Saikat Dutta

List of Publications by Citations

114 papers	6,570 citations	42 h-index	80 g-index
123 ext. papers	7,421 ext. citations	7.5 avg, IF	6.52 L-index

#	Paper	IF	Citations
114	Hierarchically porous carbon derived from polymers and biomass: effect of interconnected pores on energy applications. *Energy and Environmental Science*, **2014**, 7, 3574-3592	35.4	1021
113	Imparting functionality to biocatalysts via embedding enzymes into nanoporous materials by a de novo approach: size-selective sheltering of catalase in metal-organic framework microcrystals. *Journal of the American Chemical Society*, **2015**, 137, 4276-9	16.4	558
112	Advances in conversion of hemicellulosic biomass to furfural and upgrading to biofuels. *Catalysis Science and Technology*, **2012**, 2, 2025	5.5	334
111	Strategies for Improving the Functionality of Zeolitic Imidazolate Frameworks: Tailoring Nanoarchitectures for Functional Applications. *Advanced Materials*, **2017**, 29, 1700213	24	270
110	3D network of cellulose-based energy storage devices and related emerging applications. *Materials Horizons*, **2017**, 4, 522-545	14.4	208
109	Microwave assisted conversion of carbohydrates and biopolymers to 5-hydroxymethylfurfural with aluminium chloride catalyst in water. *Green Chemistry*, **2011**, 13, 2859	10	201
108	Direct conversion of cellulose and lignocellulosic biomass into chemicals and biofuel with metal chloride catalysts. *Journal of Catalysis*, **2012**, 288, 8-15	7.3	199
107	Upgrading Furfurals to Drop-in Biofuels: An Overview. *ACS Sustainable Chemistry and Engineering*, **2015**, 3, 1263-1277	8.3	198
106	Ring-opening polymerization by lithium catalysts: an overview. *Chemical Society Reviews*, **2010**, 39, 1724-1735	46	181
105	Preparation and Characterization of Aluminum Alkoxides Coordinated on salen-Type Ligands: Highly Stereoselective Ring-Opening Polymerization of rac-Lactide. *Organometallics*, **2012**, 31, 2016-2025	3.8	161
104	Hydrodeoxygenation of the angelica lactone dimer, a cellulose-based feedstock: simple, high-yield synthesis of branched C7 -C10 gasoline-like hydrocarbons. *Angewandte Chemie - International Edition*, **2014**, 53, 1854-7	16.4	155
103	A Brief Summary of the Synthesis of Polyester Building-Block Chemicals and Biofuels from 5-Hydroxymethylfurfural. *ChemPlusChem*, **2012**, 77, 259-272	2.8	132
102	One-pot conversions of lignocellulosic and algal biomass into liquid fuels. *ChemSusChem*, **2012**, 5, 1826-1833	8	123
101	Aerobic oxidation of 5-hydroxylmethylfurfural with homogeneous and nanoparticulate catalysts. *Catalysis Science and Technology*, **2012**, 2, 79-81	5.5	116
100	Microwave assisted rapid conversion of carbohydrates into 5-hydroxymethylfurfural catalyzed by mesoporous TiO2 nanoparticles. *Applied Catalysis A: General*, **2011**, 409-410, 133-139	5.1	109
99	Integrated, cascading enzyme-/chemocatalytic cellulose conversion using catalysts based on mesoporous silica nanoparticles. *ChemSusChem*, **2014**, 7, 3241-6	8.3	99
98	Advances in biomass transformation to 5-hydroxymethylfurfural and mechanistic aspects. *Biomass and Bioenergy*, **2013**, 55, 355-369	5.3	95

97	Enzymatic breakdown of biomass: enzyme active sites, immobilization, and biofuel production. *Green Chemistry*, **2014**, 16, 4615-4626	10	87
96	Emerging strategies for breaking the 3D amorphous network of lignin. *Catalysis Science and Technology*, **2014**, 4, 3785-3799	5.5	84
95	Functionalized Fe3O4@silica core-shell nanoparticles as microalgae harvester and catalyst for biodiesel production. *ChemSusChem*, **2015**, 8, 789-94	8.3	83
94	Critical design of heterogeneous catalysts for biomass valorization: current thrust and emerging prospects. *Catalysis Science and Technology*, **2016**, 6, 7364-7385	5.5	81
93	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		81
92	Self-assembly of mesoporous TiO2 nanospheres viaaspartic acid templating pathway and its catalytic application for 5-hydroxymethyl-furfural synthesis. *Journal of Materials Chemistry*, **2011**, 21, 17505		81
91	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	8.3	80
90	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	3.7	74
89	Efficient, metal-free production of succinic acid by oxidation of biomass-derived levulinic acid with hydrogen peroxide. *Green Chemistry*, **2015**, 17, 2335-2338	10	70
88	Synthesis and structural studies of lithium and sodium complexes with OOO-tridentate bis(phenolate) ligands: effective catalysts for the ring-opening polymerization of L-lactide. *Inorganic Chemistry*, **2010**, 49, 9416-25	5.1	70
87	Recent progress in the development of biomass-derived nitrogen-doped porous carbon. *Journal of Materials Chemistry A*, **2021**, 9, 3703-3728	13	69
86	Promises in direct conversion of cellulose and lignocellulosic biomass to chemicals and fuels: Combined solvent□anocatalysis approach for biorefinary. *Biomass and Bioenergy*, **2014**, 62, 182-197	5.3	66
85	Deoxygenation of biomass-derived feedstocks: hurdles and opportunities. *ChemSusChem*, **2012**, 5, 2125-8	8.3	66
84	Self-assembled TiO2 nanospheres by using a biopolymer as a template and its optoelectronic application. *ACS Applied Materials & Interfaces*, **2012**, 4, 1560-4	9.5	66
83	Catalytic reduction of CO2 into fuels and fine chemicals. *Green Chemistry*, **2020**, 22, 4002-4033	10	64
82	Catalytic materials that improve selectivity of biomass conversions. *RSC Advances*, **2012**, 2, 12575	3.7	60
81	□Alkyl Elimination: Fundamental Principles and Some Applications. *Chemical Reviews*, **2016**, 116, 8105-45	68.1	58
80	Synthesis of the natural herbicide □aminolevulinic acid from cellulose-derived 5-(chloromethyl)furfural. *Green Chemistry*, **2011**, 13, 40-41	10	56

79	Solventless C–C Coupling of Low Carbon Furanics to High Carbon Fuel Precursors Using an Improved Graphene Oxide Carbocatalyst. *ACS Catalysis*, **2017**, 7, 3905-3915	13.1	51
78	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	1.3	51
77	ZIF-8 Derived, Nitrogen-Doped Porous Electrodes of Carbon Polyhedron Particles for High-Performance Electrosorption of Salt Ions. *Scientific Reports*, **2016**, 6, 28847	4.9	48
76	Co-Crystals of a Salicylideneaniline: Photochromism Involving Planar Dihedral Angles. *Chemistry of Materials*, **2014**, 26, 3042-3044	9.6	47
75	Synthesis of ranitidine (Zantac) from cellulose-derived 5-(chloromethyl)furfural. *Green Chemistry*, **2011**, 13, 3101	10	47
74	Single-crystal-to-single-crystal direct cross-linking and photopolymerisation of a discrete Ag(I) complex to give a 1D polycyclobutane coordination polymer. *Chemical Communications*, **2013**, 49, 1064-6	5.8	44
73	Catalytic Hydrodeoxygenation of High Carbon Furylmethanes to Renewable Jet-fuel Ranged Alkanes over a Rhenium-Modified Iridium Catalyst. *ChemSusChem*, **2017**, 10, 3225-3234	8.3	44
72	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	5.1	41
71	Novel pathways to 2,5-dimethylfuran via biomass-derived 5-(chloromethyl)furfural. *ChemSusChem*, **2014**, 7, 3028-30	8.3	40
70	Fabrication of Nanoporous Carbon Materials with Hard- and Soft-Templating Approaches: A Review. *Journal of Nanoscience and Nanotechnology*, **2019**, 19, 3673-3685	1.3	39
69	Nanoarchitectonics of Biofunctionalized Metal–Organic Frameworks with Biological Macromolecules and Living Cells. *Small Methods*, **2019**, 3, 1900213	12.8	39
68	Predictable Shrinkage during the Precise Design of Porous Materials and Nanomaterials. *Chemistry of Materials*, **2015**, 27, 6918-6928	9.6	36
67	Synthesis of the insecticide prothrin and its analogues from biomass-derived 5-(chloromethyl)furfural. *Journal of Agricultural and Food Chemistry*, **2014**, 62, 476-80	5.7	33
66	Hydrodeoxygenation of the Angelica Lactone Dimer, a Cellulose-Based Feedstock: Simple, High-Yield Synthesis of Branched C7–C10 Gasoline-like Hydrocarbons. *Angewandte Chemie*, **2014**, 126, 1885-1888	3.6	33
65	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	3.2	30
64	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	13.1	30
63	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	10	27
62	Inhibition of Na/K- and Ca-ATPase activities by phosphotetradecavanadate. *Journal of Inorganic Biochemistry*, **2019**, 197, 110700	4.2	23

61	Characterization and upgradation of crude tire pyrolysis oil (CTPO) obtained from a rotating autoclave reactor. *Fuel*, **2019**, 250, 339-351	7.1	23
60	Efficient, chemical-catalytic approach to the production of 3-hydroxypropanoic acid by oxidation of biomass-derived levulinic acid with hydrogen peroxide. *ChemSusChem*, **2015**, 8, 1167-9	8.3	23
59	An unique approach of applying magnetic nanoparticles attached commercial lipase acrylic resin for biodiesel production. *Catalysis Today*, **2016**, 278, 330-334	5.3	21
58	Hydrogen-Economic Synthesis of Gasoline-like Hydrocarbons by Catalytic Hydrodecarboxylation of the Biomass-derived Angelica Lactone Dimer. *ChemCatChem*, **2017**, 9, 2622-2626	5.2	19
57	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, 27653-7	3.6	19
56	Dynamics of a cis-dihydrogen/hydride complex of iridium. *Inorganic Chemistry*, **2005**, 44, 6203-10	5.1	19
55	Chemical-catalytic approaches to the production of furfurals and levulinates from biomass. *Topics in Current Chemistry*, **2014**, 353, 41-83		18
54	Resorcinol-templated synthesis of a cofacial terpyridine in crystalline □-stacked columns. *Organic Letters*, **2011**, 13, 2260-2	6.2	18
53	Influence of the electronics of the phosphine ligands on the H-H bond elongation in dihydrogen complexes. *Inorganic Chemistry*, **2008**, 47, 548-57	5.1	17
52	Recent Advances in the Value Addition of Biomass-Derived Levulinic Acid: A Review Focusing on its Chemical Reactivity Patterns. *ChemCatChem*, **2021**, 13, 3202-3222	5.2	17
51	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	3.3	14
50	Synthesis of highly-branched alkanes for renewable gasoline. *Fuel Processing Technology*, **2020**, 197, 106192	7.2	14
49	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	11.1	12
48	Analytical Understanding of the Materials Design with Well-Described Shrinkages on Multiscale. *Chemistry - A European Journal*, **2018**, 24, 6886-6904	4.8	10
47	Hydro(deoxygenation) Reaction Network of Lignocellulosic Oxygenates. *ChemSusChem*, **2020**, 13, 2894-2915	8.3	8
46	Phosphine supported metal-dihydrogen complexes: Elongation of H□H bond to reversible release of H2. *Comptes Rendus Chimie*, **2011**, 14, 1029-1053	2.7	8
45	Production of 5-(formyloxymethyl)furfural from biomass-derived sugars using mixed acid catalysts and upgrading into value-added chemicals. *Carbohydrate Research*, **2020**, 497, 108140	2.9	8
44	Catalytic synthesis of renewable p-xylene from biomass-derived 2,5-dimethylfuran: a mini review. *Biomass Conversion and Biorefinery*, **2020**, 1	2.3	8

43	Efficient and Scalable Production of Alkyl Levulinates from Cellulose-Derived Levulinic Acid Using Heteropolyacid Catalysts. *ChemistrySelect*, **2019**, 4, 2501-2504	1.8	8
42	Curved Fragmented Graphenic Hierarchical Architectures for Extraordinary Charging Capacities. *Small*, **2018**, 14, e1702054	11	8
41	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	6	8
40	16-electron elongated dihydrogen complex stabilized by agostic interaction. *Inorganic Chemistry*, **2006**, 45, 7047-9	5.1	7
39	Total Syntheses Supramolecular Style: Solid-State Construction of [2.2]Cyclophanes with Modular Control of Stereochemistry. *Crystal Growth and Design*, **2020**, 20, 2584-2589	3.5	7
38	Recent advances in the production and value addition of selected hydrophobic analogs of biomass-derived 5-(hydroxymethyl)furfural. *Biomass Conversion and Biorefinery*,1	2.3	7
37	Valorization of biomass-derived furfurals: reactivity patterns, synthetic strategies, and applications. *Biomass Conversion and Biorefinery*,1	2.3	7
36	High-Yielding Synthesis of 5-(alkoxymethyl)furfurals from Biomass-Derived 5-(halomethyl)furfural (X=Cl, Br). *ChemistrySelect*, **2019**, 4, 5540-5543	1.8	6
35	Preparation of alkyl levulinates from biomass-derived 5-(halomethyl)furfural (X = 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	2.3	6
34	Phase Transfer Catalyst Assisted One-Pot Synthesis of 5-(Chloromethyl)furfural from Biomass-Derived Carbohydrates in a Biphasic Batch Reactor. *ChemistrySelect*, **2019**, 4, 7502-7506	1.8	6
33	Improved Graphene-Oxide-Derived Carbon Sponge for Effective Hydrocarbon Absorption and C□ Coupling Reaction. *ACS Sustainable Chemistry and Engineering*, **2018**, 6, 11793-11800	8.3	5
32	Continuous mesoporous titania nanocrystals: their growth in confined space and scope for application. *ChemSusChem*, **2013**, 6, 2039-41	8.3	5
31	Nickel Nanoparticles Immobilized over Mesoporous SBA-15 for Efficient Carbonylative Coupling Reactions Utilizing CO: A Spotlight. *ACS Applied Materials & Interfaces*, **2021**, 13, 40157-40171	9.5	5
30	Mesoporous Europium-Doped Titania Nanoparticles (Eu-MTNs) for Luminescence-Based Intracellular Bio-Imaging. *Journal of Nanoscience and Nanotechnology*, **2015**, 15, 9802-6	1.3	4
29	Effect of carboxylic acid of periodic mesoporous organosilicas on the fructose-to-5-hydroxymethylfurfural conversion in dimethylsulfoxide systems. *APL Materials*, **2014**, 2, 113314	5.7	4
28	Carboxylic acid-grafted mesoporous material and its high catalytic activity in one-pot three-component coupling reaction. *APL Materials*, **2014**, 2, 113307	5.7	4
27	Integrated, Cascading Enzyme-/Chemocatalytic Cellulose Conversion using Catalysts based on Mesoporous Silica Nanoparticles. *ChemSusChem*, **2014**, 7, 3181-3181	8.3	4
26	A roadmap to UV-protective natural resources: classification, characteristics, and applications. *Materials Chemistry Frontiers*,	7.8	4

25	Chemocatalytic value addition of glucose without carbon-carbon bond cleavage/formation reactions: an overview.. *RSC Advances*, **2022**, 12, 4891-4912	3.7	3
24	Catalytic Transformation of Biomass-Derived Furfurals to Cyclopentanones and Their Derivatives: A Review.. *ACS Omega*, **2021**, 6, 35145-35172	3.9	3
23	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	8.3	3
22	Oxidation and Reduction of Biomass-Derived 5-(Hydroxymethyl)furfural and Levulinic Acid by Nanocatalysis. *ACS Symposium Series*, **2020**, 239-259	0.4	2
21	Hydrochloric acid-catalyzed coproduction of furfural and 5-(chloromethyl)furfural assisted by a phase transfer catalyst. *Carbohydrate Research*, **2020**, 496, 108105	2.9	2
20	Biocompatible nanoreactors of catalase and nanozymes for anticancer therapeutics. *Nano Select*, **2021**, 2, 1849	3.1	2
19	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	3.7	2
18	Efficient and Scalable Production of Isoidide from Isosorbide. *ACS Sustainable Chemistry and Engineering*, **2021**, 9, 11565-11570	8.3	2
17	Energy Densification of Biomass-Derived Furfurals to Furanic Biofuels by Catalytic Hydrogenation and Hydrodeoxygenation Reactions. *Sustainable Chemistry*, **2021**, 2, 521-549	3.6	2
16	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*,1	2.3	2
15	Lignin Deconstruction **2015**, 125-155		1
14	[Et3NH][HSO4] as an efficient and inexpensive ionic liquid catalyst for the scalable preparation of biorenewable chemicals. *Biomass Conversion and Biorefinery*, **2020**, 1	2.3	1
13	Metal-Organic Frameworks with Photochemical Building Units **2010**, 301-312		1
12	Snapshots of the Breaking of the H-H bond in the oxidative addition of H2 to a metal centre. *Journal of Chemical Sciences*, **2006**, 118, 579-582	1.8	1
11	Exoskeleton for Biofunctionality Protection of Enzymes and Proteins for Intracellular Delivery. *Advanced NanoBiomed Research*, **2021**, 1, 2000010	0	1
10	Implication of Wood-Derived Hierarchical Carbon Nanotubes for Micronutrient Delivery and Crop Biofortification. *ACS Omega*, **2021**, 6, 23654-23665	3.9	1
9	Dehydrogenase-Functionalized Interfaced Materials in Electroenzymatic and Photoelectroenzymatic CO2 Reduction. *ACS Sustainable Chemistry and Engineering*,	8.3	1
8	Efficient Preparation of Alkyl Benzoates by Heteropolyacid-Catalysed Esterification of Benzoic Acid under Solvent-Free Condition. *ChemistrySelect*, **2019**, 4, 9119-9123	1.8	0

7	Immunotherapy of tumors by tailored nano-zeolitic imidazolate framework protected biopharmaceuticals. *Biomaterials Science*, **2021**, 9, 6391-6402	7.4	0
6	Catalytic Hydrodeoxygenation of High Carbon Furylmethanes to Renewable Jet-fuel Ranged Alkanes over a Rhenium-Modified Iridium Catalyst. *ChemSusChem*, **2017**, 10, 3164-3164	8.3	
5	Lytic Polysaccharide Monooxygenases-Driven Degradation of Biorefinery Lignocellulose. *Clean Energy Production Technologies*, **2020**, 297-333	0.8	
4	Selective dehydration of 1-butanol to butenes over silica supported heteropolyacid catalysts: Mechanistic aspect. *Molecular Catalysis*, **2021**, 516, 111975	3.3	
3	Upgrading of coconut shell-derived pyrolytic bio-oil by thermal and catalytic deoxygenation. *Energy Sources, Part A: Recovery, Utilization and Environmental Effects*, **2020**, 1-10	1.6	
2	Chemical and Enzymatic Routes for Lignocellulosic Bioproducts via Carbon Extension and Deoxygenation. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 13555-13575	8.3	
1	Catalytic Conversion of Biomass-Derived Carbohydrates into Levulinic Acid Assisted by a Cationic Surface Active Agent. *ChemistrySelect*, **2019**, 4, 13021-13024	1.8	