

DAFTAR PUSTAKA

- (1) Eurozi, N.; Fajriyati, I.; Artsanti, P.; Krisdiyanto, D. Adsoprsi Zat Warna Rhodamin B Dan Congo Red Dengan Silika Gel Dari Limbah Ampas Tebu (*Saccharum Officinarum*). *Indones. J. Mater. Chem.* 2020, 2 (2), 53–59.
- (2) Saravanan, S.; Carolin C, F.; Kumar, P. S.; Chitra, B.; Rangasamy, G. Biodegradation of Textile Dye Rhodamine-B by *Brevundimonas Diminuta* and Screening of Their Breakdown Metabolites. *Chemosphere* 2022, 308, 1–7.
- (3) Ata, S.; Imran Din, M.; Rasool, A.; Qasim, I.; Ul Mohsin, I. Equilibrium, Thermodynamics, and Kinetic Sorption Studies for the Removal of Coomassie Brilliant Blue on Wheat Bran as a Low-Cost Adsorbent. *J. Anal. Methods Chem.* 2012, 1 (1). <https://doi.org/10.1155/2012/405980>.
- (4) Amenaghawon, A. N.; Anyalewechi, C. L.; Darmokoesoemo, H.; Kusuma, H. S. Hydroxyapatite-Based Adsorbents: Applications in Sequestering Heavy Metals and Dyes. *J. Environ. Manage.* 2022, 302, 1–19.
- (5) Jamarun, N.; Azharman, Z.; Arief, S.; Sari, T. P.; Asril, A.; Elfina, S. Effect of Temperature on Synthesis of Hydroxyapatite from Limestone. *Rasayan J. Chem.* 2015, 8 (1), 133–137.
- (6) Mangkuasih, S. M.; Rohmawati, L. Sintesis Hidroksiapatit Dari Tulang Ikan Sapu-Sapu (*Hypostomus Plecostomus*) Dengan Metode Presipitasi. *J. Teor. dan Apl. Fis.* 2021, 9 (2), 229–236.
- (7) Khoirudin, M. . Y. . Z. Sintesis dan Karakterisasi Hidroksiapatit (HAp) dari Kulit Kerang Darah (*Anadara granosa*) dengan Proses Hidrotermal. *JOM FTEKNIK* 2, 1–8 (2015).
- (8) Wang, H.; Xing, H.; Yan, K.; Han, D.; Chen, J. Oyster Shell Derived Hydroxyapatite Microspheres as an Effective Adsorbent for Remediation of Coomassie Brilliant Blue. *Adv. Powder Technol.* 2022, 33 (2), 103425. <https://doi.org/10.1016/j.apt.2022.103425>.
- (9) X.Y. Jin, J.Z. Zhuang, Z. Zhang, H.L. Guo, J.J. Tan, Hydrothermal synthesis of hydroxyapatite nanorods in the presence of sodium citrate and its aqueous colloidal stability evaluation in neutral pH, *J. Colloid Interface Sci.* 443 (2015) 125–130.
- (10) Yang, H.; Wang, Y. Morphology Control of Hydroxyapatite Microcrystals: Synergistic Effects of Citrate and CTAB. *Mater. Sci. Eng. C* 2016, 62 (3), 160–165. <https://doi.org/10.1016/j.msec.2016.01.052>

- (11) Misra, D. N. Interaction of Citric Acid with Hydroxyapatite: Surface Exchange of Ions and Precipitation of Calcium Citrate. *J. Dent. Res.* 1996, 75 (6), 1418–1425. <https://doi.org/10.1177/00220345960750061401>.
- (12) Parthiban, S. P.; Kim, I. Y.; Kikuta, K.; Ohtsuki, C. Effect of Urea on Formation of Hydroxyapatite through Double-Step Hydrothermal Processing. *Mater. Sci. Eng. C* 2011, 31 (7), 1383–1388. <https://doi.org/10.1016/j.msec.2011.05.005>.
- (13) Rivera, E. M.; Munoz. Hydroxyapatite-Based Materials: Synthesis and Characterization. *Biomed. Eng.-Front. Challenges* 2011, 75–98. <https://doi.org/10.5772/19123>.
- (14) Ersal, F. M.; Nurlely; Sari, Y. W. Synthesis and Characterization of Hydroxyapatite-Chitosan Composite in Situ by Microwave Irradiation Method. *J.Phys. Conf. Ser.* 2019, 1248 (1), 0–6. <https://doi.org/10.1088/1742-6596/1248/1/012080>.
- (15) Bensalah, H.; Younssi, S. A.; Ouammou, M.; Gurlo, A.; Bekheet, M. F. Azo Dye Adsorption on an Industrial Waste-Transformed Hydroxyapatite Adsorbent:Kinetics, Isotherms, Mechanism and Regeneration Studies. *J. Environ. Chem. Eng.* 2020, 8, 1–10. <https://doi.org/10.1016/j.jece.2020.103807>.
- (16) Nayak, A.; Bhushan, B. Hydroxyapatite as an Advanced Adsorbent for Removal of Heavy Metal Ions from Water: Focus on Its Applications and Limitations. *Mater. Today Proc.* 2021, 46, 11029–11034. <https://doi.org/10.1016/j.matpr.2021.02.149>.
- (17) Oluwole, I., Ganiu, O. & Adesoji, A. Heliyon Structural performance of poultry eggshell derived hydroxyapatite based high density polyethylene biocomposites. *Heliyon* 5, e02552 (2019).
- (18) Khoirudin, M. . Y. . Z. Sintesis dan Karakterisasi Hidroksiapatit (HAp) dari Kulit Kerang Darah (*Anadara granosa*) dengan Proses Hidrotermal. *JOM FTEKNIK* 2, 1–8 (2015).
- (19) Georgiou, C. D.; Grintzalis, K.; Zervoudakis, G.; Papapostolou, I. Mechanism of Coomassie Brilliant Blue G-250 Binding to Proteins: A Hydrophobic Assay for Nanogram Quantities of Proteins. *Anal. Bioanal. Chem.* 2008, 391 (1), 391–403. <https://doi.org/10.1007/s00216-008-1996-x>. Q. Li, Z.L. Wen, J.D. Chen, H. Huang, X.T. Shi, Q.Q. Zhang, Preparation of controllable hydroxyapatite nanoparticles with abalone shells, *Mater. Lett.* 236 (2019) 562–565.
- (20) Sharma, G.; Naushad, M.; Kumar, A.; Rana, S.; Sharma, S.; Bhatnagar, A.; J. Stadler, F.; Ghfar, A. A.; Khan, M. R. Efficient Removal of Coomassie Brilliant Blue R-250 Dye Using Starch/Poly(Alginic Acid-Cl-Acrylamide) Nanohydrogel. *Process*

- Saf. Environ. Prot.* 2017, 109, 301–310.
<https://doi.org/10.1016/j.psep.2017.04.011>.
- (21) Abdel-Ghani, N. T.; El-Chaghaby, G. A.; Rawash, E. S. A.; Lima, E. C. Magnetic Activated Carbon Nanocomposite from *Nigella Sativa L.* Waste (MNSA) for the Removal of Coomassie Brilliant Blue Dye from Aqueous Solution: Statistical Design of Experiments for Optimization of the Adsorption Conditions. *J. Adv. Res.* 2019, 17, 55–63. <https://doi.org/10.1016/j.jare.2018.12.004>.
- (22) Lapworth, D.J., et al. "Emerging organic contaminants in groundwater: A review of sources, fate and occurrence." *Environmental Pollution*, vol. 163, 2012, pp. 287-303.
- (23) Dhananasekaran, S.; Palanivel, R.; Pappu, S. Adsorption of Methylene Blue, Bromophenol Blue, and Coomassie Brilliant Blue by α -Chitin Nanoparticles. *J. Adv. Res.* 2016, 7 (1), 113–124. <https://doi.org/10.1016/j.jare.2015.03.003>.
- (24) Pujiastuti, C.; Adi Daputro, E. Model Matematika Adsorpsi Zeolit Alam Terhadap Ion Zn Air Limbah Elektroplating. *J. Tek. Kim.* 2008, 2 (2), 147–153.
- (25) Amalina, F.; Abd Razak, A. S.; Krishnan, S.; Zularisam, A. W.; Nasrullah, M. A Review of Eco-Sustainable Techniques for the Removal of Rhodamine B Dye Utilizing Biomass Residue Adsorbents. *Phys. Chem. Earth* 2022, 128, 1–11. <https://doi.org/10.1016/j.pce.2022.103267>
- (26) Ningsih, S. K. W. *Sintesis Anorganik*. (UNP Press, 2016). Setiabudi, A.; Hardian, R.; Muzakir, A. *Karakterisasi Material: Prinsip Dan Aplikasinya Dalam Penelitian Kimia*; 2012; Vol. 1.
- (27) Gunawan, B. Azhari, C,D,. Karakterisasi Spektrofotometri IR dan Scanning Electron Microscopy (SEM) Sensor Gas dari Bahan Polimer Poly Ethelyn Glycol (PEG). 2007
- (28) Wijayanto, S. O.; Bayuseno, A. . Analisis Kegagalan Material Pipa Furrule Nickel Alloy N06025 Pada Waste Heat Boiler Akibat Suhu Tinggi Berdasarkan Pengujian: Mikrografi Dan Kekerasan. *J. Tek. Mesin* 2013, 1 (1), 33–39.
- (29) H. Zhou, Y. Yang, M.M. Yang, W.J. Wang, Y.P. Bi, Synthesis of mesoporous hydroxyapatite via a vitamin C templating hydrothermal route, *Mater. Lett.* 218 (2018) 52–55.
- (30) Jamarun, N.; Prasejati, A.; Zulhadjri, Z.; Caniago, S.; Amirullah, T. Y.; Wulandari, W.; Sisca, V. Effect of Chitosan Concentration on Hydroxyapatite/Chitosan Composite Synthesis Using the in-Situ Method as a Dye Adsorbent. *Kuwait J. Sci.* 2024, 51 (4), 100252. <https://doi.org/10.1016/j.kjs.2024.100252>.

- (31) X.Y. Jin, X.H. Chen, Y.T. Cheng, L.S. Wang, B. Hu, J.J. Tan, Effects of hydrothermal temperature and time on hydrothermal synthesis of colloidal hydroxyapatite nanorods in the presence of sodium citrate, *J. Colloid Interface Sci.* 450 (2015) 151–158.
- (32) Tsuruga E, Takita H, Itoh H, Wakisaka Y, K. Y. Pore Size of Porous Hydroxyapatite as the Controls. *J. Biochem* 1997, 324, 317–324.
- (33) Supangat, D.; Cahyaningrum, S. E. Synthesis And Characterization Of Hydroxyapatite Of Crabs Shell (*Scylla Serrata*) By Wet Application Method. *UNESA J. Chem.* 2017, 6 (3), 143–149.
- (34) Wu, J.; Yang, J.; Huang, G.; Xu, C.; Lin, B. Hydrothermal Carbonization Synthesis of Cassava Slag Biochar with Excellent Adsorption Performance for Coomassie Brilliant Blue. *J. Clean. Prod.* 2020, 251, 1–10. <https://doi.org/10.1016/j.jclepro.2019.119717>.
- (35) Hevira, L.; Zilfa; Rahmayeni; Ighalo, J. O.; Zein, R. Biosorption of Indigo Carmine from Aqueous Solution by Terminalia Catappa Shell. *J. Environ.Chem. Eng.* 2020, 8 (5), 1–11. <https://doi.org/10.1016/j.jeche.2020.104290>.
- (36) Wang, ZK., Li, TT., Peng, HK. et al. Preparation and Adsorption Performance of Nano-hydroxyapatite-Enhanced Acrylamide Hydrogel Adsorbent. *J Polym Environ* 30, 2919–2927 (2022).
- (37) Azzaoui, K., Lamhamdi, A., Mejdoubi, E., Berrabah, M., Elidrissi, A., Hammouti, B., Zaoui, S., & Yahyaoui, R. . Synthesis of nanostructured hydroxyapatite in presence of polyethylene glycol 1000. *J. Chem. Pharm. Res.* 5 (12), 12091216 (2013).
- (38) Oluwole, I., Ganiu, O. & Adesoji, A. Heliyon Structural performance of poultry eggshell derived hydroxyapatite based high density polyethylene biocomposites. *Heliyon* 5, e02552 (2019).
- (39) Kakiage, M.; Iwase, K.; Kobayashi, H. Effect of Citric Acid Addition on Disaggregation of Crystalline Hydroxyapatite Nanoparticles under Calcium-Rich Conditions. *Mater. Lett.* 2015, 156 (3), 39–41. <https://doi.org/10.1016/j.matlet.2015.04.125>.
- (40) Martins, M. A.; Santos, C.; Almeida, M. M.; Costa, M. E. V. Hydroxyapatite Micro- and Nanoparticles: Nucleation and Growth Mechanisms in the Presence of Citrate Species. *J. Colloid Interface Sci.* 2008, 318 (2), 210–216. <https://doi.org/10.1016/j.jcis.2007.10.008>.

- (41) Li, C. Crystalline Behaviors of Hydroxyapatite in the Neutralized Reaction with Different Citrate Additions. *Powder Technol.* 2009, 192 (1), 1–5. <https://doi.org/10.1016/j.powtec.2008.11.001>.
- (42) Khalida, M.; Mujahida, M.; Aminb, S.; Rawatc, R. S.; Nusaird, A.; Deenc, G. R. Pengaruh Surfaktan Dan Perlakuan Panas Terhadap Morfologi , Luas Permukaan Dan Kristalinitas Nanokristal Hidroksiapatit. 2013, 39, 39–50.
- (43) Pinchuk, N. D.; Sobierajska, P.; Szyszka, K.; Bezkravnyi, O.; Wiglusz, R. J. Preparation of Nanohydroxyapatite with Diverse Morphologies and Optimization of Its Effective Aqueous Colloidal Dispersions for Biomedical Applications. *Ceram. Int.* 2024, 50 (15), 27426–27435. <https://doi.org/10.1016/j.ceramint.2024.05.040>.

