

DAFTAR PUSTAKA

- Arfaoui, S., Frini-Srasra, N., & Srasra, E. (2008). Modelling of the adsorption of the chromium ion by modified clays. *Desalination*, 222(1–3), 474–481. <https://doi.org/10.1016/j.desal.2007.03.014>
- Atikah, A. (2018). Efektifitas Bentonit Sebagai Adsorben Pada Proses Peningkatan Kadar Bioetanol. *Jurnal Distilasi*, 2(2), 23. <https://doi.org/10.32502/jd.v2i2.1200>
- Bhagyaraj, S., & Krupa, I. (2020). Alginate-Mediated Synthesis of Hetero-Shaped Silver Nanoparticles and Their Hydrogen Peroxide Sensing Ability. *Molecules*, 25(M), 435.
- Bhernama, B. G. (2015). Degradasi zat warna metanil yellow. *Lantanida Journal*, 3(2).
- Boudiaf, S., Nasrallah, N., Mellal, M., Belhamdi, B., Belabed, C., Djilali, M. A., & Trari, M. (2021). Kinetic studies of Congo Red Photodegradation on the hetero-system CoAl₂O₄/ZnO with a stirred reactor under solar light. *Journal of Environmental Chemical Engineering*, 9(4), 105572. <https://doi.org/10.1016/j.jece.2021.105572>
- Chkirida, S., Zari, N., Achour, R., Hassoune, H., Lachehab, A., Qaiss, A. el kacem, & Bouhfid, R. (2021). Highly synergic adsorption/photocatalytic efficiency of Alginate/Bentonite impregnated TiO₂ beads for wastewater treatment. *Journal of Photochemistry and Photobiology A: Chemistry*, 412(February), 113215. <https://doi.org/10.1016/j.jphotochem.2021.113215>
- Cruz, A., Couto, L., Esplugas, S., & Sans, C. (2017). Study of the contribution of homogeneous catalysis on heterogeneous Fe(III)/alginate mediated photo-Fenton process. *Chemical Engineering Journal*, 318, 272–280. <https://doi.org/10.1016/j.cej.2016.09.014>
- Damayanti, E., Awaluddin, A., & Muhdarina, M. (2021). Sintesis Katalis Fe/SOD Berbasis Lempung Alam Marekan Untuk Mendegradasi Zat Warna Metilen Biru. *ALCHEMY Jurnal Penelitian Kimia*, 18(1), 122. <https://doi.org/10.20961/alchemy.18.1.47874.122-129>
- Dawood, S., Sen, T. K., & Phan, C. (2014). Synthesis and characterisation of novel-activated carbon from waste biomass pine cone and its application in the removal of congo red dye from aqueous solution by adsorption. *Water, Air, and Soil Pollution*, 225(1). <https://doi.org/10.1007/s11270-013-1818-4>
- Debby Rakhmawati. (2015). Remendiasi Limbah Proses Pewarna Napol Jeans Dengan Sistem Lumpur Aktif Menggunakan Bakteri Indigenus. *Jurnal Uajy*,

10–26. <http://e-journal.uajy.ac.id/8626/3/2BL01195.pdf>

- Delvia, F., & Aini, S. (2020). Pengaruh Waktu Aging Terhadap Kristalinitas dan Ukuran Partikel Silika Mesopori. *Periodic*, 9(2), 47–49.
- Dewi, R., Manalu, W. A., Asrinaldo, B. N., Rini, A. S., & Yanuar, Y. (2023). Characterization Of Energy Band Gap Thin Film BaTiO₃ – BaZr_{0.5}Ti_{0.5}O₃ Using Difusion Reflectance Spectroscopy (DRS) Method. *Spektra: Jurnal Fisika Dan Aplikasinya*, 8(1), 17–24. <https://doi.org/10.21009/spektra.081.02>
- Djuma, A. W., & Talaen, M. S. (2014). The Analysis of Chloride In Argentometry On Dig Well Water In Kupang Regency of Kupan Tengah District Oebelo Village In 2014. *Jurnal Info Kesehatan*, 14(2), 1083–1090.
- Elystia, S., Rahman, M., Fitria, D., & Priyambada, G. (2024). Penurunan Salinitas Air Payau Menggunakan Beads Komposit Chitosan-Clay. *Journal of Environmental Management and Technology*, 3(1), 11–23. <https://doi.org/10.31258/jptl.3.1.11-23>
- Esch, T. R., Gadaczek, I., & Bredow, T. (2014). Surface structures and thermodynamics of low-index of rutile, brookite and anatase - A comparative DFT study. *Applied Surface Science*, 288, 275–287. <https://doi.org/10.1016/j.apsusc.2013.10.021>
- Fahira, S. M., Dwi Ananto, A., & Hajrin, W. (2021). Analisis Kandungan Hidrokuinon Dalam Krim Pemutih yang Beredar Di Beberapa Pasar Kota Mataram Dengan Spektrofotometri Ultraviolet-Visisbel. *Spin*, 3(1), 75–84. <https://doi.org/10.20414/spin.v3i1.3299>
- Ghadiri, M., Chrzanowski, W., & Rohanzadeh, R. (2015). Biomedical applications of cationic clay minerals. *RSC Advances*, 5(37), 29467–29481. <https://doi.org/10.1039/c4ra16945j>
- Ghozali, A. I., Sugiyo, W., & Latifah. (2017). Fotodegradasi Zat warna Remazol Red Menggunakan Katalis α -Fe₂O₃/Fe₃O₄ Core Shell Nanostruktur. *Indonesian Journal of Chemical Science*, 1(1), 1–6.
- Gilbertson, J. A. (2018). Amyloid. *Bancroft's Theory and Practice of Histological Techniques, Eighth Edition*, 231–253. <https://doi.org/10.1016/B978-0-7020-6864-5.00015-3>
- Gou, J., Zhuge, J., & Liang, F. (2012). Processing of polymer nanocomposites. In *Manufacturing Techniques for Polymer Matrix Composites (PMCs)*. Woodhead Publishing Limited. <https://doi.org/10.1533/9780857096258.1.95>
- Haryono, H., Faizal D, M., Liamita N, C., & Rostika, A. (2018). Pengolahan Limbah Zat Warna Tekstil Terdispersi dengan Metode Elektrofotasi. *EduChemia (Jurnal Kimia Dan Pendidikan)*, 3(1), 94.

<https://doi.org/10.30870/educhemia.v3i1.2625>

- Iqbal, Rustam, N., & Kasman. (2016). Analysis of Absorbance Value on the Flavonoid Level of Red Betel (*Piper Crocatm*) and Green Betel (*Piper Betle* L) Leaves. *Journal Gravitasi*, 15(1), 1–8.
- Jana, S., Kumar Trivedi, M., & Tallapragada, R. M. (2015). Characterization of Physicochemical and Thermal Properties of Chitosan and Sodium Alginate after Biofield Treatment. *Pharmaceutica Analytica Acta*, 6(10). <https://doi.org/10.4172/2153-2435.1000430>
- Jozwiak-Niedzwiedzka, D. (2015). Microscopic observations of self-healing products in calcareous fly ash mortars. *Microscopy Research and Technique*, 78(1), 22–29. <https://doi.org/10.1002/jemt.22440>
- Julizen, R., & Sanjaya, H. (2023). Perbandingan Pengaruh Lampu UV dan Sinar Matahari Pada Degradasi Zat Warna Congo Red Menggunakan Metode Fotolisis Dengan Bantuan Katalis TiO₂. *Periodic*, 12(3), 27. <https://doi.org/10.24036/periodic.v12i3.118506>
- Jumardin, Maddu, A., Santoso, K., & Isnaeni. (2022). Karakteristik Sifat Optik Nanopartikel Karbon (Carbon Dots) Dengan Metode Uv-Vis Drs (Ultraviolet-Visible Diffuse Reflectance Spectroscopy). *JFT: Jurnal Fisika Dan Terapannya*, 9(1), 1–15. <https://doi.org/10.24252/jft.v9i1.28815>
- Kanakaraju, D., Ravichandar, S., & Lim, Y. C. (2017). Combined effects of adsorption and photocatalysis by hybrid TiO₂/ZnO-calcium alginate beads for the removal of copper. *Journal of Environmental Sciences (China)*, 55, 214–223. <https://doi.org/10.1016/j.jes.2016.05.043>
- Karim, S., Pardoyo, P., & Subagio, A. (2016). Sintesis dan Karakterisasi TiO₂ Terdoping Nitrogen (N-Doped TiO₂) dengan Metode Sol–Gel. *Jurnal Kimia Sains Dan Aplikasi*, 19(2), 63–67. <https://doi.org/10.14710/jksa.19.2.63-67>
- Kholidah, K., Wahyuni, E. T., & Sugiharto, E. (2021). Fotodegradasi Terkatalisis TiO₂-H₂O₂ pada Pengolahan Limbah Cair Industri Mie Soun. *Jurnal Teknik Kimia Dan Lingkungan*, 5(2), 164–174. <https://doi.org/10.33795/jtkl.v5i2.225>
- Maghfury, T. I. (2020). *Analisis X-Ray Diffraction (XRD) Pada Brazing Aluminium Seri 1000 Dan Stainless Steel Seri 304 Dengan Penambahan Serbuk Tembaga*. 1–29.
- Masta, N. (2020). Buku Materi Pembelajaran Scanning Electron Microscopy. *Patra Widya: Seri Penerbitan Penelitian Sejarah Dan Budaya*, 21(3), i–iii.
- Merakchi, A., Bettayeb, S., Drouiche, N., Adour, L., & Lounici, H. (2019). Cross-linking and modification of sodium alginate biopolymer for dye removal in aqueous solution. *Polymer Bulletin*, 76(7), 3535–3554.

<https://doi.org/10.1007/s00289-018-2557-x>

- Milosevic, K., Loncarevic, D., Krusic, M. K., Hadnadev-Kostic, M., & Dostanic, J. (2024). Eco-Friendly g-C₃N₄/Carboxymethyl Cellulose/Alginate Composite Hydrogels for Simultaneous Photocatalytic Degradation of Organic Dye Pollutants. *International Journal of Molecular Sciences*, 25(14). <https://doi.org/https://doi.org/10.3390%2Fijms25147896>
- Nguyen, T. H. T., Dao, T. T. U., Pham, G. V., Do, T. S., Nguyen, T. T. L., Nguyen, T. H. L., Chu, M. N., Nguyen Quoc, D. Q., & Tien, N. A. (2020). Effect of pH on the adsorption behaviour of Congo Red Dye on the Mg-Al layered double hydroxide. *IOP Conference Series: Materials Science and Engineering*, 736(2). <https://doi.org/10.1088/1757-899X/736/2/022077>
- Nugroho, R., & Mahmud, I. (2018). Pengolahan Air Limbah Berwarna Industri Tekstil dengan Proses AOPs. *Jurnal Air Indonesia*, 1(2), 163–172. <https://doi.org/10.29122/jai.v1i2.2344>
- Nuriyah, L., J. Iswarin, S., & Saroja, G. (2015). Studi Pengaruh Konsentrasi Larutan MnCl₂ Terhadap Intensitas Citra Spektrometer Keping VCD. *Natural-B*, 3(2), 193–197. <https://doi.org/10.21776/ub.natural-b.2015.003.02.14>
- Oluwafemi, O., & Ojo, A. A. (2015). Adsorptive removal of anionic dye from aqueous solutions by mixture of Kaolin and Bentonite clay: Characteristics, isotherm, kinetic and thermodynamic studies. *Iranica Journal OF Energy & Environment*, 6(2). <https://doi.org/10.5829/idosi.ijee.2015.06.02.11>
- Priatmoko, S., Satrio, D., & Prambasto, B. U. (2022). Indonesian Journal of Mathematics and Natural Sciences Komparasi Aktivitas Fotokatalitik Ni/TiO₂ dan Zn/TiO₂ untuk Dekomposisi Air Menjadi H₂. *Indones. J. Math. Nat. Sci*, 45(1), 2022. <http://journal.unnes.ac.id/nju/index.php/JM>
- Priatmoko, S., & Wahyuni, S. (2021). Fotokatalis Ni-N-TiO₂ untuk Degradasi Metilen Biru. *Inovasi Sains Dan Kesehatan*, 5, 120–165.
- Putriyana, R. S., Abdulah, I., Purwaningsih, I., & Silvia, L. (2018). Sintesis Natrium Alginat dari Sargassum sp. Dengan Proses Leaching. *9th Industrial Research Workshop and National Seminar*, 9, 89–93.
- Rasyida, A., Pradipta, T. R., & Wicaksono, S. T. (2018). Studi Pengaruh Penambahan PVA dan Bentonit Terhadap Morfologi dan Sifat Fisik Komposit Berbasis Hidrogel Alginat Sebagai Kandidat Material Perancah Untuk Regenerasi Tulang Rawan. *Jurnal Teknik ITS*, 7(2). <https://doi.org/10.12962/j23373539.v7i2.42611>
- Riskiani, E., Suprihatin, I. E., & Sibarani, J. (2019). Fotokatalis Bentonit-Fe₂O₃ untuk Degradation Zat Warna Remazol Brilliant Blue. *Cakra Kimia*, 7(1), 46–

54.

- Rokhmawati, E. . (2019). Analisis Pemilihan Dopan dalam Menurunkan Energi Band Gap pada Sintesis Lapisan TiO₂. *Prosiding Seminar Nasional*, 2(Iv), 5–9.
- Saghiri, M. A., Asgar, K., Lotfi, M., Karamifar, K., Saghiri, A. M., Neelakantan, P., Gutmann, J. L., & Sheibaninia, A. (2012). Back-scattered and secondary electron images of scanning electron microscopy in dentistry: A new method for surface analysis. *Acta Odontologica Scandinavica*, 70(6), 603–609. <https://doi.org/10.3109/00016357.2011.645057>
- Sahadat Hossain, M., & Ahmed, S. (2023). Easy and green synthesis of TiO₂ (Anatase and Rutile): Estimation of crystallite size using Scherrer equation, Williamson-Hall plot, Monshi-Scherrer Model, size-strain plot, Halder-Wagner Model. *Results in Materials*, 20(October), 100492. <https://doi.org/10.1016/j.rinma.2023.100492>
- Salisu, A., Sanagi, M. M., Abu Naim, A., Wan Ibrahim, W. A., & Abd Karim, K. J. (2016). Removal of lead ions from aqueous solutions using sodium alginate-graft-poly(methyl methacrylate) beads. *Desalination and Water Treatment*, 57(33), 15353–15361. <https://doi.org/10.1080/19443994.2015.1071685>
- Saraswati, T. E., Nandika, A. O., Andhika, I. F., Patiha, Purnawan, C., Wahyuningsih, S., & Rahardjo, S. B. (2017). Fabrication of TiO₂/Carbon Photocatalyst using Submerged DC Arc Discharged in Ethanol/Acetic Acid Medium. *IOP Conference Series: Materials Science and Engineering*, 202(1). <https://doi.org/10.1088/1757-899X/202/1/012058>
- Sari, D. N. (2020). Fotodegradasi Zat Warna Titan Kuning dan Fenol Merah menggunakan Katalis Cu/ZnO dan Ag/TiO₂. *Tesis, Universitas Hasanuddin*.
- Setyaningtyas, T., & Sulaeman, U. (2007). PENGARUH pH LARUTAN DAN UKURAN PARTIKEL ABU SEKAM PADI TERHADAP PENURUNAN KADAR CONGO RED. *Molekul*, 2(1), 7–12.
- Sholikhah, H. (2016). Pengaruh Penambahan HNO₃ Terhadap Fotodegradasi Zat Warna Congo Red Menggunakan Fotokatalis TiO₂. *Tesis, Universitas Islam Negeri Sunan Kalijaga*.
- Siregar, S. H., Prasetya, P., Norramizawati, N., Marlian, M., & Ramadhanti, A. R. (2023). Titanium Dioxide (TiO₂) Modified Bentonite for Photodegradation in Methylene Blue Dye. *Jurnal Kimia Sains Dan Aplikasi*, 26(4), 143–150. <https://doi.org/10.14710/jksa.26.4.143-150>
- Sucahya, T. N., Permatasari, N., Bayu, A., & Nandiyanto, D. (2016). Fotokatalisis untuk Pengolahan Limbah Cair. *Jurnal Integrasi Proses*, 6(1), 1–15.

- Sugiyana, D., & Notodarmojo, S. (2015). Studi Mekanisme Degradasi Fotokatalitik Zat Warna Azo Acid Red 4 Menggunakan Katalis Mikropartikel TiO₂. *Arena Tekstil*, 30(2), 83–94.
- Sutanto, H., & Wibowo, S. (2015). Semikonduktor Fotokatalis Seng Oksida dan Titania (Sintesis, Deposisi dan Aplikasi). In *Penerbit Telescope*.
- Wang, G., Yang, Y., Yang, Y., Li, J., Gao, H., Wang, J., Zheng, X., & Yang, J. (2022). In Situ Synthesis of TiO₂-Pillared Bentonite Photocatalyst and its Enhanced Photocatalytic Performance. *Water, Air, and Soil Pollution*, 233.
- Wibowo, E. A. P., Aji, N. R., Ujiningtyas, R., Mayasari, T., & Widiarti, N. (2016). Fotokatalis TiO₂/Kitosan dan TiO₂/Bentonit Sebagai Penjernih Air Embung di Lingkungan Unnes. *Jurnal Sains Dan Teknologi*, 5(2), 761–766.
- Widiyandari, H., & Budiman, M. (2004). Pengaruh Laju Aliran Gas N₂ Terhadap Sifat Optik Film Tipis GaN yang Ditumbuhkan Dengan Teknik Pulsed Laser Deposition (PLD). *Berkala Fisika*, 7(1), 28–34.
- Yantyana, I., Amalia, V., & Fitriyani, R. (2018). Adsorpsi Ion Logam Timbal(II) Menggunakan Mikrokapsul Ca-Alginat. *Al-Kimiya*, 5(1), 17–26. <https://doi.org/10.15575/ak.v5i1.3721>
- Zaka, A. R. (2017). Analisis Faktor - Faktor Yang Mempengaruhi Kepuasan Pelanggan Pada LBB Antologi Semarang. *Diponegoro Journal Of Manajement*, 6(1), 1–13.
- Zhao, G., Wang, Z., Zhao, H., & Yang, J. (2019). Bending force enhancement of sodium alginate-based polymer gel paper actuators. *Cellulose*, 26(13–14), 7809–7822. <https://doi.org/10.1007/s10570-019-02643-2>