



DAFTAR PUSTAKA

- Allaedini, G., Tasirin, S. M. dan Aminayi, P. (2015). Magnetic properties of cobalt ferrite synthesized by hydrothermal method. *International Nano Letters*, 5(4), 183–186.
- Almessiere, M. A., Slimani, Y., Auwal, I. A., Shirsath, S. E., Gondal, M. A., Sertkol, M., dan Baykal, A. (2021). Biosynthesis effect of Moringa oleifera leaf extract on structural and magnetic properties of Zn doped Ca-Mg nano-spinel ferrites. *Arabian Journal of Chemistry*, 14(8), 103261.
- Amiri, M., Niasari, M. S., Pardakhty, A., Ahmadi, M., dan Akbari, A. (2017). Caffeine: A novel green precursor for synthesis of magnetic CoFe_2O_4 nanoparticles and pH-sensitive magnetic alginate beads for drug delivery. *Materials Science and Engineering C*, 76, 1085–1093.
- Anwar, F., Latif, S., Ashraf, M., dan Gilani, A. H. (2007). Moringa oleifera: A Food Plant with Multiple Medicinal Uses. *Phytotherapy Research, Phytother. Res.* 21, 17–25.
- Banifatemi, S. S., Davar, S., Aghabarari, B., Segura, J.A., Alonso, F. J., dan Ghoreishi, S. M. (2021). Green synthesis of CoFe_2O_4 nanoparticles using olive leaf extract and characterization of their magnetic properties. *Ceramics International*, 47(13), 19198–19204.
- Berthomieu, C., dan Hienerwadel, R. (2009). Fourier transform infrared (FTIR) spectroscopy. *Photosynthesis Research*, 101(2–3), 157–170.
- Biazar, E., Ai, J., Jafarpour, M., Montazeri, M., Majdi, A., Aminifard, S., Zafari M., Akbari, H. R., dan Rad, H. G. H. (2011). Nanotoxicology and nanoparticle safety in biomedical designs. *International Journal of Nanomedicine*, 6, 1117–1127.
- Bragg, W.L. (1913). The diffraction of short electromagnetic waves by a crystal. *Scientia*. 23(45).
- Buschow, K.H.J.(ed) 2015. *Handbook of Magnetic Materials*. Van der Waals-Zeeman Institute, Amsterdam.
- Chikazumi, S. (1997). *Physics of Ferromagnetism*. Oxford University Press. Oxford.



Chirtop, E., Mitov, I., Ion, R. M., dan Iliescu, M. (2000). A Low Temperature Path To The Preparation Of CoFe_2O_4 Ferrite. *Journal of Optoelectronics and Advanced Materials*, 2(4), 379–384.

Clearfield, A. (2008). Introduction to Diffraction. In *Principles and Applications of Powder Diffraction*. Editor: Clearfield, A., Reibenspies, J.H., Bhuvanesh, N., John Wiley & Sons, Ltd., Oxford, 73-102.

Devatha, C. P. dan Thalla, A. K. (2018). Synthesis of Inorganic Nanomaterials. *Advances and Key Technologies Micro and Nano Technologies*. Elsevier Ltd, 169-184.

Dinnebier, R.E., dan Billinge, S.J.L., (2008). *Powder Diffraction, Theory and Practice*. The Royal Society of Chemistry.

D.M. Jnaneshwara, D.N. Avadhani, B. Daruka Prasad, B.M. Nagabhushana, H. Nagabhushana, S.C. Sharma, S.C. Prashantha, C. Shivakumara. (2014). Effect of zinc substitution on the nanocobalt ferrite powders for nanoelectronic devices. *Journal of Alloys and Compounds* 587, 50-58.

Epp, J. (2016). X-Ray Diffraction (XRD) Techniques for Materials Characterization. *Materials Characterization Using Nondestructive Evaluation (NDE) Methods*, 81-124.

Fabiani, V. A., Nur'aini., Zulita., Sari, A. R., dan Kafillah, M. (2019). Pengaruh Temperatur Pada Sintesis Kobalt Ferit (CoFe_2O_4) Menggunakan Ekstrak Buah Buni (*Antidesma bunius L*). *Prosiding Seminar Nasional Penelitian & Pengabdian Pada Masyarakat*, Pangkalpinang, 3-4 September, 2019.

Ferreira, T. A. S., Waerenborgh, J. C., Mendonça, M. H. R. M., Nunes, M. R., dan Costa, F. M. (2003). Structural and morphological characterization of FeCo_2O_4 and CoFe_2O_4 spinels prepared by a coprecipitation method. *Solid State Sciences*, 5(2), 383–392.

Fitzpatrick, M.E., dan Lodini, A. (2003). *Analysis of Residual Stress by Diffraction Using Neutron and Synchrotron Radiation*. Taylor and Francis, London.

Gazsó, A., Fuchs, D., Gressler, S., Gruber, I., Part, F., dan Huber-Humer, M. (2015). Environmentally relevant aspects of nanomaterials in products at the end-of-life phase. *European Journal of Risk Regulation*, 6(4), 638–645.



George, T. T., Obilana, A. O., Oyenihu, A. B., dan Rautenbach, F. G. (2021). Moringa oleifera through the years: a bibliometric analysis of scientific research (2000-2020). *South African Journal of Botany*, 141, 12–24.

Gholizadeh, A. (2018). A comparative study of the physical properties of Cu-Zn ferrites annealed under different atmospheres and temperatures: Magnetic enhancement of Cu_{0.5}Zn_{0.5}Fe₂O₄ nanoparticles by a reducing atmosphere. *Journal of Magnetism and Magnetic Materials*, 452, 389-397.

Gilbert, A. S. (2017). *IR Spectral Group Frequencies of Organic Compounds*. In Encyclopedia of Spectroscopy and Spectrometry (3rd ed.). Elsevier Ltd.

Guinebretiere, R., 2006. *Diffraction Des Rayons X Sur Echantillons Polycristallins*. second ed. Lavoisier, Paris.

Híveš, J., Gál, M., Kerekeš, K., Kubiňáková, E., Mackul'ák, T., Doong, R., Varma, R. S., Sharma, V. K., Dionysiou, D. D., dan Kim, H. (2016). Ferrites and Ferrates: Chemistry and Applications in Sustainable Energy and Environmental Remediation. *ACS Symposium Series*, 1238, 0.

H. M. Rietveld. (1968). A Profile Refinement Method for Nuclear and Magnetic Structures. *Journal of Applied Crystallography*, 2, 65-71.

Huston, M., Debella, M., Dibella, M., dan Gupta, A. (2021). Green synthesis of nanomaterials. *Nanomaterials*, 11(8), 1–30.

Hölzer, G., Fritsch, M., Deutsch, J., Hartwig, M., dan Forster, E. (1997). K_α1,2 and K_β1,3 X-ray emission lines of the 3d transition metals. *Phys Rev A*, 56, 4554-4568.

Jensen, C. D. dan Lewinski, N. A. (2018). Nanoparticle synthesis to green informatics frameworks. *Current Opinion in Green and Sustainable Chemistry*, 12, 117–126.

Jiao, Z., Geng, X., Wu, M., Jiang, Y., dan Zhao, B. (2008). Preparation of CoFe₂O₄ nanoparticles by spraying co-precipitation and structure characterization. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 313–314, 31–34.

Kaduk, J.A. (2008). Structure Refinement. in *Principles and Applications of Powder Diffraction*. Editor: Clearfield, A., Reibenspies, J.H., Bhuvanesh, N., John Wiley & Sons, Ltd., Oxford, 310-313.



- Kgatitsoe, M. M., Ncube, S., Tutu, H., Nyambe, I. A., dan Chimuka, L. (2019). Synthesis and characterization of a magnetic nanosorbent modified with Moringa oleifera leaf extracts for removal of nitroaromatic explosive compounds in water samples. *Journal of Environmental Chemical Engineering*, 7(3), 103-128.
- Kombaiah, K., Vijaya, J. J., Kennedy, L. J., Bououdina, M., Ramalingam, R. J., dan Al-Lohedan, H. A. (2018). Okra extract-assisted green synthesis of CoFe_2O_4 nanoparticles and their optical, magnetic, and antimicrobial properties. *Materials Chemistry and Physics*, 204, 410–419.
- Le Bail, A. (2008). Structure Solution. in *Principles and Applications of Powder Diffraction*. Editor: Clearfield, A., Reibenspies, J.H., Bhuvanesh, N., John Wiley & Sons, Ltd., Oxford, 261.
- Lontio F. R., Tedjiekeng K. H. M., Ngolui, L. J., Lahem, D. Eloy, P., Debliquy, M., dan Delcorte, A. (2018). A sub-ppm level formaldehyde gas sensor based on Zn-doped NiO prepared by a co-precipitation route. *Journal of Alloys and Compounds*, 731, 1188–1196.
- Luntungan, C. L. Aritonang, H. F., Kamu, V. S. 2020. Sintesis Nanopartikel Kobalt Ferrite (CoFe_2O_4) Menggunakan Ekstrak Daun Binahong (*Anredera cordifolia (Ten) Steenis*) dan Aplikasinya Sebagai Antibakteri. *Chemistry Progress*, 12(1).
- Machado, S.L. Pinto, J.P. Gross, H.P.A. Nouws, J.T. Albergaria, C., dan Delerue-Matos. (2013), Green production of zero-valent iron nanoparticles using tree leaf extracts, *Sci. Total Environ*, 445, 1–8.
- Mahnaz Amiri., Ahmad Akbari., Meysam Ahmadi., Abbas Pardakhti., Masoud Salavati-Niasari. (2018). Caffeine: A novel green precursor for synthesis of magnetic CoFe_2O_4 nanoparticles and pH-sensitive magnetic alginate beads for drug delivery. *Materials Science and Engineering C*, 76, 1151-1160
- Matinise, N., Kaviyarasu, K., Mongwaketsi, N., Khamlich, S., Kotsedi, L., Mayedwa, N., dan Maaza, M.(2018). Green synthesis of novel zinc iron oxide (ZnFe_2O_4) nanocomposite via Moringa Oleifera natural extract for electrochemical applications. *Applied Surface Science*, 446, 66–73.



- Mohallem, N. D.S., Seara, L. M., Novak, M. A., dan Sinnecker, E. H.C.P.(2006). Magnetic nanocomposite thin films prepared by sol-gel process. *Brazilian Journal of Physics*, 36(3 B), 1078–1080.
- Mohamed, M. A., Jaafar, J., Ismail, A. F., Othman, M. H.D., Rahman, M. A. (2017). *Fourier Transform Infrared (FTIR) Spectroscopy, Membrane Characterization*. Elsevier B.V.
- Moyo, B., Patrick, J.M., Arnold, H., Voster, M., (2016). Nutritional characterization of Moringa (Moringa oleifera Lam.) leaves. *African J. Biotechnol*, 10, 12925–12933.
- Mosiori, C. O., Oeba, D. A., dan Shikambe, R. (2017). Determination of Planck's Constant using Light Emitting Diodes. *Path of Science*, 3(10), 2007–2012.
- Muniz, E. P., de Assunção, L. S. D., de Souza, L. M., Ribeiro, J. J.K., Marques, W. P., Pereira, R. D., Porto, P. S. S., Proveti, J. R. C., dan Passamani, E. C. (2020). On cobalt ferrite production by sol-gel from orange fruit residue by three related procedures and its application in oil removal. *Journal of Cleaner Production*, 265.
- Naughton, B. T. dan Clarke, D. R., (2016). Lattice Expansion and Saturation Magnetization of Nickel-Zinc Ferrite Nanoparticles Prepared by Aqueous Precipitation. *Journal of the American Ceramic Society*, 90, 3541-3546.
- Noyan, I.C., dan Cohen, J.B. (1987). *Residual stress, measurement by diffraction and interpretation*. Springer Verlag.
- Pal, G., Rai, P., dan Pandey, A. (2019). *Green synthesis of nanoparticles: A greener approach for a cleaner future, Green Synthesis, Characterization and Applications of Nanoparticles*. Elsevier Inc.
- Parekh, K. (2010). Effect of preparative conditions on magnetic properties of CoFe₂O₄ nanoparticles. *Indian Journal of Pure and Applied Physics*, 48(8), 581–585.
- Prasad, C., Sreenivasulu, K., Gangadhara, S., dan Venkateswarlu, P. (2017). Bio inspired green synthesis of Ni/Fe₃O₄ magnetic nanoparticles using Moringa oleifera leaves extract: A magnetically recoverable catalyst for organic dye degradation in aqueous solution. *Journal of Alloys and Compounds*, 700, 252–258.



- Raghavendra, M., Ravinder, D., dan Veerasomaiah, P. (2013). Magnetic properties of Cr-substituted Co-ferrite nanoparticles synthesized by citrate-gel autocombustion method. *Journal of Nanostructure in Chemistry*, 3(1), 8–13.
- Reddy, D. H. K. dan Yun, Y. S. (2016). Spinel ferrite magnetic adsorbents: Alternative future materials for water purification? *Coordination Chemistry Reviews*, 315, 90–111.
- Routray, K. L., Saha, S., dan Behera, D. (2019). Green synthesis approach for nano sized CoFe_2O_4 through aloe vera mediated sol-gel auto combustion method for high frequency devices. *Materials Chemistry and Physics*, 224, 29–35.
- S. Saif, A. Tahir, dan Y. Chen (2016). Green synthesis of iron nanoparticles and their environmental applications and implications. *Nanomaterials*, 6(11), 209.
- Sartale, S. D. dan Lokhande, C. D. (2002). Electrochemical synthesis of nanocrystalline CoFe_2O_4 thin films and their characterization. *Ceramics International*, 28(5), 467–477.
- Schatz, A., Reiser, O., dan Stark, W. J. (2010). Nanoparticles as semi-heterogeneous catalyst supports. *Chemistry - A European Journal*, 16(30), 8950–8967.
- Schwartz, L.H., dan Cohen, J.B., (1987). *Diffraction from Materials*. Springer Verlag, Berlin.
- Sharma, R. K., Yadav, S., Gupta, R., dan Arora, G. (2019). Synthesis of Magnetic Nanoparticles Using Potato Extract for Dye Degradation: A Green Chemistry Experiment. *Journal of Chemical Education*, 96(12), 3038–3044.
- Soto, K. M. Quezada-Cervantes, C. T., Hernández-Iturriaga, M., Luna-Bárcenas, G., Vazquez-Duhalt, R., dan Mendoza, S. (2019). Fruit peels waste for the green synthesis of silver nanoparticles with antimicrobial activity against foodborne pathogens. *LWT*, 103, 293–300.
- Spieß, L., Teichert, G., Schwarzer, R., Behnken, H., dan Genzel, C. (2009). *Moderne Rontgenbeugung, second ed.* Teubner Verlag, Wiesbaden.
- Stanford, A. L., dan Tanner, J. M. (1985). Early Quantum Physics. *Physics for Students of Science and Engineering*, 691–716.



Stark, W. J. (2011). Nanoparticles in biological systems. *Angewandte Chemie - International Edition*, 50(6), 1242–1258.

Suharyadi, E., Pratiwi, S. H., Tedy I. I. P., Kato, T., Iwata, S., Ohto, K. (2021). Effects of annealing temperature on microstructural, magnetic properties, and specific absorption rate of Zn-Ni ferrite nanoparticles. *Materials Research Express*, 8(3).

Sultana, S. (2020). Nutritional and functional properties of Moringa oleifera. *Metabolism Open*, 8, 100061.

Wang, W. W. (2008). Microwave-induced polyol-process synthesis of M_{II}Fe₂O₄ (M = Mn, Co) nanoparticles and magnetic property. *Materials Chemistry and Physics*, 108(2–3), 227–231.

Whitfield, P., dan Mitchell, L. (2008), Phase Identification and Quantitative Methods, in Principles and Applications of Powder Diffraction, Editor: Clearfield, A., Reibenspies, J.H., Bhuvanesh, N., John Wiley & Sons, Ltd., Oxford, 226-234.

Will, G., 2006. *Powder Diffraction: The Rietveld Method and The Two Stage Method*. Springer Verlag.

Yan, C. H., Xu, Z. G., Cheng, F. X., Wang, Z. M., Sun, L. D., Liao, C. S., dan Jia, J. T. (1999), Nanophased CoFe₂O₄ prepared by combustion method. *Solid State Communications*, 5(111), 287–291.

Zhu, K., Zhang, M., Hong, J., dan Yin, Z. (2005), Size Effect on Phase Transition Sequence of TiO₂ Nanocrystal, *Materials Science and Engineering*, 403, 87–93.