

# Muhammad Ayoub

## List of Publications by Year in descending order

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99  
papers

3,006  
citations

159358

30  
h-index

189595

50  
g-index

102  
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102  
docs citations

102  
times ranked

2848  
citing authors

#	ARTICLE	IF	CITATIONS
1	Waste sugarcane bagasse-derived nanocatalyst for microwave-assisted transesterification: Thermal, kinetic and optimization study. <i>Biofuels, Bioproducts and Biorefining</i> , 2022, 16, 122-141.	1.9	23
2	Influence of alkyl chain length in ionic liquid based drilling mud for rheology modification: a review. <i>Journal of Petroleum Exploration and Production</i> , 2022, 12, 485-492.	1.2	9
3	Future advances and challenges of nanomaterial-based technologies for electromagnetic interference-based technologies: A review. <i>Environmental Research</i> , 2022, 205, 112402.	3.7	17
4	Rheological characterization of potassium carbonate deep eutectic solvent (DES) based drilling mud. <i>Journal of Petroleum Exploration and Production</i> , 2022, 12, 1785-1795.	1.2	8
5	A review of the usage of deep eutectic solvents as shale inhibitors in drilling mud. <i>Journal of Molecular Liquids</i> , 2022, 361, 119673.	2.3	13
6	Optimization of Preparation Conditions of Sewage sludge based Activated Carbon. <i>Ain Shams Engineering Journal</i> , 2021, 12, 1175-1182.	3.5	57
7	Agro-industrial residue gasification feasibility in captive power plants: A South-Asian case study. <i>Energy</i> , 2021, 214, 118952.	4.5	22
8	A review on the waste biomass derived catalysts for biodiesel production. <i>Environmental Technology and Innovation</i> , 2021, 21, 101200.	3.0	98
9	Effect of membrane properties in a membrane rotating biological contactor for wastewater treatment. <i>Journal of Environmental Chemical Engineering</i> , 2021, 9, 104869.	3.3	17
10	A Comprehensive Review on Oil Extraction and Biodiesel Production Technologies. <i>Sustainability</i> , 2021, 13, 788.	1.6	85
11	Optimization of synthesis of geopolymer adsorbent for the effective removal of anionic surfactant from aqueous solution. <i>Journal of Environmental Chemical Engineering</i> , 2021, 9, 104949.	3.3	31
12	Synthesis and Characterization of Sustainable Inverse Vulcanized Copolymers from Non-Edible Oil. <i>ChemistrySelect</i> , 2021, 6, 1180-1190.	0.7	14
13	Investigation of cellulose acetate/gamma-cyclodextrin MOF based mixed matrix membranes for CO <sub>2</sub> /CH <sub>4</sub> gas separation. , 2021, 11, 313-330.		23
14	Development of lignin based heterogeneous solid acid catalyst derived from sugarcane bagasse for microwave assisted-transesterification of waste cooking oil. <i>Biomass and Bioenergy</i> , 2021, 146, 105978.	2.9	33
15	Preparation of Metal Oxide-based Oxygen Carriers Supported with CeO <sub>2</sub> and $\gamma$ -Al <sub>2</sub> O <sub>3</sub> for Chemical Looping Combustion. <i>Chemical Engineering and Technology</i> , 2021, 44, 782-787.	0.9	6
16	Activation of Nano Kaolin Clay for Bio-Glycerol Conversion to a Valuable Fuel Additive. <i>Sustainability</i> , 2021, 13, 2631.	1.6	12
17	Glycerol Conversion to Solketal: Catalyst and Reactor Design, and Factors Affecting the Yield. <i>ChemBioEng Reviews</i> , 2021, 8, 227-238.	2.6	8
18	Development of Reaction Kinetics Model for the Production of Synthesis Gas from Dry Methane Reforming. <i>Bulletin of Chemical Reaction Engineering and Catalysis</i> , 2021, 16, 440-445.	0.5	1

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19	Holistic process evaluation of non-conventional palm oil mill effluent (POME) treatment technologies: A conceptual and comparative review. <i>Journal of Hazardous Materials</i> , 2021, 409, 124964.	6.5	27
20	Potassium carbonate based deep eutectic solvent (DES) as a potential drilling fluid additive in deep water drilling applications. <i>Petroleum Science and Technology</i> , 2021, 39, 612-631.	0.7	17
21	Recent Advances and Development of Various Oxygen Carriers for the Chemical Looping Combustion Process: A Review. <i>Industrial &amp; Engineering Chemistry Research</i> , 2021, 60, 8621-8641.	1.8	44
22	Overview of Feedstocks for Sustainable Biodiesel Production and Implementation of the Biodiesel Program in Pakistan. <i>ACS Omega</i> , 2021, 6, 19099-19114.	1.6	24
23	Comprehensive Review on Biodiesel Production from Palm Oil Mill Effluent. <i>ChemBioEng Reviews</i> , 2021, 8, 439-462.	2.6	7
24	Review of biodiesel synthesis technologies, current trends, yield influencing factors and economical analysis of supercritical process. <i>Journal of Cleaner Production</i> , 2021, 309, 127388.	4.6	69
25	Solvent extraction and performance analysis of residual palm oil for biodiesel production: Experimental and simulation study. <i>Journal of Environmental Chemical Engineering</i> , 2021, 9, 105519.	3.3	28
26	Development and progress of functionalized silica-based adsorbents for CO <sub>2</sub> capture. <i>Journal of Molecular Liquids</i> , 2021, 338, 116913.	2.3	27
27	Comparative Study on Ni/Al <sub>2</sub> O <sub>3</sub> Prepared via Ultrasonic Irradiation and Impregnation Approaches as an Oxygen Carrier in Chemical Looping Combustion. <i>Industrial &amp; Engineering Chemistry Research</i> , 2021, 60, 13542-13552.	1.8	9
28	Evaluation and mechanism of glucose production through acid hydrolysis process: Statistical approach. <i>Biocatalysis and Agricultural Biotechnology</i> , 2021, 36, 102157.	1.5	1
29	Synthesis and Characterization of Waste Eggshell-Based Montmorillonite Clay Catalyst for Biodiesel Production from Waste Cooking Oil. <i>E3S Web of Conferences</i> , 2021, 287, 02006.	0.2	0
30	Progress of the Pyrolyzer Reactors and Advanced Technologies for Biomass Pyrolysis Processing. <i>Sustainability</i> , 2021, 13, 11061.	1.6	44
31	Cost-Effective Processing of Carbon-Rich Materials in Ionic Liquids: An Expeditious Approach to Biofuels. <i>ACS Omega</i> , 2021, 6, 29233-29242.	1.6	8
32	Valorization of Solketal Synthesis from Sustainable Biodiesel Derived Glycerol Using Response Surface Methodology. <i>Catalysts</i> , 2021, 11, 1537.	1.6	17
33	Synthesis and gas permeation analysis of TiO <sub>2</sub> nanotube-embedded cellulose acetate mixed matrix membranes. <i>Chemical Papers</i> , 2020, 74, 821-828.	1.0	9
34	A comparative study of dynamic adsorption of anionic synthetic and nanocellulose-based surfactant in Malaysian reservoir. <i>Journal of Petroleum Exploration and Production</i> , 2020, 10, 311-318.	1.2	4
35	Synthesis and characterization of mesoporous MOF UMCM-1 for CO <sub>2</sub> /CH <sub>4</sub> adsorption; an experimental, isotherm modeling and thermodynamic study. <i>Microporous and Mesoporous Materials</i> , 2020, 294, 109844.	2.2	52
36	Characteristically Insights, Artificial Neural Network (ANN), Equilibrium, and Kinetic Studies of Pb(II) Ion Adsorption on Rice Husks Treated with Nitric Acid. <i>International Journal of Environmental Research</i> , 2020, 14, 43-60.	1.1	21

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37	Experimental investigations on the regeneration of desulfurized 1-butyl-3-methylimidazolium tetrachloroferrate [Bmim][FeCl <sub>4</sub> ] and 1-butyl-3-methylimidazolium thiocyanate [Bmim][SCN] ionic liquids: A raman spectroscopic study. Journal of Raman Spectroscopy, 2020, 51, 546-554.	1.2	6
38	Experimental investigation and modeling of the density, refractive index, and dynamic viscosity of 1-Propyronitrile-3-Butylimidazolium Dicyanamide. Journal of Molecular Liquids, 2020, 302, 112470.	2.3	2
39	Influence of post-synthetic graphene oxide (GO) functionalization on the selective CO <sub>2</sub> /CH <sub>4</sub> adsorption behavior of MOF-200 at different temperatures; an experimental and adsorption isotherms study. Microporous and Mesoporous Materials, 2020, 296, 110002.	2.2	73
40	A review on CO <sub>2</sub> capture via nitrogen-doped porous polymers and catalytic conversion as a feedstock for fuels. Journal of Cleaner Production, 2020, 277, 123999.	4.6	45
41	The Challenges of a Biodiesel Implementation Program in Malaysia. Processes, 2020, 8, 1244.	1.3	41
42	Glycerol Conversion to Diglycerol via Etherification under Microwave Irradiation. , 2020, , .		0
43	Effect of microwave irradiation on the etherification of biodiesel-derived glycerol in a solvent free process. IOP Conference Series: Earth and Environmental Science, 2020, 460, 012043.	0.2	3
44	Short-Chain Polyglycerol Production via Microwave-Assisted Solventless Glycerol Polymerization Process Over Lih-Modified Aluminium Pillared Clay Catalyst: Parametric Study. Processes, 2020, 8, 1093.	1.3	2
45	A review over the role of catalysts for selective short-chain polyglycerol production from biodiesel derived waste glycerol. Environmental Technology and Innovation, 2020, 19, 100859.	3.0	48
46	Integration and simulation of solar energy with hot flue gas system for the district cooling application. Case Studies in Thermal Engineering, 2020, 19, 100620.	2.8	15
47	Catalytic Activity of Intercalated Montmorillonite Clay for Glycerol Conversion to Oligomers via Microwave Irradiation. Nihon Enerugi Gakkaishi/Journal of the Japan Institute of Energy, 2020, 99, 16-19.	0.2	2
48	Conversion of flaxseed oil into biodiesel using KOH catalyst: Optimization and characterization dataset. Data in Brief, 2020, 29, 105225.	0.5	19
49	Flowsheet Modeling and Simulation of Biomass Steam Gasification for Hydrogen Production. Chemical Engineering and Technology, 2020, 43, 649-660.	0.9	21
50	Production of Fuel Additive Solketal via Catalytic Conversion of Biodiesel-Derived Glycerol. Industrial & Engineering Chemistry Research, 2020, 59, 20961-20978.	1.8	65
51	Synthesis and characterization of iso-reticular metal-organic Framework-3 (IRMOF-3) for CO <sub>2</sub> /CH <sub>4</sub> adsorption: Impact of post-synthetic aminomethyl propanol (AMP) functionalization. Journal of Natural Gas Science and Engineering, 2019, 72, 103014.	2.1	32
52	Comparative study of glycerol conversion to polyglycerol via conventional and microwave irradiation reactor. Materials Today: Proceedings, 2019, 16, 2101-2107.	0.9	2
53	Decomposition of N <sub>2</sub> O at low temperature over Co <sub>3</sub> O <sub>4</sub> prepared by different methods. Environmental Progress and Sustainable Energy, 2019, 38, 13129.	1.3	5
54	Optimization of process variables for biodiesel production by transesterification of flaxseed oil and produced biodiesel characterizations. Renewable Energy, 2019, 139, 1272-1280.	4.3	116

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55	Preparation and characterization of amine (N-methyl diethanolamine)-based transition temperature mixtures (deep eutectic analogues solvents). <i>Journal of Chemical Thermodynamics</i> , 2019, 137, 108-118.	1.0	13
56	Carbon capture from natural gas using multi-walled CNTs based mixed matrix membranes. <i>Environmental Technology (United Kingdom)</i> , 2019, 40, 843-854.	1.2	19
57	Thermal stability analysis, experimental conductivity and pH of phosphonium-based deep eutectic solvents and their prediction by a new empirical equation. <i>Journal of Chemical Thermodynamics</i> , 2018, 116, 50-60.	1.0	57
58	Experimental and correlation of viscosity and refractive index of non-aqueous system of diethanolamine (DEA) and dimethylformamide (DMF) for CO <sub>2</sub> capture. <i>Journal of Molecular Liquids</i> , 2018, 250, 162-170.	2.3	32
59	High-pressure absorption study of CO <sub>2</sub> in aqueous N-methyldiethanolamine (MDEA) and MDEA-piperazine (PZ)-1-butyl-3-methylimidazolium trifluoromethanesulfonate [bmim][OTf] hybrid solvents. <i>Journal of Molecular Liquids</i> , 2018, 249, 1236-1244.	2.3	36
60	Density and refractive index measurements of transition-temperature mixture (deep eutectic) of Chemical Thermodynamics, 2018, 118, 147-158.	1.0	37
61	Removal of anionic surfactant sodium dodecylbenzenesulfonate from water using fly ash adsorbent. <i>IOP Conference Series: Materials Science and Engineering</i> , 2018, 458, 012043.	0.3	2
62	Phase identification of natural gas system with high CO <sub>2</sub> content through simulation approach using Peng-Robinson model. <i>IOP Conference Series: Materials Science and Engineering</i> , 2018, 458, 012068.	0.3	1
63	Carbon Dioxide CO <sub>2</sub> Capture Using Amino Acid Salt Solution. <i>Journal of Physics: Conference Series</i> , 2018, 1123, 012054.	0.3	1
64	Identification of green energy ranunculaceous flora of district Chitral, Northern Pakistan using pollen features through scanning electron microscopy. <i>Microscopy Research and Technique</i> , 2018, 81, 1004-1016.	1.2	34
65	New trends in improving gasoline quality and octane through naphtha isomerization: a short review. <i>Applied Petrochemical Research</i> , 2018, 8, 131-139.	1.3	33
66	Physicochemical and FTIR Study of Diesel-Hydrogen Peroxide Fuel Blend. <i>IOP Conference Series: Materials Science and Engineering</i> , 2018, 344, 012026.	0.3	3
67	Volumetric properties of non-aqueous binary mixture of diethanolamine (DEA) and dimethylformamide (DMF). <i>Journal of Environmental Chemical Engineering</i> , 2018, 6, 6390-6398.	3.3	18
68	Measurement and correlation of physicochemical properties of phosphonium-based deep eutectic solvents at several temperatures (293.15 K–343.15 K) for CO <sub>2</sub> capture. <i>Journal of Chemical Thermodynamics</i> , 2017, 113, 41-51.	1.0	70
69	The study on temperature dependence of viscosity and surface tension of several Phosphonium-based deep eutectic solvents. <i>Journal of Molecular Liquids</i> , 2017, 241, 500-510.	2.3	102
70	Density, excess and limiting properties of (water and deep eutectic solvent) systems at temperatures from 293.15 K to 343.15 K. <i>Journal of Molecular Liquids</i> , 2017, 248, 378-390.	2.3	49
71	Conversion of glycerol to polyglycerol over waste duck-bones as a catalyst in solvent free etherification process. <i>IOP Conference Series: Materials Science and Engineering</i> , 2017, 226, 012073.	0.3	6
72	Experimental and prediction of volumetric properties of aqueous solution of (allyltriphenylphosphonium bromide)–triethylene glycol deep eutectic solvents. <i>Thermochimica Acta</i> , 2017, 657, 123-133.	1.2	24

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73	Investigation of various process parameters on the solubility of carbon dioxide in phosphonium-based deep eutectic solvents and their aqueous mixtures: Experimental and modeling. International Journal of Greenhouse Gas Control, 2017, 66, 147-158.	2.3	38
74	Carbon dioxide capture via aqueous N-methyldiethanolamine (MDEA)-1-butyl-3-methylimidazolium acetate ([bmim][Ac]) hybrid solvent. AIP Conference Proceedings, 2017, , .	0.3	5
75	CO2 capture with the help of Phosphonium-based deep eutectic solvents. Journal of Molecular Liquids, 2017, 243, 564-571.	2.3	101
76	Thermal stability and FT-IR analysis of Phosphonium-based deep eutectic solvents with different hydrogen bond donors. Journal of Molecular Liquids, 2017, 242, 395-403.	2.3	100
77	Simulation for the production of synthetic natural gas for vehicles (SNGV) from palm waste via gasification with in-situ CO <sub>2</sub> capture. , 2017, , .		0
78	Optimization of Biodiesel Production over Alkaline Modified Clay Catalyst. Nihon Enerugi Gakkaishi/Journal of the Japan Institute of Energy, 2017, 96, 456-462.	0.2	14
79	Experimental Study of Corrosion on A36 Mild Steel Towards Aqueous 2-Amino-2-Ethyl-1, 3-Propanediol and Diethanolamine. International Journal of Electrochemical Science, 2017, 12, 1642-1656.	0.5	9
80	Parametric Study for Production of Dimethyl Ether (DME) As a Fuel from Palm Wastes. Energy Procedia, 2017, 105, 1242-1249.	1.8	44
81	The effects of salt, particle and pore size on the process of carbon dioxide hydrate formation: A critical review. AIP Conference Proceedings, 2016, , .	0.3	9
82	Biodiesel synthesis and characterization using weltd thistle plant ( <i>Carduus acanthoides</i> ) as source of new non-edible seed oil. International Journal of Green Energy, 2016, 13, 462-469.	2.1	18
83	Methanolysis of Castor Oil and Parametric Optimization. Procedia Engineering, 2016, 148, 546-552.	1.2	7
84	Process Optimization for Biodiesel Production from Waste Frying Oil over Montmorillonite Clay K-30. Procedia Engineering, 2016, 148, 742-749.	1.2	16
85	Topological characterization of nanocrystalline cellulose reinforced Poly (lactic acid) and Poly-(3-hydroxybutyrate-co-3-hydroxyvalerate) bionanocomposites. AIP Conference Proceedings, 2016, , .	0.3	0
86	Catalytic Decomposition of N <sub>2</sub> and O <sub>2</sub> at Low Temperature by Reduced Cobalt Oxides. Journal of Nanoscience and Nanotechnology, 2016, 16, 4647-4654.	0.9	15
87	Selective Monolaurin Synthesis through Esterification of Glycerol Using Sulfated Zirconia-Loaded SBA-15 Catalyst. Chemical Engineering Communications, 2016, 203, 496-504.	1.5	21
88	Effect of Magnesium Coating Prior to Lithium Loading over SBA-15 for Stabilization of its Mesostructure. Advanced Materials Research, 2014, 917, 3-9.	0.3	1
89	Performance of lithium modified zeolite Y catalyst in solvent-free conversion of glycerol to polyglycerols. Journal of Taibah University for Science, 2014, 8, 231-235.	1.1	16
90	Lithium modified zeolite synthesis for conversion of biodiesel-derived glycerol to polyglycerol. , 2014, , .		0

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91	LiOH-modified montmorillonite K-10 as catalyst for selective glycerol etherification to diglycerol. Catalysis Communications, 2013, 34, 22-25.	1.6	29
92	Diglycerol synthesis via solvent-free selective glycerol etherification process over lithium-modified clay catalyst. Chemical Engineering Journal, 2013, 225, 784-789.	6.6	39
93	A study of no conversion into $\text{No}_{2}$ and $\text{N}_{2}\text{O}$ over $\text{Co}_{3}\text{O}_{4}$ catalyst. Environmental Progress and Sustainable Energy, 2012, 31, 553-557.	1.3	7
94	Synthesis of oxygenated fuel additives via the solventless etherification of glycerol. Bioresource Technology, 2012, 112, 308-312.	4.8	85
95	Critical review on the current scenario and significance of crude glycerol resulting from biodiesel industry towards more sustainable renewable energy industry. Renewable and Sustainable Energy Reviews, 2012, 16, 2671-2686.	8.2	446
96	Surfactants as additives for $\text{NO}_x$ reduction during SNCR process with urea solution as reducing agent. Energy Conversion and Management, 2011, 52, 3083-3088.	4.4	24
97	Instability of SBA-15 to Strong Base: Effects of LiOH Impregnation on its Surface Characteristics and Mesoporous Structure. Journal of Applied Sciences, 2011, 11, 3510-3514.	0.1	17
98	Synthesis of Alumina Based Alkaline Catalyst for Biodiesel-Derived Glycerol to Polyglycerol. Advanced Materials Research, 0, 1133, 33-37.	0.3	4
99	The Effect of Acidic Gases and Thermodynamic Inhibitors on the Hydrates Phase Boundary of Synthetic Malaysia Natural Gas. IOP Conference Series: Materials Science and Engineering, 0, 458, 012016.	0.3	19