Saikat Dutta

List of Publications by Year
in descending order

112 papers	8,229 citations	53660 45 h-index	46693 89 g-index
123 all docs	123 docs citations	123 times ranked	10862 citing authors

#	Article	IF	Citations
1	Hierarchically porous carbon derived from polymers and biomass: effect of interconnected pores on energy applications. Energy and Environmental Science, 2014, 7, 3574-3592.	15.6	1,204
2	Imparting Functionality to Biocatalysts via Embedding Enzymes into Nanoporous Materials by a <i>de Novo</i> Approach: Size-Selective Sheltering of Catalase in Metalâ€“Organic Framework Microcrystals. Journal of the American Chemical Society, 2015, 137, 4276-4279.	6.6	674
3	Advances in conversion of hemicellulosic biomass to furfural and upgrading to biofuels. Catalysis Science and Technology, 2012, 2, 2025.	2.1	372
4	Strategies for Improving the Functionality of Zeolitic Imidazolate Frameworks: Tailoring Nanoarchitectures for Functional Applications. Advanced Materials, 2017, 29, 1700213.	11.1	366
5	3D network of cellulose-based energy storage devices and related emerging applications. Materials Horizons, 2017, 4, 522-545.	6.4	261
6	Upgrading Furfurals to Drop-in Biofuels: An Overview. ACS Sustainable Chemistry and Engineering, 2015, 3, 1263-1277.	3.2	259
7	Direct conversion of cellulose and lignocellulosic biomass into chemicals and biofuel with metal chloride catalysts. Journal of Catalysis, 2012, 288, 8-15.	3.1	232
8	Microwave assisted conversion of carbohydrates and biopolymers to 5-hydroxymethylfurfural with aluminium chloride catalyst in water. Green Chemistry, 2011, 13, 2859.	4.6	229
9	Ring-opening polymerization by lithium catalysts: an overview. Chemical Society Reviews, 2010, 39, 1724-1746.	18.7	199
10	Hydrodeoxygenation of the Angelica Lactone Dimer, a Celluloseâ€Based Feedstock: Simple, Highâ€Yield Synthesis of Branched C₇â€“C₁₀ Gasolineâ€like Hydrocarbons. Angewandte Chemie - International Edition, 2014, 53, 1854-1857.	7.2	179
11	Recent progress in the development of biomass-derived nitrogen-doped porous carbon. Journal of Materials Chemistry A, 2021, 9, 3703-3728.	5.2	167
12	Preparation and Characterization of Aluminum Alkoxides Coordinated on salen-Type Ligands: Highly Stereoselective Ring-Opening Polymerization of <i>rac</i>-Lactide. Organometallics, 2012, 31, 2016-2025.	1.1	165
13	Catalytic reduction of CO₂ into fuels and fine chemicals. Green Chemistry, 2020, 22, 4002-4033.	4.6	162
14	A Brief Summary of the Synthesis of Polyester Buildingâ€Block Chemicals and Biofuels from 5â€Hydroxymethylfurfural. ChemPlusChem, 2012, 77, 259-272.	1.3	150
15	Oneâ€Pot Conversions of Lignocellulosic and Algal Biomass into Liquid Fuels. ChemSusChem, 2012, 5, 1826-1833.	3.6	141
16	Aerobic oxidation of 5-hydroxylmethylfurfural with homogeneous and nanoparticulate catalysts. Catalysis Science and Technology, 2012, 2, 79-81.	2.1	136
17	Microwave assisted rapid conversion of carbohydrates into 5-hydroxymethylfurfural catalyzed by mesoporous TiO2 nanoparticles. Applied Catalysis A: General, 2011, 409-410, 133-139.	2.2	118
18	Critical design of heterogeneous catalysts for biomass valorization: current thrust and emerging prospects. Catalysis Science and Technology, 2016, 6, 7364-7385.	2.1	111

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19	Advances in biomass transformation to 5-hydroxymethylfurfural and mechanistic aspects. Biomass and Bioenergy, 2013, 55, 355-369.	2.9	106
20	Integrated, Cascading Enzymeâ€Chemocatalytic Cellulose Conversion using Catalysts based on Mesoporous Silica Nanoparticles. ChemSusChem, 2014, 7, 3241-3246.	3.6	106
21	Enzymatic breakdown of biomass: enzyme active sites, immobilization, and biofuel production. Green Chemistry, 2014, 16, 4615-4626.	4.6	105
22	Functionalized Fe₃O₄@Silica Coreâ€"Shell Nanoparticles as Microalgae Harvester and Catalyst for Biodiesel Production. ChemSusChem, 2015, 8, 789-794.	3.6	105
23	Î²-Alkyl Elimination: Fundamental Principles and Some Applications. Chemical Reviews, 2016, 116, 8105-8145.	23.0	102
24	Emerging strategies for breaking the 3D amorphous network of lignin. Catalysis Science and Technology, 2014, 4, 3785-3799.	2.1	96
25	Cellulose Framework Directed Construction of Hierarchically Porous Carbons Offering High-Performance Capacitive Deionization of Brackish Water. ACS Sustainable Chemistry and Engineering, 2016, 4, 1885-1893.	3.2	95
26	Hierarchically porous titanium phosphate nanoparticles: an efficient solid acid catalyst for microwave assisted conversion of biomass and carbohydrates into 5-hydroxymethylfurfural. Journal of Materials Chemistry, 2012, 22, 14094.	6.7	93
27	Self-assembly of mesoporous TiO2 nanospheres via aspartic acid templating pathway and its catalytic application for 5-hydroxymethyl-furfural synthesis. Journal of Materials Chemistry, 2011, 21, 17505.	6.7	89
28	Solid-acid and ionic-liquid catalyzed one-pot transformation of biorenewable substrates into a platform chemical and a promising biofuel. RSC Advances, 2012, 2, 6890.	1.7	82
29	Efficient, metal-free production of succinic acid by oxidation of biomass-derived levulinic acid with hydrogen peroxide. Green Chemistry, 2015, 17, 2335-2338.	4.6	78
30	Nanoarchitectonics of Biofunctionalized Metalâ€"Organic Frameworks with Biological Macromolecules and Living Cells. Small Methods, 2019, 3, 1900213.	4.6	76
31	Synthesis and Structural Studies of Lithium and Sodium Complexes with OOO-Tridentate Bis(phenolate) Ligands: Effective Catalysts for the Ring-Opening Polymerization of <scp>l</scp>-Lactide. Inorganic Chemistry, 2010, 49, 9416-9425.	1.9	74
32	Self-Assembled TiO₂ Nanospheres By Using a Biopolymer as a Template and Its Optoelectronic Application. ACS Applied Materials & Interfaces, 2012, 4, 1560-1564.	4.0	73
33	Promises in direct conversion of cellulose and lignocellulosic biomass to chemicals and fuels: Combined solventâ€"nanocatalysis approach for biorefinary. Biomass and Bioenergy, 2014, 62, 182-197.	2.9	73
34	Solventless Câ€"C Coupling of Low Carbon Furanics to High Carbon Fuel Precursors Using an Improved Graphene Oxide Carbocatalyst. ACS Catalysis, 2017, 7, 3905-3915.	5.5	72
35	Deoxygenation of Biomassâ€Derived Feedstocks: Hurdles and Opportunities. ChemSusChem, 2012, 5, 2125-2127.	3.6	70
36	Synthesis of the natural herbicide Î´-aminolevulinic acid from cellulose-derived 5-(chloromethyl)furfural. Green Chemistry, 2011, 13, 40-41.	4.6	69

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37	Catalytic materials that improve selectivity of biomass conversions. RSC Advances, 2012, 2, 12575.	1.7	65
38	Fabrication of Nanoporous Carbon Materials with Hard- and Soft-Templating Approaches: A Review. Journal of Nanoscience and Nanotechnology, 2019, 19, 3673-3685.	0.9	64
39	Synthesis of ranitidine (Zantac) from cellulose-derived 5-(chloromethyl)furfural. Green Chemistry, 2011, 13, 3101.	4.6	59
40	Recent Developments in Metal-Catalyzed Ring-Opening Polymerization of Lactides and Glycolides: Preparation of Polylactides, Polyglycolide, and Poly(lactide-co-glycolide). Advances in Polymer Science, 2011, , 219-283.	0.4	56
41	Co-Crystals of a Salicylideneaniline: Photochromism Involving Planar Dihedral Angles. Chemistry of Materials, 2014, 26, 3042-3044.	3.2	55
42	ZIF-8 Derived, Nitrogen-Doped Porous Electrodes of Carbon Polyhedron Particles for High-Performance Electrosorption of Salt Ions. Scientific Reports, 2016, 6, 28847.	1.6	55
43	Catalytic Hydrodeoxygenation of High Carbon Furylmethanes to Renewable Jetâ€fuel Ranged Alkanes over a Rheniumâ€Modified Iridium Catalyst. ChemSusChem, 2017, 10, 3225-3234.	3.6	54
44	Biopolymer templated porous TiO2: An efficient catalyst for the conversion of unutilized sugars derived from hemicellulose. Applied Catalysis A: General, 2012, 435-436, 197-203.	2.2	48
45	Single-crystal-to-single-crystal direct cross-linking and photopolymerisation of a discrete Ag(<scp>i</scp>) complex to give a 1D polycyclobutane coordination polymer. Chemical Communications, 2013, 49, 1064-1066.	2.2	46
46	Novel Pathways to 2,5â€Dimethylfuran via Biomassâ€Derived 5â€(Chloromethyl)furfural. ChemSusChem, 2014, 7, 3028-3030.	3.6	46
47	Synthesis of the Insecticide Prothrin and Its Analogues from Biomass-Derived 5-(Chloromethyl)furfural. Journal of Agricultural and Food Chemistry, 2014, 62, 476-480.	2.4	44
48	Recent Advances in the Value Addition of Biomassâ€Derived Levulinic Acid: A Review Focusing on its Chemical Reactivity Patterns. ChemCatChem, 2021, 13, 3202-3222.	1.8	41
49	Predictable Shrinkage during the Precise Design of Porous Materials and Nanomaterials. Chemistry of Materials, 2015, 27, 6918-6928.	3.2	40
50	Hydrodeoxygenation of Furylmethane Oxygenates to Jet and Diesel Range Fuels: Probing the Reaction Network with Supported Palladium Catalyst and Hafnium Triflate Promoter. ACS Catalysis, 2017, 7, 5491-5499.	5.5	40
51	Characterization and upgradation of crude tire pyrolysis oil (CTPO) obtained from a rotating autoclave reactor. Fuel, 2019, 250, 339-351.	3.4	38
52	Synthesis of Mixed-Ligand Zeolitic Imidazolate Framework (ZIF-8-90) for CO2 Adsorption. Journal of Inorganic and Organometallic Polymers and Materials, 2015, 25, 251-258.	1.9	35
53	Inhibition of Na+/K+- and Ca2+-ATPase activities by phosphotetradecavanadate. Journal of Inorganic Biochemistry, 2019, 197, 110700.	1.5	34
54	Production of 5-(chloromethyl)furan-2-carbonyl chloride and furan-2,5-dicarbonyl chloride from biomass-derived 5-(chloromethyl)furfural (CMF). Green Chemistry, 2015, 17, 3737-3739.	4.6	33

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55	Catalytic synthesis of renewable p-xylene from biomass-derived 2,5-dimethylfuran: a mini review. Biomass Conversion and Biorefinery, 2023, 13, 541-554.	2.9	29
56	Efficient, Chemicalâ€Catalytic Approach to the Production of 3â€Hydroxypropanoic Acid by Oxidation of Biomassâ€Derived Levulinic Acid With Hydrogen Peroxide. ChemSusChem, 2015, 8, 1167-1169.	3.6	27
57	Synthesis of highly-branched alkanes for renewable gasoline. Fuel Processing Technology, 2020, 197, 106192.	3.7	26
58	Chemical-Catalytic Approaches to the Production of Furfurals and Levulinates from Biomass. Topics in Current Chemistry, 2014, 353, 41-83.	4.0	25
59	Recent advances in the preparation of levulinic esters from biomass-derived furanic and levulinic chemical platforms using heteropoly acid (HPA) catalysts. Molecular Catalysis, 2021, 505, 111484.	1.0	25
60	Resorcinol-Templated Synthesis of a Cofacial Terpyridine in Crystalline Ï€-Stacked Columns. Organic Letters, 2011, 13, 2260-2262.	2.4	24
61	Kinetics and regression analysis of phenanthrene adsorption on the nanocomposite of CaO and activated carbon: Characterization, regeneration, and mechanistic approach. Journal of Molecular Liquids, 2021, 334, 116080.	2.3	24
62	Dynamics of acis-Dihydrogen/Hydride Complex of Iridium. Inorganic Chemistry, 2005, 44, 6203-6210.	1.9	23
63	Hydrogenâ€Economic Synthesis of Gasolineâ€like Hydrocarbons by Catalytic Hydrodecarboxylation of the Biomassâ€derived Angelica Lactone Dimer. ChemCatChem, 2017, 9, 2622-2626.	1.8	23
64	Catalytic Transformation of Biomass-Derived Furfurals to Cyclopentanones and Their Derivatives: A Review. ACS Omega, 2021, 6, 35145-35172.	1.6	23
65	An unique approach of applying magnetic nanoparticles attached commercial lipase acrylic resin for biodiesel production. Catalysis Today, 2016, 278, 330-334.	2.2	21
66	Synthesis of magnetic mesoporous titania colloidal crystals through evaporation induced self-assembly in emulsion as effective and recyclable photocatalysts. Physical Chemistry Chemical Physics, 2015, 17, 27653-27657.	1.3	20
67	Nickel Nanoparticles Immobilized over Mesoporous SBA-15 for Efficient Carbonylative Coupling Reactions Utilizing CO₂: A Spotlight. ACS Applied Materials & Interfaces, 2021, 13, 40157-40171.	4.0	20
68	Recent Advancements of Replacing Existing Aniline Production Process With Environmentally Friendly One-Pot Process: An Overview. Critical Reviews in Environmental Science and Technology, 2013, 43, 84-120.	6.6	19
69	Hydro(deoxygenation) Reaction Network of Lignocellulosic Oxygenates. ChemSusChem, 2020, 13, 2894-2915.	3.6	19
70	Influence of the Electronics of the Phosphine Ligands on the Hâˆ’H Bond Elongation in Dihydrogen Complexes. Inorganic Chemistry, 2008, 47, 548-557.	1.9	17
71	Recent advances in the production and value addition of selected hydrophobic analogs of biomass-derived 5-(hydroxymethyl)furfural. Biomass Conversion and Biorefinery, 2023, 13, 2571-2593.	2.9	17
72	Valorization of biomass-derived furfurals: reactivity patterns, synthetic strategies, and applications. Biomass Conversion and Biorefinery, 2023, 13, 10361-10386.	2.9	16

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73	Analytical Understanding of the Materials Design with Wellâ€Described Shrinkages on Multiscale. Chemistry - A European Journal, 2018, 24, 6886-6904.	1.7	14
74	Total Syntheses Supramolecular Style: Solid-State Construction of [2.2]Cyclophanes with Modular Control of Stereochemistry. Crystal Growth and Design, 2020, 20, 2584-2589.	1.4	14
75	Efficient Synthesis of 5-(Hydroxymethyl)furfural Esters from Polymeric Carbohydrates Using 5-(Chloromethyl)furfural as a Reactive Intermediate. ACS Sustainable Chemistry and Engineering, 2022, 10, 5803-5809.	3.2	13
76	Curved Fragmented Graphenic Hierarchical Architectures for Extraordinary Charging Capacities. Small, 2018, 14, e1702054.	5.2	12
77	A roadmap to UV-protective natural resources: classification, characteristics, and applications. Materials Chemistry Frontiers, 2021, 5, 7696-7723.	3.2	12
78	Phosphine supported metal-dihydrogen complexes: Elongation of Hâˆ'H bond to reversible release of H2. Comptes Rendus Chimie, 2011, 14, 1029-1053.	0.2	11
79	Phase Transfer Catalyst Assisted Oneâ€Pot Synthesis of 5â€(Chloromethyl)furfural from Biomassâ€Derived Carbohydrates in a Biphasic Batch Reactor. ChemistrySelect, 2019, 4, 7502-7506.	0.7	10
80	Highâ€Yielding Synthesis of 5â€(alkoxymethyl)furfurals from Biomassâ€Derived 5â€(halomethyl)furfural (X=Cl, Br). ChemistrySelect, 2019, 4, 5540-5543.	0.7	10
81	Efficient and Scalable Production of Alkyl Levulinates from Celluloseâ€Derived Levulinic Acid Using Heteropolyacid Catalysts. ChemistrySelect, 2019, 4, 2501-2504.	0.7	10
82	Production of 5-(formyloxymethyl)furfural from biomass-derived sugars using mixed acid catalysts and upgrading into value-added chemicals. Carbohydrate Research, 2020, 497, 108140.	1.1	9
83	Preparation of alkyl levulinates from biomass-derived 5-(halomethyl)furfural (Xâ€‰=â€‰Cl, Br), furfuryl alcohol, and angelica lactone using silica-supported perchloric acid as a heterogeneous acid catalyst. Biomass Conversion and Biorefinery, 2020, 10, 849-856.	2.9	9
84	Liquid fuel from waste tires: novel refining, advanced characterization and utilization in engines with ethyl levulinate as an additive. RSC Advances, 2021, 11, 9807-9826.	1.7	9
85	Chemocatalytic value addition of glucose without carbonâ€"carbon bond cleavage/formation reactions: an overview. RSC Advances, 2022, 12, 4891-4912.	1.7	9
86	Biocompatible nanoreactors of catalase and nanozymes for anticancer therapeutics. Nano Select, 2021, 2, 1849-1873.	1.9	8
87	16-Electron Elongated Dihydrogen Complex Stabilized by Agostic Interaction. Inorganic Chemistry, 2006, 45, 7047-7049.	1.9	7
88	Hydrochloric acid-catalyzed coproduction of furfural and 5-(chloromethyl)furfural assisted by a phase transfer catalyst. Carbohydrate Research, 2020, 496, 108105.	1.1	7
89	Efficient and Scalable Production of Isoidide from Isosorbide. ACS Sustainable Chemistry and Engineering, 2021, 9, 11565-11570.	3.2	7
90	Selective oxidation of biomass-derived furfural to 2(5H)-furanone using trifluoroacetic acid as the catalyst and hydrogen peroxide as a green oxidant. Biomass Conversion and Biorefinery, 2023, 13, 1029-1034.	2.9	7

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91	Dehydrogenase-Functionalized Interfaced Materials in Electroenzymatic and Photoelectroenzymatic CO₂ Reduction. ACS Sustainable Chemistry and Engineering, 2022, 10, 6141-6156.	3.2	7
92	Effect of carboxylic acid of periodic mesoporous organosilicas on the fructose-to-5-hydroxymethylfurfural conversion in dimethylsulfoxide systems. APL Materials, 2014, 2, .	2.2	6
93	Immunotherapy of tumors by tailored nano-zeolitic imidazolate framework protected biopharmaceuticals. Biomaterials Science, 2021, 9, 6391-6402.	2.6	6
94	Energy Densification of Biomass-Derived Furfurals to Furanic Biofuels by Catalytic Hydrogenation and Hydrodeoxygenation Reactions. Sustainable Chemistry, 2021, 2, 521-549.	2.2	6
95	Continuous Mesoporous Titania Nanocrystals: Their Growth in Confined Space and Scope for Application. ChemSusChem, 2013, 6, 2039-2041.	3.6	5
96	Carboxylic acid-grafted mesoporous material and its high catalytic activity in one-pot three-component coupling reaction. APL Materials, 2014, 2, 113307.	2.2	5
97	Mesoporous Europium-Doped Titania Nanoparticles (Eu-MTNs) for Luminescence-Based Intracellular Bio-Imaging. Journal of Nanoscience and Nanotechnology, 2015, 15, 9802-9806.	0.9	5
98	Improved Graphene-Oxide-Derived Carbon Sponge for Effective Hydrocarbon Absorption and Câ€“C Coupling Reaction. ACS Sustainable Chemistry and Engineering, 2018, 6, 11793-11800.	3.2	5
99	Oxidation and Reduction of Biomass-Derived 5-(Hydroxymethyl)furfural and Levulinic Acid by Nanocatalysis. ACS Symposium Series, 2020, , 239-259.	0.5	5
100	Integrated, Cascading Enzymeâ€/Chemocatalytic Cellulose Conversion using Catalysts based on Mesoporous Silica Nanoparticles. ChemSusChem, 2014, 7, 3181-3181.	3.6	4
101	[Et3NH][HSO4] as an efficient and inexpensive ionic liquid catalyst for the scalable preparation of biorenewable chemicals. Biomass Conversion and Biorefinery, 2022, 12, 5619-5625.	2.9	4
102	Lignin Deconstruction. , 2015, , 125-155.		3
103	Efficient Preparation of Alkyl Benzoates by Heteropolyacidâ€Catalysed Esterification of Benzoic Acid under Solventâ€Free Condition. ChemistrySelect, 2019, 4, 9119-9123.	0.7	3
104	Exoskeleton for Biofunctionality Protection of Enzymes and Proteins for Intracellular Delivery. Advanced NanoBiomed Research, 2021, 1, 2000010.	1.7	3
105	Implication of Wood-Derived Hierarchical Carbon Nanotubes for Micronutrient Delivery and Crop Biofortification. ACS Omega, 2021, 6, 23654-23665.	1.6	3
106	Chemical and Enzymatic Routes for Lignocellulosic Bioproducts via Carbon Extension and Deoxygenation. ACS Sustainable Chemistry and Engineering, 2020, 8, 13555-13575.	3.2	2
107	Snapshots of the â€œbreakingâ€• of the H-H bond in the oxidative addition of H2 to a metal centre. Journal of Chemical Sciences, 2006, 118, 579-582.	0.7	1
108	Catalytic Conversion of Biomassâ€Derived Carbohydrates into Levulinic Acid Assisted by a Cationic Surface Active Agent. ChemistrySelect, 2019, 4, 13021-13024.	0.7	1

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109	Upgrading of coconut shell-derived pyrolytic bio-oil by thermal and catalytic deoxygenation. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 0, , 1-10.	1.2	1
110	Selective dehydration of 1-butanol to butenes over silica supported heteropolyacid catalysts: Mechanistic aspect. Molecular Catalysis, 2021, 516, 111975.	1.0	1
111	Catalytic Hydrodeoxygenation of High Carbon Furylmethanes to Renewable Jet-fuel Ranged Alkanes over a Rhenium-Modified Iridium Catalyst. ChemSusChem, 2017, 10, 3164-3164.	3.6	0
112	Lytic Polysaccharide Monooxygenases-Driven Degradation of Biorefinery Lignocellulose. Clean Energy Production Technologies, 2020, , 297-333.	0.3	0