

DAFTAR PUSTAKA

1. Adeleke, J. T., T. Theivasanthi, M. Thirupathi, M. Swaminathan, T. Akomolafe, A.B. Alabi. 2018. Photocatalytic Degradation of Methylene Blue by ZnO/ NiFe₂O₄ Nanoparticles. *Journal Applied Surface Science*. 455: 195-200.
2. Mandal S, Natarajan S, Tamilselvi A, Mayadevi S. Photocatalytic and antimicrobial activities of zinc ferrite nanoparticles synthesized through soft chemical route: A magnetically recyclable catalyst for water/wastewater treatment. *Journal Environ Chem Eng*. 2016;4(3):2706-2712.
3. Afkhami A, Moosavi R. Adsorptive removal of Congo red, a carcinogenic textile dye, from aqueous solutions by maghemite nanoparticles. *Journal Hazard Mater*. 2010;174(1-3):398-403.
4. Shao, M., L. Fu, J. Tang, M. Liu, Y. Song, F. Tian, Z. Zhao, Z. Zhang, D. D. Dionysiou. 2013. Microwave Hydrothermal-assisted Preparation of Novel Spinel-NiFe₂O₄/Natural Mineral Composites as Microwave Catalysts for Degradation of Aquatic Organic Pollutants. *Journal of Hazardous Materials*. 350: 1-9.
5. Wilson, M. J., M. Ghorbani, H. Mehdipour. 2012. Preparation of an Activated Carbon from Hazelnut Shells and its Hybrids with Magnetic NiFe₂O₄ Nanoparticles. *New Carbon Materials*. 33 (6): 578-586.
6. Monica. A , M. Quezada-Cruz, G. Ceron-Montes. 2019. Synthesis and Characterization of Magnetic Zinc-Copper Ferrites: Antibacterial Activity, Photodegradation Study and Heavy Metals Removal Evaluation. *Journal of Materials Chemistry and Physics*.
7. Rashad, M. M., S. Soltan, A. A. Ramadan, M. F. Bekheet, D. A. Rayan. 2015. Investigation of Structural, Optical and Magnetic Properties of CuO/CuFe₂O₄ Nanocomposites Synthesized via Simple Microemulsion Method. *Journal of Ceramics International*. 41: 12237-12245.
8. Rekha VPB, Kollipara M, Srinivasa Gupta BRSS, Bharath Y, Pulicherla KK. A Review on Piper betle L.: Nature's Promising Medicinal Reservoir. *American Journal Ethnomedicine*. 2014;1(5):276-289.
9. Sita kumari O, Babu Rao N. Phyto Chemical Analysis of *Piper betle* Leaf Extract. *World Journal Pharmacy and Pharmaceutical Science*. 2015;4(1):699-703.
10. Shah SK, Garg G, Jhade D, Patel N. Piper betle: Phytochemical, pharmacological and nutritional value in health management. *Internasional Journal Pharmceutical Science Review and Research*. 2016;38(2):181-189.

11. Punuri JB, Sharma P, Sibyala S, Tamuli R, Bora U. Piper betle-mediated green synthesis of biocompatible gold nanoparticles. *International Nano Letter*. 2012;2(1):1-9.
12. Malakarjuna K, John Sushma N, Deva Prasad Raju B.. Phytofabrication and Caracterization of Silver Nanoparticle from Piper betle Broth. *Nanoscience and Nanotechnology*.2012. 2(1):17-23
13. Patra B, Tanay Das M, Kumar Dey S. A review on Piper betle L. *Journal Med Plants Study JMPS*. 2016;4(6):185-192.
14. Muflihatun., S. Shofiahdan E. Suharyadi. 2015. Sintesis Nanopartikel Nickel Ferrite (NiFe_2O_4) dengan Metode Kopresipitasi dan Karakterisasi Sifat Kemagnetannya. *Jurnal Fisika Indonesia*.55:1410-2994.
15. Rahmayeni, Ramadani A, Stiadi Y, Jamarun N, Emriadi, Arief S. Photocatalytic performance of ZnO-ZnFe₂O₄ magnetic nanocomposites on degradation of Congo red dye under solar light irradiation. *J Mater Environ Sci*. 2017;8(5):1634-1643.
16. Masunga, N., O. K. Mmesi, K. K. Kefeni, B. B. Mamba. 2019. Recent Advances in Copper Ferrite Nanoparticles and Nanocomposites Synthesis, Magnetic Properties, and Application in Water Treatment: Review. *Journal of Environmental Chemical Engineering*. 7: 103179.
17. Anandan, S., T. Selvamani, G. G. Prasad, A. M. Asiri, J. J. Wu. 2017. Magnetic and Catalytic Properties of Inverse Spinel CuFe_2O_4 Nanoparticles. *Journal of Magnetism and Magnetic Materials*. 432: 437-443
18. Sara P, Nabeela A, Quan S *et al*. Developing Cuprospinel CuFe_2O_4 -ZnO Semiconductor Heterostructure as a Proton Conducting Electrolyte for Advanced Fuel Cell. *Jurnal of Hydrogen Energy*. 2019;10(3): 251-257.
19. Kashif A, Javed I, Tariq J *et al*. Synthesis of CuFe_2O_4 -ZnO Nanocomposites with Enchanced Electromagnetic Wave Absorption Properties. *Jurnal of Alloys and Compounds*. 2017;559-565.
20. Lamyam Sasmi. Semikonduktor Multifungsi ZnO di Doping Nikel-Ferit yang Disintesis secara Hidrotermal dengan adanya Ekstrak Kulit Rambutan dan Uji Aktivasnya. *Skripsi*,Fakultas Matematika dan Ilmu Pengetahuan Alam., Universitas Andalas., Padang., 2019.
21. Fikran Ahmadi. Dregradasi *Rhodamine B* dan *Methylen Blue* dalam Limbah secara Simultan Menggunakan Fotokatalis $\text{ZnO/NiFe}_2\text{O}_4$. *Skripsi*,Fakultas Matematika dan Ilmu Pengetahuan Alam., Universitas Andalas., Padang., 2016.

22. Hua Y Zhu, Ru J, Qian Y *et al.* Novel Multifunctional NiFe₂O₄/ZnO Hybrids for Dye Removal by Adsorption, Photocatalyst and Magnetic Separation. *Applied Surface Science*. 2016;1-10.
23. Hayashi H., Hakuta Y : Hydrothermal synthesis of metal oxide nanoparticles in supercritical water, *Journal of Materials*. 2010, 3:3794-3817
24. Arief, M. : Sintesis dan Karakterisasi Nanopartikel Seng Oksida (ZnO) dengan Metode Proses Pengendapan Kimia Basah dan Hidrotermal untuk Aplikasi Fotokatalisis. *Skripsi*, Universitas Indonesia, Depok, 2011.
25. Slamet, Syakur.R *et al.* 2003. Pengolahan Limbah Logam Berat Chromium (Vi) Dengan Fotokatalis TiO₂. *Journal of Makara Teknologi*. Vol. 7, No. 1:27-32
26. Septiani S, Dewi EN, Wijayanti I. Aktivitas Antibakteri Ekstrak Lamun (*Cymodocea rotundata*) Terhadap Bakteri *Staphylococcus aureus* dan *Escherichia coli* (Antibacterial Activities of seagrass Extracts (*Cymodocea rotundata*) Against *Staphylococcus aureus* and *Escherichia coli*). *Indonesian Journal Fisheries Science and Technology*. 2018;13(1):1.
27. Moghaddam AB, Moniri M, Azizi S, et al. Biosynthesis of ZnO nanoparticles by a new *Pichia kudriavzevii* yeast strain and evaluation of their antimicrobial and antioxidant activities. *Molecules*. 2017;22(6)..
28. Putri, Y. 2018. Sintesis MFe₂O₄ Sebagai Uji Antibakteri dan Degradasi Limbah Tekstil. Universitas Andalas: Padang
29. Kumar KS, Ventaskewaran C. Study on Structural and Magnetics Properties of Gd-doped BiFeO₃ Ceramics. *Material Science*. 2010;3:5-8
30. Ashwini K, Rajanaika H, Anantharaju KS, et al. Synthesis and Characterization of as-formed and Calcined MnFe₂O₄ nanoparticles: A comparative study of their Antibacterial Activities. *Mater Today Proc*. 2017;4(11):11902-11909.
31. Punuri JB, Sharma P, Sibyla S, Tamuli R *et al.* Piper Betle-Mediated Green Synthesis of Biocompatible Gold Nanoparticles. *International Nano Letter*. 2012;2(1):1-9.
32. Ahmed S, Saifullah, Ahmad M, Swamil BL, Ikram S. Green Synthesis of Silver Nanoparticles Using *Azadirachta Indica* Aqueous Leaf Extract. *Journal of Radiation Research and Applied Science*. 2016;9(1):1-7.
33. Sai R, Kulkarni SD, Vinoy KJ, Bhat N, Shivashankar SA. ZnFe₂O₄: Rapid and sub-100°C Synthesis and Anneal Tuned Magnetic Properties. *Journal Material Chemistry*. 2012;22(5):2149-2156.

34. Wang. W.,. Zul Ding, Xirao Zhao *et al.* Microstructure and Magnetic Properties of MFe_2O_4 (M=Co, Ni and Mn) Ferrite Nanocrystals Prepared Using Colloid Mil and Hydrothermal Method. *Journal of Applied Physics*. 2015
35. Muflihatun, Siti S. Sintesis Nanopartikel Nikel Ferit ($NiFe_2O_4$) dengan Metode Kopresipitasi dan Karakterisasi Sifat Kemagnetannya. *Jurnal Fisika Indonesia*. 2015;55(19): 1410-2094.
36. Femila A, Nining F. Adsorpsi Logam Tembaga (Cu), Besi (Fe), dan Nikel (Ni) Dalam Limbah Cair Buatan Menggunakan Nanopartikel $CoFe_2O_4$. *Jurnal Material*. 2015;2(3).
37. Mashadi, Yunasfi, Wisnu AA. Analisis Struktur Kristal dan Gugus Fungsi $NiFe_2O_4$ Hasil Sintesis dengan Metode Sol-Gel. *Journal Sains Materi Indonesia*. 2016;17(3):131-135.
38. Yao Y, Lu F, Zhu Y *et al.* Magnetic Core Shell $CuFe_2O_4@C_3N_4$ Hybrids For Visible Light Photocatalysis of Orange II. *Journal Hazard Mater*. 2015;297:224-233.
39. Rahmayeni, Zulhadjri, Jamarun N, Emriadi *et al.* Synthesis of $ZnO-NiFe_2O_4$ Magnetic Nanocomposites by Simple Solvothermal Method for Photocatalytic Dye Degradation Under Solar Light. *Orient J Chem*. 2016;32(3);1411-1419.
40. Lu C, Bao Z, Qin C, Dai L. Facile Fabrication of Heterostucture Cubic- $CuFe_2O_4/ZnO$ Nanofibers with Enchanced Visible Light Photocatalytic Activity and Magnetic Separation. *RSC Adv*. 2016;6(111):110155-11-163.
41. Rahmayeni, Degusty D, Arief S. Sintesis, Karakterisasi dan Uji Aktivitas Fotokatalitik Nanokomposit $TiO_2-ZnFe_2O_4$. *Jurnal Kimia Unand*. 2013;2(3):2303-3401.
42. Muljadi, Sardjono P, Sebayang P. Analisis Struktur Kristal dari Sifat Magnet $SrO_6Fe_2O_3$ yang Dihasilkan Via Solid-Solid Mix Sintering. *Jurnal Fisika Material*. 2017;49(18):1420-2994.
43. Sri Kahula, Djamos D, Ramli. Analisis Sifat Listrik Nanokomposit $NiFe_2O_4/PANi$ yang Disintesis dengan Metode Sol-Gel. *Phillar of Phisics*. 2019;12(1):8-15.
44. Satheskumar MK, Kumar ER, Srinivas C *et al.* Structural and Magnetics Properties of $CuFe_2O_4$ Ferrite Nanoparticles Synthesized by Cow Urine Assisted Combustion. *Journal Magnetic Mater*. 2019
45. Mariya H, Poorniman N. Synthesis and Characterization of ZnO Nanoparticles. *Mater Today*. 2019;9:7-12.
46. Julinawati, Marlina, Nasution R. Applying SEM-EDX Technique to Identifying the Types Minerally of jades (GIOK). *Journal Natural*. 2015:1411-8513.

47. Wenny S. Penerapan Metode Solvotermal Untuk Sintesis Nanokomposit ZnO/MFe₂O₄ (M=Ni, Cu) dan Uji Fotokatalitiknya di Bawah Sinar Matahari., *Skripsi.*, Fakultas Matematika dan Ilmu Pengetahuan Alam., Universitas Andalas., Padang., 2015.
48. Kanukaran C, Vinayagamorthy P, Jayabharathi J. CuFe₂O₄-Encapsulated ZnO Nanoplates: Magnetically Retrievable Biocidal Photocatalyst. *J Nanosci Nanotechnol.* 2017;17(7):4489-4497.
49. Nurul Azizah. Green Synthesis Material Komposit Magnetik ZnO/CuFe₂O₄ untuk Fotodegradasi Zat Warna Rhodamin B dan Antibakteri. *Skripsi.*, Fakultas Matematika dan Ilmu Pengetahuan Alam., Universitas Andalas., Padang., 2019.
50. Nola Yulia Kesuma. Penggunaan Komposit ZnO-CuO yang Disintesis Secara Sonochemistry yang Digunakan sebagai Katalis untuk Fotodegradasi Metil Orange dan Zat Antibakteri. *Tesis.*, Fakultas Matematika dan Ilmu Pengetahuan Alam., Universitas Andalas., Padang., 2012.
51. Ashour AH, El-Batal A, Maksoud MIA *et al.* Antimicrobial Activity of Metal-Substituted Cobalt Ferrite Synthesized by Sol-Gel Technique. *Particuology.* 2018;40:141-151.
52. Almendo G, Lasera, Henry K. Sintesis dan Karakterisasi Nanopartikel CuFe₂O₄ serta Aplikasinya sebagai Antibakteri. *Chem Png.* 2019;12(7).
53. Prapti Ira Kumalasari. Pengolahan Limbah Logam Cr sebagai penghasil Bio-Listrik dengan Menggunakan Reaktor Microball Fuel Cell., Institut Teknologi Surabaya., 2017.

