



DAFTAR PUSTAKA

- Abdullah, M., Lenggono, W., dan Okuyama, K. (2004). Polymer electrolyte nanocomposites, *Encyclopedia of Nanoscience and Nanotechnology*. 8, 731-762.
- Abdullah, M. (2009). Pengantar Nanosains. Penerbit ITB Bandung. Bandung.
- Agrawal, RC., Mahipal, YK., dan Ashrafi, R. (2011). Materials and ion transport property studies on hot-press casted solid polymer electrolyte membranes: [(1-x) PEO; x KIO_3]. *Solid State Ionics*. 192, 6-8.
- Akbulut, O., Taniguchi, S., Kumar, S., dan Mayes, AM. (2007). Conductivity hysteresis in polymer electrolytes incorporating poly(tetrahydrofuran). *Ielectrochimica Acta*. 52, 1983-1989.
- Alloin, F., Sanchez, JY., dan Armand, M. (1994). Electrochemical behavior of lithium electrolytes based on new polyether networks. *Journal Electrochemical Society*. 141, 1915-1921.
- Alves, R., Donoso, JP., Magon, CJ., Pawlicka, A., Silva, IDA., dan Silva, MM. (2016). Solid polymer electrolytes based on chitosan and europium triflate. *Journal of Non-Crystalline Solids*. 432, 307-12.
- Angell, P., J.H., Kim dan Lee (1983). Effect of PEO Additive on Membrane Formation by Phase Inversion. *Journal of Membrane Science*, 138, 153-163.
- Arora, P., dan Zhang, ZJ. (2004). Battery separators. *Chemistry Review*. 104, 4419-4462.
- Aso, K., Sakuda, A., Hayashi, A., dan Tatsumisago, M. (2013). All solid state lithium secondary batteries using NiS carbon fiber composite electrodes coated with Li₂S-P₂S₅ solid electrolytes by pulsed laser deposition. *ACS Applied Materials Interfaces*. 5, 686-690.
- Asnin, SN., Wahab, Permana, D., dan Ahmad, LO. (2016). Conductivity improvement of chitosan membranes through modification with lithium for lithium polymer battery application. *International Journal of Chemistry and Chemical Engineering*. 1, 65-69.
- Azizi, Samir., Alloin, F., Sanchez, JY., dan Dufresne, A. (2004). Cellulose nanocrystalss reinforced polyoxyethylene. *Polymer*. 45, 4149-4157.



- Basak, P., dan Manorama, S. V. (2004a). EUROPEAN POLYMER Poly (ethylene oxide) – polyurethane/poly (acrylonitrile) semi-interpenetrating polymer networks for solid polymer electrolytes: vibrational spectroscopic studies in support of electrical behavior *q*, 40, 1155–1162.
- Basak, P., dan Manorama, S. V. (2004b). PEO-PU/PAN semi-interpenetrating polymer networks for SPEs: influence of physical properties on the electrical characteristics, 167, 113–121. <http://doi.org/10.1016/j.ssi.2004.01.004>
- Basha, SK., Reddy, S., dan Rao, MC. (2018). Electrical conductivity studies on (1-x)[PVA/PVP]: x[MgCl₂{6H₂O}]blend polymer electrolytes. *AIP Conference Proceedings*. 050002, 1-5.
- Begin, F., dan Frackowiak, E. (2013). Electrode Materials wit pseudocapacitive properties. Wiley-VCH Verlag GmbH & Co. KGaA.
- Ben, Y., Oueslati, A., Maaloul, NK., Khirouni, K dan Gargouri, M. (2015). Conductivity study and correlated barrrier hopping (CBH) conduction mechanism in diphosphate compound. *Applied Physics A*. 120, 1537-1543.
- Berthier, C., Gorecki, W., Minier, M., dan Armand, M.B. (1983). Microscopic investigation of ionic conductivity in alkali metal salts - poly(ethylene oxide) adducts. *Solid State Ionic*, 11(1), 91-95.
- Buraidah, M. H., Teo, L. P., dan Arof, A. K. (2009). Conductivity Studies Of Chitosan Based Solid Polymer Electrolyte Incorporated With Ionic Liquid. *National Workshop on Functional Materials*, 117–121.
- Buraidah, M. H., Teo, L. P., Majid, S. R., Yahya, R., Taha, R. M., dan Arof, A. K. (2010). Characterizations of Chitosan-Based Polymer Electrolyte, 2010(Ii). <http://doi.org/10.1155/2010/805836>
- Chew, CL. (2005). Kajian Kekonduksian Ionik Terhadap Adunan Elektrolit Polimer PVC-Getah asli terekpoksi dan PVDF-getah asli terepoksi. Thesis. Fakulti Sains Universiti Teknologi Malaysia.
- Das, S., dan Ghosh, A. (2015). Effect of plasticizers on ionic conductivity and dielectric relaxation of PEO-LiClO₄ polymer electrolyte. *Electrochimica Acta*, 171, 59–65. <http://doi.org/10.1016/j.electacta.2015.04.178>
- Dey, A., Karan, S., dan De, SK. (2011). Structure, morphology and ionic conductivity of solid polymer electrolyte. *Materials Research Bulletin*. 46(11), 2009-2015.



- Didem dan Polat, Veysel. (2017). Improvement of electrochemical and structural properties of polycarbazole by simultaneous electrodeposition of chitosan. *Turkish Journal of Chemistry*. 41, 233-242.
- Dosono, JP., Lopes, LVS., Pawlicka, A., Fuentes, S., Retuert, PJ., dan Gonzalez, G. (2007). Nuclear magnetic resonance study of PEO-chitosan based polymer electrolytes. *Electrochimica Acta*. 53, 1455-1460.
- Du Pasquier, A., dan Tarascon, JM. (2000). A reversible inorganic electrochromic solution system. *Solar energy materials and solar cells*. 62(4), 431-439.
- Eka, Pratiwi. (2018). Sintesis membran elektrolit padat berbahan dasar kitosan. *Jurnal Sainsmat*. 2(2), 86-91.
- Elsabee, M. Z., Morsi, R. E., dan Al-Sabagh, A. M. (2009). Surface active properties of chitosan and its derivatives. *Colloids and Surfaces B: Biointerfaces*, 74(1), 1–16. <http://doi.org/10.1016/j.colsurfb.2009.06.021>
- Gay, FM. (1997). Polymer Electrolyte. The Royal Society of Chemistry. London.
- Ghadami, A., Taheri, A dan Nikfarjam. (2014). Ionic conductivity in Gelatin-Based Hybrid Solid Electrolytes: The non-trivial role of nanoclay. *J. Mater Sci Technol*. 30(11), 1096-1102.
- Gondaliya, N., Kanchan, DK., Sharma, P., dan Joge, P. (2011). Structural and Conductivity Studies of Poly(Ethylene Oxide)-Silver Triflate Polymer Electrolyte System. *Materials Sciences and Applications*. 2, 1639-1643.
- Gay, F., Armand, M. (1999). Polymer electrolytes. Di dalam: Jurgen O. Besenhard, editor. Handbook of battery materials. New York: Willey - VCH.
- Gray, F.M. (1991). Solid Polymer Electrolytes: Fundamentals and Applications, VCH Publishers , Weinheim, Germany.
- Gurusiddappa, J., Madhuri, W., Suvarna, RP., dan Dsan, KP. (2016). Studies on the morphology and conductivity of PEO/LiClO₄. *Materials Today: Proceeding*. 3, 1451-1459.
- Gyliene, O., Nivinskine, O., dan Razmute, I. (2006). Copper (II)-EDTA sorption onto chitosan and its regeneration applying electrolysis. *J. Hazard Mater*. 137: 1430-1437.



- Hayashi, A., Noi, K., Sakuda, A., dan Tatsumisago, M. (2012). Superionic glass-ceramic electrolytes for room-temperature rechargeable sodium batteries. *Nat Commun.* 3, 856.
- Helton, JA., F. Maristela, Kugemeir, CL., dan Arantes, Mabel Karina. (2017). Effect of shrimp shells milling on the molar mass of chitosan. *Polimeros.* 27(1), 41-47.
- Hosokawa, Mauo., Nogi, Kiyoshi., Naito, Makio., dan Yokoyama, Toyokazu. (2007). *Nanoparticle Technology Handbook.* 5-11.
- Ito, Y., Kanehori, K., Miyauchi, K., dan Kudo, T. (1987). Ionic conductivity of electrolytes formed from PEO-LiCF₃SO₃ complex with low molecular weight poly(ethylene glycol). *Journal of Materials Science.* 22, 1845-1849.
- Jiajie, Li. (2008). Characterization and performance improvement of chitosan films as affected by preparation method, synthetic polymers and blend ratios. Disertasi. The university of Tennessee.
- Jonscher, AK. (1977). The universal dielectric response. *Nature.* 267(5613), 673-679.
- Kaban, G., Hisar, O., Alak, G., dan Kaya, M. (2010). Microbiological and Chemical Properties of Bonito Fish (*Sarda sarda*) Fillets Packaged with Chitosan Film, odified Atmosphere and Vacuum, *Journal of the Faculty of Veterinary Medicine, University of Kafkas*, 16, 73-80.
- Kadir, M. F. Z., Majid, S. R., dan Arof, A. K. (2010). Plasticized chitosan-PVA blend polymer electrolyte based proton battery. *Electrochimica Acta*, 55(4), 1475–1482. <http://doi.org/10.1016/j.electacta.2009.05.011>
- Kaewpirom, S., dan Boonsang, S. (2006). Electrical response characterisation of poly(ethylene glycol) macromer (PEGM)/chitosan hydrogels in NaCl solution. *European Polymer Journal.* 42(7), 1609-1616.
- Karan, N. K., Pradhan, D. K., Thomas, R., Natesan, B., dan Katiyar, R. S. (2008). Solid polymer electrolytes based on polyethylene oxide and lithium trifluoro-methane sulfonate (PEO – LiCF₃SO₃): Ionic conductivity and dielectric relaxation, 179, 689–696. <http://doi.org/10.1016/j.ssi.2008.04.034>
- Karmakar, A., dan Ghosh, A. (2012). Dielectric permittivity and electric modulus of polyethylene oxide (PEO)-LiClO₄ composite electrolytes. *Current Applied Physics*, 12(2), 539–543. <http://doi.org/10.1016/j.cap.2011.08.017>
- Kartawidjaja, M., Abdurrochman, A., dan Rumeksa, E. Li(2008). Prosiding Semnas



Sains dan Teknologi-II. Unila. 105-115.

- Karuppasamy, K., Thanikalkarasan, S., Antony, R., dan Balakumar, S. (2012). Effect of nanochitosan on electrochemical, interfacial and thermal properties of composite solid polymer electrolytes. *Ionics*. 18, 737-745.
- Khan, TA., (2002). Reporting degree of deacetylation values of chitosan: The influence of analytical methods. *Journal Pharm Pharmaceutical Science*. 5(3), 205=212.
- Knauth, P. (2009). Inorganic solid Li ion conductors: An overview. *Solid State Ionics*. 180, 911-916.
- Kim, HY., Park, SS., dan Lim, ST. (2015). Preparation, characterization and utilization of starch nanoparticles, Colloid. *Surface B*. 126, 607 -620.
- Kim, J. Y., dan Kim, S. H. (1999). Ionic conduction behavior of network polymer electrolytes based on phosphate and polyether copolymers. *Solid State Ionic*. 124, 91–99.
- Kumar, Singh, BP., Sinha, TP., dan Singh, NK. (2011). Dielectric and impedance properties of $\text{Sr}(\text{Sm}_{0.5}\text{Nb}_{0.5})\text{O}_3$ ceramics. *Solid state Sci*.
- Kumar, V., Chary, T., Bhardwaj, S, Awasthi, AM., dan Reddy, SN. (2013). Dielectric relaxation, ionic conduction and complex impedance studies on NaNO_3 fast ion conductor. *Int. J. Mater. Sci. Appl.* 2, 173-178.
- Kumar, HMPN., Prabhakar, MN., Prasad, CV., Reddy, TVAK., dan Subha, MCS. (2010). Compatibility studies of chitosan/PVA blend in 2% aqueous acetic acid solution at 30 °C. *Carbohydrate Polymers*. 82, 251-255.
- Leceta, I., Guerrero, P., Cabezudo, S., dan KDL, Caba. (2013) Environmental assessment of chitosan-based films. *Journal of Cleaner Production*. 41, 312-320.
- Li, W., Dhan, JR., dan Wainwright, DS. (1994). Rechargeable lithium batteries with aqueous electrolytes. *Science*. 264, 1115-1118.
- Li, X., Zhang, Z., Li, S., Yang, L., dan Hirano, S. I. (2016). Polymeric ionic liquid-plastic crystal composite electrolytes for lithium ion batteries. *Journal of Power Sources*, 307, 678–683. <http://doi.org/10.1016/j.jpowsour.2016.01.032>
- Liang, X., Yang, Y., Jin, X., dan Cheng, J. (2016). Polyethylene Oxide-Coated Electrospun Polyimide Fibrous Separator for High-Performance Lithium-Ion



Battery. *Journal of Materials Science & Technology*, 32(3), 200–206.
<http://doi.org/10.1016/j.jmst.2015.11.006>

Lin, Hua, Qin, Lizhao, Hong, He dan Qing Li. (2015). Preparation of starch nanoparticles via high-energy ball milling. *Journal of Nano Research*. 40, 174-179. doi: 10.4028/www.scientific.net/JnanoR.40.174.

Linden, D. dan Reddy, TB. (2002). Primary Batteries-Introduction. *Handbook of batteries* 3Ed. USA. The McGraw-Hill companies, Inc. 164-200.

Liu, TY., Ma, Y., Yu, SF., Shi, J., dan Xue. (2011). The effect of ball milling treatment on structure and porosity of maize starch granule. *Innovative Food Science Emergency*, 12, 586-593.

Majid, SR., Arof, AK. (2007). Electrical behavior of proton-conducting chitosan-phosphoric acid-based electrolytes. *Physica B*. 355, 78-82.

Manish, S., Singh, J., Mishra, Rajneesh K., Singh, Manish K., Ojha, Animesh K., Yashpal, Madhu, Sudhanshu, Srivastava. (2014). Novel conducting lithium ferrite/chitosan nanocomposite: synthesis, characterization, magnetic and dielectric properties. *Current Applied Physics*. 14, 980-990.

Manthirman, A. (2008). Smart materials. New York: CRC Press.

Marcondes, R. F. M. S., Agostini, P. S. D., Ferreira, J., Girotto, E. M., Pawlicka, A., dan Dragunski, D. C. (2010). Amylopectin-rich starch plasticized with glycerol for polymer electrolyte application. *Solid State Ionics*, 181(13-14), 586–591. <http://doi.org/10.1016/j.ssi.2010.03.016>

Masoud, E. M., Bayoumy, W. A., dan Mousa, M. A. (2013). Organic – inorganic composite polymer electrolyte based on PEO – LiClO_4 and nano- Al_2O_3 filler for lithium polymer batteries : Dielectric and transport properties. *Journal of Alloys and Compounds*, 575, 223–228.

Meyer, W.H. (1998). Polymer Electrolytes for Lithium Ion Batteries. *Advance Materials*, 10, 6.

Mohamed, NS., Subban, RHY., Arof, AK. (1995). Polymer bateries fabricated from lithium complexed acetylated chitosan. *Journal of Power Sources*. 56, 153-156.

Morni, N. M., dan Arof, A. K. (1999). Chitosan – lithium triflate electrolyte in secondary lithium cells, 42–48.



Muzzarelli, R. A. A. (1983). Chitin and Its Derivatives : New Trends of Applied, 3, 53–75.

Nabok. A., (2000). Organic and Inorganic Nanostructure. Nanotechnology Series. Artech House.

Navaratnam, S., Ramesh, K., Ramesh, S., Sanusi, A., dan Arof, AK. (2015). Transport mechanism studies of chitosan electrolyte systems. *Electrochimica Acta*. 175, 68-73.

Nagesha, KV., M., Rajanish, dan Shivappa, D. (2013). A review on mechanical alloying. *International of Engineering Research and Applications (IJERA)*. 3(3), 921-924.

Neto, C. G. T., Giacometti, J. A., Job, A. E., Ferreira, F. C., Fonseca, J. L. C., dan Pereira, M. R. (2005). Thermal analysis of chitosan based networks. *Carbohydrate Polymers*, 62(2), 97–103. <http://doi.org/10.1016/j.carbpol.2005.02.022>

Nithya, H., Selvasekarapandian, S., Christopher, P., Arun Kumar, D., dan Kawamura, J. (2012). Effect of propylene carbonate and dimethylformamide on ionic conductivity of P(ECH-EO) based polymer electrolyte. *Electrochim Acta*. 66, 110-10.

Ohta, N., Takada, K., Zhang, L, dan Sasaki, T (2006). Enhancement of the high rate capability of solid state lithium batteries by nanoscale interfacial modification. *Advanced Materials*. 18, 2226-2229.

Oma, Ä. R. C. (2005). Effects of Hydrophilic Plasticizers on Mechanical , Thermal , and Surface Properties of Chitosan Films, 3950–3957.

Osada, I., Vries, H. De, Scrosati, B., dan Passerini, S. (2016). Ionic-Liquid-Based Polymer Electrolytes for Battery Applications *Angewandte*, 500–513. <http://doi.org/10.1002/anie.201504971>

Osman, Z., Ibrahim, ZA., dan Arof AK. (2001). Conductiviy enhancement due to ion dissociation in plasticized chitosan based polymer electrolytes. *Carbohydrate Polymers*. 4, 167-173.

Perrin-Sarazin, F., Sepehr, M., Bouricha, S., dan Denault, J. (2009). Potential of ball milling to improve clay dispersion in nanocomposites. *Polymer Engineering and Science*. 49(4), 651-665. <http://dx.doi.org/10.1002/pen.21295>.



- Pradhan, DK., Choudhary, RNP., dan Samantaray, BK. (2008). Studies of dielectric relaxation and AC conductivity behaviour of plasticized polymer nanocomposite electrolytes. *Int. J. Electrochem. Sci.* 3, 597-608.
- Quartarone, E., dan Mustarelli, P. (2011). Electrolytes for solid state lithium rechargeable batteries: recent advances and perspectives. *Chemistry Soc. Review*. 40, 2525-2540.
- Rajendran, S., Kannan, dan Mahendran, R. (2001). Ionic conduction studies in poly(methylmethacrylate)-polyethylene oxide hybrid polymer electrolytes with lithium salts. *Journal of Power Sources*. 96, 406-410.
- Ramesh, S., Yuen, T. F., dan Shen, C. J. (2008). Conductivity and FTIR studies on PEO – LiX [X: CF_3SO_3^- , SO_4^{2-}] polymer electrolytes, 69, 670–675. <http://doi.org/10.1016/j.saa.2007.05.029>
- Rinaudo, M. (2006). Chitin and chitosan: properties and applications. *Journal Polymer Science*. 31, 603-632.
- Rao, RP., Maohua, C., dan Adams, S. (2012). Preparation and characterization of NASICON type Li^+ ionic conductors. *Journal of Solid State Electrochemistry*. 16, 3349-3354.
- Riyanto, B., Maddu, A., dan Hasnedi, YW. (2010). Kemasan cerdas pendekripsi kebusukan fillet ikan nila. *Jurnal pengolahan hasil perikanan Indonesia*. 2, 129-141.
- Robert, G. (1970). Chitosan production routers and their role in determining the structure and properties of the product. In : Domard, et al. (eds.) *Advance in Chitin Sci.* 2, 22-31.
- Rusop, M., Borhan, MZ., dan Ahmad, Rohaya. (2013). Optimization of ball milling parameters to produce centella asiatica herbal nanopowders. *Journal of Nanostructure in Chemistry*. 3(1), 79.
- Sahu, G., Lin, Z, Li, J., Liu, Z., Dudney, N., dan Liang, C. (2014). Air-stable, high conduction solid electrolytes of arsenic substituted Li_4SnS_4 . *Energy Environment Science*. 7, 1053-1058.
- Sassi, M., Bettaibi, A., Queslati, A., Khirouni, K., dan Gargouri, M. (2015). Electrical conduction mechanism and transport properties of LiCrP_2O_7 compound. *J.Alloys compound*. 649, 642-648.



- Schaefer, JL., Lu, YS., Moganty, SS., Agarwal, P., dan Archer, LA. (2012). Electrolyte for high energy lithium batteries. *Applied Nanoscience*. 2, 91-109.
- Scrosati, B. (2000). Recent advances in lithium ion battery materials. *Electrochimica Acta*, 45, 2461-2466.
- Shukur, MF., Kadir, MfZ., dan Ahmad, R. (2011). Dielectric studies of proton conducting polymer electrolyte based on chitosan/PEO blend doped with NH_4NO_3 . *Advanced Materials Research*. 488, 583-587.
- Shukur, MF., Ithnin, R., Illias, HA., dan Kadir, MFZ. (2013). Proton conducting polymer electrolyte based on plasticized chitosan-PEO blend and application in electrochemical devices. *Optical Materials*. 35, 1834-1841.
- Shukur, MF., Ithnin, R., dan Kadir, MFZ. (2014). Protonic transport analysis of starch-chitosan blend based electrolytes and application in electrochemical device. *Molecular Crystal Liquid Crystal*. 603, 52-65.
- Shukur, MF., dan Kadir, MFZ. (2015). Hydrogen ion conducting starch-chitosan blend based electrolyte for application in electrochemical devices. *Electrochimica Acta*. 158, 152-165.
- Shukla, S. K., Mishra, A. K., Arotiba, O. A., dan Mamba, B. B. (2013). Chitosan-based nanomaterials: A state-of-the-art review. *International Journal of Biological Macromolecules*, 1-13.
- Silverstein, R.M., Bassler, G.C. dan Terence C.M. (1999). Spectrometric Identification of Organic Compounds. Fourth Edition New York : Jhon Wiley & Sons.
- Sivashanmugam, A., Kumar, TP., Renganathan, NG., Gopukumar, S., dan Garche, J. (2005). Electrochemical behavior of Sn/SnO₂ mixtures for use as anode in lithium rechargeable batteries. *J. Power Sources*. 144, 197-203.
- Smitha, B., Sridhar, S., dan Khan, AA. (2006). Chitosan-poly(vinyl pyrrolidone) blends as membranes for direct methanol fuel cell applications. *Journal of Power Sources*. 159, 846-854.
- Sreekanth, T. (2014). Investigation of Characterization of (PEO + NaClO₃ + Plasticizer) Based Polymer Electrolytes, 3(8), 2012–2014.
- Subban, RHY., Arof, K., dan Radhakrishna, S. (1996). Polymer batteries with chitosan electrolyte mixed with Sodium Perchlorate. *Material Science and Engineering*. B38, 156-160.



- Subohi, O., Bowen, CR., Malik, MM., dan Kurchania, R. (2016). Dielectric spectroscopy and ferroelectric properties of magnesium modified bismuth titanate ceramics. *J. Alloy Compound.* 688, 27-36.
- Sudaryanto, Yulianti, E., dan Heri, J. (2012). Pengembangan elektrolit padat berbasis kitosan untuk baterai kendaraan listrik. *Prosiding InSiNas*, 35–41.
- Sugita, P., Sjahriza, A., dan Lestari. (2009). Sintesis dan optimalisasi gel kitosan-gom guar. *J. Nature*, 9, 32-36.
- Sun, HY., Wong, YY., dan Wan, CC. (1999). Preparation and characterization of poly(vinyl chloride-co-vinyl acetate) based gel electrolytes for Li-ion batteries. *Journal of the Electrochemical Society*. 145, 1207-1211.
- Suthanthiraraj, SA., dan Sheeba, DJ. (2007). Structural investigation on PEO based polymer electrolytes dispersed with Al_2O_3 nanoparticles. *Ionics*. 13, 447-450.
- Tatsumisago, M., Nagao, M., dan Hayashi, A. (2013). Recent development of sulfide solid electrolytes and interfacial modification for all solid state rechargeable lithium batteries. *Journal Asian Ceramic*. 1, 17-25..
- Thangadurai, V., dan Weppner, W. (2006). Recent progress in solid oxide and lithium ion conducting electrolytes research. *Ionics*. 12, 81-92.
- Wan, Y., Katherine, Creber, AM., dan Tam Bui, V. (2003). Ionic conductivity of chitosan membranes. *Polymer*. 44, 1057-1065.
- Wang, F. M., Hu, C. C., Lo, S. C., Wang, Y. Y., dan Wan, C. C. (2009). The investigation of electrochemical properties and ionic motion of functionalized copolymer electrolytes based on polysiloxane. *Solid State Ionics*, 180(4-5), 405–411. <http://doi.org/10.1016/j.ssi.2009.01.006>
- Wieczorek, W., Florjanczyk, Z., dan Stevens, JR. (1995). Composite polyether based solid electrolytes. *Electrochimica Acta*. 40(13-14), 2251-2258.
- Wigayati, EM. (2009). Pembuatan dan karakterisasi lembaran untuk bahan anoda grafit pada baterai padat lithium. *Jurnal Fisika Himpunan Fisika Indonesia*. 9, 39-45.
- William, David B., Carter, dan C. Barry. (1996). Transmission Electron Microscopy. A Textbook for Material Science.



- Xu, XY, Bingxin, H., Jingyun, Y., Gang, P., dan Xiao, X. (2016). All solid state lithium batteries with inorganic solid electrolytes: Review of fundamental science. *Chinese Physics B.* 25, 263-272.
- Yahya, MZA., Arof, AK. (2003). Effect of oleic acid plasticizer on chitosan-lithium acetate solid polymer electrolytes. *European Polymer Journal.* 39, 897-902.
- Yang, M., dan Hou, J. (2018). Lapisanes in lithium ion batteries. *Lapisanes*, 2(3), 367–83. <http://doi.org/10.3390/lapisanes2030367>
- Yusof, YM., Shukur, MF., Illias, HA., dan Kadir, MFZ. (2014). Conductivity and electrical properties of corn starch-chitosan blend biopolymer electrolyte incorporated with ammonium iodide. *Royal Swedish Academic of Sciences.* IOP Publishing. 89, 035701.
- Yu, X., dan Manthiram, A. (2018). Electrode-electrolyte interfaces in lithium based batteries. *Energy Environment Science.* 11, 527-543.
- Zang, H., Saito, T., Nishikawa, K., Dong, T., Yazawa, K., dan Inoue, Y. (2010). Preparation and characterization of PEG-cross-linked chitosan hydrogel films with controllable swelling and enzymatic degradation behavior. *Carbohydrate Polymers*, 80(1), 260–265. <http://doi.org/10.1016/j.carbpol.2009.11.022>
- Zhang, H., Kulkarni, S., dan Wunder, S. L. (2007). Blends of POSS - PEO(n)₄₈ and High Molecular Weight Poly (ethylene oxide) as Solid Polymer Electrolytes for Lithium Batteries, 3583–3590.
- Zhang, J., Ma, C., Liu, J., Chen, L., Pan, A., dan Wei, W. (2016). Solid polymer electrolyte lapisanes based on organic / inorganic nanocomposites with star-shaped structure for high performance lithium ion battery. *Journal of Lapisane Science*, 509, 138–148. <http://doi.org/10.1016/j.memsci.2016.02.049>
- Zhang, M., Li, X. H., Gong, Y. D., Zhao, N. M., dan Zhang, X. F. (2002). Properties and biocompatibility of chitosan films modified by blending with PEG4000, 23, 2641–2648.
- Zhou, X., Yin, Y., Wang, Z. dan Balizer, E. (2011). Effect of hot pressing on the ionic conductivity of the PEO/LiCF₃SO₃ based electrolyte membranes. *Solid State Ionics.* 196, 18-24.