

DAFTAR PUSTAKA

- Abbasi, Z., Ramezani, E., Farrokhnia, A., Shahraki, A. S., & Naseri, A. A. (2020). Hydroxyapatite/Carboxymethyl Cellulose Composite: Synthesis, Characterization, Kinetic, Thermodynamic Study for Removal of Cr (III). *ALKHAS;The Journal of Environment, Agriculture and Biological Sciences*.
<https://doi.org/10.47176/alkhass.3.1.12>
- Abdelraof, M., Farag, M. M., Al-Rashidy, Z. M., Ahmed, H. Y. A., El-Saied, H., & Hasanin, M. S. (2022). Green Synthesis of Bioactive Hydroxyapatite/Cellulose Composites from Food Industrial Wastes. *Journal of Inorganic and Organometallic Polymers and Materials*, 32(12), 4614–4626. <https://doi.org/10.1007/s10904-022-02462-2>
- Akartasse, N., Azzaoui, K., Mejdoubi, E., Hammouti, B., Elansari, L. L., Abou-Salama, M., Aaddouz, M., Sabbahi, R., Rhazi, L., & Siaj, M. (2022). Environmental-Friendly Adsorbent Composite Based on Hydroxyapatite/Hydroxypropyl Methyl-Cellulose for Removal of Cationic Dyes from an Aqueous Solution. *Polymers*, 14(11).
<https://doi.org/10.3390/polym14112147>
- Amenaghawon, A. N., Anyalewechi, C. L., Darmokoesoemo, H., & Kusuma, H. S. (2022). Hydroxyapatite-based adsorbents: Applications in sequestering heavy metals and dyes. In *Journal of Environmental Management* (Vol. 302). Academic Press.
<https://doi.org/10.1016/j.jenvman.2021.113989>
- Anuse, D. D., Patil, S. A., Chorumale, A. A., Kolekar, A. G., Bote, P. P., Walekar, L. S., & Pawar, S. P. (2025). Activated carbon from pencil peel waste for effective removal of cationic crystal violet dye from aqueous solutions. *Results in Chemistry*, 13(December 2024), 1–10. <https://doi.org/10.1016/j.rechem.2024.101949>
- Argente, F. A. T., Geraldino, P. J. L., & Otadoy, J. B. (2024). Filtration Rates and Pseudofaeces Production of the Mud Clam, *Geloina expansa* (Mousson 1849) (Bivalvia: Cyrenoididae) at Increasing Salinity Concentrations. *Egyptian Journal of Aquatic Biology and Fisheries*, 28(4), 1469–1478. <https://doi.org/10.21608/ejabf.2024.374304>
- Atif, M., Haider, H. Z., Bongiovanni, R., Fayyaz, M., Razzaq, T., & Gul, S. (2022). Physisorption and chemisorption trends in surface modification of carbon black. *Surfaces and Interfaces*, 31, 102080.
<https://doi.org/https://doi.org/10.1016/j.surfin.2022.102080>
- Baladi, M., Amiri, M., Mohammadi, P., Salih Mahdi, K., Golshani, Z., Razavi, R., & Salavati-Niasari, M. (2023). Green sol–gel synthesis of hydroxyapatite nanoparticles using lemon extract as capping agent and investigation of its anticancer activity against human cancer cell lines (T98, and SHSY5). *Arabian Journal of Chemistry*, 16(4).
<https://doi.org/10.1016/j.arabjc.2023.104646>

- Behmagham, F., Dhiaa, S. M., Hussein, A. H. A., Radi, U. K., Mushtaq, H., Idan, A. H., & Vessally, E. (2024). Hydroxyapatite–polymer nanocomposites for drug delivery applications: A mini review. In *European Journal of Medicinal Chemistry Reports* (Vol. 12). Elsevier Masson s.r.l. <https://doi.org/10.1016/j.ejmcr.2024.100231>
- Bensalah, H., Younssi, S. A., Ouammou, M., Gurlo, A., & Bekheet, M. F. (2020). Azo dye adsorption on an industrial waste-transformed hydroxyapatite adsorbent: Kinetics, isotherms, mechanism and regeneration studies. *Journal of Environmental Chemical Engineering*, 8(3), 103807. <https://doi.org/10.1016/j.jece.2020.103807>
- Bhattacharjee, S. (2016). DLS and zeta potential – What they are and what they are not? *Journal of Controlled Release*, 235, 337–351. <https://doi.org/10.1016/j.jconrel.2016.06.017>
- Biedrzycka, A., & Skwarek, E. (2024). Composites of hydroxyapatite and their application in adsorption, medicine.pdf. *Advances in Colloid and Interface Science*.
- Brahmi, A., Agsous, M., Benkhaoula, B. N., Ziani, S., Khireddine, H., AitAli, S., Abdullah, M. M. S., Chai, B. X., & Belaadi, A. (2025). Fluoro-Hydroxyapatite/Chitosan composites as an eco-friendly adsorbent for Direct Red 23 dye removal: Optimization through Response Surface Methodology. *Journal of Molecular Structure*, 1321. <https://doi.org/10.1016/j.molstruc.2024.140212>
- Brahmi, A., Ziani, S., AitAli, S., Lakehal, Y. Z., & Luukkonen, T. (2025). Synthesis of hydroxyapatite-Fe₃O₄ nanocomposite modified with *Urtica dioica* extract for the removal of anionic dyes from aqueous solutions. *Surfaces and Interfaces*, 71. <https://doi.org/10.1016/j.surfin.2025.106925>
- Brazdis, R. I., Fierascu, I., Avramescu, S. M., & Fierascu, R. C. (2021). Recent progress in the application of hydroxyapatite for the adsorption of heavy metals from water matrices. In *Materials* (Vol. 14, Number 22). MDPI. <https://doi.org/10.3390/ma14226898>
- Cundari, L., Melsi, M. F., & Fiat, C. (2016). Pengaruh Waktu Sampling dan Ukuran Partikel Adsorben Terhadap Adsorpsi Kontinyu Limbah Kain Jumputan. *Jurnal Teknik Kimia Unsri*, 22(4), 19–26.
- de Farias, D. T., Labidi, J., Pedrazzi, C., Gatto, D. A., de Cademartori, P. H. G., Welter, C. A., da Silva, G. T., & de Almeida, T. M. (2024). Acid-Hydrolysis-Assisted Cellulose Nanocrystal Isolation from *Acacia mearnsii* de Wild. Wood Kraft Pulp. *Polymers*, 16(23). <https://doi.org/10.3390/polym16233371>
- El Kaim Billah, R., Ayouch, I., Abdellaoui, Y., Kassab, Z., Khan, M. A., Agunaou, M., Soufiane, A., Otero, M., & Jeon, B. H. (2023). A Novel Chitosan/Nano-Hydroxyapatite Composite for the Adsorptive Removal of Cd(II) from Aqueous Solution. *Polymers*, 15(6). <https://doi.org/10.3390/polym15061524>

- Fernando, M. S., Wimalasiri, A. K. D. V. K., Dziemidowicz, K., Williams, G. R., Koswattage, K. R., Dissanayake, D. P., De Silva, K. M. N., & De Silva, R. M. (2021). Biopolymer-Based Nanohydroxyapatite Composites for the Removal of Fluoride, Lead, Cadmium, and Arsenic from Water. *ACS Omega*, 6(12), 8517–8530. <https://doi.org/10.1021/acsomega.1c00316>
- Fiume, E., Magnaterra, G., Rahdar, A., & Vern, E. (2021). *Hydroxyapatite for Biomedical Applications : A Short Overview*. 542–563.
- Foroutan, R., Peighambaroust, S. J., Hemmati, S., Ahmadi, A., Falletta, E., Ramavandi, B., & Bianchi, C. L. (2021). Zn²⁺-removal from the aqueous environment using a polydopamine/hydroxyapatite/Fe₃O₄magnetic composite under ultrasonic waves. *RSC Advances*, 11(44), 27309–27321. <https://doi.org/10.1039/d1ra04583k>
- Geetha, T., Smitha, J. K., Sebastian, M., Litty, M. I., Joseph, B., Joseph, J., & Nisha, T. S. (2024). Synthesis and characterization of nano iron oxide biochar composite for efficient removal of crystal violet from water. *Heliyon*, 10(21). <https://doi.org/10.1016/j.heliyon.2024.e39450>
- Ghahremani, D., Mobasherpour, I., Salahi, E., Ebrahimi, M., Manafi, S., & Keramatpour, L. (2017). Potential of nano crystalline calcium hydroxyapatite for Tin(II) removal from aqueous solutions: Equilibria and kinetic processes. *Arabian Journal of Chemistry*, 10, S461–S471. <https://doi.org/10.1016/j.arabjc.2012.10.006>
- Hachaichi, A., Kouini, B., Kian, L. K., Asim, M., Fouad, H., Jawaid, M., & Sain, M. (2021). Nanocrystalline cellulose from microcrystalline cellulose of date palm fibers as a promising candidate for bio-nanocomposites: Isolation and characterization. *Materials*, 14(18). <https://doi.org/10.3390/ma14185313>
- Hammud, H. H., Hammoud, M. H., Hussein, A. A., Fawaz, Y. B., Haniti, M., Abdul, S., & Sheikh, N. S. (2023). *Removal of Malachite Green Using Hydrochar from PALM Leaves*.
- Hariani, P. L., Said, M., Rachmat, A., & Sari, S. P. (2021). Hydroxyapatite-peg/fe₃ o₄ composite for adsorption of phenol from aqueous solution. *Polish Journal of Environmental Studies*, 30(2), 1621–1629. <https://doi.org/10.15244/pjoes/125769>
- Hatim, A., Khaddoudi, D., Abida, F., Ait Ali Ouydir, H., Kouzbou, S., Agunaou, M., El Hafiane, Y., Abourriche, A., Benhammou, A., Hatim, Z., & Abouliatim, Y. (2025). Low-cost and sustainable hydroxyapatite synthesis using technical-grade phosphoric acid for environmental applications: Structural and morphological insights. *Open Ceramics*, 24. <https://doi.org/10.1016/j.oceram.2025.100870>
- Huang, C., Bhagia, S., Hao, N., Meng, X., Liang, L., Yong, Q., & Ragauskas, A. J. (2019). Biomimetic composite scaffold from an in situ hydroxyapatite coating on cellulose nanocrystals. *RSC Advances*, 9(10), 5786–5793. <https://doi.org/10.1039/c8ra09523j>

- Ibrahim, M., Labaki, M., Giraudon, J.-M., & Lamonier, J.-F. (2020). Hydroxyapatite, a multifunctional material for air, water and soil pollution control: A review. *Journal of Hazardous Materials*, 383, 121139. <https://doi.org/10.1016/j.jhazmat.2019.121139>
- Ibrahim, W. M. (2011). Biosorption of heavy metal ions from aqueous solution by red macroalgae. *Journal of Hazardous Materials*, 192(3), 1827–1835. <https://doi.org/10.1016/j.jhazmat.2011.07.019>
- Iswarya, S., Theivasanthi, T., & Gopinath, S. C. B. (2023). Sodium alginate/Hydroxyapatite/nanocellulose composites: Synthesis and Potentials for bone tissue engineering. *Journal of the Mechanical Behavior of Biomedical Materials*, 148. <https://doi.org/10.1016/j.jmbbm.2023.106189>
- Jaafar, A., Hecker, C., Á, P., & Joseph, Y. (2020). *Sol-Gel Derived Hydroxyapatite Coatings for Titanium Implants : A Review*.
- Jamarun, N., Amelia, D., Rahmayeni, Septiani, U., & Sisca, V. (2023). The effect of temperature on the synthesis and characterization of hydroxyapatite-polyethylene glycol composites by in-situ process. *Hybrid Advances*, 2, 100031. <https://doi.org/10.1016/j.hybadv.2023.100031>
- Jamarun, N., Amirullah, T. Y., Syukri, S., Prasejati, A., Wulandari, W., Caniago, S., & Trycahyani, N. A. (2025). Effect of Temperature on Synthesis of Hydroxyapatite/Chitosan Composite Using the In-Situ Method as a Heavy Metal Adsorbent. *Indonesian Journal of Chemistry*, 25(1), 24–36. <https://doi.org/10.22146/ijc.93816>
- Jamarun, N., Gihwani, G., Septiani, U., Yadris, F., Refki Novesar, M., & Rahmadani Putri, D. (2024). Synthesis and Characterization of Hydroxyapatite Composite of Cuttlefish Bone (*Sepia* sp.) With Gelatin as Rhodamine b Dye Adsorbent. *ChemistrySelect*, 9(40). <https://doi.org/10.1002/slct.202403095>
- Jamarun, N., Mayasari, D., Septiani, U., Tricahyani, N. A., Wulandari, Prasejati, A., & Amirullah, T. Y. (2024). Synthesis And Characterization Of Mg, Cu-HAp Using Calcium From Lokan Shell (*Geloina expansa*) And Its Antibacterial Activity. *Rasayan Journal of Chemistry*, 17(3), 803–808. <https://doi.org/10.31788/RJC.2024.1738816>
- Jamarun, N., Prasejati, A., Zulhadjri, Z., Caniago, S., Amirullah, T. Y., Wulandari, W., & Sisca, V. (2024). Effect of chitosan concentration on hydroxyapatite/chitosan composite synthesis using the in-situ method as a dye adsorbent. *Kuwait Journal of Science*, 51(4). <https://doi.org/10.1016/j.kjs.2024.100252>
- Jamarun, N., Septiani, U., Sisca, V., Prasejati, A., Ayyu Trycahyani, N., & Hidayat, A. (2026). Eco-Friendly Waste-to-Resource Synthesis of Hydroxyap-atite/Polyethylene Glycol Composites from Gonggong Clam Shells for Efficient Rhodamine B Dye

Removal. *Asian Journal of Green Chemistry*, 10, 372–388.
<https://doi.org/10.48309/AJGC.2026.550310.1840>

- Jamarun, N., Trycahyani, N. A., Arief, S., Septiani, U., & Sisca, V. (2023). Synthesis of Hydroxyapatite-Polyethylene Glycol with In-Situ Method Using Calcium Oxide from Blood Shells (*Anadara granosa*). *Indonesian Journal of Chemistry*, 23(3), 618–626.
<https://doi.org/10.22146/ijc.78538>
- Jin, Y., Ni, Y., Pudukudy, M., Zhang, H., Wang, H., Jia, Q., & Shan, S. (2022). Synthesis of nanocrystalline cellulose / hydroxyapatite nanocomposites for the efficient removal of chlortetracycline hydrochloride in aqueous medium. *Materials Chemistry and Physics*, 275(March 2021), 125135. <https://doi.org/10.1016/j.matchemphys.2021.125135>
- Kothari, M. S., Aly Hassan, A., Tegenaw, A., Sahle-Demessie, E., El-Dieb, A., El-Hassan, H., & Al-Anazi, A. (2024). Sustainable synthesis of carbide slag waste derived hydroxyapatite and its application for cationic dye adsorption. *Journal of Water Process Engineering*, 66. <https://doi.org/10.1016/j.jwpe.2024.106001>
- Lee, H. V., Hamid, S. B. A., & Zain, S. K. (2014). Conversion of lignocellulosic biomass to nanocellulose: Structure and chemical process. *Scientific World Journal*, 2014. <https://doi.org/10.1155/2014/631013>
- Li, W., Yue, J., & Liu, S. (2012). Preparation of nanocrystalline cellulose via ultrasound and its reinforcement capability for poly(vinyl alcohol) composites. *Ultrasonics Sonochemistry*, 19(3), 479–485. <https://doi.org/10.1016/j.ultsonch.2011.11.007>
- Lin, Y. W., Peng, S. Y., & Lin, K. L. (2025). Hydrothermal synthesis of environmentally-friendly hydroxyapatite using recycled waste for efficient Cd²⁺ removal from aqueous solutions. *Materials Chemistry and Physics*, 334. <https://doi.org/10.1016/j.matchemphys.2025.130407>
- Liu, Y., Wei, Y., He, Y., Qian, Y., Wang, C., & Chen, G. (2023). Large-Scale Preparation of Carboxylated Cellulose Nanocrystals and Their Application for Stabilizing Pickering Emulsions. *ACS Omega*, 8(17), 15114–15123. <https://doi.org/10.1021/acsomega.2c08239>
- Majeed, H. J., Idrees, T. J., Mahdi, M. A., Abed, M. J., Batool, M., Yousefi, S. R., Thumma, A., & Jasim, L. S. (2024). Synthesis and application of novel sodium carboxy methyl cellulose-g-poly acrylic acid carbon dots hydrogel nanocomposite (NaCMC-g-PAAc/CDs) for adsorptive removal of malachite green dye. *Desalination and Water Treatment*, 320, 100822. <https://doi.org/10.1016/j.dwt.2024.100822>
- Makhado, E. (2025). Preparation of carboxymethyl cellulose-based silica hydrogel nanocomposite for methylene blue and malachite green dyes adsorption from aqueous solution. *Surfaces and Interfaces*, 56, 105699. <https://doi.org/10.1016/j.surfin.2024.105699>

- Marrane, S. E., Dänoun, K., Allouss, D., Sair, S., Channab, B. E., Rhihil, A., & Zahouily, M. (2022). A Novel Approach to Prepare Cellulose- g-Hydroxyapatite Originated from Natural Sources as an Efficient Adsorbent for Heavy Metals: Batch Adsorption Optimization via Response Surface Methodology. *ACS Omega*, 7(32), 28076–28092. <https://doi.org/10.1021/acsomega.2c02108>
- Massrour, A., Peighambardoust, S. J., Foroughi, M., Foroutan, R., & Ramavandi, B. (2025). Crystal violet removal by sodium alginate-g-polyacrylamide/ hydroxyapatite/ Cu-Fe LDH nanocomposite. *Environmental Technology and Innovation*, 38. <https://doi.org/10.1016/j.eti.2025.104149>
- Mbisana, M., Keroletswe, N., Nareetsile, F., Mogopodi, D., & Chibua, I. (2024). Nanocellulose composites: synthesis, properties, and applications to wastewater treatment. *Cellulose*, 31(18), 10651–10678. <https://doi.org/10.1007/s10570-024-06268-y>
- Melese, H., & Tsade, H. (2024). Cellulose based adsorbent for cationic methylene blue dye removal. *Discover Applied Sciences*, 6(2). <https://doi.org/10.1007/s42452-024-05653-3>
- Mondal, S., Dorozhkin, S. V., & Pal, U. (2018). Recent progress on fabrication and drug delivery applications of nanostructured hydroxyapatite. *Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology*, 10(4). <https://doi.org/10.1002/wnan.1504>
- Oladoye, P. O., Ajiboye, T. O., Wanyonyi, W. C., Omotola, E. O., & Oladipo, M. E. (2023). Insights into remediation technology for malachite green wastewater treatment. *Water Science and Engineering*, 16(3), 261–270. <https://doi.org/10.1016/j.wse.2023.03.002>
- Parlayıcı, Ş., & Pehlivan, E. (2021). Biosorption of methylene blue and malachite green on biodegradable magnetic Cortaderia selloana flower spikes: modeling and equilibrium study. *International Journal of Phytoremediation*, 23(1), 26–40. <https://doi.org/10.1080/15226514.2020.1788502>
- Paul, S., Basumatary, F., Das, B., & Basumatary, S. (2026). Exploring the adsorption behavior of malachite green dye onto g-C₃N₄/ZnFeAl-layered triple hydroxide composite. *Next Materials*, 10. <https://doi.org/10.1016/j.nxmate.2025.101383>
- Peighambardoust, S. J., Aghamohammadi-Bavil, O., Foroutan, R., & Arsalani, N. (2020). Removal of malachite green using carboxymethyl cellulose-g-polyacrylamide/montmorillonite nanocomposite hydrogel. *International Journal of Biological Macromolecules*, 159, 1122–1131. <https://doi.org/10.1016/j.ijbiomac.2020.05.093>
- Peighambardoust, S. J., Vatankhah, M., Mohammadzadeh Pakdel, P., Foroutan, R., & Mohammadi, R. (2024). Carboxymethyl cellulose/activated carbon/hydroxyapatite composite adsorbent for remediation of methylene blue from water media. *International*

Journal of Biological Macromolecules, 276, 133764.
<https://doi.org/10.1016/j.ijbiomac.2024.133764>

- Phanthong, P., Reubroycharoen, P., Hao, X., Xu, G., Abudula, A., & Guan, G. (2018). Nanocellulose: Extraction and application. In *Carbon Resources Conversion* (Vol. 1, Number 1, pp. 32–43). KeAi Publishing Communications Ltd. <https://doi.org/10.1016/j.crcon.2018.05.004>
- Poudel, J., Bhattarai, S., Nath, N., & Tanti, B. (2025). An exclusive review of microcrystalline cellulose: Structure and applications, and limitations. *Materials Today Communications*, 45, 112247. <https://doi.org/https://doi.org/10.1016/j.mtcomm.2025.112247>
- Putri, D. R., Jamarun, N., Septiani, U., & Sisca, V. (2025). Effect of Sodium Citrate and Urea as Additive on the Synthesis of Hydroxyapatite from Blood Cockle Shells: Kinetics and Adsorption Isotherms Study of Coomassie Brilliant Blue. *Indonesian Journal of Chemistry*, 25(4), 1064. <https://doi.org/10.22146/ijc.102465>
- Rana, M. S., Rahim, M. A., Mosharraf, M. P., Tipu, M. F. K., Chowdhury, J. A., Haque, M. R., Kabir, S., Amran, M. S., & Chowdhury, A. A. (2023). Morphological, Spectroscopic and Thermal Analysis of Cellulose Nanocrystals Extracted from Waste Jute Fiber by Acid Hydrolysis. *Polymers*, 15(6), 1–15. <https://doi.org/10.3390/polym15061530>
- Rana, R., Ahmad, W., Mishra, A., Kumar, S., & Ahmad, A. (2025). Nanocellulose/nanocellulose-based membranes in wastewater treatment: a sustainable path forward for environmental protection. In *Food Chemistry: X* (Vol. 29). Elsevier Ltd. <https://doi.org/10.1016/j.fochx.2025.102654>
- Rasheed, M., Jawaid, M., Parveez, B., Zuriyati, A., & Khan, A. (2020). Morphological, chemical and thermal analysis of cellulose nanocrystals extracted from bamboo fibre. In *International Journal of Biological Macromolecules* (Vol. 160). Elsevier B.V. <https://doi.org/10.1016/j.ijbiomac.2020.05.170>
- Rashid, E. S. A., Gul, A., Yehya, W. A. H., & Julkapli, N. M. (2021). Physico-chemical characteristics of nanocellulose at the variation of catalytic hydrolysis process. *Heliyon*, 7(6). <https://doi.org/10.1016/j.heliyon.2021.e07267>
- Raval, N. P., Shah, P. U., & Shah, N. K. (2017). Malachite green “a cationic dye” and its removal from aqueous solution by adsorption. In *Applied Water Science* (Vol. 7, Number 7, pp. 3407–3445). Springer Verlag. <https://doi.org/10.1007/s13201-016-0512-2>
- Renu, & Sithole, T. (2024). A review on regeneration of adsorbent and recovery of metals: Adsorbent disposal and regeneration mechanism. In *South African Journal of Chemical Engineering* (Vol. 50, pp. 39–50). Elsevier B.V. <https://doi.org/10.1016/j.sajce.2024.07.006>

- Sadare, O. O., Mabunda, N., Ikegwu, U. M., Keitemoge, M. K., Daramola, M. O., & Moothi, K. (2022). Parametric optimization of the production of cellulose nanocrystals (CNCs) from South African corncobs via an empirical modelling approach. *Scientific Reports*, 12(1). <https://doi.org/10.1038/s41598-022-22865-y>
- Sagar, B. M., Parhad, T. H., Habib, M. L., Ahmed, S., & Sahadat Hossain, M. (2025). Synthesis of complex metal-doped nano-hydroxyapatite (HAp) for adsorptive removal of textile effluents. *Next Nanotechnology*, 8. <https://doi.org/10.1016/j.nxnano.2025.100310>
- Scheverin, V. N., Horst, M. F., & Lassalle, V. L. (2022). Novel hydroxyapatite-biomass nanocomposites for fluoride adsorption. *Results in Engineering*, 16. <https://doi.org/10.1016/j.rineng.2022.100648>
- Septiana, I. T. (2025). *Pengaruh Asam Lemah Sebagai Pelarut CaO Dalam Sintesis Hidroksiapatit Dari Cangkang Kerang Darah (Anadara granosa) Sebagai Penyerap Zat Warna Malachite Green*. Andalas University.
- Serrano-Martínez, V. M., Pérez-Aguilar, H., Carbonell-Blasco, M. P., García-García, A., Arán-Ais, F., & Orgilés-Calpena, E. (2025). Effect of Acid Hydrolysis Conditions on the Extraction of Cellulose Nanocrystals. *Polymers*, 17(10), 1–19. <https://doi.org/10.3390/polym17101313>
- Shojaeiarani, J., Bajwa, D. S., & Chanda, S. (2021). Cellulose nanocrystal based composites: A review. *Composites Part C: Open Access*, 5(December 2020), 100164. <https://doi.org/10.1016/j.jcomc.2021.100164>
- Soufal, F. Z., Zehhaf, A., Reguig, B. A., & Chouli, F. (2022). Adsorption efficiency of malachite green dye (MG) using a novel composite adsorbent based on synthesized alumina/acid-activated clay. *Desalination and Water Treatment*, 273, 236–245. <https://doi.org/10.5004/dwt.2022.28872>
- Syahputri, N. K., Mashoreng, S., Haris, A., Rani, C., & La Nafie, Y. A. (2023). Density and Distribution Patterns of Full-Blooded Clam (*Geloina Expansa*; Mousson, 1849) in Mangrove Ecosystems. *Jurnal Ilmu Kelautan SPERMONDE*, 9(1), 33–41. <https://doi.org/10.20956/jiks.v9i1.19757>
- Tong, Y., Huang, S., Meng, X., & Wang, Y. (2023). Aqueous-Cellulose-Solvent-Derived Changes in Cellulose Nanocrystal Structure and Reinforcing Effects. *Polymers*, 15(14). <https://doi.org/10.3390/polym15143030>
- Tongwanichniyom, S., Kitjaruwankul, S., & Phornphisutthimas, S. (2022). Production of biomaterials from seafood waste for application as vegetable wash disinfectant. *Heliyon*, 8(5), e09357. <https://doi.org/10.1016/j.heliyon.2022.e09357>
- Trache, D., Tarchoun, A. F., Derradji, M., Hamidon, T. S., Masruchin, N., Brosse, N., & Hussin, M. H. (2020). Nanocellulose: From Fundamentals to Advanced Applications.

In *Frontiers in Chemistry* (Vol. 8). Frontiers Media S.A.
<https://doi.org/10.3389/fchem.2020.00392>

- Venkatarajan, S., & Athijayamani, A. (2021). An overview on natural cellulose fiber reinforced polymer composites. *Materials Today: Proceedings*, 37, 3620–3624. <https://doi.org/https://doi.org/10.1016/j.matpr.2020.09.773>
- Verma, R., Mishra, S. R., Gadore, V., & Ahmaruzzaman, Md. (2023). Hydroxyapatite-based composites: Excellent materials for environmental remediation and biomedical applications. *Advances in Colloid and Interface Science*, 315, 102890. <https://doi.org/https://doi.org/10.1016/j.cis.2023.102890>
- Vinayagam, R., Kandati, S., Murugesan, G., Goveas, L. C., Baliga, A., Pai, S., Varadavenkatesan, T., Kaviyarasu, K., & Selvaraj, R. (2023). Bioinspiration synthesis of hydroxyapatite nanoparticles using eggshells as a calcium source: Evaluation of Congo red dye adsorption potential. *Journal of Materials Research and Technology*, 22, 169–180. <https://doi.org/10.1016/j.jmrt.2022.11.093>
- Wu, H., Weng, R., Wang, J., Chen, Y., Chen, X., Xu, J., Zhang, Y., Li, H., Fei, X., Wang, R., Shao, Y., Jin, A., Yao, X., Zou, H., Li, H., & Chen, K. (2026). Toxicological effects of malachite green hydrochloride on the freshwater snail *Biomphalaria glabrata*: An ecological risk assessment. *Journal of Hazardous Materials*, 503, 141075. <https://doi.org/https://doi.org/10.1016/j.jhazmat.2026.141075>
- Wulandari, W., Islami, D. M., Jamarun, N., Wellia, D. V., & Emriadi, E. (2024). Synthesis and Characterization of Hydroxyapatite/Alginate Composites: Study of pH and Sintering Influenced on the Structural, Morphological, and Clindamycin Release Behavior. *Indonesian Journal of Chemistry*, 24(2), 334–347. <https://doi.org/10.22146/ijc.84558>
- Wulandari, W., Islami, D. M., Wellia, D. V., Emriadi, E., Sisca, V., & Jamarun, N. (2023). The Effect of Alginate Concentration on Crystallinity, Morphology, and Thermal Stability Properties of Hydroxyapatite/Alginate Composite. *Polymers*, 15(3). <https://doi.org/10.3390/polym15030614>
- Xing, L., Gu, J., Zhang, W., Tu, D., & Hu, C. (2018). Cellulose I and II nanocrystals produced by sulfuric acid hydrolysis of Tetra pak cellulose I. *Carbohydrate Polymers*, 192, 184–192. <https://doi.org/10.1016/j.carbpol.2018.03.042>
- Yildirim, A., & Acay, H. (2025). Methylene blue and malachite green dyes adsorption onto russula delica/bentonite/tripolyphosphate. *Heliyon*, 11(1), e41250. <https://doi.org/https://doi.org/10.1016/j.heliyon.2024.e41250>
- Zhai, Q. Z. (2023). Adsorption of Rhodamine B dye on potassium permanganate modified peanut shell: adsorption kinetics, thermodynamics and isotherm studies. *Desalination and Water Treatment*, 303, 212–223. <https://doi.org/10.5004/dwt.2023.29798>

- Zhang, Q., Zhang, L., Wu, W., & Xiao, H. (2020). Methods and applications of nanocellulose loaded with inorganic nanomaterials: A review. In *Carbohydrate Polymers* (Vol. 229). Elsevier Ltd. <https://doi.org/10.1016/j.carbpol.2019.115454>
- Zhu, Z., Yang, Y., Fan, Y., Zhang, L., Tang, S., Zhu, Y., & Zhou, X. (2022). Strontium-doped hydroxyapatite as an efficient adsorbent for Cd(II) removal from wastewater: Performance, kinetics, and mechanism. *Environmental Technology and Innovation*, 28. <https://doi.org/10.1016/j.eti.2022.102575>

