REFERENCES

Abd Aziz, A., Khatun, F., Uddin Monir, M., Lan Ching, S., and Kah Hon, L., 2022, TiO 2 : A Semiconductor Photocatalyst ,. In, *Titanium Dioxide - Advances and Applications*. IntechOpen, 1-16.

Ajayan, P.M., Schadler, L.S., and Braun, P.V., 2003, *Nanocomposite science and technology*, Wiley-VCH.

Ali Khan, M., Ameen, S., Zia, A., Ijaz, U., Muhammad Jahanzaib, H., Sehar, T., Ali Sherazi, B., Hameed, M., and Tabassum, N. Extarction, Formulation, and Evaluation of Fast Dissolving Oral Films of Nicotine for Smoking Cessation, *J Contemp Pharm Prac*, 2, 1-16.

Bhattacharyya, A.R., Pötschke, P., Abdel-Goad, M., and Fischer, D., 2004, Effect of encapsulated SWNT on the mechanical properties of melt mixed PA12/SWNT composites, *Chem Phys Lett*, 392, 28–33.

Božič, M., Ban, I., Hribernik, S., Fakin, D., and Stana Kleinschek, K., 2017, Surface engineering of TiO2-MWCNT nanocomposites towards tuning of functionalities and minimizing toxicity, *J Solgel Sci Technol*, 83, 132–142.

Bunaciu, A.A., Udriştioiu, E.G., and Hassan Y.A., 2015, X-Ray Diffraction: Instrumentation and Applications, *Critical Reviews in Analytical Chemistry*, 45, 4, 289-299

Chen, X. and Mao, S.S., 2007, Titanium dioxide nanomaterials: Synthesis, properties, modifications and applications, *Chem Rev*, 107, 2891–2959.

Dai, K., Peng, T., Ke, D., and Wei, B., 2009, Photocatalytic hydrogen generation using a nanocomposite of multi-walled carbon nanotubes and TiO2 nanoparticles under visible light irradiation, *Nanotechnology*, 20, 1-16 .

Demirbas, A., 2009, Agricultural based activated carbons for the removal of dyes from aqueous solutions: A review, *J Hazard Mater*, 167, 1–9.

Eder, D., 2010, Carbon nanotube-inorganic hybrids, *Chem Rev*, 110, 1348–1385.

El-Shamy, A.G., 2020, An efficient removal of methylene blue dye by adsorption onto carbon dot @ zinc peroxide embedded poly vinyl alcohol (PVA/CZnO2) nano-composite: A novel Reusable adsorbent, *Polymer (Guildf)*, 202, 1-17 .

Gupta, V.K. and Suhas, 2009, Application of low-cost adsorbents for dye removal - A review, *J Environ Manage*, 90, 2313–2342.

Hastuti, L.P., Kusumaatmaja, A., Darmawan, A., and Kartini, I., 2022a, Effect of Polymer Concentration on the Photocatalytic Membrane Performance of PAN/TiO2/CNT Nanofiber for Methylene Blue Removal through Cross-Flow Membrane Reactor, *Bulletin of Chemical Reaction Engineering & Catalysis*, 17, 350–362.

Hastuti, L.P., Kusumaatmaja, A., Darmawan, A., and Kartini, I., 2022b, Photocatalytic membrane of TiO2/CNT decorated PAN nanofibers with enhanced performance under LED visible-light irradiation, *Energy and Environment*, 1-22.

Huson, M.G. and Bhat, G., 2017, High-performance pitch-based carbon fibers,. In, Jackson,D. and Payne,E. (eds), *Structure and Properties of High-Performance Fibers*, Elsevier, Cambridge, pp. 31–78.

Ibrahim, K.S., 2013, Carbon nanotubes-properties and applications: a review, *Carbon letters*, 14, 131–144.

Jain, N., Dwivedi, M.K., and Waskle, A., 2016, Adsorption of Methylene Blue Dye from Industrial Effluents Using Coal Fly Ash, *Int J Adv Res Sci Eng Technol*, 3, 9-16.

Jian-Xiao, L. v., Ying, C., Guo-Hong, X., Ling-Yun, Z., and Su-Fen, W., 2011, Decoloration of methylene blue simulated wastewater using a UV-H2O2 combined system, *Journal of Water Reuse and Desalination*, 1, 45–51.

Jung, J.Y., Lee, D., and Lee, Y.S., 2015, CNT-embedded hollow TiO2 nanofibers with high adsorption and photocatalytic activity under UV irradiation, *J Alloys Compd*, 622, 651–656.

Jury, W.A. and Vaux, H., 2005, The role of science in solving the world's emerging water problems, *PNAS*, 102, 15715-15720.

Kassale, A., Barouni, K., Bazzaoui, M., and Albourine, A., 2015, Kinetics and Modeling of the adsorption of methylene blue by the grafted cotton, *J Chem Biol Phys Sci*, 5, 1205-1216.

Kausar, A., 2019, Polyacrylonitrile-based nanocomposite fibers: A review of current developments, *Journal of Plastic Film and Sheeting*, 35, 295–316.

Khan, Idrees, Saeed, K., Zekker, I., Zhang, B., Hendi, A.H., Ahmad, A., Ahmad, S., Zada, N., Ahmad, H., Shah, L.A., Shah, T., and Khan, Ibrahim, 2022, Review on Methylene Blue: Its Properties, Uses, Toxicity and Photodegradation, *Water (Switzerland)*, 14, 1-30.

Lerner, M.B., Resczenski, J.M., Amin, A., Johnson, R.R., Goldsmith, J.I., and Johnson, A.T.C., 2012, Toward quantifying the electrostatic transduction mechanism in carbon nanotube molecular sensors, *J Am Chem Soc*, 134, 14318–14321.

Liu, D., Lipponen, K., Quan, P., Wan, X., Zhang, H., Mäkilä, E., Salonen, J., Kostiainen, R., Hirvonen, J., Kotiaho, T., and Santos, H.A., 2018, Impact of Pore Size and Surface Chemistry of Porous Silicon Particles and Structure of Phospholipids on Their Interactions, *ACS Biomater Sci Eng*, 4, 2308–2313.

Liu, Y., Zhao, Y., Sun, B., and Chen, C., 2013, Understanding the toxicity of carbon nanotubes, *Acc Chem Res*, 46, 702–713.

Mondal, S., 2008, Methods of dye removal from dye house effluent - An overview, *Environ Eng Sci*, 25, 383–396.

Oi, L.E., Choo, M.Y., Lee, H.V., Ong, H.C., Hamid, S.B.A., and Juan, J.C., 2016a, Recent advances of titanium dioxide (TiO2) for green organic synthesis, *RSC Adv*, 6, 108741–108754.

Oi, L.E., Choo, M.Y., Lee, H.V., Ong, H.C., Hamid, S.B.A., and Juan, J.C., 2016b, Recent advances of titanium dioxide (TiO2) for green organic synthesis, *RSC Adv*, 6, 108741–108754.

Pawar, M., Sendoğdular, S.T., and Gouma, P., 2018, A brief overview of TiO2 photocatalyst for organic dye remediation: Case study of reaction mechanisms involved in Ce-TiO2 photocatalysts system, *J Nanomater*, 2018, 1-13.

Piler, K., Bahrim, C., Twagirayezu, S., & Benson, T. J., 2020, Lattice disorders of TiO2 and their significance in the photocatalytic conversion of CO2, *Advances in Catalysis*, *66*, 109-233.

Ribeiro, R.F., Pardini, L.C., Alves, N.P., and Júnior, C.A.R.B., 2015, Thermal Stabilization study of polyacrylonitrile fiber obtained by extrusion, *Polimeros*, 25, 523–530.

Sahay, R., Agarwal, K., Subramani, A., Raghavan, N., Budiman, A.S., and Baji, A., 2020, Helicoidally arranged polyacrylonitrile fiber-reinforced strong and impact-resistant thin polyvinyl alcohol film enabled by electrospinning-based additive manufacturing, *Polymers (Basel)*, 12, 1–23.

Sakar, M., Mithun Prakash, R., and Trong-On, D., 2019, Insights into the tio2-based photocatalytic systems and their mechanisms, *Catalysts*, 9, 1-30.

Saleh, A.T., 2013, The Role of Carbon Nanotubes in Enhancement of Photocatalysis,. In, Suzuki,S. (ed), *Syntheses and Applications of Carbon Nanotubes and Their Composites*. InTech, pp. 479–493.

Saleh, T.A. and Gupta, V.K., 2011, Functionalization of tungsten oxide into MWCNT and its application for sunlight-induced degradation of rhodamine B, *J Colloid Interface Sci*, 362, 337–344.

Sardar, M., Manna, M., Maharana, M., and Sen, S., 2021, Remediation of Dyes from Industrial Wastewater Using Low-Cost Adsorbents, *Environmental Chemistry for Sustainable World*, 49, Springer, pp. 377–403.

Singh, M., Goyal, M., and Devlal, K., 2018, Size and shape effects on the band gap of semiconductor compound nanomaterials, *J Taibah Univ Sci*, 12, 470–475.

Subramanian, V., Wolf, E.E., and Kamat, P. v., 2004, Catalysis with TiO2/Gold Nanocomposites. Effect of Metal Particle Size on the Fermi Level Equilibration, *J Am Chem Soc*, 126, 4943–4950.

Cates, R.S., 2010, Influence of Crosslink Density on Swelling and Conformation of Surface-Constrained Poly(N-Isopropylacrylamide) Hydrogels, *Graduate Theses and Dissertations*, University of South Florida, 1-84.

Wongaree, M., Chiarakorn, S., and Chuangchote, S., 2015, Photocatalytic Improvement under Visible Light in TiO2 Nanoparticles by Carbon Nanotube Incorporation, *Journal of Nanomaterials*, 1-10.

Zerjav, G., Zizek, K., Zavasnik, J., and Pintar, A., 2022, Brookite vs. rutile vs. anatase: What's behind their various photocatalytic activities, *J Environ Chem Eng*, 10, 1-18.

Zhang, J., Zhou, P., Liu, J., and Yu, J., 2014, New understanding of the difference of photocatalytic activity among anatase, rutile and brookite TiO2, *Physical Chemistry Chemical Physics*, 16, 20382–20386.

Zhu, G., Wang, F., Xu, K., Gao, Q., and Liu, Y., 2013, Study on properties of poly(vinyl alcohol)/polyacrylonitrile blend film, *Polimeros*, 23, 146–151.