

DAFTAR PUSTAKA

1. Vandendriessche F. Meat products in the past, today and in the future. *Meat Sci.* 2008;78(1–2):104–13.
2. Alfikri S, Baga LM, Suprehatin. Kesadaran dan Kesiadaan Membayar Konsumen terhadap Daging Sapi Bersertifikat Halal di Kota dan Kabupaten Bogor. *J Halal Prod Res.* 2019;2(2):51–9.
3. Indrasti D, Mukhlisin MF, Darmawan N, Yuliana ND. Profil Komponen Volatil Beberapa Jenis Satei Menggunakan Kromatografi Gas. *J Ilmu Pertan Indones.* 2022;27(2):199–215.
4. Sup DFA, Fahmi ASR, Hilal FN, Firdaus MI. Dinamika Regulasi Sertifikasi Halal di Indonesia. *JESI (Jurnal Ekon Syariah Indones.* 2020;10(1):36.
5. Baskhara P. Polisi Ungkap Fakta 379 Tusuk Sate Padang Daging Babi Hingga Tetapkan Dua Orang Tersangka. *Tribunnews.com* [Internet]. 2019; Available from: <https://wartakota.tribunnews.com/2019/02/27/polisi-ungkap-fakta-379-tusuk-sate-padang-daging-babi-hingga-tetapkan-dua-orang-tersangka>
6. Putra P, Khairina. Suami Istri Jual Sate Padang Pakai Daging Babi karena Ingin Untung Besar. *Kompas.com* [Internet]. 2019; Available from: <https://regional.kompas.com/read/2019/05/20/17551661/suami-istri-jual-sate-padang-pakai-daging-babi-karena-ingin-untung-besar>
7. Hariani S. Deteksi Kehalalan Secara Molekuler dan Biosekuriti pada Sate Daging di Kecamatan Padang Barat Kota Padang. 2022.
8. Abbas O, Zdravec M, Baeten V, Mikuš T, Lešić T, Vulić A, et al. Analytical methods used for the authentication of food of animal origin. *Food Chem.* 2018;246:6–17.
9. Danezis GP, Tsagkaris AS, Camin F, Brusic V, Georgiou CA. Food authentication: Techniques, trends & emerging approaches. *TrAC - Trends Anal Chem.* 2016;85:123–32.
10. Setia YK, Puspawati N, Rukmana RM. Deteksi *Escherichia coli* dengan Metode Polimerase Chain Reaction(PCR). *Setia Budi Conf Innov Heal Accounting, Manag Sci.* 2020;1:173–9.
11. Lestari D, Rohman A, Syofyan S, Yuliana ND, Abu Bakar NKB, Hamidi D. Analysis of beef meatballs with rat meat adulteration using Fourier Transform Infrared (FTIR) spectroscopy in combination with chemometrics. *Int J Food Prop.* 2022;25(1):1446–57.
12. A. S dan R. Analisis Derivat Babi. In: 1st ed. Yogyakarta: Gadjah Mada University Press; 2018.
13. Rohman A, Ghazali MAB, Windarsih A, Irnawati, Riyanto S, Yusof FM, et

- al. Comprehensive Review on Application of FTIR Spectroscopy Coupled with Chemometrics for Authentication Analysis of Fats and Oils in the Food Products. *Molecules*. 2020;25(5485):1–28.
14. Che, Y B. RM& M. Differentiation of Lard From Other Edible Fats and Oils by Means of Fourier Transform Infrared Spectroscopy and Chemometrics. 2011;187–92.
 15. Guntarti A, Ahda M, Kusbandari A, Natalie F. Analysis of pork adulteration in the corned products using FTIR associated with chemometrics analysis. *Potravin Slovak J Food Sci*. 2020 Nov;14:1042–6.
 16. Guntarti A, Purbowati ZA. Analysis of dog fat in beef sausage using FTIR (Fourier Transform Infrared) combined with chemometrics. *Pharmaciana*. 2019;9(1):21–8.
 17. Suwandojo DPEH, Handajani S, Annisa RN. Satay as a Culinary Heritage of Indonesian Gastronomy. *TRJ Tour Res J*. 2023;7(1):120.
 18. Meutia, Ismail T, Bukhori A. Consumer Perceptions of Sate Bandeng Attributes. *Jt Proc 2nd 3rd International Conf Food Secur Innov (ICFSI 2018-2019)*. 2021;9:28–32.
 19. Sani, M Alia, M, N Riyadi D. Sate Padang West Sumatra As Gastronomic Featured In Indonesia. 2016;3:1–17.
 20. He H, Hou T. Lipid. *Essentials Food Chem*. 2021;197–253.
 21. Sartika RAD. Pengaruh Asam Lemak Jenuh, Tidak Jenuh dan Asam Lemak Trans terhadap Kesehatan. *Kesmas Natl Public Heal J*. 2008;2(4):154.
 22. Wahyudiati D. *Biokimia*. 2017.
 23. Ye Z, Xu YJ, Liu Y. Influences of dietary oils and fats, and the accompanied minor content of components on the gut microbiota and gut inflammation: A review. *Trends Food Sci Technol [Internet]*. 2021;113(April):255–76. Available from: <https://doi.org/10.1016/j.tifs.2021.05.001>
 24. Irnawati, Ruslin, Susilowati PE, Zaeni A. Autentikasi halal: aplikasi spektroskopi FTIR kombinasi kemometrika untuk analisis lemak babi dalam campuran biner dengan lemak sapi. *Indones J Chemom Pharm Anal*. 2021;1(2):102–9.
 25. Hermanto S, Muawanah A, Wardhani P. Analisis Tingkat Kerusakan Lemak Nabati dan Lemak Hewani Akibat Proses Pemanasan. *J Kim Val*. 2010;1(6):262–8.
 26. Ramos ALSC. Pengukuran Tingkat Kadar Lemak Tubuh Melalui Jogging Selama 30 Menit Mahasiswa Putra Semester IVFPOK IKIP PGRI Bali. *Pendidik Kesehat Rekreasi*. 2016;66:37–9.
 27. Maiyena S, Mawarnis ER. Kajian analisis konsumsi daging sapi dan daging babi ditinjau dari kesehatan. *J Pendidik Tambusai [Internet]*. 2022;6(1):3131–6. Available from: <https://jptam.org/index.php/jptam/>

article/view/3359

28. Guntarti A. Authentication of Dog Fat With Gas Chromatography-Mass Spectroscopy Combined With Chemometrics. *Int J Chem*. 2018;10(4):124.
29. Sosiawan IGAM, Agustina KK, Suada IK. Kualitas Daging Babi yang Diistirahatkan Sebelum Disembelih Lebih Baik dalam Konsistensi, Warna, pH, Daya Ikat Air dan Kadar Air. *Indones Med Veterinus*. 2021;10(4):589–98.
30. Di Bella S, Branciari R, Haouet NM, Framboas M, Mercuri ML, Codini M, et al. Does hunted wild boar meat meet modern consumer nutritional expectations? *Ital J Food Saf*. 2024;13(1).
31. Hermanto S, Muawanah A, Harahap R. Profil dan Karakteristik Lemak Hewani (Ayam, Sapi dan Babi) Hasil Analisa FTIR dan GCMS. *J Kim Val*. 2008;1(3):102–9.
32. Indrasti D, Che Man YB, Mustafa S, Hashim DM. Lard detection based on fatty acids profile using comprehensive gas chromatography hyphenated with time-of-flight mass spectrometry. *Food Chem* [Internet]. 2010;122(4):1273–7. Available from: [http:// dx.doi.org/ 10.1016/ j. foodchem. 2010.03.082](http://dx.doi.org/10.1016/j.foodchem.2010.03.082)
33. Fajriati I, Aisyah L. Teknologi Pangan Hewani dalam Wacana Halal dan Haram. *Al-Qanun*. 2010;13(2):394–423.
34. Reitznerová A, Semjon B, Bartkovský M, Šuleková M, Nagy J, Klempová T, et al. Comparison of Lipid Profile and Oxidative Stability of Vacuum-Packed and Longtime-Frozen Fallow Deer, Wild Boar, and Pig Meat. *Appl Sci*. 2023;13(6).
35. Haris WF. Autentikasi Rendang Sapi dan Babi Menggunakan Ekstraksi Metode Bligh Dyer dan Analisis Gas Chromatography-Mass Spectrometry (GC-MS) Kombinasi Kemometrik. 2024;
36. Afrina R, Wahyuni R, Zulharmita. Ekstraksi Asam Lemak Dari Daging Buah Alpukat (*Persea americana* Mill.). *J Farm Higea*. 2013;5(1):91–8.
37. Hewavitharana GG, Perera DN, Navaratne SB, Wickramasinghe I. Extraction methods of fat from food samples and preparation of fatty acid methyl esters for gas chromatography: A review. *Arab J Chem* [Internet]. 2020;13(8):6865–75. Available from: [https:// doi.org/ 10.1016 /j.arabjc. 2020. 06.039](https://doi.org/10.1016/j.arabjc.2020.06.039)
38. Zhou J, Wang M, Saraiva JA, Martins AP, Pinto CA, Prieto MA, et al. Extraction of lipids from microalgae using classical and innovative approaches. *Food Chem*. 2022;384(October 2021):132236.
39. Trolles-Cavalcante SYT, Dutta A, Sofer Z, Borenstein A. The effectiveness of Soxhlet extraction as a simple method for GO rinsing as a precursor of high-quality graphene. *Nanoscale Adv*. 2021;3(18):5292–300.
40. Fagbemi KO, Aina DA, Olajuyigbe OO. Soxhlet Extraction versus

Hydrodistillation Using the Clevenger Apparatus: A Comparative Study on the Extraction of a Volatile Compound from *Tamarindus indica* Seeds. *Sci World J.* 2021;2021.

41. Aminullah A. Kandungan Total Lipid Lemak Ayam dan Babi Berdasarkan Perbedaan Jenis Metode Ekstraksi Lemak. *J Agroindustri Halal.* 2018;4(1):094–100.
42. Khan A, Talpur FN, Bhanger MI, Musharraf SG, Afridi HI. Extraction of Fat and Fatty Acid Composition from Slaughterhouse Waste by Evaluating Conventional Analytical Methods. *Am J Anal Chem.* 2021;12(05):202–25.
43. Mutmainah L. The Role of Religiosity, Halal Awareness, Halal Certification, and Food Ingredients on Purchase Intention of Halal Food. *Ihtifaz J Islam Econ Financ Bank.* 2018;1(1):33.
44. Rohman A. Analisis Autentikasi Makanan Bagian 1 : Minyak dan Lemak. Yogyakarta: Gadjah Mada University Press; 2019.
45. Rohman A, Che Man YB. Analysis of Pig Derivatives for Halal Authentication Studies. *Food Rev Int.* 2012;28(1):97–112.
46. Kuswandi B, Putri FK, Gani AA, Ahmad M. Application of class-modelling techniques to infrared spectra for analysis of pork adulteration in beef jerkys. *J Food Sci Technol.* 2015;52(12):7655–68.
47. Syukriya AJ, Faridah HD. Kajian Ilmiah dan Teknologi Sebab Larangan Suatu Makanan dalam Syariat Islam. *J Halal Prod Res [Internet].* 2019;2(1):44–50. Available from: <https://e-journal.unair.ac.id/JHPR/article/download/13543/7598>
48. Kuswandi B, putri FK GA and AM. application of class modelling techniques to infrared spectra for analysis of pork adulteration in beef jerkys. *J Food Sci Technol.* 2015;52(12):7655–68.
49. Rahmania H, Sudjadi, Rohman A. The employment of FTIR spectroscopy in combination with chemometrics for analysis of rat meat in meatball formulation. *Meat Sci [Internet].* 2015;100:301–5. Available from: <http://dx.doi.org/10.1016/j.meatsci.2014.10.028>
50. Yunita Prabawati S, Fajriati I. Analisis Lemak Sapi dan Lemak Babi Menggunakan Gas Chromatography (GC) dan Fourier Transform Infra Red Spectroscopy Second Derivative (FTIR-2D) untuk Autentifikasi Halal. *Indones J Halal.* 2018;1(2):89.
51. Hernanda M, Saputri RD, Sari LY, Marlina R, Putra R. Identifikasi Lemak Tikus Pada Bakso Daging Sapi di Km 9 Palembang dengan Instrumen Fourier Transform Infrared (FTIR). *ALKIMIA J Ilmu Kim dan Terap.* 2020;3(2):70–4.
52. Wulan Sari N, Fajri M. Analisis Fitokimia dan Gugus Fungsi dari Ekstrak Etanol Pisang Goroho Merah (*Musa Acuminata* (L)). *IJOB (Indonesian J Biotechnol Biodiversity).* 2018;2(1):30.

53. A R. Spektroskopi Inframerah dan Kemometrika Untuk Analisis Farmasi. Pustaka Pelajar. 2014;77-116 p.
54. Dachriyanus. Analisis Struktur Senyawa Organik Secara Spektroskop. Padang: Lembaga Pengembangan Teknologi Informasi dan Komunikasi (LPTIK) Universitas Andalas; 2004.
55. Risal Y. Analisis Kemometrik Senyawa Inhibitor Tirosinase Menggunakan Spektrofotometer IR (FTIR). Maj Farm dan Farmakol. 2020;24(2):59–62.
56. Rohman A. Spektroskopi Inframerah dan Kemometrika untuk Analisis Farmasi. Yogyakarta: Pustaka Pelajar; 2014.
57. Sudjadi, Rohman A. Analisis Derivat Babi. Yogyakarta: Gadjah Mada University Press; 2018.
58. Jaswir I, Mahfudh N. Metodologi Penelitian Riset Bidang Sains Halal MODUL. Jakarta: Komite Nasional Ekonomi dan Keuangan Syariah (KNEKS); 2022.
59. Rohman A. Statistika dan Kemometrika Dasar dalam Analisis Farmasi. Yogyakarta: Pustaka Pelajar; 2014.
60. Gad HA, El-Ahmady SH, Abou-Shoer MI, Al-Azizi MM. Application of chemometrics in authentication of herbal medicines: A review. *Phytochem Anal.* 2013;24(1):1–24.
61. Syafri S, Putri RS, Jaswir I, Yusof F, Alen Y, Syofyan S, et al. Analysis of Turmeric (*Curcuma Longa* Linn) Essential Oil From Different Growing Locations Using Ftir/Gc-Ms Spectroscopy Coupled To Chemometrics and Its Wound Healing Activities. *Int J Appl Pharm.* 2024;16(1):152–9.
62. Syafri S, Jaswir I, Yusof F, Rohman A, Ahda M, Hamidi D. The use of instrumental technique and chemometrics for essential oil authentication: A review. *Results Chem.* 2022;4(October):100622.
63. Rohman A, Windarsih A. The Application of Molecular Spectroscopy in Combination with Chemometrics for Halal Authentication Analysis: A Review. *Int J Mol Sci.* 2020;21:1–18.
64. Windarsih A, Rohman A, Inawati RS. The Combination of Vibrational Spectroscopy and Chemometrics for Analysis of Milk Products Adulteration. *Int J Food Sci.* 2021;21(1):1–28.
65. Guntarti A, Ahda M, Sunengsih N. Identification of lard on grilled beef sausage product and steamed beef sausage product using fourier transform infrared (FTIR) spectroscopy with chemometric combination. *Potravin Slovak J Food Sci.* 2019 Oct;13(1):767–72.
66. Ahda M, Guntarti A, Kusbandari A, Nugroho HA. Identification of Adulterated Sausage Products by Pork using FTIR and GC-MS Combined with Chemometrics. *J Chem Heal Risks.* 2023;13(2):325–32.
67. Guntarti A, Ahda M, Kusbandari A, Atmana DT. Aplikasi metode FTIR

- kombinasi kemometrika untuk analisis lemak daging tikus pada nugget ayam. *J Halal Sci Res.* 2020;1(1):1–8.
68. Guntarti A, Martono S, Yuswanto A, Rohman A. FTIR spectroscopy in combination with chemometrics for analysis of wild boar meat in meatball formulation. *Asian J Biochem.* 2015;10(4):165–72.
 69. Salamah N, Jufri SL, Susanti H, Jaswir I. Analysis of Gelatin on Soft Candy using a Combination of Fourier Transform Infrared Spectroscopy (FTIR) with Chemometrics for Halal Authentication. *Indones J Halal Res.* 2023;5(2):90–8.
 70. Pranata AW, Yuliana ND, Amalia L, Darmawan N. Volatilomics for halal and non-halal meatball authentication using solid-phase microextraction–gas chromatography–mass spectrometry. *Arab J Chem.* 2021 May;14(5):1–17.
 71. Rahayu WS, Rohman A, Martono S, Sudjadi. Application of FTIR Spectroscopy and Chemometrics for Halal Authentication of Beef Meatball Adulterated with Dog Meat. *Indones J Chem.* 2018;18(2):376–81.
 72. Windarsih A, Riswanto FDO, Bakar NKA, Yuliana ND, Dachriyanus, Rohman A. Detection of Pork in Beef Meatballs Using LC-HRMS Based Untargeted Metabolomics and Chemometrics for Halal Authentication. *Molecules.* 2022;27(23):1–14.
 73. Singh I, Juneja P, Kaur B, Kumar P. Pharmaceutical Applications of Chemometric Techniques. *ISRN Anal Chem.* 2013;1–13.
 74. Rochman A, Irnawati, Riswanto FDO. *Kemometrika*. Yogyakarta: Gadjah Mada University Press; 2021.
 75. Golzar J, Noor S. Defining Convenience Sampling in a Scientific Research. *Int J Educ Lang Stud.* 2022;1(November):72–7.
 76. Andayani R, Kesumaningrum D, Nisa T, Husni E, Suryati S, Syofyan S, et al. Analisis Rendang Daging Sapi dan Daging Babi Hutan Menggunakan Metode Spektroskopi FTIR Kombinasi Kemometrik untuk Autentikasi Halal. *J Sains Farm Klin.* 2023;10(1):78.
 77. Subandi, Sukiyadi D. Testing the Efficiency and Effectiveness of the Use of Solvent Fat for the Research and Courses of Oil Content Testing. *Penguji Efisiensi Dan Ef Pengguna Pelarut Lemak Untuk Apl Pelaks Prakt Dan Penelit Penguji Kadar Lemak Miny.* 2020;(November):89–98.
 78. Lestari D, Syamsul ES, Wirnawati, Syofyan S, Rohman A, Hamidi D. Authentication of Rattus Norvegicus Fat and Other Animal Fats Using Gas Chromatography-Mass Spectrometry (Gc-Ms) and Principal Component Analysis (Pca). *Int J Appl Pharm.* 2023;15(Special Issue 1):39–44.
 79. Arifah MF, Irnawati, Ruslin, Nisa K, Windarsih A, Rohman A. The Application of FTIR Spectroscopy and Chemometrics for the Authentication Analysis of Horse Milk. *Int J Food Sci.* 2022;2022.
 80. Ahda M, Guntarti A, Kusbandari A, Melianto Y. Halal food analysis using

gc-ms combined with principal component analysis (Pca) based on saturated and unsaturated fatty acid composition. Songklanakarin J Sci Technol. 2021;43(2):352–5.

