DAFTAR PUSTAKA

Abd Mutalib, M., Rahman, M. A., Othman, M. H. D., Ismail, A. F., And Jaafar, J., 2017, Scanning Electron Microscopy (Sem) And Energy-Dispersive X-Ray (Edx) Spectroscopy, In *Membrane Characterization* (Pp. 161–179), Elsevier.

Agung, W., Amiruddin, R., Manjang, S., And Kitta, I., 2022, Polimer Silicone Rubber, *Jurnal Eksitasi*, *1*(2), 2022.

Aji Pambudi, Moh. F. Dan H. N., 2017, Analisis Morfologi Dan Spektroskopi Infra Merah Serat Bambu Betung (Dendrocalamus Asper) Hasil Proses Alkalisasi Sebagai Penguat Komposit Absorbsi Suara, *Jurnal Teknik Its*, *Vol. 6*, *No. 2*.

Akpan, U. G., And Hameed, B. H., 2009, Parameters Affecting The Photocatalytic Degradation Of Dyes Using Tio2-Based Photocatalysts: A Review, In *Journal Of Hazardous Materials* (Vol. 170, Issues 2–3, Pp. 520–529). Https://Doi.Org/10.1016/J.Jhazmat.2009.05.039

Al-Degs, Y. S., El-Barghouthi, M. I., Khraisheh, M. A., Ahmad, M. N., And Allen, S. J., 2005, Effect Of Surface Area, Micropores, Secondary Micropores, And Mesopores Volumes Of Activated Carbons On Reactive Dyes Adsorption From Solution, *Separation Science And Technology*, *39*(1), 97–111. Https://Doi.Org/10.1081/Ss-120027403

Ali, I., Raza, M. A., Mehmood, R., Islam, A., Sabir, A., Gull, N., Haider, B., Park, S. H., And Khan, R. U., 2020a, Novel Maleic Acid, Crosslinked, Nanofibrous Chitosan/Poly (Vinylpyrrolidone) Membranes For Reverse Osmosis Desalination, *International Journal Of Molecular Sciences*, *21*(19), 1–14. Https://Doi.Org/10.3390/Ijms21197338

Ali, I., Raza, M. A., Mehmood, R., Islam, A., Sabir, A., Gull, N., Haider, B., Park, S. H., And Khan, R. U., 2020b, Novel Maleic Acid, Crosslinked, Nanofibrous Chitosan/Poly (Vinylpyrrolidone) Membranes For Reverse Osmosis Desalination, *International Journal Of Molecular Sciences*, *21*(19), 1–14. Https://Doi.Org/10.3390/Ijms21197338

'Aliaa, R. N., And Othman, S. A., 2023, Characteri S Ation Of Doped Titanium Dioxide (Tio2) At Different Calcination Temperature Using X-Ray Diffraction (Xrd), *Asm Science Journal*, *18*. Https://Doi.Org/10.32802/Asmscj.2023.983

Anatoly, C., Pavel, Z., Tatiana, C., Alexei, R., And Svetlana, Z., 2020, Water Vapor Permeability Through Porous Polymeric Membranes With Various Hydrophilicity As Synthetic And Natural Barriers, *Polymers*, *12*(2), 282. Https://Doi.Org/10.3390/Polym12020282

Ansari, S. A., Khan, M. M., Ansari, M. O., And Cho, M. H., 2016, Nitrogen-Doped Titanium Dioxide (N-Doped Tio2) For Visible Light Photocatalysis, In *New Journal Of Chemistry* (Vol. 40, Issue 4, Pp. 3000–3009), Royal Society Of Chemistry. Https://Doi.Org/10.1039/C5nj03478g

Anucha, C. B., Altin, I., Bacaksiz, E., And Stathopoulos, V. N., 2022, Titanium Dioxide (Tio_2)-Based Photocatalyst Materials Activity Enhancement For Contaminants Of Emerging Concern (Cecs) Degradation: In The Light Of Modification Strategies, *Chemical Engineering Journal Advances*, *10*. Https://Doi.Org/10.1016/J.Ceja.2022.100262

Ariadi Lusiana, R., Pratiwi Rusendi, D., Setiyo Widodo, D., Haris, A., Suseno, A., And Gunawan, G., 2019, Studi Sifat Fisikokimia Membran Kitosan Termodifikasi Heparin Dan Polietilen Glikol (Peg), *Analit: Analytical And Environmental Chemistry*, *4*(02), 1–13. Https://Doi.Org/10.23960/Aec.V4.I2.2019.P01-13

Astuti, K. W., Rizqiyah, V. F., And Adiarto, T., 2022, *Pengaruh Derajat Deasetilisasi Kitosan Pada Coating Nata De Coco-Kitosan Sebagai Bahan Antibakteri* (Vol. 46, Issue 2).

Baker, R. W., 2023, *Membrane Technologies And Applications* (6th Ed.), John Wiley & Sons Ltd.

Benčina, M., Iglič, A., Mozetič, M., And Junkar, I., 2020, Crystallized Tio2 Nanosurfaces In Biomedical Applications, In *Nanomaterials* (Vol. 10, Issue 6), Mdpi Ag. Https://Doi.Org/10.3390/Nano10061121

Benkhaya, S., M'rabet, S., And El Harfi, A., 2020, Classifications, Properties, Recent Synthesis And Applications Of Azo Dyes, *Heliyon*, *6*(1). Https://Doi.Org/10.1016/J.Heliyon.2020.E03271

Bunaciu, A. A., Udriştioiu, E. G., And Aboul-Enein, H. Y., 2015, X-Ray Diffraction: Instrumentation And Applications, *Critical Reviews In Analytical Chemistry*, *45*(4), 289–299.

Chainarong, S., Sikong, L., Pavasupree, S., And Niyomwas, S., 2011, Synthesis And Characterization Of Nitrogen-Doped Tio2 Nanomaterials For Photocatalytic Activities Under Visible Light, *Energy Procedia*, *9*, 418–427. Https://Doi.Org/10.1016/J.Egypro.2011.09.046

Changmai, M., And Purkait, M. K., 2021, Membrane Adsorption, In *Interface Science And Technology* (Vol. 33, Pp. 629–653), Elsevier B.V. Https://Doi.Org/10.1016/B978-0-12-818805-7.00007-2

Chen, X., Hu, Y., Xie, Z., And Wang, H., 2018, Materials And Design Of Photocatalytic Membranes, In *Current Trends And Future Developments On*

(Bio-) Membranes: Photocatalytic Membranes And Photocatalytic Membrane Reactors (Pp. 71–96), Elsevier Inc. Https://Doi.Org/10.1016/B978-0-12-813549-5.00003-7

Cheng, X., Yu, X., Xing, Z., And Yang, L., 2016, Synthesis And Characterization Of N-Doped Tio2 And Its Enhanced Visible-Light Photocatalytic Activity, *Arabian Journal Of Chemistry*, *9*, S1706–S1711. Https://Doi.Org/10.1016/J.Arabjc.2012.04.052

Chung, W. Y., And Ong, S. T., 2021, Effective Removal Of Reactive Brown 10 From Aqueous Solution By Using Chitosan Beads: Batch And Experimental Design Studies, *Journal Of Physical Science*, *32*(1), 91–108. Https://Doi.Org/10.21315/Jps2021.32.1.7

Colbeau-Justin, C., Valenzuela, M., Colbeau-Justin, C., And Valenzuela, M. A., 2013, Time-Resolved Microwave Conductivity (Trmc) A Useful Characterization Tool For Charge Carrier Transfer In Photocatalysis: A Short Review Article In Revista Mexicana De Física · May 2013 Citations 28 Reads 2,663 Time-Resolved Microwave Conductivity (Trmc) A Useful Characterization Tool For Charge Carrier Transfer In Photocatalysis: A Short Review, In *Review Revista Mexicana De Física* (Vol. 59). Https://Www.Researchgate.Net/Publication/279897263

Diaz, C., And Kim, S., 2015, *Film Performance Of Poly (Lactic Acid) Blends For Packaging Applications*, 43–51.

Du, S., Lian, J., And Zhang, F., 2022, Visible Light-Responsive N-Doped Tio2 Photocatalysis: Synthesis, Characterizations, And Applications, In *Transactions Of Tianjin University* (Vol. 28, Issue 1, Pp. 33–52), Tianjin University. Https://Doi.Org/10.1007/S12209-021-00303-W

Eddy, D. R., Permana, M. D., Sakti, L. K., Sheha, G. A. N., Solihudin, G. A. N., Hidayat, S., Takei, T., Kumada, N., And Rahayu, I., 2023, Heterophase Polymorph Of Tio2 (Anatase, Rutile, Brookite, Tio2 (B)) For Efficient Photocatalyst: Fabrication And Activity, In *Nanomaterials* (Vol. 13, Issue 4), Mdpi. Https://Doi.Org/10.3390/Nano13040704

El-Desoky, M. M., Morad, I., Wasfy, M. H., And Mansour, A. F., 2020, Synthesis, Structural And Electrical Properties Of Pva/Tio2 Nanocomposite Films With Different Tio2 Phases Prepared By Sol–Gel Technique, *Journal Of Materials Science: Materials In Electronics*, *31*(20), 17574–17584. Https://Doi.Org/10.1007/S10854-020-04313-7

Entezari, M. H., Al-Hoseini, Z. S., And Ashraf, N., 2008, Fast And Efficient Removal Of Reactive Black 5 From Aqueous Solution By A Combined Method Of Ultrasound And Sorption Process, *Ultrasonics Sonochemistry*, *15*(4), 433–437. Https://Doi.Org/10.1016/J.Ultsonch.2007.09.004

Galal Ibrahim, A., 2019, Synthesis Of Poly(Acrylamide-Graft-Chitosan) Hydrogel: Optimization Of The Grafting Parameters And Swelling Studies, *American Journal Of Polymer Science And Technology*, *5*(2), 55. Https://Doi.Org/10.11648/J.Ajpst.20190502.13

Gan, Y. X., Jayatissa, A. H., Yu, Z., Chen, X., And Li, M., 2020, Hydrothermal Synthesis Of Nanomaterials, In *Journal Of Nanomaterials* (Vol. 2020), Hindawi Limited. Https://Doi.Org/10.1155/2020/8917013

Gomes, J., Lincho, J., Domingues, E., Quinta-Ferreira, R. M., And Martins, R. C., 2019, N-Tio2 Photocatalysts: A Review Of Their Characteristics And Capacity For Emerging Contaminants Removal, In *Water (Switzerland)* (Vol. 11, Issue 2), Mdpi Ag. Https://Doi.Org/10.3390/W11020373

Habiba, U., Jia, J., Lee, L., Chin, T., Chin, B., And Amalina, M. A., 2019, *International Journal Of Biological Macromolecules Degradation Of Methyl Orange And Congo Red By Using Chitosan / Polyvinyl Alcohol / Tio 2 Electrospun Nano Fi Brous Membrane*, *131*, 821–827. Https://Doi.Org/10.1016/J.Ijbiomac.2019.03.132

Hanaor, D. A. H., Triani, G., And Sorrell, C. C., 2011, Morphology And Photocatalytic Activity Of Highly Oriented Mixed Phase Titanium Dioxide Thin Films, *Surface And Coatings Technology*, *205*(12), 3658–3664. Https://Doi.Org/10.1016/J.Surfcoat.2011.01.007

Hasipoglu, H. N., Yilmaz, E., Yilmaz, O., And Caner, H., 2005, Preparation And Characterization Of Maleic Acid Grafted Chitosan, *International Journal Of Polymer Analysis And Characterization*, *10*(5–6), 313–327. Https://Doi.Org/10.1080/10236660500479478

Kim, J. H., Hossain, S. M., Kang, H. J., Park, H., Tijing, L., Park, G. W., Suzuki, N., Fujishima, A., Jun, Y. S., Shon, H. K., And Kim, G. J., 2021, Hydrophilic/Hydrophobic Silane Grafting On Tio2 Nanoparticles: Photocatalytic Paint For Atmospheric Cleaning, *Catalysts*, *11*(2), 1–21. Https://Doi.Org/10.3390/Catal11020193

Klein, D. R., 2021, *Organic Chemistry* (4, Ed.), John Wiley & Sons, Inc.

Kusumawardan, C., 2009, Titanium Dioksida Terdoping Nitrogen : Kajian Tentang Sintesis , Karakterisasi Dan Aplikasinya, *Jurusan Pendidikan Kimia, Fmipa, Universitas Negeri Yogyakarta*, 124–133.

Landi, S., Segundo, I. R., Freitas, E., Vasilevskiy, M., Carneiro, J., And Tavares, C. J., 2022, Use And Misuse Of The Kubelka-Munk Function To Obtain The Band Gap Energy From Diffuse Reflectance Measurements, *Solid State Communications*, *341*. Https://Doi.Org/10.1016/J.Ssc.2021.114573

León, A., Reuquen, P., Garín, C., Segura, R., Vargas, P., Zapata, P., And Orihuela, P. A., 2017, Ftir And Raman Characterization Of Tio2 Nanoparticles Coated With Polyethylene Glycol As Carrier For 2-Methoxyestradiol, *Applied Sciences (Switzerland)*, *7*(1). Https://Doi.Org/10.3390/App7010049

Li, D., Calebe, V. C., Li, Y., Liu, H., And Lei, Y., 2024, Interstitial N-Doped Tio2 For Photocatalytic Methylene Blue Degradation Under Visible Light Irradiation, *Catalysts*, *14*(10). Https://Doi.Org/10.3390/Catal14100681

Li, Q., Li, S., Yu, C., Zhan, Z., Cheng, G., Tan, B., And Ren, S., 2024, Hypercrosslinked Polymer Membranes Via Interfacial Polymerization For Organic Dye Separations, *Communications Materials*, *5*(1). Https://Doi.Org/10.1038/S43246-024-00668-0

Lim, C., An, H. R., Ha, S., Myeong, S., Min, C. G., Chung, H. J., Son, B., Kim, C. Y., Park, J. I., Kim, H., Lee, H. U., And Lee, Y. S., 2023, Highly Visible-Light-Responsive Nanoporous Nitrogen-Doped Tio2 (N-Tio2) Photocatalysts Produced By Underwater Plasma Technology For Environmental And Biomedical Applications, *Applied Surface Science*, *638*. Https://Doi.Org/10.1016/J.Apsusc.2023.158123

Lusiana, R. A., Nuryanto, R., Muna, N., Dayanti, D., Gunawan, Kiswandono, A. A., Annisa, R. N., Septevani, A. A., And Sasongko, N. A., 2024, High-Performance Sulfonated Polyether Sulfone/Chitosan Membrane On Creatinine Transport Improved By Lithium Chloride, *International Journal Of Biological Macromolecules*, *261*. Https://Doi.Org/10.1016/J.Ijbiomac.2024.129784

Lusiana, R. A., And Prasetya, N. B. A. W., 2020, Membran Dan Aplikasinya, In *Angewandte Chemie International Edition* (Issue 6).

Mahouche-Chergui, S., Guerrouache, M., Carbonnier, B., And Chehimi, M. M., 2013, Polymer-Immobilized Nanoparticles, *Colloids And Surfaces A: Physicochemical And Engineering Aspects*, *439*, 43–68. Https://Doi.Org/10.1016/J.Colsurfa.2013.04.013

Marmur, A., Volpe, C. Della, Siboni, S., Amirfazli, A., And Drelich, J. W., 2017, Contact Angles And Wettability: Towards Common And Accurate Terminology, *Surface Innovations*, *5*(1), 3–8. Https://Doi.Org/10.1680/Jsuin.17.00002

Medina, V. F., Griggs, C. S., Petery, B., Mattei-Sosa, J., Gurtowski, L., Waisner, S. A., Blodget, J., And Moser, R., 2017, Fabrication, Characterization, And Testing Of Graphene Oxide And Hydrophilic Polymer Graphene Oxide Composite Membranes In A Dead-End Flow System, *Journal Of Environmental Engineering*, *143*(11). Https://Doi.Org/10.1061/(Asce)Ee.1943-7870.0001268

Nugraheni, A. D., Purnawati, D., Rohmatillah, A., Mahardika, D. N., And Kusumaatmaja, A., 2020, Swelling Of Pva/Chitosan/Tio2 Nanofibers Membrane In Different Ph, *Materials Science Forum*, *990 Msf*, 220–224. Https://Doi.Org/10.4028/Www.Scientific.Net/Msf.990.220

Nur Ikhsan, T., And Ariadi Lusiana, R., 2024, Sintesis Membran Kitosan Tertaut Silang Tripolifosfat Dengan Paduan Polivinil Alkohol Untuk Permeasi Kreatinin, In *Greensphere: J. Environ. Chem* (Vol. 4, Issue 1).

Putu Sri Ayuni, N., Wayan Yuningrat, N., Yesi Andriani, K., Analis Kimia, J., And Matematika Dan Ilmu Pengetahuan Alam, F., 2016, *Adsorpsi-Desorpsi Zat Warna Azo Jenis Remazol Black B Menggunakan Membran Polielektrolit (Pec) Kitosan-Pektin* (Vol. 5, Issue 1).

Rahmawati, E. R., And Nazriati, N., 2022, Biosintesis Dan Karakterisasi Nanopartikel Tembaga Oksida (Cuo) Menggunakan Ekstrak Rimpang Kencur (Kaempferia Galanga L.), *Jurnal Teknik Kimia*, *28*(3), 141–151. Https://Doi.Org/10.36706/Jtk.V28i3.1232

Sekulic, T., Jovanović, V. S., And Kostić, V., 2024, *Geogebra Interactive Simulations In Analytical Chemistry Education : Example Of*, *September*, 190–195. Https://Doi.Org/10.46793/Tie24.190s

Septiawan, M. R., Permana, D., Sabarwati, S. H., Ahmad, L. O., And Ramadhan, L. O. A. N., 2018a, Functionalization Of Chitosan With Maleic Anhydride For Proton Exchange Membrane, *Indonesian Journal Of Chemistry*, *18*(2), 313–320. Https://Doi.Org/10.22146/Ijc.33141

Septiawan, M. R., Permana, D., Sabarwati, S. H., Ahmad, L. O., And Ramadhan, L. O. A. N., 2018b, Functionalization Of Chitosan With Maleic Anhydride For Proton Exchange Membrane, *Indonesian Journal Of Chemistry*, *18*(2), 313–320. Https://Doi.Org/10.22146/Ijc.33141

Setyaningsih, S., And Dewanti, A., 2022, *Sintesis Dan Karakterisasi Zeolit Mordenit (Mor) Secara Hidrotermal Menggunakan Kaolin Dan Abu Sekam Padi Sebagai Sumber Silika*, *12*(1).

Sharmin, N., Rosnes, J. T., Prabhu, L., Böcker, U., And Sivertsvik, M., 2022, Effect Of Citric Acid Cross Linking On The Mechanical, Rheological And Barrier Properties Of Chitosan, *Molecules*, *27*(16). Https://Doi.Org/10.3390/Molecules27165118

Sugiyana, D., And Soenoko, B., 2016, *Identifikasi Mekanisme Fotokatalitik Pada Degradasi Zat Warna Azo Reactive Black 5 Menggunakan Katalis Mikropartikel Tio 2 Identification Of Photocatalytic Mechanism In Degradation Of Reactive Black 5 Azo Dye Using Tio 2 Microparticle Catalyst*.

Susanto, H., 2015, Tersedia Online Di Http:// Ejournal-S1.Undip.Ac.Id/Index.Php/Tlingkungan, In *Jurnal Teknik Lingkungan* (Vol. 5, Issue 4). Http://Ejournal-S1.Undip.Ac.Id/Index.Php/Tlingkungan

Tapia-Tlatelpa, T., Trull, J., And Romeral, L., 2019, In Situ Decolorization Monitoring Of Textile Dyes For An Optimized Uv-Led/Tio2 Reactor, *Catalysts*, *9*(8), 1–15. Https://Doi.Org/10.3390/Catal9080669

Theakstone, A. G., Brennan, P. M., Jenkinson, M. D., Goodacre, R., And Baker, M. J., 2023, Investigating Centrifugal Filtration Of Serum-Based Ftir Spectroscopy For The Stratification Of Brain Tumours, *Plos One*, *18*(2 February). Https://Doi.Org/10.1371/Journal.Pone.0279669

Verma, G., And Mishra, M., 2018, Development And Optimization Of Uv-Vis Spectroscopy-A Review, *World J. Pharm. Res*, *7*(11), 1170–1180.

Wahyuni, E. T., Rahmaniati, T., Hafidzah, A. R., Suherman, S., And Suratman, A., 2021, Photocatalysis Over N-Doped Tio2 Driven By Visible Light For Pb(Ii) Removal From Aqueous Media, *Catalysts*, *11*(8). Https://Doi.Org/10.3390/Catal11080945

Wang, S., Gao, H., Fang, L., Hu, Q., Sun, G., Chen, X., Yu, C., Tang, S., Yu, X., Zhao, X., Sun, G., And Yang, H., 2021, Synthesis Of Novel Cqds/Ceo2/Srfe12o19 Magnetic Separation Photocatalysts And Synergic Adsorption-Photocatalytic Degradation Effect For Methylene Blue Dye Removal, *Chemical Engineering Journal Advances*, *6*. Https://Doi.Org/10.1016/J.Ceja.2021.100089

Windarti, T., Fenina Azalia Dewi Hascaryo, Dan, And Diponegoro, U., 2022, *Kitosan Termodifikasi Tripolifosfat Sebagai Kandidat Material Pelapis Artefak Kayu Tripolyphosphate Modified Chitosan As A Candidate For Wood Artifacts Coating Materials: Vol. Xvi* (Issue 1).

Xing, B., Shi, C., Zhang, C., Yi, G., Chen, L., Guo, H., Huang, G., And Cao, J., 2016, Preparation Of Tio2/Activated Carbon Composites For Photocatalytic Degradation Of Rhb Under Uv Light Irradiation, *Journal Of Nanomaterials*, *2016*. Https://Doi.Org/10.1155/2016/8393648

Yanto Rahman, D., And Sulistyowati, R., 2023, *Environmental Science Journal (Esjo): Jurnal Ilmu Lingkungan Aplikasi Fotokatalis Tio2 Dan Alternatifnya Untuk Degradasi Pewarna Sintetis Dalam Limbah Cair* (Vol. 1, Issue 2). Http://Journal.Univpgri-Palembang.Ac.Id/Index.Php/Esjo

Yitagesu, G. B., Leku, D. T., Seyume, A. M., And Workneh, G. A., 2024, Biosynthesis Of Tio2/Cuo And Its Application For The Photocatalytic Removal Of The Methylene Blue Dye, *Acs Omega*. Https://Doi.Org/10.1021/Acsomega.4c03472

Yurdakal, S., Garlisi, C., Özcan, L., Bellardita, M., And Palmisano, G., 2019, (Photo)Catalyst Characterization Techniques: Adsorption Isotherms And Bet, Sem, Ftir, Uv-Vis, Photoluminescence, And Electrochemical Characterizations, In *Heterogeneous Photocatalysis: Relationships With Heterogeneous Catalysis And Perspectives* (Pp. 87–152), Elsevier. Https://Doi.Org/10.1016/B978-0-444-64015-4.00004-3

Zhang, L., Ran, J., Qiao, S.-Z., And Jaroniec, M., 2019, Characterization Of Semiconductor Photocatalysts, *Chemical Society Reviews*, *48*(20), 5184–5206.

Zhou, W., And Wang, Z. L., 2007, *Scanning Microscopy For Nanotechnology: Techniques And Applications*, Springer Science. Https://Doi.Org/10.1007/978-0-387-39620-0

Zhu, G., Hojamberdiev, M., Zhang, W., Taj Ud Din, S., Joong Kim, Y., Lee, J., And Yang, W., 2020, Enhanced Photocatalytic Activity Of Fe-Doped Bi4o5br2 Nanosheets Decorated With Au Nanoparticles For Pollutants Removal, *Applied Surface Science*, *526*. Https://Doi.Org/10.1016/J.Apsusc.2020.146760