REFERENCES

Abhilash, V., Rajender, N., & Suresh, K. (2016). X-ray diffraction spectroscopy of polymer nanocomposites. In *Spectroscopy of Polymer Nanocomposites*. Elsevier Inc. https://doi.org/10.1016/B978-0-323-40183-8.00014-8

Ajayi, S. M., Olusanya, S. O., Sodeinde, K. O., Olumayede, E. G., Lawal, O. S., Didunyemi, A. E., Atunde, M. O., & Fapojuwo, D. P. (2022). Application of hydrophobically modified cellulose from oil palm frond in Pickering emulsions stabilization. *Carbohydrate Polymer Technologies and Applications*, *4*(September), 100248. https://doi.org/10.1016/j.carpta.2022.100248

Alizadeh Asl, S., Mousavi, M., & Labbafi, M. (2017). Synthesis and Characterization of Carboxymethyl Cellulose from Sugarcane Bagasse. *Journal of Food Processing & Technology*, *08*(08). https://doi.org/10.4172/2157-7110.1000687

Aravamudhan, A., Ramos, D. M., Nada, A. A., & Kumbar, S. G. (2014). Natural Polymers: Polysaccharides and Their Derivatives for Biomedical Applications. In *Natural and Synthetic Biomedical Polymers* (pp. 67–89). Elsevier. https://doi.org/10.1016/B978-0-12-396983-5.00004-1

Baharudin, K. B., Abdullah, N., & Derawi, D. (2018). Effect of calcination temperature on the physicochemical properties of zinc oxide nanoparticles synthesized by coprecipitation. *Materials Research Express*, *5*(12), 125018. https://doi.org/10.1088/2053-1591/aae243

Calzaferri, G., Gallagher, S. H., Lustenberger, S., Walther, F., & Brühwiler, D. (2023). Multiple equilibria description of type H1 hysteresis in gas sorption isotherms of mesoporous materials. *Materials Chemistry and Physics*, *296*(December 2022), 127121. https://doi.org/10.1016/j.matchemphys.2022.127121

Clark, W. R., Ferrari, F., & Ronco, C. (2019). Sorbents. In *Critical Care Nephrology* (Third Edit, pp. 1137-1154.e2). Elsevier. https://doi.org/10.1016/B978-0-323-44942-7.00189-8

Czarna-Juszkiewicz, D., Cader, J., & Wdowin, M. (2020). From coal ashes to solid sorbents for hydrogen storage. *Journal of Cleaner Production*, *270*, 122355. https://doi.org/10.1016/j.jclepro.2020.122355

Dercz, G., Prusik, K., Pajak, L., Pielaszek, R., Malinowski, J. J., & Pudlo, W. (2009). Structure studies on nanocrystalline powder of MgO xerogel prepared by the sol-gel method. *Materials Science- Poland*, *27*(1), 201–207.

Dürig, T., & Karan, K. (2019). Binders in Wet Granulation. In *Handbook of Pharmaceutical Wet Granulation* (pp. 317–349). Elsevier. https://doi.org/10.1016/B978-0-12-810460-6.00010-5

Elberry, A. M., Thakur, J., Santasalo-Aarnio, A., & Larmi, M. (2021). Large-scale compressed hydrogen storage as part of renewable electricity storage systems. *International Journal of Hydrogen Energy*, *46*(29), 15671–15690.

https://doi.org/10.1016/j.ijhydene.2021.02.080

Elberry, A. M., Thakur, J., & Veysey, J. (2021). Seasonal hydrogen storage for sustainable renewable energy integration in the electricity sector: A case study of Finland. *Journal of Energy Storage*, *44*(PB), 103474. https://doi.org/10.1016/j.est.2021.103474

Ergun, R., Guo, J., & Huebner-Keese, B. (2016). Cellulose. In *Encyclopedia of Food and Health* (pp. 694–702). Elsevier. https://doi.org/10.1016/B978-0-12-384947-2.00127-6

Escobar-Alarcón, L., Iturbe-García, J. L., González-Zavala, F., Solis-Casados, D. A., Pérez-Hernández, R., & Haro-Poniatowski, E. (2019). Hydrogen production by ultrasound assisted liquid laser ablation of Al, Mg and Al-Mg alloys in water. *Applied Surface Science*, *478*, 189–196. https://doi.org/10.1016/j.apsusc.2019.01.213

Fest, A., Tristán, F., Perez-vigueras, W., Labrada-delgado, G. J., Meneses-rodríguez, D., & Vega-díaz, S. M. (2023). Metal decorated carbon nanotube aerogels from sodium polyacrylate crosslinking by divalent ions. *Carbon Trends*, *10*(September 2022), 100235. https://doi.org/10.1016/j.cartre.2022.100235

Hasanuzzaman, M., Islam, M. A., Rahim, N. A., & Yanping, Y. (2019). Energy demand. In *Energy for Sustainable Development: Demand, Supply, Conversion and Management*. Elsevier Inc. https://doi.org/10.1016/B978-0-12-814645-3.00003-1

Hassan, I. A., Ramadan, H. S., Saleh, M. A., & Hissel, D. (2021). Hydrogen storage technologies for stationary and mobile applications: Review, analysis and perspectives. *Renewable and Sustainable Energy Reviews*, *149*(May), 111311. https://doi.org/10.1016/j.rser.2021.111311

Hienuki, S., Mitoma, H., Ogata, M., Uchida, I., & Kagawa, S. (2021). Environmental and energy life cycle analyses of passenger vehicle systems using fossil fuel-derived hydrogen. *International Journal of Hydrogen Energy*, *46*(73), 36569–36580. https://doi.org/10.1016/j.ijhydene.2021.08.135

Huang, T., Huang, X., Hu, C., Wang, J., Liu, H., Ma, Z., Zou, J., & Ding, W. (2021). Enhancing hydrogen storage properties of MgH2 through addition of Ni/CoMoO4 nanorods. *Materials Today Energy*, *19*, 100613. https://doi.org/10.1016/j.mtener.2020.100613

Inkson, B. J. (2016). Scanning electron microscopy (SEM) and transmission electron microscopy (TEM) for materials characterization. In *Materials Characterization Using Nondestructive Evaluation (NDE) Methods* (pp. 17–43). Elsevier. https://doi.org/10.1016/B978-0-08-100040-3.00002-X

International Energy Agency. (2020). Global Energy Review 2019. In *Global Energy Review 2019*. https://doi.org/10.1787/90c8c125-en

Ishii, T., & Kyotani, T. (2016). Temperature Programmed Desorption. In *Materials*

Science and Engineering of Carbon. Tsinghua University Press Limited. https://doi.org/10.1016/b978-0-12-805256-3.00014-3

Ji, Y., Zou, H., Zhang, P., Ding, H., Yang, X., Li, B., Wei, J., & Wei, X. (2020). Carbon aerogels with mutual support structures constructed by hybrid hydrogels: Robust energy storage materials. *Materials Today Communications*, *25*, 101444. https://doi.org/10.1016/j.mtcomm.2020.101444

Kayfeci, M., & Keçebaş, A. (2019). Hydrogen storage. In *Solar Hydrogen Production* (pp. 85–110). Elsevier. https://doi.org/10.1016/B978-0-12-814853-2.00004-7

Li, X., Zhang, H., Zhao, B., & Zhang, Y. (2020). Preparation of hydrogen storage carbon materials using bio-oil heavy components as carbon-containing precursor. *Fuel Processing Technology*, *203*(February), 106386. https://doi.org/10.1016/j.fuproc.2020.106386

Mehrabi, M., Reyhani, A., Parvin, P., & Mortazavi, S. Z. (2019). Surface structural alteration of multi-walled carbon nanotubes decorated by nickel nanoparticles based on laser ablation/chemical reduction methods to enhance hydrogen storage properties. *International Journal of Hydrogen Energy*, *44*(7), 3812–3823. https://doi.org/10.1016/j.ijhydene.2018.12.122

Millet, P. (2014). Hydrogen storage in hydride-forming materials. In *Advances in Hydrogen Production, Storage and Distribution* (pp. 368–409). Elsevier. https://doi.org/10.1533/9780857097736.3.368

Min, X., Chai, D., Ding, K., Li, R., & Zhang, X. (2023). Hydrogen generation by hydrolysis of solid sodium borohydride for portable PEMFC applications. *Fuel*, *350*, 128777. https://doi.org/10.1016/j.fuel.2023.128777

Mohamed, M. A., Jaafar, J., Ismail, A. F., Othman, M. H. D., & Rahman, M. A. (2017). Fourier Transform Infrared (FTIR) Spectroscopy. In *Membrane Characterization*. Elsevier B.V. https://doi.org/10.1016/B978-0-444-63776-5.00001-2

Montes, S., & Maleki, H. (2020). Aerogels and their applications. In *Colloidal Metal Oxide Nanoparticles* (pp. 337–399). Elsevier. https://doi.org/10.1016/B978-0-12-813357-6.00015-2

Naderi, M. (2015). Surface Area. In *Progress in Filtration and Separation* (pp. 585–608). Elsevier. https://doi.org/10.1016/B978-0-12-384746-1.00014-8

Olabi, A. G., bahri, A. saleh, Abdelghafar, A. A., Baroutaji, A., Sayed, E. T., Alami, A. H., Rezk, H., & Abdelkareem, M. A. (2021). Large-vscale hydrogen production and storage technologies: Current status and future directions. *International Journal of Hydrogen Energy*, *46*(45), 23498–23528. https://doi.org/10.1016/j.ijhydene.2020.10.110

Olabi, A. G., Bahri, A. saleh, Abdelghafar, A. A., Baroutaji, A., Sayed, E. T., Alami, A. H., Rezk, H., & Abdelkareem, M. A. (2021). Large-vscale hydrogen production and storage technologies: Current status and future directions. *International Journal of Hydrogen Energy*, *46*(45), 23498–23528.

https://doi.org/10.1016/j.ijhydene.2020.10.110

Pandey, A. P., Bhatnagar, A., Shukla, V., Soni, P. K., Singh, S., Verma, S. K., Shaneeth, M., Sekkar, V., & Srivastava, O. N. (2020). Hydrogen storage properties of carbon aerogel synthesized by ambient pressure drying using new catalyst triethylamine. *International Journal of Hydrogen Energy*, *45*(55), 30818–30827. https://doi.org/10.1016/J.IJHYDENE.2020.08.145

Papadias, D. D., & Ahluwalia, R. K. (2021). Bulk storage of hydrogen. *International Journal of Hydrogen Energy*, *46*(70), 34527–34541. https://doi.org/10.1016/j.ijhydene.2021.08.028

Peydayesh, M., Vogt, J., Chen, X., Zhou, J., Donat, F., Bagnani, M., Müller, C. R., & Mezzenga, R. (2022). Amyloid-based carbon aerogels for water purification. *Chemical Engineering Journal*, *449*(June), 137703. https://doi.org/10.1016/j.cej.2022.137703

Pyle, D. S., Gray, E. M., & Webb, C. J. (2016). Hydrogen storage in carbon nanostructures via spillover. *International Journal of Hydrogen Energy*, *41*(42), 19098–19113. https://doi.org/10.1016/j.ijhydene.2016.08.061

Reyhani, R., Zadhoush, A., Tabrizi, N. S., Nazockdast, H., & Naeimirad, M. (2021a). Synthesis and characterization of powdered CNT-doped carbon aerogels. *Journal of Non-Crystalline Solids*, *571*(April), 121058. https://doi.org/10.1016/j.jnoncrysol.2021.121058

Reyhani, R., Zadhoush, A., Tabrizi, N. S., Nazockdast, H., & Naeimirad, M. (2021b). The influence of CNT-doped carbon aerogels on microstructural, rheological and mechanical properties of epoxy nanocomposites. *Composites Science and Technology*, *215*(April), 109031. https://doi.org/10.1016/j.compscitech.2021.109031

Rozzi, E., Minuto, F. D., & Lanzini, A. (2021). Dynamic modeling and thermal management of a Power-to-Power system with hydrogen storage in microporous adsorbent materials. *Journal of Energy Storage*, *41*(April), 102953. https://doi.org/10.1016/j.est.2021.102953

Shang, Y., Han, D., Gozgor, G., Mahalik, M. K., & Sahoo, B. K. (2022). The impact of climate policy uncertainty on renewable and non-renewable energy demand in the United States. *Renewable Energy*, *197*(July), 654–667. https://doi.org/10.1016/j.renene.2022.07.159

Simón-Herrero, C., Caminero-Huertas, S., Romero, A., Valverde, J. L., & Sánchez-Silva, L. (2016). Effects of freeze-drying conditions on aerogel properties. *Journal of Materials Science*, *51*(19), 8977–8985. https://doi.org/10.1007/s10853-016-0148-5

Singh, R., Altaee, A., & Gautam, S. (2020). Nanomaterials in the advancement of hydrogen energy storage. *Heliyon*, *6*(7), e04487. https://doi.org/10.1016/j.heliyon.2020.e04487

Tarasov, B. P., Fursikov, P. V., Volodin, A. A., Bocharnikov, M. S., Shimkus, Y. Y., Kashin, A. M., Yartys, V. A., Chidziva, S., Pasupathi, S., & Lototskyy, M. V. (2021). Metal hydride hydrogen storage and compression systems for energy storage technologies. *International Journal of Hydrogen Energy*, *46*(25), 13647–13657. https://doi.org/10.1016/j.ijhydene.2020.07.085

Tarhan, C., & Çil, M. A. (2021). A study on hydrogen, the clean energy of the future: Hydrogen storage methods. *Journal of Energy Storage*, *40*(May), 102676. https://doi.org/10.1016/j.est.2021.102676

Thi Thuy Van, N., Gaspillo, P. asa, Thanh, H. G. T., Nhi, N. H. T., Long, H. N., Tri, N., Thi Truc Van, N., Nguyen, T. T., & Ky Phuong Ha, H. (2022). Cellulose from the banana stem: optimization of extraction by response surface methodology (RSM) and charaterization. *Heliyon*, *8*(12), e11845. https://doi.org/10.1016/j.heliyon.2022.e11845

Thommes, M., Kaneko, K., Neimark, A. V., Olivier, J. P., Rodriguez-Reinoso, F., Rouquerol, J., & Sing, K. S. W. (2015). Physisorption of gases, with special reference to the evaluation of surface area and pore size distribution (IUPAC Technical Report). *Pure and Applied Chemistry*, *87*(9–10), 1051–1069. https://doi.org/10.1515/pac-2014-1117

Wang, Y. Y., Zhou, Z. H., Zhu, J. L., Sun, W. J., Yan, D. X., Dai, K., & Li, Z. M. (2021). Low-temperature carbonized carbon nanotube/cellulose aerogel for efficient microwave absorption. *Composites Part B: Engineering*, *220*(May), 108985. https://doi.org/10.1016/j.compositesb.2021.108985

Yang, H., Sun, J., Zhang, Y., Xue, Q., & Xia, S. (2021). Preparation of hydrophobic carbon aerogel using cellulose extracted from luffa sponge for adsorption of diesel oil. *Ceramics International*, *47*(23), 33827–33834. https://doi.org/10.1016/j.ceramint.2021.08.294

Yu, M., Han, Y., Li, J., & Wang, L. (2017). One-step synthesis of sodium carboxymethyl cellulose-derived carbon aerogel/nickel oxide composites for energy storage. *Chemical Engineering Journal*, *324*, 287–295. https://doi.org/10.1016/j.cej.2017.05.048

Yu, M., Han, Y., Li, J., & Wang, L. (2018a). Magnetic N-doped carbon aerogel from sodium carboxymethyl cellulose/collagen composite aerogel for dye adsorption and electrochemical supercapacitor. *International Journal of Biological Macromolecules*, *115*(2017), 185–193. https://doi.org/10.1016/j.ijbiomac.2018.04.012

Yu, M., Han, Y., Li, J., & Wang, L. (2018b). Magnetic N-doped carbon aerogel from sodium carboxymethyl cellulose/collagen composite aerogel for dye adsorption and electrochemical supercapacitor. *International Journal of Biological Macromolecules*, *115*(2017), 185–193. https://doi.org/10.1016/j.ijbiomac.2018.04.012

Zhao, Y., Zhu, Y., Liu, J., Ma, Z., Zhang, J., Liu, Y., Li, Y., & Li, L. (2021). Enhancing

hydrogen storage properties of MgH2 by core-shell CoNi@C. *Journal of Alloys and Compounds*, *862*, 158004. https://doi.org/10.1016/J.JALLCOM.2020.158004

Zhong, M., Fu, Z., Mi, R., Liu, X., Li, X., Yuan, L., Huang, W., Yang, X., Tang, Y., & Wang, C. (2018). Fabrication of Pt-doped carbon aerogels for hydrogen storage by radiation method. *International Journal of Hydrogen Energy*, *43*(41), 19174–19181. https://doi.org/10.1016/j.ijhydene.2018.08.169