DAFTAR PUSTAKA

Anggraeni, A. (2016). *Pengembangan Courseware Multimedia Interaktif pada Sub Materi Terhadap Laju Reaksi untuk Siswa SMA.* (Skripsi). Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam, Universitas Pendidikan Indonesia, Bandung.

Arifin, & Anwar, S. (2015). Pengembangan bahan ajar IPA terpadu tema udara melalui four steps teaching material development. *Jurnal Ilmu Pendidikan dan Pengajaran,* 2, hlm. 1-11.

Azyedara, L. K., dan Mudzakir, A. (2008). *Grafit Limbah Baterei Terdispersi Cairan Ionik-Kristal Cair Ionik sebagai Sel Surya Tersensitisasi Zat Warna (Dye Sensitized Solar Cell, Dssc).*

Basu, K., Benetti, D., Zhao, H., Jin, L. Vetrone, F., Vomiero, A., & Rosei, F. (2016). Enhanced photovoltaic properties in dye sensitized solar cells by surface treatment of SnO_2 photoanodes. *Scientific Reports,* 1-10.

Best, R. M., Rowe, M., Ozuru, Y., & McNamara, D. S. (2011). Deep-level comprehension of science texts: the role of the reader and the text. *Uppincott Williams & Wilkins,* 25(1), 65-83.

Bybee, R. W. & Fuchs, B. (2006). Preparing the 21st century workforce: a new reform in science and technology education. *Journal of Research in Science Teaching,* 43(4), hlm. 349-352.

Cahyono, W. E. (2007). Pengaruh pemanasan global terhadap lingkungan bumi. *Jurnal LAPAN,* 8., 28-31.

Chamizo, J. A. (2011). A new definition of models and modeling in chemistry's teaching. *Science and Education, 22, 1613-1632.*

Chang, R. (2010) *Chemistry: Tenth Edition.* New York: McGraw Hill.

Chen, C. W. C. & Osman, K. (2017). Cultivating marginalized children's scientific literacy in facing the challenges of the 21st century. *K-12 STEM Education,* 3 (1), 167-177.

Contado, C. dan Pagnoni, A. (2008). TiO_2 in Commercial sunscreen lotion: flow field-flow fractionation and ICP-AES together for size analysis. *American Chemical Society,* 80, 7594–7608.

CS Toh (2016). *A-Level Study Guide – Chemistry: Edition H2.2.* Tanpa kota: Step-by-Step International Pte. Ltd.

Depdiknas (2008). *Panduan Pengembangan Bahan Ajar*. Jakarta: Dirjen Pendidikan Dasar dan Menengah Direktorat Pendidikan Menengah Umum.

Direktorat Pembinaan SMA (2017a). *Implementasi Pengembangan Kecakapan Abad 21 dalam Perencanaan Pelaksanaan Pembelajaran (RPP).* Jakarta: Kementerian Pendidikan dan Kebudayaan.

Direktorat Pembinaan SMA (2017b). *Panduan Penilaian oleh Pendidik dan Satuan Pendidikan Sekolah Menengah Atas.* Jakarta: Kementerian Pendidikan dan Kebudayaan.

Ferguson, L. E., Bråten, I., Strømsø, H. I., & Anmarkrud, Ø. (2013). Epistemic beliefs and comprehension in the context of reading multiple documents: Examining the role of conflict. *Elsevier,* 62, 100-114.

Firman, H. (2013). *Evaluasi Pembelajaran Kimia.* Bandung: Jurusan Pendidikan Kimia FPMIPA UPI.

Freemantle, M. (2010). *An Introduction to Ionic Liquids.* Cambridge: The Royal Society of Chemistry.

Gall, M. D., Gall, J. P., & Borg W. R. (2003). *Educational Research: An Introduction Seventh Edition.* Boston: Allyn and Bacon.

Gilbert, J. K., Boulter, C. J., & Elmer, R. (2000). *Positioning Models in Science Education and in Design and Technology Education.* Netherlands: Kluwer Academic Publishers.

Gunderson, L., D'Silva, R. A., dan Odo, D. M. (2014). *ESL (ELL) Literacy Instruction: A Guidebook to Theory and Practice.* New York: Routledge.

HAM, M. (2002). *Ilmu Kimia 3 untuk SMU/MA Kelas 3 Edisi Kedua.* Bandung: Acarya Media Utama.

Halme, J. (2002). *Dye-Sensitized Nanostructured and Organic Photovoltaic Cells: Technical Review and Preliminary Tests.* (Tesis). Faculty of Engineering and Architedcture, Helsinki University of Technology, Finlandia.

Hardian, A., Mudzakir, A. & Sumarna, O. (2010). Sintesis dan karakterisasi kristal cair ionik berbasis garam fatty imidazolinium sebagai elektrolit redoks pada sel surya tersensitasi zat warna. *Jurnal Sains dan Teknologi Kimia,* 7-16.

Harrison, A. G. & Treagust, D. F. (2000). A typology of school science models. *International Journal of Science Education,* 22 (9), 1011-1026.

Hernani, Mudzakir, A., & Sumarna, O. (2016). Ionic liquid material as modern context of chemistry in school. *Jurnal Pendidikan IPA Indonesia* (5), hlm. 63-68.

Hernani, Saefulloh, & Mudzakir, A. (2017). The first year pre-service teachers' chemical literacy in individual learning case using the fuel cell technology based-chemical enrichment book. *The 4th International Conference on Research, Implementation, and Education of Mathematics and Science (4th ICRIEMS),* 030007-1-030007-7.

Hernani, Ulum, L. L., & Mudzakir, A. (2017). Artificial muscles' enrichment text: chemical literacy profile of pre-service teachers. *The 4th International Conference on Research, Implementation, and Education of Mathematics and Science (4th ICRIEMS),* 030005-1-030005-8.

Hug, H., Bader, M., Mair, P. & Glatzel, T. (2014). Biophotovoltaics: Natural pigments in dye-sensitized solar cells. *Elsevier,* 216-225.

Ito, S. (2011). *Investigation of Dyes for Dye-Sensitized Solar Cells: Ruthenium-Complex Dyes, Metal Free Dyes, Metal-Complex Porphyrin Dyes, and Natural Dyes.* Croatia: InTech.

Jeng, M-J., Wung, Y-L., Chang L-B., & Chow, L. (2013). Particle size effects of TiO_2 layers on the solar efficiency of dye-sensitized solar cell. *International Journal of Photoenergy,* 1-9.

Jiao, Y., Zhang, F., dan Meng, S. (2011). *Dye Sensitized Solar Cells Principles and New Design.* Croatia: InTech.

Kalyanasundaram, K. (2010). *Dye-Sensitized Solar Cell.* Lausane: EPFL Press.

Kemdikbud (2013). *Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 69 Tahun 2013 tentang Kerangka Dasar dan Struktur Kurikulum Sekolah Menengah Atas/Madrasah Aliyah.* Jakarta: Kementrian Pendidikan dan Kebudayaan.

Kemdikbud (2017). *Model Silabus Mata Pelajaran Sekolah Menengah Atas/Madrasah Aliyah (SMA/MA): Mata Pelajaran Kimia.* Jakarta: Kementerian Pendidikan dan Kebudayaan.

Kemdiknas (2008). *Peraturan Menteri Pendidikan Nasional Republik Indonesia Nomor 2 Tahun 2008.* Jakarta: Kementrian Pendidikan Nasional.

Kemdiknas (2011). *Contoh Standar/Spesifikasi Teknis Buku Pengayaan.* Jakarta: Kementerian Pendidikan Nasional.

Keputusan Kepala Pusat Kurikulum da Perbukuan Balitbang Kementerian Pendidikan dan Kebudayaan Nomor: 12933/H3.3/PB/2016 tentang Penetapan Buku Pengayaan Pengetahuan, Buku Pengayaan Keterampilan, Buku Pengayaan Kepribadian, Buku Referensi, Buku Pengayaan Pendidikan Anak Usia Dini (PAUD), dan Buku Panduan Pendidik sebagai Buku Nonteks Pelajaran yang Memenuhi Syarat Kelayakan untuk Digunakan sebagai Sumber Belajar pada Jenjang Pendidikan Dasar dan Menegah.

Khoja, A. (2012). *Solar Cell.* Bikaner: Government Engineering College Bikaner.

Kirchner, B. (2009). *Ionic Liquids.*Berlin: Springer.

Lalasaria, L.H., Arinia, T., Yuwonob, A.H., dan Firdiyonoa, F. (2015). Pengaruh Pencampuran dan Rasio Dopan/Presekursor dalam Pembuatan Lapisan Tipis Fluorine Doped Tin Oxide (FTO) Berbasis Timah (II) Klorida. *Journal Pusat Penelitian Metalurgi dan Material LIPI, 3: 105-114.*

Lee, C-P., Li, C-T., & Ho, K-C. (2017). Use of organic materials in dye-sensitized solar cells. *Elsevier,* 1-17.

Maryani, I. dan Fatmawati, L. (2015). *Pendekatan Scientific dalam Pembelajaran di Sekolah Dasar (Teori dan Praktik).* Sleman: Deepublish.

McFarlane, D. A. (2013). Understanding the challenges of science education in the 21st century: new pportunities for scientific literacy. *International Letters of Social and Humanistic Sciences,* 4, 35-44.

Mudzakir, A., Anwar, B., Kurnia, Sunarya, Y., Ellyawati, & Wulan, D. (2014). School chemistry experiments and teaching materials on ionic liquids: a new electrolyte for dye sensitized solar cell (DSSC). *International Conference on Mathematics, Science, and Education 2014,* C-61 – C-66.

Mudzakir, A., Hernani, Widhiyanti, T., & Sudrajat, D. P. (2017). Contribution from philosophy of chemistry to chemistry education: In a case of ionic liquids as technochemistry. *AIP Conference Proceedings,* 030012-1-030012-12.

Mukarromah. (2016). *Pengaruh Waktu Perendaman Nanokomposit MgO-SnO_2 pada Larutan Ekstrak Daun Jati dan Buah Mangsi terhadap Efisiensi Dye Sensitized Solar Cell (DSSC).* (Skripsi). Fakultas Sains dan Teknologi, Universitas Islam Negeri Maulana Malik Ibrahim, Malang.

Next Generation Science Standards (NGSS) (2014). *Solar Energy Conversion: Making a Dye-Sensitized TiO_2 Solar Cell.* [Online]. Diakses dari http://thesolararmy.org/wp-content/uploads/2014/12/DSSC-Revisions-High-School-Lesson-Plan-Final.pdf.

O'Dea, J. (2014). *How the Berry Solar Cell Works.* Doha: Cornell University.

OECD (2016a). *PISA 2015 Assessment and Anaytical Framework: Science, Reading, Mathematic, and Financial Literacy.* Paris: OECD Publishing.

OECD (2016b). *PISA 2015 Results: Excellence and Equity in Education Volume I.* Paris: OECD Publishing.

Ola, O. & Maroto-Valer, M.M. (2015). Review of material design and reactor engineering on TiO_2 photocatalysis for CO_2 reduction. *Elsevier,* 24, 16-24.

Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 69 Tahun 2013 tentang Kerangka Dasar dan Struktur Kurikulum Sekolah Menengah Atas/Madrasah Aliyah.

Purwanto, R. dan Prajitno, G. (2013). Variasi Kecepatan dan Waktu Pemutaran Spin Coating dalam Pelapisan TiO_2 untuk Pembuatan dan Karakterisasi Prototipe DSSC dengan Ekstraksi Kulit Manggis (Garcinia Mangostana) sebagai Dye Sensitizer. *Jurnal Sains dan Seni POMITS,* 1, 1-7.

Pusbuk (2008). *Pedoman Penulisan Buku Nonteks (Buku Pengayaan, Referensi, dan Panduan Pendidik).* Jakarta: Pusat Perbukuan Departemen Pendidikan Nasional.

Rasagama, I. G. (2011). *Memahami Implementasi "Educational Research and Development.* Bandung: Politeknik Negeri Bandung.

Richlin, L. (2006). *Blueprint for Learning: Constructing College Courses to Facilitate, Assess, and Document Learning.* Virginia: Stylus Publishing.

Schwarz, C. V., Reiser, B. J., Davis, E. A., Kenyon, L., Acher, A., Fortus, D., … Krajcik, J. (2009). Developing a learning progression for scientific

modeling: making scientific modeling accessible and meaningful for learners. *Journal of Research in Science Teaching,* 46 (6), 632-654).

Seehra, M. S., Geddam, U. K., Schwegler-Berry, D., & Stefaniak, A. B. (2015). Detection and quantification of 2H and 3R phases in commercial graphene-based materials. *Elsevier*, 818-823. doi: 10.1016/j.carbon.2015.08.109.

Septina, W., Fajarisandi, D., dan Aditia, M. (2007*). Pembuatan Prototipe Solar Cell Murah dengan Bahan Organik-Inorganik (Dye-sensitized Solar Cell).* Bandung: Institut Teknologi Bandung.

Setiadi, R., Siswaningsih, W., & Kamil, Y. M. (2004). Pembuatan software multimedia interaktif pembelajaran kimia ada pokok bahasan larutan elektrolit. *Seminar Nasional Penelitian dan Pendidikan Kimia,*

Setiadi, R. (2014). *Penerapan Analisis Wacana dalam Pengembangan Bahan Ajar.* Bandung: Jurusan Pendidikan Kimia FPMIPA UPI.

Shobirin, M. (2016). *Konsep dan Implementasi Kurikulum 2013 di Sekolah Dasar.* Yogyakarta: Deepublish.

Singh, D.P., Kothari, R., dan Tyagi, V. V. (2016). *Emerging Energy Alternatives for Sustainable Environment. New* Delhi: TERI.

Suhaimi, S., Shahimin, M. M., Alahmed, Z. A., Chysky, J., & Reshak, A. H. (2015). Materials for enhance dye-sensitized solar cell performance: electrochemical application. *International journal electrochemical Science,* 10, 2859-2871.

Sunarya, Y. & Setiabudi, A. (2009). *Mudah dan Aktif Belajar Kimia untuk Kelas XII Sekolah Menengah Atas/Madrasah Aliyah Program Ilmu Pengetahuan Alam.* Jakarta: Pusat Perbukuan Departemen Pendidikan Nasional.

Sunarya, Y. & Setiadi, R. (2012). Pengembangan multimedia berbasis karakter konsep dan berorientasi pada keterampilan berpikir kritis. *Jurnal Pengajaran MIPA,* 17(1), 86-95.

Susilana, R. dan Riyana, C. (2009). *Media Pembelajaran: Hakikat, Pengembangan, Pemanfaatan, dan Penilaian.* Bandung: CV Wacana Prima.

Suyatno, dkk. (2004). *Kimia SMA Kelas 3.* Bandung: Grasindo.

Tala, S. (2009). Unified view of science and technology for education: technoscience and technoscience education. *Science and Education,* 18, 275-298.

The McGraw-Hill Companies. (2003). *Dictionary of Chemistry: Second Edition.* USA: The McGraw-Hill Companies.

Thiagarajan, S., Semmel, D. S & Semmel, M. I. (1974). *Instructional Development for Training Teachers of Expectional Children.* Minneapolis: Leadership Training Institute/Special Education, University of Minnesota.

Thomas, K. (2005). *Learning Taxonomies In The Cognitive, Affective, and Psychomotor Domain.* White paper, Rocky Mountain Alchemy.

Tim Pengembangan Ilmu Pendidikan. (2007). *Ilmu dan Aplikasi Pendidikan: Bagian 2 Ilmu Pendidikan Praktis.* Bandung: PT. IMTIMA.

Tiwari, A. & Demir, M. A. (2014). *Advance Materials Series: Advanced Sensor and Detection Materials.* Salem: Scrivener Publishing.

Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 tentang Sistem Pendidikan Nasional.

Utami, A. N. (2016). *Pengembangan Lembar Kerja Inkuiri Terbimbing Konteks Sel Surya Tersensitasi Zat Warna (Dye Sensitized Solar Cell, DSSC) untuk Membangun Literasi Kimia Siswa SMA.* (Skripsi). Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam, Universitas Pendidikan Indonesia, Bandung.

Wali, Q., Fakharuddin, A., & Jose, R. (2015). Tin oxide as a photoanode for dye-sensitised solar cells: Current progress and future challenges. *Elsevier,* 1039-1052.

Walstra, P. (2001). *Physical Chemistry of Foods.* New York: Marcel Dekker, Inc.

Wei, D. & Amaratunga, G. (2007). Photoelectrochemical Cell and Its Applications in Optoelectronics. *International journal electrochemical Science,* 2, 897-912.

Whitten, K. W., Davis, R. E., Peck, M. L., & Stanley, G. G. (2014). *General Chemistry: Seventh Edition.* USA: Thomson Brooks/Cole.

Wilke, T. dan Waitz, T. (2014). 'NANO' – An attractive dimension for school chemistry education. *International Conderence New Perspectives in Science Education,* 82-86.

Wright, M. R. (2007). *An Introduction to Aqueous Electrolyte Solutions.* Chichester: John Wileu & Sons, Ltd.

Xu, Y. (2011). Principles of constructing multiple-choice in reading comprehension of CET-4 and their enlightening to general college english teaching. *International Journal of English Linguistics,* 1(1), 219-222.

Yamanaka, N., Kawano, R., Kubo, W., Kitamura, T., Wada, Y., Watanabe, M., & Yanagida, S. (2005). Ionic liquid crystal as a hole transport layer of dye-sensitized solar cells. *The Royal Society of Chemistry,* 740-742.

Yenni, R., Hernani, & Widodo, A. (2017). The implementation of integrated science teaching materials based socio-scientific issues to improve students scientific literacy for environmental pollution theme. *AIP Conference Proceedings,* 060002-1-060002-4.

Zhang, X., Huang, X., & Jiang, H. (2013). Recovering degraded quasi-solid-state dye-sensitized solar cells by applying electrical pulses. *The Royal Society of Chemistry,* 6864-6869.

Zulkifili, A. N., Kento, T., Daiki, M., dan Fujiki, A. (2015). The Basic Research on the Dye-Sensitized Solar Cells (DSSC). *Journal of Clean Energy Technologies,* 3, 382-387.