

DAFTAR PUSTAKA

1. Hardeli.; Suwardani.; Ricky.; Fernando, T.; Maulidis.; Ridwan, S.: *Dye Sensitized Solar Cell (DSSC) Berbasis Nanopori TiO₂ Menggunakan Antosianin dari Berbagai Sumber Alami. Prosiding Semirata FMIPA Universitas Lampung*, Lampung, 2013.
2. Nurhidayah.; Usna, S. R. A.; Suwarni.; Afrianto, M. F.; Farid, F.: Pembuatan Sel Surya Tersensitasi Pewarna (SSTP) Lapisan TiO₂/Grafit dari Ekstrak Kelopak Bunga Rosella, Beras Ketan Hitam, dan Ubi Jalar Ungu. *JoP* 2017, 2, 2, 6–10.
3. Yuanchao, L.; Jingyan, L.; Dixin, L.; Xin, L.; Yanling, X.: D-A- π -A Based Organic Dyes for Efficient DSSCs: A Theoretical Study on the Role of π - Spacer. *Computational Materials Science* 2019, 161, 63–176.
4. Imelda.: Penggunaan Zat Warna Organik untuk Meningkatkan Performa Peralatan Solar Cell Menggunakan Metoda *Density Functional Theory (DFT)*. *Lantanida Journal* 2016, 4, 1, 19–34.
5. Phrompak, C.; Sarawut, T.; Ratchanee, P.; Nattawat, R.; Somdej, K.; Wichien, S.; Vittaya, A.: Performance and Stability of Low-Cost Dye-Sensitized Solar Cell Based Crude and Pre-Concentrated Anthocyanins: Combined Experimental and DFT/TDDFT Study. *Journal of Molecular Structure* 2017, 1127, 45–155.
6. Pranowo, H. D.: *Kimia Komputasi*; Universitas Gadjah Mada; Yogyakarta, 2016.
7. Pramanik, A.; Sarkar, S.; Pal, S.; Sarkar, P.: Pentacene-fullerene bulk hetero junction solar cell: A computational Study. *J. Physics Letters A* 2015, 379, 1036–1042.
8. Bagher, A. M.; Vahid, M. M. A.; Mohsen, M.: Types of Solar Cells and Application. *American Journal of Optics and Photonics* 2015, 3, 5, 94–113.
9. Taqwa, K. Z.; Dwiyanoro, B. A.: Studi Eksperimental Pengaruh Intensitas Cahaya terhadap Performa DSSC (Dye Sensitized Solar Cell) dengan Ekstrak Buah dan Sayur sebagai Dye Sensitizer. *Jurnal Teknik ITS* 2015, 4, 1, 20–24.
10. Amkassou, A.; Zgou, H.: New Dyes for DSSC Containing Thienylen-Phenylene: a Theoretical Investigation. *Materials Today: Proceedings* 2019, 13, 569–578.
11. Ye, M.; Wen, X.; Wang, M.; Locozzia, J.; Zhang, N.; Lin, C.; Lin, Z.: Recent Advances in Dye-Sensitized Solar Cells: from Photoanodes, Sensitizers and Electrolytes to Counter Electrodes. *Materials Today* 2015, 18, 3, 155–162.
12. Susmiyanto, D.; Wibowo, N. A.; Sutresno, A.: Fabrikasi Sel Surya Pewarna Tersensitisasi (SSPT) dengan Memanfaatkan Ekstrak Antosianin Ubi Jalar Ungu (*Ipomoea batatas L.*). *Prosiding Seminar Nasional Sains dan Pendidikan Sains VIII, Fakultas Sains dan Matematika, UKSW* 2013, 4, 1.
13. Maurya, I. C.; Neetu.; Gupta, A. K.; Srivastava, P.; Bahadur, L.: *Callindra haematocephata* and *Peltophorum pterocarpum* Flowers as Natural Sensitizers for TiO₂ Thin Film Based Dye-Sensitized Solar Cells. *Optical Materials* 2016, 60, 270–276.
14. Safriani, L.; Sakkyananda, S.; Yuliasari, F.; Aprilia, A.: Fabrikasi Sel Surya Tersensitasi Dye dengan Spiro-Ometad Sebagai Hole Transport Layer. *Jurnal Material dan Energi Indonesia* 2017, 7, 2, 28 – 32.
15. Andari, R.: Sintesis dan Karakterisasi *Dye Sensitized Solar Cell (DSSC)* dengan Sensitizer Antosianin dari Bunga Rosella (*Hibiscus Sabdariffa*). *Jurnal Ilmu dan Inovasi Fisika* 2017, 1, 2, 61–71.
16. Ferreira, B. C.; Sampaio, D. M.; Babu, R.S.; de Barros, A. L. F.: Influence of Nanostructured TiO₂ Film Thickness in Dye-Sensitized Solar Cells Using

Naturally Extracted Dye from *Thunbergia erecta* Flowers as a Photosensitizer. *Optical Materials* 2018, 86, 239–246.

17. Tuty, A.: Antioxidant Activity of *Syzygium oleana*. *Pakistan Journal of Nutrition* 2017, 16, 8, 605–611.
18. Kimuraa, Y.; Maedaa, T.; Luchia, S.; Kogaa, N.; Muratab, Y.; Wakamiyab, A.; Yoshida, K.: Characterization of Dye-Sensitized Solar Cells using Five Pure Anthocyanidin 3-O-Glucosides Possessing Different Chromophores. *Journal of Photochemistry and Photobiology A: Chemistry* 2017, 335, 230–238.
19. Sinopoli, A.; Citro, I.; Calogero, G.; Bartolotta, A.: Combined Experimental and DFT-TDDFT Investigation on Anthocyanidins for Application in Dye-Sensitized Solar Cells. *Dyes and Pigments* 2017, 143, 291-300.
20. Barış, S. A.; Emre, G.; Tuğba, K.; Veysel, D.; Merve, K.; Davut, A.; Mehmet, N.; İlkay, Ş.: Novel D- π -A Organic Dyes for DSSCs Based on dibenzo[b,h][1,6] Naphthyridine as a π -Bridge. *Dyes and Pigments* 2019, 164, 188–197.
21. Ling-Jun, H.; Jie, C.; Fu-Quan, B.; Ran, J.; Jian, W.; Hong-Xing, Z.: Fine-Tuning π -spacer for High Efficiency Performance DSSC: A Theoretical Exploration with D- π -A Based Organic Dye. *Dyes and Pigments* 2017, 141, 251–261.
22. Obotowo, I. N.; Obot, I. B.; Ekpe, U. J.: Organic Sensitizers for Dye-Sensitized Solar Cell (DSSC): Properties from Computation, Progress and Future Perspectives. *Journal of Molecular Structure* 2016, 1122, 80–87.
23. Anjar, P. A.: Penentuan Metode Komputasi untuk Analisis Hubungan Kuantitatif Struktur dan Aktivitas Senyawa Turunan Triazolopiperazin Amida. *Journal of Islamic Science and Technology* 2015, 1, 1, 19-30.
24. Hongbo, W.; Qian, L.; Dejiang, L.; Runzhou, Su.; Jinglin, L.; Yuanzuo, L.: Computational Prediction of Electronic and Photovoltaic Properties of Anthracene-Based Organic Dyes for Dye-Sensitized Solar Cells. *International Journal of Photoenergy* 2018, 1-17.
25. Imelda.; Emriadi.; Aziz, H.; Santoni, A.; Utami, N.: The Modification of Cyanidin Based Dyes to Improve the Performance of Dye-Sensitized Solar Cells (DSSCs). *Rasayan Journal of Chemistry* 2020, 13, 1, 121-130.
26. Valencia, S.; Marin, J. M.; Restrepo, G.: Study of the Bandgap of Synthesized Titanium Dioxide Nanoparticules using the Sol-Gel Method and a Hydrothermal Treatment. *The Open Material Science Journal* 2010, 4, 9-14.
27. Ahmadiani, N.; Robbins, R. J.; Collins, T. M.; Giusti, M. M.: Molar Absorptivity and Spectral Characteristics of Cyanidin-Based Anthocyanin from Red Cabbage. *J.Foodchem* 2016, 197(A), 900-906.
28. Sanusia, K.; Fatomia, N. O.; Borisadeb, A. O.; Yilmazc, Y.; Ceyland, Ü.; Fashinae, A.: An Approximate Procedure for Profiling Dye Molecules with Potentials as Sensitizers in Solar Cell Application: A DFT/TD-DFT Approach. *Chemical Physics Letters* 2019, 723, 111-117.
29. Atkins, P.W.: *Kimia Fisika Jilid 2, edisi keempat*; Oxford, 1989.
30. Seo, D.; Park, K. W.; Kim, J.; Hong, J.; Kwak, K.: DFT Computational Investigation of Tuning the Electron Donating Ability in Metal-Free Organic Dyes Featuring a Thienylethynyl Spacer for Dye Sensitized Solar Cells. *Computational and Theoretical Chemistry* 2016, 1081, 30-37.
31. Abdel-Mottaleb, M. S. A.; Mohamed M. S. A.; Hafez, H. S.; Saif, M.: J-Aggregates of Amphiphilic Cyanine Dyes for Dye-Sensitized Solar Cells: A Combination between Computational Chemistry and Experimental Device Physics. *International Journal of Photoenergy* 2014, 1-6.