Analysis of Fire Debris Reference List

Fire Debris and Explosives Subcommittee

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***Note:** This is a comprehensive list of textbooks and papers related to the forensic analysis of fire debris. 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.

1 – Books

1980

1. Criminalistics and Scientific Investigation, Cunliffe, F., and Piazza, P. B. Prentice Hall, NJ, 1980.

1992

1. Gas Chromatography in Forensic Science, Tebbett, I., ed., Ellis Horwood Ltd., Chichester, UK,1992. Fultz, M. L. and DeHaan, J. D., "Gas Chromatography in Arson and Explosives Analysis," Chapter 5.

1993

1. Chemical Analysis for the Arson Investigator and Attorney (Chromatographic methods), Bertsch, W., Holzer, G., and Sellers, C. S., Verlagsgruppe Huthig Jehle Rehm GmbH, 1993.

1997

1. GC-MS Guide to Ignitable Liquids, Newman, R., Gilbert, M., and Lothridge, K., CRC Press, FL, 1997.

2000

1. Encyclopedia of Separation Science, Poole, C. F., and Cooke, M., eds., Academic Press, CA, 2000.

2003

1. Advances in Forensic Applications of Mass Spectrometry, 3rd ed., Yinon, Y., ed., CRC Press, Boca Raton, USA, 2003.

2004

1. Analysis and Interpretation of Fire Scene Evidence, Almirall, J., and Furton, K., eds., CRC Press, Florida, 2004.

2. Forensic Science Handbook Volume II, 2nd ed., Saferstein, R., Pearson, 2004.

3. Sources of Interference in Fire Debris Analysis, Stauffer, E., Daied, N. N., Ed., *Fire Investigation,* CRC Press, Boca Raton, 2004.

2007

1. Fire Debris Analysis, Stauffer, E.; Dolan, J. A.; and Newman, R., Academic Press, Elsevier, MA, 2007.

2010

1. Forensic Science Handbook, Volume III, 2nd ed., Saferstein, R., Pearson, 2010.

2011

1. Forensic Chemistry Handbook, Kobilinsky, L., ed., Wiley, NJ, 2011, Lentini, J. J., Chapter 3.

2012

1. Encyclopedia of Forensic Sciences, 2nd ed., Siegel, J. A., and Saukko, P. J., eds., Academic Press, Elsevier, 2012, pp. 151-166, 177-194.

2014

1. The Chemistry and Technology of Petroleum, 5th ed., Speight, J. G., CRC Press, FL, 2014.

2015

1. Identifying Ignitable Liquids in Fire Debris: A Guideline for Forensic Experts, Hendrikse, J., Grutters, M., and Schäfer, F., Elsevier, London, 2015.

2. Forensic Chemistry, Houck, M. M., ed., Elsevier, London, 2015.

2016

1. Crime Scene to Court: The Essentials of Forensic Science, 4th ed., White, P., Ed., Halliday, D., Royal Society of Chemistry, Cambridge, 2016, Fire Investigation, pp. 260-292.

2017

1. Kirk's Fire Investigation, 7th ed., DeHaan, J. D., and Icove, D. J., Pearson, 2017.

2019

1. Fire Investigations for First Responders. Chandler, R., Jones & Bartlett Learning, LLC; 2019.

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

3. Gas Chromatography, 2nd ed., Poole, C. F., ed., Elsevier Inc., 2019

4. Introduction to Forensic Science and Criminalistic, 2nd ed., Harris, H.A., and Lee, H.C. CRC Press, FL, 2019, pp. 289-325.

5. Investigating Chemistry: A Forensic Science Perspective, 4th ed., Johll, M.E., W. H. Freeman and Company, NY, 2019.

6. Scientific Protocols for Fire Investigation, 3rd ed., Lentini, J. J., CRC Press, FL, 2019.

2020

1. Forensic Science Handbook Volume I, 3rd ed. Saferstein, R., CRC Press, FL, 2020.

2021

1. Forensic Science: The Basics, 4th ed., Siegel, J.A., and Mirakovits, K., CRC Press, FL, 2021.

2. Criminalistics: An Introduction to Forensic Science, 13th ed., Saferstein, Roy, T., Pearson, New York, NY, 2021.

3. Forensic Chemistry, Evans-Nguyen, K. American Chemical Society, Washington D.C., 2021,

4. NFPA 921: Guide for Fire and Explosion Investigations, 2021 ed., National Fire Protection Agency, 2021.

2022

1. Technologies to Advance Automation in Forensic Science and Criminal Investigations, Kumar, S., Singlua, A., and Vidwans, R.R. IGI Global, PA, 2022, pp. 91-118.

2- ASTM Standards

E1386 Practice for the Separation and Concentration of Ignitable Liquid Residues from Fire Debris Samples by Solvent Extraction

E1388 Practice for Static Headspace Sampling of Vapors from Fire Debris Samples

E1412 Practice for Separation of Ignitable Liquid Residues from Fire Debris Samples by Passive Headspace Concentration with Activated Charcoal

E1413 Practice for Separation of Ignitable Liquid Residues from Fire Debris Samples by Dynamic Headspace Concentration onto an Adsorbent Tube

E1618 Test Method for Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography-Mass Spectrometry

E2154 Practice for the Separation and Concentration of Ignitable Liquid Residues from Fire Debris Samples by Solid Phase Microextraction (SPME)

E2451 Practice for Preserving Ignitable Liquids and Ignitable Liquid Residue Extracts from Fire Debris Samples

E2881 Test Method for Extraction and Derivatization of Vegetable Oils and Fats from Fire Debris and Liquid Samples with Analysis by Gas Chromatography-Mass Spectrometry

E2997 Test Method for the Analysis of Biodiesel Products by Gas Chromatography-Mass Spectrometry

E3189 Practice for Separation of Ignitable Liquid Residues from Fire Debris Samples by Static Headspace Concentration onto an Adsorbent Tube

E3197 Terminology Relating to Examination of Fire Debris

E3245 Guide for Systematic Approach to the Extraction, Analysis and Classification of Ignitable Liquids and Ignitable Liquid Residues in Fire Debris Samples

3 - Reviews/Guides

1998

1. Lennard C., "Fire (Determination of Cause). A Review: 1995-1998." INTERPOL, Lyon, France, 1998, pp. 24.

2001

1. Lennard C., "Fire Cause and Fire Debris Analysis. A review: 1998-2001." INTERPOL, Lyon, France, 2001, pp. 27.

2002

1. Borusiewicz, R., "Fire Debris Analysis - A Survey of Techniques used for Accelerants Isolation and Concentration," *Problems of Forensic* Sciences, Vol 50, 2002, pp. 44 - 63.

2003

1. Dolan, J., "Recent Advances in the Applications of Forensic Science to Fire Debris Analysis," *Analytical and Bioanalytical Chemistry*, Vol 376, 2003, pp. 1168–1171.

2. Stauffer, E., Lentini, J.J., "ASTM Standards for fire debris analysis: a review." *Forensic Sci. Int.* 2003, Vol 132, Issue 1, pp.63-67.

2004

1. Sandercock P., "Fire Cause and Fire Debris Analysis. A Review: 2001-2004," INTERPOL, Lyon, France, 2004, pp. 32.

2005

1. Stauffer, E., "A Review of the Analysis of Vegetable Oil Residues from Fire Debris Samples: Spontaneous Ignition, Vegetable Oils and the Forensic Approach," *Journal of Forensic Sciences*, Vol 50, 2005, pp. 1016–1032.

2006

1. Pert, A. D., Baron, M. G., and Birkett, J. W., "Review of Analytical Techniques for Arson Residues," *Journal of Forensic Sciences*, Vol 51, No. 5, 2006, pp. 1033–1049.

2007

1. Zadora G., Borusiewicz R., "Fire Cause and Fire Debris Analysis. A review: 2004-2007," INTERPOL, Lyon, France, 2007, pp. 35.

2008

1. Lentini, J. J., "Review of Fire Debris Analysis," *Journal of Forensic Sciences,* Vol 53, No. 4, 2008, pp. 1012.

2. Sandercock, P. M. L., "Fire Investigation and Ignitable Liquid Residue Analysis – A Review: 2001-2007," *Forensic Science International*, Vol 176, 2008, pp. 93-110.

3. Wang, Y., McCaffrey, J., and Norwood, D. L., "Recent Advances in Headspace Gas Chromatography," *Journal of Liquid Chromatography and Related Technologies*, Vol 31, 2008, pp. 1823-1851.

2010

1. Viitala, N., and Kakko, T., "Fire Cause and Fire Debris Analysis. Review: 2007-2010," INTERPOL, Lyon, France, 2010, pp. 420–448.

2013

1. Viitala, N., and Hyyppä, M., "Fire Cause Investigation and Fire Debris Analysis. Review: 2010 to 2013," INTERPOL, Lyon, France, 2013, pp. 231–279.

2014

1. Baerncopf, J., and Hutches, K., "A Review of Modern Challenges in Fire Debris Analysis," *Forensic Science International*, Vol 244, 2014, pp. e12-e20.

2015

1. Hendrikse, J., Grutters, M., and Schäfer, F., "Chapter 1," *Identifying Ignitable Liquids in Fire Debris,* 1st ed., Academic Press, Elsevier, London, 2015, pp. 1-2.

2016

1. Stauffer, E., "Fire Investigation and Debris Analysis, 2013 to 2016," INTERPOL, Lyon, France, 2016, pp. 163–193.

2017

1. ENFSI, "Best Practice Manual for the Investigation of Fire Scenes," ENFSI–BPM-FEI-01Version 02-June 2017.

2. NFPA® 921, *Guide for Fire and Explosion Investigations*, 2017 ed., National Fire and Protection Association, 2017.

2020

1. Sigman, M. E., and Williams, M. R., "Chemometric applications in fire debris analysis." *WIREs Forensic Sci.* 2020; e1368.https://doi.org/10.1002/wfs2.1368

2023

1. Evans, M. "Interpol review of fire debris analysis and fire investigation 2019-2022" Forensic Sci. Int. Synergy 6 (2023). Article 100310.

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.

1997

1. Lentini, J., and Armstrong, A., "Comparison of the Eluting Efficiency of Carbon Disulfide with Diethyl Ether: The Case for Laboratory Safety," *Journal of Forensic Sciences*, Vol 42, No. 2, 1997, pp. 307-311.

2002

1. Massey, D., Du Pasquier, E., and Lennard, C., "Solent Desorption of Charcoal Strips (DFLEX®) in the Analysis of Fire Debris Samples: A Replacement of Carbon Disulfide," *Canadian Society of Forensic Sciences Journal*, Vol 35, 2002, pp. 195–208.

5 - Scene Sampling

2006

1. Mann, D., and Putaansuu, N., "Alternative Sampling Methods to Collect Ignitable Liquid Residues," *Fire and Arson Investigator*, Vol 57, No. 1, 2006, pp. 43-46.

2007

1. Nowlan, M., Stuart, A., Basara, G., and Sandercock, P., "Use of a Solid Absorbent and an Accelerant Detection Canine for the Detection of Ignitable Liquids Burned in a Structure Fire," *Journal of Forensic Sciences*, Vol 52, No. 3, 2007, pp. 643-648.

2012

1. Chi, J. H., "Metallographic Analysis and Fire Dynamics Simulation for Electrical Fire Scene Reconstruction," *Journal of Forensic Sciences*, Vol 57, No. 1, 2012, pp. 246-249. Available at http://onlinelibrary.wiley.com/doi/10.1111/j.1556-4029.2011.01948.x/full.

2013

1. Chi, J.H., "Using Thermal Analysis Experiment and Fire Dynamics Simulator (FDS) to Reconstruct an Arson Fire Scene," *Journal of Thermal Analysis and Calorimetry*, Vol 113, No. 2, pp. 641-648. Available at https://link.springer.com/article/10.1007/s10973-012-2764-x.

2. Spring, N.J., "Engineering of Arson Forensics and Fire Debris Investigation: The Scientific, Social, and Curricular Impact," Dissertation, Arizona State University, Phoenix, AZ, 2013.

2016

1. Burda, K., Black, M., Djulamerovic, S., Darwen, K., and Hollier, K., "Field Test Kits for Collection of Ignitable Liquids and Ignitable Liquid Residues Used by the NSW Fire Scene Investigators,"

Forensic Science International, Vol 264, 2016, pp. 70-81. Available at http://www.sciencedirect.com/science/article/pii/S0379073816301049.

2. Chi, J. H., and Peng, P. C., "Application of Investigation Techniques to Identify an Arson Fire," *Journal of the Chinese Institute of Engineers*, Vol 39, No. 5, pp. 578-584. Available at http://www.tandfonline.com/doi/abs/10.1080/02533839.2016.1146087.

3. Hall, S., White, G., and Gautam, L., "The Development of a Novel Adsorbent for Collecting Ignitable Liquid Residues from a Fire Scene," *Journal of Analytical and Applied Pyrolysis*, Vol 122, 2016, pp. 304-314. Available at http://www.sciencedirect.com/science/article/pii/S0165237016303035.

4. Leary, P. E., Dobson, G. S., and Reffner, J. A., "Development and Applications of Portable Gas Chromatography–Mass Spectrometry for Emergency Responders, the Military, and Law-Enforcement Organizations," *Applied Spectroscopy*, Vol 70, No. 5, 2016, pp. 888-896. Available at http://journals.sagepub.com/doi/abs/10.1177/0003702816638294.

5. Visotin, A., and Lennard, C., "Preliminary Evaluation of a Next-Generation Portable Gas Chromatograph Mass Spectrometer (GC-MS) for the On-Site Analysis of Ignitable Liquid Residues," *Australian Journal of Forensic Sciences*, Vol 48, No. 2, 2016, pp. 203-221. Available at http://www.tandfonline.com/doi/abs/10.1080/00450618.2015.1045554.

2018

1. Henneberg, M. L., and Morling, N. R., "Unconfirmed accelerants: controversial evidence in fire investigations," *The International Journal of Evidence & Proof,* 2018; 22 (1):45-67. Available at http://journals.sagepub.com/doi/abs/10.1177/1365712717746419.

2. Xie, D., Wang, W., Lv., S., and Deng, S., "Visual and Oxide Analysis for Identification of Electrical Fire Scene." *Forensic Science International* 2018. https://www.sciencedirect.com/science/article/pii/S0379073818300070

2019

1. Harrison, K., "The Application of Archaeological Techniques to Forensic Fire Scenes." *Forensic Archaeology*, 2019. Available at: https://link.springer.com/chapter/10.1007/978-3-030-03291-3_10

2. Ljungkvist, E., and Thomsen, B., "Interpretation of a fire scene with ultraviolet light: An assessment of the possible utilisation of ultraviolet light at fire scenes and subsequent recommendations for procedures." *Forensic Science International,* 2019. Available at: https://www.sciencedirect.com/science/article/pii/S0379073819300556.

3. Lam, R., Lennard, C., Kingsland, G., Johnstone, P., Symons, A., Wythes, L., Fewtrell, J., O'Brien, D., and Spikmans, V., "Rapid onsite identification of hazardous organic compounds at fire scenes using person-portable gas chromatography-mass spectrometry (GC-MS)—part 1: air sampling and analysis." *Forensic Sciences Research*, 2019. Available at: https://doi.org/10.1080/20961790.2019.1654205

4. Viegra, J., "Analysesof your fire debris." *Fire & Arson Investigation,* 2019.

5. Ljungkvist, E., and Thomsen, B., "Interpretation of a fire scene with ultraviolet light: an assessment of the possible utilization of ultraviolet light at fire scenes and subsequent recommendations for

procedures." *Forensic Science International,* 2019. Available at: httpls://www.sciencedirect.com/science/article/abs/pii/S0379073819300556.

6. Leung, S., Forbes, S., and Maynard, P., "Volatile organic compound analysis of accelerant detection canine distractor odours." *Forensic Science Interational,* 2019. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0379073819303652.

7. Tiira, K., Viitala, N., Turunen, T., and Salonen. T., "Accelerant detection canines' ability to detect ignitable liquids." *Police University of Applied Sciences,* 2019. Available at:

2020

1. Abel, R.J., Lunder, J.L., and Harynuk, J.J., "A novel protocol for producing low-abundance targets to characterize the sensitivity limits of ignitable liquid detection canines." *Forensic Chemistry*, 18 (2020). Available at: https://www.sciencedirect.com/science/article/abs/pii/S2468170920300187.

2021

1. Buchler, L., Werner, D., and Delemont, O., "Detection of gasoline on suspects' hands: study of different sampling alternatives." *Forensic Sci. Int*. 318 (2021). https://www.sciencedirect.com/science/article/pii/S0379073820304527

2. Carlotti, J.N., "Absorbent household materials for the collection of ignitable liquid residues from surfaces of varying porosity." *Master's Thesis Eastern Kentucky University.* Publication No. 28491625. 202.

3. DeHaan, J.D., "Enhancing fire scene investigations through new technologies." *Fire & Arson Investig. 71 (3),* 28-35, 2021. Available at: https://www.ojp.gov/ncjrs/virtual-library/abstracts/enhancing-fire-scene-investigations-through-new-technologies.

4. Aron, I., "Forensic investigation of fire and explosions." *Bulletin of the Transilvania University of Brasov. Series VII: Social Sciences. Law* 14(63) 144-148, 2021.

5. O'Hagan, A., and Ellis, H., "A critical review of canines used to detect accelerants within an arson crime scene." *Forensic Research & Criminology International Journal* 9 (2) (2021) 65-72. Available at: https://medcraveonline.com/FRCIJ/FRCIJ-09-00342.

2022

1. Bordbar, M.M., Tashkhourian, J., and Hemmateenejad, B., "Paper-based optical nose made with bimetallic nanoparticles for monitoring ignitable liquids in gasoline." *ACS Applied Materials & Interfaces* 2022. Available at: https://pubs.acs.org/doi/10.1021/acsami.1c24194.

2. Torres, M.N., and Almirall, J.R., "Evaluation of capillary microextraction of volatiles (CMB) coupled to a person-portable gas chromatograph mass spectrometer (GC-MS) for the analysis of gasoline residues, *Forensic Chemistry,* 2022. Available at: https://www.sciencedirect.com/science/article/abs/pii/S246817092100093X.

3. Vecchiolla, D., "Fire investigation and the first-arriving company." *Fire Engineering,* 2022. Available at: https://www.fireengineering.com/fire-prevention-protection/fire-investigation-and-the-first-arriving-company/.

4. Woods. R., "Tracking the wildfire arsonist bloodhounds on the trail in West Virginia." *Fire & Arson Investigator,* 2022.

6 - Packaging and Containers

1978

1. DeHaan, J. D., "Arson Evidence Packaging," *Arson Analysis Newsletter*, Vol 2, No. 3, 1978, pp. 9-13.

1981

1. DeHaan, J. D., and Skalsky, F., "Evaluation of Kapak Plastic Pouches," *Arson Analysis Newsletter*, Vol 5, No. 1, 1981, pp. 6-11.

1983

1. Tontarski, R. E., "Evaluation of Polyethylene Containers Used to Collect Evidence for Accelerant Detection," *Journal of Forensic Sciences*, Vol 28, No. 2, 1983, pp. 440-445.

1988

1. Dietz, W. R., and Mann, D. C., "Contamination Problem within Polyester Bags," *Newsletter of the Midwestern Association of Forensic Scientists*, Vol 17, No. 3, 1988.

2. Dietz, W. R., and Mann, D.C., "Evidence Contaminated by Polyester Bags," *Scientific Sleuthing Review*, Vol 12, No. 3, 1988, pp. 5-6.

3. Potts, M., "Contaminant in KAPAK Bags," *TIELINE 88,* Vol 13, No. 1, 1988, pp. 17-27.

1990

1. Tsaroom, S., Elkayam, R., Natanyan, S., and Frenkel, M., "Evaporation of Gasoline and Kerosene from Polyethylene Containers," *Fire and Arson Investigator*, Vol 40, No. 3, 1990, pp. 21-23.

1991

1. Dietz, W., "Improved Charcoal Packaging for Accelerant Recovery by Passive Diffusion," *Journal of Forensic Sciences*, Vol 36, No. 1, 1991, pp. 111-121.

2. Kinard, W., and Midkiff, C., "Arson Evidence Container Evaluation; New Generation Kapak Bags," *Journal of Forensic Sciences*, Vol 36, No. 6, 1991, pp. 1714-1719.

1994

1. Demers-Kohls, J. F., Ouderkirk, S. L., Buckle, J. L., Norman, E. W., Cartwright, N. S., and Dagenais, C., "An Evaluation of Different Evidence bags Used for Sampling and Storage of Fire Debris," *Canadian Society of Forensic Science Journal*, Vol 27, No. 3, 1994, pp. 143-170.

2000

1. Mann, D. C., "In Search of the Perfect Container for Fire Debris Evidence," *Fire and Arson Investigator*, Vol 50, No. 3, 2000, pp. 21-25.

2001

Kocisko, M., "Absorption of Ignitable Liquids into Polyethylene/polyvinylidine Dichloride Bags," *Journal of Forensic Sciences*, Vol 46, No. 2, pp. 356–362.

2007

1. Williams, M. R., and Sigman, M., "Performance Testing of Commercial Containers for Collection and Storage of Fire Debris Evidence," *Journal of Forensic Sciences*, Vol 52, No. 3, 2007, pp. 579-585.

2008

1. Henry, C. L., "Study of Nylon Bags for Packaging Fire Debris," *CAC News*, Vol 4, 2008, pp. 30-32.

2012

1. Borusiewicz, R., "Comparison of New Ampac Bags and Fire Debris Pak Bags as Packaging for Fire Debris Analysis," *Journal of Forensic Sciences*, Vol 57, No. 4, 2012, pp. 1059-1063.

2. Grutters, M. M. P., Dogger, J., and Hendrikse, J. N., "Performance Testing of the New AMPAC Fire Debris Bag Against Three Other Commercial Fire Debris Bags," *Journal of Forensic Sciences*, Vol 57, No. 5, pp. 1290-1298.

2016

1. Borusiewicz, R., and Kowalski, R., "Volatile Organic Compounds in Polyethylene Bags: A Forensic Perspective," *Forensic Science International*, Vol 266, 2016, pp. 462-468. Available at http://www.sciencedirect.com/science/article/pii/S0379073816303140.

7 - Laboratory Sampling

1976

1. Yip, H., and Clair, E., "A Rapid Analysis of Accelerants in Fire Debris," *Canadian Society of Forensic Science Journal*, Vol 9, No. 2, pp. 75-80.

1977

1. Twibell, J., and Home, J., "Novel Method for Direct Analysis of Hydrocarbons in Crime Investigation and Air Pollution Studies," *Nature*, Vol 268, No. 1, 1977, pp. 711–713.

1979

1. Chrostowski, J., and Holmes, R., "Collection and Determination of Accelerant Vapours," *Arson Analysis Newsletter*, Vol 3, No. 5, Systems Engineering Associates, Columbus, OH, 1979.

1981

1. Russell, L. W., "The Concentration and Analysis of Volatile Hydrocarbons in Fire Debris using Tenax-GC," *Journal of Forensic Sciences*, Vol 21, 1981, pp. 317.

2. Twibell, J., Home, J., and Smalldon, K., "A Splitless Curie Point Pyrolysis Capillary inlet System for Use with the Adsorption Wire Technique of Vapour Analysis," *Chromatographia*, Vol 14, No. 6, 1981, pp. 366–370.

1982

1. Juhala, J. A., "A Method for Adsorption of Flammable Vapors by Direct Insertion of Activated Charcoal into the Debris Samples," *Arson Analysis Newsletter*, Vol 6, No. 2, 1982, pp. 32.

2. Lentini, J., and Waters, L.V., "Isolation of Accelerant-like Residues from Roof Shingles Using Headspace Concentration," *Arson Analysis Newsletter*, Vol 6, No. 3, 1982, pp. 48-55.

3. Twibell, J., Home, J., and Smalldon, K., "A Comparison of the Relative Sensitivities of the Adsorption Wire and Other Methods for the Detection of Accelerant Residues in Fire Debris," *Journal of the Forensic Science Society*, Vol 22, No. 2, 1982, pp. 155-159.

4. Saferstein, R., and Park, S. "Application of Dynamic Headspace Analysis to Laboratory and Field Arson Investigations," *Journal of Forensic Sciences*, Vol 27, No. 3, 1982, pp. 484-494.

1983

1. Andrasko, J., "The Collection and Detection of Accelerant Vapors using Porous Polymers and Curie Point Pyrolysis Wires Coated with Active Carbon," *Journal of Forensic Sciences*, Vol 28, No. 2, 1983, pp. 330-344.

1984

1. Higgins, K., Higg, M., Oakes, C., and Braverman, S., "High-Speed Extraction of Accelerants from Arson Debris." *Journal of Forensic Sciences*, Vol 29, No. 3, 1984, pp. 874-880.

2. Kurz, M. E., Jakacki, J., and McCaskey, B., "Effects of Container Size and Volatility on Relative Detectability of Accelerants by Purge and Trap vs Heated Headspace Method," *Arson Analysis Newsletter*, Vol 8, No. 1, 1984, pp. 1-14; *National Fire and Arson Report*, Vol 3, No. 1, 1984, pp. 8-10.

1985

1. Tontarski, R. E., "Using Absorbents to Collect Hydrocarbon Accelerants from Concrete," *Journal of Forensic Sciences*, Vol. 30, No.4, 1985, pp. 1230-1232.

1986

1. Aldridge, T. A., and Oates, M., "Fractionation of Accelerants and Arson Residues by Solid Phase Extraction," *Journal of Forensic Sciences*, Vol 31, No. 2, 1986, pp. 666-686.

2. Reeve, V., Jeffery, J., Weihs, D., and Jennings, W., "Developments in Arson Analysis: A Comparison of Charcoal Adsorption and Direct Headspace Injection Techniques Using Fused Silica Capillary Gas Chromatography," *Journal of Forensic Sciences*, Vol 31, No. 2, 1986, pp. 479-488.

1987

1. Kobus, H., Kirkbride, K., and Maehly, A., "An Adsorption Sampling Method Combined with Capillary Column Gas Chromatography and Cryogenic Focusing for Trace Analysis of Volatile Organic Compounds," *Journal of the Forensic Science Society*, Vol 27, No. 5, 1987, pp. 307-314.

1988

1. Stackhouse, C., and Gray, C., "Alternative Methods for Processing Arson Samples in Polyester Bags," *Journal of Forensic Sciences*, Vol 33, No. 2, pp. 515-526.

1989

1. Buckleton, J. S., Bettany, B. L. and Walsh, K. A. J., "A Problem of Hydrocarbon Profile Modification by Charcoal," *Journal of Forensic Sciences*, Vol. 34, No. 2, 1989, pp. 449-453.

1990

1. Bertsch, W., and Zhang, Q., "Sample Preparation for the Chemical Analysis of Debris in Suspect Arson Cases," *Analytica Chimica Acta*, Vol 236, 1990, pp. 183–195.

2. Bishop, R. W., and Valis, R. J., "A Laboratory Evaluation of Sorbent Tubes for Use with a Thermal Desorption Gas Chromatography-Mass Selective Detection Technique," *Journal of Chromatographic Science*, Vol 28, No. 11, 1990, pp. 589-593.

3. Hindshaw, J.V., "Headspace Sampling," *LC-GC*, Vol 8, No. 5, 1990, pp. 362-368.

4. Kostiainen, R., "Effect of Operating Parameters in Purge-and-Trap GC-MS of Polar and Non-Polar Organic Compounds," *Chromatographia*, Vol 38, No. 11-12, pp. 709-714.

5. Tranthim-Fryer, D., "The Application of a Simple and Inexpensive Modified Carbon Wire Adsorption/Solvent Extraction Technique to the Analysis of Accelerants and Volatile Organic Compounds in Arson Debris," *Journal of Forensic Sciences*, Vol 35, No. 2, 1990, pp. 271-280.

1991

1. Caddy, B., Smith, F. P., and Macy, J. "Methods of Fire Debris Preparation for Determination of Accelerants," *Forensic Science Review*, Vol 3, No. 1, 1991, pp. 57–69.

2. Dietz, W. R., "Improved Charcoal Packaging for Accelerant Recovery by Passive Diffusion," *Journal of Forensic Sciences*, Vol 36, No. 1, 1991, pp.111-121.

3. Ettre, L. S., and Kolb, B., "Headspace-Gas Chromatography: The Influence of Sample Volume on Analytical Results," *Chromatographia*, Vol 32, No. 1-2, 1991, pp. 5-12.

4. Smith, C. B. and Macy, J., "Methods of Fire Debris Preparation for Detection of Accelerants," *Forensic Science Review*, Vol. 3, No. 1, June 1991, pp. 58-69.

1992

1. Noedel, M. L., and Mann, D. C., "Variations on Charcoal Strip Exposure for Adsorption/Elution Recovery of Flammable Liquids," Presented: 44th Meeting AAFS New Orleans, LA, February 17-22, 1992, Abstract # B28.

2. Tindall, R., and Dietz, W. R., "The Effects of Time, Temperature, Strip Size and Concentration in the Use of Activated Charcoal Strips in Fire Debris Analysis" Presented: 44th Annual Meeting AAFS, New Orleans, LA, February 17-22, 1992, Abstract # B86.

3. Tindall, R., and Dietz, W.R., "Physical and Chemical Factors Influencing the Recovery of Accelerants from Activated Charcoal Strips," Presented: 44th Annual Meeting AAFS, New Orleans, LA, February 17-22, 1992, Abstract # B87.

1993

1. Waters, L.V., Palmer, L. A., "Multiple Analysis of Fire Debris Samples Using Passive Headspace Concentration," *Journal of Forensic Sciences*, Vol. 38, No. 1, 1993, pp. 165-183.

1994

1. Demers-Kohls, J. F., Ouderkirk, S. L., Buckle, J. L., Norman, W. E., Cartwright, N. S., and Dagenais, C., "Evaluation of the DFLEX Device for Fire Debris Analysis," *Canadian Society of Forensic Science Journal*, Vol 27, No. 3, 1994, pp. 99-123.

2. Fultz, M. L., "The Effect of Sample Preparation on the Identification of Class 4 and Class 5 Petroleum Products," Presented: 46th Annual Meeting AAFS San Antonio, TX, February 14-19, 1994, Abstract # B84.

3. Kärkkäinen, M., Seppälä, I., and Himberg, K., "Detection of Trace Levels of Gasoline in Arson Cases by Gas Chromatography-Mass Spectrometry with an Automatic On-Line Thermal Desorber," *Journal of Forensic Sciences*, Vol 39, No. 1, 1994, pp. 186-193.

4. McCaffrey, C. A., and MacLachlan, J. "Adsorbent Tube Evaluation for the Preconcentration of Volatile Organic Compounds in Air for Analysis by Gas Chromatography-Mass Spectrometry," *Analyst*, Vol 119, No. 5, 1994, pp. 897-902.

5. Phelps, J. L., Chasteen, C. E., and Render, M. M., "Extraction and Analysis of Low Molecular Weight Alcohols and Acetone from Fire Debris Using Passive Headspace Concentration," *Journal of Forensic Sciences*, Vol. 39, No. 1, 1994, pp. 194-206.

6. Sandercock, P. M. L., "Comparison of Passive Charcoal Adsorption with a Dynamic Charcoal Adsorption Technique," *Canadian Society of Forensic Science Journal*, Vol. 27, No. 3, 1994, pp. 179-201.

7. Tindall, R. and Dietz, W. R. "Effects of Elution Techniques on the Desorption of Activated Charcoal Strips in Fire Debris Analysis," Presented: 46th Annual Meeting AAFS San Antonio, TX, February 14-19, 1994, Abstract # B38.

1995

1. Frontela, L., Pozas, J. A., and Picabea, L. "A Comparison of Extraction and Adsorption Methods for the Recovery of Accelerants from Arson Debris," *Forensic Science International*, Vol 75, No. 1, 1995, pp. 11-23.

2. Furton, K., Bruna, J., and Almirall, J., "A Simple, Inexpensive, Rapid, Sensitive and Solventless Technique for the Analysis of Accelerants in Fire Debris Based on SPME," *Journal of Separation Science*, Vol 18, No. 10, 1995, pp. 625-629.

1996

1. Almirall, J., Bruna, J., and Furton, K., "The Recovery of Accelerants in Aqueous Samples from Fire Debris using Solid-Phase Microextraction (SPME)," *Science & Justice*, Vol 36, No. 4, 1996, pp. 283-287.

2. Askari, M. D. F., Maskarinec, M. P., Smith, S. M., Beam, P. M., and Travis, C. C., "Effectiveness of Purge – and – Trap for Measurement of Volatile Organic Compounds in Aged Soils," *Analytical Chemistry*, Vol 68, No. 19, 1996, pp. 3431-3433.

3. Furton, K., Almirall, J., and Bruna, J., "A Novel Method for the Analysis of Gasoline from Fire Debris using Headspace Solid-Phase Microextraction," *Journal of Forensic Sciences*, Vol 41, No. 1, 1996, pp. 12-22.

4. Newman, R. T., Dietz, W. R., and Lothridge, K., "The Use of Activated Charcoal Strips for Fire Debris Extractions by Passive Diffusion. Part 1: The Effects of Time, Temperature, Strip Size, and Sample Concentration" *Journal of Forensic Sciences*, Vol 41, No. 3, 1996, pp. 361-370.

5. Steffen, A., and Pawliszyn, J., "Determination of Liquid Accelerants in Arson Suspected Fire Debris using Headspace Solid-Phase Microextraction," *Analytical Communications*, Vol 33, No. 4, 1996, pp. 129-131.

1997

1. Lentini, J. J., Armstrong, A. T. "Comparison of the Eluting Efficiency of Carbon Disulfide with Diethyl Ether: The Case for Laboratory Safety," *Journal of Forensic Sciences*, Vol. 42, No. 2, 1997, pp. 307-311.

2. Sandercock, P. M. L. "Retention of Gasoline and Diesel Fuel Samples on Charcoal: Evaluation of Long Term Preservation of Petroleum Residues," *Canadian Society of Forensic Science Journal,* Vol. 30, No. 4, 1997, pp. 219-224.

3. Wang, J., Almirall, J. R., and Furton, K.G., "Variables Influencing the Recovery of the Ignitable Liquid Residues from Simulated Fire Debris Samples Using Solid-Phase Microextraction," Presented: 214th ACS National Meeting Los Vegas, NV, September 7-11, 1997, ANAL #28.

1999

1. Bertsch, W., and Ren, Q. "Contemporary Sample Preparation Methods for the Detection of Ignitable Liquids in Suspect Arson Cases", *Forensic Science Review*, Vol 11, No. 2, 1999, pp. 141-156.

2. Ren, Q., and Bertsch, W., "A Comprehensive Sample Preparation Scheme for Accelerants in Suspect Arson Cases," *Journal of Forensic Sciences,* Vol 44, No. 3, 1999, pp. 504-515.

2000

1. Almirall, J., Wang, J., Lothridge, K., and Furton, K. "The Detection and Analysis of Ignitable Liquid Residues Extracted from Human Skin using SPME/GC," *Journal of Forensic Sciences*, Vol 45, No. 2, 2000, pp. 453-461.

2. Furton, K. G., Almirall, J. R., Wang, M., Bi, J., and Wu, L. "Application of Solid-Phase Microextraction to the Recovery of Explosives and Ignitable Liquid Residues from Forensic Specimens," *Journal of Chromatography A*, Vol 885, 2000, pp. 419-432.

2001

1. Newman, R., and Dolan, J., "Solvent Options for the Desorption of Activated Charcoal in Fire Debris Analysis," Proceedings of the American Academy of Forensic Sciences, February 2001, Seattle, WA, AAFS 2001, pp. 63.

2002

1. Almirall, J. R., and Furton, K. G. "New Developments in Sampling and Sample Preparation for Forensic Analysis," Chapter 27, Pawliszyn, J., Ed., *Comprehensive Analytical Chemistry*, Vol 37, Elsevier Science, 2002.

2. Massey, D., Du Pasquier, E., and Lennard, C., "Solvent Desorption of Charcoal Strips (DFLEX) in the Analysis of Fire Debris Samples: Replacement of Carbon Disulfide," *Canadian Society of Forensic Science Journal*, Vol 35, No. 4, 2002, pp. 195-207.

3. Snow, N. H., and Slack, G.C., "Head-Space Analysis in Modern Gas Chromatography." *TrAC, Trends in Analytical Chemistry*, Vol 21, 2002, pp. 608–617.

2003

1. Harris, A. C. and Wheeler, J. F., "GC-MS of Ignitable Liquids using Solvent-Desorbed SPME for Automated Analysis," *Journal of Forensic Sciences*, Vol 48, No. 1, 2003, pp. 41–46.

2. Kwon, M., Hong, S., and Choi, H., "Sampling of Highly Volatile Accelerants at the Fire Scene," *Canadian Society of Forensic Science Journal*, Vol 36, No. 4, 2003, pp. 197–205.

3. Lloyd, J. A., Edmiston, P. L., "Preferential Extraction of Hydrocarbons from Fire Debris Samples by Solid Phase Microextraction," *Journal of Forensic Sciences*, Vol 48, No. 1, 2003, pp. 130–134.

2005

1. Williams, M. R., Fernandes, D., Bridge, C., Dorrien, D., Elliott, S., and Sigman, M., "Adsorption Saturation and Chromatographic Distortion Effects on Passive Headspace Sampling with Activated Charcoal in Fire Debris Analysis," *Journal of Forensic Sciences*, Vol 50, No. 2, 2005, pp. 1-10.

2006

1. Mann, D. C., and Putaansuu, N. D., "Alternative Sampling Methods to Collect Ignitable Liquid Residues from Non-Porous Areas such as Concrete," *Fire and Arson Investigator*, Vol 57, 2006, pp. 43–46.

2. Pert, A. D., Baron, M. G., and Birkett, J. W., "Review of Analytical Techniques for Arson Residues," *Journal of Forensic Sciences*, Vol 51, No. 5, 2006, pp. 1033-1049.

2007

1. Borusiewicz, R., and Janina Zieba-Palus, J., "Comparison of the Effectiveness of Tenax TA® and Carbotrap 300® in Concentration of Flammable Liquids Compounds," *Journal of Forensic Sciences*, Vol 52, No. 1, 2007, pp. 70–74.

2008

1. Kuk, R. J., and Spagnola, M. V., "Extraction of Alternative Fuels from Fire Debris Samples," *Journal of Forensic Sciences*, Vol. 53, No. 5, 2008, pp. 1123-1129.

2. Stauffer, E., Dolan, J., and Newman, R., *Fire Debris Analysis*, Elsevier, Inc., Burlington, MA, 2008, pp. 377-437.

3. Yoshida, H., Kaneko, T., and Suzuki, S. "A Solid Phase Microextraction Method for the Detection of Ignitable Liquids," *Journal of Forensic Sciences*, Vol 53, No. 3, 2008, pp. 668-676.

2010

1. Baechler, S., Comment, S., and Delémont, O., "Extraction and Concentration of Vapors from Fire Debris for Forensic Purposes: Evaluation of the use of Radiello Passive Air Sampler," *Talanta*, Vol 82, 2010, pp. 1247–1253**.**

2. Montani, I., Comment, S., and Delemont, O. "The Sampling of Ignitable Liquids on Suspects Hands," *Forensic Science International*, Vol 194, 2010, pp. 115–124.

3. Olesen, B., "An Economical Method for Static Headspace Enrichment for Arson Analysis," *Journal of Chemical Education*, Vol 87, No. 3, 2010, pp. 314-315. Available at http://pubs.acs.org/doi/abs/10.1021/ed800078b.

4. Sanagi, M. M., Basri, R. S., Miskam, M., Ibrahim, W., Kalthom, U., Hassan, A., and Aboul-Enein, Y., "Headspace Single Drop Microextraction for the Analysis of Fire Accelerants in Fire Debris Samples," *Analytical Letters*, Vol 43, 2010, pp. 2257–2266.

5. Ueta, I., Saito, Y., Teraoka, K., Matsuura, H., Fujimura, K., and Jinno, K. "Novel Fire Investigation Technique Using Needle Extraction in Gas Chromatography," *Analytical Sciences*, Vol 26, No. 11, 2010, pp. 1127-1132. Available at https://www.ncbi.nlm.nih.gov/pubmed/21079340.

2014

1. Cacho, C. L., Campillo, N., Aliste, M., Vinas, P., and Hernandez-Cordoba, M., "Headspace Sorptive Extraction for the Detection of Combustion Accelerants in Fire Debris," *Forensic Science International*, Vol 238, 2014, pp. 26-32.

2. Rodgers, C. L., St. Pierre, K. A., and Hall, A. B., "Recovery of Oxygenated Ignitable Liquids by Zeolites, Part II: Dual-Mode Heated Passive Headspace Extraction," *Forensic Science International*, Vol 240, 2014, pp. 144-150.

3. Smale, T., Arthur, I., and Royds, D., "A Comparison of Techniques for Extracting Ignitable Liquid Residue from Concrete," *Australian Journal of Forensic Sciences*, Vol 46, No. 2, 2014, pp. 216-223. Available at http://www.tandfonline.com/doi/full/10.1080/00450618.2013.818708.

4. St. Pierre, K. A., Desiderio, V. J., and Hall, A. B. "Recovery of Oxygenated Ignitable Liquids by Zeolites, Part I: Novel Extraction Methodology in Fire Debris Analysis," *Forensic Science International*, Vol 240, 2014, pp. 137-143. Available at http://www.sciencedirect.com/science/article/pii/S0379073814000784.

2016

1. Sandercock, P. M. L., "Passive Headspace Extraction of Ignitable Liquids using Activated Carbon Cloth," *Canadian Society of Forensic Science Journal*, Vol 49, No. 4, 2016, pp. 176-188. Available at http://www.tandfonline.com/doi/abs/10.1080/00085030.2016.1189226.

2020

1. Baerncopf, K., and Hutches, K., "Evaluation of long-term preservation of ignitable liquids adsorbed onto charcoal strips: 0 to 2 years." *Forensic Chemistry,* Vol. 18, Article 110590, 2020.

2. Totten, V., and Willis, J., "The use of hydrophobic pads to recover ignitable liquids from water." *Forensic Science International,* Vol. 312, Article 110309, 2020.

2021

1. Jess, A.L., Land, D.P., Hengel, M., and Lasater, B., "Qualitatively analyzing QuEChERS' ability to extract ignitable liquid residues (ILRs) from cotton-based fire debris." *Fire & Arson Investigators,* Vol. 72, No. 2, 2021, pp. 14-19.

2. Yadav, V.K., Das, T., Harshee, A., Yadav, M.M., Nigam, K., and Srivastava, A., "A forensic approach to evaluate the effect of different matrices and extraction solvents for the identification of diesel residue in simulated arson by GC-MS." *Chromatographia,* Vol. 84, No. 5, 2021, pp. 413-423.

2022

1. Bueno Carmona, L.H.P., Campos, E.G., Caleffo, V.L., Bigao, P., Pereira, A,L.C., Duate Maia, F., Silva Telles, L., and De Martinis, B.S., "Activated charcoal pellets as an innovate method for forensic analysis of ignitable liquid residues from fire debris by GC-MS." *Brazillian Journal of Analytical Chemistry,* Vol. 9, No, 34, 2022, pp. 198-209.

8 - Laboratory Analysis

1960

1. Lucas, D.M., "The Identification of Petroleum Products in Forensic Science by Gas Chromatography," *Journal of Forensic Sciences*, Vol 5, No. 2, 1960, pp. 336-347.

1968

1. Ettling B., and Adams, M., "The Study of Accelerant Residues in Fire Remains," *Journal of Forensic Sciences*, Vol 13, No. 1, 1968, pp. 76–89.

1970

1. Leung, K., and Yip, H., "Rapid Identification of Light Petroleum Products by Gas Chromatography," *Canadian Society of Forensic Science Journal*, Vol 3, No. 2, 1970, pp. 41-51.

1977

1. Hrynchuk, R., Cameron, R., and Rodgers, P., "Vacuum Distillation for the Recovery of Fire Accelerants from Charred Debris," *Canadian Society of Forensic Science Journal*, Vol 10, No. 2, 1977, pp. 41–50.

2. Mach, M., "Gas Chromatography-Mass Spectrometry of Simulated Arson Residue Using Gasoline as an Accelerant," *Journal of Forensic Sciences*, Vol 22, No. 2, 1977, pp. 348-357.

3. Wilson D., "A Unified Scheme for the Analysis of Light Petroleum Products used as Fire Accelerants," *Forensic Science*, Vol 10, No. 3, 1977, pp. 243-252.

1976

1. Yip, I. H. L., and Clair, E. G., "A Rapid Analysis of Accelerants in Fire Debris," Canadian Society of Forensic Science Journal, Vol 9, No. 2, 1976, pp. 75-80.

1978

1. Armstrong, A., and Wittkower, R., "Identification of Accelerants in Fire Residues by Capillary Column Gas Chromatography," *Journal of Forensic Sciences*, Vol 23, No. 4, 1978, pp. 662-671.

1981

1. Bryce, K. L., Stone, I. C., and Daugherty, K.E., "Analysis of Fire Debris by Nuclear Magnetic Resonance Spectroscopy," *Journal of Forensic Sciences*, Vol 26, No**.** 4, 1981, pp. 678 - 685.

1984

1. Frenkel, M., Tsaroom, S., Aizenshtat, Z., Kraus, S., and Daphna, D. "Enhanced Sensitivity in Analysis of Arson Residues: An Adsorption-Tubes/Gas Chromatograph Method," *Journal of Forensic Sciences*, Vol 29, No. 3, 1984, pp. 723-731.

2. Kelly, R. L., and Martz. R. M., "Accelerant Identification in Fire Debris by Gas Chromatography/Mass Spectrometry Techniques." *Journal of Forensic Sciences*, Vol 29, No. 3, 1984, pp. 714-722.

1986

1. Brettell, T., Moore, P., and Grob, R. "Detection of Arson Accelerants using Dual Wide-Bore Bonded-Phase Capillary Columns and Static Headspace Sampling," *Journal of Chromatography A*, Vol 358, No. 1, 1986, pp. 423-428.

2. Jones, G. P., "Evaluation of a Fully Automated Thermal Desorption Device for the Headspace Screening of Fire Debris," *Canadian Society of Forensic Science Journal*, Vol 19, No. 2, 1986, pp. 141-148.

1987

1. Alexander, J., Mashak, G., Kapitan, N., and Siegel, J. A., "Fluorescence of Petroleum Products II: Three-Dimensional Fluorescence Plots of Gasoline," *Journal of Forensic Sciences*, Vol 32, No. 1, 1987, pp. 72-86.

2. Bhattacharya, A.; Sen Gupta, P. K. and Basu, A. "Recovery and Detection of Petroleum Products (Petrol, Kerosene and Diesel) in Fire as Well as 'Bride Burning' Cases: Maximum Limitation of Time Lapse "*Journal of the Indian Academy of Forensic Sciences*, Vol 26, No. 2, 1987, pp. 42-44 (publ. 1988).

3. Mann, D. C., "Comparison of Automotive Gasolines Using Capillary Gas Chromatography I: Comparison Methodology," *Journal of Forensic Sciences*, Vol. 32, No. 3, 1987, pp. 606-615.

4. Mann, D. C., "Comparison of Automotive Gasolines Using Capillary Gas Chromatography II: Limitations of Automotive Gasoline Comparisons in Casework," *Journal of Forensic Sciences*, Vol. 32, No. 3, 1987, pp. 616-628.

1988

1. Kimura, K., Nagata, T., Hara, K., Kageura, K. "Gasoline and Kerosene Components in Blood—a Forensic Analysis," *Human Toxicology*, Vol 7, 1988, pp. 299–305.

1990

1. Morinaga, M., Hara, K., Kageura, M., Takamoto, M., and Kashimura, S. "A Simple, Rapid and Simultaneous Analysis of Complex Volatile Hydrocarbon Mixtures in Blood using Gas Chromatography/Mass Spectrometry with a Wide-Bore Capillary column," Zeitschrift *fuer Rechtsmedizin*, Vol 103, 1990, pp. 567–572.

2. Smith, R. M., "Gas Chromatography-Mass Spectrometry in Arson Analysis," *Analytical Methods in Forensic Chemistry*, Ellis Wood, New York, 1990.

3. Wineman, P. L. and Fultz, M. L. "A GC/MS Procedure for Detecting-Petroleum Derived Accelerants in High Background Fire Debris Isolates" Presented: IAFS Meeting Adelaide, Australia, October 22-29, 1990, Abstract $ FE53.

1991

1. Keto, R. O., and Wineman, P. L. "Detection of Petroleum-Based Accelerants in Fire Debris by Target Compound Gas Chromatography/Mass Spectrometry," *Analytical Chemistry*, Vol 63, 1991, pp. 1964–1971.

1992

1. Fultz, M. L., and DeHaan, J. D. "Gas Chromatography in Arson and Explosives Analysis," Chapter 5, *Gas Chromatography in Forensic Science*, Tebbett, I., Ed., Ellis Horwood Ltd., Chichester, UK, 1992, pp. 109-117.

2. Schmierbach, D., and Smith, C. G. "Isolation and Identification of Isoparaffins in Arson Debris," Presented: 44th Meeting AAFS New Orleans, LA, February 17-22, 1992, Abstract # B23.

3. Vella, A. “Arson Investigation using the Ion Trap Detector,” *Journal of Forensic Science Society*, Vol 32, No. 2, 1992, pp. 131-142.

1993

1. Waters, L., and Palmer, L. “Multiple Analysis of Fire Debris Samples using Passive Head Space Concentration,” *Journal of Forensic Sciences*, Vol 38, No. 1, 1993, pp. 165-183.

1994

1. Jayatilaka, A., and Poole, C. F. “Identification of Petroleum Distillates from Fire Debris using Multidimensional Gas Chromatography,” *Chromatographia*, Vol 39, No. 3/4, 1994, pp. 200-209.

2. Karkkainen, M., Seppala, I., and Himberg, K., “Detection of Trace Levels of Gasoline in Arson Cases by Gas Chromatography-Mass Spectrometry with an Automatic On-Line Thermal Desorber,” *Journal of Forensic Sciences*, Vol 39, No. 1, 1994, pp. 186-193.

3. Keto, R. O., and Wineman, P. L., “Target-Compound Method for the Analysis of Accelerant Residues in Fire Debris,” *Analytica Chimica Acta*, Vol 288, 1994, pp. 97–110.

4. Sheff, L. M., and Siegel, J.A., "Fluorescence of Petroleum Products V: Three-Dimensional Fluorescence Spectroscopy and Capillary Gas Chromatography of Neat and Evaporated Gasoline Samples," *Journal of Forensic Sciences*, Vol 38, No. 5, 1994, pp. 1201-1214.

1995

1. Dhole, V. R., and Ghosal, G. K., “Detection and Characterisation of Petroleum Based Accelerants in Fire Debris by HPLC,” *Journal of Liquid Chromatography*, Vol 18, No. 9, 1995, pp. 1767–1786.

2. Keto, R. O., “GC/MS Data Interpretation for Petroleum Distillate Identification in Contaminated Arson Debris,” *Journal of Forensic Sciences*, Vol 40, No. 3, 1995, pp. 412-423.

3. Rochaix, V. T., Champod, C., and Lennard, C., “The Detection and Identification of Denatured Alcohol in Fire Debris Samples,” *Advances in Forensic Sciences*, Vol 3, Jacob & Bonte, Berlin, 1995, pp. 191-195.

4. Wang, Z., and Fingas, M., "Differentiation of the Source of Spilled Oil and Monitoring of the Oil Weathering Process Using Gas Chromatography-Mass Spectrometry" *Journal of Chromatography A*, Vol 712, No. 2, 1995, pp. 321-343.

1997

1. Jackowski, J. “The Incidence of Ignitable Liquid Residues in Fire Debris as Determined by a Sensitive and Comprehensive Analytical Scheme,” *Journal of Forensic Sciences*, Vol 42, No. 5, 1997, pp. 828–832.

1998

1. Deelchand, J. P., “Planar Chromatographic Separation of Petroleum Residues and Coal-Derived Liquids,” *Journal of Chromatography A*, Vol 830, No. 2, 1998, pp. 397-414.

2. Mathiesen, M. D., and Lubeck, A. J., "Improving Accuracy in the Determination of Aromatics in Gasoline by Gas Chromatography - Mass Spectrometry," *Journal of Chromatographic Science*, Vol 36, No. 9, 1998, pp. 449-456.

2000

1. Almirall, J. R., Wang, J., Lothridge, K., and Furton, K. G., "The Detection and Analysis of Ignitable Liquid Residues Extracted from Human Skin using SPME/GC," *Journal of Forensic Sciences*, Vol 45, No. 2, 2000, pp. 453–461.

2. Furton, K. G., Almirall, J. R., Bi, M., Wang, J., and Wu, L., "Application of Solid-Phase Micro Extraction to the Recovery of Explosives and Ignitable Liquid Residues from Forensic Specimens," *Journal of Chromatography A*, Vol 885, 2000, pp. 419-432.

3. Tan, B., Hardy, J. K., and Snavely, R. E., "Accelerant classification by gas chromatography/mass spectrometry and multivariate pattern recognition." *Anal. Chim. ACTA.* 2000, 422, pp 37-46.

4. Touron, P., Malaquin, P., Gardebas, D., and Nicolai, J., "Semi-Automatic Analysis of Fire Debris," *Forensic Science International*, Vol 110, No. 1, 2000, pp. 7-18.

2002

1. DeVos, B. J., Froneman, M., Rohwer, E., and Sutherland, D. A. "Detection of Petrol (Gasoline) in Fire Debris by Gas Chromatography/Mass Spectrometry/Mass Spectrometry (GC/MS/MS)." *Journal of Forensic Sciences*, Vol 47, No. 4, 2002, pp. 1-21.

2. Frysinger, G. S., and Gaines, R. B. "Forensic Analysis of Ignitable Liquids in Fire Debris by Comprehensive Two-Dimensional Gas Chromatography," *Journal of Forensic Sciences*, Vol 47, No. 3, 2002, 47, 471–482.

3. Rella, R., Sturato, A., Parvoli, G., Ferrara, D., and Doretti, L., "Accelerant Identification in Fire Debris by TCT-GC-MS," *LC-GC Europe*, Vol 15, No. 9, 2002, pp. 603-609.

2003

1. Dolan, J., "Recent Advances in the Application of Forensic Science to Fire Debris Analysis," *Analytical and Bioanalytical Chemistry*, Vol 376, 2003, pp. 1168-1171.

2. Sutherland, D. A., Perr, J., and Almirall, J. "Identification of Ignitable Liquid Residues in Fire Debris by GC/MS/MS," Chapter 5, *Advances in Forensic Applications of Mass Spectrometry*, 3rd ed., Yinon, Y., Ed., CRC Press, Boca Raton, USA, 2003.

2004

1. Barnes, A. T., Dolan, J. A., Kuk, R. J., and Siegel, J. A., "Comparison of Gasolines using Gas Chromatography-Mass Spectrometry and Target Ion Response," Journal of Forensic Sciences, Vol 49, No. 5, 2004, pp. 1-6.

2. Borusiewicz, R., Zadora, G., and Zieba-Palus, J. "Application of Headspace Analysis with Passive Adsorption for Forensic Purposes in the Automated Thermal Desorption-Gas Chromatography-Mass Spectrometry System," *Chromatographia,* Vol 60, Supp., 2004, pp. S133 - S142.

3. Dolan, J., "Analytical Methods for the Detection and Characterization of Ignitable Liquid Residues from Fire Debris," *Analysis and Interpretation of Fire Scene Evidence*, Almirall, J. R., Furton, K. G., Eds., CRC Press, Boca Raton, FL, 2004.

2005

1. DeVos, B. J., "Gas Chromatography Coupled with Ion Trap Mass Spectrometry for Arson Fire Debris Analysis," *Chemistry*, University of Pretoria, Pretoria, 2005, p. 21.

2006

1. Pert, A. D., Baron, M. G., and Birkett, J. W. "Review of Analytical Techniques for Arson Residues," *Journal of Forensic Sciences*, Vol 51, No. 5, 2006, pp. 1033–1049.

2. Varsney, K. M., and Sudhakar, P., "Simultaneous Detection of Petroleum Products and Their Residues in Arson by Single Programming Gas Chromatography," *Forensic Chemistry*, Vol 9, 2006, pp. 1-5.

2007

1. Rostad, C., and Hostettler, F., "Profiling Refined Hydrocarbon Fuels using Polar Components," *Journal of Forensic Sciences*, Vol 8, No. 1-2, 2007, pp. 129-137.

2. Whyte, C., Wyche, K. P., Kholia, M., Ellis, A. M., and Monks, P. S., "Fast Fingerprinting of Arson Accelerants by Proton Transfer Reaction Time-of-Flight Mass Spectrometry," *International Journal of Mass Spectrometry*, Vol 263, 2007, pp. 222–232.

2008

1. Dolan, J., "Forensic Analysis of Fire Debris," *Handbook of Analytical Separations*, Vol 6, No. 26, 2008, pp. 873-922.

2. Barua, R., Chi, L-H., Fitzpatrick, R., Gillard, D., and Kostyniak, P. J., "Determination of Volatile Organic Compounds in Biological Samples Using Headspace Solid-Phase Microextraction and Gas Chromatography: Toluene and Styrene," *Journal of Analytical Toxicology*, Vol 32, 2008, pp. 379-386.

3. Huppa, A. M., Marshall, L. J., Campbell, D. I., Waddell Smith, R., and McGuffin, V. L., "Chemometric Analysis of Diesel Fuel for Forensic and Environmental Applications," *Analytica Chimica Acta*, Vol 606, 2008, pp. 159–171.

2009

1. Locke, A., Basara, G., and Sandercock, P., "Evaluation of Internal Standards for the Analysis of Ignitable Liquids in Fire Debris," *Journal of Forensic Sciences*, Vol 54, No. 2, 2009, pp. 320–327.

2. Lu, Y., Chen, P., and Harrington, P. "Comparison of Differential Mobility Spectrometry and Mass Spectrometry for Gas Chromatographic Detection of Ignitable Liquids from Fire Debris using Projected Difference Resolution," *Analytical and Bioanalytical Chemistry*, Vol 394, No. 8, 2009, pp. 2061-2067.

2010

1. Aernecke, M. J., and Walt, D. R., "Detection and Classification of Ignitable Liquid Residues Using a Fluorescence-Based Vapor-Sensitive Microsphere Array," *Journal of Forensic Sciences*, Vol 55, No. 1, 2010, pp. 178-184.

2. Baerncopf, J. M., McGuffin, V. L., and Waddell Smith, R. "Effect of Gas Chromatography Temperature Program on the Association and Discrimination of Diesel Samples," *Journal of Forensic Sciences*, Vol. 55, No. 1, 2010, pp. 185-193.

3. Curran, A., Prada, P., and Furton, K., "The Differentiation of the Volatile Organic Signatures of Individuals through SPME-GC/MS of Characteristic Human Scent Compounds," *Journal of Forensic Sciences*, Vol 55, No. 1, 2010, pp. 50-57.

2011

1. Choodum, A., and Nic Daeid, N., "Development and Validation of an Analytical Method for Hydrocarbon Residues using Gas Chromatography-Mass Spectrometry," *Analytical Methods*, Vol 3, 2011, pp. 1136-1142. Available at www.rsc.org/methods.

2. Choodum, A., and Nic Daeid, N., "Evaluating the Performance of Three GC Columns Commonly Used for the Analysis of Ignitable Liquid Mixtures Encountered in Fire Debris," *Analytical Methods*, Vol 3, 2011, pp. 1525-1534. Available at www.rsc.org/methods.

3. González-Rodríguez, J., Sissons, N., and Robinson, S., "Fire Debris Analysis by Raman Spectroscopy and Chemometrics," *Journal of Analytical and Applied Pyrolysis*, Vol 91, 2011, pp. 210–218.

4. Muller, D., Levy, A., and Shelef, R., "Detection of Gasoline on Arson Suspects' Hands," *Forensic Science International*, Vol 206, 2011, pp. 150–154.

5. Monfreda, M., and Gregori, A., "Differentiation of Unevaporated Gasoline Samples According to Their Brands, by SPME–GC–MS and Multivariate Statistical Analysis," Journal of Forensic Sciences, Vol 56, No. 2**,** 2011, pp. 372-380.

2012

1. Green, M. K., "Liquid Chromatography-Tandem Mass Spectrometry of Fire Debris Evidence at Suspected Clandestine Methamphetamine Laboratories [dissertation]." Ada, OH: Ohio Northern University, 2012.

2. Hutches, K., and Lord, J., "A New Kind of Molotov? Gasoline–Pool Chlorinator Mixtures," Journal of Forensic Sciences, Vol. 57, No. 4, 2012, pp. 1064-1069.

3. Kabir, A., and Furton, K. G., "Applications of Gas Chromatography in Forensic Science," Chapter 5, *Gas Chromatography*, Poole, C. F., Ed, Elsevier Inc., 2012.

4. Kosei, Y., Ako, S., Toru, O, Sohtaro, M., Yuki, O., and Yoko, N., "Quantitative Evaluation of Volatile Hydrocarbons in Post-Mortem Blood in Forensic Autopsy Cases of Fire-Related Deaths," *Forensic Science International*, Vol 217, 2012, pp. 71-75.

5. Salgueiroa, P. A. S., Borges, C. M. F., Bettencourt da Silva, R. J. N., "Valid Internal Standard Technique for Arson Detection based on Gas Chromatography–Mass Spectrometry," *Journal of Chromatography A*, Vol 1257, 2012, pp. 189–194.

6. Taylor, C.M., Rosenhan, A. K., Raines, J. M., and Rodriquez, J. M., "An Arson Investigation by using Comprehensive Two-Dimensional Gas Chromatography-Quadrupole Mass Spectrometry," *Journal of Forensic Research*, Vol 3, No. 9, 2012, pp. 1-8.

7. Yonemitsu, K., Sasao, A., Oshima, T., Mimasaka, S., Ohtsu, Y., and Nishitani, Y., "Quantitative Evaluation of Volatile Hydrocarbons in Post-Mortem Blood in Forensic Autopsy Cases of Fire-Related Deaths," *Forensic Science International*, Vol 217, 2012, pp. 71–75.

2013

1. Mealy, C. L., Wolfe, A. J., and Gottuk, D. T., "Forensic Analysis of Ignitable Liquid Fuel Fires in Buildings," NIJ, 2013. Available at https://www.ncjrs.gov/pdffiles1/nij/grants/241441.pdf.

2. Nic Daeid, N., and Stauffer, E., "Chemistry/Trace/Fire Investigation," *Encyclopedia of Forensic Sciences*, Elsevier, 2013, pp. 177-182.

3. Pahor, K., Olson, G., and Forbes, S. L., "Post-Mortem Detection of Gasoline Residues in Lung Tissue and Heart Blood of Fire Victims," *International Journal of Legal Medicine,* 127:923-930, 2013

4. Schwartz, Z., An, Y., Konstantynova, K. I., and Jackson, G. P., "Analysis of Household Ignitable Liquids and their Post-Combustion Weathered Residues using Compound-Specific Gas Chromatography-Combustion-Isotope Ratio Mass Spectrometry," *Forensic Science International*, Vol 233, No. 1-3, 2013, pp. 365-373. Available at http://www.sciencedirect.com/science/article/pii/S0379073813004556.

5. Sturaro, A., Vianello, A., Denti, P., and Rella, R., "Fire Debris Analysis and Scene Reconstruction," *Science and Justice*, Vol 53, No. 2, 2013, pp. 201-205.

2014

1. Chan, W. P. "Evaluation of Commercial Products as Possible Sources of Oxygenates in Fire Debris Samples [dissertation]." Boston, MA: Boston University, 2014.

2. Ferreiro-González, M., Ayuso, M., Alvarez, J.A., Palma, M., and Barroso, C.G., "New headspace-mass spectrometry method for the discrimination of commercial gasoline samples with different research octane numbers." *Energy Fuels*, 2014; 28:6249-6254.

3. Fettig, I., Krüger, S., Deubel, J. H., Werrel, M., Raspe, T., and Piechotta, C., "Evaluation of a Headspace Solid-Phase Microextraction Method for the Analysis of Ignitable Liquids in Fire Debris," *Journal of Forensic Sciences*, Vol 59, No. 3, 2014, pp. 743-749. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.12342/full.

4. Li, Y., Wang, L., Yan, J., Liang, D., and Shen, H., "Persistence Study on Gasoline Compound in Soil Matrix and its Application in Fire Investigation," *Procedia Engineering*, Vol 71, 2014, pp. 605-610. Available at http://www.sciencedirect.com/science/article/pii/S1877705814005049.

5. Muller, D., Levy, A., and Shelef, R., "A New Method for the Detection of Ignitable Liquid Residues on Arsonist Suspects Hands," *Fire Technology*, Vol 50, No. 2, 2014, pp. 393-402. Available at https://link.springer.com/article/10.1007/s10694-012-0275-8.

6. Nichols, J. E., Harries, M. E., Lovestead, T. M., and Bruno, T. J., "Analysis of Arson Fire Debris by Low Temperature Dynamic Headspace Adsorption Porous Layer Open Tubular Columns," *Journal of Chromatography A*, Vol 1334, 2014, pp. 126-138. Available at http://www.sciencedirect.com/science/article/pii/S0021967314001940.

2015

1. Davis, A. "Acquiring Chemical Attribute Signatures for Gasoline: Differentiation of Gasoline Utilizing Direct Analysis in Real Time - Mass Spectrometry and Chemometric Analysis [dissertation]." Boston, MA: Boston University, 2015.

2. Ferreiro-González, M., Ayuso, J., Álvarez, J. A., Palma, M., and Barroso, C. G., "Application of an HS–MS for the Detection of Ignitable Liquids from Fire Debris," *Talanta*, Vol 142, 2015, pp, 150-156. Available at http://www.sciencedirect.com/science/article/pii/S0039914015002684.

3. Ferreiro-González, M., Ayuso, J., Álvarez, J. A., Palma, M., and Barroso, C. G., "Gasoline Analysis by Headspace Mass Spectrometry and Near Infrared Spectroscopy," *Fuel*, Vol 153, 2015, pp. 402-407. Available at http://www.sciencedirect.com/science/article/pii/S0016236115003154.

4. Martin-Alberca, C., García-Ruiz, C., and Delémont, O., "Study of Acidified Ignitable Liquid Residues in Fire Debris by Solid-Phase Microextraction with Gas Chromatography and Mass Spectrometry," *Journal of Separation Science*, Vol 38, No. 18, 2015, pp. 3218-3227. Available at http://onlinelibrary.wiley.com/doi/10.1002/jssc.201500337/full.

5. Martín-Alberca, C., García-Ruiz, C., and Delémont, O., "Study of Chemical Modifications in Acidified Ignitable Liquids Analysed by GC–MS," *Science & Justice*, Vol 55, No. 6, 2015, pp. 446-455. Available at http://www.sciencedirect.com/science/article/pii/S1355030615000891.

6. Martin-Alberca, C., López-López, M., and García-Ruiz, C., "Analysis of Pre-Ignited Improvised Incendiary Devices using Portable Raman," *Talanta*, Vol 144, 2015, pp. 612-618. Available at http://www.sciencedirect.com/science/article/pii/S0039914015301156.

2016

1. Aqel, A., Dhabbah, A. M., Yusuf, K., Al-Harbi, N. M., Al Othman, Z. A., and Badjah-Hadj-Ahmed, A. Y. "Determination of Gasoline and Diesel Residues on Wool, Silk, Polyester and Cotton Materials by SPME–GC–MS," *Journal of Analytical Chemistry*, Vol 71, No. 7, 2016, pp. 730-736. Available at https://link.springer.com/article/10.1134/S1061934816070029.

2. Cheenmatchaya, A., and Kungwankunakorn, S., "The Detection of Residual Gasoline for Forensic Soil Investigation in Arson," *Australian Journal of Forensic Sciences*, 2016, pp. 1-12. http://www.tandfonline.com/doi/full/10.1080/00450618.2016.1225817

3. Ferreiro-González, M., Barbero, G. F., Palma, M., Ayuso J., Álvarez, J. A., and Barroso, C. G., "Determination of Ignitable Liquids in Fire Debris: Direct Analysis by Electronic Nose," *Sensors*, Vol 16, No. 5, 2016, pp. 695. Available at http://www.mdpi.com/1424-8220/16/5/695/htm.

4. Martin-Alberca, C., Ortega-Ojeda, F. E., and García-Ruiz, C., "Analytical Tools for the Analysis of Fire Debris, A review: 2008–2015," *Analytica Chimica Acta*, Vol 928, 2016, pp. 1-19. Available at http://www.sciencedirect.com/science/article/pii/S0003267016305499.

5. Martín-Alberca, C., Ortega-Ojeda, F. E., and García-Ruiz, C., "Study of Spectral Modifications in Acidified Ignitable Liquids by Attenuated Total Reflection Fourier Transform Infrared Spectroscopy," *Applied Spectroscopy*, Vol 70, No. 3, 2016, pp. 520–530. Available at http://journals.sagepub.com/doi/abs/10.1177/0003702815626681.

6. McKinney, P. "Using Solid Phase Microextraction and Gas Chromatography/Mass Spectrometry when Analyzing Fire Debris for Pseudoephedrine, a Precursor Drug in Clandestine Methamphetamine Production [dissertation]." Boston, MA: Boston University, 2016.

7. Nizio, K. D., Cochran, J. W., and Forbes, S. L., "Achieving a Near-Theoretical Maximum in Peak Capacity Gain for the Forensic Analysis of Ignitable Liquids Using GC×GC-TOFMS," *Separations*, Vol 3, No. 3, 2016, pp. 26. Available at http://www.mdpi.com/2297-8739/3/3/26/htm.

8. Sampat, A. A. S., Lopatka, M., Vivó-Truyols, G., Schoenmakers, P. J., and van Asten, A.C., "Towards Chemical Profiling of Ignitable Liquids with Comprehensive Two-Dimensional Gas Chromatography: Exploring Forensic Application to Neat White Spirits," *Forensic Science International*, Vol 267, 2016, pp. 183-195. Available at http://www.sciencedirect.com/science/article/pii/S037907381630336X.

9. Yang, Q., "GC-MS Analysis on the Trace Residue of Gasoline Combustion," *Procedia Engineering*, Vol 135, 2016, pp. 322-326. Available at http://www.sciencedirect.com/science/article/pii/S1877705816001417.

2017

1. Choi, S., and Yoh, J. J., "Fire Debris Analysis for Forensic Fire Investigation Using Laser Induced Breakdown Spectroscopy (LIBS)," *Spectrochimica Acta Part B: Atomic Spectroscopy*, Vol 134, 2017, pp. 75-80.

2. DeHaan J. D., Taormina E. I., and Brien D. J., "Detection and Characterization of Volatile Organic Compounds from Burned Human and Animal Remains in Fire Debris," *Science & Justice*, Vol 57, No. 2, 2017, pp. 118-127. Available at http://www.sciencedirect.com/science/article/pii/S1355030616301319.

3. Ferreiro-González, M, Barbero, G. F., Ayuso, J., Álvarez, J. A., Palma, M, and Barroso, C. G., "Validation of an HS-MS Method for Direct Determination and Classification of Ignitable Liquids," *Microchemical Journal*, Vol 132, 2017, pp. 358-364. Available at http://www.sciencedirect.com/science/article/pii/S0026265X16302296.

4. Green, M. K., Kuk, R. J., and Wagner, J. R., "Collection and Analysis of Fire Debris Evidence to Detect Methamphetamine, Pseudoephedrine, and Ignitable Liquids in Fire Scenes at Suspected Clandestine Laboratories," *Forensic Chemistry*, Vol 4, 2017, pp. 82-88. Available at http://www.sciencedirect.com/science/article/pii/S2468170917300103.

5. Kerr, T. J., Myers, L., and Duncan, K. L. "Raman Microspectroscopic Mapping: A Tool for Identification of Fused Materials in Fire Debris," *Journal of Forensic Sciences*, 2017. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.13417/full.

6. Liu, S., Wang, B., Wang, Y., "Identification of Diesel Residues by GC/MS/MS," 2nd International Conference on New Energy and Renewable Resources 2017.

7. Lopatka, M., Sampat, A. A., Jonkers, S., Adutwum, L. A., Mol, H. G. J., van der Weg, G., Harynuk, J. J., and Schoenmakers, P. J., "Local Ion Signatures (LIS) for the Examination of Comprehensive Two-Dimensional Gas Chromatography Applied to Fire Debris Analysis," *Forensic Chemistry*, Vol 3, 2017, pp. 1-13. Available at http://www.sciencedirect.com/science/article/pii/S2468170916300674.

8. Suzuki, Y., Ishizawa, F., and Honda, K., "Semiquantitative Screening of Trace Combustion-derived Volatile Substances in the Blood of Fire Victims Using NeedlEx® Headspace Gas Chromatography/Mass Spectrometry," *Forensic Science International,* 2017. Available at http://www.sciencedirect.com/science/article/pii/S0379073817302633.

2018

1. Barnett, I., and Zhang, M., "Discrimination of brands of gasoline by using DART-MS and chemometrics." *Forensic Chemistry* 2018; 10:58-66. Available at: https://www.sciencedirect.com/science/article/pii/S2468170918300420

2. Fabritius, M. M., Broillet, A., Konig, S., Weinmann, W., "Analysis of volatiles in fire debris by combination of activated charcoal strips (ACS) and automated thermal desorption – gas chromatography–mass spectrometry (ATD/GC–MS)." *Forensic Science International* 2018. Available at https://www.sciencedirect.com/science/article/pii/S0379073818303025.

2019

1. Aliano-Gonzalez, M. J., Ferreiro-Gonzalez, M., Barbero, G. F., and Palma, M., "Novel method based on ion mobility spectrometry sum spectrum for the characterization of ignitable liquids in fire debris." *Talanta,* 2019; 199:189-194.

2. Dhabbah, A. M., "Investigation of Kerosene used as Fire Accelerant Remaining on Different Kinds of Fabrics." *Arab Journal of Forensic Sciences & Forensic Medicine (AJFSFM)*. 2019;1(10):1386. https://journals.nauss.edu.sa/index.php/AJFSFM/article/view/1373/pdf

3. Frauenhofer, E., Cho, J., Yu, J., Al-Saigh, Z. Y., and Kim, J., "Adsorption of hydrocarbons commonly found in gasoline residues on household materials studied by inverse gas chromatography." *Journal of Chromatography A*. 2019. Available at: https://www.sciencedirect.com/science/article/pii/S0021967319301281

4. Leung, D., Forbes, S., and Maynard, P., "Volatile Organic Compound Analysis of Accelerant Detection Canine Distractor Odours." *Forensic Science International* Vol. 303, October 2019. https://doi.org/10.1016/j.forsciint.2019.109953

5. Matos, M. P. V., Jackson, G. P., "Isotope ratio mass spectrometry in forensic science applications." *Forensic Chemistry*, 2019; 13:100154. Available at: https://www.sciencedirect.com/science/article/pii/S2468170919300098

6. Roberson, Z.R., and Goodpaster, J.V. "Preparation and characterization of micro-bore wall-coated open-tubular capillaries with low phase ratios for fast-gas chromatography–mass spectrometry: Application to ignitable liquids and fire debris." *Science & Justice 2019.* https://www.sciencedirect.com/science/article/pii/S1355030618303368

7. Barnett, I., Bailey, F.C., and Zhang, M., " Detection and classification of ignitable liquid residues in the presence of matrix interferences by using direct analysis in real time mass spectrometry." *Journal of Forensic Science*, Vol. 64, No. 5, 2019, pp. 1486-1494.

2020

1. Torres, M.N., Valdes, N.B., and Almirall, J.R., "Comparison of portable and benchtop GC-MS coupled to capillary microextraction of volatiles (CMV) for the extraction and analysis of ignitable liquid residues." *Forensic Chemistry*, Vol. 19, 2020, Article 100240.

2. Kates, L.N., Richards, P.I., and Sandau, C.D., "The application of comprehencive two-dimensional gas chromatography to the analysis of wildfire debris for ignitable liquid residue." *Forensic Science International*, Vol. 310, 2020, Article 110256.

2021

1. Rael, A.S., Cruse, C.A., Rydberg, M., and Goodpaster, J.V., "A critical comparison of vacuum UV (VUV) spectrometer and electron ionization single quadrupole mass spectrometer detectors for the analysis of alkylbenzenes in gasoline by gas chromatography:experimental and statistical aspects." *Talanta*, Vol. 225, 2021, Article 122081.

2. Sisco, E., and Forbes, T.P., "Forensic application of DART-MS: a review of recent literature." *Forensic Chemistry*, Vol. 22, 2021, Article 100294

3. Patel, S.V., and Lurie, I.S., "The use of portable separation devices for forensic analysis: a review of recent literature." *Forensic Chemistry*, Vol. 26, 2021, Article 100365.

4. DiDomizio, M.J., Ibrahimli, V., and Weckman, E.J., "Testing of liquids with the cone calorimeter." *Fire Safety Journal*, Vol. 126, 2021, Article 103449.

9 - Background interferences and Weathering

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.

1977

1. Clodfelter, R. W., and Hueske, E. E., "A Comparison of Decomposition Products from Selected Burned Materials with Common Arson Accelerants," *Journal of Forensic Sciences*, Vol 22, No. 1, 1977, pp. 116-118.

1984

1. Howard, J., and McKague, A. B., "A Fire Investigation Involving Combustion of Carpet Material," *Journal of Forensic Sciences*, Vol 29, No. 3, 1984, pp. 919-922.

1987

1. Rapley, P., "Background Volatiles in Fire Debris," Presented: Joint Meeting; Royal Society of Chemistry, Association of Consulting Chemists and the Forensic Science Society, London, England, February 14, 1987. Abstract: *Journal of the Forensic Science Society*, Vol 27, No. 3, 1987, pp. 210.

1988

1. DeHaan, J. D. and Bonaris, K., "Pyrolysis Products of Structure Fires," *Journal of the Forensic Science Society*, Vol 28, No. 5/6, 1988, pp. 299-309.

1990

1. Faix, O., Meier, D., and Fortmann, I., "Thermal Degradation Products of Wood. Gas Chromatographic Separation and Mass Spectrometric Characterization of Monomeric Lignin Derived Products," *Holz als Roh- Und Werkstoff*, Vol 48, No. 7-8, 1990, pp. 281-285.

2. Faix, O., Meier, D., and Fortmann, I., "Thermal Degradation Products of Wood. A Collection of Electron-Impact (EI) Mass Spectra of Monomeric Lignin Derived Products," *Holz als Roh- und Werkstoff*, Vol 48, No. 9, 1990, pp. 351-354.

3. Shapi, M. M., "Thermal Decomposition of Polystyrene: Volatile Compounds from Large-Scale Pyrolysis," *Journal of Analytical and Applied Pyrolysis*, Vol 18, 1990, pp. 143-161.

4. Sliva, G., and Verrett, G., "The Analysis of Background Volatiles and Creation of a Library of Retention Indices," Presented: 37th Annual Meeting, Canadian Society of Forensic Science, Ottawa, Ontario, October 1-5, 1990. Abstract: *Canadian Society of Forensic Science Journal*, Vol 23, No. 4, 1990, pp. 133.

5. Small, J. L., and Milroy, S., "Possible 'Accelerants' Found in Household Products," Presented: 42nd Annual Meeting American Academy of Forensic Science, Cincinnati, OH, February 19-24, 1990. Abstract # B55.

1991

1. Trimpe, M. A., "Turpentine in Arson Analysis," *Journal of Forensic Sciences*, Vol 36, No. 4, 1991, pp. 1059-1073.

1992

1. Sturaro, A., Parvoli, G., and Doretti, L., "Artifacts Produced by Poropak Q Sorbent Tubes on Solvent Desorption," *Chromatographia*, Vol 33, No. 1/2, 1992, pp. 53-57.

1994

1. Bertsch, W., "Volatiles from Carpet: A Source of Frequent Misinterpretation in Arson Analysis," *Journal of Chromatography A*, 1994, Vol 674, No. 1-2, pp. 329-333.

1995

1. Voorhees, K. J., "Analysis of Soot Produced from the Combustion of Polymeric Materials," Chapter 26, *Fire and Polymers II*, American Chemical Society, 1995, pp. 393-406.

1997

1. Knappmeyer, K., and Yoshida, S., "Detection of Extinguishing Agents," *Tieline*, Vol 21, No. 1/2, 1997, pp. 21-28.

1998

1. Lentini, J. J., "Differentiation of Asphalt and Smoke Condensates from Liquid Petroleum Distillates using GC/MS," *Journal of Forensic Sciences*, Vol 43, No. 1, 1998, pp. 97-113.

2000

1. Coulson, S. A., Morgan-Smith, R. K., and Noble, D., "The effect of compressed air foam on the detection of hydrocarbon fuels in fire debris samples." *Sci. Justice,* 2000, 40, pp 257-260.

2. Lentini, J. J, Dolan, J. A., and Cherry, C., "The Petroleum-Laced Background," *Journal of Forensic Sciences*, Vol 45, No. 5, 2000, pp. 968-989.

2001

1. Lentini, J. J., "Persistence of Floor Coating Solvents," *Journal of Forensic Sciences*, Vol 46, No. 6, 2001, pp. 1470–1473.

2. Stauffer, E., "Identification and Characterization of Interfering Products in Fire Debris Analysis," MS thesis, Florida International University, Miami, FL, USA, 2001.

2002

1. Ballice, L., and Reimert, R., "Classification of Volatile Products from the Temperature-Programmed Pyrolysis of Polypropylene (PP), Atactic-Polypropylene (APP) and Thermogravimetrically Derived Kinetics of Pyrolysis," *Chemical Engineering and Processing,* Vol 41, 2000, pp. 289–296.

2. Cavanagh, K., Du Pasquier, E., and Lennard, C., "Background Interference from Car Carpets--The Evidential Value of Petrol Residues in Cases of Suspected Vehicle Arson," *Forensic Science International*, Vol 125, No. 1, 2002, pp. 22-36.

3. DeHaan, J. D., "Our Changing World. Part 1: Furnishings," *Fire and Arson Investigator*, Vol 52, No. 2, 2002, pp. 44-45.

4. DeHaan, J. D., "Our Changing World. Part 2: Ignitable Liquids: Petroleum Distillates, Petroleum Products and Other Stuff," *Fire and Arson Investigator*, Vol 52, No. 3, 2002, pp. 46–47.

5. DeHaan, J. D., "Our Changing World. Part 3: Detection Limits—Is More Sensitive Necessarily More Better? Part 4: A Matter of Time," *Fire and Arson Investigator*, Vol 52, No. 4, 2002, pp. 20–23.

6. Fernandes, M., Lau, C., and Wong, W., "The Effect of Volatile Residues in Burnt Household Items on the Detection of Fire Accelerants," *Science & Justice*, Vol 42, No. 1, 2002, pp. 7-15.

7. McGee, E., Lang, T.L., "A Study of the Effects of a Micelle Encapsulator Fire Suppression Agent on Dynamic Headspace Analysis of Fire Debris Samples," *Journal of Forensic Sciences*, Vol 47, No. 2, 2002, pp. 267–274.

2003

1. Stauffer, E., "Concept of Pyrolysis for Fire Debris Analysts," *Science & Justice*, Vol 43, No. 1, 2003, pp. 29-40.

2004

1. Almirall, J., and Furton, K., "Characterization of Background and Pyrolysis Products that May Interfere with the Forensic Analysis of Fire Debris," *Journal of Analytical and Applied Pyrolysis*, Vol 71, No. 1, 2004, pp. 51-67.

2. DeHaan, J., Brien, D., and Large, R., "Volatile Organic Compounds from the Combustion of Human and Animal issue," *Science & Justice*, Vol 44, No. 4, 2004, pp. 223-236.

2005

1. Cavanagh-Steer, K., Du Pasquier, E., Roux, C., and Lennard, C., "The Transfer and Persistence of Petrol on Car Carpets," *Forensic Science International*, Vol 147, 2005, pp. 71–79.

2. Hetzel, S. S., and Moss, R. D., "How Long after Waterproofing a Deck Can You Still Isolate an Ignitable Liquid?" *Journal of Forensic Sciences*, Vol 50, No. 2, 2005, pp. 369-76.

3. Wells, S., "The Identification of Isopar H in Vinyl Flooring," *Journal of Forensic Sciences,* Vol. 50, No. 4, 2005, pp. 865-872.

2008

1. Aziz, N., Greenwood, P. F., Kliti, Grice, Watling, R. J., and van Bronswijk, W., "Chemical Fingerprinting of Adhesive Tapes by GCMS Detection of Petroleum Hydrocarbon Products," *Journal of Forensic Sciences*, Vol. 53, No. 5, 2008, pp. 1130-1137.

2. Vass, A., Smith, R., Thompson, C., Burnett, M., Dulgerian, N., and Eckenrode, B., "Odor Analysis of Decomposing Buried Human Remains," *Journal of Forensic Sciences*, Vol 53, No. 2, 2008, pp. 384-391.

2009

1. Dekeirsschieter, J., Verheggen, F. J., Gohy, M., Hubrecht, F., Bourguignon, L., Lognay, G., and Haubruge, E., "Cadaveric Volatile Organic Compounds Released by Decaying Pig Carcasses *(Sus domesticus* L.) in Different Biotopes," *Forensic Science International*, Vol 189, No. 1-3, 2009, pp. 46-53.

2. Stolle, A., Ondruschka, B., and Hopf, H., "Thermal Rearrangements of Monoterpenes and Monoterpenoids," *Helvetica Chimica Acta*, Vol 92, No. 9, 2009, pp. 1673–1719.

2011

1. Cruz, N. L., "Assessing the Impact of Background Pyrolysis Products on Ignitable Liquid Comparisons [dissertation]," Fresno, CA: California State University, 2011.

2012

1. Kataoka, H., Ohashi, Y., Mamiya, T., Nami, K., Saito, K., Ohcho, K., and Takigawa, T., "Indoor Air Monitoring of Volatile Organic Compounds and Evaluation of Their Emission from Various Building Materials and Common Products by Gas Chromatography-Mass Spectrometry," Chapter 9, *Advanced Gas Chromatography - Progress in Agricultural, Biomedical and Industrial Applications*, Mohd, M. A., Ed., InTech Open Science, 2012.

2. Knowlton, B., E., "The Effects of Using Fire-Fighting Foams: GC-MS Pattern Analysis of Fire Debris." Ph.D. Thesis, West Virginia University, Morgantown, WV, USA. 2012

3. Ohkuwa, T., Funada, T., and Tsuda, T., "Acetone Response with Exercise Intensity," Chapter 8, *Advanced Gas Chromatography - Progress in Agricultural, Biomedical and Industrial Applications*, Mohd, M. A., Ed., InTech Open Science, 2012.

4. Prather, K. R., McGuffin, V. L., and Smith, R.W., "Effect of Evaporation and Matrix Interferences on the Association of Simulated Ignitable Liquid Residues to the Corresponding Liquid Standard,"

Forensic Science International, Vol 222, No. 1-3, 2012, pp. 242-251. Available at http://www.sciencedirect.com/science/article/pii/S0379073812002861.

5. Sandercock, P. M. L., "Preparation of Pyrolysis Reference Samples: Evaluation of a Standard Method Using a Tube Furnace." *Journal of Forensic Sciences*, Vol 57, No. 3, pp. 738-743.

2013

1. Contreras, P. A., Houck, S. S., Davis, W. M., and Yu, J. C. C., "Pyrolysis Products of Linear Alkylbenzenes— Implications in Fire Debris Analysis," *Journal of Forensic Sciences*, Vol 58, No. 1, 2013, pp. 210-216. Available at http://onlinelibrary.wiley.com/doi/10.1111/j.1556-4029.2012.02194.x/full.

2. Kerr, T. J., Duncan, K. L., and Myers, L., "Application of Vibrational Spectroscopy Techniques for Material Identification from Fire Debris," *Vibrational Spectroscopy*, Vol 68, 2013, pp. 225-235.

3. Kerr, T., Duncan, K., and Myers, L., "Post Fire Materials Identification by Micro-Raman Spectroscopy and Principal Components Analysis," *Journal of Analytical and Applied Pyrolysis*, Vol 102, 2013, pp. 103-113. Available at http://www.sciencedirect.com/science/article/pii/S015237013000594.

4. Li. Y., Liang, D., and Shen, H., "An Analysis of Background Interference on Fire Debris." *Procedia Engineering*, Vol 52, 2013, pp. 664-670. Available at http://www.sciencedirect.com/science/article/pii/S1877705813003226.

2014

1. Prather, K. R., Towner, S. E., McGuffin, V. L., and Waddell Smith, R., "Effect of Substrate Interferences from High-Density Polyethylene on Association of Simulated Ignitable Liquid Residues with the Corresponding Liquid," *Journal of Forensic Sciences*, Vol 59, No. 1, 2014, pp. 52-60. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.12305/full.

2015

1. Borusiewicz, R., "Substrate Interferences in Identifying Flammable Liquids in Food, Environmental and Biological Samples: Case Studies," *Science & Justice*, Vol 55, No. 3, 2015, pp. 176-180. Available at http://www.sciencedirect.com/science/article/pii/S135503061400166X.

2. Brehe, R. "Overcoming Challenges in Fire Debris Analysis Caused by Evaporation [dissertation]," East Lansing, MI, Michigan State University, 2015.

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*, Vol 47, No. 1, 2015, pp. 83-94. Available at http://www.tandfonline.com/doi/abs/10.1080/00450618.2014.897370.

4. Krüger, S., Deubel, J. H., Werrel, M., Fettig, I., and Raspe, T., "Experimental Studies on the Effect of Fire Accelerants during Living Room Fires and Detection of Ignitable Liquids in Fire Debris," *Fire and Materials*, Vol 39, No. 7, 2015, pp. 636-646. Available at http://onlinelibrary.wiley.com/doi/10.1002/fam.2263/full.

2016

1. Winters, K., and Evans, M., "The Effects of Burning and Mold Growth on the Chemical Composition of Firelog Fuels," *Journal of Forensic Sciences*, Vol 61, No. 4, 2016, pp. 1085-1092. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.13080/full.

2. Zong, R., Liu, X., Li, F., and Ye, J., "Influence of Fire Accelerant on the Thermal Degradation and Ignition of Wood Chip," *Australian Journal of Forensic Sciences*, Vol 48, No. 5, 2016, pp. 538-548. Available at http://www.tandfonline.com/doi/full/10.1080/00450618.2015.1076035.

2017

1. Birks H. L, Cochran A. R, Williams T. J, and Jackson G. P., "The Surprising Effect of Temperature on the Weathering of Gasoline," *Forensic Chemistry*, Vol 4, 2017, pp. 32-40. Available at http://www.sciencedirect.com/science/article/pii/S2468170917300024.

2. Grafit, A., Avissar, Y. Y., Kimchi, S., and Muller, D., "A Preliminary Investigation into Background Interferences in Identifying Flammable Residues from Gloves," *Journal of Forensic Identification*, Vol 67, No. 1, 2017, pp. 45-59.

3. Martín-Alberca, C., Carrascosa, H., San Román, I., Bartolomé, L., García-Ruiz, C. "Acid alteration of several ignitable liquids of potential use in arsons." *Science & Justice*, 2017. Available at http://www.sciencedirect.com/science/article/pii/S1355030617301132

4. Turner, D. A., Williams, M., Sigman, M. A., and Goodpaster, J. V., "A Comprehensive Study of the Alteration of Ignitable Liquids by Weathering and Microbial Degradation," *Journal of Forensic Sciences*, May 2017. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.13527/full.

2018

1. Aliaño-González, M. J., Ferreiro-González, M., Barbero, G. F., Ayuso, J., Palma, M., and Barroso, C. G., "Study of the Weathering Process of Gasoline by eNose." *Sensors Open Access Journal* 2018; 18(1):139. http://www.mdpi.com/1424-8220/18/1/139/htm

2019

1. Ji, B., Liu, S., and Wang, Y., "Effect of Combustion Residues of Typical Rubber Products on GC-MS Identification of Gasoline." IOP Conf. Series: Materials Science and Engineering 2019; 585:012047. https://iopscience.iop.org/article/10.1088/1757-899X/585/1/012047/pdf

2. Leung, D., Forbes, S., and Maynard, P., "Volatile Organic Compound Analysis of Accelerant Detection Canine Distractor Odours." *Forensic Science International* Vol. 303, October 2019. https://doi.org/10.1016/j.forsciint.2019.109953

3. Guerrera, G., Chen, E., Powers, R., and Kammrath, B.W., "The potential interference of body products and substrates to the identification of ignitable liquid residues on worn clothing." *Forensic Chemistry*, Vol. 12, 2019, pp. 46-57.

4. Zhang, Y., Zhu, X., Zhao, C., Peng, B., Yang, S., and Xie, L., "Study of diesel residues from fire debris in a bus arson experiment." [Conference presentation] *9th International Conference on Fire Science and Fire Protection Engineering*, October 18-20, 2019, Chengdu, China.

5. Eklund, N.K., "Further investigation of a kinetic model to accurately predict evaporation of gasoline." Publication No. 13897508, Master's Thesis, Michigan State University, ProQuest Dissertations & Theses Global, 2019.

2020

1. Hutches, K., Stevens N, Milleville, L., "Inherent Ignitable Liquids in New/Lightly Used Shoes." *Forensic Chemistry*. Volume 18, May 2020, 100211. https://doi.org/10.1016/j.forc.2019.100211

2. Willis, I. C., Fan, Z., Davidson, J. T., and Jackson, G. P., "Weathering of ignitable liquids at elevated temperatures: a thermodynamic model, based on laws of ideal solutions, to predict weathering in structure fires." *Forensic Chemistry*. 2020 Jan 13:100215. https://doi.org/10.1016/j.forc.2020.100215

3. Swierczynski, M.J., Grau, K., Schmitz, M., and Kim, J., "Detection of gasoline residues present in household materials via headspace-solid phase microextraction and gas chromatography-mass spectrometry." *Journal of Analytical Chemistry*, Vol. 75, No, 1, 2020, pp 44-55.

4. Dhabbah, A.M., "Detection of petrol residues in natural and synthetic textiles before and after burning using SPME and GC-MS." *Australian Journal of Forensic Science*, Vol. 53, No. 2, 2020, pp. 194-207.

5. Jin, J., Chi, J., Xue, T., Liu, L., Li, Y., Deng, L., and Zhang, J., "Influence of thermal environment in fire on the identification of gasoline combustion residues." *Forensic Science International*, Vol. 315, 2020, Article 110430.

6. Eklund, N.K., Capistran, B.A., McGuffin, V.L., and Smith, R.W., "Improvements in a kinetic-based model to predict evaporation of gasoline." *Forensic Chemistry*, Vol. 17, 2020, Article 100194.

7. Capistran, B.A., "Kinetically modelling total ion chromatograms and extracted ion profiles to identify ignitable liquids for fire debris applications." Publication No. 28031746, Master's thesis, Michigan State University, ProQuest Dissertations & Theses Global, 2020.

8. Deng, J., Lu, H., Li, Y., Wang, W., Xiao, Y., Bai, L., and Shu, C., "Mathematical method for polymerized styrene butadiene rubber 1502 pyrolysis residue and gasoline differentiation." *Journal of Thermal Analytical Calorimetry*, Vol. 142, No. 2, 2020, pp. 685-694.

9. Wensel, C., "The effects of household substrates on the evaporation of ignitable liquids at temperatures up to 210°C." Master's thesis, West Virginia University, Research repository at West Virginia University, 2020.

2021

1. Boegelsack, N., Hayes, K., Sandau, C., Withey, J.M., McMartin, D.W., and O'Sullivan, G., "Development of retention time indices for comprehensive multidimensional gas chromatography and application to ignitable liquid residue mapping in wildfire investigations." *Journal of Chromatography*, Vol. A 1635, 2021, Article 461717.

2. Capistran, B.A., McGuffin, V.I., and Smith, R.W., "Applications of a kinetic model to predict extracted ion profiles for the identification of evaporated ignitable liquids." *Forensic Chemistry*, Vol. 24, 2021, Article 100340.

3. Burkhart, A.L., "Measuring evaporation rate constants of highly volatile compounds and investigating the effect of interface on a kinetic model applied to forensic fire debris." Publication No. 28549232, Doctoral dissertation, Michigan State University, ProQuest Dissertations & Thesis Global, 2021.

4. McGuffin, V.I., and Smith, R.W., "A unified kinetic and thermodynamic model of evaporation for forensic applications." *Forensic Chemistry*, Vol. 23, 2021, Article 100304.

5. Burkhart, A.L., Smith, R.W., and McGuffin, V.L., "Measuring evaporation rate constants of highly volatile compounds for use in predictive kinetic models." *Analytica Chimica Acta*, Vol. 1182, 2021, Article 338932.

6. Huang, and Y., Yu, J.C.C., "Development of crime scene intelligence using a hand-held Raman spectrometer and transfer learning." *Analytical Chemistry*, Vol. 93, No. 25, 2021, pp. 8889-8896.

2022

1. Nims, M.K., Melville, A.M., Moran, J.J., Jarman, K.H., and Wright, B.W., "Compound specific stable isotope analysis of aromatics in diesel fuel to identify potential cocktailing." Forensic Science International, Vol. 334, 2022, Article 111244.

10 - Sources of Contamination

1997

1. Kanppmeyer, K., and Yoshida, S., "Detection of Extinguishing Agents," TIELINE, Vol 21, No. 1-2, 1997, pp. 21-28.

1999

1. Lang, T. L., "A Study of Contamination in Fire Debris Containers," *Canadian Society of Forensic Science Journal*, Vol 32, No. 2&3, 1999, pp. 75-83.

2000

1. Coulson, S., Morgan-Smith, R., and Noble, D., "The Effect of Compressed Air Foam on the Detection of Hydrocarbon Fuels in Fire Debris Samples," *Science & Justice*, Vol 40, No. 4, 2000, pp. 257-260.

2. Lang, T. L., and Dixon, B. M., "The Possible Contamination of Fire Scenes by the Use of Positive Pressure Ventilation Fans," *Canadian Society of Forensic Science Journal*, Vol 33, No.2, 2000, pp. 55-60.

2002

1. Koussiafes, M. P., "Evaluation of Fire Scene Contamination by Using Positive-Pressure Ventilation Fans," Forensic Science Communications, Vol 4, No. 4, 2002. Available at http://www.fbi.gov/hq/lab/fsc/backissu/oct2002/koussiafes.htm.

2004

1. Armstrong, A., Babrauskas, V., Holmes, D. L., Martin, C., Powell, R., Riggs, S., and Young, L. D. "The Evaluation of the Extent of Transporting or "Tracking" an Identifiable Ignitable Liquid (Gasoline) Throughout Fire Scenes during the Investigative Process," *Journal of Forensic Sciences*, Vol 49, 2004, pp. 741–748; *Journal of the Canadian Association of Fire Investigators*, 2004/2005, pp. 6–12.

2016

1. Belchior, F., Andrews, S. P. "Evaluation of Cross-contamination of Nylon Bags with Heavy-loaded Gasoline Fire Debris and with Automotive Paint Thinner," *Journal of Forensic Sciences*, Vol 61, No. 6, 2016, pp. 1622-1631. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.13185/full.

2018

1. Falatova, B., Ferreiro-Gonzalez, M., Martin-Alberca, C., Kacikova, D., Galla, S., Palma, M., and Barroso, G. "Effects of Fire Suppression Agents and Weathering in the Analysis of Fire Debris by HS-MS eNose." *Sensors* 2018; 18 (6):1933. Available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6021975/

2019

1. Shinde, A. D., "Analysis of Fireground Contamination of Firefighting Turnouts using Headspace Sampling-Gas Chromatography-Mass Spectrometry (HS-GC-MS)." 2019. [*Thesis*] https://repository.lib.ncsu.edu/bitstream/handle/1840.20/37222/etd.pdf?sequence=1

2020

1. Baerncopf, J., "Prevalence of ignitable liquids in clothing with printing." *Forensic Science International*, Vol. 312, 2020, Article 110312.

2. Whitney, R.K., "Effective laundering conditions for ignitable liquid decontamination of fire scene clothing used by the Bureau of Alcohol, Tobacco, Firearms and Explosives." Master's thesis, Virginia commonwealth University, VCU Scholars Compass, 2020.

2021

1. Letendre, H., Seguin, K., Grenier, A., Mousseau, B., Cadola, L., and Crispino, F., "First lessons regarding the data analysis of physicochemical traces at activity level in TTADB." Journal of the Canadian Society of Forensic Science, Vol. 54, No. 3, 2021, pp. 139-156.

11 - Microbial Degradation

1981

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

1990

1. Mann, D. C. and Gresham, W. R., "Microbial Degradation of Gasoline in Soil," *Journal of Forensic Sciences*, Vol 35, No. 4, 1990, pp. 913-923.

1992

1. Kirkbride, K. P., Yap, S. M., Andrews, S., Pigou, P. E., Klass, G., Dinan, A. C., and Peddie, F. L., "Microbial Degradation of Petroleum Hydrocarbons: Implications for Arson Residue Analysis," *Journal of Forensic Sciences*, Vol 37, No. 6, 1992, pp. 1585-1599.

1995

1. Huesemann, M. H., "Field Desorption Mass Spectroscopy Monitoring of Changes in Hydrocarbon Type Composition During Petroleum Biodegradation," *Monitoring and Verification of Bioremediation, [Papers from the International In Situ and On-Site Bioreclamation Symposium]*, 3rd 11-18, Hinchee, R. E., Douglas, G.S., and Ong, S.K. – Eds., Battelle Press, Columbus, OH, 1995.

1997

1. Hewitt, A. D. "Biodegradation of Volatile Organic Compounds in Soil Samples," *American Environmental Laboratory*, Vol 9, No. 7, 1997, pp. 1.

2000

1. Da Cunha, C. D., and Leite, S. G. F., "Gasoline Biodegradation in Different Soil Microcosms," *Brazilian Journal of Microbiology*, Vol 31, No. 1, 2000, pp. 45-49.

2001

1. Chalmers, J., Yan, S. X., Cassista, A., Hrynchuk, R., and Sandercock, P. M. L., "Degradation of Gasoline, Barbecue Starter Fluid and Diesel Fuel by Microbial Action in Soil," *Canadian Society of Forensic Science Journal*, Vol 34, No. 2, 2001, pp. 49-62.

2009

1. Korpi, A., Järnberg, J., and Pasanen, A. L., "Microbial Volatile Organic Compounds," *Critical Reviews in Toxicology*, Vol 39, No. 2, 2009; pp. 139-193.

2. Turner, D., and Goodpaster, J., "The Effects of Microbial Degradation on Ignitable Liquids," *Analytical and Bioanalytical Chemistry*, Vol 394, No. 1, 2009, pp. 363-371.

2011

1. Turner, D., Goodpaster, J., "The Effect of Microbial Degradation on the Chromatographic Profiles of Tiki Torch Fuel, Lamp Oil and Turpentine," *Journal of Forensic Sciences*, Vol. 56, No. 4, 2011, pp. 984-987.

2012

1. Turner, D., and Goodpaster, J., "Comparing the Effects of Weathering and Microbial Degradation on Gasoline Using Principal Components Analysis," *Journal of Forensic Sciences*, Vol. 57, No. 1, 2012, pp. 64-69.

2013

1. Hutches, K., "Microbial Degradation of Ignitable Liquids on Building Materials," *Forensic Science International*, Vol 232, No. 1-3, 2013, pp. e38-e41.

2. Kindell, J. H., "Quantitative Assessment of the Effects of Microbial Degradation of a Simple Hydrocarbon Mixture [dissertation]." Orlando, FL: University of Central Florida, 2015.

3. Turner, D. A., and Goodpaster, J. V., "The Effects of Season and Soil Type on Microbial Degradation of Gasoline Residues from Incendiary Devices," *Analytical and Bioanalytical Chemistry*, Vol 405, No. 5, 2013, pp. 1593-1599.

4. Tverdovsky, A., "Microbial Biodegradation of Various Classes of Ignitable Liquids in Forensic Soil Samples [dissertation]," Boston, MA: Boston University, 2013.

2014

1. Burdulis, A., "A Statistical Evaluation of Six Classes of Hydrocarbons: Which Classes are Promising for Future Biodegraded Ignitable Liquid Research?" [Dissertation], Boston, MA: Boston University, 2014.

2. Turner, D. A., and Goodpaster, J. V., "Preserving Ignitable Liquid Residues on Soil using Triclosan as an Anti-Microbial Agent," *Forensic Science International*, Vol 239, 2014, pp. 86-91. Available at http://www.sciencedirect.com/science/article/pii/S0379073814001133.

3. Turner, D. A., Pichtel, J., Rodenas, Y., McKillip, J., and Goodpaster, J. V. K., "Microbial Degradation of Gasoline in Soil," *Journal of Bioremediation and Biodegradation*, Vol 5, 2014, pp. 216.

2015

1. Turner, D. A., Pichtel, J., Rodenas, Y., McKillip, J., and Goodpaster, J. V., "Microbial Degradation of Gasoline in Soil: Effect of Season of Sampling," *Forensic Science International*, Vol 251, 2015, pp. 69-67. Available at http://www.sciencedirect.com/science/article/pii/S0379073815001176.

2017

1. Kindell, J. H., Williams. M.R., Sigman, M.E. "Biodegradation of Representative Ignitable Liquid Components on Soil." *Forensic Chemistry* 2017. Available at http://www.sciencedirect.com/science/article/pii/S2468170917300802

2. Turner, D. A., Williams, M., Sigman, M. A., and Goodpaster, J. V., "A Comprehensive Study of the Alteration of Ignitable Liquids by Weathering and Microbial Degradation," *Journal of Forensic Sciences*, 2017. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.13527/full.

2018

1. Hutches, K., Hoult, J. "Practical Methods for Mitigating Microbial Degradation of Ignitable Liquids in Soil Samples." Forensic Chemistry 2018; 8:95-103. Available at: https://www.sciencedirect.com/science/article/pii/S2468170918300031

12 - Comparison of Ignitable Liquids

1975

1. Cain, P., “Comparison of Kerosenes using Capillary Column Gas Liquid Chromatography,” *Journal of the Forensic Science Society*, Vol 15, No. 4, 1975, pp. 301-308.

2. Midkiff Jr., C. R., "Brand Identification and Comparison of Petroleum Products - A Complex Problem," *Fire and Arson Investigator*, Vol 26, No. 2, 1975, pp. 18-21.

1980

1. Frank, H., “Lead Alkyl Components as Discriminating Factors in the Comparison of Gasolines,” *Journal of the Forensic Science Society*, Vol 20, No. 4, 1980, pp. 285-292.

1987

1. Mann, D., “Comparison of Automotive Gasolines using Capillary Gas Chromatography I: Comparison Methodology,” *Journal of Forensic Sciences*, Vol 32, No. 3, 1987, pp. 606-615.

2. Mann, D., “Comparison of Automotive Gasolines using Capillary Gas Chromatography II: Limitations of Automotive Gasoline Comparisons in Casework,” *Journal of Forensic Sciences*, Vol 32, No. 3, 1987, pp. 616-628.

1989

1. Hirz, R., “Gasoline Brand Identification and Individualization of Gasoline Lots,” *Journal of the Forensic Science Society*, Vol 29, No. 2, 1989, pp. 91-101.

1991

1. Hirz, R., “Simulation of the Weathering of Gasolines using Gas Chromatographic Retention Data,” *Journal of the Forensic Science Society*, Vol 31, No. 3, 1991, pp. 309-319.

2. Hirz, R., and Rizzi, A., “Simulation of Concentration Changes in Complex Volatile Mixtures during Evaporation by using Gas Chromatography,” *Chromatographia*, Vol 31, No. 5/6, 1991, pp. 224-232.

2002

1. Smallwood, B., Philp, R. P., and Allen, J., “Stable Carbon Isotopic Composition of Gasolines Determined by Isotope Ratio Monitoring Gas Chromatography Mass Spectrometry,” *Organic Geochemistry*, Vol 33, No. 2, 2002, pp. 149-159.

2003

1. Sandercock, P. M. L., and Du Pasquier, E., “Chemical Fingerprinting of Unevaporated Automotive Gasoline Samples,” *Forensic Science International*, Vol 134, No. 1, 2003, pp. 1-10.

2004

1. Barnes, A., Dolan, J., Kuk, R., and Siegel, J., “Comparison of Gasolines using Gas Chromatography-Mass Spectrometry and Target Ion Response,” *Journal of Forensic Sciences*, Vol 49, No. 5, 2004, pp. 29-34.

2. Sandercock, P. M. L., and Du Pasquier, E., "Chemical Fingerprinting of Gasoline: Part 2. Comparison of Unevaporated and Evaporated Automotive Gasoline Samples," *Forensic Science International*, Vol 140, No. 1, 2004, pp. 43-59.

3. Sandercock, P. M. L., and Du Pasquier, E., "Chemical Fingerprinting of Gasoline: Part 3. Comparison of Unevaporated Automotive Gasoline Samples from Australia and New Zealand," *Forensic Science International*, Vol 140, No. 1, 2004, pp. 71-77.

2006

1. Sigman, M., and Williams, M., "Covariance Mapping in the Analysis of Ignitable Liquids by Gas Chromatography/Mass Spectrometry," *Analytical Chemistry*, Vol 78, No. 5, 2006, pp. 1713-1718.

2007

1. Bodle, E., and Hardy, J., "Multivariate Pattern Recognition of Petroleum-Based Accelerants by Solid-Phase Microextraction Gas Chromatography with Flame Ionization Detection," *Analytica Chimica Acta*, Vol 589, No. 2, 2007, pp. 247-254.

2. Reardon, M., Allen, L., Bender, E., and Boyle, K., "Comparison of Motor Oils using High-Temperature Gas Chromatography-Mass Spectrometry," *Journal of Forensic Sciences*, Vol 52, No. 3, 2007, pp. 656-663.

3. Rostad, C., and Hostettler, F., "Profiling Refined Hydrocarbon Fuels using Polar Components," *Environmental Forensics*, Vol 8, No. 1-2, 2007, pp. 129-137.

4. Sigman, M., Williams, M., and Ivy, R., "Individualization of Gasoline Samples by Covariance Mapping and Gas Chromatography/Mass Spectrometry," *Analytical Chemistry*, Vol 79, No. 9, 2007, pp. 3462-3468.

2008

1. Hupp, A., Marshall, L., Campbell, D., Smith, R., and McGuffin, V., "Chemometric Analysis of Diesel Fuel for Forensic and Environmental Applications," *Analytica Chimica Acta*, Vol 606, No. 2, 2008, pp. 159-171.

2. O'Sullivan, G., and Kalin, R., "Investigation of the Range of Carbon and Hydrogen Isotopes within a Global Set of Gasolines," *Environmental Forensics*, Vol 9, No. 2-3, 2008, pp. 166-176.

3. Petraco, N., Gil, M., Pizzola, P., and Kubic, T., "Statistical Discrimination of Liquid Gasoline Samples from Casework," *Journal of Forensic Sciences*, Vol 53, No. 5, 2008, pp. 1092-1101.

2009

1. Marshall, L., McIlroy, J., McGuffin, V., and Smith, R., "Association and Discrimination of Diesel Fuels using Chemometric Procedures," *Analytical and Bioanalytical Chemistry*, Vol 394, No. 8, 2009, pp. 2049-2059.

2010

1. Mat Desa, W., Nic Daéid, N., Ismail, D., and Savage, K., "Application of Unsupervised Chemometric Analysis and Self-Organizing Feature Map (SOFM) for the Classification of Lighter Fuels," *Analytical Chemistry*, Vol 82, No. 15, 2010, pp. 6395-6400.

2011

1. Mat-Desa, W., Ismail, D., and Nic Daéid, N., "Classification and Source Determination of Medium Petroleum Distillates by Chemometric and Artificial Neural Networks: A Self Organizing Feature Approach," *Analytical Chemistry*, Vol 83, No. 20, 2011, pp. 7745-7754.

2. Monfreda, M., and Gregori, A., "Differentiation of Unevaporated Gasoline Samples According to their Brands, by SPME-GC-MS and Multivariate Statistical Analysis," *Journal of Forensic Sciences*, Vol 56, No. 2, 2011, pp. 372-380.

2012

1. Heo, S. Y., Shin, W. J., Lee, S. W., Bong, Y. S., and Lee, K. S., "Using Stable Isotope Analysis to Discriminate Gasoline on the Basis of its Origin," *Rapid Communications in Mass Spectrometry*, Vol 26, No. 5, 2012, pp. 517-522.

2. Li, S., and Dai, L. K., "Classification of Gasoline Brand and Origin by Raman Spectroscopy and a Novel R-Weighted LSSVM Algorithm," *Fuel*, Vol 96, No. 1, 2012, pp. 146-152.

2013

1. Yang, Z., Hollebone, B., Wang, Z., Yang, C., Brown, C., and Landriault, M., "Forensic Identification of Spilled Biodiesel and its Blends with Petroleum Oil Based on Fingerprinting Information," *Journal of Separation Science*, Vol 36, No. 11, 2013, pp. 1788-1796.

2014

1. Vergeer, P., Bolck, A., Peschier, L., Berger, C., and Hendrikse, J., "Likelihood Ratio Methods for Forensic Comparison of Evaporated Gasoline Residues," *Science & Justice*, Vol 54, No. 6, 2014, pp. 401-411.

2021

1. Jin, J., Li, K., Chi, J., Li, S., Zhang, J., and Lu, L., "The most remarkable interference to gaoline identification from polystyrene-co-butadiene and the corresponding cause." *Journal of Chromatography*, Vol. A 1654, 2021, Article 462462.

2. Harries, M.E., Wasserman, S.S., Berry, J.L., and Jeerage, K.M., "Characterization of a headspace sampling method with a five-component diesel fuel surrogate." *Forensic Chemistry*, Vol. 22, 2021, Article 100301.

13 - Data Handling and Interpretation

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

1980

1. Loscalzo, P. J., DeForrest, P. R., and Chao, J. M., "A Study to Determine the Limit of Detectability of Gasoline Vapor from Simulated Arson Residues," *Journal of Forensic Sciences*, Vol 25, No. 1, 1980, pp. 162-167.

1981

1. Nowicki, J. F., "Control Samples in Arson Analysis," *Arson Analysis Newsletter*, Vol 5, No. 1, 1981, pp. 1-5.

2. Smith, R. M., "Arson Analysis by Mass Chromatography," *Analytical Chemistry*, Vol 54, 1982, pp. 1399A–1409A.

1982

1. Tontarski, R., and Strobel, R., "Automated Sampling and Computer-Assisted Identification of Hydrocarbon Accelerants," *Journal of Forensic Sciences*, Vol 27, No. 3, 1982, pp. 710-714.

1983

1. Bryson, B. R., "Open Minded," *National Fire and Arson Report*, Vol 2, No. 3, 1983, pp. 9.

2. Lentini, J., "Incidental Accelerants," *National Fire and Arson Report*, Vol 2, No. 3, 1983, pp. 8.

3. Trimpe, M. A., "Case Study," (Peak from melted plastic) *Arson Analysis Newsletter*, Vol 7, No. 5-6, 1983, pp. 110-113.

1984

1. Goldstein, H. M., and Bidanset, J. H., "Post Fire Accelerant Residue Study - Hydrocarbon Patterns to be expected in Arson Determination," Presented: 36th Annual Meeting AAFS, Anaheim, CA, February 21-25, 1984, Abstract C38.

2. Stone, I. C., and Lomonte, J. N., "False Positives in Analysis of Fire Debris," *Fire and Arson Investigator*, Vol 34, No. 3, 1984, pp. 36-40.

1985

1. Lentini, J., "Avoiding Contamination," *Fire and Arson Investigator*, Vol 36, No. 1, 1985, pp. 21-22.

1986

1. Bertsch, W., and Sellers, C. S., "Limits in Arson Debris Analysis by Capillary Column Gas Chromatography/Mass Spectrometry," *HRC & CC, Journal of High Resolution Chromatography and Chromatography Communications*, Vol 9, No. 11, 1986, pp. 657-661.

2. Henderson, R. W., "Impurities in Activated Charcoal," *Arson Analysis Newsletter*, Vol 9, No. 1, 1986, pp. 13-19.

3. Midkiff Jr., C. R. "Is It a Petroleum Product? How Do You Know?" *Journal of Forensic Sciences*, Vol 31, No. 1, 1986, pp. 231-234.

1987

1. Higgins, M., “Turpentine, Accelerant or Natural?” *Fire and Arson Investigator*, Vol 38, No. 2, 1987, pp.10.

2. Mann, D. C., “Comparison of Automotive Gasolines Using Capillary Gas Chromatography II: Limitations of Automotive Gasoline Comparisons in Casework,” *Journal of Forensic Sciences*, Vol 32, No. 3, 1987, pp. 616-628.

3. Stackhouse, C. S., "Will the Real Lamp Oil Please Stand Up?" *Arson Analysis Newsletter*, Vol 9, No. 2, 1986, pp. 21-31. (Publ. 1987).

1988

1. Lorenzana-Jimenez, M., Capella, S., Labastida, C., Magos, G. A., and Amancio-Chassin, O., "Thinner Composition Determined by Gas Chromatography," *Contaminacion Ambiental*, Vol 4, No. 1, 1988, pp. 65-71. (in Spanish).

1989

1. Buckleton, J. S., Bettany, B. L. and Walsh, K. A. J., “A Problem of Hydrocarbon Profile Modification by Charcoal,” *Journal of Forensic Sciences*, Vol. 34, No. 2, 1989, pp. 449-453.

2. Hirz, R., "Gasoline Brand Identification and Individualization of Gasoline Lots," *Journal of the Forensic Science Society*, Vol 29, No. 2, 1989, pp. 91-101.

3. O'Donnell, J. F., "Interferences from Backgrounds in Accelerant Residue Analysis," *Fire and Arson Investigator*, Vol 39, No. 4, 1989, pp. 25-27.

1990

1. Folkman, T. E., Kuehl, A. M., Groves, R. J., and Beveridge, A. D., "Evaporation Rate of Gasoline from Shoes, Clothing, Wood and Carpet Materials and Kerosene from Shoes and Clothing," *Canadian Society of Forensic Science Journal*, Vol 23, No. 2-3, 1990, pp. 49-59.

2. Nowicki, J. F., "An Accelerant Classification Scheme Based on Analysis by Gas Chromatography/Mass Spectrometry (GC-MS)," *Journal of Forensic Sciences*, Vol 35, No. 5, 1990, pp. 1064-1086.

3. Stackhouse, C. C., "Lacquer Thinners-Rare but Not Forgotten," Presented: 42nd Annual Meeting of the American Academy of Forensic Sciences, Cincinnati, OH, February 19-24, 1990, Abstract # B56.

1991

1. Hirz, R., and Rizzi, A. M., "Simulation of the Weathering of Gasolines Using Gas Chromatographic Retention Data," *Journal of the Forensic Science Society*, Vol 31, No. 3, 1991, pp. 309-319.

2. Hirz, R., and Rizzi, A. M., "Simulation of Concentration Changes in Complex Volatile Mixtures During Evaporation by Using Gas Chromatography," *Chromatographia*, Vol 31, No. 5/6, 1991, pp. 224-232.

3. Lincoln, S., "Charcoal Lighter Fluid Used as an Arson Accelerant," *Fire and Arson Investigator*, Vol 42, No. 1, 1991, pp. 46-47.

4. Nowicki, J., "Analysis of Fire Debris Samples by Gas Chromatography/Mass Spectrometry (GC-MS): Case Studies," *Journal of Forensic Sciences*, Vol 36, No. 5, 1991, pp. 1536-1550.

5. Trimpe, M. A., "Turpentine in Arson Analysis," *Journal of Forensic Sciences*, Vol 36, No. 4, 1991, pp. 1059-1073.

1992

1. DeHaan, J. D., and Greenfield, A., "Evaporation Rates of Volatile Hydrocarbon Accelerants," Presented: 44th Annual Meeting of the American Academy of Forensic Sciences, New Orleans, LA, February 17-22, 1992, Abstract # B20.

2. Dietz, W. R. "Interpretation Guidelines for 'Problem' Accelerant Chromatograms," Presented: 44th Annual Meeting of the American Academy of Forensic Sciences, New Orleans, LA, February 17-22, 1992, Abstract # B29.

3. Henderson, R. W., "Fire Losses and Negative Samples," *National Fire and Arson Report*, Vol 10, No. 1/2, 1992, pp. 14-15.

4. Henderson, R. W., "Aromatic Compounds and Fire Debris Analysis," Presented: 44th Annual Meeting of the American Academy of Forensic Sciences, New Orleans, LA, February 17-22, 1992, Abstract # B18.

5. O'Donnell, J. F., "Retesting of Accelerant Residue Samples," *Fire and Arson Investigator*, Vol 42, No. 3, 1992, pp. 10-14.

1993

1. Koussiafes, P., and Bertsch, W., "Profile Matching for the Analysis of Accelerants in Suspected Arson Cases," *Journal of Chromatographic Science*, Vol 31, No. 4, 1993, pp. 137-144.

2. Trimpe, M. A., "What the Arson Investigator Should Know About Turpentine," *Fire and Arson Investigator*, Vol 44, No. 1, 1993, pp. 53-55.

1994

1. Gialamas, D. M., "Is it Gasoline or Insecticide?" Presented: CAC Fall Seminar San Diego, CA, October 1993; *CAC News* 1994, pp. 16-20.

2. Nowicki, J. F., "Determining the Source of Gasoline Samples from Fire Scenes by GC-MS Using Selected Ion Profiles," Presented: 46th Annual Meeting AAFS, San Antonio, TX, February 14-19, 1994, Abstract # B85.

1995

1. Bates, J. W., "Variations in Headspace Vapor Compositions According to Accelerant Amounts in Fire Accelerants Analysis by Gas Chromatography," *Advances in Forensic Sciences, Proceedings of the Meeting of the International Association of Forensic Sciences*, Vol 3, 1995, pp. 172-177

2. Coulombe, R., “Chemical Markers in Weathered Gasoline,” *Journal of Forensic Sciences*, Vol 40, No. 5, 1995, pp. 867–872.

3. Keto, R. O., “GC/MS Data Interpretation for Petroleum Distillate Identification in Contaminated Arson Debris,” *Journal of Forensic Sciences*, Vol 40, No. 3, 1995, pp. 412-423.

4. Lennard, C. J., Tristan Rochaix, V., Margot, P., and Huber, K., “A GC–MS Database of Target Compound Chromatograms for the Identification of Arson Accelerants,” *Science and Justice*, Vol 35, No. 1, 1995, pp. 19–30.

5. Newman, R., "New and Unusual Ignitable Liquids," *Newsletter of the Southern Association of Forensic Sciences*, Vol 23, No. 2, 1995, pp. 27-31.

1996

1. Bertsch, W., “Chemical Analysis of Fire Debris. Was it Arson?” *Analytical Chemistry*, Vol 68, 1996, pp. 541A-545A.

2. Moorehead, W., Dickan, T., “Capillary Gas Chromatography Characterization and Classification of Some Hydrocarbon Solvents and Alkyl Glycol Ethers,” *CAC News,* Winter 1996, pp. 8-11.

3. O'Neal, C. L., and Poklis, A., “Postmortem Production of Ethanol and Factors that Influence Interpretation,” *The American Journal of Forensic Medicine & Pathology*, Vol 17, No. 1, 1996, pp. 8-20.

4. Pannuto, P. M., and Fultz, M. L., "A Survey of Specialty Solvents Encountered in the Examination of Fire Debris," Presented: 48th Annual Meeting, AAFS, Nashville, TN February 19-24, 1996, Abstract # B38; Abstract: *Science and Justice*, Vol 36, No. 3, 1996, pp. 203.

1997

1. Bertsch, W., “Analysis of Accelerants in Fire Debris,” *Data Interpretation, Forensic Science Review*, Vol 9, No. 2, 1997, pp. 2-22.

2. Sandercock, P. M. L., "Technical Note: Chromatographic Profiles of Three Fuel Injector Cleaners," *Canadian Society of Forensic Science Journal*, Vol 30, No. 4, 1997, pp. 213-217.

3. Sandercock, P. M. L., "Retention of Gasoline and Diesel Fuel Samples on Charcoal: Evaluation of Long-Term Preservation of Petroleum Residues," *Canadian Society of Forensic Science Journal*, Vol 30, No. 4, 1997, pp. 219-224.

1998

1. Gilbert, M. W., “The Use of Individual Extracted Ion Profiles Versus Summed Extracted Ion Profiles in Fire Debris Analysis,” *Journal of Forensic Sciences*, Vol 43, No. 4, 1998, pp. 871-876.

2. Newman, R., Gilbert, M., and Lothridge, K., *GC-MS Guide to Ignitable Liquids*, CRC Press, FL, 1998.

1999

1. Wallace, J. R., "GC/MS Data from Fire Debris Samples: Interpretation and Applications," Journal of Forensic Sciences, Vol 44, No. 5, 1999, pp. 996-1012.

2000

1. Coulson, S. A., and Morgan-Smith, R. K., "The Transfer of Petrol on to Clothing and Shoes while Pouring Petrol Around a Room," *Forensic Science International*, Vol 112, 2000, pp. 135–141.

2. Tan, B., Hardy, J. K., and Snavely, R. E, "Accelerant Classification by Gas Chromatography Mass Spectrometry and Multivariate Pattern Recognition," *Analytica Chimica Acta*, Vol 422, 2000, pp. 37-46.

2002

1. Dolan, J., Ritacco, C., "Gasoline Comparisons by Gas Chromatography-Mass Spectrometry Utilizing an Automated Approach to Data Analysis., Proceedings of the American Academy of Forensic Sciences Annual Meeting, Atlanta, GA, February 16, 2002, pp. 62.

2. Stout, S., Uhler, A., McCarthy, K., and Emsbo-Mattingly, S., "Chemical Fingerprinting of Hydrocarbons," *Introduction to Environmental Forensics*, Academic Press, Burlington, MA, 2002, pp. 168.

2003

1. Sandercock, P. M. L., and Du Pasquier, E., "Chemical Fingerprinting of Unevaporated Automotive Gasoline Samples," *Forensic Science International*, Vol 134, No. 1, 2003, pp. 1-10.

2. Doble, P., Sandercock, P. M. L., Du Pasquier, E., Petocz, P., Roux, C., and Dawson, M., "Classification of premium and regular gasoline by gas chromatography/mass spectrometry principal component analysis and artificial neural networks." *Forensic Sci. Int.*, 2003, Vol 132, pp 26-39.

2004

1. Dolan, J. A., and Stauffer, E., "Aromatic Content in Medium Range Distillate Products. Part I. An Examination of Various Liquids," *Journal of Forensic Sciences*, Vol 49, No. 5, 2004, pp. 992–1004.

2. Koussiafes, P. M., "The Interpretation of Data Generated from Fire Debris Examination: Report Writing and Testimony," *Analysis and Interpretation of Fire Scene Evidence*, Almirall, J., and Furton, K., Eds., CRC Press, FL, 2004, pp. 193-227.

3. Sandercock, P. M. L., and Du Pasquier, E., "Chemical Fingerprinting of Gasoline 2. Comparison of Unevaporated and Evaporated Automotive Gasoline Samples," *Forensic Science International*, Vol 140, No. 1, 2004, pp. 43–59.

4. Sandercock, P. M. L., and Du Pasquier, E., "Chemical Fingerprinting of Gasoline: Part 3. Comparison of Unevaporated and Evaporated Automotive Gasoline Samples from Australia and New Zealand," *Forensic Science International*, Vol 140, No. 1, 2004, pp. 71–77.

5. Wintz, J., Rankin, J., "Application of Principal Components Analysis in the Individualization of Gasolines by GC-MS," Proceedings of the American Academy of Forensic Sciences, Dallas, TX, February 2004, pp. 48.

2005

1. Biedermann, A., Taroni, F., Delmont, O., Semadeni, C., and Davison, A. C., "The Evaluation of Evidence in the Forensic Investigation of Fire Incidents Part I. An Approach using Bayesian Networks," *Forensic Science International*, Vol 147, 2005, pp. 49–57.

2. Biedermann, A., Taroni, F., Delmont, O., Semadeni, C., and Davison, A. C. "The Evaluation of Evidence in the Forensic Investigation of Fire Incidents. Part II. Practical Examples of the Use of Bayesian Networks," *Forensic Science International*, Vol 147, 2005, pp. 59–69.

3. DeVos, B. J., "Gas Chromatography Coupled with Ion Trap Mass Spectrometry (GC-MS and GC-MS-MS) for Arson Debris Analysis," Thesis for the degree of Master of Science in Chemistry, in Department of Applied Chemistry, 2005, University of Pretoria: Pretoria.

4. Pierce, K. M., Hope, J. L., Johnson, K. J., Wright, B. W., and Synovec, R. E., "Classification of Gasoline Data Obtained by Gas Chromatography using a Piecewise Alignment Algorithm Combined with Feature Selection and Principal Component Analysis," *Journal of Chromatography A*, Vol 1096, 2005, pp. 101–110.

5. Zadora, G., Borusiewicz, R., and Zieba-Palus, J., "Differentiation Between Weathered Kerosene and Diesel Fuel using Automatic Thermal Desorption-GC-MS Analysis and the Likelihood Ratio Approach," *Journal of Separation Science*, Vol 28, No. 13, 2005, pp. 1467-1475.

2006

1. Borusiewicz, R., Zieba-Palus, J., and Zadora, G., "The Influence of the Type of Accelerant, Type of Burned Material, Time of Burning and Availability of Air on the Possibility of Detection of Accelerant Traces," *Forensic Science International*, Vol 160, 2006, pp. 115-126.

2007

1. Kurata, S., Iyozumi, T., Hirano, H., and Nagai, M., "Discrimination between Residues from Kerosene or Gas Oil and Plastics in Fire Debris," *Journal of the Japan Petroleum Institute*, Vol 50, 2007, pp. 69–78. (Japanese)

2. Sandercock, P. M. L., "A Survey of Canadian Gasoline (2004)," *Canadian Society of Forensic Science Journal*, Vol 40, No. 3, 2007, pp. 105-130.

3. Sigman M. E., Williams, M. R., and Ivy, R. G., "Individualization of Gasoline Samples by Covariance Mapping and Gas Chromatography-Mass Spectrometry," *Analytical Chemistry*, Vol 79, No. 9, 2007, pp. 3462–3468.

2008

1. Coulson, S. A., Morgan-Smith, R. K., Mitchell, S., and McBriar, T., "An Investigation into the Presence of Petrol on the Clothing and Shoes of Members of the Public," *Forensic Science International*, Vol 175, 2008, pp. 44–54.

2. Darrer, M., Jacquemet-Papilloud, J., and Delemont, O., "Gasoline on Hands: Preliminary Study on Collection and Persistence," *Forensic Science International*, Vol 175, No. 2–3, 2008, pp. 171–178.

3. Moorehead, W., "Cautions on Brand Identification of Ignitable Liquids," *CAC News,* 4th Quarter 2008, pp. 25-29.

4. Petraco, N. D. K., Gil, M., Pizzola, P. A., and Kubic, T. A., "Statistical Discrimination of Liquid Gasoline Samples from Casework," *Journal of Forensic Sciences*, Vol 53, No. 5, 2008, pp. 1092–1101.

5. Sigman, M. E., Williams, M. R., Castelbuono, J. A., Colca, J. G., and Clark, C. D., "Ignitable Liquid Classification and Identification using the Summed-Ion Mass Spectrum," *Instrumentation Science and Technology*, Vol 36, 2008, pp. 375–393.

6. Stauffer, E. Dolan, J. A., and Newman, R., *Fire Debris Analysis*, Elsevier, 2008.

2009

1. Lu, Y., Chen, P., and Harrington, P. B. "Comparison of Differential Mobility Spectrometry and Mass Spectrometry for Gas Chromatographic Detection of Ignitable Liquids from Fire Debris using Projected Difference Resolution," *Analytical and Bioanalytical Chemistry*, Vol 394, 2009, pp. 2061–2067.

2. Marshall, L. J., McIlroy, J. W., McGuffin, V. L., and Waddell Smith, R. "Association and Discrimination of Diesel Fuels using Chemometric Procedures," *Analytical and Bioanalytical Chemistry*, Vol 394, No. 8, pp. 2049-2059.

3. Okamoto, K., Watanabe, N., Hagimoto, Y., Miwa, K., and Ohtani, H., "Changes in Evaporation Rate and Vapor Pressure of Gasoline with Progress of Evaporation," *Fire Safety Journal*, Vol 44, 2009, pp. 756–763.

2010

1. McHugh, K., "Determining the Presence of an Ignitable Liquid Residue in Fire Debris Samples Utilizing Target Factor Analysis [dissertation]," Orlando, FL: University of Central Florida, 2010.

2011

1. Baerncopf, J. M., McGuffin, V. L., Waddell Smith, R., "Association of Ignitable Liquid Residues to Neat Ignitable Liquids in the Presence of Matrix Interferences Using Chemometric Procedures," *Journal of Forensic Sciences*, Vol 56, No. 1, 2011, pp. 70-82.

2. Bruno, T. J., Lovestead, T. M., and Huber, M. L., "Prediction and Preliminary Standardization of Fire Debris Constituents with the Advanced Distillation Curve Method," *Journal of Forensic Sciences*, Vol 56, No. 1, 2011, pp. S192-S202. Available at http://onlinelibrary.wiley.com/doi/10.1111/j.1556-4029.2010.01628.x/full.

3. Lewis, J., "The Application of Chemometrics to the Detection and Classification of Ignitable Liquids in Fire Debris Using the Total Ion Spectrum [dissertation]," Orlando, FL: University of Central Florida, 2011.

4. Sinkova, N. A., Johnston, B. M., Mark, L., Sandercock, P. M. L., and Harynuka, J. J., "Automated Optimization and Construction of Chemometric Models based on Highly Variable Raw Chromatographic Data," *Analytica Chimica Acta*, Vol 697, 2011, pp. 8–15.

2012

1. Lu, W., Rankin, J. G., Bondra, A., Trader, C., Heeren, A., and Harrington, P., "Ignitable Liquid Identification using Gas Chromatography/Mass Spectrometry Data by Projected Difference Resolution Mapping and Fuzzy Rule-Building Expert System Classification," *Forensic Science International*, 2012, doi:10.1016/ j. forsciint.2012.03.003**.**

2. Sandercock, P. M. L., "Survey of Canadian Gasoline (Winter 2010)," *Canadian Society of Forensic Science Journal*, Vol 45, No. 2, 2012, pp. 64-78.

3. Sigman, M., Williams, S. "Application of Chemometrics and Fast GC-MS Analysis for the Identification of Ignitable Liquids in Fire Debris Samples," National Institute of Justice, 2012. Available at https://www.ncjrs.gov/pdffiles1/nij/grants/240684.pdf.

4. Williams, M. R., Sigman, M. E., Lewis, J., and Pitan, K. M., "Combined Target Factor Analysis and Bayesian Soft-Classification of Interference-Contaminated Samples: Forensic Fire Debris Analysis," *Forensic Science International*, Vol 222, No. 1-3, 2012, pp. 373-386. Available at http://www.sciencedirect.com/science/article/pii/S0379073812003635.

2013

1. Bruno, T. J., and Allen, S., "Weathering Patterns of Ignitable Liquids with the Advanced Distillation Curve Method," *Journal of Research of the National Institute of Standards and Technology*, Vol 118, 2013, pp. 29-51.

2. Martín-Alberca, C., Ferrando, J. L., García-Ruiz, C. "Anionic Markers for the Forensic Identification of Chemical Ignition Molotov Cocktail Composition," *Science & Justice*, Vol 53, No. 1, 2013, pp. 49-54. Available at http://www.sciencedirect.com/science/article/pii/S135503061200144X.

3. McGee, E., MacDonald, S., McGibbon, G. A., "An Evaluation of Standardized Software for Processing GC/MS Data from Different Vendors' Instruments in a Forensic Laboratory." *Journal of Forensic Sciences,* Vol 58, No. 3, 2013, pp. 764–766.

4. Nic Daeid, N., and Stauffer, E. "Interpretation of Fire Debris Analysis," *Encyclopedia of Forensic Sciences*, Elsevier, 2013, pp 183-194.

5. Shujun, L., Yonghui, W., and Lili, Y., "Study on Timeliness of Gasoline Analysis Adsorbed in Cotton Cloth Carrier," *Advanced Materials Research Vols. 616-618*, 2013, pp. 881-884.

6. Shujun, L., Yonghui, W., and Lili, Y., "Study on Timeliness of Burned Gasoline Residues Analysis Adsorbed on the Floor Carrier," *Advanced Materials Research Vols. 726-731*, 2013, pp. 1577-1580.

7. Waddell, E. E., "Chemometric Applications to a Complex Classification Problem: Forensic Fire Debris Analysis [dissertation]," Orlando, FL: University of Central Florida, 2013.

8. Waddell, E. E., Song, E.T., Rinke, C. N., Williams, M. R., and Sigman, M. E. "Progress Toward the Determination of Correct Classification Rates in Fire Debris Analysis," *Journal of Forensic Sciences*, Vol 58, No. 4, 2013, pp. 887-896. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.12159/full.

2014

1. Baerncopf, J., and Hutches, K., "A Review of Modern Challenges in Fire Debris Analysis," *Forensic Science International*, Vol 244, 2014, pp. e12-e20.

2. Frisch-Daiello, J. L., Williams, M. R., Waddell, E. E., and Sigman, M. E., "Application of Self-Organizing Feature Maps to Analyze the Relationships between Ignitable liquids and Selected Mass Spectral Ions," *Forensic Science International*, Vol 236, 2014, pp. 84-89. Available at http://www.sciencedirect.com/science/article/pii/S0379073813005495.

3. Hetzel, S. S., "Survey of American (USA) Gasolines (2008)," *Journal of Forensic Sciences,* Vol 60, No. s1, 2015, pp. S197-S206. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.12595/full

4. Sinkov, N. A., Sandercock, P. M. L., and Harynuk, J. J., "Chemometric Classification of Casework Arson Samples based on Gasoline Content," *Forensic Science International*, Vol 235, 2014, pp. 24-31. Available at http://www.sciencedirect.com/science/article/pii/S0379073813005136.

5. Waddell, E. E., Frisch-Daiello, J. L., Williams, M. R., and Sigman, M. E., "Hierarchical Cluster Analysis of Ignitable Liquids Based on the Total Ion Spectrum," *Journal of Forensic Sciences*, Vol 59, No. 5, 2014, pp. 1198-1204. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.12517/full.

6. Waddell, E. E., Williams, M. R., and Sigman, M. E., "Progress Toward the Determination of Correct Classification Rates in Fire Debris Analysis II: Utilizing Soft Independent Modeling of Class Analogy (SIMCA)," *Journal of Forensic Sciences*, Vol 59, No. 4, 2014, pp. 927-935. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.12417/full.

7. Zong, R., Zhi, Y., Yao, B., Gao, J., and Stec, A. A., "Classification and Identification of Soot Source with Principal Component Analysis and Back-Propagation Neural Network," *Australian Journal of Forensic Science*, Vol 46, No. 2, 2014, pp. 224-233. Available at http://www.tandfonline.com/doi/abs/10.1080/00450618.2013.818711.

2015

1. Hendrikse, J., Grutters, M., and Schäfer, F., *Identifying Ignitable Liquids in Fire Debris*, 1st ed., Academic Press, Elsevier, London, 2015.

2. Lee, X. Q., "Simulation of Fire Debris for the Training of Chemometric Models for the Identification of Ignitable Liquids [dissertation]," Edmonton, AB: University of Alberta, 2015.

3. Lopatka, M., Sigman, M. E., Sjerps, M. J., Williams, M. R., and Vivó-Truyols, G., "Class-Conditional Feature Modeling for Ignitable Liquid Classification with Substantial Substrate Contribution in Fire Debris Analysis," *Forensic Science International*, Vol 252, 2015, pp. 177-186. Available at http://www.sciencedirect.com/science/article/pii/S0379073815001905.

2016

1. Lee, X., Sandercock, P., and Harynuk, J., "The Influence of Temperature on the Pyrolysis of Household Materials," *Journal of Analytical and Applied Pyrolysis*, Vol 118, 2016, pp. 75–85.

2. Lopatka, M., "Statistical Interpretation of Chemical Evidence Pertaining to Fire Debris [dissertation]," Amsterdam: University of Amsterdam, 2016.

3. Sigman, M. E., and Williams, M. R. "Assessing Evidentiary Value in Fire Debris Analysis by Chemometric and Likelihood Ratio Approaches," *Forensic Science International*, Vol 264, 2016, pp. 113-121. Available at http://www.sciencedirect.com/science/article/pii/S0379073816301384.

4. Ugena, L., Moncayo, S., Manzoor, S., Rosales, D., and Cáceres, J. O., "Identification and Discrimination of Brands of Fuels by Gas Chromatography and Neural Networks Algorithm in Forensic Research," *Journal of Analytical Methods in Chemistry*, Vol 2016, 2016, pp. 1-7.

5. Waddell Smith, R., Brehe, R. J., McIlroy, J. W., and McGuffin, V. L., "Mathematically Modeling Chromatograms of Evaporated Ignitable Liquids for Fire Debris Applications," *Forensic Chemistry*, Vol 2, 2016, 37-45. Available at http://www.sciencedirect.com/science/article/pii/S2468170916300273.

2017

1. Adutwum, L. A., Abel, R.J., and Harynuk, J. "Total Ion Spectra versus Segmented Total Ion Spectra as Preprocessing Tools for Gas Chromatography – Mass Spectrometry Data," *Journal of Forensic Sciences* 2017. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.13657/full

2. Akmeemana, A., Williams, M. R., and Sigman, M. E., "Major Chemical Compounds in the Ignitable Liquids Reference Collection and Substrate Databases," *Forensic Chemistry*, 2017. Available at http://www.sciencedirect.com/science/article/pii/S2468170917300401

3. Coulson, R., Williams, M. R., Allen, A., Akmeemana, A., Ni., L., and Sigman, M., E., "Model-Effects on Likelihood Ratios for Fire Debris Analysis," *Forensic Chemistry*, 2017. Available at http://www.sciencedirect.com/science/article/pii/S2468170917300905

4. Peschier, L. J. C., Grutters, M. M. P., and Hendrikse, J. N., "Using Alkylate Components for Classifying Gasoline in Fire Debris Samples," *Journal of Forensic Sciences*, 2017. Available at http://onlinelibrary.wiley.com/doi/10.1111/1556-4029.13563/full.

2018

1. Ferreiro-González, M., Aliaño-González. M.J., Barbero, G. F., Palma, M., and Barroso, C. G., "Characterization of petroleum-based products in water samples by HS-MS." *Fuel* 2018;222:506-512. Available at https://www.sciencedirect.com/science/article/pii/S0016236118303107

2. Henneberg, M. L., and Morling, N. R., "Unconfirmed accelerants: controversial evidence in fire investigations," *The International Journal of Evidence & Proof,* 2018;22 (1):45-67. Available at http://journals.sagepub.com/doi/abs/10.1177/1365712717746419

2019

1. Allen, A., Williams, M. R., and Sigman, M.E., "Application of Likelihood Ratios and Optimal Decision Thresholds in Fire Debris Analysis Based on a Partial Least Squares Discriminant Analysis (PLS-DA) Model." *Forensic Chemistry* (2019). https://doi.org/10.1016/j.forc.2019.100188

2. Bebeteidoh, O. L., Pazouki, K., and Norman, R., "An experimental investigation of the physio-chemical properties of locally refined diesel oil." *Sustainable Chemistry and Pharmacy*. 2020 Mar 1;15 :100200. https://www.sciencedirect.com/science/article/pii/S2352554119302499

3. Bovens, M., Ahrens, B., Alberink, I., Nordgaard, A., Salonen, T., and Huhtala, S. "Chemometrics in forensic chemistry — Part I: Implications to the forensic workflow." *Forensic Science International* 2019; 301:82-90. https://www.sciencedirect.com/science/article/pii/S0379073819302129

4. de Figueiredo, M., Bouveresse, D.J.R., Cordella, C.B.Y., Archer, X., Begue, J.M., and Rutledge, DN. "Exploratory study on the possibility to link gasoline samples sharing a common source after alteration by evaporation or combustion." *Forensic Science International* 2019; 301:190-201. https://www.sciencedirect.com/science/article/pii/S0379073819302142

5. Eklund, N. K., Capistran, B. A., McGuffin, V. L., and Smith, R. W. "Improvements in a Kinetic-Based Model to Predict Evaporation of Gasoline." *Forensic Chemistry*. 2019 Nov 9:100194. https://www.sciencedirect.com/science/article/abs/pii/S2468170919300918

6. Hondrogiannis, E. M., Newton, C., and Alibozek, R., "Determining the Method Threshold of Identification via Gas Chromatography–Mass Spectrometry of Weathered Gasoline Extracted from Burnt Nylon Carpet." J Forensic Sci, July 2019, Vol. 64 No. 4 Available at: https://onlinelibrary.wiley.com/doi/full/10.1111/1556-4029.13983

7. Sigman, M. E., Williams, M. R., "Advances in Fire Debris Analysis." *Separations,* 2019; 6(1):13. Available at: https://www.mdpi.com/2297-8739/6/1/13/htm

8. Suppajariyawat, P., de Andrade, A.F.B., Elie, M., Baron, M., and Gonzalez-Rodriguez, J. "The Use of Chemical Composition and Additives to Classify Petrol and Diesel Using Gas Chromatography–Mass Spectrometry and Chemometric Analysis: A UK Study." *Open Chemistry* 2019; 17(1):183-197. https://www.degruyter.com/view/j/chem.2019.17.issue-1/chem-2019-0021/chem-2019-0021.xml

9. Akmeemana, A.G., "Chemometric applications in fire debris analysis: Likelihood ratios from Naïve Bayes and frequency of component and pyrolysis product occurrence." Doctoral dissertation, University of Central Florida, University of Central Florida STARS, 2019.

10. De Figueiredo, M., Cordella, C.B.Y., Bouveresse, D.J., Archer, X., Beque, J., and Ruteldge, D.N., "Evaluation of an untargeted chemometric approach for the source inference of ignitable liquids in forensic science." *Forensic Science International*, Vol. 295, 2019, pp. 8-18.

11. Allen, A., "The evaluation of classifier performance on the forensic analysis of fire debris and the expansion of the substrate database." Doctoral dissertation, University of Central Florida, University of Central Florida STARS, 2019.

2020

1. Pandohee, J., Hughes, J.G., Pearson, J.R., and Jones, O.A.H., "Chemical fingerprinting of petrochemicals for arson investigations using two-dimensional gas chromatography – flame ionization detection and multivariate analysis." *Science and Justice*, Vol. 60, No. 4, 2020, pp. 381-387.

2. Sigman, M.E., and Williams, M.R., "Chemometric applications in fire debris." *WIREs: Forensic Science*, Vol. 2, No. 5, 2020, Article e1368.

3. Vergeer, P., Hendrikse, J.N., Grutters, M.M.P., and Peschier, L.J.C., "A method for forensic gasoline comparison in fire debris samples: a numerical likelihood ration system." *Science and Justice*, Vol. 60, No. 5, 2020, pp. 438-450.

4. Sudol, P.E., Pierce, K.M., Prebihalo, S.E., Skogerboe, K.J., Wright, B.W., and Synovec, R.E., "Development of gas chromatographic pattern recognition and classification tools for compliance and forensic analyses of fuels: a review." *Analytica Chimica Acta*, Vol. 1132, 2020, pp. 157-186.

2021

1. Park, C., Park, W., Jeon, S., Lee, S., and Lee, J., "Application and evaluation of machine-learning model for fire accelerant classification from GC-MS data of fire residue." *Analytical Science and Technology*, Vol. 34, No. 5, 2021, pp. 231-239.

2. Thurn, N.A., Wood, T., Williams, M.R., Sigman, M.E., "Classification of ground-truth fire debris samples using artificial neural networks." *Forensic Chemistry*, Vol. 23, 2021, Article 100313.

3. Sigman, M.E., Williams, M.R., Thurn, N., and Wood, T., "Validation of ground truth fire debris classification by supervised machine learning." *Forensic Chemistry*, Vol. 26, 2021, Article 100358.

4. Boegelsack, N., Sandau, C., McMartin, D.W., Withey, J.M., and O'Sullivan, G., "Development of retention time indices for comprehensive multidimensional gas chromatography and application to ignitable liquid residue mapping in wildfire investigations." *Journal of Chromatography*, Vol. A 1635, 2021, Article 461717.5.

5. Christy, B., Winters, K., Rossheim, A., Newman, R., Tang, L. "A foundational study of fire debris interpretation using quantitative measures of chromatographic features in gasoline and the use of graphical display to demonstrate data sufficiency." *Forensic Chemistry*, 24 (2021), Article 100337.

2022

1. Bogdal, C., Schellenberg, R., Hopli, O., Bovens, M., and Lory, B., "Recognition of gasoline in fire debris using machine learning: part I, application of random forest gradient boosting, support vector machine, and naïve bayes." *Forensic Science International*, Vol. 331, 2022, Article 111146.

2. Bogdal, C., Schellenberg, R., Lory, M., Bovens, M., and Hopli, O., "Recognition of gasoline in fire debris using machine learning: part II, application of a neural network." *Forensic Science International*, Vol. 332, 2022, Article 111177.

14 - Quality Control

1990

1. IAAI Forensic Science Committee, "Forensic Science Committee Position on Comparison Samples," *Fire and Arson Investigator*, Vol 41, No. 2, 1990, pp. 50-51.

1992

1. O'Donnell, J., "Retesting of Accelerant Residue Samples," *Fire and Arson Investigator*, Vol 42, No. 3, 1992, pp. 10–14.

1994

1. Forensic Science Committee, “Is Your Lab Giving You Proper Results?” *Fire and Arson Investigator*, Vol 45, No. 2, 1994, pp. 39.

1997

1. Sandercock, P. M. L., “Retention of Gasoline and Diesel Fuel Samples on Charcoal: Evaluation of Long Term Preservation of Petroleum Residues,” *Canadian Society of Forensic Science Journal*, Vol 30, No. 4, 1997, pp. 219-22.

2007

1. Institutes (ENFSI), Hendrikse, J., “ENFSI Collaborative Testing Programme for Ignitable Liquid Analysis: A Review,” *Forensic Science International*, Vol 167, No. 2/3, 2007, pp. 213–219.

2019

1. Jansen, K., “Extinguishing subjectivity in fire investigations,” *Chemical & Engineering News*, Vol. 97, No. 26, 2019, pp. 6.

2. Lentini, J.J., “Fire investigation: historical perspectives and recent developments.” Forensic Science Review, Vol. 31, No. 1, 2019, pp. 37-44.

3. Clafin, P., “Documenting the use of the scientific method in an origin and cause report.” Fire & Arson Investigator, Vol. 70, No. 2, 2019, pp. 16-20.

15 - Biodiesel

2005

1. Foglia, T. A., Jones, K. C., and Phillips, J. G. “Determination of Biodiesel and Triacylglycerols in Diesel Fuel by LC,” *Chromatographia*, Vol 62, 2005, pp. 115-119.

2007

1. Seeley**,** J. V., Seeley, S. K., Libby, E. K., and McCurry, J. D.,” Analysis of Biodiesel/Petroleum Diesel Blends with Comprehensive Two-Dimensional Gas Chromatography,” *Journal of Chromatographic Science*, Vol 45, 2007, pp. 650-656.

2. Stauffer, E., and Byron, D., “Alternative Fuels in Fire Debris Analysis: Biodiesel Basics,” *Journal of Forensic Sciences*, Vol 52, 2007, pp. 371–379.

2008

1. Adam, F., Bertoncini, F., Coupard, V., Charon, N., Thiebaut, D., Espinat, D., and Hennion, M. C., “Using Comprehensive Two-Dimensional Gas Chromatography for the Analysis of Oxygenates in Middle Distillates: I. Determination of the Nature of Biodiesels Blend in Diesel Fuel,” *Journal of Chromatography A*, Vol 1186, No. 1-2, 2008, pp. 236-244.

2. Kuk, R., and Spagnola, M. “Extraction of Alternative Fuels from Fire Debris Samples,” *Journal of Forensic Sciences*, Vol 53, No. 5, 2008, pp. 1123-1129.

3. Monteiroa, M. R., Ambrozina, A. R. P., Liãob, L. M., and Ferreirac, A. G., "Critical Review on Analytical Methods for Biodiesel Characterization," *Talanta*, Vol 77, 2008, pp. 593–605.

4. Tiyapongpattana, W., Wilairat, P., and Marriott, P. "Characterization of Biodiesel and Biodiesel Blends using Comprehensive Two-Dimensional Gas Chromatography," *Journal of Separation Science*, Vol 31, No. 14, 2008, pp. 2640-2649.

2011

1. Yang, Z., Hollebone, B. P., Wang, Z., Yang, C., and Landriault, M., "Method Development for Fingerprinting of Biodiesel Blends by Solid-Phase Extraction and Gas Chromatography–Mass Spectrometry," *Journal of Separation Science*, Vol 34, 2011, pp. 3253–3264.

2013

1. Fuller, S., Spikmans, V., Vaughan, G., and Guo, C., "Effects of Weathering on Sterol, Fatty Acid Methyl Ester (FAME), and Hydrocarbon Profiles of Biodiesel and Biodiesel/Diesel Blends," *Environmental Forensics*, Vol 14, No. 1, 2013, pp. 42-49.

2016

1. Goodman, M. R., Kaley, E. A., and Finney, E. E., "Forensic Analysis of Biodiesel," *Forensic Science International*, Vol 263, 2016, pp. 10-26. Available at http://www.sciencedirect.com/science/article/pii/S037907381630127X.

16 - Vegetable Oils

1992

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

1993

1. Mittelbach, M., "Diesel Fuel Derived from Vegetable Oils, V [1]: Gas Chromatographic Determination of Free Glycerolin Transesterified Vegetable Oils," Chromatographia, Vol 37, No. 11/12, 1993, pp. 623-626.

2001

1. Ehara, Y., Sakamoto, K., and Marumo, Y. "A Method for Forensic Identification of Vegetable Oil Stains--Rapid Analysis of Carboxylic Acids with Methyl Esterification using Purge-and-Trap Gas Chromatography/Mass Spectrometry," *Journal of Forensic Sciences*, Vol 46, No. 6, 2001, pp. 1462-1469.

2002

1. Coulombe, R., "Chemical Analysis of Vegetable Oils following Spontaneous Ignition," *Journal of Forensic Sciences*, Vol 47, 2002, pp. 195–201.

2003

1. Pitts, S. J., and Thomson, C. I. "Analysis and Classification of Common Vegetable Oils," *Journal of Forensic Sciences*, Vol 48, No. 6, 2003, pp. 1-5.

2005

1. Stauffer, E., "A Review of the Analysis of Vegetable Oil Residues from Fire Debris Samples: Spontaneous Ignition, Vegetable Oils and the Forensic Approach," *Journal of Forensic Sciences*, Vol 50, No. 5, 2005, pp. 1016–1032.

2. Stauffer, E. "A Review of the Analysis of Vegetable Oil Residues from Fire Debris Samples: Analytical Scheme, Interpretation of the Results, and Future Needs," *Journal of Forensic Sciences*, Vol 51, 2005, pp. 1091–1100.

2008

1. Baylon, A., Stauffer, E., Delemont, O. "Evaluation of the Self-Heating Tendency of Vegetable Oils by Differential Scanning Calorimetry," *Journal of Forensic Sciences*, Vol. 53, No. 6, 2008, pp. 1334-1342.

2. Gambrel, A. K., Reardon, M. R., "Extraction, Derivatization, and Analysis of Vegetable Oils from Fire Debris," *Journal of Forensic Sciences*, Vol. 53, No. 6, 2008, pp. 1372-1380.

2009

1. Schwenk L. M, and Reardon M. R., "Practical Aspects of Analyzing Vegetable Oils in Fire Debris," *Journal of Forensic Sciences*, Vol 54, No. 4, 2009, pp. 874-880.

2010

1. Mikuma, T., Kaneko, T. "A Quick Discrimination of Vegetable Oil by Solid-Phase Microextraction Method," *Forensic Science International*, Vol 198, 2010, pp. 79–84.

2021

1. Bryant, C.M., Warnica, J.M., Chen, R., and Shepard, C., "Identification of triglycerides in liquid and fire debris samples by triple quadrupole liquid chromatography-mass spectrometry." *Journal of Forensic Science*, Vol. 66, No. 2, 2021, pp. 534-546.

2. Huang, S., Wei, R., Xie, T., and Wang, J., "Evaluation of fire hazards in typicaln vegetable oil residues." *Process Safety and Environmental Protection*, Vol. 154, 2021, pp. 223-235.

3. Hu, Y., Chen, J., Bundy, M., and Hamins, A., "The character of residential cooktop fires." *Journal of Forensic Science*, Vol. 39, No. 2, 2021, pp. 142-163.

4. Chen, J., Hu, Y., Wang, Z., Lee, K.Y., Kim, S.C., Bundy, M., Fernandez, M., and Hamins, A., "Why are cooktop fires so hazardous?" *Fire Safety Journal*, Vol. 120, 2021, Article 103070.

2022

1. Hsieh, P.C., Lin, R.Y., and Cheng, K.Y., "Research on adapting pyrolysis GC-MS to analyze spontaneous ignition in vegetable oil." *Fire & Arson Investigator*, Vol. 72, No. 3, 2022, pp. 24-35.

2. Guo, Q., and Tang, Y., "Laboratory investigation of the spontaneous combustion characteristics and mechanisms of typical vegetable oils." *Energy*, Vol. 241, 2022, Article 122887.

17 - Flash Point

2002

1. Montemayor, R. G., Collier, M. A., and Lazarczyk, G. G., "Precision and Equivalence of Automatic and Manual Flash Point Apparatus," *Journal of Testing and Evaluation*, Vol 30, 2002, pp. 74–84.

2006

1. Catoire, L., Paulmier, S., and Naudet, V. "Experimental Determination and Estimation of Closed Cup Flash Points of Mixtures of Flammable Solvents," *Process Safety Progress*, Vol 25, 2006, pp. 33.

2021

1. Okamoto, K., Nakagawa, M., Ichikawa, T., Hagiwara, T., and Honma, M., "Induced fire hazards by gasoline spills." *Fire Safety Journal*, Vol. 120, 2021, pp. 32-39.

2022

1. Babrauskas, V., "Ignition of gases, vapors, and liquids on hot surfaces." *Fire Technology*, Vol. 58, No. 1, 2022, pp. 281-310.

18 – Case Studies

2019

1. Bilancia, L.F., and Mann, D.C., "Arson under the Christmas tree" Paper presentation, May 6-8, IEEE International Symposium on Product Compliance Engineering, San Jose California, United States, 2019.

2020

1. Nath, S., Majumder, R., and Pratiharti, H.K., "Mystery of a burnt body" *Forensic Research and Criminology International Journal*, Vol. 8, No. 6, 2020, pp. 215-218/