Journal of Raman Spectroscopy* 2015; 46(3):322-326.
2. Almeida, M.R., Correa, D.N., Zacca, J.J., Logrado, L.P.L., and Poppi, R.J., "Detection of explosives on the surface of banknotes by Raman hyperspectral imaging and independent component analysis." *Analytica Chimica Acta* 2015; 860:15-22.

3. Chen, C.H., Lin, Z., Tian, R., Shi, R., Cooks, R.G., and Ouyang, Z., "Real-Time Sample Analysis Using a Sampling Probe and Miniature Mass Spectrometer." *Analytical Chemistry* 2015; 87(17):8867-8873.
4. Cross, S.N., Quinteros, E., and Roberts, M., "Surface Modification for the Collection and Identification of Fingerprints and Colorimetric Detection of Urea Nitrate." *Journal of Forensic Sciences* 2015; 60(1):193-196.
5. Giannoukos, S., Brkic, B., Taylor, S., and France, N., "Membrane inlet mass spectrometry for Homeland security and forensic applications." *Journal of the American Society for Mass Spectrometry* 2015; 26(2):231-239.
6. Li, Z., Bassett, W.P., Askim, J.R., and Suslick, K.S., "Differentiation among peroxide explosives with an optoelectronic nose." *Chemical Communications* 2015; 51(83):15312-15315.
7. Lubczyk, D., Hahma, A., Brutschy, M., Siering, C., and Waldvogel, S.R., "A new reference material and safe sampling of terrorists peroxide explosives by a non-volatile matrix." *Propellants, Explosives, Pyrotechnics* 2015; 40(4):590-594.
8. Ma, Y., Wang, S., and Wang, L., "Nanomaterials for luminescence detection of nitroaromatic explosives." *TrAC - Trends in Analytical Chemistry* 2015; 65:13-21.
9. Nazarian, A., and Presser, C., "Forensic methodology for the thermochemical characterization of ANNM and ANFO homemade explosives." *Thermochimica Acta* 2015; 608:65-75.
10. Peters, K.L., Corbin, I., Kaufman, L.M., Zreibe, K., Blanes, L., and McCord, B.R., "Simultaneous colorimetric detection of improvised explosive compounds using microfluidic paper-based analytical devices (μ PADs)." *Analytical Methods* 2015; 7(1):63-70.
11. Romolo, F.S., Ferri, E., Mirasoli, M., D'Elia, M., Ripani, L., Peluso, G., Risoluti, R., Maiolini, E., and Girotti, S., "Field detection capability of immunochemical assays during criminal investigations involving the use of TNT." *Forensic Science International* 2015; 246:25-30.

2016

1. Choodum, A., Malathong, K., NicDaeid, N., Limsakul, W., and Wongniramaikul, W., "A cost effective hydrogel test kit for pre and post blast trinitrotoluene." *Forensic Science International* 2016; 266:202-208.
2. Fuchs, F., Hugger, S., Jarvis, J., Yang, Q.K., Ostendorf, R., Schilling, Ch., Bronner, W., Driad, R., Aidam, R., and Wagner, J., "Imaging standoff trace detection of explosives using IR-laser based backscattering." *Proceedings of SPIE* 2016; 9836:98362I.

3. Li, F., Tice, J., Musselman, B.D., and Hall, A.B., "A method for rapid sampling and characterization of smokeless powder using sorbent-coated wire mesh and direct analysis in real time - mass spectrometry (DART-MS)." *Science and Justice* 2016; 56(5):321-328.
4. Sisco, E., and Forbes, T.P., "Direct analysis in real time mass spectrometry of potential by-products from homemade nitrate ester explosive synthesis." *Talanta* 2016; 150:177-183.
5. Tang, S., Vinerot, N., Fisher, D., Bulatov, V., Yavetz-Chen, Y., and Schechter, I., "Detection and mapping of trace explosives on surfaces under ambient conditions using multiphoton electron extraction spectroscopy (MEES)." *Talanta* 2016; 155:235-244.

2017

1. Correa, D.N., Melendez-Perez, J.J., Zacca, J.J., Borges, R., Schmidt, E.M., Eberlin, M.N., and Meurer, E.C., "Direct Detection of Triacetone Triperoxide (TATP) in Real Banknotes from ATM Explosion by EASI-MS." *Propellants, Explosives, Pyrotechnics* 2017; 42(4):370-375.
2. El-Sharkawy, Y.H., and Elbasuney, S., "Novel laser induced photoacoustic spectroscopy for instantaneous trace detection of explosive materials." *Forensic Science International* 2017; 277:215-222.
3. Forbes, T. P., Sisco, E., Staymates, M., and Gillen, G., "DART-MS Analysis of inorganic Explosives using High Temperature Thermal Desorption." *Anal Methods* 2017; 9(34): 4988-96.
4. Pawlowski, W., Matyjasek, L., and Karpinska, M., "Detection of Contact Traces of Powdery Substances." *Journal of Forensic Sciences* 2017; 62:1028-1032.
5. Pawlowski, W., Zalewska, A., Matyjasek, L., and Karpinska, M., "The air humidity effect on the detection of TNT, PETN and NG by the FAIMS technique." *Sensors and Actuators, B: Chemical* 2017; 247:343-348.
6. Peveler, W.J., Jaber, S.B., and Parkin, I.P., "Nanoparticles in explosives detection – the state-of-the-art and future directions." *Forensic Science, Medicine, and Pathology* 2017; 13(4):490-494.
7. Sathish, V., Ramdass, A., Velayudham, M., Lu, K.L., Thanasekaran, P., and Rajagopal, S., "Development of luminescent sensors based on transition metal complexes for the detection of nitro explosives." *Dalton Transactions* 2017; 46(48):16738-16769.
8. Sedwick, V., Massey, M., Codio, T.A., and Kanu, A.B., "Method validation parameters for drugs and explosives in ambient pressure ion mobility spectrometry." *International Journal for Ion Mobility Spectrometry* 2017; 20(3-4):75-86.

9. Tan, C., Nasir, M.Z.M., Ambrosi, A., and Pumera, M., "3D Printed Electrodes for Detection of Nitroaromatic Explosives and Nerve Agents." *Analytical Chemistry* 2017; 89(17):8995-9001.
10. Yu, H.A., DeTata, D.A., Lewis, S.W., and Silvester, D.S., "Recent developments in the electrochemical detection of explosives: Towards field-deployable devices for forensic science." *TrAC* 2017; 97:374-384.

2018

1. Chabaud, K.R., Thomas, J.L., Torres, M.N., Oliveira, S., and McCord, B.R., "Simultaneous colorimetric detection of metallic salts contained in low explosives residue using a microfluidic paper-based analytical device (mPAD)." *Forensic Chemistry* 2018; 9:35-41.
2. Forbes, T.P., and Sisco, E., "Recent advances in ambient mass spectrometry of trace explosives." *Analyst* 2018; 143(9):1948-1969.
3. Forbes, T. P., Sisco, E., and Staymates, M., "Detection of non-volatile inorganic oxidizer-based explosives from wipe collections by infrared thermal desorption-direct analysis in real time mass spectrometry." *Anal Chem* 2018; 90(11): 6419-25.
4. Risoluti, R., Gregori, A., Schiavone, S., and Materazzi, S., "Click and Screen" Technology for the Detection of Explosives on Human Hands by a Portable MicroNIR-Chemometrics Platform." *Analytical Chemistry* 2018; 90(7):4288-4292.

2019

1. Al-Mousawi, A. J., "Magnetic Explosives Detection System (MEDS) based on wireless sensor network and machine learning. *Measurement.*" 2020; 151:107112.
<https://www.sciencedirect.com/science/article/pii/S0263224119309789>
2. Bharati, M. S., Shaik, A. K., Byram, C., Hamad, S., and Soma, V. R., "Instantaneous Trace Detection of Nitro-explosives and Mixtures with Nanotextured Silicon Decorated with Ag-Au Alloy Nanoparticles using the SERS Technique." *Analytica Chimica Acta.* 2019 Dec 16.
<https://www.sciencedirect.com/science/article/pii/S000326701931462X>
3. Castro, S.V.F., Cardoso, R.M., Santana, M.H.P., Richter, E.M., and Munoz, R.A.A. "Graphite sheet as a novel material for the collection and electrochemical sensing of explosive residues." *Talanta* 2019; 203:106-111
<https://www.sciencedirect.com/science/article/pii/S0039914019305326>
4. Chaudhary, S., Sonkusre, P., Chopra, A., Bhasin, K.K., and Suri, R. "UV-FIA: UV-induced Fluoro-Immunochemical Assay for ultra-trace detection of PETN, RDX, and TNT." *Analytica Chimica Acta* 2019.

<https://www.sciencedirect.com/science/article/pii/S0003267019306452>

5. Costa, C., van Es, E.M., Sears, P., Bunch, J., Palitsin, V., Mosegaard, K., and Bailey, M.J. "Exploring Rapid, Sensitive and Reliable Detection of Trace Explosives Using Paper Spray Mass Spectrometry (PS-MS)." *Propellants, Explosives, Pyrotechnics* 2019. <https://onlinelibrary.wiley.com/doi/abs/10.1002/prep.201800320>
6. Costa, C., van Es, E. M., Sears, P., Bunch, J., Palitsin, V., Cooper, H., and Bailey, M. J., "Exploring a route to a selective and sensitive portable system for explosive detection—swab spray ionisation coupled to of high-field assisted waveform ion mobility spectrometry (FAIMS)." *Forensic Science International: Synergy* 2019; 1:214-220. <https://www.sciencedirect.com/science/article/pii/S2589871X19301391>
7. Dettlaff, A., Jakóbczyk, P., Ficek, M., Wilk, B., Szala, M., Wojtas, J., Ossowski, T., and Bogdanowicz, R. "Electrochemical determination of nitroaromatic explosives at boron-doped diamond/graphene nanowall electrodes: 2, 4, 6-trinitrotoluene and 2, 4, 6-trinitroanisole in liquid effluents." *Journal of Hazardous Materials*. 2019 Nov 11:121672. <https://www.sciencedirect.com/science/article/pii/S0304389419316267>
8. DeWitt, K. "Advances in active infrared spectroscopy for trace chemical detection." *Proceedings SPIE 10986, Algorithms, Technologies, and Applications for Multispectral and Hyperspectral Imagery XXV* 2019:109860J. <https://www.spiedigitallibrary.org/conference-proceedings-of-spie/10986/109860J/Advances-in-active-infrared-spectroscopy-for-trace-chemical-detection/10.1117/12.2516198.short>
9. Elbasuney, S., El-Sharkawy, Y. H., El-Sayyad, G. S., and Gobara, M., "Surface modified colloidal silica nanoparticles: Novel aspect for complete identification of explosive materials." *Talanta*. 2019 Dec 27:120695. <https://www.sciencedirect.com/science/article/abs/pii/S0039914019313281>
10. Gokdere, B., Uzer, A., Durmazel, S., Ercag, E., and Apak, R. "Titanium dioxide nanoparticles-based colorimetric sensors for determination of hydrogen peroxide and triacetone triperoxide (TATP)." *Talanta* 2019; 202:402-410. <https://www.sciencedirect.com/science/article/pii/S0039914019304692>
11. Gulati, K. K., Gulia, S., Gambhir, T., Kumar, N., Gambhir, V., and Reddy, M. N., "Standoff Detection and Identification of Explosives and Hazardous Chemicals in Simulated Real Field Scenario using Time Gated Raman Spectroscopy." *Defence Science Journal* 2019;69(4):342-347. <https://pdfs.semanticscholar.org/f6fc/b9489de2c393db6cf4927301ff743d454a31.pdf>

12. Gulia, S., Gulati, K. K., Gambhir, V., and Sharma, R., "Detection of explosive materials and their precursors through translucent commercial bottles using spatially offset Raman spectroscopy using excitation wavelength in visible range." *Optical Engineering*. 2019 Dec;58(12):127102.
<https://www.spiedigitallibrary.org/journals/Optical-Engineering/volume-58/issue-12/127102/Detection-of-explosive-materials-and-their-precursors-through-translucent-commercial/10.1117/1.OE.58.12.127102.short?SSO=1>
13. Li, H., Jia, R., and Wang, Y. "p-Pyridine BODIPY-based fluorescence probe for highly sensitive and selective detection of picric acid." *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*. 2019 Nov 14:117793.
<https://www.sciencedirect.com/science/article/abs/pii/S1386142519311837>
14. Lima, A. P., Almeida, P. L. M. R., Sousa, R. M. F., Richter, E. M., Nossol, E., and Munoz, R. A. A., "Effect of alumina supported on glassy-carbon electrode on the electrochemical reduction of 2,4,6-trinitrotoluene: A simple strategy for its selective detection." *Journal of Electroanalytical Chemistry* 2019; 851:113385.
<https://www.sciencedirect.com/science/article/abs/pii/S1572665719306538>
15. Liu, R., Li, Z., Huang, Z., Li, K., and Lv, Y. "Biosensors for explosives: State of art and future trends." *TrAC Trends in Analytical Chemistry* 2019; 118:123-137.
<https://www.sciencedirect.com/science/article/abs/pii/S0165993619301025>
16. Mauricio, F. G. M., Silva, J. Y. R., Talhavini, M., Junior, S. A., and Weber, I. T., "Luminescent sensors for nitroaromatic compound detection: Investigation of mechanism and evaluation of suitability of using in screening test in forensics." *Microchemical Journal* 2019; 150:104037.
<https://www.sciencedirect.com/science/article/abs/pii/S0026265X18317764>
17. McGill, R.A., Furstenberg, R., Papantonakis, M., Nguyen, V., Kendziora, C.A., Stroud, L., Dryer, L., Fischer, T., Andrews, B., Colpoys, C., Goldberg, A., Zehfus, L., and Kusterbeck, A. "Characteristics of trace explosives particles in fingerprints for optical detection." *Proceedings SPIE 11010, Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Sensing XX* 2019:110100I.
<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/11010/110100I/Characteristics-of-trace-explosives-particles-in-fingerprints-for-optical-detection/10.1117/12.2519433.short>
18. Meng, X., Yang, Y., and Xiao, Z. "Preparation of an Electrochemical Sensor Based on Surface Molecularily Imprinted Polymers Modified Electrode and its Application in Detection of Nitrocellulose." *Propellants, Explosives, Pyrotechnics* 2019.
<https://onlinelibrary.wiley.com/doi/abs/10.1002/prep.201900018>

19. Mironenko, A. Y., Tutov, M., Sergeev, A., Mitsai, E., Ustinov, A. Y., Zhizhchenko, A., Linklater, D. P., Bratskaya, S., Juodkazis, S., and Kuchmizhak, A. A., “Ultra-trace nitroaromatic vapours detection via surface enhanced fluorescence on carbazole terminated black silicon.” *ACS Sensors* 2019.
<https://pubs.acs.org/doi/abs/10.1021/acssensors.9b01063>
20. Nelson, M.P., Tazik, S.K., and Treado, P.J. “Real-time, reconfigurable, handheld molecular chemical imaging sensing for standoff detection of threats.” *Proceedings SPIE 11010, Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Sensing XX* 2019:1101005.
<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/11010/1101005/Real-time-reconfigurable-handheld-molecular-chemical-imaging-sensing-for-stanoff/10.1117/12.2519050.short>
21. Ozcan, E., Tumay, S.O., Kesan, G., Yesilot, S., and Cosut, B. “The novel anthracene decorated dendrimeric cyclophosphazenes for highly selective sensing of 2, 4, 6-trinitrotoluene (TNT).” *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 2019; 220:117115.
<https://www.sciencedirect.com/science/article/pii/S1386142519304962>
22. Papantonakis, M., Nguyen, V., Furstenberg, R., Kusterbeck, A., and McGill, R.A. “Predicting the persistence of explosives materials.” *Proceedings SPIE 11010, Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Sensing XX* 2019:110100G.
<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/11010/110100G/Predicting-the-persistence-of-explosives-materials/10.1117/12.2518974.short>
23. Rawtani, D., Tharmavaram, M., Pandey, G., and Hussain, C. M., “Functionalized nanomaterial for forensic sample analysis.” *TrAC Trends in Analytical Chemistry* 2019; 120:115661. <https://www.sciencedirect.com/science/article/abs/pii/S0165993619304686>
24. Riley, P.C., Ince, B.S., McHugh, V.M., Hauck, B.C., Harden, S., Taylor, J., McIntrye, H., McSweeney, R., and Long, S. “From the warehouse to the field: new applications of existing chemical warfare agent detectors without hardware modification.” *Proc. SPIE 11010, Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Sensing XX* 2019:110100V. <https://www.spiedigitallibrary.org/conference-proceedings-of-spie/11010/110100V/From-the-warehouse-to-the-field--new-applications-of/10.1117/12.2519024.short>
25. Shafiee, M., Larki, A., and Faal, A. Y., “Fabrication of an Optochemical Sensor Based on Triacetylcellulose Polymer for Colorimetric Determination of Trinitrotoluene.” *Propellants, Explosives, Pyrotechnics.* 2019.
<https://onlinelibrary.wiley.com/doi/abs/10.1002/prep.201900192>

26. Stambouli, H., Bouri, A. E., Dahrouch, A., Boukhaled, A., and Bouayoun, T., “Novel Optimization of HMTD Traces Detection by HS-SPME-GC/MS and HS-SPME-GC/ μ ECD.” *J Forensic Res.* 2019;10(437):2.
https://www.researchgate.net/profile/Taoufik_Bouayoun/publication/339051881
27. Stefano, J. S., Lima, A. P., Nascentes, C. C., Krzyzaniak, S. R., Mello, P. A., Gonçalves, J. M., Richter, E. M., Nossol, E., and Munoz, R. A., “Electrochemical detection of 2, 4, 6-trinitrotoluene on carbon nanotube modified electrode: Effect of acid functionalization.” *Journal of Solid-State Electrochemistry.* 2019:1-9.
<https://link.springer.com/article/10.1007/s10008-019-04465-5>
28. Sun, Y., Wu, Y., Yu, C., Zhang, L., Song, G., and Yao, Z. “Self-Assembly of Nanoscale Induced Excimers of 12-Pyren-1-yldecanoic Acid for TNT Detection.” *ACS Applied Nano Materials* 2019.
<https://pubs.acs.org/doi/full/10.1021/acsanm.9b00386>
29. Verkouteren, R., Heckert, N., Leigh, S., Sisco, E., Norris, J., Lawrence, J., and Burns, A., “ASTM E2677: International Standard on Limit of Detection for Trace Detectors—Explosives, Opioids, and Ozone.” *Detection Limits in Air Quality and Environmental Measurements* 2019 Nov. ASTM International.
https://www.astm.org/DIGITAL_LIBRARY/STP/PAGES/STP161820180074.htm
30. Wu, J., Zhang, L., Huang, F., Ji, X., Dai, H., and Wu, W. “Surface Enhanced Raman Scattering Substrate for the Detection of Explosives: Construction Strategy and Dimensional Effect.” *Journal of Hazardous Materials.* 2019 Nov 18:121714.
<https://www.sciencedirect.com/science/article/pii/S0304389419316681>
31. Zhou, H., Chua, M.H., Tang, B.Z., and Xu, J. “Aggregation-induced Emission (AIE)-Active Polymers for Explosives Detection.” *Polymer Chemistry* 2019.
<https://pubs.rsc.org/en/content/articlelanding/2019/py/c9py00322c/unauth#!divAbstract>

2020

1. Babar, D. G., Garje, S. S., “Nitrogen and Phosphorus Co-Doped Carbon Dots for Selective Detection of Nitro Explosives.” *ACS Omega.* 2020 Feb 4.
<https://pubs.acs.org/doi/full/10.1021/acsomega.9b03234>
2. Bezemer, K. D., Forbes, T. P., Hulsbergen, A., Verkouteren, J., Krauss, S. T., Koeberg, M., Schoenmakers, P. J., Gillen, G., and van Asten, A. C., “Emerging techniques for the detection of pyrotechnic residues from seized postal packages containing fireworks.” *Forensic Science International.* 2020 Jan 24:110160.
<https://www.sciencedirect.com/science/article/pii/S0379073820300220>

3. Milligan, K., Shand, N. C., Graham, D., and Faulds, K., "Detection of multiple nitroaromatic explosives via formation of a Janowsky complex and SERS." *Analytical Chemistry*. 2020 Jan 13. <https://pubs.acs.org/doi/abs/10.1021/acs.analchem.9b05062>
4. Wang, G., Li, Y., Cai, Z., and Dou, X., "A Colorimetric Artificial Olfactory System for Airborne Improvised Explosive Identification." *Advanced Materials*. 2020 Jan 29:1907043. <https://onlinelibrary.wiley.com/doi/abs/10.1002/adma.201907043>