

DAFTAR PUSTAKA

- A. Mohammed, & A. Abdullah. (2018). Scanning Electron Microscopy (SEM): A review. *Proceedings of 2018 International Conference on Hydraulics and Pneumatics - HERVEX*, 77–85.
- Abdollah, N. A., Ahmad, A., & Omar, T. F. T. (2020). Synthesis and characterization of molecular imprinted polymer for the determination of carbonate ion. *Biointerface Research in Applied Chemistry*, 11(3), 10620–10627. <https://doi.org/10.33263/BRIAC113.1062010627>
- Ahadi, H. M., Fardhan, F. M., Rahayu, D., Pratiwi, R., & Hasanah, A. N. (2024). Molecularly Imprinted Microspheres in Active Compound Separation from Natural Product. *Molecules*, 29(17), 1–27. <https://doi.org/10.3390/molecules29174043>
- Aini Qolbiyah Afgani, D. P. D. (2020). Pengaruh Polaritas Porogen Pada Sintesis Molecularly Imprinted Polymer (Mip). *Farmaka*, 16(3), 1–15.
- Amin, S., Damayanti, S., & Ibrahim, S. (2018a). Studi Interaksi, Sintesis dan Karakterisasi Molecular Imprinted Polymer Menggunakan Monomer Fungsional Asam Metakrilat dan Dimetilamilamin sebagai Molekul Template. *Jurnal Ilmu Kefarmasian Indonesia*, 16(1), 12–19.
- Amin, S., Damayanti, S., & Ibrahim, S. (2018b). Synthesis and Characterization Molecularly Imprinted Polymers for Analysis of Dimethylamylamine Using Acrylamide as Monomer Functional. *Jurnal Kefarmasian Indonesia*, August, 76–84. <https://doi.org/10.22435/jki.v8i2.330>
- Amin, S., Damayanti, S., & Ibrahim, S. (2018c). Synthesis and Characterization Molecularly Imprinted Polymers for Analysis of Dimethylamylamine Using Acrylamide as Monomer Functional. *Jurnal Kefarmasian Indonesia*, November, 76–84. <https://doi.org/10.22435/jki.v8i2.330>
- Amiri Khoshkar Vandani, S., Liu, Q., Lam, Y., & Ji, H. F. (2024). Enhancing Selectivity with Molecularly Imprinted Polymers via Non-Thermal Dielectric Barrier Discharge Plasma. *Polymers*, 16(16). <https://doi.org/10.3390/polym16162380>
- Becskereki, G., Horvai, G., & Tóth, B. (2021). The selectivity of molecularly imprinted polymers. *Polymers*, 13(11). <https://doi.org/10.3390/polym13111781>
- Belsom, A., & Rappsilber, J. (2021). Anatomy of a crosslinker. *Current Opinion in Chemical Biology*, 60, 39–46. <https://doi.org/10.1016/j.cbpa.2020.07.008>
- Binti, N., & Samah, A. (2017). *Design and Applications of Molecularly Imprinted Polymers for the Separation of Some Pharmaceutical Persistent Pollutants*.

- Bow, Y., Syakdani, A., Purnamasari, I., & Rusdianasari, R. (2021). Uji Kinerja Sensor Molecularly Imprinted Polymer (MIP) Simazin secara Potensiometri. *Jurnal Teknik Kimia Dan Lingkungan*, 5(2), 145–154. <https://doi.org/10.33795/jtkl.v5i2.221>
- Cegłowski, M., Kurczewska, J., Lusina, A., Nazim, T., & Ruszkowski, P. (2022). EGDMA-and TRIM-Based Microparticles Imprinted with 5-Fluorouracil for Prolonged Drug Delivery. *Polymers*, 14(5), 1–14. <https://doi.org/10.3390/polym14051027>
- Chen, X., Wang, P., Meng, Z., Chen, S., Gu, H., & Sha, X. (2014). Degradation Dynamics and Residue Analysis of Flubendiamide in Cabbage and Soil by Liquid Chromatography-Tandem Mass Spectrometry with Dispersive Solid Phase Extraction. *Agricultural Sciences*, 05(10), 850–857. <https://doi.org/10.4236/as.2014.510091>
- Chrisnandari, R. D. (2018). Sintesis dan Karakterisasi Molecularly Imprinted Polymer Untuk Kloramfenikol Menggunakan Polimerisasi Fasa Ruah. *Journal of Pharmacy and Science*, 3(1), 40–46. <https://doi.org/10.53342/pharmasci.v3i1.74>
- Depkes RI. (2013). *Ind f.*
- Elizabeth, M., & Rusdiana, T. (2023). Therapeutic Drug Monitoring (TDM) Teofilin sebagai Antiasma di Indonesia. *Jurnal Farmasi & Sains Indonesia*, 6(1), 33–38. <https://doi.org/10.52216/jfsi.vol6no1p33-38>
- Espinoza-Torres, S., López, R., Sotomayor, M. D. P. T., Tuesta, J. C., Picasso, G., & Khan, S. (2023). Synthesis, Characterization, and Evaluation of a Novel Molecularly Imprinted Polymer (MIP) for Selective Quantification of Curcumin in Real Food Sample by UV-Vis Spectrophotometry. *Polymers*, 15(16). <https://doi.org/10.3390/polym15163332>
- Fachrully S, A., Erna S, N., & Susilo. (2021). Analisis Citra Hasil Scanning Electron Microscopy Energy Dispersive X-Ray (SEM EDX) Komposit Resin Timbal dengan Metode Contrast to Noise Ratio (CNR). *Indonesian Journal of Mathematics and Natural Sciences*, 44(2), 81–85. <http://journal.unnes.ac.id/nju/index.php/JM>
- Gogin, L. L., Zhizhina, E. G., & Pai, Z. P. (2021). Production of Methacrylic Acid and Metacrylates. *Catalysis in Industry*, 13(2), 125–131. <https://doi.org/10.1134/S2070050421020057>
- Gopalan, S. V., & Hasanah, A. N. (2019). MI-SPE, M-SPE and M-SPD recent application on solid phase extraction for compound extraction of complex matrices. *International Journal of Applied Pharmaceutics*, 11(3), 16–25. <https://doi.org/10.22159/ijap.2019v11i3.32410>

- Handiana, I. R., & Indriyati, W. (2018). Formulasi Sediaan Tablet Lepas Lambat Teofilin Dengan Bahan Matriks Yang Berkarakteristik Hidrofilik : Review. *Farmaka Suplemen*, 14(1), 136–141.
- Hasanah, A. N., Safitri, N., Zulfa, A., Neli, N., & Rahayu, D. (2021). Factors affecting preparation of molecularly imprinted polymer and methods on finding template-monomer interaction as the key of selective properties of the materials. *Molecules*, 26(18). <https://doi.org/10.3390/molecules26185612>
- Herdini, Sri Lia Nurlicha, & Hadi, V. (2021). ANALISIS TEOFILIN DALAM JAMU SESAK NAPAS SEDIAAN SERBUK YANG BEREDAR DI KOTA BEKASI SECARA KLTp, SPEKTROFOTOMETRI UV/VIS DAN FTIR. *TEKNOSAINS: Jurnal Sains, Teknologi Dan Informatika*, 8(2), 100–108. <https://doi.org/10.37373/tekno.v8i2.101>
- Irawan, A. (2019). Kalibrasi Spektrofotometer Sebagai Penjaminan Mutu Hasil Pengukuran dalam Kegiatan Penelitian dan Pengujian. *Indonesian Journal of Laboratory*, 1(2), 1. <https://doi.org/10.22146/ijl.v1i2.44750>
- Kemenkes RI. (2023). *Suplemen, Farmakope Indonesia Edisi VI 2023*. 28–28.
- Lebeau, J., Efromson, J. P., & Lynch, M. D. (2020). A Review of the Biotechnological Production of Methacrylic Acid. *Frontiers in Bioengineering and Biotechnology*, 8(March 2020), 1–10. <https://doi.org/10.3389/fbioe.2020.00207>
- Liu, R., & Poma, A. (2021). Advances in molecularly imprinted polymers as drug delivery systems. *Molecules*, 26(12). <https://doi.org/10.3390/molecules26123589>
- Mardiana, U., & Nuraisyah, S. (2022). Penggunaan Molekul Cetakan Atenolol Dan Monomer Akrilamid Pada Sintesis Molecular Imprinting Polymer. *Jurnal Kimia*, 16(1), 10. <https://doi.org/10.24843/jchem.2022.v16.i01.p02>
- Mubarok, F. (2021). Spektrofotometer Prinsip dan Cara Kerjanya. *Farmasi Industri: Universitas Surabaya*, June, 1–9.
- Nandiyanto, A. B. D., Ragadhita, R., & Fiandini, M. (2023). Interpretation of Fourier Transform Infrared Spectra (FTIR): A Practical Approach in the Polymer/Plastic Thermal Decomposition. *Indonesian Journal of Science and Technology*, 8(1), 113–126. <https://doi.org/10.17509/ijost.v8i1.53297>
- Oktaviani, D. J., Widiyastuti, S., Maharani, D. A., Amalia, A. N., Ishak, A. M., & Zuhrotun, A. (2020). Review: Pengaruh Monomer Asam Metakrilat Terhadap Berbagai Template Pada Molecularly Imprinted Solid Phase Extraction. *Farmaka*, 18(1), 1–15.
- Öter, Ç., & Zorer, Ö. S. (2021). Molecularly imprinted polymer synthesis and selective solid phase extraction applications for the detection of ziram, a

- dithiocarbamate fungicide. *Chemical Engineering Journal Advances*, 7(February). <https://doi.org/10.1016/j.cej.2021.100118>
- Qronfla, M. M., Jamoussi, B., & Chakroun, R. (2023). Synthesis and Characterization of a New Molecularly Imprinted Polymer for Selective Extraction of Mandelic Acid Metabolite from Human Urine as a Biomarker of Environmental and Occupational Exposures to Styrene. *Polymers*, 15(10). <https://doi.org/10.3390/polym15102398>
- Sajini, T., & Mathew, B. (2021). A brief overview of molecularly imprinted polymers: Highlighting computational design, nano and photo-responsive imprinting. *Talanta Open*, 4, 100072. <https://doi.org/10.1016/j.talo.2021.100072>
- Saylan, Y., Akgönüllü, S., Yavuz, H., Ünal, S., & Denizli, A. (2019). Molecularly imprinted polymer based sensors for medical applications. *Sensors (Switzerland)*, 19(6). <https://doi.org/10.3390/s19061279>
- Shaipulizan, N. S., Nurul, S., Jamil, A., & Kamaruzaman, S. (n.d.). *Preparation of Ethylene Glycol Dimethacrylate (EGDMA) -Based Terpolymer as Potential Sorbents for*.
- Shevchenko, K. G., Garkushina, I. S., Canfarotta, F., Piletsky, S. A., & Barlev, N. A. (2022). Nano-molecularly imprinted polymers (nanoMIPs) as a novel approach to targeted drug delivery in nanomedicine. *RSC Advances*, 12(7), 3957–3968. <https://doi.org/10.1039/d1ra08385f>
- Sianita, M. M., & Butar, M. B. (2022). Pengaruh Jumlah Crosslinker Pada Sintesis Molecularly Imprinted Polymer (Mip) Terhadap Kemampuan Adsorpsi Kloramfenikol. *Unesa Journal of Chemistry*, 11(1), 18–25. <https://doi.org/10.26740/ujc.v11n1.p18-25>
- Structure2D_COMPOUND_CID_7355*. (n.d.).
- Subamia, I. D. P., Widiasih, N. N., Sri Wahyuni, I. G. A. N., & Pratami Kristiyanti, P. L. (2023). Optimasi Kinerja Alat Fourier Transform Infrared (FTIR) Melalui Studi Perbandingan Komposisi dan Ketebalan Sampel-KBr. *Jurnal Pengelolaan Laboratorium Pendidikan*, 5(2), 58–69. <https://doi.org/10.14710/jplp.5.2.58-69>
- Sulistiyani, M., & Huda, N. (2018). Perbandingan Metode Transmisi dan Reflektansi Pada Pengukuran Polistirena Menggunakan Instrumentasi Spektroskopi Fourier Transform Infra Red. *Indonesian Journal of Chemical Science*, 7(2), 195–198.
- Zaidi, S. A. (2016). Molecular imprinted polymers as drug delivery vehicles. *Drug Delivery*, 23(7), 2262–2271. <https://doi.org/10.3109/10717544.2014.970297>

- A. Mohammed, & A. Abdullah. (2018). Scanning Electron Microscopy (SEM): A review. *Proceedings of 2018 International Conference on Hydraulics and Pneumatics - HERVEX*, 77–85.
- Abdollah, N. A., Ahmad, A., & Omar, T. F. T. (2020). Synthesis and characterization of molecular imprinted polymer for the determination of carbonate ion. *Biointerface Research in Applied Chemistry*, 11(3), 10620–10627. <https://doi.org/10.33263/BRIAC113.1062010627>
- Ahadi, H. M., Fardhan, F. M., Rahayu, D., Pratiwi, R., & Hasanah, A. N. (2024). Molecularly Imprinted Microspheres in Active Compound Separation from Natural Product. *Molecules*, 29(17), 1–27. <https://doi.org/10.3390/molecules29174043>
- Aini Qolbiyah Afgani, D. P. D. (2020). Pengaruh Polaritas Porogen Pada Sintesis Molecularly Imprinted Polymer (Mip). *Farmaka*, 16(3), 1–15.
- Amin, S., Damayanti, S., & Ibrahim, S. (2018a). Studi Interaksi, Sintesis dan Karakterisasi Molecular Imprinted Polymer Menggunakan Monomer Fungsional Asam Metakrilat dan Dimetilamilamin sebagai Molekul Template. *Jurnal Ilmu Kefarmasian Indonesia*, 16(1), 12–19.
- Amin, S., Damayanti, S., & Ibrahim, S. (2018b). Synthesis and Characterization Molecularly Imprinted Polymers for Analysis of Dimethylamylamine Using Acrylamide as Monomer Functional. *Jurnal Kefarmasian Indonesia*, August, 76–84. <https://doi.org/10.22435/jki.v8i2.330>
- Amin, S., Damayanti, S., & Ibrahim, S. (2018c). Synthesis and Characterization Molecularly Imprinted Polymers for Analysis of Dimethylamylamine Using Acrylamide as Monomer Functional. *Jurnal Kefarmasian Indonesia*, November, 76–84. <https://doi.org/10.22435/jki.v8i2.330>
- Amiri Khoshkar Vandani, S., Liu, Q., Lam, Y., & Ji, H. F. (2024). Enhancing Selectivity with Molecularly Imprinted Polymers via Non-Thermal Dielectric Barrier Discharge Plasma. *Polymers*, 16(16). <https://doi.org/10.3390/polym16162380>
- Beckskereki, G., Horvai, G., & Tóth, B. (2021). The selectivity of molecularly imprinted polymers. *Polymers*, 13(11). <https://doi.org/10.3390/polym13111781>
- Belsom, A., & Rappsilber, J. (2021). Anatomy of a crosslinker. *Current Opinion in Chemical Biology*, 60, 39–46. <https://doi.org/10.1016/j.cbpa.2020.07.008>
- Binti, N., & Samah, A. (2017). *Design and Applications of Molecularly Imprinted Polymers for the Separation of Some Pharmaceutical Persistent Pollutants*.
- Bow, Y., Syakdani, A., Purnamasari, I., & Rusdianasari, R. (2021). Uji Kinerja Sensor Molecularly Imprinted Polymer (MIP) Simazin secara Potensiometri.

- Jurnal Teknik Kimia Dan Lingkungan*, 5(2), 145–154.
<https://doi.org/10.33795/jtkl.v5i2.221>
- Cegłowski, M., Kurczewska, J., Lusina, A., Nazim, T., & Ruszkowski, P. (2022). EGDMA-and TRIM-Based Microparticles Imprinted with 5-Fluorouracil for Prolonged Drug Delivery. *Polymers*, 14(5), 1–14.
<https://doi.org/10.3390/polym14051027>
- Chen, X., Wang, P., Meng, Z., Chen, S., Gu, H., & Sha, X. (2014). Degradation Dynamics and Residue Analysis of Flubendiamide in Cabbage and Soil by Liquid Chromatography-Tandem Mass Spectrometry with Dispersive Solid Phase Extraction. *Agricultural Sciences*, 05(10), 850–857.
<https://doi.org/10.4236/as.2014.510091>
- Chrisnandari, R. D. (2018). Sintesis dan Karakterisasi Molecularly Imprinted Polymer Untuk Kloramfenikol Menggunakan Polimerisasi Fasa Ruah. *Journal of Pharmacy and Science*, 3(1), 40–46.
<https://doi.org/10.53342/pharmasci.v3i1.74>
- Depkes RI. (2013). *Ind f.*
- Elizabeth, M., & Rusdiana, T. (2023). Therapeutic Drug Monitoring (TDM) Teofilin sebagai Antiasma di Indonesia. *Jurnal Farmasi & Sains Indonesia*, 6(1), 33–38. <https://doi.org/10.52216/jfsi.vol6no1p33-38>
- Espinoza-Torres, S., López, R., Sotomayor, M. D. P. T., Tuesta, J. C., Picasso, G., & Khan, S. (2023). Synthesis, Characterization, and Evaluation of a Novel Molecularly Imprinted Polymer (MIP) for Selective Quantification of Curcumin in Real Food Sample by UV-Vis Spectrophotometry. *Polymers*, 15(16). <https://doi.org/10.3390/polym15163332>
- Fachrully S, A., Erna S, N., & Susilo. (2021). Analisis Citra Hasil Scanning Electron Microscopy Energy Dispersive X-Ray (SEM EDX) Komposit Resin Timbal dengan Metode Contrast to Noise Ratio (CNR). *Indonesian Journal of Mathematics and Natural Sciences*, 44(2), 81–85.
<http://journal.unnes.ac.id/nju/index.php/JM>
- Gogin, L. L., Zhizhina, E. G., & Pai, Z. P. (2021). Production of Methacrylic Acid and Metacrylates. *Catalysis in Industry*, 13(2), 125–131.
<https://doi.org/10.1134/S2070050421020057>
- Gopalan, S. V., & Hasanah, A. N. (2019). MI-SPE, M-SPE and M-SPD recent application on solid phase extraction for compound extraction of complex matrices. *International Journal of Applied Pharmaceutics*, 11(3), 16–25.
<https://doi.org/10.22159/ijap.2019v11i3.32410>
- Handiana, I. R., & Indriyati, W. (2018). Formulasi Sediaan Tablet Lepas Lambat Teofilin Dengan Bahan Matriks Yang Berkarakteristik Hidrofilik : Review. *Farmaka Suplemen*, 14(1), 136–141.

- Hasanah, A. N., Safitri, N., Zulfa, A., Neli, N., & Rahayu, D. (2021). Factors affecting preparation of molecularly imprinted polymer and methods on finding template-monomer interaction as the key of selective properties of the materials. *Molecules*, 26(18). <https://doi.org/10.3390/molecules26185612>
- Herdini, Sri Lia Nurlicha, & Hadi, V. (2021). ANALISIS TEOFILIN DALAM JAMU SESAK NAPAS SEDIAAN SERBUK YANG BEREDAR DI KOTA BEKASI SECARA KLTp, SPEKTROFOTOMETRI UV/VIS DAN FTIR. *TEKNOSAINS: Jurnal Sains, Teknologi Dan Informatika*, 8(2), 100–108. <https://doi.org/10.37373/tekno.v8i2.101>
- Irawan, A. (2019). Kalibrasi Spektrofotometer Sebagai Penjaminan Mutu Hasil Pengukuran dalam Kegiatan Penelitian dan Pengujian. *Indonesian Journal of Laboratory*, 1(2), 1. <https://doi.org/10.22146/ijl.v1i2.44750>
- Kemenkes RI. (2023). *Suplemen, Farmakope Indonesia Edisi VI 2023*. 28–28.
- Lebeau, J., Efromson, J. P., & Lynch, M. D. (2020). A Review of the Biotechnological Production of Methacrylic Acid. *Frontiers in Bioengineering and Biotechnology*, 8(March 2020), 1–10. <https://doi.org/10.3389/fbioe.2020.00207>
- Liu, R., & Poma, A. (2021). Advances in molecularly imprinted polymers as drug delivery systems. *Molecules*, 26(12). <https://doi.org/10.3390/molecules26123589>
- Mardiana, U., & Nuraisyah, S. (2022). Penggunaan Molekul Cetakan Atenolol Dan Monomer Akrilamid Pada Sintesis Molecular Imprinting Polymer. *Jurnal Kimia*, 16(1), 10. <https://doi.org/10.24843/jchem.2022.v16.i01.p02>
- Mubarok, F. (2021). Spektrofotometer Prinsip dan Cara Kerjanya. *Farmasi Industri: Universitas Surabaya*, June, 1–9.
- Nandiyanto, A. B. D., Ragadhita, R., & Fiandini, M. (2023). Interpretation of Fourier Transform Infrared Spectra (FTIR): A Practical Approach in the Polymer/Plastic Thermal Decomposition. *Indonesian Journal of Science and Technology*, 8(1), 113–126. <https://doi.org/10.17509/ijost.v8i1.53297>
- Oktaviani, D. J., Widiyastuti, S., Maharani, D. A., Amalia, A. N., Ishak, A. M., & Zuhrotun, A. (2020). Review: Pengaruh Monomer Asam Metakrilat Terhadap Berbagai Template Pada Molecularly Imprinted Solid Phase Extraction. *Farmaka*, 18(1), 1–15.
- Öter, Ç., & Zorer, Ö. S. (2021). Molecularly imprinted polymer synthesis and selective solid phase extraction applications for the detection of ziram, a dithiocarbamate fungicide. *Chemical Engineering Journal Advances*, 7(February). <https://doi.org/10.1016/j.ceja.2021.100118>

- Qronfla, M. M., Jamoussi, B., & Chakroun, R. (2023). Synthesis and Characterization of a New Molecularly Imprinted Polymer for Selective Extraction of Mandelic Acid Metabolite from Human Urine as a Biomarker of Environmental and Occupational Exposures to Styrene. *Polymers*, 15(10). <https://doi.org/10.3390/polym15102398>
- Sajini, T., & Mathew, B. (2021). A brief overview of molecularly imprinted polymers: Highlighting computational design, nano and photo-responsive imprinting. *Talanta Open*, 4, 100072. <https://doi.org/10.1016/j.talo.2021.100072>
- Saylan, Y., Akgönüllü, S., Yavuz, H., Ünal, S., & Denizli, A. (2019). Molecularly imprinted polymer based sensors for medical applications. *Sensors (Switzerland)*, 19(6). <https://doi.org/10.3390/s19061279>
- Shaipulizan, N. S., Nurul, S., Jamil, A., & Kamaruzaman, S. (n.d.). *Preparation of Ethylene Glycol Dimethacrylate (EGDMA) -Based Terpolymer as Potential Sorbents for.*
- Shevchenko, K. G., Garkushina, I. S., Canfarotta, F., Piletsky, S. A., & Barlev, N. A. (2022). Nano-molecularly imprinted polymers (nanoMIPs) as a novel approach to targeted drug delivery in nanomedicine. *RSC Advances*, 12(7), 3957–3968. <https://doi.org/10.1039/d1ra08385f>
- Sianita, M. M., & Butar, M. B. (2022). Pengaruh Jumlah Crosslinker Pada Sintesis Molecularly Imprinted Polymer (Mip) Terhadap Kemampuan Adsorpsi Kloramfenikol. *Unesa Journal of Chemistry*, 11(1), 18–25. <https://doi.org/10.26740/ujc.v11n1.p18-25>
- Structure2D_COMPOUND_CID_7355*. (n.d.).
- Subamia, I. D. P., Widiasih, N. N., Sri Wahyuni, I. G. A. N., & Pratami Kristiyanti, P. L. (2023). Optimasi Kinerja Alat Fourier Transform Infrared (FTIR) Melalui Studi Perbandingan Komposisi dan Ketebalan Sampel-KBr. *Jurnal Pengelolaan Laboratorium Pendidikan*, 5(2), 58–69. <https://doi.org/10.14710/jplp.5.2.58-69>
- Sulistiyani, M., & Huda, N. (2018). Perbandingan Metode Transmisi dan Reflektansi Pada Pengukuran Polistirena Menggunakan Instrumentasi Spektroskopi Fourier Transform Infra Red. *Indonesian Journal of Chemical Science*, 7(2), 195–198.
- Zaidi, S. A. (2016). Molecular imprinted polymers as drug delivery vehicles. *Drug Delivery*, 23(7), 2262–2271. <https://doi.org/10.3109/10717544.2014.970297>