

DAFTAR PUSTAKA

- Abbas, A., Hussain, M.A., Amin, M., Tahir, M.N., Jantan, I., Hameed, A., and Bukhari, S.N.A., 2015, Multiple Cross-linked Hydroxypropylcellulose-Succinate-Salicylate: Prodrug Design, Characterization, Stimuli Responsive Swelling-Deswelling and Sustained Drug Release, *RSC Adv.*, 5, 43440–43448.
- Adamis, Z. and Williams, R.B., 2005, *Bentonite, Kaolin, and Selected Clay Minerals*, World Health Organization, Geneva.
- Albert, E.L., Shirotsaki, Y., and Che Abdullah, C.A., 2018, Drug Release and Kinetic Study of Tamoxifen Citrate conjugated with Magnetite Nanoparticle for Drug Delivery Application, *Int. J. Appl. Eng. Res.*, 13, 5360–5369.
- Ao, G., Hu, Q., and Kim, M.-S., 2008, Properties of Activated Carbon Blacks Filled SBR Rubber Composites, *Carbon Lett.*, 2(9), 115–120.
- Armbruster, T. and Gunter, M.E., 1991, Stepwise Dehydration of Heulandite-Clinoptilolite from Succor Creek, Oregon, USA: A Single-crystal X-ray Study at 100K, *Am. Mineral.*, 76, 1872–1883.
- Astuti, D.W., Mudasir, and Aprilita, N.H., 2019, Preparation and Characterization Adsorbent Based on Zeolite from Klaten, Central Java, Indonesia, *J. Phys. Conf. Ser.*, 1156, 1–6.
- Bananezhad, B., Islami, M. R., Ghonchehpour, E., Mostafavi, H., Tikdari, A. M., and Rafiei, H. R., 2019, Bentonite Clay as an Efficient Substrate for the Synthesis of the Super Stable and Recoverable Magnetic Nanocomposite of Palladium (Fe₃O₄/Bentonite-Pd), *Polyhedron*, 162, 192–200.
- Bansiwal, A.K., Rayalu, S.S., Labhasetwar, N.K., Juwarkar, A.A., and Devotta, S., 2006, Surfactant-modified Zeolite as a Slow Release Fertilizer for Phosphorus, *J. Agric. Food Chem.*, 54, 4773–4779.
- Barrer, R.M. and Klinowski, J., 1974, Ion Exchange in Mordenite, *J. Chem. Soc. Faraday Trans. 1*, 70, 2362–2367.
- Betriani, R., 2018, Sintesis Zeolit/NPK Terlapis Alginat-PVA-Glutaraldehid sebagai Pupuk Lepas-Lambat, *Skripsi*, Sarjana Kimia FMIPA Universitas Gadjah Mada, Yogyakarta.
- Brandt, A. M., 2009, *Cement-Based Composites: Materials, Mechanical Properties, and Performance*, Second edition, Taylor & Francis, New York.
- Byler, D.M., Gerasimowicz, W. V., Stockette, V.M., and Eberl, D.D., 1991, Infrared Spectroscopic Examination of the Interaction of Urea with the Naturally Occurring Zeolite Clinoptilolite, *Microchem. J.*, 44, 130–139.

- Canpolat, F., Yilmaz, K., Köse, M.M., Sümer, M., and Yurdusev, M.A., 2004, Use of zeolite, coal bottom ash and fly ash as replacement materials in cement production, *Cem. Concr. Res.*, 34, 731–735.
- Chen, J.J., Thomas, J.J., Taylor, H.F.W., and Jennings, H.M., 2004, Solubility and Structure of Kalsium silikat hidrat, *Cem. Concr. Res.*, 34, 1499–1519.
- Chukanov, N. V. and Chervonnyi, A.D., 2016, *Infrared Spectroscopy of Minerals and Related*, Springer International Publishing, Cham.
- Cuhadaroglu, D. and Uygun, O.A., 2008, Production and Characterization of Activated Carbon from a Bituminous Coal by Chemical Activation, *African J. Biotechnol.*, 7, 3706–3713.
- Dove, M. T., Craig, M. S., Keen, D. A., Marshall, W. G., Redfern, S. A. T., Trachenko, K. O., and Tucker, M. G., 2000, Crystal Structure of the High-Pressure Monoclinic Phase-II of Cristobalite, SiO₂, *Mineral. Mag.*, 64, 569–576.
- Du, C. W., Zhou, J. M., and Shaviv, A., 2006, Release Characteristics of Nutrients from Polymer-coated Compound Controlled Release Fertilizers, *J. Polym. Environ.*, 14, 223–230.
- Erawan, D., Yani, Wa Ode, and Bahrin, A., 2013, Growth and Yield of Mustard (*Brassica juncea* L .) under Various Dosages of Urea Fertilizer, *J. Agroteknos*, 3, 19–25.
- Fan, J., Li, G., Deng, S., and Wang, Z., 2019, Mechanical Properties and Microstructure of Polyvinyl Alcohol (PVA) Modified Cement Mortar, *Appl. Sci.*, 2178(9), 1-13.
- Fernández-Pérez, M., Villafranca-Sánchez, M., Flores-Céspedes, F., Garrido-Herrera, F.J., and Pérez-García, S., 2005, Use of Bentonite and Activated Carbon in Controlled Release Formulations of Carbofuran, *J. Agric. Food Chem.*, 53, 6697–6703.
- Finck, A., Blair, G. J., and Tandon, H. L. S., 2006, *Plant Nutrition for Food Security - A Guide for Integrated Nutrient Management*, Food and Agriculture Organization of the United Nations, Roma.
- Ford Versypt, A. N., Pack, D. W., and Braatz, R. D., 2013, Mathematical Modelling of Drug Delivery from Autocatalytically Degradable PLGA Microspheres - A Review, *J. Control. Release*, 165, 29–37.
- Fuady, Z., 2010, Pengaruh Sistem Olah Tanah dan Residu Tanaman Terhadap Laju Mineralisasi Nitrogen Tanah, *Lentera*, 10, 94–101.
- Galván-Ruiz, M., Hernández, J., Baños, L., Noriega-Montes, J., and Rodríguez-García, M.E., 2009, Characterization of Calcium Carbonate, Calcium

Oxide, and Calcium Hydroxide as Starting Point to the Improvement of Lime for Their Use in Construction, *J. Mater. Civ. Eng.*, 21, 694–698.

- Grangeon, S., Claret, F., Henocq, P., and Linard, Y., 2018, Structure and Reactivity of Nanocrystalline Kalsium silikat hidrats: The Parallel with Clay Minerals, *Calcium-Silicate Hydrates Containing Aluminium : C-A-S-H II*, 23 - 24 April 2018, Dübendorf.
- Gupta, S., Pramanik, A. K., Kailath, A., Mishra, T., Guha, A., Nayar, S., and Sinha, A., 2009, Composition Dependent Structural Modulations in Transparent Poly(vinyl alcohol) Hydrogels, *Colloids Surf. B.*, 74, 186–190.
- Guth, H., Klein, S., Treutmann, W., Scheringer, C., and Heger, G., 1980, Strukturverfeinerung von Harnstoff mit Neutronenbeugungsdaten bei 60, 123 und 293 K und X-N- und X-X(1s²)-Synthesen bei etwa 100 K, *Z. Kristallogr. Cryst. Mater.*, 153, 237–254.
- He, Y., Wu, Z., Tu, L., Han, Y., Zhang, G., and Li, C., 2015, Encapsulation and Characterization of Slow-Release Microbial Fertilizer from the Composites of Bentonite and Alginate, *Appl. Clay Sci.*, 109–110, 68–75.
- Hermida, L. and Agustian, J., 2019, Slow Release Urea Fertilizer Synthesized through Recrystallization of Urea Incorporating Natural Bentonite Using Various Binders, *Environ. Technol. Innov.*, 13, 113–121.
- Ho, Y. S., 2006, Review of Second-Order Models for Adsorption Systems, *J. Hazard. Mater.*, 136, 681–689.
- Ilham, A., 2005, Pengaruh Sifat-Sifat Fisik Dan Kimia Bahan Pozolan pada Beton Kinerja Tinggi, *MKTS*, 3(13), 75–85.
- Kalagatur, N. K., Karthick, K., Allen, J. A., Ghosh, O. S. N., Chandranayaka, S., and Gupta, V. K., 2017, Application of Activated Carbon Derived from Seed Shells of *Jatropha curcas* for Decontamination of Zearalenone mycotoxin, *Front. Pharmacol.*, 760(8), 1-13.
- Karge, H. G., 2001, Characterization by IR Spectroscopy. In Robson, H., *Verified Syntheses of Zeolitic Materials*, Second Edition, Elsevier Science B.V., Amsterdam.
- Khan, M. A., Mingzhi, W., Lim, B. K., and Lee, J. Y., 2008, Utilization of Waste Paper for an Environmentally Friendly Slow-Release Fertilizer, *J. Wood Sci.*, 54, 158–161.
- Khan, M. N., Mobin, M., Abbas, Z. K., and Alamri, S. A., 2017, *Fertilizers and Their Contaminants in Soils, Surface and Groundwater*. In DellaSalla, D. A. and Goldstein, M. I., *Encyclopedia of the Anthropocene*, Elsevier, Oxford.

- Kihara, K., 1990, An X-ray Study of the Temperature Dependence of the Quartz Structure, *Eur. J. Mineral.*, 2, 63–78.
- Laksmono, J. A., Sudibandriyo, M., Saputra, A. H., and Haryono, A., 2017, Development of Porous Structured Polyvinyl Alcohol/Zelite/Carbon Composites as Adsorbent, *IOP Conf. Ser. Mater. Sci. Eng.*, 201, 1-5.
- Lateef, A., Nazir, R., Jamil, N., Alam, S., Shah, R., Khan, M. N., and Saleem, M., 2016, Synthesis and Characterization of Zeolite Based Nano-composite: An Environment Friendly Slow Release Fertilizer, *Micropor. Mesopor. Mat.*, 232, 174–183.
- Lee, S. and Xu, H., 2020, Using Complementary Methods of Synchrotron Radiation Powder Diffraction and Pair Distribution Function to Refine Crystal Structures with High Quality Parameters — A Review, *Minerals*, 2(10), 1-16.
- Lelifajri, Nawir, M. A., Sabar, S., Supriatno, and Nawawi, W. I., 2018, Preparation of Immobilized Activated Carbon-Polyvinyl Alcohol Composite for the Adsorptive Removal of 2,4-Dichlorophenoxyacetic Acid, *J. Water Process Eng.*, 25, 269–277.
- Li, Z., Zhang, Y., and Li, Y., 2013, Zeolite as Slow Release Fertilizer on Spinach Yields and Quality in a Greenhouse Test, *J. Plant Nutr.*, 36, 1496–1505.
- Liang, R. and Liu, M., 2006, Preparation and Properties of Coated Nitrogen Fertilizer with Slow Release and Water Retention, *Ind. Eng. Chem. Res.*, 45, 8610–8616.
- Linggawati, A., 2016, Preparation and Characterization of Calcium Oxide Heterogeneous Catalyst Derived from Anadara Granosa Shell for Biodiesel Synthesis, *KnE Eng.*, 1(1), 1–8.
- Lutz, C., Szendrovics, and Persillon, Q., 2017, *Spherical Agglomerates based on Zeolite(s), Process for the Production thereof and Use thereof in Adsorption Process or in Catalysis*, United States Patent, US 9,744,519 B2.
- Madhurambal, G. and Mariappan, M., 2010, Growth and Characterization of Urea-Thiourea Non-linear Optical Organic Mixed Crystal, *Indian J. Pure Appl. Phys.*, 4(48), 264–270.
- Mahmudha, S., 2019, Komposit Tabung Berlubang Zeolit/Lempung/Kalsium Oksida/Polivinil Alkohol sebagai Enkapsulator Pupuk Lepas Lambat Urea, *Tesis*, Pasca Sarjana Kimia FMIPA Universitas Gadjah Mada, Yogyakarta.
- Mathur, R. B., Dhakate, S. R., Gupta, D. K., Dharmi, T. L., and Aggarwal, R. K., 2008, Effect of Different Carbon Fillers on the Properties of Graphite Composite Bipolar Plate, *J. Mater. Process. Technol.*, 203, 184–192.

- Moseley, P. T., Rand, D. A. J., Davidson, A., and Monahov, B., 2018, Understanding the Functions of Carbon in the Negative Active-Mass of the Lead–Acid Battery: A Review of Progress, *J. Energy Storage*, 19, 272–290.
- Nagarkar, R. and Patel, J., 2019, Polyvinyl Alcohol : A Comprehensive Study, *Acta Sci. Pharm. Sci.*, 3, 34–44.
- Nainggolan, D. G., Suwardi, and Darmawan, 2009, Pola Pelepasan Nitrogen Dari Pupuk Tersedia Lambat (Slow Release Fertilizer) Urea - Zeolit - Asam Humat, *J. Zeolit Indones.*, 8, 89–96.
- Ni, B., Liu, M., and Lü, S., 2009, Multifunctional Slow-Release Urea Fertilizer from Ethylcellulose and Superabsorbent Coated Formulations, *Chem. Eng. J.*, 155, 892–898.
- Ni, B., Liu, M., Lü, S., Xie, L., and Wang, Y., 2010, Multifunctional Slow-Release Organic-Inorganic Compound Fertilizer, *J. Agric. Food Chem.*, 58, 12373–12378.
- Olinic, T. and Olinic, E., 2016, The Effect of Quicklime Stabilization on Soil Properties, *Agric. Agric. Sci. Procedia*, 10, 444–451.
- Pertiwi, P. K., Leny, A., Yusro, K., and Prajitno, G., 2015, Uji Densitas dan Porositas pada Batuan dengan Menggunakan Neraca O Houss dan Neraca Pegas, *Fis. Lab.*, 1–5.
- Phonchai, A., Rattana, S., and Thongprajukaew, K., 2020, A Portable Sol-Gel Urea Colorimetric Method for the Determination of Urea in Feedstuffs, *Food Chem.*, 319, 126545.
- Putra, E. K., Pranowo, R., Sunarso, J., Indraswati, N., and Ismadji, S., 2009, Performance of Activated Carbon and Bentonite for Adsorption of Amoxicillin from Wastewater: Mechanisms, Isotherms and Kinetics, *Water Res.*, 43, 2419–2430.
- Reháková, M., Čuванová, S., Dzivák, M., Rimár, J., and Gaval’Ová, Z., 2004, Agricultural and Agrochemical Uses of Natural Zeolite of the Clinoptilolite Type, *Curr. Opin. Solid State Mater. Sci.*, 8, 397–404.
- Roy, R.N. and Misra, R.V., 2005, Soil Nitrogen Balance Assessment and its Application for Sustainable Agriculture and Environment, *Sci. China. Life Sci.*, 48, 843–855.
- Salman, Febriyenti, and D., A., 2015, Pengaruh Penggunaan Penyalut Bioblend PS/PCL terhadap Pelepasan Zat Aktif Urea Granul, *J. Ris. Kim.*, 8, 158–164.
- Shaban, M., Abukhadra, M. R., Shahien, M. G., and Ibrahim, S. S., 2018, Novel Bentonite/Zeolite-NaP Composite Efficiently Removes Methylene Blue

and Congo Red Dyes, *Environ. Chem. Lett.*, 16, 275–280.

Simoncic, P. and Armbruster, T., 2004, Peculiarity and Defect Structure of the Natural and Synthetic Zeolite Mordenite: A Single-crystal X-ray Study, *Am. Mineral.*, 89, 421–431.

Soltani, A., Deng, A., and Taheri, A., 2018, Swell–compression Characteristics of a Fiber–reinforced Expansive Soil, *Geotext. Geomembr.*, 46, 183–189.

Tangboriboon, N., Kunanurksapong, R., Sirivat, A., Kunanurksapong, R., and Sirivat, A., 2012, Preparation and properties of calcium oxide from eggshells via calcination, *Mater. Sci. Pol.*, 30, 313–322.

Terzić, A., Pezo, L., Mijatović, N., Stojanović, J., Kragović, M., Miličić, L., and Andrić, L., 2018, The Effect of Alternations in Mineral Additives (Zeolite, Bentonite, Fly Ash) on Physico-chemical Behavior of Portland Cement Based Binders, *Constr. Build. Mater.*, 180, 199–210.

Trenkel, M. E., 2010, *Slow- and Controlled-Release and Stabilized Fertilizers: An Option for Enhancing Nutrient Agriculture*, Second Edition, International Fertilizer Industry Association, Paris.

Viani, A., Gualtieri, A. F., and Artioli, G., 2002, The Nature of Disorder in Montmorillonite by Simulation of X-Ray Powder Patterns, *Am. Mineral.*, 87, 966–975.

Wan, L. S. C., Heng, P. W. S., and Wong, L. F., Relationship between Swelling and Drug Release in a Hydrophilic Matrix, *Drug Dev. Ind. Pharm.*, 10(19), 1201–1210.

Wang, M., Xie, R., Chen, Y., Pu, X., Jiang, W., and Yao, L., 2018, A Novel Mesoporous Zeolite-Activated Carbon Composite as an Effective Adsorbent for Removal of Ammonia-Nitrogen and Methylene Blue from Aqueous Solution, *Bioresour. Technol.*, 268, 726–732.

Wang, R., Amano, Y., and Machida, M., 2013, Journal of Analytical and Applied Pyrolysis Surface Properties and Water Vapor Adsorption – Desorption Characteristics of Bamboo-based Activated Carbon, *J. Anal. Appl. Pyrolysis*, 104, 667–674.

Wang, S. and Peng, Y., 2010, Natural Zeolites as Effective Adsorbents in Water and Wastewater Treatment, *Chem. Eng. J.*, 156, 11–24.

Weil, R. R. and Brady, N. C., 2017, *The Nature and Properties of Soils, Fifteenth Edition*, Pearson Education Limited, London.

Wibawa, P. J., Nur, M., Asy'ari, M., and Nur, H., 2020, SEM, XRD and FTIR Analyses of both Ultrasonic and Heat Generated Activated Carbon Black Microstructures, *Heliyon*, 1-11.



- Yahya, M. A., Mansor, M. H., Zolkarnaini, W. A. A. W., Rusli, N. S., Aminuddin, A., and Mohamad, K., 2018, A Brief Review on Activated Carbon Derived from Agriculture By-Product, *AIP Conf. Proc.*, 1972, 1-8.
- Yates, M., Martín-Luengo, M. A., Argomaniz, L. V., and Velasco, S. N., 2012, Design of Activated Carbon-Clay Composites for Effluent Decontamination, *Micropor. Mesopor. Mat.*, 154, 87–92.