Hirotomo Nishihara

List of Publications by Citations

132 papers	5,257 citations	38 h-index	70 g-index
150 ext. papers	6,073 ext. citations	7.6 avg, IF	5.86 L-index

#	Paper	IF	Citations
132	Templated nanocarbons for energy storage. *Advanced Materials*, **2012**, 24, 4473-98	24	588
131	Towards ultrahigh volumetric capacitance: graphene derived highly dense but porous carbons for supercapacitors. *Scientific Reports*, **2013**, 3, 2975	4.9	467
130	Three-dimensionally arrayed and mutually connected 1.2-nm nanopores for high-performance electric double layer capacitor. *Journal of the American Chemical Society*, **2011**, 133, 1165-7	16.4	236
129	Production of colored pigments with amorphous arrays of black and white colloidal particles. *Angewandte Chemie - International Edition*, **2013**, 52, 7261-5	16.4	209
128	A possible buckybowl-like structure of zeolite templated carbon. *Carbon*, **2009**, 47, 1220-1230	10.4	203
127	Ordered Macroporous Silica by Ice Templating. *Chemistry of Materials*, **2005**, 17, 683-689	9.6	200
126	Enhancement mechanism of electrochemical capacitance in nitrogen-/boron-doped carbons with uniform straight nanochannels. *Langmuir*, **2009**, 25, 11961-8	4	177
125	Formation of monolithic silica gel microhoneycombs (SMHs) using pseudosteady state growth of microstructural ice crystals. *Chemical Communications*, **2004**, 874-5	5.8	155
124	High-Pressure Hydrogen Storage in Zeolite-Templated Carbon. *Journal of Physical Chemistry C*, **2009**, 113, 3189-3196	3.8	150
123	Investigation of the ion storage/transfer behavior in an electrical double-layer capacitor by using ordered microporous carbons as model materials. *Chemistry - A European Journal*, **2009**, 15, 5355-63	4.8	133
122	4.4 V supercapacitors based on super-stable mesoporous carbon sheet made of edge-free graphene walls. *Energy and Environmental Science*, **2019**, 12, 1542-1549	35.4	101
121	Zeolite-templated carbons - three-dimensional microporous graphene frameworks. *Chemical Communications*, **2018**, 54, 5648-5673	5.8	95
120	Cellulose Nanofiber as a Distinct Structure-Directing Agent for Xylem-like Microhoneycomb Monoliths by Unidirectional Freeze-Drying. *ACS Nano*, **2016**, 10, 10689-10697	16.7	86
119	Preparation of Porous TiO2Cryogel Fibers through Unidirectional Freezing of Hydrogel Followed by Freeze-Drying. *Chemistry of Materials*, **2004**, 16, 4987-4991	9.6	85
118	Effect of Buffer Size around Nanosilicon Anode Particles for Lithium-Ion Batteries. *Journal of Physical Chemistry C*, **2012**, 116, 6004-6011	3.8	74
117	Oxidation-Resistant and Elastic Mesoporous Carbon with Single-Layer Graphene Walls. *Advanced Functional Materials*, **2016**, 26, 6418-6427	15.6	70
116	Preparation of resorcinol–formaldehyde carbon cryogel microhoneycombs. *Carbon*, **2004**, 42, 899-901	10.4	68

115	Ultraporous nitrogen-doped zeolite-templated carbon for high power density aqueous-based supercapacitors. *Carbon*, **2018**, 129, 510-519	10.4	62
114	Carbon-coated mesoporous silica with hydrophobicity and electrical conductivity. *Carbon*, **2008**, 46, 48-53	10.4	61
113	Porous properties of silica gels with controlled morphology synthesized by unidirectional freeze-gelation. *Microporous and Mesoporous Materials*, **2003**, 63, 43-51	5.3	60
112	Large Pseudocapacitance in Quinone-Functionalized Zeolite-Templated Carbon. *Bulletin of the Chemical Society of Japan*, **2014**, 87, 250-257	5.1	58
111	Fast and reversible lithium storage in a wrinkled structure formed from Si nanoparticles during lithiation/delithiation cycling. *Journal of Power Sources*, **2013**, 222, 400-409	8.9	58
110	Enhanced electro-oxidation resistance of carbon electrodes induced by phosphorus surface groups. *Carbon*, **2015**, 95, 681-689	10.4	57
109	Electrochemical generation of oxygen-containing groups in an ordered microporous zeolite-templated carbon. *Carbon*, **2013**, 54, 94-104	10.4	53
108	Preparation of monolithic SiO2□Al2O3 cryogels with inter-connected macropores through ice templating. *Journal of Materials Chemistry*, **2006**, 16, 3231-3236		53
107	Porous Carbon Fibers Containing Pores with Sizes Controlled at the □ngstrom Level by the Cavity Size of Pillar[6]arene. *Angewandte Chemie - International Edition*, **2015**, 54, 6466-9	16.4	47
106	Graphene-based ordered framework with a diverse range of carbon polygons formed in zeolite nanochannels. *Carbon*, **2018**, 129, 854-862	10.4	46
105	Formation of crosslinked-fullerene-like framework as negative replica of zeolite Y. *Carbon*, **2013**, 62, 455-464	10.4	46
104	General Relationship between Hydrogen Adsorption Capacities at 77 and 298 K and Pore Characteristics of the Porous Adsorbents. *Journal of Physical Chemistry C*, **2012**, 116, 10529-10540	3.8	46
103	Morphology of resorcinol□formaldehyde gels obtained through ice-templating. *Carbon*, **2005**, 43, 1563-1565	10.4	46
102	A Directional Strain Sensor Based on Anisotropic Microhoneycomb Cellulose Nanofiber-Carbon Nanotube Hybrid Aerogels Prepared by Unidirectional Freeze Drying. *Small*, **2019**, 15, e1805363	11	46
101	Synthesis of ordered carbonaceous frameworks from organic crystals. *Nature Communications*, **2017**, 8, 109	17.4	45
100	Densification of ordered microporous carbons and controlling their micropore size by hot-pressing. *Carbon*, **2007**, 45, 2011-2016	10.4	43
99	Preparation of mesoporous carbon gels from an inexpensive combination of phenol and formaldehyde. *Carbon*, **2005**, 43, 2628-2630	10.4	43
98	Synthesis of silica-based porous monoliths with straight nanochannels using an ice-rod nanoarray as a template. *Journal of Materials Chemistry*, **2008**, 18, 3662		41

97	Li-rich Li-Si alloy as a lithium-containing negative electrode material towards high energy lithium-ion batteries. *Scientific Reports*, **2015**, 5, 8085	4.9	40
96	Preparation of resorcinol formaldehyde (RF) carbon gels: Use of ultrasonic irradiation followed by microwave drying. *Journal of Non-Crystalline Solids*, **2006**, 352, 5683-5686	3.9	40
95	Morphology maps of ice-templated silica gels derived from silica hydrogels and hydrosols. *Microporous and Mesoporous Materials*, **2008**, 116, 166-170	5.3	38
94	Improvement of mesoporosity of carbon cryogels by ultrasonic irradiation. *Carbon*, **2005**, 43, 525-531	10.4	35
93	An organic proton battery employing two redox-active quinones trapped within the nanochannels of zeolite-templated carbon. *Carbon*, **2016**, 107, 831-836	10.4	35
92	Adsorption and diffusion of atomic hydrogen on a curved surface of microporous carbon: A theoretical study. *Chemical Physics Letters*, **2010**, 495, 251-255	2.5	34
91	Pseudocapacitance of zeolite-templated carbon in organic electrolytes. *Energy Storage Materials*, **2015**, 1, 35-41	19.4	31
90	Effect of Heteroatoms in Ordered Microporous Carbons on Their Electrochemical Capacitance. *Langmuir*, **2016**, 32, 11997-12004	4	31
89	Remarkable performance improvement of inexpensive ball-milled Si nanoparticles by carbon-coating for Li-ion batteries. *Journal of Power Sources*, **2016**, 319, 99-103	8.9	31
88	Fine Dispersion of Pt4 Subnanoclusters and Pt Single Atoms over Porous Carbon Supports and Their Structural Analyses with X-ray Absorption Spectroscopy. *Journal of Physical Chemistry C*, **2017**, 121, 7892-7902	3.8	30
87	A Nacre-Like Carbon Nanotube Sheet for High Performance Li-Polysulfide Batteries with High Sulfur Loading. *Advanced Science*, **2018**, 5, 1800384	13.6	30
86	Insight into the origin of carbon corrosion in positive electrodes of supercapacitors. *Journal of Materials Chemistry A*, **2019**, 7, 7480-7488	13	29
85	Beads-Milling of Waste Si Sawdust into High-Performance Nanoflakes for Lithium-Ion Batteries. *Scientific Reports*, **2017**, 7, 42734	4.9	28
84	Fabrication of a Highly Conductive Ordered Porous Electrode by Carbon-Coating of a Continuous Mesoporous Silica Film. *Chemistry of Materials*, **2011**, 23, 3144-3151	9.6	27
83	3D interconnected macroporous carbon monoliths prepared by ultrasonic irradiation. *Carbon*, **2005**, 43, 2808-2811	10.4	27
82	Lamellar MXene Composite Aerogels with Sandwiched Carbon Nanotubes Enable Stable LithiumSulfur Batteries with a High Sulfur Loading. *Advanced Functional Materials*, **2021**, 31, 2100793	15.6	27
81	Force-driven reversible liquid-gas phase transition mediated by elastic nanosponges. *Nature Communications*, **2019**, 10, 2559	17.4	25
80	Experimental and Theoretical Studies of Hydrogen/Deuterium Spillover on Pt-Loaded Zeolite-Templated Carbon. *Journal of Physical Chemistry C*, **2014**, 118, 9551-9559	3.8	25

79	Production of l-theanine using glutaminase encapsulated in carbon-coated mesoporous silica with high pH stability. *Biochemical Engineering Journal*, **2012**, 68, 207-214	4.2	25
78	Structure and magnetic properties of curved graphene networks and the effects of bromine and potassium adsorption. *Physical Review B*, **2010**, 81,	3.3	24
77	Influence of surfactants on porous properties of carbon cryogels prepared by sol–gel polycondensation of resorcinol and formaldehyde. *Carbon*, **2003**, 41, 2981-2990	10.4	24
76	Porous microfibers and microhoneycombs synthesized by ice templating. *Catalysis Surveys From Asia*, **2006**, 10, 161-171	2.8	23
75	Photocatalytic performance of TiO2-zeolite templated carbon composites in organic contaminant degradation. *Physical Chemistry Chemical Physics*, **2014**, 16, 25004-7	3.6	22
74	Preparation of titania–silica cryogels with controlled shapes and photocatalysis through unidirectional freezing. *Materials Letters*, **2010**, 64, 959-961	3.3	22
73	Carbon-coated mesoporous silica as an electrode material. *Microporous and Mesoporous Materials*, **2010**, 132, 421-427	5.3	21
72	Characterization of a zeolite-templated carbon by electrochemical quartz crystal microbalance and in situ Raman spectroscopy. *Carbon*, **2015**, 89, 63-73	10.4	20
71	Production of Colored Pigments with Amorphous Arrays of Black and White Colloidal Particles. *Angewandte Chemie*, **2013**, 125, 7402-7406	3.6	19
70	Carbon–carbon asymmetric aqueous capacitor by pseudocapacitive positive and stable negative electrodes. *Carbon*, **2014**, 67, 792-794	10.4	18
69	Carbon-rich materials with three-dimensional ordering at the angstrom level. *Chemical Science*, **2020**, 11, 5866-5873	9.4	17
68	Binderless thin films of zeolite-templated carbon electrodes useful for electrochemical microcapacitors with ultrahigh rate performance. *Physical Chemistry Chemical Physics*, **2013**, 15, 10331-4	3.6	17
67	Formation mechanism of zeolite-templated carbons. *Tanso*, **2017**, 2017, 169-174	0.1	16
66	Successful functionalization of superporous zeolite templated carbon using aminobenzene acids and electrochemical methods. *Carbon*, **2016**, 99, 157-166	10.4	16
65	Vanadium-Ion Redox Reactions in a Three-Dimensional Network of Reduced Graphite Oxide. *ChemElectroChem*, **2016**, 3, 650-657	4.3	16
64	Control of pore distribution of porous carbons derived from Mg2+ porous coordination polymers. *Inorganic Chemistry Frontiers*, **2015**, 2, 473-476	6.8	15
63	Enhanced hydrogen spillover to fullerene at ambient temperature. *Chemical Communications*, **2018**, 54, 3327-3330	5.8	15
62	Control of Acid-Site Location of MFI Zeolite by Catalytic Cracking of Silane and Its Application to Olefin Synthesis from Acetone. *Journal of Chemical Engineering of Japan*, **2009**, 42, S162-S167	0.8	14

61	Conversion of silica nanoparticles into Si nanocrystals through electrochemical reduction. *Nanoscale*, **2014**, 6, 10574-83	7.7	13
60	Reversible pore size control of elastic microporous material by mechanical force. *Chemistry - A European Journal*, **2013**, 19, 13009-16	4.8	13
59	Boron and nitrogen co-doped ordered microporous carbons with high surface areas. *Chemical Communications*, **2017**, 53, 13348-13351	5.8	13
58	Effect of carbon surface on degradation of supercapacitors in a negative potential range. *Journal of Power Sources*, **2020**, 457, 228042	8.9	12
57	Easy fabrication of superporous zeolite templated carbon electrodes by electrospraying on rigid and flexible substrates. *Journal of Materials Chemistry A*, **2016**, 4, 4610-4618	13	12
56	Amorphous water in three-dimensional confinement of zeolite-templated carbon. *Chemical Physics Letters*, **2013**, 571, 54-60	2.5	12
55	Submicron mesoporous carbon spheres by ultrasonic emulsification. *Journal of Porous Materials*, **2008**, 15, 265-270	2.4	12
54	Fabrication of Si nanopowder from Si swarf and application to high-capacity and low cost Li-ion batteries. *Journal of Alloys and Compounds*, **2017**, 720, 529-540	5.7	11
53	Structural Coloration of a Colloidal Amorphous Array is Intensified by Carbon Nanolayers. *Langmuir*, **2018**, 34, 4282-4288	4	11
52	Porous Carbon Fibers Containing Pores with Sizes Controlled at the Ångstrom Level by the Cavity Size of Pillar[6]arene. *Angewandte Chemie*, **2015**, 127, 6566-6569	3.6	11
51	Path integral molecular dynamics for hydrogen adsorption site of zeolite-templated carbon with semi-empirical PM3 potential. *Computational and Theoretical Chemistry*, **2011**, 975, 128-133	2	11
50	Synthesis of Ordered Carbonaceous Framework with Microporosity from Porphyrin with Ethynyl Groups. *Chemistry Letters*, **2020**, 49, 619-623	1.7	10
49	Enhanced hydrogen chemisorption and spillover on non-metallic nickel subnanoclusters. *Journal of Materials Chemistry A*, **2018**, 6, 12523-12531	13	10
48	Formation of Foam-like Microstructural Carbon Material by Carbonization of Porous Coordination Polymers through a Ligand-Assisted Foaming Process. *Chemistry - A European Journal*, **2015**, 21, 13278-83	4.8	9
47	Fabrication and characterization of magnetic nanoporous zeolite templated carbon. *Journal of Physics and Chemistry of Solids*, **2010**, 71, 565-568	3.9	9
46	Assembling of nanoparticles using ice crystals. *Materials Chemistry and Physics*, **2010**, 123, 347-350	4.4	9
45	A Simple Nano-Templating Method Using Zeolite Y Toward the Formation of Carbon Schwarzites. *Frontiers in Materials*, **2019**, 6,	4	8
44	Unusual Redox Behavior of Ruthenocene Confined in the Micropores of Activated Carbon. *Journal of Physical Chemistry C*, **2020**, 124, 15205-15215	3.8	8

43	Preparation of Highly Dispersed Pt Nanoparticles Supported on Zeolite-templated Carbon and Catalytic Application in Hydrogenation Reaction. *Chemistry Letters*, **2014**, 43, 1794-1796	1.7	8
42	Zeolite-Templated Carbon □ts Unique Characteristics and Applications **2012**, 295-322		8
41	Synthesis of graphene mesosponge via catalytic methane decomposition on magnesium oxide. *Journal of Materials Chemistry A*, **2021**, 9, 14296-14308	13	8
40	Improvement of Cyclability of Li-Ion Batteries Using C-Coated Si Nanopowder Electrode Fabricated from Si Swarf with Limitation of Delithiation Capacity. *Journal of the Electrochemical Society*, **2017**, 164, A995-A1001	3.9	7
39	Quantifying Carbon Edge Sites on Depressing Hydrogen Evolution Reaction Activity. *Nano Letters*, **2020**, 20, 5885-5892	11.5	6
38	Nuclear quantum effect on hydrogen adsorption site of zeolite-templated carbon model using path integral molecular dynamics. *Journal of Alloys and Compounds*, **2011**, 509, S868-S871	5.7	6
37	Water-dispersible "carbon nanopods" with controllable graphene layer orientation. *Chemical Communications*, **2009**, 4554-6	5.8	6
36	The carbonization of aromatic molecules with three-dimensional structures affords carbon materials with controlled pore sizes at the □gstrom-level. *Communications Chemistry*, **2021**, 4,	6.3	6
35	Microsphere Assemblies via Phosphonate Monoester Coordination Chemistry. *Chemistry - A European Journal*, **2018**, 24, 1533-1538	4.8	5
34	Synthesis and Photoproperties of Edge-functionalized Zeolite-templated Carbon with Bromine or Carbazole Groups. *Chemistry Letters*, **2016**, 45, 601-603	1.7	5
33	Magnetic properties of host□guest material using network of curved nanocarbon sheet. *Journal of Physics and Chemistry of Solids*, **2012**, 73, 1436-1439	3.9	5
32	Phase Diagram of 4He Film in 3D Nanopores of ZTC. *Journal of Low Temperature Physics*, **2011**, 162, 565-572	1.52	5
31	Template synthesis of carbon-based uniform nanoporous materials and their applications for energy storage. *Tanso*, **2011**, 2011, 89-95	0.1	5
30	Iron porphyrin-derived ordered carbonaceous frameworks. *Catalysis Today*, **2021**, 364, 164-171	5.3	5
29	pH-Dependent Morphology Control of Cellulose Nanofiber/Graphene Oxide Cryogels. *Small*, **2021**, 17, e2005564	11	5
28	Scalable nanoporous carbon films allow line-of-sight 3D atomic layer deposition of Pt: towards a new generation catalyst layer for PEM fuel cells. *Materials Horizons*, **2021**, 8, 2451-2462	14.4	5
27	Nuclear magnetic resonance study of zeolite-templated carbon. *Synthetic Metals*, **2016**, 221, 149-152	3.6	4
26	Isotope effect of proton and deuteron adsorption site on zeolite-templated carbon using path integral molecular dynamics. *Theoretical Chemistry Accounts*, **2011**, 130, 1039-1042	1.9	4

25	Helium Film Formed in 1.2 nm Pore in Zeolite Templated Carbon. *Journal of Low Temperature Physics*, **2010**, 158, 275-280	1.3	4
24	Development of a simple NLDFT model for the analysis of adsorption isotherms on zeolite templated carbon (ZTC). *Carbon*, **2020**, 169, 205-213	10.4	4
23	Energy Storage: Templated Nanocarbons for Energy Storage (Adv. Mater. 33/2012). *Advanced Materials*, **2012**, 24, 4466-4466	24	3
22	Pyrene-Thiol-modified Pd Nanoparticles on Carbon Support: Kinetic Control by Steric Hinderance and Improved Stability by the Catalyst-Support Interaction. *ChemCatChem*, **2020**, 12, 5880-5887	5.2	3
21	A volatile redox mediator boosts the long-cycle performance of lithium-oxygen batteries. *Energy Storage Materials*, **2021**, 38, 571-580	19.4	3
20	Force-responsive ordered carbonaceous frameworks synthesized from Ni-porphyrin. *Chemical Communications*, **2021**, 57, 6007-6010	5.8	3
19	Elucidation of oxygen reduction reaction and nanostructure of platinum-loaded graphene mesosponge for polymer electrolyte fuel cell electrocatalyst. *Electrochimica Acta*, **2021**, 370, 137705	6.7	3
18	High-density monolithic pellets of double-sided graphene fragments based on zeolite-templated carbon. *Journal of Materials Chemistry A*, **2021**, 9, 7503-7507	13	3
17	Central metal dependent modulation of induced-fit gas uptake in molecular porphyrin solids. *Chemical Communications*, **2018**, 54, 7822-7825	5.8	2
16	Synthesis of nano-carbons by using the template method. *Tanso*, **2008**, 2008, 307-315	0.1	2
15	Nano-Confinement of Insulating Sulfur in the Cathode Composite of All-Solid-State Li-S Batteries Using Flexible Carbon Materials with Large Pore Volumes. *ACS Applied Materials & Interfaces*, **2021**, 13, 38613-38622	9.5	2
14	Ordered carbonaceous frameworks: a new class of carbon materials with molecular-level design.. *Chemical Communications*, **2022**,	5.8	2
13	Carbon tubules containing nanocrystalline SiC produced by the graphitization of sugar cane bagasse. *Carbon*, **2014**, 68, 814-817	10.4	1
12	Synthesis of zeolite-templated carbons for methane storage: A molecular simulation study. *Tanso*, **2018**, 2018, 197-203	0.1	1
11	Nanoscale characterization of the site-specific degradation of electric double-layer capacitor using scanning electrochemical cell microscopy. *Electrochemical Science Advances*,e2100053		1
10	Pillar[6]quinone: facile synthesis, crystal structures and electrochemical properties. *Chemical Communications*, **2021**, 57, 6360-6363	5.8	1
9	Edgeless porous carbon coating for durable and powerful lead-carbon batteries. *Carbon*, **2021**, 185, 419-427	10.4	1
8	Porous nanographene formation on □alumina nanoparticles transition-metal-free methane activation.. *Chemical Science*, **2022**, 13, 3140-3146	9.4	1

List of Publications

7	In-Depth Analysis of Key Factors Affecting the Catalysis of Oxidized Carbon Blacks for Cellulose Hydrolysis. *ACS Catalysis*, **2022**, 12, 892-905	13.1	1
6	One-Step Fabrication of Homogeneous Ta3N5 Crystal Photoanodes Using TaF5 Evaporation Supply for Photoelectrochemical Water Splitting. *ACS Applied Energy Materials*, **2021**, 4, 2690-2695	6.1	0
5	Coordination chemistry for innovative carbon-related materials. *Coordination Chemistry Reviews*, **2022**, 466, 214577	23.2	0
4	Innenrücktitelbild: Porous Carbon Fibers Containing Pores with Sizes Controlled at the Ångstrom Level by the Cavity Size of Pillar[6]arene (Angew. Chem. 22/2015). *Angewandte Chemie*, **2015**, 127, 6751-6751	3.6	
3	Electronic structure studies of carbon materials by high energy-resolution carbon K-emission spectroscopy measurements. *Microscopy and Microanalysis*, **2008**, 14, 796-797	0.5	
2	Carbon deposition into nanospace through CVD. *Tanso*, **2007**, 2007, 345-351	0.1	
1	Formation of unique nanowhiskers on carbon gels. *Carbon*, **2004**, 42, 2119-2121	10.4	