

DAFTAR PUSTAKA

- Adhikari, J., Bhattarai, A., dan Chaudhary, N.K., 2023, Data analysis for SEM-EDX, thermokinetics, surfactant, and corrosion inhibition activity of Co(II) and Zn(II) complexes of pyrrole-based surfactant ligand, *Data in Brief*, 48, 109124.
- Al-Ruhaidi, A.A., Abdallah, A.B., El-Wakil, A.M., dan Awad, F.S., 2025, A sustainable VA-DES-LLME method coupled with UV-vis spectroscopy for trace quantification of Allura red and rhodamine B in complex matrices, *Microchemical Journal*, 219
- Ali, O.A.A., Elangovan, N., Mahmoud, S.F., El-Bahy, S.M., El-Bahy, Z.M., dan Thomas, R., 2022, Synthesis, structural features, excited state properties, fluorescence spectra, and quantum chemical modeling of (E)-2-hydroxy-5-(((4-sulfamoylphenyl)imino)methyl)benzoic acid, *Journal of Molecular Liquids*, 360, 119557.
- Ali, A.M.M., Ahmed, F.M., Ismail, R.A., Fakhri, M.A., Salim, E.T., dan Khashan, K.S., 2023, Nanostructured visible-enhanced CdS/SiO₂/Si heterojunction photodetectors: Synthesis, characterization, and performance optimization, *Physica B: Condensed Matter*, 669, 415303.
- Alrasheedi, F.A., Alotaibi, A.N., Marwani, H.M., dan Rahman, M.M., 2025, Efficient hydrazine detection with 5% nafion coated low-dimensional ceramic CdO nanoparticles prepared by solid-state technique using linear sweep voltammetry, *Microchemical Journal*, 216, 114719.
- Amoli-Diva, M. dan Pourghazi, K., 2015, Gold nanoparticles grafted modified silica gel as a new stationary phase for separation and determination of steroid hormones by thin layer chromatography, *Journal of Food and Drug Analysis*, 23(2), 279-286.
- Antony, A. dan Jayaraj, M.K., 2004, *Preparation and Characterisation of Certain II-VI, I-III-VI₂ Semiconductor Thin Films and Transparent Conducting Oxides*, Cochin University of Science and Technology.
- Beh, M.G.C., Hartiti, B., Konan, F.K., Haba, C.T., Ziti, A., Batan, A., Nkuisi, H.J.T., dan Thevenin, P., 2026, Effect of spray time on the structural, linear/nonlinear optical, and electrical properties of cadmium sulphide (CdS) for photovoltaic solar cells, *Optical Materials*, 171, 117761.

- Chen, Y.W. dan Hsu, Y.H., 2021, Effects of reaction temperature on the photocatalytic activity of TiO₂ with Pd and Cu cocatalysts, *Catalysts*, 11(8).
- Darina, V., Gegechkori, V., Dolzhenko, A.V., Morton, D.W., dan Agatonovic-Kustrin, S., 2025, High-performance thin-layer chromatography (HPTLC) silica gel plates as a medium for on-surface organic synthesis and biological screening, *Sustainable Chemistry and Pharmacy*, 46, 102057.
- Dwiriani, D., Efendi, M.Z., Aritonang, R., dan Lestari, T.U., 2025, Band gap energy characteristics in materials, *Jurnal Fisika dan Materialnya*, 3, 36-44.
- Dymerska, A., Zielińska, B., Sielicki, K., Chen, X., dan Mijowska, E., 2022, Porous silica matrix as an efficient strategy to boosted photocatalytic performance of titania/carbon composite, *Diamond and Related Materials*, 125, 109027.
- Eshaghi, A., 2026, Synthesis and properties of MgF₂-SiO₂ nanocomposite thin films for antireflective and antifogging optical applications, *Results in Surfaces and Interfaces*, 22, 100745.
- Fito, J., Abewaa, M., Mengistu, A., Angassa, K., Ambaye, A.D., Moyo, W., dan Nkambule, T., 2023, Adsorption of methylene blue from textile industrial wastewater using activated carbon developed from *Rumex abyssinicus* plant, *Scientific Reports*, 13(1).
- Fomichev, S.A. dan Burdov, V.A., 2026, Biexciton photogeneration in nanocrystals formed of direct-band-gap semiconductors with strong spin-orbit interaction: Indirect character of the two-electron transitions, *Journal of Luminescence*, 294, 121862.
- Gunawan, , Haris, A., Widodo, D.S., Suyati, L., dan Septina, W., 2021, Degradation of methylene blue using cadmium sulfide photoanode in photofuel cell system with variation of electrolytes, *Indonesian Journal of Chemistry*, 21(1), 97-107.
- Haben, S., Kromwijk, J.J., Vollmer, I., dan Weckhuysen, B.M., 2024, Operando UV-vis diffuse reflectance spectroscopy insights into the methane dehydroaromatization reaction over Mo/H-ZSM-5 catalysts, *Journal of Catalysis*, 436, 115619.
- Hariech, S., Aida, M.S., Bougdira, J., Belmahi, M., Medjahdi, G., Genève, D., Attaf, N., dan Rinnert, H., 2018, Cadmium sulfide thin films growth by chemical bath deposition, *Journal of Semiconductors*, 39(3), 034004.

- Hussain, S., Iqbal, M., Khan, A.A., Khan, M.N., Mehboob, G., Ajmal, S., Ashfaq, J.M., Mehboob, G., Ahmed, M.S., Khisro, S.N., Li, C.J., Chikwenze, R., dan Ezugwu, S., 2021, Fabrication of nanostructured cadmium selenide thin films for optoelectronics applications, *Frontiers in Chemistry*, 9, 661723.
- Isella, G., Virgilio, M., Loo, R., Nakatsuka, O., dan Capellini, G., 2024, Preface: Advances in semiconductor materials, technology, and applications, *Materials Science in Semiconductor Processing*, 182, 108700.
- Islam, M.A., Khan, S., Mim, J.J., Rahman, S.M.M., Patwary, M.A.I., Islam, M.S., dan Hossain, N., 2025, Recent advances of 2D materials in semiconductor application: A review, *Advanced Sensor and Energy Materials*, 4(4), 100161.
- Ismail, W., Ibrahim, G., Habib, M.A., Alduaij, O.K., Abdelfatah, M., dan El-Shaer, A., 2023, Advancement of physical and photoelectrochemical properties of nanostructured CdS thin films toward optoelectronic applications, *Nanomaterials*, 13(11), 1764.
- Jang, Y., Pan, Z., Chu, S., Lee, G., Kim, Y.S., Song, J.K., Park, S., dan Yi, J., 2026, Nitric oxide plasma treatment effect on SiO₂ gate insulator for the stability improvement of InGaZnO thin-film transistors, *Materials Science in Semiconductor Processing*, 205, 110327.
- Jubu, P.R., Obaseki, O.S., Nathan-Abutu, A., Yam, F.K., Yusof, Y., dan Ochang, M.B., 2022, Dispensability of the conventional Tauc's plot for accurate bandgap determination from UV–vis optical diffuse reflectance data, *Results in Optics*, 9, 100273.
- Karoui, S. dan Kamoun, S., 2026, Synthesis, thermal and electrical properties of a p-semiconductor hybrid metamaterial C₂H₁₀N₂ H₂PO₄ H₅P₂O₈, *Materials Chemistry and Physics*, 350, 131874.
- Kukkar, P. dan Kukkar, D., 2025, Recent breakthroughs in the solvothermal assisted synthesis of luminescent metal-organic frameworks, *Inorganic Chemistry Communications*, 178, 114631.
- Kumarage, W.G.C., Wijesundera, L.B.D.R.P., Seneviratne, V.A., Jayalath, C.P., dan Dassanayake, B.S., null, *Effect of Bath Temperature on CBD CdS Thin Films*, University of Kelaniya.
- Kutlusoy, T., Divanis, S., Pittkowski, R., Marina, R., Frandsen, A.M., Minhova-

- Macounova, K., Nebel, R., Zhao, D., Mertens, S.F., Hoster, H., Krtil, P., dan Rossmesl, J., 2022, Synergistic effect of p-type and n-type dopants in semiconductors for efficient electrocatalytic water splitting, *Chemical Science*, 13(46), 13879-13892.
- Lyons, J.L., Wickramaratne, D., dan Janotti, A., 2024, Dopants and defects in ultra-wide bandgap semiconductors, *Current Opinion in Solid State and Materials Science*, 30, 101148.
- Meena, V.S., Saini, A.K., Rana, D.K., dan Mehata, M.S., 2022, Synthesis and characterization of thermally-evaporated CdS thin-films, *Materials Today: Proceedings*, 67, 643-647.
- Morozzi, P., Ballarin, B., Arcozzi, S., Brattich, E., Lucarelli, F., Nava, S., Gómez-Cascales, P.J., Orza, J.A., dan Tositti, L., 2021, Ultraviolet–visible diffuse reflectance spectroscopy (UV–vis DRS), a rapid and non-destructive analytical tool for the identification of Saharan dust events in particulate matter filters, *Atmospheric Environment*, 252, 118297.
- Muslu, E., Eren, E., dan Oksuz, A.U., 2023, Evaluation of supercapacitor properties of radio frequency sputter binder-free and nanosandwich WO₃/SiO₂/WO₃ thin film, *Energy Technology*, 11(10), 2300574.
- Najm, A.S., Naeem, H.S., Alwarid, D.A.R.M., Aljuhani, A., Hasbullah, S.A., Hasan, H.A., Sopian, K., Bais, B., Al-Iessa, H.J., Majdi, H.S., Sultan, A.J., dan Moria, H., 2022, Mechanism of chemical bath deposition of CdS thin films: Influence of sulphur precursor concentration on microstructural and optoelectronic characterizations, *Coatings*, 12(10), 1400.
- Nguyen-Hong, M., Payré, B., Aries, S., Dedouit, F., Telmon, N., Savall, F., dan Guilbeau-Frugier, C., 2024, Comparison of SEM-EDX and ICP-MS for the analysis of gunshot residues after burial: An experimental study, *Forensic Imaging*, 39, 200604.
- Oshina, I. dan Spigulis, J., 2021, Beer–Lambert law for optical tissue diagnostics: current state of the art and the main limitations, *Journal of Biomedical Optics*, 26(10), 100901.
- Pedanekar, R.S., Shaikh, S.K., dan Rajpure, K.Y., 2020, Thin film photocatalysis for environmental remediation: A status review, *Current Applied Physics*, 20(8), 931-952.

- Peng, C., Kim, H., Lu, P., Kim, Y.Y., Kang, B., dan Zhang, G., 2026, Dioxoindoloindol-ylidene-malononitrile and benzodifurandione connected organic semiconductors for n-type unencapsulated field-effect transistors, *Synthetic Metals*, 316, 117978.
- Rahman, M.A., Debnath, P., Hossain, M.T., Bashar, M.S., Dey, S.S., Ahmed, S., dan Hossain, M.S., 2026, Synthesis of CdS and ZnS to enhance the photocatalytic degradation of fluoroquinolone antibiotics and textile dye, *Open Ceramics*, 25, 100917.
- Ren, X., Lan, D., Gao, Z., Zhang, S., Zhang, Y., He, M., Jia, Z., dan Wu, G., 2026, Semiconductor-based electromagnetic wave absorption materials: Review and perspectives, *Journal of Materials Science and Technology*, 255, 236-258.
- Salehi, Z., Mohammad-khah, A., dan Hendekhale, N.R., 2025, Synthesis, characterization and investigation of photocatalytic behavior of ZnFe₂O₄/GO nanocomposite on methylene blue dye under UV/Vis radiation, *Surfaces and Interfaces*, 73, 107626.
- Senasu, T., Ruengchai, N., Khamdon, S., Lorwanishpaisarn, N., dan Nanan, S., 2022, Hydrothermal synthesis of cadmium sulfide photocatalyst for detoxification of azo dyes and ofloxacin antibiotic in wastewater, *Molecules*, 27(22), 7944.
- Shaheen, S., Siddique, A.B., Nosheen, F., Abbas, A., Majid, A., Nishan, U., dan Shaaban, I.A., 2026, Copper-tuned bandgap engineering of ZnO/CdS nanocomposites for photocatalytic water purification and hydrogen energy production, *Fuel*, 418, 138680.
- Sharma, J.L., Jain, S.K., Tripathi, B., dan Mishra, M.C., 2023, Synthesis and characterization of CdS thin film by sol-gel method: Structural, optical and electrical properties, *East European Journal of Physics*(3), 599-605.
- Shen, X., Huang, Q., Wang, C., Wang, M., dan Shan, Q., 2025, A preferred orientation correction of schistose minerals quantitative analysis via X-ray diffraction, *Minerals Engineering*, 230, 109397.
- Singh, Z.P., 2023, The power of semiconductor materials paving the way for technological advancements, *Advanced Research in Applied and Analytical Science and Materials Research*, 6(4), 67-69.

- Supriyanto, G., Nisak, K.R., dan Abdulloh, A., 2018, Dekolorisasi air limbah pengolahan gurita dengan metode AOT (Advance Oxidation Treatment), *Jurnal Kimia Riset*, 3(1), 6-12.
- Tashpulatova, D.X. dan Narkulov, S.K., 2025, Mechanisms of light absorption in a semiconductor, *Bulletin of Physics*, 3(1).
- Tsai, H.C., Peng, Y.H., Wen, P.Y., Wu, T., dan Lin, Y.W., 2021, Enhanced visible light photocatalytic degradation of methylene blue by CdS-ZnS-BiPO₄ nanocomposites prepared by a solvent-assisted heating method, *Catalysts*, 11(9), 1095.
- Ujam, C.J. dan Adeniyi, D.A., 2021, Temperative dependence of electrical conductivity in semiconductors, *Journal of Engineering Research and Reports*, 21(11), 30-37.
- Wang, W., Gao, S., He, J., Cui, J., dan Ji, H., 2025, Exciton engineering in organic photocatalysis: mechanisms and applications, *Environmental Functional Materials*.
- Wang, X., Fu, L., Jagadish, C., dan Wang, H., 2024, Recent advances in semiconductor materials and devices, *Physica Status Solidi - Rapid Research Letters*, 18(7), 2400198.
- Wang, W., Qin, X., Wang, X., Ma, K., Wu, Z., dan Si, H., 2024, Sulfur vacancy-rich (α/β -CdS)/SiO₂ photocatalysts for enhanced visible-light-driven photocatalytic degradation of rhodamine B, *Environmental Pollution*, 345, 123428.
- Yildirim, E., Ozmen, S.I., Havare, A.K., dan Gubur, H.M., 2026, Substrate effect on nanowall-structured CdS thin films obtained by CBD: Structural, optical, and electrochemical characterization for next-generation optoelectronic applications, *Materials Chemistry and Physics*, 348, 131651.
- Zgueni, H., Mesky, M.E., Idlahoussaine, N., Haddou, B.A., Znini, M., Oubair, A., Mabrouk, E.H., Ibrahimi, B.E., dan Chebabe, D., 2025, Synthesis of a new benzimidazole surfactant as a new effective corrosion inhibitor for carbon steel in 1 M HCl acid medium: Experimental, surface morphological (SEM-EDX) and computational analysis, *Journal of Molecular Structure*, 1345, 143175.

Ziembowicz, S. dan Kida, M., 2022, Limitations and future directions of application of the Fenton-like process in micropollutants degradation in water and wastewater treatment: A critical review, *Chemosphere*, 296, 134041.