

DAFTAR PUSTAKA

- Apriyani, N. (2017). Penurunan Kadar Surfaktan dan Sulfat dalam Limbah Laundry. *Media Ilmiah Teknik Lingkungan (MITL)*, 2(1), 37-44.
- Bagheri, M., Jafari, S.M. & Eikani, M.H. (2021). Ultrasonic-assisted Production of Zero-valent Iron-decorated Graphene Oxide/Activated Carbon Nanocomposites: Chemical Transformation and Structural Evolution, *Materials Science and Engineering*, 118, 111362.
- Beiser, A. (2003). *Concept of Modern Physics Sixth Edition*. New York: McGraw-Hill Companies Inc.
- Bete, Y.I., Bukit, M., Johanes, A.Z., Pingak, R.K., (2019). Kajian Awal Sifat Optik Graphene Oxide Berbahan Dasar Arang Tongkol Jagung Yang Disintesis Dengan Metode Liquid Phase Exfoliation (Lpe). *Jurnal Fisika Sains dan Aplikasinya*. 4, 2657-1900.
- Bruice, P.Y. (2001). *Organic Chemistry*, Prentice Hall International, Inc., New Jersey.
- Pratama, B. W., & Dwandaru, W. S. B. (2020). Synthesis of reduced graphene oxide based on thermally modified liquid-phase exfoliation. *Nano Express*, 1(1), 010023.
- Bundy, F. P., & Kasper, J. S. (1967). Hexagonal diamond—a new form of carbon. *The Journal of Chemical Physics*, 46(9), 3437-3446.
- Ciesielski, A. & Samori, P. (2014). Graphene via sonication assisted liquid-phase exfoliation. *Royal society of chemistry*, 43, 381-398.
- Coleman, J. N. (2009). Liquid - phase exfoliation of nanotubes and graphene. *Advanced Functional Materials*, 19(23), 3680-3695.
- Cruz-Benítez, M. M., González-Morones, P., Hernández-Hernández, E., Villagómez-Ibarra, J. R., Castro-Rosas, J., Rangel-Vargas, E., ... & Gómez-Aldapa, C. A. (2021). Covalent Functionalization of Graphene Oxide with Fructose, Starch, and Micro-Cellulose by Sonochemistry. *Polymers*, 13(4), 490.
- Dresselhaus, G., Dresselhaus, M. S., & Saito, R. (1998). Physical properties of carbon nanotubes. World scientific.
- Dwandaru, W. S. B., Fathia, A., & Wisnuwijaya, R. I. (2018). Study on the Synthesis of GO-AgNP Mixture Assisted by AgNP Based on UV-Vis, SEM-EDX, XRD, and FTIR. *In Journal of Physics: Conference Series*. 1097, No. 1, p. 012011
- Dwandaru, W. S. B., Parwati, L. D., & Wisnuwijaya, R. I. (2019). Formation of graphene oxide from carbon rods of zinc-carbon battery wastes by audiosonic sonication assisted by commercial detergent. *Nanotechnology and Precision Engineering*, 2(2), 89-94.
- Dwandaru, W.S.B., Wijaya, R.I.W. & Parwati, L.D. (2019). Nanomaterial Graphene oxide sintesis dan karakterisasinya. Yogyakarta: UNY Press.
- Elazzazy, A.M., Abdelmoneim, T.S. & Almaghrabi, O.A. (2015). Isolation and characterization of biosurfactant production under extreme environmental conditions by alkali-halo-thermophilic bacteria from

- Saudi Arabia, *Saudi Journal of Biological Sciences*, 22, 466–475.
- Ferrari, A. C., & Robertson, J. (2000). Interpretation of Raman spectra of disordered and amorphous carbon. *Physical review B*, 61(20), 14095.
- Folke, J., & Landner, L. (2000). Risk assessment of LAS in sawage and soil. *European Environmental Research Group Inc. ed 3*, 5 20002
- Gabriel, J. F. (1996). Fisika kedokteran. Jakarta: Penerbit buku kedokteran EGC.
- Gedde, U. W. (1995). Polymer Physics. London: Chapman and Hall.
- Geim, A. K. & Novoselov, K.S. (2007). The rise of graphene. *Nature Materials*, 6, 1-14.
- Griffiths, P. R., (1975). Chemical Infrared Fourier Transform Spectroscopy. US: John Wiley & Sons
- Harjono, S. (1992). Spektroskopi Inframerah Edisi Pertama. Yogyakarta: Liberty.
- Hernandez, Y., Nicolosi, V., Lotya, M., Blighe, F. M., Sun, Z., De, S., ... & Coleman, J. N. (2008). High-yield production of graphene by liquid-phase exfoliation of graphite. *Nature nanotechnology*, 3(9), 563-568.
- Hummers Jr, W. S., & Offeman, R. E. (1958). Preparation of graphitic oxide. *Journal of the american chemical society*, 80(6), 1339-1339.
- Johra, F. T., Lee, J. W., & Jung, W. G. (2014). Facile and safe graphene preparation on solution based platform. *Journal of Industrial and Engineering Chemistry*, 20(5), 2883-2887.
- Karimipour, H., Shahbazi, A., & Vatanpour, V. (2021). Fouling decline and retention increase of polyethersulfone membrane by incorporating melamine-based dendrimer amine functionalized graphene oxide nanosheets (GO/MDA). *Journal of Environmental Chemical Engineering*, 9(1), 104849.
- Kenneth, S. S., & Price, G. J. (1999). Application of ultrasound to materials chemistry. *Annu. Rev. Mater. Sci*, 29, 295-326.
- Kristianingrum, S. (2014). Handout Spektroskopi Infra Merah. Yogyakarta: Jurusan Pendidikan Kimia UNY
- Kroschwitz, J. (1990), Polymer Characterization and Analysis, John Wiley and Sons, Inc., Canada
- Lai, Q., Zhu, S., Luo, X., Zou, M., & Huang, S. (2012). Ultraviolet-visible spectroscopy of graphene oxides. *Aip Advances*, 2(3), 032146.
- Lee, C., Wei, X., Kysar, J. W., & Hone, J. (2008). Measurement of the elastic properties and intrinsic strength of monolayer graphene. *science*, 321(5887), 385-388.
- Lickiss, P. D. (1990). Chemistry with ultrasound: edited by TJ Mason, Elsevier Applied Science, London, 1990, viii+ 195 pages £ 46 (hardcover). ISBN 1-85166-422-X.
- Ma, S., Tang, Z., Fan, Y., Zhao, J., Meng, X., Yang, N., Zhuo, S., & Liu, S. (2019). Surfactant-modified graphene oxide membranes with tunable structure for gas separation. *Carbon*, 152, 144-150.
- Mason, T. J., & Lorimer, J. P. (2002). Applied sonochemistry: the uses of power ultrasound in chemistry and processing (Vol. 10). Weinheim: Wiley-Vch.
- Misnawati, L., & Dwandaru, W. S. B. (2017). Optical Absorbance Study of Carbon Nanomaterials Synthesized from Used-cooking Oil via Liquid-

- phase Exfoliation Using a Kitchen Blender in n-Hexane Solution. *E-Journal Fisika*, 6(3), 222-230.
- Mungray, A. K., & Kumar, P. (2009). Fate of linear alkylbenzene sulfonates in the environment: a review. *International Biodeterioration & Biodegradation*, 63(8), 981-987.
- Murni, S. W. (2013). Pembuatan Surfaktan Berbahan Dasar Jerami Padi. *Eksergi*, 11(1), 43-49.
- Nasreen, F., Anwar, A., Ahmad, M., Majeed, A., Afzal, A., & Hussain, T. (2021). A Facile Improved Oxidation Method For Ecological Production Of Graphene Oxide. *Digest Journal of Nanomaterials & Biostructures (DJNB)*, 16(1).
- Neto, A. C., Guinea, F., Peres, N. M., Novoselov, K. S., & Geim, A. K. (2009). The electronic properties of graphene. *Reviews of modern physics*, 81(1), 109.
- Nguyen, D. K. V., Pham, T. L. T., Tran, M. H. T., Tran, T. V., & Vo, D. K. N. (2021). Graphene Oxide and Graphene Oxide-TiO₂ Nanocomposites: Synthesis, Characterization, and Rhodamine B Photodegradation Investigation. *Journal of Nanoscience and Nanotechnology*, 21(3), 1507-1516.
- Novianto, F. (2020). Penetapan kadar ketoprofen dengan metode spektrofotometri UV-Vis. Bandung: Media Sains Indonesia
- Novoselov, K. S., Geim, A. K., Morozov, S. V., Jiang, D. E., Zhang, Y., Dubonos, S. V., Grigorieva, I. V., & Firsov, A. A. (2004). Electric field effect in atomically thin carbon films. *science*, 306(5696), 666-669.
- Nurfitriyana, A. (2012). Signifikansi Kavitas Ultrasonik Dan Hidrodinamik Terhadap Karakteristik Produk Oksidasi Penyisihan Limbah Fenol Dengan Proses Oksidasi Lanjut Berbasis Ozon [Skripsi]. Fakultas Teknik Universitas Indonesia Program Studi Teknik Kimia: Depok.
- Pirrung, M. C. (2007). *The synthetic organic chemist's companion*. John Wiley & Sons.
- Prasetya, B. W., Susanto, B., & Purwadi, J. (2011). Identifikasi Suara Pria dan Wanita Berdasarkan Frekuensi Suara. *Jurnal Informatika*, 4(1).
- Pratiwi, P. D. (2016). Preparasi Nanomaterial Karbon Menggunakan Metode Liquid Mechanical Exfoliation Dibantu oleh Linear Alkylbenzene Sulfonate dengan Variasi Waktu Pencampuran. Skripsi S1, Jurusan Fisika, FMIPA UNY.
- Priyambodo, T.K. & Jadi, B.M.E. (2009). *Fisika Dasar untuk Mahasiswa Ilmu Komputer & Informatika*. Yogyakarta: CV. Andi Offset.
- Rafitasari, Y., Suhendar, H., Imani, N., Luciana, F., Radean, H., & Santoso, I. (2016). Sintesis graphene oxide dan reduced graphene oxide. In *Prosiding Seminar Nasional Fisika (E-Journal)* (Vol. 5, pp. SNF2016-MPS).
- Rahimah, Z., Heldawati, H., & Syauqiah, I. (2016). Pengolahan limbah deterjen dengan metode koagulasi-flokulasi menggunakan koagulan kapur dan PAC. *Konversi*, 5(2), 52-59.
- Ramalingam, R. J., Arunachalam, P., Amer, M. S., AlOthman, Z. A., Alanazi, A.

- G., Al-Anazy, M. M., Al-Lohedan, H. A., & Dahan, W. M. (2021). Facile sonochemical synthesis of silver nanoparticle and graphene oxide deposition on bismuth doped manganese oxide nanotube composites for electro-catalytic sensor and oxygen reduction reaction (ORR) applications. *Intermetallics*, 131, 107101.
- Renung Reningtyas, R., & Mahreni, M. (2015). Biosurfaktan. *Eksergi*, Vol XII, No. 2. 2015, 12(2), 12-22.
- Rieger, M. (1985). *Surfactant in Cosmetics*. Surfactant Science Series. New York: Marcel Dekker, Inc.
- Saha, P., Pyne, D. K., Ghosh, S., Banerjee, S., Das, S., Ghosh, S., Dutta, P., & Halder, A. (2018). Effect of an anionic surfactant (SDS) on the photoluminescence of graphene oxide (GO) in acidic and alkaline medium. *RSC advances*, 8(1), 584-595.
- Santoso, I., Singh, R. S., Gogoi, P. K., Asmara, T. C., Wei, D., Chen, W., Wee, A. T. S., Pereira, V. M., & Rusydi, A. (2014). Tunable optical absorption and interactions in graphene via oxygen plasma. *Physical Review B*, 89(7), 075134.
- Santoso, Iman, et al. "Tunable optical absorption and interactions in graphene via oxygen plasma." *Physical Review B* 89.7 (2014): 075134.
- Sari, S. N. (2015). Pengaruh Rasio Reaktan Dan Komposisi Katalis Terhadap Pembuatan Surfaktan Metil Ester Sulfonat Berbasis Cpo (Crude Palm Oil) Menggunakan Agen Sulfonat Nahso₃ (Doctoral dissertation, Politeknik Negeri Sriwijaya).
- Sehrawat, P., Islam, S. S., Mishra, P., & Ahmad, S. (2018). Reduced graphene oxide (rGO) based wideband optical sensor and the role of Temperature, Defect States and Quantum Efficiency. *Scientific reports*, 8(1), 1-13.
- Silverstain, R. M., & Bassler, G. C. (1967), *Spectrometric Identification of Organic Compounds*, Second Edition, John Wiley and Sons, Inc., New York.
- Siregar, S.A., Husnah, M., Syahwin., Sihombing, S.F., & Tanjung, E. (2018). Sintesis dan karakterisasi Reduce Graphene Oxide dari sumber asap anorganik. *Journal of physics and Science Learning*, 02, 2
- Smallman, R.E., & Bishop, J.R., (2000). *Metalurgi Fisik Modern dan Rekayasa Material*. Jakarta: Erlangga.
- Soedjo. 2004. *Fisika Dasar*. Yogyakarta: Cv Andi Offset.
- Sontakke, A. D., & Purkait, M. K. (2020). Fabrication of ultrasound-mediated tunable graphene oxide nanoscrolls. *Ultrasonics sonochemistry*, 63, 104976.
- Stankovich, S., Dikin, D. A., Dommett, G. H., Kohlhaas, K. M., Zimney, E. J., Stach, E. A., Piner, R. D., Nguyen, S. T., & Ruoff, R. S. (2006). Graphene-based composite materials. *nature*, 442(7100), 282-286.
- Suhartati, T. (2017). *Dasar-dasar spektrofotometri UV-Vis dan spektrometri massa untuk penentuan struktur senyawa organik*.
- Suhendar, H., Kusumaatmaja, A., Triyana, K., & Santoso, I. (2017). Effect of chemical reduction temperature on optical properties of reduced graphene oxide (rGO) and its potentials supercapacitor device. In

- Materials Science Forum (Vol. 901, pp. 55-61). Trans Tech Publications Ltd.
- Suhendar, H. (2020). Pemisahan Ion Menggunakan Elektroda Berbasis Karbon Nanofiber Polyacrylonitrile (PAN)/Graphene Oxide (GO) Dalam Sistem Capacitive Deionization (CDI). Tesis, Departemen Fisika, FMIPA UGM.
- Sulistiyani, M., & Huda, N. (2017). Optimasi pengukuran spektrum vibrasi sampel protein menggunakan spektrofotometer fourier transform infrared (FT-IR). *Indones. J. Chem. Sci.*, 6, 173-180.
- Suparno. (2012). *Dinamika Partikel Koloid*. Yogyakarta: UNY Press.
- Susilo, B., Hawa, L. C., & Hermanto, M. B. (2010). Model kavitasi iradiasi gelombang ultrasonik pada transesterifikasi minyak tanaman menjadi biodiesel.
- Syakir, N., Nurlina, R., Anam, S., Aprilia, A., & Hidayat, S. (2015). Kajian Pembuatan Oksida *Graphite* untuk Produksi Oksida Grafena dalam Jumlah Besar. *Jurnal Fisika Indonesia*, 19(56).
- Tahid. (1994). *Spektroskopi Inframerah Transformasi Fourier No II Th VIII*. Bandung: Warta Kimia Analitis.
- The Royal Swedish Academy of Sciences. (2010). *Graphene*. Sweden: Kungl Vetenskaps Akademien.
- Tipler, P., A. (1998). *Fisika untuk Sains dan Teknik*. Prasetyo L & Adi RW, penerjemah. Jakarta: Erlangga. Terjemahan dari: *Physics for Scientists and Engineers*.
- Truong, Q., C., & Lee, D., S. (2013). *Graphene From Fundamental to Future Application*. South Korea: Chonbuk National University.
- Wang, S., Yi, M., & Shen, Z. (2016). The effect of surfactants and their concentration on the liquid exfoliation of graphene. *RSC advances*, 6(61), 56705-56710.
- Wardiyati, S. (2004). Pemanfaatan ultrasonik dalam bidang kimia. *Prosiding Pertemuan Ilmiah Ilmu Pengetahuan dan Teknologi Bahan*, 419-425.
- Watcharotone, S., Dikin, D. A., Stankovich, S., Piner, R., Jung, I., Dommett, G. H., Evmenenko, G., Wu, S. E., Chen, S. F., Liu, C. P., Nguyen, S. T., & Ruoff, R. S. (2007). Graphene– silica composite thin films as transparent conductors. *Nano letters*, 7(7), 1888-1892.
- Wisnuwijaya, R. I., Purwanto, A., & Sunu Brams Dwandaru, W. (2017). UV-visible optical absorbance of graphene oxide synthesized from zinc-carbon battery waste via a custom-made ultrasound generator based on liquid sonication exfoliation method. *Makara Journal of Science*, 175-181.
- Wiyatmo, Y. (2002). *Fisika Modern*, Yogyakarta: Pustaka Pelajar
- Yasid, A., & Yushardi, Y. (2017). Pengaruh Frekuensi Gelombang Bunyi Terhadap Perilaku Lalat Rumah (*Musca Domestica*). *Jurnal Pembelajaran Fisika*, 5(2), 190-196.