

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
all docs

102
docs citations

102
times ranked

2848
citing authors

#	ARTICLE	IF	CITATIONS
1	Critical review on the current scenario and significance of crude glycerol resulting from biodiesel industry towards more sustainable renewable energy industry. <i>Renewable and Sustainable Energy Reviews</i> , 2012, 16, 2671-2686.	8.2	446
2	Optimization of process variables for biodiesel production by transesterification of flaxseed oil and produced biodiesel characterizations. <i>Renewable Energy</i> , 2019, 139, 1272-1280.	4.3	116
3	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
4	CO ₂ capture with the help of Phosphonium-based deep eutectic solvents. <i>Journal of Molecular Liquids</i> , 2017, 243, 564-571.	2.3	101
5	Thermal stability and FT-IR analysis of Phosphonium-based deep eutectic solvents with different hydrogen bond donors. <i>Journal of Molecular Liquids</i> , 2017, 242, 395-403.	2.3	100
6	A review on the waste biomass derived catalysts for biodiesel production. <i>Environmental Technology and Innovation</i> , 2021, 21, 101200.	3.0	98
7	Synthesis of oxygenated fuel additives via the solventless etherification of glycerol. <i>Bioresource Technology</i> , 2012, 112, 308-312.	4.8	85
8	A Comprehensive Review on Oil Extraction and Biodiesel Production Technologies. <i>Sustainability</i> , 2021, 13, 788.	1.6	85
9	Influence of post-synthetic graphene oxide (GO) functionalization on the selective CO ₂ /CH ₄ adsorption behavior of MOF-200 at different temperatures; an experimental and adsorption isotherms study. <i>Microporous and Mesoporous Materials</i> , 2020, 296, 110002.	2.2	73
10	Measurement and correlation of physicochemical properties of phosphonium-based deep eutectic solvents at several temperatures (293.15 K–343.15 K) for CO ₂ capture. <i>Journal of Chemical Thermodynamics</i> , 2017, 113, 41-51.	1.0	70
11	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
12	Production of Fuel Additive Solketal via Catalytic Conversion of Biodiesel-Derived Glycerol. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 20961-20978.	1.8	65
13	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
14	Optimization of Preparation Conditions of Sewage sludge based Activated Carbon. <i>Ain Shams Engineering Journal</i> , 2021, 12, 1175-1182.	3.5	57
15	Synthesis and characterization of mesoporous MOF UMCM-1 for CO ₂ /CH ₄ adsorption; an experimental, isotherm modeling and thermodynamic study. <i>Microporous and Mesoporous Materials</i> , 2020, 294, 109844.	2.2	52
16	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
17	A review over the role of catalysts for selective short-chain polyglycerol production from biodiesel derived waste glycerol. <i>Environmental Technology and Innovation</i> , 2020, 19, 100859.	3.0	48
18	A review on CO ₂ capture via nitrogen-doped porous polymers and catalytic conversion as a feedstock for fuels. <i>Journal of Cleaner Production</i> , 2020, 277, 123999.	4.6	45

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19	Recent Advances and Development of Various Oxygen Carriers for the Chemical Looping Combustion Process: A Review. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 8621-8641.	1.8	44
20	Parametric Study for Production of Dimethyl Ether (DME) As a Fuel from Palm Wastes. <i>Energy Procedia</i> , 2017, 105, 1242-1249.	1.8	44
21	Progress of the Pyrolyzer Reactors and Advanced Technologies for Biomass Pyrolysis Processing. <i>Sustainability</i> , 2021, 13, 11061.	1.6	44
22	The Challenges of a Biodiesel Implementation Program in Malaysia. <i>Processes</i> , 2020, 8, 1244.	1.3	41
23	Diglycerol synthesis via solvent-free selective glycerol etherification process over lithium-modified clay catalyst. <i>Chemical Engineering Journal</i> , 2013, 225, 784-789.	6.6	39
24	Investigation of various process parameters on the solubility of carbon dioxide in phosphonium-based deep eutectic solvents and their aqueous mixtures: Experimental and modeling. <i>International Journal of Greenhouse Gas Control</i> , 2017, 66, 147-158.	2.3	38
25	Density and refractive index measurements of transition-temperature mixture (deep eutectic) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T of Chemical Thermodynamics, 2018, 118, 147-158.	1.0	37
26	High-pressure absorption study of CO ₂ 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
27	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
28	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
29	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
30	Experimental and correlation of viscosity and refractive index of non-aqueous system of diethanolamine (DEA) and dimethylformamide (DMF) for CO ₂ capture. <i>Journal of Molecular Liquids</i> , 2018, 250, 162-170.	2.3	32
31	Synthesis and characterization of iso-reticular metal-organic Framework-3 (IRMOF-3) for CO ₂ /CH ₄ adsorption: Impact of post-synthetic aminomethyl propanol (AMP) functionalization. <i>Journal of Natural Gas Science and Engineering</i> , 2019, 72, 103014.	2.1	32
32	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
33	LiOH-modified montmorillonite K-10 as catalyst for selective glycerol etherification to diglycerol. <i>Catalysis Communications</i> , 2013, 34, 22-25.	1.6	29
34	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
35	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
36	Development and progress of functionalized silica-based adsorbents for CO ₂ capture. <i>Journal of Molecular Liquids</i> , 2021, 338, 116913.	2.3	27

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37	Surfactants as additives for NO _x reduction during SNCR process with urea solution as reducing agent. <i>Energy Conversion and Management</i> , 2011, 52, 3083-3088.	4.4	24
38	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
39	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
40	Investigation of cellulose acetate/gamma-cyclodextrin MOF based mixed matrix membranes for CO ₂ /CH ₄ gas separation. , 2021, 11, 313-330.		23
41	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
42	Agro-industrial residue gasification feasibility in captive power plants: A South-Asian case study. <i>Energy</i> , 2021, 214, 118952.	4.5	22
43	Selective Monolaurin Synthesis through Esterification of Glycerol Using Sulfated Zirconia-Loaded SBA-15 Catalyst. <i>Chemical Engineering Communications</i> , 2016, 203, 496-504.	1.5	21
44	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
45	Flowsheet Modeling and Simulation of Biomass Steam Gasification for Hydrogen Production. <i>Chemical Engineering and Technology</i> , 2020, 43, 649-660.	0.9	21
46	The Effect of Acidic Gases and Thermodynamic Inhibitors on the Hydrates Phase Boundary of Synthetic Malaysia Natural Gas. <i>IOP Conference Series: Materials Science and Engineering</i> , 0, 458, 012016.	0.3	19
47	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
48	Conversion of flaxseed oil into biodiesel using KOH catalyst: Optimization and characterization dataset. <i>Data in Brief</i> , 2020, 29, 105225.	0.5	19
49	Biodiesel synthesis and characterization using weltd thistle plant (<i>Carduus acanthoides</i>) as source of new non-edible seed oil. <i>International Journal of Green Energy</i> , 2016, 13, 462-469.	2.1	18
50	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
51	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
52	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
53	Instability of SBA-15 to Strong Base: Effects of LiOH Impregnation on its Surface Characteristics and Mesoporous Structure. <i>Journal of Applied Sciences</i> , 2011, 11, 3510-3514.	0.1	17
54	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

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55	Valorization of Solketal Synthesis from Sustainable Biodiesel Derived Glycerol Using Response Surface Methodology. <i>Catalysts</i> , 2021, 11, 1537.	1.6	17
56	Performance of lithium modified zeolite Y catalyst in solvent-free conversion of glycerol to polyglycerols. <i>Journal of Taibah University for Science</i> , 2014, 8, 231-235.	1.1	16
57	Process Optimization for Biodiesel Production from Waste Frying Oil over Montmorillonite Clay K-30. <i>Procedia Engineering</i> , 2016, 148, 742-749.	1.2	16
58	Catalytic Decomposition of N ₂ O at Low Temperature by Reduced Cobalt Oxides. <i>Journal of Nanoscience and Nanotechnology</i> , 2016, 16, 4647-4654.	0.9	15
59	Integration and simulation of solar energy with hot flue gas system for the district cooling application. <i>Case Studies in Thermal Engineering</i> , 2020, 19, 100620.	2.8	15
60	Optimization of Biodiesel Production over Alkaline Modified Clay Catalyst. <i>Nihon Enerugi Gakkaishi/Journal of the Japan Institute of Energy</i> , 2017, 96, 456-462.	0.2	14
61	Synthesis and Characterization of Sustainable Inverse Vulcanized Copolymers from Non-Edible Oil. <i>ChemistrySelect</i> , 2021, 6, 1180-1190.	0.7	14
62	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
63	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
64	Activation of Nano Kaolin Clay for Bio-Glycerol Conversion to a Valuable Fuel Additive. <i>Sustainability</i> , 2021, 13, 2631.	1.6	12
65	The effects of salt, particle and pore size on the process of carbon dioxide hydrate formation: A critical review. <i>AIP Conference Proceedings</i> , 2016, , .	0.3	9
66	Experimental Study of Corrosion on A36 Mild Steel Towards Aqueous 2-Amino-2-Ethyl-1, 3-Propanediol and Diethanolamine. <i>International Journal of Electrochemical Science</i> , 2017, 12, 1642-1656.	0.5	9
67	Synthesis and gas permeation analysis of TiO ₂ nanotube-embedded cellulose acetate mixed matrix membranes. <i>Chemical Papers</i> , 2020, 74, 821-828.	1.0	9
68	Comparative Study on Ni ₂ O ₃ Prepared via Ultrasonic Irradiation and Impregnation Approaches as an Oxygen Carrier in Chemical Looping Combustion. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 13542-13552.	1.8	9
69	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
70	Glycerol Conversion to Solketal: Catalyst and Reactor Design, and Factors Affecting the Yield. <i>ChemBioEng Reviews</i> , 2021, 8, 227-238.	2.6	8
71	Cost-Effective Processing of Carbon-Rich Materials in Ionic Liquids: An Expedient Approach to Biofuels. <i>ACS Omega</i> , 2021, 6, 29233-29242.	1.6	8
72	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

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73	A study of no conversion into NiO and Ni_2O_3 over Co_3O_4 catalyst. Environmental Progress and Sustainable Energy, 2012, 31, 553-557.	1.3	7
74	Methanolysis of Castor Oil and Parametric Optimization. Procedia Engineering, 2016, 148, 546-552.	1.2	7
75	Comprehensive Review on Biodiesel Production from Palm Oil Mill Effluent. ChemBioEng Reviews, 2021, 8, 439-462.	2.6	7
76	Conversion of glycerol to polyglycerol over waste duck-bones as a catalyst in solvent free etherification process. IOP Conference Series: Materials Science and Engineering, 2017, 226, 012073.	0.3	6
77	Experimental investigations on the regeneration of desulfurized 1-butyl-3-methylimidazolium tetrachloroferrate $[\text{Bmim}][\text{FeCl}_4]$ and 1-butyl-3-methylimidazolium thiocyanate $[\text{Bmim}][\text{SCN}]$ ionic liquids: A raman spectroscopic study. Journal of Raman Spectroscopy, 2020, 51, 546-554.	1.2	6
78	Preparation of Metal Oxide-based Oxygen Carriers Supported with CeO_2 and Al_2O_3 for Chemical Looping Combustion. Chemical Engineering and Technology, 2021, 44, 782-787.	0.9	6
79	Carbon dioxide capture via aqueous N-methyl-diethanolamine (MDEA)-1-butyl-3-methylimidazolium acetate $[\text{bmim}][\text{Ac}]$ hybrid solvent. AIP Conference Proceedings, 2017, , .	0.3	5
80	Decomposition of NiO at low temperature over Co_3O_4 prepared by different methods. Environmental Progress and Sustainable Energy, 2019, 38, 13129.	1.3	5
81	Synthesis of Alumina Based Alkaline Catalyst for Biodiesel-Derived Glycerol to Polyglycerol. Advanced Materials Research, 0, 1133, 33-37.	0.3	4
82	A comparative study of dynamic adsorption of anionic synthetic and nanocellulose-based surfactant in Malaysian reservoir. Journal of Petroleum Exploration and Production, 2020, 10, 311-318.	1.2	4
83	Physicochemical and FTIR Study of Diesel-Hydrogen Peroxide Fuel Blend. IOP Conference Series: Materials Science and Engineering, 2018, 344, 012026.	0.3	3
84	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
85	Removal of anionic surfactant sodium dodecylbenzenesulfonate from water using fly ash adsorbent. IOP Conference Series: Materials Science and Engineering, 2018, 458, 012043.	0.3	2
86	Comparative study of glycerol conversion to polyglycerol via conventional and microwave irradiation reactor. Materials Today: Proceedings, 2019, 16, 2101-2107.	0.9	2
87	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
88	Short-Chain Polyglycerol Production via Microwave-Assisted Solventless Glycerol Polymerization Process Over Lioh-Modified Aluminium Pillared Clay Catalyst: Parametric Study. Processes, 2020, 8, 1093.	1.3	2
89	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
90	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

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91	Phase identification of natural gas system with high CO ₂ content through simulation approach using Peng-Robinson model. IOP Conference Series: Materials Science and Engineering, 2018, 458, 012068.	0.3	1
92	Carbon Dioxide CO ₂ Capture Using Amino Acid Salt Solution. Journal of Physics: Conference Series, 2018, 1123, 012054.	0.3	1
93	Development of Reaction Kinetics Model for the Production of Synthesis Gas from Dry Methane Reforming. Bulletin of Chemical Reaction Engineering and Catalysis, 2021, 16, 440-445.	0.5	1
94	Evaluation and mechanism of glucose production through acid hydrolysis process: Statistical approach. Biocatalysis and Agricultural Biotechnology, 2021, 36, 102157.	1.5	1
95	Lithium modified zeolite synthesis for conversion of biodiesel-derived glycerol to polyglycerol. , 2014, , .		0
96	Topological characterization of nanocrystalline cellulose reinforced Poly (lactic acid) and Poly-(3-hydroxybutyrate-co-3-hydroxyvalerate) bionanocomposites. AIP Conference Proceedings, 2016, , .	0.3	0
97	Simulation for the production of synthetic natural gas for vehicles (SNGV) from palm waste via gasification with in-situ CO ₂ capture. , 2017, , .		0
98	Glycerol Conversion to Diglycerol via Etherification under Microwave Irradiation. , 2020, , .		0
99	Synthesis and Characterization of Waste Eggshell-Based Montmorillonite Clay Catalyst for Biodiesel Production from Waste Cooking Oil. E3S Web of Conferences, 2021, 287, 02006.	0.2	0