

BIBLIOGRAPHY

- Abdullah, S. H. Y. S., Hanapi, N. H. M., Azid, A., Umar, R., Juahir, H., Khatoon, H., Endut, A., 2017, A review of biomass-derived heterogeneous catalyst for a sustainable biodiesel production. *Renewable and Sustainable Energy Reviews* **70**: 1040-1051 <https://doi.org/10.1016/j.rser.2016.12.008>
- Akram, A., Iqbal, M., Yasin, A., Zhang, K., Li, J., 2024, Sulfonated Molecules and Their Latest Applications in the Field of Biomaterials: A Review. *Coatings* **14** <https://doi.org/10.3390/coatings14020243>
- Alkorta, I., Hernández-Allica, J., Becerril, J. M., Amezcua, I., Albizu, I., Garbisu, C., 2004, Recent Findings on the Phytoremediation of Soils Contaminated with Environmentally Toxic Heavy Metals and Metalloids Such as Zinc, Cadmium, Lead, and Arsenic. *Reviews in Environmental Science and Biotechnology* **3**(1): 71-90 <https://doi.org/10.1023/B:RESB.0000040059.70899.3d>
- Azmiyawati, C., 2004, Azmiyawati: Modifikasi Silika Gel dengan Gugus Sulfonat untuk Meningkatkan Kapasitas Adsorpsi Mg(II). *Jurnal Kimia Sains dan Aplikasi* **7**(1): 10-16 <https://doi.org/10.14710/jksa.7.1.10-16>
- Djayanti, K., Maharjan, P., Cho, K. H., Jeong, S., Kim, M. S., Shin, M. C., Min, K. A., 2023, Mesoporous Silica Nanoparticles as a Potential Nanopatform: Therapeutic Applications and Considerations. *International Journal of Molecular Sciences* **24**(7): 6349 <https://doi.org/10.3390/ijms24076349>
- Duan, Y., Zhu, Y., Fan, J., Li, W., Liu, X., Li, H., 2018, Systematic evaluation of petroleum sulfonate: polarity separation and the relationship between its structure and oil recovery properties. *RSC Advances* **8**: 33872-33881 <https://doi.org/10.1039/C8RA06739B>
- Fadlelmoula, A., Pinho, D., Carvalho, V. H., Catarino, S. O., Minas, G., 2022, Fourier Transform Infrared (FTIR) Spectroscopy to Analyse Human Blood over the Last 20 Years: A Review towards Lab-on-a-Chip Devices. *Micromachines* **13**(2): 187 <https://doi.org/10.3390/mi13020187>
- Filha, V. L. S. A., Wanderley, A. F., Sousa, K. S. d., Espínola, J. G. P., Fonseca, M. G. d., Arakaki, T., Arakaki, L. N. H., 2006, Thermodynamic properties of divalent cations complexed by ethylenesulfide immobilized on silica gel. *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **279**(1): 64-68 <https://doi.org/10.1016/j.colsurfa.2005.12.417>
- Fitriningsih, A., Oktavia, B., 2023, Optimasi Adsorpsi Ion Co²⁺ Menggunakan Silika Gel-GPTMS (Glycidoxypropyltrimethoxysilane) Dimodifikasi dengan Sulfonat. *Jurnal Pendidikan Tambusai* **7**(3): 24102-24110 <https://doi.org/10.31004/jptam.v7i3.10429>

- Furtmair, M., Timm, J., Marschall, R., 2021, Sulfonation of porous materials and their proton conductivity. *Microporous and Mesoporous Materials* **312**: 110745 <https://doi.org/10.1016/j.micromeso.2020.110745>
- Greim, H., 2023, *Potassium hydroxyoctaoxodizincatedichromate*. Encyclopedia of Toxicology, Elsevier. **7**: V7-869-V867-874 <https://doi.org/10.1016/B978-0-12-824315-2.00644-8>
- Hamza, T. A., Sherif, A. H., Abdalla, E. A., 2017, A novel approach to reinforce provisional material using silica gel powder. *Stomatological Disease and Science* **1**: 3-7 <http://dx.doi.org/10.20517/2573-0002.2016.12>
- Huang, Y., Chao, P. Y., Cheng, T. Y., Ho, Y., Lin, C. T., Hsu, H. Y., Wong, J. J., Tsai, T. C., 2016, Design of sulfonated mesoporous silica catalyst for fructose dehydration guided by difructose anhydride intermediate incorporated reaction network. *Chemical Engineering Journal* **283**(1): 778-788 <https://doi.org/10.1016/j.cej.2015.08.031>
- Jaroniec, M., Kruk, M., Sayari, A., 1998, Adsorption methods for characterization of surface and structural properties of mesoporous molecular sieves. *The Journal of Physical Chemistry B* **117**(4): 325-332 <https://doi.org/10.1021/jp962000k>
- Jeřábková, J., Tejnecký, V., Borůvka, L., Drábek, O., 2018, Chromium in Anthropogenically Polluted and Naturally Enriched Soils: A Review. *Environmental Sciences* **49**: 297-312 <http://dx.doi.org/10.2478/sab-2018-0037>
- Kazemzadeh, P., Sayadi, K., Toolabi, A., Sayadi, J., Zeraati, M., Chauhan, N. P. S., Sargazi, G., 2022, Structure-Property Relationship for Different Mesoporous Silica Nanoparticles and its Drug Delivery Applications: A Review. *Frontiers in Chemistry* **10**(823785): 1-11 <https://doi.org/10.3389/fchem.2022.823785>
- Khoeini, M., Najafi, A., Rastegar, H., Amani, M., 2019, Improvement of hollow mesoporous silica nanoparticles synthesis by hard-templating method via CTAB surfactant. *Ceramics International* **45**(10): 12700-12707 <https://doi.org/10.1016/j.ceramint.2019.03.125>
- Kumar, D., Rub, M. A., 2019, Role of cetyltrimethylammonium bromide (CTAB) surfactant micelles on kinetics of [Zn(II)-Gly-Leu]⁺ and ninhydrin. *Journal of Molecular Liquids* **274**: 639-645 <https://doi.org/10.1016/j.molliq.2018.11.035>
- Kumar, M., Fu, Y., Wang, M., Swamy, B. E. K., Jayaprakash, G. K., Zhao, W., 2021, Influence of cationic surfactant cetyltrimethylammonium bromide for electrochemical detection of guanine, uric acid and dopamine. *Journal of*

- Molecular Liquids* **321:** 114893
<https://doi.org/10.1016/j.molliq.2020.114893>
- Kumar, S., Ghosh, S. K., 2020, Porosity and tribological performance analysis on new developed metal matrix composite for brake pad materials. *Journal of Manufacturing Processes* **59:** 186-204
<https://doi.org/10.1016/j.jmapro.2020.09.053>
- Liu, G., Wang, M., Xu, J., Huang, M., Wang, C., Fu, Y., Lin, C., Wu, J., Levchenko, V. A., 2022, The structure and mechanical properties of Cr-based Cr-Ti alloy films. *Materials Research Express* **9(1):** 016509
<https://doi.org/10.1088/2053-1591/AC4883>
- Liu, Z., Zhao, G., Brewer, M., Lv, Q., Sudhölter, E. J. R., 2021, Comprehensive review on surfactant adsorption on mineral surfaces in chemical enhanced oil recovery. *Advances in Colloid and Interface Science* **294:** 102467
<https://doi.org/10.1016/j.cis.2021.102467>
- Magdy, G., Aboelkassim, E., Abd Elhaleem, S. M., Belal, F., 2024, A comprehensive review on silver nanoparticles: Synthesis approaches, characterization techniques, and recent pharmaceutical, environmental, and antimicrobial applications. *Microchemical Journal* **196:** 109615
<https://doi.org/10.1016/j.microc.2023.109615>
- Mirzaei, M., Zarch, M. B., Darroudi, M., Sayyadi, K., Keshavarz, S. T., Sayyadi, J., Fallah, A., Maleki, H., 2020, Silica Mesoporous Structures: Effective Nanocarriers in Drug Delivery and Nanocatalysts. *Applied Sciences* **10:** 7533 <https://doi.org/10.3390/app10217533>
- Mohyaldinn, M. E., Alakbari, F. S., Bin Azman Nor, A. N. A., Hassan, A. M., 2023, Stability, Rheological Behavior, and pH Responsiveness of CTAB/HCl Acidic Emulsion: Experimental Investigation. *ACS Omega* **8(25):** 22428-22439 <https://doi.org/10.1021/acsomega.2c08243>
- Petit, T., Puskar, L., 2018, FTIR spectroscopy of nanodiamonds: Methods and interpretation. *Diamond and Related Materials* **89:** 52-66
<https://doi.org/10.1016/j.diamond.2018.08.005>
- Rastegari, E., Hsiao, Y. J., Lai, W. Y., Lai, Y. H., Yang, T. C., Chen, S. J., Huang, P. I., Chiou, S. H., Mou, C. Y., Chien, Y., 2021, An Update on Mesoporous Silica Nanoparticle Applications in Nanomedicine. *Pharmaceutics* **13:** 1067
<https://doi.org/10.3390/pharmaceutics13071067>
- Ray, S. S., Gusain, R., Kumar, N., 2020, *Chapter three - Water purification using various technologies and their advantages and disadvantages*. Carbon Nanomaterial-Based Adsorbents for Water Purification. S. S. Ray, R.

- Gusain and N. Kumar, Elsevier: 37-66 <https://doi.org/10.1016/B978-0-12-821959-1.00003-9>
- Scimeca, M., Bischetti, S., Lamsira, H. K., Bonfiglio, R., Bonanno, E., 2018, Energy Dispersive X-ray (EDX) microanalysis: A powerful tool in biomedical research and diagnosis. *European Journal of Histochemistry* **62**: 89-99 <https://doi.org/10.4081/ejh.2018.2841>
- Silva do Nascimento, D., Etcheverry, M., Orduz, A. E., Waiman, C. V., Zanini, G. P., 2022, Adsorption of cationic surfactant as a probe of the montmorillonite surface reactivity in the alginate hydrogel composites. *RSC Advances* **12**: 35469 <https://doi.org/10.1039/D2RA07405B>
- Sultan, D. M. S., 2010, *Characterization of GaN/AlN MQW based Heterostructures using Fourier Transform Infrared (FTIR) Spectroscopy*. Master, Chalmers University of Technology 10.13140/RG.2.1.2706.6727
- Swaroop, A., Bagchi, M., Preuss, H. G., Zafra-Stone, S., Ahmad, T., Bagchi, D., 2019, Benefits of chromium(III) complexes in animal and human health. *The Nutritional Biochemistry of Chromium (III) (Second Edition)*: 251-278 <https://doi.org/10.1016/B978-0-444-64121-2.00008-8>
- Tabuchi, Y., Sakai, T., 2021, Thermodynamically stable structure of hydroxy alkane sulfonate surfactant monomers in water achieving high water solubility and a low CMC. *RSC Advances* **11**: 19836-19843 <https://doi.org/10.1039/D1RA01046H>
- Veeramanoharan, A., Kim, S.-C., 2024, A comprehensive review on sustainable surfactants from CNSL: chemistry, key applications and research perspectives. *RSC Advances* **14**(35): 25429-25471 <https://doi.org/10.1039/D4RA04684F>
- Villarroel-Rocha, J., Barrera, D., Sapag, K., 2014, Introducing a self-consistent test and the corresponding modification in the Barrett, Joyner and Halenda method for pore-size determination. *Microporous and Mesoporous Materials* **200**: 68-78 <https://doi.org/10.1016/j.micromeso.2014.08.017>
- Yadav, H. K. S., Kasina, S., Raizaday, A., 2016, *Chapter 9 - Sunscreens*. *Nanobiomaterials in Galenic Formulations and Cosmetics*, Elsevier Inc. **10**: 201-230 <https://doi.org/10.1016/B978-0-323-42868-2.00009-7>