

## DAFTAR PUSTAKA

- Abdelrahman, E.A., Hegazey, R.M., Kotp, Y.H., and Alharbi, A., 2019, Facile synthesis of Fe<sub>2</sub>O<sub>3</sub> nanoparticles from Egyptian insecticide cans for efficient photocatalytic degradation of methylene blue and crystal violet dyes, *Spectrochim. Acta - Part A Mol. Biomol. Spectrosc.*, 222, 1–11.
- Ahmad, M.A., Eusoff, M.A., Oladoye, P.O., Adegoke, K.A., and Bello, O.S., 2020, Statistical optimization of Remazol Brilliant Blue R dye adsorption onto activated carbon prepared from pomegranate fruit peel, *Chem. Data Collect.*, 28, 1–16.
- Almonaityte, K., Bendoraitiene, J., Babelyte, M., Rosliuk, D., and Rutkaite, R., 2020, Structure and properties of cationic starches synthesized by using 3-chloro-2-hydroxypropyltrimethylammonium chloride, *Int. J. Biol. Macromol.*, 164, 2010–2017.
- Altıntig, E., Ates, A., Angin, D., Topal, Z., and Aydemir, Z., 2022, Kinetic, equilibrium, adsorption mechanisms of RBBR and MG dyes on chitosan-coated montmorillonite with an ecofriendly approach, *Chem. Eng. Res. Des.*, 188, 287–300.
- Amrillah, Z., Hanum, F.F., and Rahayu, A., 2022, Studi Efektivitas Metode Ekstraksi Selulosa dari Agricultural Waste, *Seminar Nasional Penelitian LPPM UMJ*, 1–8.
- Balela, M.D.L., Intila, N.M., and Salvanera, S.R., 2019, Adsorptive removal of lead ions in aqueous solution by kapok-polyacrylonitrile nanocomposites, *Mater. Today Proc.*, 17, 672–678.
- Budikania, T.S., Suminar, D.R., Karamah, E.F., and Saksono, N., 2020, Efek Suhu dan Injeksi Udara pada Penyisihan Limbah Pewarna Tekstil Remazol Red dengan Metode Elektrolisis Plasma, *Jurnal Teknik Kimia Indonesia*, 18, 30–36.
- Correia, J., Mathur, K., Bourham, M., Oliveira, F.R., Siqueira Curto Valle, R.D.C., Valle, J.A.B., and Seyam, A.F.M., 2021, Surface functionalization of greige cotton knitted fabric through plasma and cationization for dyeing with reactive and acid dyes, *Cellulose*, 28, 9971–9990.
- Correia, J., Rainert, K.T., Oliveira, F.R., de Cássia Siqueira Curto Valle, R., and Valle, J.A.B., 2020, Cationization of cotton fiber: an integrated view of cationic agents, processes variables, properties, market and future prospects, *Cellulose*, 27, 8527–8550.
- Desta, M.B., 2013, Batch sorption experiments: Langmuir and freundlich isotherm studies for the adsorption of textile metal ions onto teff straw (eragrostis tef) agricultural waste, *J. Thermodyn.*, 1, .
- Dizbay-Onat, M., Vaidya, U.K., Balanay, J.A.G., and Lungu, C.T., 2018, Preparation and characterization of flax, hemp and sisal fiber-derived

- mesoporous activated carbon adsorbents, *Adsorpt. Sci. Technol.*, 36, 441–457.
- Fitriani, I.N., Puspitasari, A.R., and Amelia, R.N., 2019, Dekolorisasi Senyawa Azo Limbah Remazol Golden Yellow Oleh Bioadsorben Eceng Gondok (*Eichhornia crassipes*), *Walisongo Jrnal Chemistry*, 2, 40–46.
- Gita, M.P., Dewi, R.S., and Sari, A.A., 2020, OPTIMASI WAKTU INKUBASI DAN pH *Ganoderma* sp. DARI KEBUN RAYA BATURRADEN UNTUK DEKOLORISASI RBBR, *BioEksakta Jurnal Ilmu Biologi Unsoed*, 2, 131–137.
- Govindaraju, I., Sana, M., Chakraborty, I., Rahman, M.H., Biswas, R., and Mazumder, N., 2024, Dietary Acrylamide: A Detailed Review on Formation, Detection, Mitigation, and Its Health Impacts, *Foods*, 13, 1–25.
- Gunawan, I., Fauziah, M., Yulizar, Y., and Sudirman, S., 2019, Green Modifikasi Nanopartikel Au Terhadap Permukaan Bentonit Terpillar Cu Sebagai Degradasi Zat Warna Remazol Brilliant Blue R (RBBR), *Jurnal Kimia dan Kemasan*, 41, 45–54.
- Guo, K., Gao, B., Tian, X., Yue, Q., Zhang, P., Shen, X., and Xu, X., 2019, Synthesis of polyaluminium chloride/papermaking sludge-based organic polymer composites for removal of disperse yellow and reactive blue by flocculation, *Chemosphere*, 231, 337–348.
- Güzel, F., Saygılı, H., Saygılı, G.A., and Koyuncu, F., 2014, Decolorisation of aqueous crystal violet solution by a new nanoporous carbon: Equilibrium and kinetic approach, *J. Ind. Eng. Chem.*, 20, 3375–3386.
- Hartati, I., Kurniasari, L., Arum, D.P., and Sudarmiseh, S., 2019, PROSES DELIGNIFIKASI HIDROTROPI RAMI (*Boehmeria nivea* Gaud), *Jurnal Inovasi Teknik Kimia*, 4, 16–20.
- El Hassani, K., Kalnina, D., Turks, M., Beakou, B.H., and Anouar, A., 2019, Enhanced degradation of an azo dye by catalytic ozonation over Ni-containing layered double hydroxide nanocatalyst, *Sep. Purif. Technol.*, 210, 764–774.
- Indah, D.R. and Safnowandi, 2019, Hydrogen, *Jurnal Kependidikan Kimia*, 7, 2338–6487.
- Inglezakis, V.J., Balsamo, M., and Montagnaro, F., 2020, Liquid-Solid Mass Transfer in Adsorption Systems - An Overlooked Resistance?, *Ind. Eng. Chem. Res.*, 59, 22007–22016.
- Irawati, H., Hidayat Aprilita, N., and Sugiharto, E., 2018, Adsorpsi Zat Warna Kristal, *Berkas MIPA*, 25, 18–31.
- Jara, L.F. and Putra, M.R., 2021, Implementasi Digital Marketing dalam Membangun Brand Awareness Menggunakan Metode Object Oriented Analysis and Design pada Umkm Tekstil Kota Padang, *Jurnal KomtekInfo*, 8, 110–117.
- Jawad, A.H., Rashid, R.A., Mahmud, R.M.A., Ishak, M.A.M., Kasim, N.N., and

- Ismail, K., 2016, Adsorption of methylene blue onto coconut (*Cocos nucifera*) leaf: optimization, isotherm and kinetic studies, *Desalin. Water Treat.*, 57, 8839–8853.
- Kasipah, C., Novarini, E., Rakhmatiara, E.Y., and Natawijaya, D., 2015, Peningkatan Kemampuan Pencelupan Kain Kapas Terhadap Zat Warna Reaktif Melalui Proses Kationisasi, *Arena Tekstil*, 30, 55–66.
- Kurák, T. and Polakovič, M., 2022, Adsorption Performance of a Multimodal Anion-Exchange Chromatography Membrane: Effect of Liquid Phase Composition and Separation Mode, *Membranes (Basel)*, 12, 1–22.
- Kusuma, S.B.W. and Susatyo, E.B., 2021, Sintesis Ester Selulosa Alami Berbasis Minyak Esensial Aldehid Takjenuh-A, B, *Pemanfaat. sumber daya alam Indones. Ketahanan pangan, Energi dan Mater. Maju*, 188–233.
- Kusumawardani, R., Zaharah, T., A, dan Destiarti, L., 2018, Adsorpsi Kadmium Menggunakan Adsorben Selulosa Ampas Tebu, *Jurnal Program Studi Kimia Fakultas MIPA Univ. Tanjungpura*, 7, 75–83.
- Larasati, A.I., Susanawati, L.D., and Suharto, B., 2015, Efektivitas adsorpsi logam berat pada air lindi menggunakan media karbon aktif, zeolit, dan silika gel di TPA Tlekung, Batu, *Sumber Daya Alam dan Lingkungan*, 2, 44–48.
- Lestari, N.C., Budiawan, I., and Fuadi, A.M., 2021, Pemanfaatan cangkang telur dan sekam padi sebagai bioadsorben metilen biru pada limbah tekstil, *Jurnal Riset Kimia*, 12, 36–43.
- Lestari, V.A. and Priambodo, T.B., 2020, Cangkang Kulit Kopi Untuk Proses, *Kajian Komposisi Lignin dan Selulosa*, 18, 1–8.
- Liang, Z., Li, X., Li, M., and Hong, Y., 2023, Study on the Preparation and Properties of Jute Microcrystalline Cellulose Membrane, *Molecules*, 28, 1–13.
- Liu, Y., Zhu, W., Guan, K., Peng, C., and Wu, J., 2018, Freeze-casting of alumina ultra-filtration membranes with good performance for anionic dye separation, *Ceram. Int.*, 44, 11901–11904.
- Maharani, S.A., Aisiyah, A., Salsabilla, D.R., and Nailuvar, R., 2022, ISOLASI SENYAWA AKTIF LIGNAN DARI BEBERAPA TANAMAN, *J. Ilm. Sos. Tek.*, 4, 73–81.
- Maslukah, L., Zainuri, M., Wirasatriya, A., and Widiaratih, R., 2020, STUDI KINETIKA ADSORPSI DAN DESORPSI ION FOSFAT (PO42-) DI SEDIMEN PERAIRAN SEMARANG DAN JEPARA, *Jurnal Ilmu dan Teknologi Kelautan Tropis*, 12, 385–396.
- Mongioví, C., Lacalamita, D., Morin-Crini, N., Gabrion, X., Ivanovska, A., Sala, F., Placet, V., Rizzi, V., Gubitosa, J., Mesto, E., Ribeiro, A.R.L., Fini, P., De Vietro, N., Schingaro, E., Kostić, M., Cosentino, C., Cosma, P., Bradu, C., Chanet, G., et al., 2021, Use of chènevotte, a valuable co-product of industrial hemp fiber, as adsorbent for pollutant removal. Part i: Chemical, microscopic, spectroscopic and thermogravimetric characterization of raw and modified

samples, *Molecules*, 26, 1–19.

- Morin-Crini, N., Loiacono, S., Placet, V., Torri, G., Bradu, C., Kostić, M., Cosentino, C., Chanet, G., Martel, B., Lichtfouse, E., and Crini, G., 2019, Hemp-based adsorbents for sequestration of metals: a review, *Environ. Chem. Lett.*, 17, 393–408.
- Navarro, P., Pellicer, J.A., and Gómez-López, V.M., 2019, Degradation of azo dye by an UV/H<sub>2</sub>O<sub>2</sub> advanced oxidation process using an amalgam lamp, *Water Environ. J.*, 33, 476–483.
- Netzer, F., Manian, A.P., Bechtold, T., and Pham, T., 2024, The role of carboxyl and cationic groups in low-level cationised cellulose fibres investigated by zeta potential and sorption studies, *Cellulose*, 31, 8501–8517.
- Nurlaili, T., Kurniasari, L., and Ratnani, R.D., 2017, Pemanfaatan Limbah Cangkang Telur Ayam sebagai Adsorben Zat Warna Methyl Orange dalam Larutan, *Inovasi Teknik Kimia*, 2, 11–14.
- Oko, S., Harjanto, H., Kurniawan, A., and Winanti, C., 2022, Penurunan Kadar Zat Warna Remazol Brilliant Blue R Dengan Metode Adsorpsi Menggunakan Serbuk CaCO<sub>3</sub> Dari Cangkang Telur Dan Karbon Aktif, *Metana*, 18, 39–45.
- Parimelazhagan, V., Yashwath, P., Arukkani Pushparajan, D., and Carpenter, J., 2022, Rapid Removal of Toxic Remazol Brilliant Blue-R Dye from Aqueous Solutions Using Juglans nigra Shell Biomass Activated Carbon as Potential Adsorbent: Optimization, Isotherm, Kinetic, and Thermodynamic Investigation, *Int. J. Mol. Sci.*, 23, 1–33.
- Patel, H., 2021a, Review on solvent desorption study from exhausted adsorbent, *J. Saudi Chem. Soc.*, 25, 1–11.
- Patel, H., 2021b, Review on solvent desorption study from exhausted adsorbent, *J. Saudi Chem. Soc.*, 25, 101302.
- Pedrosa, J.F.S., Alves, L., Neto, C.P., Rasteiro, M.G., and Ferreira, P.J.T., 2022, Assessment of the Performance of Cationic Cellulose Derivatives as Calcium Carbonate Flocculant for Papermaking, *Polymers (Basel)*, 14, 1–18.
- Permatasari, I., Nugroho, R.A., and Meitiniarti, V.I., 2018, Dekolorisasi Pewarna Tekstil Sumifix Blue Dan Reactive Red 2 Oleh Bakteri Yang Diisolasi Dari Limbah Industri Tekstil, *Jurnal Bioteknologi Biosains Indonesia*, 5, 20–26.
- Prastika, A. and Alamsah, I., 2022, kinetika adsorpsi asam tanat pada fotokatalis SiO<sub>2</sub>/TiO<sub>2</sub>, *G-Tech Jurnal Teknologi Terapan*, 6, 14–22.
- Pungut, P., Al Kholif, M., and Pratiwi, W.D.I., 2021, Penurunan Kadar Chemical Oxygen Demand (Cod) Dan Fosfat Pada Limbah Laundry Dengan Metode Adsorpsi, *Jurnal Sains & Teknologi Lingkungan*, 13, 155–165.
- Rahayu, A., Maryudi, M., Hanum, F.F., Fajri, J.A., Anggraini, W.D., and Khasanah, U., 2022, Review: Pengolahan limbah cair industri dengan menggunakan silika, *Open Sci. Technol.*, 2, 1–12.

- Rahayu, S., Wirjosentono, B., Oktavia, E., Zuhra, C.F., Pasaribu, K.M., Rahman Piliang, A.F., Sihotang, N.S., Tarigan, J.B., Siow, J., Goei, R., Tok, A.I.Y., and Gea, S., 2024, Temperature-dependent etherification of cassava starch with CHPTAC for cationic starch production, *Case Stud. Chem. Environ. Eng.*, 10, 1–8.
- Rahmat, N.A., Ali, A.A., Salmiati, Hussain, N., Muhamad, M.S., Kristanti, R.A., and Hadibarata, T., 2016, Removal of Remazol Brilliant Blue R from Aqueous Solution by Adsorption Using Pineapple Leaf Powder and Lime Peel Powder, *Water. Air. Soil Pollut.*, 227, 1–11.
- Rahmi, R. and Sajidah, 2017, Pemanfaatan Adsorben Alami (Biosorben) Untuk Mengurangi Kadar Timbal(Pb) dalam Limbah Cair, *Prosiding Seminar Nasional Bioteknologi*, 271–279.
- Riwayati, I., Fikriyyah, N., and Suwardiyono, S., 2019, adsorpsi zat warna methylene blue menggunakan abu alang-alang (*imperata cylindrica*) teraktivasi asam sulfat, *Jurnal Inovasi Teknik Kimia*, 4, 6–11.
- Sadeek, S.A., Negm, N.A., Hefni, H.H.H., and Abdel Wahab, M.M., 2015, Metal adsorption by agricultural biosorbents: Adsorption isotherm, kinetic and biosorbents chemical structures, *Int. J. Biol. Macromol.*, 81, 400–409.
- Sanjaya, A.S. and Agustine, R.P., 2015, studi kinetika adsorpsi Pb menggunakan arang aktif dari kulit pisang, *Konversi*, 4, 17–24.
- Sarioğlu, E., Mehenktaş, C., and Arar, Ö., 2023, Removal of chromate from water samples by cationic cellulose, *Biomass Convers. Biorefinery.*.
- Setiyanto, H., 2016, Study on the Fenton Reaction for Degradation of Remazol Red B in Textile Waste Industry, *Molekul*, 11, 168–179.
- Setthayanond, J., Netzer, F., Seemork, K., Suwanruji, P., Bechtold, T., Pham, T., and Manian, A.P., 2023, Low-level cationisation of cotton opens a chemical saving route to salt free reactive dyeing, *Cellulose*, 30, 4697–4711.
- Sharma, M., Aguado, R., Murtinho, D., Valente, A.J.M., Mendes De Sousa, A.P., and Ferreira, P.J.T., 2020, A review on cationic starch and nanocellulose as paper coating components, Elsevier B.V.
- Siswanti, Putri, Y., and Hasna Oktaviana, A., 2024, Adsorpsi Zat Warna Remazol Brilliant Blue R Pada Limbah Industri Batik Menggunakan Adsorben dari Mahkota Buah Nanas Adsorption of Remazol Brilliant Blue R Dye on Batik Industry Waste Using Pineapple Crown Adsorbent, *Jurnal Ilmu Teknik Kimia*, 21, 2460–8203.
- Tanasale, M.F.J.D.P., Male, Y.T., and Garium, N.B., 2020, Kinetika Adsorpsi Zat Warna Tartrazina Menggunakan Limbah Ampas Tahu sebagai Adsorben, *Fuller. Jurnal Chemistry*, 5, 63–72.
- Trisnawati, E.W., Pramono, E., and Suryanti, V., 2023, Isolation of microcellulose from peanut shell (*Arachis hypogaea*) and its potential application, *Prosiding Seminar Nasional Masyarakat Biodiversitas Indonesia*, 9, 137–142.

- Tseng, R.L. and Wu, F.C., 2008, Inferring the favorable adsorption level and the concurrent multi-stage process with the Freundlich constant, *J. Hazard. Mater.*, 155, 277–287.
- Utama, S., Kristianto, H., and Andreas, A., 2016, Adsorpsi Ion Logam Kromium (Cr (Vi)) Menggunakan Karbon Aktif dari Bahan Baku Kulit Salak, *Prosiding Seminar Nasional Teknik Kimia “Kejuangan,”* 1–6.
- Utomo, W.P., Jovita, S., Maghfur, B., Ratri, A., Afifah, P.A.I., and Yuhaneke, G., 2023, Studi Adsorpsi Zat Warna Indigosol yellow dengan Karbon Teraktivasi Asam Fosfat dari Pirolisis Ampas Tebu, *Akta Kimia Indonesia*, 8, 138–159.
- Wang, L., Yan, K., Hu, C., and Ji, B., 2020, Preparation and investigation of a stable hybrid inkjet printing ink of reactive dye and CHPTAC, *Dye. Pigment.*, 181, 1–10.
- Wawrzkieicz, M., Hubicki, Z., and Polska-Adach, E., 2018, Strongly basic anion exchanger Lewatit MonoPlus SR-7 for acid, reactive, and direct dyes removal from wastewaters, *Sep. Sci. Technol.*, 53, 1–37.
- Wijayanti, I.E. and Kurniawati, E.A., 2019, Studi Kinetika Adsorpsi Isoterm Persamaan Langmuir dan Freundlich pada Abu Gosok sebagai Adsorben, *EduChemia (Jurnal Kimia dan Pendidikan)*, 4, 175.
- Wuryanti, D. and Suharyadi, E., 2018, Studi Adsorpsi Logam Co(II), Cu(II), dan Ni(II) Dalam Limbah Cair Buatan Menggunakan Adsorben Nanopartikel Magnetik Fe<sub>3</sub>O<sub>4</sub> dan ZnFe<sub>2</sub>O<sub>4</sub>, *Jurnal Fisika Indonesia*, 20, 28–35.
- Zhai, S., Li, Y., Dong, W., Zhao, H., Ma, K., Zhang, H., Wang, H., Zhao, Y., Li, X., and Cai, Z., 2022, Cationic cotton modified by 3-chloro-2-hydroxypropyl trimethyl ammonium chloride for salt-free dyeing with high levelling performance, *Cellulose*, 29, 633–646.
- Zhang, H., Zhou, M., Jin, H., Jia, W., Li, C., Pan, F., and Shi, H., 2024, Enzyme activity test paper with high wet strength and anion adsorption properties fabricated from whole cationized softwood chemical fiber, *Int. J. Biol. Macromol.*, 273, 1–12.