

DAFTAR PUSTAKA

- Appl, M., 1999, *Ammonia: Principles and Industrial Practice*, Wiley-VCH, Weinheim.
- Biller, B. A. K., 2011, *Inquiry: the University of Arkansas undergraduate research journal*, 12, 29–37.
- Brigden, K., and Stringer, R., 2000, Ammonia and Urea Production : Incidents of Ammonia Release from the Profertil Urea and Ammonia Facility, Bahia Blanca, Argentina 2000. *Greenpeace Research Laboratories, Department of Biological Sciences, University of Exeter, Exeter, UK., December*, 4.
- Chen, J. Y., Penn, L. S., & Xi, J. ,2018, Quartz crystal microbalance: Sensing cell-substrate adhesion and beyond, *Biosensors and Bioelectronics*, 99, 593–602.
- Cheong, W. J., Yang, S. H., & Ali, F. ,2013, Molecular imprinted polymers for separation science: A review of reviews, *Journal of Separation Science*, 36, 609–628.
- Chuang, M. Y., Chen, C. C., Zan, H. W., Meng, H. F., & Lu, C. J. , 2017, Organic Gas Sensor with an Improved Lifetime for Detecting Breath Ammonia in Hemodialysis Patients. *ACS Sensors*, 2, 1788–1795.
- Çiçek, Ç., Yilmaz, F., Özgür, E., Yavuz, H., & Denizli, A. , 2016, Molecularly imprinted quartz crystal microbalance sensor (QCM) for bilirubin detection. *Chemosensors*, 4, 21.
- Das, R., Biswas, S., Bandyopadhyay, R., & Pramanik, P. ,2013, Polymerized linseed oil coated quartz crystal microbalance for the detection of volatile organic vapours, *Sensors and Actuators, B: Chemical*, 185, 293–300.
- Davies, S. J., Španěl, P., & Smith, D., 2014, Breath analysis of ammonia, volatile organic compounds and deuterated water vapor in chronic kidney disease and during dialysis, *Bioanalysis*, 6, 843–857.
- Diltemiz, S. E., Keçili, R., Ersöz, A., & Say, R. , 2017, Molecular Imprinting Technology in Quartz Crystal Microbalance (QCM) Sensors, *Sensors*, 17, 454.
- Dwynda, I., & Zainul, R.,2018, Boric Acid ($H_3(BO_3)$): Recognize The Molecular Interactions in Solutions. *INA-Rxiv Papers*,3, 1-28.
- Ekimova, M.,Quevedo, W., Szyc, Ł., Iannuzzi, M.,Wernet, P., Odelius, M., & Nibbering, E. T.J., 2017 , Aqueous Solvation of Ammonia and Ammonium: Probing Hydrogen Bond Motifs with FT-IR and Soft X-ray Spectroscopy, *Journal of the American Chemical Society*, 139 , 12773–12783.
- Erbil, Y. H. , 2000, *Vinyl Acetate Emulsion Polymerization and Copolymerization with Acrylic Monomers*, CRC Press LCC, Florida.

- Fatyadi, I. A. , 2020, Peningkatan Sensitivitas Sensor Ammonia Berbasis Quatz Crystal Microbalance dengan Lapisan Aktif Polyvynil Acetate yang didoping H_3BO_3 . *Tesis*, Universitas Gadjah Mada, Yogyakarta.
- Gouma, P., Kalyanasundaram, K., Yun, X., Stanaćević, M., & Wang, L. ,2010, Nanosensor and breath analyzer for ammonia detection in exhaled human breath. *IEEE Sensors Journal*, 10, 49–53.
- Glocker, David A., Shah, Ismat A., & Westwood , William D., 1995, *Handbook of Think Film Process Technology* , Institute of Physics Pub., Philadelphia.
- Histhiningtyas, K. A. ,2019, Molecular tmpringing chitosan basen on Quartz Crystal Microbalance Sensor for Gamma-Terpinene detection, *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Huang, R., Yi, P. and Tang, Y., 2017, Probing the interactions of organic molecules, nanomaterials, and microbes with solid surfaces using quartz crystal microbalances methodology, advantages, and limitations. *Environmental Science: Processes and Impacts*, 19 , 793–811.
- Huang, X., Bai, Q., Hu, Jianguo, & Hou, Dong, 2017, A practical model of quartz crystal microbalance in actual applications. *Sensors*, 17, 1–9.
- Hwang, H. T., & Varma, A. ,2013, Effect of boric acid on thermal dehydrogenation of ammonia borane: Mechanistic studies. *International Journal of Hydrogen Energy*, 38, 1925–1931.
- Jha, S. K., & Hayashi, K. ,2015, Polyacrylic acid polymer and aldehydes template molecule based MIPs coated QCM sensors for detection of pattern aldehydes in body odor. *Sensors and Actuators, B: Chemical*, 206, 471–487.
- Jia, Y., Yu, H., Zhang, Y., Dong, F., & Li, Z. ,2016, Cellulose acetate nanofibers coated layer-by-layer with polyethylenimine and graphene oxide on a quartz crystal microbalance for use as a highly sensitive ammonia sensor. *Colloids and Surfaces B: Biointerfaces*, 148, 263–269.
- Lee, S. K., Chang, D., & Kim, S. W. ,2014, Gas sensors based on carbon nanoflake/tin oxide composites for ammonia detection. *Journal of Hazardous Materials*, 268, 110–114.
- Liu, F., Liu, X., Ng, S. C., & Chan, H. S. O., 2006, Enantioselective molecular imprinting polymer coated QCM for the recognition of l-tryptophan. *Sensors and Actuators, B: Chemical*, 113, 234–240.
- Masturi, Mikrajuddin, & Khairrurijal, 2010, Efektivitas Polyvinyl Acetate (PVAc) Sebagai Matriks Pada Komposit Sampah. *Berkala Fisika*, 13, 61–66.
- Malini , Riccardo.I., Lesage, J., Toncelli, C., Fortunato, G., Rossi, René M., & Spano, Fabrizio, 2019, Crosslinking dextran electrospun nanofibers via borate chemistry: Proof of concept for wound patches. *European Polymer Journal*, 110, 276–282.

- Mingdi Yan, O. R. , 2005, *Molecularly Imprinted Materials: Science and Technology*. Marcel Dekker , New York .
- Mirzaei, A., Leonardi, S. G., & Neri, G., 2016, Detection of hazardous volatile organic compounds (VOCs) by metal oxide nanostructures-based gas sensors: A review. *Ceramics International*, 42, 15119–15141.
- Morris, A. S., 2001, *Measurement and Instrumentation Principles*. In *Measurement Science and Technology* , vol.12 , 3rd ed., Butterworth-Heinemann, Oxford.
- Nugroho, D. B. , 2018, Pengembangan Sensor Safrol berbasis Quartz Crystal Microbalance Dilapisi dengan Polyvinyl Acetate, *Tesis*, Universitas Gadjah Mada, Yogyakarta.
- Ogimoto, Y., Selyanchyn, R., Takahara, N., Wakamatsu, S., & Lee, S. W. , 2015, Detection of ammonia in human breath using quartz crystal microbalance sensors with functionalized mesoporous SiO₂ nanoparticle films. *Sensors and Actuators, B: Chemical*, 215, 428–436.
- Park, J. Y., Lee, I. H., & Bea, G. N. , 2008, Optimization of the electrospinning conditions for preparation of nanofibers from polyvinylacetate (PVAc) in ethanol solvent. *Journal of Industrial and Engineering Chemistry*, 14, 707–713.
- Procek, M., Stolarczyk, A., Pustelny, T., & Maciak, E. , 2015, A study of a QCM sensor based on TiO₂ nanostructures for the detection of NO₂ and explosives vapours in air. *Sensors*, 15, 9563–9581.
- Qin, H., Kulkarni, A., Zhang, H., Kim, H., Jiang, D., & Kim, T. , 2011, Polypyrrole thin film fiber optic chemical sensor for detection of VOCs. *Sensors and Actuators, B: Chemical*, 158, 223–228.
- Rianjanu, A., Nugroho, D. B., Kusumaatmaja, A., Roto, R., & Triyana, K., 2019, A study of quartz crystal microbalance modified with polyvinyl acetate nanofiber to differentiate short-chain alcohol isomers. *Sensing and Bio-Sensing Research*. 25, 100294.
- Roto, R., Rianjanu, A., Fatyadi, I. A., Kusumaatmaja, A., & Triyana, K. , 2020, Enhanced sensitivity and selectivity of ammonia sensing by QCM modified with boric acid-doped PVAc nanofiber. *Sensors and Actuators, A: Physical*, 304, 111902.
- Roto, R., Rianjanu, A., Rahmawati, A., Fatyadi, I. A., Yulianto, N., Majid, N., Syamsu, I., Wasisto, Hutomo S., & Triyana, K., Rianjanu, Rahmawati, A., 2020, Quartz Crystal Microbalances Functionalized with Citric Acid-Doped Polyvinyl Acetate Nanofibers for Ammonia Sensing , *ACS Applied Nano Materials*, 3, 5687–5697.
- Sauerbrey, G. Z. , 1959, The use of quartz oscillators for weighing thin layers and for microweighing. *Z.Phys.*, 155, 206–222.

- Sharma, P., Ghosh, A., Tudu, B., Sabhapondit, S., Baruah, B. D., Tamuly, P., Bhattacharyya, N., & Bandyopadhyay, R. ,2015, Monitoring the fermentation process of black tea using QCM sensor based electronic nose. *Sensors and Actuators, B: Chemical*, 219, 146–157.
- Shen, D., Kang, Q., Wang, Y. E., Hu, Q., & Du, J. ,2008, New cut angle quartz crystal microbalance with low frequency-temperature coefficients in an aqueous phase. *Talanta*, 76, 803–808.
- Shirasu, M., & Touhara, K. ,2011, The scent of disease: Volatile organic compounds of the human body related to disease and disorder. *Journal of Biochemistry*, 150, 257–266.
- Sroysee, W., Chunta, S., Amatongchai, M., & Lieberzeit, P. A. ,2019, Molecularly imprinted polymers to detect profenofos and carbofuran selectively with QCM sensors. *Physics in Medicine*, 7, 100016.
- Stone, S.A., Gosavi, P., Athauda, T.J., & Ozer, R., 2013, In situ citric acid crosslinking of alginate/polyvinyl alcohol electrospun nanofibers . *Materials Letters*, 112, 32–35.
- Triyana, K., Sembiring, A., Rianjanu, A., Hidayat, S. N., Riowirawan, R., Julian, T., Kusumaatmaja, A., Santoso, I., & Roto, R. ,2018, Chitosan-based quartz crystal microbalance for alcohol sensing. *Electronics*, 7, 1–11.
- Veerabhadraiah, A., Ramakrishna, S., Angadi, G., Venkatram, M., Kanivebagilu Ananthapadmanabha, V., Hebbale NarayanaRao, N. M., & Munishamaiah, K. ,2017, Development of polyvinyl acetate thin films by electrospinning for sensor applications. *Applied Nanoscience*, 7, 355–363.
- Wahyuni, F., Sakti, S. P., Juswono, U. P., Irawati, F., & Chabi, N. ,2012, Desain Konstruksi Sel untuk Immunosensor Berbasis Quartz Crystal Microbalance (QCM). *Jurnal Lingkungan Dan Kesehatan*, 1, 305–311.
- Wang, L., Kang, Y., Liu, X., Zhang, S., Huang, W., & Wang, S. ,2012, ZnO nanorod gas sensor for ethanol detection. *Sensors and Actuators, B: Chemical*, 162, 237–243.
- Wang, L., Wang, Z., Xiang, Q., Chen, Y., Duan, Z., & Xu, J. ,2017, High performance formaldehyde detection based on a novel copper (II) complex functionalized QCM gas sensor. *Sensors and Actuators, B: Chemical*, 248, 820–828.
- Xiao, L. ,2006, A study of detection of enantiomers and chemical analogues by molecular imprinted polymer coated quartz crystal microbalance technique, *Tesis* , National University of Singapore.