

DAFTAR PUSTAKA

- Abdelghany, A.M., Meikhail, M.S., and Asker, N., 2019, Synthesis and Structural-Biological Correlation of PVC/PVAc Polymer Blends, *J. Mater. Res. Technol.*, 8, 3908–3916.
- Aiyuk, S., Xu, H., van Haandel, A., and Verstraete, W., 2004, Removal of Ammonium Nitrogen from Pretreated Domestic Sewage Using a Natural Ion Exchanger, *Environ. Technol.*, 25, 1321–1330.
- Akhtar, K., Khan, S.A., Khan, S.B., and Asiri, A.M., 2018, Scanning Electron Microscopy : Principle and Applications in Nanomaterials Characterization, *Handb. Mater. Charact.*, 113–145.
- Al-Dhahebi, A.M., Saheed, M.S.M., and Mustapha, M., 2021, Effects of Solution Concentration on The Synthesis of Polyvinylidene Fluoride (PVDF) Electrospun Nanofibers, *Mater. Today Proc.*, 1–6.
- Andrews, L., Burkholder, T.R., Andrews, L., and Burkholder, T.R., 1992, Infrared Spectra of Molecular B(OH)₃ and HOBO in Solid Argon, *J. Chem. Phys.*, 97, 7203–7210.
- Apriyanti, D., Vera, S.I., and Yusraini, S., 2013, Pengkajian Metode Analisis Amonia dalam Air dengan Method Assessment For Ammonia Analysis In Water Using. 7(2)., *Ecolab*, 7, 49–108.
- Awad, R., Mamaghani, A.H., Boluk, Y., and Hashisho, Z., 2021, Synthesis and Characterization of Electrospun PAN-Based Activated Carbon Nanofibers Reinforced with Cellulose Nanocrystals for Adsorption of VOCs, *Chem. Eng. J.*, 410, 128412.
- Barboutsis, I., and Kamperidou, V., 2020, International Journal of Adhesion and Adhesives Shear Strength of Beech Wood Joints Bonded with Commercially Produced PVAc D3 Adhesives, *Int. J. Adhes. Adhes.*, 102774.
- Bismo, S., Irawan, K., Karamah, E.F., and Saksono, N., 2013, On The Production of OH Radical Through Plasma Electrolysis Mechanism for The Processing of Ammonia Waste Water, *J. Chem. Chem. Eng.*, 7, 6–12.
- Castro, K.C., Campos, M.G.N., and Mei, L.H.I., 2021, Hyaluronic Acid Electrospinning: Challenges, Applications in Wound Dressings and New Perspectives, *Int. J. Biol. Macromol.*, 173, 251–266.
- Chen, Q., Xu, S., Liu, Q., Masliyah, J., and Xu, Z., 2016, QCM-D study of Nanoparticle Interactions, *Adv. Colloid Interface Sci.*, 233, 94–114.
- Ding, P., Liu, R., Liu, S., Mao, X., Hu, R., and Li, G., 2013, Reusable Gold Nanoparticle Enhanced QCM Immunosensor for Detecting C-Reactive rotein, *Sensors Actuators, B Chem.*, 188, 1277–1283.
- Fan, B., Li, J., Wang, X., Chen, J., Gao, X., Li, W., Ai, S., Cui, L., Gao, S., and Liu, Z., 2021, Ammonia Spatiotemporal Distribution and Risk Assessment for Freshwater Species in Aquatic Acosystem in China, *Ecotoxicol. Environ. Saf.*, 207, .
- Forootan, A., Sjöback, R., Björkman, J., Sjögreen, B., Linz, L., and Kubista, M., 2017, Methods to Determine Limit of Detection and Limit of Quantification in Quantitative Real-Time PCR (qPCR), *Biomol. Detect. Quantif.*, 12, 1–6.
- Golshaei, R., Guler, Z., and Sarac, S.A., 2016, (Au / PANA / PVAc) nano fi bers

- as a novel composite matrix for albumin and streptavidin immobilization, *Mater. Sci. Eng. C*, 60, 260–275.
- Gregory, S.P., Dyson, P.J., Fletcher, D., Gatland, P., and Shields, R.J., 2012, Nitrogen Removal and Changes to Microbial Communities in Model Flood/Dnd Submerged Biofilters Treating Aquaculture Wastewater, *Aquac. Eng.*, 50, 37–45.
- Gupta, A., Ayithapu, P., and Singhal, R., 2021, Study of The Electric Field Distribution of Various Electrospinning Geometries and its Effect on The Resultant Nanofibers Using Finite Element Simulation, *Chem. Eng. Sci.*, 235, 116463.
- Hammami, I., Benhamou, K., Hammami, H., Soretoteixeira, S., Arous, M., Kaddami, H., Graça, P.F., and Costa, L.C., 2020, Electrical , Morphology and Structural Properties of Biodegradable Nanocomposite Polyvinyl-acetate / Cellulose Nanocrystals, *Mater. Chem. Phys.*, 240, 122182.
- Hampitak, P., Melendrez, D., Iliut, M., Fresquet, M., Parsons, N., Spencer, B., Jowitt, T.A., and Vijayaraghavan, A., 2020, Protein interactions and conformations on graphene-based materials mapped using quartz-crystal microbalance with dissipation monitoring (QCM-D), *Carbon N. Y.*, 165, 317–327.
- Hou, X., Lv, S., Chen, Z., and Xiao, F., 2018, Applications of Fourier Transform Infrared Spectroscopy Technologies on Asphalt Materials, *Measurement*, 121, 304–316.
- Hu, J., Huang, X., and Lin, H., 2018, Study on QCM Mass Sensitivity for Different Electrode Structures, *Proc. 2018 IEEE Int. Conf. Appl. Supercond. Electromagn. Devices, ASEMD 2018*, 1–2.
- Huang, H., Ding, L.L., Ren, H.Q., Geng, J.J., Xu, K., and Zhang, Y., 2015, Preconditioning of Model Biocarriers by Soluble Pollutants: A QCM-D study, *ACS Appl. Mater. Interfaces*, 7, 7222–7230.
- Hwang, H.T., and Varma, A., 2013, Effect of Boric Acid on Thermal Dehydrogenation of Ammonia Borane: Mechanistic Studies, *Int. J. Hydrogen Energy*, 38, 1925–1931.
- Ighalo, J.O., Adeniyi, A.G., Adeniran, J.A., and Ogunniyi, S., 2021, A Systematic Literature Analysis of The Nature and Regional Distribution of Water Pollution Sources in Nigeria, *J. Clean. Prod.*, 283, 124566.
- Jaffe, H.L., Rosenblum, F.M., and Daniels, W., 1990, Polyvinyl Acetate Emulsions for Adhesives, *Handb. Adhes.*, 381–400.
- Jespersen, N.D., Hyslop, A., and Brady, J.E., 2014, *Chemistry The Molecular Nature of Matter*, 7th ed. John Wiley & Sons, United States of America.
- Jiang, H., Sun, B., Zhu, H., Jin, Y., Shi, N., and Feng, J., 2020, Rapid on-chip Quantification of Ammonia Nitrogen Based on A ‘Flow and React’ Mechanism, *Int. J. Environ. Anal. Chem.*, 00, 1–12.
- Joseph, J., Sajeesh, A.K., Nagashri, K., Edinsha Gladis, E.H., Sharmila, T.M., and Justin Dhanaraj, C., 2021, Determination of Ammonia Content in Various Drinking Water Sources in Malappuram District, Kerala and its Removal by Adsorption Using Agricultural Waste Materials, *Mater. Today Proc.*, 45, 811–819.

- Kabay, G., Kaleli Can, G., and Mutlu, M., 2017, Amyloid-Like Protein Nanofibrous Membranes as a Sensing Layer Infrastructure for The Design of Mass-Sensitive Biosensors, *Biosens. Bioelectron.*, 97, 285–291.
- Kalantar-zadeh, K., 2013, *Sensor: An Introduction Course in Sensor*, Springer US, United States of America.
- Karri, R.R., Sahu, J.N., and Chimmiri, V., 2018, Critical Review of Abatement of Ammonia From Wastewater, *J. Mol. Liq.*, 261, 21–31.
- Khan, S.A., Khan, S.B., Khan, L.U., Farooq, A., Akhtar, K., and Asiri, A.M., 2018, Fourier Transform Infrared Spectroscopy: Fundamentals and Application in Functional Groups and Nanomaterials Characterization, *Handb. Mater. Charact.*, 317–344.
- Khotimah, H., Anggraeni, E.W., and Setianingsih, A., 2017, Karakterisasi Hasil Pengolahan Air Menggunakan Alat Destilasi, *Chemurgy*, 01, 34–38.
- Kisovec, M., Anderluh, G., Podobnik, M., and Caserman, S., 2020, In-Line Detection of Monoclonal Antibodies in The Effluent of Protein A Chromatography with QCM Sensor, *Anal. Biochem.*, 608, 113899.
- Kolská, Z., Polanský, R., Prosr, P., Zemanová, M., Ryšánek, P., Slepíčka, P., and Švorčík, V., 2018, Properties of Polyamide Nanofibers Treated by UV-A Radiation, *Mater. Lett.*, 214, 264–267.
- Kolya, H., and Kang, C.W., 2021, Polyvinyl Acetate/Reduced Graphene Oxide-Poly (Diallyl Dimethylammonium Chloride) Composite Coated Wood Surface Reveals Improved Hydrophobicity, *Prog. Org. Coatings*, 156, .
- Leal-Junior, A.G., Frizera, A., and Marques, C., 2020, High Sensitive Ammonia Detection in Water with Fabry-Perot Interferometers, *IEEE Photonics Technol. Lett.*, 32, 863–866.
- Li, D., Xu, X., Li, Z., Wang, T., and Wang, C., 2020, Detection Methods of ammonia Nitrogen in Water: A Review, *TrAC - Trends Anal. Chem.*, 127, 115890.
- Liu, D., Han, W., Mallik, A.K., Yuan, J., Yu, C., Farrell, G., Semenova, Y., and Wu, Q., 2016, High Sensitivity Sol-Gel Silica Coated Optical Fiber Sensor for Detection of Ammonia in Water, *Opt. Express*, 24, 24179.
- Lou, H., Zhang, Y., Xiang, Q., Xu, J., Li, H., Xu, P., and Li, X., 2012, The real-time detection of trace-level Hg 2+ in water by QCM loaded with thiol-functionalized SBA-15, *Sensors Actuators, B Chem.*, 166–167, 246–252.
- Luan, Y., Li, D., Wei, T., Wang, M., Tang, Z., Brash, J.L., and Chen, H., 2017, “Hearing Loss” in QCM Measurement of Protein Adsorption to Protein Resistant Polymer Brush Layers, *Anal. Chem.*, 89, 4184–4191.
- Luraghi, A., Peri, F., and Moroni, L., 2021, Electrospinning for Drug Delivery Applications: A review, *J. Control. Release*, 334, 463–484.
- Macakova, L., Blomberg, E., and Claesson, P.M., 2007, Effect of Adsorbed Layer Surface Roughness on the QCM-D Response: Focus on Trapped Water, *Langmuir*, 23, 12436–12444.
- Manasa, R.L., and Mehta, A., 2021, Current Perspectives of Anoxic Ammonia Removal and Blending of Partial Nitrifying and Denitrifying Bacteria for Ammonia Reduction in Wastewater Treatment, *J. Water Process Eng.*, 41, 102085.

- Morris, A.S., and Langari, R., 2012, *Measurement and Instrumentation Theory and Application*, Elsevier, United States of America.
- Mukhin, N., and Lucklum, R., 2019, QCM Based Sensor for Detecting Volumetric Properties of Liquids, *Curr. Appl. Phys.*, 19, 679–682.
- Ngibad, K., 2019, Penentuan Konsentrasi Ammonium dalam Air Sungai Pelayaran Ngelom, *J. Med. Lab. Sci. Technol.*, 2, 37–42.
- Ojstršek, A., Fakin, D., Hribernik, S., Fakin, T., Bračič, M., and Kurečič, M., 2020, Electrospun Nanofibrous Composites from Cellulose Acetate / Ultra-High silica Zeolites and Their Potential for VOC Adsorption from Air, *Carbohydr. Polym.*, 236, .
- Pal, R., 2018, Boric Acid in Organic Synthesis: Scope and Recent Developments, *Arkivoc*, 2018, 343–371.
- Paolo, P., Carewska, M., and Masci, A., 2015, A High Voltage Cathode Prepared by Using Polyvinyl Acetate as a Binder, *Solid State Ionics*, 274, 88–93.
- Pereao, O., Laatikainen, K., Bode-aluko, C., Kochnev, I., Fatoba, O., Nechaev, A.N., and Petrik, L., 2020, Separation and Purification Technology Adsorption of Ce 3 + and Nd 3 + by Diglycolic Acid Functionalised Electrospun Polystyrene Nanofiber from Aqueous solution, *Sep. Purif. Technol.*, 233, 116059.
- Prahasti, G., Zulfi, A., and Khairurrijal, K., 2020, Synthesis of Fiber Membranes From Polyvinyl Alcohol (PVA)/Shell Extract of Melinjo (SEM) Using Electrospinning Method, *Mater. Today Proc.*, 44, 3400–3402.
- Rianjanu, A., Hasanah, S.A., Nugroho, D.B., Kusumaatmaja, A., Roto, R., and Triyana, K., 2019, Polyvinyl Acetate Film-Based Quartz Crystal Microbalance for the Detection of Benzene , Toluene , and Xylene Vapors in Air, *chemosensors*, 7, 1–9.
- Rianjanu, A., Kusumaatmaja, A., Suyono, E.A., and Triyana, K., 2018, Solvent Vapor Treatment Improves Mechanical Strength of Electrospun Polyvinyl Alcohol Nanofibers, *Heliyon*, 4, e00592.
- Rianjanu, A., Roto, R., Julian, T., Hidayat, S.N., Kusumaatmaja, A., Suyono, E.A., and Triyana, K., 2018, Polyacrylonitrile Nanofiber-Based Quartz Crystal Microbalance for Sensitive Detection of Safrole, *Sensors (Switzerland)*, 18, 1–11.
- Rianjanu, A., Triyana, K., Nugroho, D.B., Kusumaatmaja, A., and Roto, R., 2020, Electrospun Polyvinyl Acetate Nanofiber Modified Quartz Crystal Microbalance for Detection of Primary Alcohol Vapor, *Sensors Actuators, A Phys.*, 301, 111742.
- Rodriguez-Pardo, L., Cao-Paz, A.M., and Fariña, J., 2018, Design and characterization of an active bridge oscillator as a QCM sensor for the measurement of liquid properties and mass films in damping media, *Sensors Actuators, A Phys.*, 276, 144–154.
- Roto, R., Rianjanu, A., Amaliya, I., Kusumaatmaja, A., and Triyana, K., 2020, Enhanced Sensitivity and Selectivity of Ammonia Sensing by QCM Modified with Boric acid-doped PVAc Nanofiber, *Sensors Actuators A Phys.*, 304, 111902.
- Roto, R., Rianjanu, A., Fatyadi, I.A., Kusumaatmaja, A., and Triyana, K., 2020,

- Enhanced Sensitivity and Selectivity of Ammonia Sensing by QCM Modified with Boric Acid-Doped PVAc Nanofiber, *Sensors Actuators, A Phys.*, 304, 111902.
- Roto, R., Rianjanu, A., Rahmawati, A., Fatyadi, I.A., Yulianto, N., Majid, N., Syamsu, I., Wasisto, H.S., and Triyana, K., 2020, Quartz Crystal Microbalances Functionalized with Citric Acid-Doped Polyvinyl Acetate Nanofibers for Ammonia Sensing, *ACS Appl. Nano Mater.*, 3, 5687–5697.
- Sahabuddin, E.S., 2012, Cemaran Air dan Tercapainya Lingkungan Sumber Daya Alam yang Berkelanjutan, *J. Publ. Pendidik.*, 11, 104–109.
- Schirhagl, R., 2014, Bioapplications for Molecularly Imprinted Polymers, *Anal. Chem.*, 86, 250–261.
- Schmidt, M.P., Siciliano, S.D., and Peak, D., 2021, Chemosphere The Role of Monodentate Tetrahedral Borate Complexes in Boric Acid Binding to a Soil Organic Matter Analogue, *Chemosphere*, 276, 130150.
- Selvasekarapandian, S., Baskaran, R., and Kamishima, O., 2006, Laser Raman and FTIR Studies on Li + Interaction in PVAc – LiClO₄ Polymer Electrolytes, 65, 1234–1240.
- Shrivastava, A., and Gupta, V., 2011, Methods for The determination of Limit of Detection and Limit of Quantitation of The Analytical Methods, *Chronicles Young Sci.*, 2, 21.
- Skoog, D.A., Holler, F.J., and Crouch, S.R., 2016, *Principles of Instrumental Analysis*, 7th ed. Cengage Learning, United States of America.
- Someswararao, M. V., Dubey, R.S., Subbarao, P.S.V., and Singh, S., 2018, Electrospinning Process Parameters Dependent Investigation of TiO₂ Nanofibers, *Results Phys.*, 11, 223–231.
- Sulistyoningsih, S.M., and Atmaja, L., 2014, Sintesis Perekat Polivinil Asetat Berbasis Pelarut Metanol yang Terstabilkan Oleh Disponil, *J. SAINS DAN SENI POMITS*, 1, 1–5.
- Teramura, Y., and Takai, M., 2018, Quartz Crystal Microbalance, *Compend. Surf. Interface Anal.*, 509–520.
- Triyana, K., Rianjanu, A., Nugroho, D.B., As'ari, A.H., Kusumaatmaja, A., Roto, R., Suryana, R., and Wasisto, H.S., 2019, A Highly Sensitive Safrole Sensor Based on Polyvinyl Acetate (PVAc) Nanofiber-Coated QCM, *Sci. Rep.*, 9, 1–12.
- Triyana, K., Sembiring, A., Rianjanu, A., Hidayat, S.N., Riowirawan, R., Julian, T., Kusumaatmaja, A., Santoso, I., and Roto, R., 2018, Chitosan-Based Quartz Crystal Microbalance for Alcohol Sensing, *Electronics*, 7, 1–11.
- Turon, X., Rojas, O.J., and Deinhammer, R.S., 2008, Enzymatic kinetics of cellulose hydrolysis: A QCM-D study, *Langmuir*, 24, 3880–3887.
- Ul-hamid, A., 2018, *A Beginners' Guide to Scanning Electron Microscopy*, Springer Nature Switzerland AG, Saudi Arabia.
- Vazquez-Quesada, A., Schofield, M.M., Tsortos, A., Mateos-Gil, P., Gizeli, E., and Buscalioni, R.D., 2020, Hydrodynamics of Quartz Crystal Microbalance Experiments with Liposome-DNA Complexes, *arXiv*, 10, 1.
- Veerabhadraiah, A., Ramakrishna, S., and Angadi, G., 2017, Development of Polyvinyl Acetate Thin Films by Electrospinning for Sensor Applications,

Appl. Nanosci.,.

- Wang, M., Wu, Y., Qiu, M., Li, Xuan, Li, C., Li, R., He, J., Lin, G., Qian, Q., Wen, Z., Li, Xiaoyan, Wang, Z., Chen, Qi, Chen, Qinghua, Lee, J., Mai, Y.W., and Chen, Y., 2021, Research Progress in Electrospinning Engineering for All-Solid-State Electrolytes of Lithium Metal Batteries, *J. Energy Chem.*, 61, 253–268.
- Wang, P., Su, J., Gong, L., Shen, M., Ruths, M., and Sun, H., 2015, Numerical Simulation and Experimental Study of Resonance Characteristics of QCM-P Devices Operating in Liquid and Their Application in Biological Detection, *Sensors Actuators, B Chem.*, 220, 1320–1327.
- Wasilewski, T., Szulczyński, B., Kamysz, W., Gębicki, J., and Namieśnik, J., 2018, Evaluation of Three Peptide Immobilization Techniques on A QCM Surface Related to Acetaldehyde Responses in The Gas Phase, *Sensors (Switzerland)*, 18, 1–15.
- Wu, H., Yin, S., Wang, L., Du, Y., Yang, Y., Shi, J., and Wang, H., 2021, Investigation on The Robust Adsorption Mechanism of Alkyl-Functional boric acid nanoparticles as high performance green lubricant additives, *Tribol. Int.*, 157, 106909.
- Xu, J., Pu, Y., Qi, W.K., Yang, X.J., Tang, Y., Wan, P., and Fisher, A., 2017, Chemical Removal of Nitrate from Water by Aluminum-Iron Alloys, *Chemosphere*, 166, 197–202.
- Yang, Y., Yu, J., Lu, Y., Xia, Y., Zhong, D., and Chen, X., 2013, High-Sensitivity Liquid Chromatography-Tandem Mass Spectrometry Method for The Simultaneous Determination of Sodium Picosulfate and its Three Major Metabolites in Human Plasma, *J. Chromatogr. B Anal. Technol. Biomed. Life Sci.*, 915–916, 1–7.
- Zhang, H., Zhong, H., Dou, F., Wang, C., and Wang, S., 2021, Electrospinning Bifunctional Polyphenylene-Vinylene/Heated Graphene Oxide Composite Nanofibers with Luminescent-Electrical performance, *Thin Solid Films*, 725, 138636.
- Zhang, X., Bai, L., Sun, J., Li, Z., Jia, Z., and Gu, J., 2020, Design and Fabrication of PVAc-based Inverted Core/Shell (ICS) Structured Adhesives for Improved Water-Resistant Wood Bonding Performance : II . Influence of Copolymerizing-Grafting sequential reaction, *Int. J. Adhes. Adhes.*, 99, 102571.
- Zulhilmi, Efendy, I., Syamsul Darwin, and Idawati, 2019, Faktor yang Berhubungan Tingkat Konsumsi Air Bersih pada Rumah Tangga di Kecamatan Peudada Kabupaten Bireun, *J. Biol. Educ.*, 7, 110–126.