

DAFTAR PUSTAKA

1. Rahmayeni, Azizah N, Stiadi Y, Putri YE, Zulhadjri. Magnetic Particles Nanorod of ZnO/CuFe₂O₄ Prepared by Green Synthesized Approach: Structural, Optical and Magnetic Properties, and Photocatalytic Activity. Materials Research 2022;25.
2. Naz K, Khan JK, Khalid M, et al. Structural, dielectric, impedance and electric modulus analysis of Ni substituted copper spinel ferrites nanoparticles for microwave device applications. Mater Chem Phys [homepage on the Internet] 2022;285(April):126091. Available from: <https://doi.org/10.1016/j.matchemphys.2022.126091>
3. Setiadi EA, Rahmat, Simbolon S, et al. The Effect of Synthesis Temperature on Physical and Magnetic Properties of Manganese Ferrite (MnFe₂O₄) based on Natural Iron Sand. In: Journal of Physics: Conference Series. Institute of Physics Publishing, 2018;
4. Qin H, He Y, Xu P, et al. Spinel ferrites (MFe₂O₄): Synthesis, improvement and catalytic application in environment and energy field. Adv Colloid Interface Sci 2021;294(July):102486. Available from: <https://doi.org/10.1016/j.cis.2021.102486>
5. Srinivas C, Ranjith Kumar E, Tirupanyam B V, et al. Study of magnetic behavior in co-precipitated Ni–Zn ferrite nanoparticles and their potential use for gas sensor applications. J Magn Magn Mater 2020;502(January):166534. Available from: <https://doi.org/10.1016/j.jmmm.2020.166534>
6. Rahmayeni R, Oktavia Y, Stiadi Y, Arief S, Zulhadjri Z. Spinel ferrite of MnFe₂O₄ synthesized in Piper betle Linn extract media and its application as photocatalysts and antibacterial. J Dispers Sci Technol [homepage on the Internet] 2021;42(3):465–474. Available from: <https://doi.org/10.1080/01932691.2020.1721011>
7. Alarifi A, Deraz NM, Shaban S. Structural, morphological and magnetic properties of NiFe₂O₄ nano-particles. J Alloys Compd 2009;486(1–2):501–506.
8. Cho JH, Cho S, Lee JH, et al. Room-temperature multiferroicity in NiFe₂O₄ and its magnetoelectric coupling intensified through defect engineering. Journal of the American Ceramic Society 2021;104(12):6384–6392.
9. Chacko SK, Rahul MT, Raneesh B, Kalarikkal N. Enhanced magnetoelectric coupling and dielectric constant in flexible ternary composite electrospun fibers of PVDF-HFP loaded with nanoclay and NiFe₂O₄ nanoparticles. New Journal of Chemistry 2020;44(26):11356–11364.
10. Bagus Putu Mardana I, Nur Lutfiyah Y, Yasa P, Kade Agung Widiantara G, P Mardana IB, Kade Agung G. Synthesis and characterization of magnetite Fe₃O₄ Nanoparticles from Natural Iron Sand In Gelar River. Indonesian Physical Review [homepage on the Internet] 2024;7(1):166–174. Available from: <https://doi.org/10.29303/ip>
11. Yildirim S, Ozler B, Ozdemir ET, Erol M, Dikici T, Oguzlar S. The structural, magnetic, and optical properties of flame spray pyrolysis-derived spinel NiFe₂O₄ nanoparticles. Journal of the American Ceramic Society 2024;
12. Hariharasuthan R, Chitralevi S, Radha KS, Chithambaram V. Characterization of NiFe₂O₄ (Nickel Ferrite) nanoparticles with very low magnetic saturation synthesized via co-precipitation method. Appl Phys A Mater Sci Process [homepage on the Internet] 2022;128(12):1–10. Available from: <https://doi.org/10.1007/s00339-022-06163-y>
13. Nejati K, Zabihi R. Preparation and magnetic properties of nano size nickel ferrite particles using hydrothermal method. Chem Cent J 2012;6(1).

14. Cherpin C, Lister D, Dacquait F, Liu L. Study of the solid-state synthesis of nickel ferrite (NiFe_2O_4) by X-ray diffraction (XRD), scanning electron microscopy (SEM) and raman spectroscopy. *Materials* 2021;14(10).
15. Aphesteguy JC, Kurlyandskaya G V., Celis JP De, Safronov AP, Schegoleva NN. Magnetite nanoparticles prepared by co-precipitation method in different conditions. *Mater Chem Phys* 2015;161:243–249.
16. Chandekar K V., Yadav SP. Comprehensive study of MFe_2O_4 ($\text{M}=\text{Co, Ni, Zn}$) nanostructures prepared by co-precipitation route. *J Alloys Compd* 2023;960.
17. Iranmanesh P, Tabatabai Yazdi S, Mehran M, Saeednia S. Superior magnetic properties of Ni ferrite nanoparticles synthesized by capping agent-free one-step coprecipitation route at different pH values. *J Magn Magn Mater* [homepage on the Internet] 2018;449:172–179. Available from: <https://doi.org/10.1016/j.jmmm.2017.10.040>
18. Afdal A. Karakterisasi Sifat Magnet Dan Kandungan Mineral Pasir Besi Sungai Batang Kuranji Padang Sumatera Barat. *Jurnal Ilmu Fisika | Universitas Andalas* 2013;5(1):24–30.
19. Cahyaningtyas D, Suseno T, Rochani S, Yunianto B, Rodliyah I, Hartono. The role of iron and nickel smelters for the Indonesian steel industries. In: IOP Conference Series: Earth and Environmental Science. IOP Publishing Ltd, 2021;
20. Wendari TP, Rizki A, Zulhadjri, et al. Structure, ferroelectric, magnetic, and energy storage performances of lead-free $\text{Bi}_4\text{Ti}_{2.75}(\text{FeNb})_{0.125}\text{O}_{12}$ Aurivillius ceramic by doping Fe^{3+} ions extracted from Padang beach sand. *Case Studies in Chemical and Environmental Engineering* 2024;9.
21. Bahtiar S, Taufiq A, Sunaryono, et al. Synthesis, Investigation on Structural and Magnetic Behaviors of Spinel M-Ferrite [$\text{M} = \text{Fe; Zn; Mn}$] Nanoparticles from Iron Sand. *IOP Conf Ser Mater Sci Eng* 2017;202(1).
22. Satria B, Masrurah Z, Fajar SJ. Magnetic susceptibility and grain size distribution as prospective tools for selective exploration and provenance study of iron sand deposits: A case study from Aceh, Indonesia. *Heliyon* [homepage on the Internet] 2021;7(12):e08584. Available from: <https://doi.org/10.1016/j.heliyon.2021.e08584>
23. Aini S, Azra F, Cahyadi A. The Characterization of West Sumatera Iron Sand as a Raw Material to Synthesize Magnetic Nanoparticles. *Progress in Social Science, Humanities ...* [homepage on the Internet] 2020;5:144–147. Available from: <https://series.gci.or.id/article/362/16/psshers-2020>
24. Setianto S. Analisa Kuantitatif Campuran Senyawa Oksida Sebagai Dasar Identifikasi Kandungan Bahan Sumber Daya Alam Studi Kasus : Kandungan Mineral pada Pasir Besi di Pesisir Pantai Selatan, Jawa Barat. *EKSAKTA: Berkala Ilmiah Bidang MIPA* 2017;18(02):173–177.
25. Yuwanda AN, Rahmayuni R, Visgun DA, Rahmi A, Rifai H, Dwiridal L. Characterization of Magnetic Minerals of Iron Sand Pasia Nan Tigo Padang Beach Using X-Ray Diffraction (XRD). *Indonesian Journal of Applied Physics* 2022;12(1):35.
26. Sherstyuk DP, Starikov AY, Zhivulin VE, et al. Effect of Co content on magnetic features and SPIN states IN Ni–Zn spinel ferrites. *Ceram Int* 2021;47(9):12163–12169. Available from: <https://doi.org/10.1016/j.ceramint.2021.01.063>
27. Akhtar MN, Khan AA, Akhtar MN, Ahmad M, Khan MA. Structural rietveld refinement, morphological and magnetic features of Cu doped Co–Ce nanocrystalline ferrites for

- high frequency applications. *Physica B Condens Matter* 2019;561(February):121–131. Available from: <https://doi.org/10.1016/j.physb.2019.02.055>
28. Jiang Y, Sun A, Wang J, Huang X. Pr³⁺-doped Cu–Co nano ferrites: study on its microstructure, morphology, and magnetic properties. *Journal of Materials Science: Materials in Electronics* [homepage on the Internet] 2023;34(7):1–15. Available from: <https://doi.org/10.1007/s10854-023-09982-8>
 29. Lima A. MoO₃ and Ni-Zn ferrites catalyst and their applications: a scientific and technological vision. *Revista de Gestão e Secretariado* 2023;14(7):11917–11942.
 30. Nguyen MD, Tran HV, Xu S, Lee TR. Fe₃O₄ nanoparticles: Structures, synthesis, magnetic properties, surface functionalization, and emerging applications. *Applied Sciences (Switzerland)*. 2021;11(23).
 31. Gunanto YE, Izaak MP, Jobilong E, Cahyadi L, Adi WA. High purity Fe₃O₄ from Local Iron Sand Extraction. In: *Journal of Physics: Conference Series*. Institute of Physics Publishing, 2018;
 32. Rusianto T, Waziz Wildan M, Abraha K, Kusmono. Characterizations of ceramic magnets from iron sand. *International Journal of Technology* 2015;6(6):1017–1024.
 33. Sunaryono, Taufiq A, Mashuri, et al. Various magnetic properties of magnetite nanoparticles synthesized from iron-sands by coprecipitation method at room temperature. In: *Materials Science Forum*. Trans Tech Publications Ltd, 2015; p. 229–234.
 34. Jalil Z, Rahwanto A, Mustanir, Akhyar, Handoko E. Magnetic behavior of natural magnetite (Fe₃O₄) extracted from beach sand obtained by mechanical alloying method. In: *AIP Conference Proceedings*. American Institute of Physics Inc., 2017;
 35. Kakde AS, Belekar RM, Wakde GC, Borikar MA, Rewatkar KG, Shingade BA. Evidence of magnetic dilution due to unusual occupancy of zinc on B-site in NiFe₂O₄ spinel nanoferrite. *J Solid State Chem* 2021;300.
 36. MacDonald M, Zhitomirsky I. Capacitive Properties of Ferrimagnetic NiFe₂O₄-Conductive Polypyrrole Nanocomposites. *Journal of Composites Science* 2024;8(2).
 37. Al-Hunaiti A, Ghazzy A, Sweidan N, et al. Nano-magnetic NiFe₂O₄ and its photocatalytic oxidation of vanillyl alcohol—synthesis, characterization, and application in the valorization of lignin. *Nanomaterials* 2021;11(4).
 38. Bernaoui CR, Bendaoua A, Zaoui F, et al. Synthesis and characterization of NiFe₂O₄ nanoparticles as reusable magnetic nanocatalyst for organic dyes catalytic reduction: Study of the counter anion effect. *Mater Chem Phys* 2022;292.
 39. Safitri TR, Puryanti D. Pengaruh Konsentrasi NH₄OH terhadap Ukuran Nanopartikel Nikel Ferit (NiFe₂O₄) yang disintesis dengan Metode Kopresipitasi. *Jurnal Fisika Unand* 2020;9(3):318–322.
 40. Fatimah I, Yanti I, Wijayanti HK, et al. One-pot synthesis of Fe₃O₄/NiFe₂O₄ nanocomposite from iron rust waste as reusable catalyst for methyl violet oxidation. *Case Studies in Chemical and Environmental Engineering* 2023;8.
 41. Palneedi H, Peddigari M, Hwang GT, Jeong DY, Ryu J. High-Performance Dielectric Ceramic Films for Energy Storage Capacitors: Progress and Outlook. *Adv Funct Mater* 2018;28(42):1–33.

42. Qin M, Zhang L, Wu H. Dielectric Loss Mechanism in Electromagnetic Wave Absorbing Materials. *Advanced Science* 2022;9(10):1–24.
43. Misbachudin MC, Trihandaru S, Sutresno A. Pembuatan Prototipe Vibrating Sample Magnetometer Untuk Pengamatan Sifat Magnetik Lapisan Tipis. 2013;4(1):345–350.
44. Houbi A, Aldashevich ZA, Atassi Y, Bagasharova Telmanovna Z, Saule M, Kubanych K. Microwave absorbing properties of ferrites and their composites: A review. *J Magn Magn Mater* [homepage on the Internet] 2021;529(January):167839. Available from: <https://doi.org/10.1016/j.jmmm.2021.167839>
45. Sangeneni N, Taddei KM, Bhat N, Shivashankar SA. Magnetic Properties of Superparamagnetic, Nanocrystalline Cobalt Ferrite Thin Films Deposited at Low Temperature [Homepage on the Internet]. 2018; Available from: <https://www.sciencedirect.com/science/article/pii/S0304885318310667>
46. Xu S, Lee TR. Fe_3O_4 Nanoparticles : Structures , Synthesis , Magnetic Properties , Surface Functionalization , and. *Appl Sci* 2021;11:11301.
47. Sagayaraj R, Aravazhi S, Chandrasekaran G. Review on structural and magnetic properties of (Co-Zn) ferrite nanoparticles. *Int Nano Lett* [homepage on the Internet] 2021;11(4):307–319. Available from: <https://doi.org/10.1007/s40089-021-00343-z>
48. Yelenich O V., Solopan SO, Kolodiaznyi T V., Dzyublyuk V V., Tovstolytkin AI, Belous AG. Superparamagnetic behavior and AC-losses in NiFe_2O_4 nanoparticles. *Solid State Sci* 2013;20:115–119.
49. Lubis H. Perbandingan Karakterisasi Morfologi Fe_3O_4 terhadap Fe_3O_4 Merck melalui Metode Kopresipitasi. *Jurnal Insitusi Politeknik Ganesha Medan* 2022;5:458–463.
50. Nasution N. Synthesis of Rutile TiO_2 Nanoparticles By Co-Precipitation Method. *FISITEK: Jurnal Ilmu Fisika dan Teknologi* 2018;2(2):18–25.
51. Musthofa Ananda Saputra F, Puspitarini Y, Dwi Rizaldi P, et al. Sintesis Nanopartikel Magnet Zn-Ferrite (ZnFe_2O_4) Berbahan Dasar Pasir Besi Menggunakan Metode Kopresipitasi. *Journal of Creativity Students* [homepage on the Internet] 2016;1(1). Available from: <http://journal.unnes.ac.id/sju/index.php/jcs>
52. Malega F, Indrayana IPT, Suharyadi E. Synthesis and Characterization of the Microstructure and Functional Group Bond of Fe_3O_4 Nanoparticles from Natural Iron Sand in Tobelo North Halmahera. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni* 2018;7(2):129–138.
53. Setiabudi A, Hardian R, Muzakir A. Karakterisasi Material ; Prinsip dan Aplikasinya dalam Penelitian Kimia. 2012;
54. Basak M, Rahman ML, Ahmed MF, Biswas B, Sharmin N. Calcination effect on structural, morphological and magnetic properties of nano-sized CoFe_2O_4 developed by a simple co-precipitation technique. *Mater Chem Phys* [homepage on the Internet] 2021;264(January):124442. Available from: <https://doi.org/10.1016/j.matchemphys.2021.124442>
55. Yildirim S, Ozler B, Ozdemir ET, Erol M, Dikici T, Oguzlar S. The structural, magnetic, and optical properties of flame spray pyrolysis-derived spinel NiFe_2O_4 nanoparticles. *Journal of the American Ceramic Society* 2024;(April 2024):1–13.
56. Sharma SK. Spinel Nanoferrites Synthesis, Properties and Applications. Springer International Publishing, 2021;

57. Kombongkila O, Taunaumang H. Analisis Struktur Film Tipis Disperse Orange-3 Hasil FTIR. 2024;
58. Tripta, Rana PS. Structural, optical, electrical, and photocatalytic application of NiFe₂O₄@NiO nanocomposites for methylene blue dye. Ceram Int 2023;49(9):13520–13530. Available from: <https://doi.org/10.1016/j.ceramint.2022.12.227>
59. Hezam FA, Nur O, Mustafa MA. Synthesis, structural, optical and magnetic properties of NiFe₂O₄/MWCNTs/ZnO hybrid nanocomposite for solar radiation driven photocatalytic degradation and magnetic separation. Colloids Surf A Physicochem Eng Asp [homepage on the Internet] 2020;592(November 2019):124586. Available from: <https://doi.org/10.1016/j.colsurfa.2020.124586>
60. Shahid Ali Khan, Sher Bahadar Khan, Latif Ullah Khan, Aliya Farooq, Kalsoom Akhtar, Abdullah M. Asiri. Handbook of Materials Characterization. 2018;
61. Atmono TM. Pembuatan Prototipe Vibrating Sample Magnetometer Untuk Pengamatan Sifat Magnetik Lapisan Tipis. 2015;57–56.
62. Li X, Zhang L, Liu H, Li Q, Hou Y. Magnetic Measurements Applied to Energy Storage. Adv Energy Mater 2023;13(24).
63. Restianingsih T, Anggraini RM, Deswardani F. Analisis Struktur Kristal dan Morfologi Nanokomposit Fe₃O₄/TiO₂ Bebrbasis Pasir Besi Sungai Batanghari. Journal Online of Physic 2024;9(2):12–17.
64. Nengsih S, Nur Abdulmadjid S, Mursal M, Jalil Z. Photocatalytic performance of Fe₃O₄-TiO₂ in the degradation of methylene blue dye: Optimizing the usability of natural iron sand. Mater Sci Energy Technol 2024;7(February):374–380.
65. Tatinting GD, Aritonang HF. Sintesis Nanopartikel Fe₃O₄–Polietilen Glikol (PEG) 6000 Dari Pasir Besi Pantai Hais Sebagai Adsorben Logam Kadmium (Cd). 2021;14(2).
66. Rianna M, Sembiring T, Situmorang M, et al. Characterization Of Natural Iron Sand From Kata Beach, West Sumatra With High Energy Milling (HEM). Jurnal Natural 2018;18(2):97–100.
67. Safitri I, Wibowo YG, Rosarina D, Sudibyo. Synthesis and characterization of magnetite (Fe₃O₄) nanoparticles from iron sand in Batanghari Beach. IOP Conf Ser Mater Sci Eng 2021;1011(1).
68. Faiyas APA, Vinod EM, Joseph J, Ganesan R, Pandey RK. Dependence of pH and surfactant effect in the synthesis of magnetite (Fe₃O₄) nanoparticles and its properties. J Magn Magn Mater [homepage on the Internet] 2010;322(4):400–404. Available from: <http://dx.doi.org/10.1016/j.jmmm.2009.09.064>
69. Agusu L, Amiruddin, Nalis M, et al. Effect of pH and Stirring Speed on the γ-Fe₂O₃ Material Properties Synthesized from Iron Sand by Using Co-Precipitation Method. International Journal of Acta Material 2024;1(1).
70. Kazi S, Inamdar S, Sarnikar Y, Kamble D, Tigote R. Simple Co-precipitation synthesis and characterization of magnetic spinel NiFe₂O₄ nanoparticles. Mater Today Proc [homepage on the Internet] 2023;73:448–454. Available from: <https://doi.org/10.1016/j.matpr.2022.09.590>
71. Aliahmad M, Nasiri Moghaddam N. Synthesis of maghemite (γ-Fe₂O₃) nanoparticles by thermal-decomposition of magnetite (Fe₃O₄) nanoparticles. Materials Science- Poland 2013;31(2):264–268.

72. Restianingsih T, Mutia Anggraini R, Deswardani F. Analisis Struktur Kristal dan Morfologi Nanokomposit $\text{Fe}_3\text{O}_4/\text{TiO}_2$ Berbasis Pasir Besi Sungai Batanghari. *JOP* 2024;9(2):12–17.
73. Jabbar R, Shahatha SH, Taieb NK, Magid B, Showard AF. Preparation and study of the effect of pH value on structural, morphological, electrical and magnetic properties of CoFe_2O_4 nanoparticles prepared by sol-gel precipitation method. *Ceram Int* [homepage on the Internet] 2024;50(17):31114–31123. Available from: <https://doi.org/10.1016/j.ceramint.2024.05.417>
74. Aneesh Kumar KS, Bhowmik RN. Micro-structural characterization and magnetic study of $\text{Ni}_{1.5}\text{Fe}_{1.5}\text{O}_4$ ferrite synthesized through coprecipitation route at different pH values. *Mater Chem Phys* [homepage on the Internet] 2014;146(1–2):159–169. Available from: <http://dx.doi.org/10.1016/j.matchemphys.2014.03.015>
75. Chakraborty J, Sanket K, Srikanth S, et al. Lattice distortion in nanocrystalline Fe powder studied by positron annihilation and X-ray diffraction. *Philosophical Magazine* 2025;
76. Majid F, Rauf J, Ata S, et al. Synthesis and characterization of NiFe_2O_4 ferrite: Sol-gel and hydrothermal synthesis routes effect on magnetic, structural and dielectric characteristics. *Mater Chem Phys* [homepage on the Internet] 2021;258:123888. Available from: <https://doi.org/10.1016/j.matchemphys.2020.123888>
77. Suryawanshi SM, Chandekar K V, Badwaik DS, Warhate V V, Gahane NM, Daf SR. Structural, surface, magnetic, and dielectric properties of $\text{Ni}_{0.3}\text{Cu}_{0.3}\text{Zn}_{0.4}\text{Fe}_{1.4}\text{Cr}_{0.6}\text{O}_4$ spinel ferrite nanocrystals prepared by sol-gel auto combustion route. *Inorg Chem Commun* [homepage on the Internet] 2023;156(August):111204. Available from: <https://doi.org/10.1016/j.inoche.2023.111204>
78. Annie Vinousha P, Jerome Das S. Investigation on the role of pH for the structural, optical and magnetic properties of cobalt ferrite nanoparticles and its effect on the photo-fenton activity. In: *Materials Today: Proceedings*. Elsevier Ltd, 2018; p. 8662–8671.
79. Darwish MSA, Kim H, Lee H, Ryu C, Lee JY, Yoon J. Engineering core-shell structures of magnetic ferrite nanoparticles for high hyperthermia performance. *Nanomaterials* 2020;10(5).
80. Putu N, Kristina D, Arjana G, Yasa P. Magnetite Nanomaterials in Tianyar Iron Sand Using Co-precipitation Method. *Indonesian Physical Review* [homepage on the Internet] 2024;7(3):398–413. Available from: <https://doi.org/10.29303/ip>
81. Hegazy EZ, Baamer DF. Enhancing Photocatalytic Performance of Nickel Ferrite: The Role of Titanium Doping in Structural and Morphological Modifications [Homepage on the Internet]. Available from: <https://ssrn.com/abstract=4875700>
82. Joshi S, Kumar M, Chhoker S, Srivastava G, Jewariya M, Singh VN. Structural, magnetic, dielectric and optical properties of nickel ferrite nanoparticles synthesized by co-precipitation method. *J Mol Struct* [homepage on the Internet] 2014;1076:55–62. Available from: <http://dx.doi.org/10.1016/j.molstruc.2014.07.048>
83. Yadav RS, Kuřítková I, Vilcakova J, et al. Structural, magnetic, dielectric, and electrical properties of NiFe_2O_4 spinel ferrite nanoparticles prepared by honey-mediated sol-gel combustion. *Journal of Physics and Chemistry of Solids* [homepage on the Internet] 2017;107:150–161. Available from: <http://dx.doi.org/10.1016/j.jpcs.2017.04.004>
84. Li H, Wu H zhong, Xiao G xian. Effects of synthetic conditions on particle size and magnetic properties of NiFe_2O_4 . *Powder Technol* 2010;198(1):157–166.

85. Wangchhuk J, Meher SR. Structural, electronic and magnetic properties of inverse spinel NiFe₂O₄: DFT + U investigation. Physics Letters, Section A: General, Atomic and Solid State Physics 2022;443.
86. Rathore D, Kurchania R, Pandey RK. Influence of particle size and temperature on the dielectric properties of CoFe₂O₄ nanoparticles. International Journal of Minerals, Metallurgy and Materials 2014;21(4):408–414.
87. Kumar ER, Kamzin AS. Effect of particle size on structural, magnetic and dielectric properties of manganese substituted nickel ferrite nanoparticles. J Magn Magn Mater 2015;378:389–396.
88. Kamar EM, Khairy M, Mousa MA. Effect of morphology and particle size on the electrical properties of nano-nickel ferrite. Journal of Materials Research and Technology 2023;24:7381–7393.
89. Srivastava M, Mishra RK, Singh J, Srivastava N, Kim NH, Lee JH. Consequence of pH variation on the dielectric properties of Cr-doped lithium ferrite nanoparticles synthesized by the sol-gel method. J Alloys Compd 2015;645:171–177.

