

Lars Borchardt

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126
papers

6,574
citations

42
h-index

78
g-index

133
ext. papers

7,446
ext. citations

10.1
avg, IF

6.02
L-index

#	Paper	IF	Citations
126	High-rate electrochemical capacitors based on ordered mesoporous silicon carbide-derived carbon. <i>ACS Nano</i> , 2010 , 4, 1337-44	16.7	408
125	Direct prediction of the desalination performance of porous carbon electrodes for capacitive deionization. <i>Energy and Environmental Science</i> , 2013 , 6, 3700	35.4	384
124	Sulfur-infiltrated micro- and mesoporous silicon carbide-derived carbon cathode for high-performance lithium sulfur batteries. <i>Advanced Materials</i> , 2013 , 25, 4573-9	24	284
123	Carbon Materials for Lithium Sulfur Batteries-Ten Critical Questions. <i>Chemistry - A European Journal</i> , 2016 , 22, 7324-51	4.8	274
122	Hierarchical micro- and mesoporous carbide-derived carbon as a high-performance electrode material in supercapacitors. <i>Small</i> , 2011 , 7, 1108-17	11	263
121	Tailoring porosity in carbon materials for supercapacitor applications. <i>Materials Horizons</i> , 2014 , 1, 157-168	6.4	235
120	Bimetallic aerogels: high-performance electrocatalysts for the oxygen reduction reaction. <i>Angewandte Chemie - International Edition</i> , 2013 , 52, 9849-52	16.4	211
119	Fungi-based porous carbons for CO ₂ adsorption and separation. <i>Journal of Materials Chemistry</i> , 2012 , 22, 13911		177
118	Highly porous nitrogen-doped polyimine-based carbons with adjustable microstructures for CO ₂ capture. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 10951	13	167
117	High-performance electrocatalysis on palladium aerogels. <i>Angewandte Chemie - International Edition</i> , 2012 , 51, 5743-7	16.4	149
116	Toward a molecular design of porous carbon materials. <i>Materials Today</i> , 2017 , 20, 592-610	21.8	146
115	Imine-linked polymer-derived nitrogen-doped microporous carbons with excellent CO ₂ capture properties. <i>ACS Applied Materials & Interfaces</i> , 2013 , 5, 3160-7	9.5	144
114	A cubic ordered, mesoporous carbide-derived carbon for gas and energy storage applications. <i>Carbon</i> , 2010 , 48, 3987-3992	10.4	130
113	Carbide-derived carbon monoliths with hierarchical pore architectures. <i>Angewandte Chemie - International Edition</i> , 2012 , 51, 7577-80	16.4	120
112	High capacity micro-mesoporous carbon-sulfur nanocomposite cathodes with enhanced cycling stability prepared by a solvent-free procedure. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 9225	13	119
111	Multimetallic Aerogels by Template-Free Self-Assembly of Au, Ag, Pt, and Pd Nanoparticles. <i>Chemistry of Materials</i> , 2014 , 26, 1074-1083	9.6	116
110	Ordered mesoporous carbide derived carbons for high pressure gas storage. <i>Carbon</i> , 2010 , 48, 1707-1717	10.4	112

109	Twin polymerization at spherical hard templates: an approach to size-adjustable carbon hollow spheres with micro- or mesoporous shells. <i>Angewandte Chemie - International Edition</i> , 2013 , 52, 6088-91	16.4	110
108	Controlling the growth of palladium aerogels with high-performance toward bioelectrocatalytic oxidation of glucose. <i>Journal of the American Chemical Society</i> , 2014 , 136, 2727-30	16.4	105
107	Mechanochemical Friedel-Crafts Alkylation-A Sustainable Pathway Towards Porous Organic Polymers. <i>Angewandte Chemie - International Edition</i> , 2017 , 56, 6859-6863	16.4	100
106	3D assembly of semiconductor and metal nanocrystals: hybrid CdTe/Au structures with controlled content. <i>Journal of the American Chemical Society</i> , 2011 , 133, 13413-20	16.4	99
105	Solvent-Free Mechanochemical Synthesis of Nitrogen-Doped Nanoporous Carbon for Electrochemical Energy Storage. <i>ChemSusChem</i> , 2017 , 10, 2416-2424	8.3	94
104	Ordered Mesoporous Carbide Derived Carbons: Novel Materials for Catalysis and Adsorption. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 7755-7761	3.8	93
103	Hierarchical Carbide-Derived Carbon Foams with Advanced Mesostructure as a Versatile Electrochemical Energy-Storage Material. <i>Advanced Energy Materials</i> , 2014 , 4, 1300645	21.8	90
102	A new route for the preparation of mesoporous carbon materials with high performance in lithium-sulphur battery cathodes. <i>Chemical Communications</i> , 2013 , 49, 5832-4	5.8	88
101	Interaction of electrolyte molecules with carbon materials of well-defined porosity: characterization by solid-state NMR spectroscopy. <i>Physical Chemistry Chemical Physics</i> , 2013 , 15, 15177-84	3.6	76
100	Preparation and application of cellular and nanoporous carbides. <i>Chemical Society Reviews</i> , 2012 , 41, 5053-67	58.5	72
99	PEGylated hollow mesoporous silica nanoparticles as potential drug delivery vehicles. <i>Microporous and Mesoporous Materials</i> , 2011 , 141, 199-206	5.3	71
98	The Importance of Pore Size and Surface Polarity for Polysulfide Adsorption in Lithium Sulfur Batteries. <i>Advanced Materials Interfaces</i> , 2016 , 3, 1600508	4.6	62
97	Self-Supporting Hierarchical Porous PtAg Alloy Nanotubular Aerogels as Highly Active and Durable Electrocatalysts. <i>Chemistry of Materials</i> , 2016 , 28, 6477-6483	9.6	62
96	Role of surface functional groups in ordered mesoporous carbide-derived carbon/ionic liquid electrolyte double-layer capacitor interfaces. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 2922-8	9.5	57
95	Nitrogen-Doped Biomass-Derived Carbon Formed by Mechanochemical Synthesis for Lithium-Sulfur Batteries. <i>ChemSusChem</i> , 2019 , 12, 310-319	8.3	56
94	Mechanochemical Suzuki polycondensation [From linear to hyperbranched polyphenylenes. <i>Green Chemistry</i> , 2017 , 19, 2973-2979	10	52
93	Revising the Concept of Pore Hierarchy for Ionic Transport in Carbon Materials for Supercapacitors. <i>Advanced Energy Materials</i> , 2018 , 8, 1800892	21.8	52
92	Mechanochemical polymerization [controlling a polycondensation reaction between a diamine and a dialdehyde in a ball mill. <i>RSC Advances</i> , 2016 , 6, 64799-64802	3.7	51

91	Micro- and mesoporous carbide-derived carbon prepared by a sacrificial template method in high performance lithium sulfur battery cathodes. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 17649-17654	13	51
90	Illuminating solid gas storage in confined spaces - methane hydrate formation in porous model carbons. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 20607-14	3.6	51
89	Mixed Aerogels from Au and CdTe Nanoparticles. <i>Advanced Functional Materials</i> , 2013 , 23, 1903-1911	15.6	50
88	Transition metal loaded silicon carbide-derived carbons with enhanced catalytic properties. <i>Carbon</i> , 2012 , 50, 1861-1870	10.4	49
87	Synthesis, characterization, and hydrogen storage capacities of hierarchical porous carbide derived carbon monolith. <i>Journal of Materials Chemistry</i> , 2012 , 22, 23893		48
86	Mechanochemical Friedel-Crafts Alkylation: A Sustainable Pathway Towards Porous Organic Polymers. <i>Angewandte Chemie</i> , 2017 , 129, 6963-6967	3.6	45
85	Ordered mesoporous carbide-derived carbons prepared by soft templating. <i>Carbon</i> , 2012 , 50, 3987-3994	10.4	45
84	Nanoimprint lithography of nanoporous carbon materials for micro-supercapacitor architectures. <i>Nanoscale</i> , 2018 , 10, 10109-10115	7.7	41
83	The mechanochemical Scholl reaction - a solvent-free and versatile graphitization tool. <i>Chemical Communications</i> , 2018 , 54, 5307-5310	5.8	40
82	Direct Mechano catalysis: Palladium as Milling Media and Catalyst in the Mechanochemical Suzuki Polymerization. <i>Angewandte Chemie - International Edition</i> , 2019 , 58, 18942-18947	16.4	39
81	Bimetall-Aerogele: hoch effiziente Elektrokatalysatoren für die Sauerstoffreduktion. <i>Angewandte Chemie</i> , 2013 , 125, 10033-10037	3.6	38
80	Carbon dioxide activated carbide-derived carbon monoliths as high performance adsorbents. <i>Carbon</i> , 2013 , 56, 139-145	10.4	38
79	Hybrid N-Butylamine-Based Ligands for Switching the Colloidal Solubility and Regeneration of Inorganic-Capped Nanocrystals. <i>ACS Nano</i> , 2017 , 11, 1559-1571	16.7	37
78	Methane Hydrate in Confined Spaces: An Alternative Storage System. <i>ChemPhysChem</i> , 2018 , 19, 1298-1314	3.4	37
77	Mechanochemical synthesis of N-doped porous carbon at room temperature. <i>Nanoscale</i> , 2019 , 11, 4712-4718	4.7	35
76	Rediscovering zeolite mechanochemistry: A pathway beyond current synthesis and modification boundaries. <i>Microporous and Mesoporous Materials</i> , 2014 , 194, 106-114	5.3	33
75	Hydrogen production from catalytic decomposition of methane over ordered mesoporous carbons (CMK-3) and carbide-derived carbon (DUT-19). <i>Carbon</i> , 2014 , 67, 377-389	10.4	31
74	Design of Hierarchically Porous Carbons with Interlinked Hydrophilic and Hydrophobic Surface and Their Capacitive Behavior. <i>Chemistry of Materials</i> , 2016 , 28, 8715-8725	9.6	30

73	Tailored Mesoporous Carbon/Vanadium Pentoxide Hybrid Electrodes for High Power Pseudocapacitive Lithium and Sodium Intercalation. <i>Chemistry of Materials</i> , 2017 , 29, 8653-8662	9.6	29
72	Trimodal hierarchical carbide-derived carbon monoliths from steam- and CO ₂ -activated wood templates for high rate lithium sulfur batteries. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 24103-24111	13	29
71	Carbon onion/sulfur hybrid cathodes for lithium/sulfur batteries. <i>Sustainable Energy and Fuels</i> , 2017 , 1, 84-94	5.8	28
70	Experimental Evidence of Confined Methane Hydrate in Hydrophilic and Hydrophobic Model Carbons. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 24071-24079	3.8	28
69	Structural Characterization of Micro- and Mesoporous Carbon Materials Using In Situ High Pressure ¹²⁹ Xe NMR Spectroscopy. <i>Chemistry of Materials</i> , 2014 , 26, 3280-3288	9.6	28
68	Palladium-Aerogele für die hocheffiziente Elektrokatalyse. <i>Angewandte Chemie</i> , 2012 , 124, 5841-5846	3.6	28
67	Microporous novolac-derived carbon beads/sulfur hybrid cathode for lithium-sulfur batteries. <i>Journal of Power Sources</i> , 2017 , 357, 198-208	8.9	27
66	Direct Mechano catalysis: Using Milling Balls as Catalysts. <i>Chemistry - A European Journal</i> , 2020 , 26, 12903-12911	11.7	27
65	Mechanochemical synthesis of porous carbon at room temperature with a highly ordered sp ² microstructure. <i>Carbon</i> , 2018 , 139, 325-333	10.4	27
64	Evolution of porosity in carbide-derived carbon aerogels. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 18472-18476	11.2	26
63	Textural characterization of micro- and mesoporous carbons using combined gas adsorption and n-nonane preadsorption. <i>Langmuir</i> , 2013 , 29, 8133-9	4	26
62	Electrolyte mobility in supercapacitor electrodes Solid state NMR studies on hierarchical and narrow pore sized carbons. <i>Energy Storage Materials</i> , 2018 , 12, 183-190	19.4	25
61	An Asymmetric Supercapacitor-Diode (CAPode) for Unidirectional Energy Storage. <i>Angewandte Chemie - International Edition</i> , 2019 , 58, 13060-13065	16.4	24
60	Kroll-carbons based on silica and alumina templates as high-rate electrode materials in electrochemical double-layer capacitors. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 5131	13	24
59	Carbon onion/sulfur hybrid cathodes via inverse vulcanization for lithium/sulfur batteries. <i>Sustainable Energy and Fuels</i> , 2018 , 2, 133-146	5.8	23
58	Nanocasting in ball mills Combining ultra-hydrophilicity and ordered mesoporosity in carbon materials. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 859-865	13	22
57	Functionalised porous nanocomposites: a multidisciplinary approach to investigate designed structures for supercapacitor applications. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 4904	13	22
56	Ordered Mesoporous Boron Carbide Based Materials via Precursor Nanocasting. <i>Chemistry of Materials</i> , 2010 , 22, 4660-4668	9.6	22

55	Comparing pore structure models of nanoporous carbons obtained from small angle X-ray scattering and gas adsorption. <i>Carbon</i> , 2019 , 152, 416-423	10.4	21
54	Mechanochemical synthesis of hyper-crosslinked polymers: influences on their pore structure and adsorption behaviour for organic vapors. <i>Beilstein Journal of Organic Chemistry</i> , 2019 , 15, 1154-1161	2.5	21
53	Carbon nano-composites for lithium-sulfur batteries. <i>Current Opinion in Green and Sustainable Chemistry</i> , 2017 , 4, 64-71	7.9	19
52	Mechanochemistry-assisted synthesis of hierarchical porous carbons applied as supercapacitors. <i>Beilstein Journal of Organic Chemistry</i> , 2017 , 13, 1332-1341	2.5	19
51	Thermogravimetric Analysis of Activated Carbons, Ordered Mesoporous Carbide-Derived Carbons, and Their Deactivation Kinetics of Catalytic Methane Decomposition. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 1741-1753	3.9	19
50	Preparation of cubic ordered mesoporous silicon carbide monoliths by pressure assisted preceramic polymer nanocasting. <i>Microporous and Mesoporous Materials</i> , 2013 , 168, 142-147	5.3	19
49	Emulsion soft templating of carbide-derived carbon nanospheres with controllable porosity for capacitive electrochemical energy storage. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 17983-17990	13	18
48	Solvent-free synthesis of a porous thiophene polymer by mechanochemical oxidative polymerization. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 21901-21905	13	18
47	Titanium Carbide and Carbide-Derived Carbon Composite Nanofibers by Electrospinning of Ti-Resin Precursor. <i>Chemie-Ingenieur-Technik</i> , 2013 , 85, 1742-1748	0.8	18
46	Ionic liquid - Electrode materials interactions studied by NMR spectroscopy, cyclic voltammetry, and impedance spectroscopy. <i>Energy Storage Materials</i> , 2019 , 19, 432-438	19.4	16
45	The mechanochemical Scholl reaction as a versatile synthesis tool for the solvent-free generation of microporous polymers.. <i>RSC Advances</i> , 2020 , 10, 25509-25516	3.7	16
44	Towards a continuous adsorption process for the enrichment of ACE-inhibiting peptides from food protein hydrolysates. <i>Carbon</i> , 2016 , 107, 116-123	10.4	16
43	Salt templated synthesis of hierarchical covalent triazine frameworks. <i>Microporous and Mesoporous Materials</i> , 2017 , 239, 190-194	5.3	16
42	ZnPd/ZnO Aerogels as Potential Catalytic Materials. <i>Advanced Functional Materials</i> , 2016 , 26, 1014-1020	15.6	15
41	Structuring zeolite bodies for enhanced heat-transfer properties. <i>Microporous and Mesoporous Materials</i> , 2015 , 208, 196-202	5.3	14
40	Enhancing ACE-inhibition of food protein hydrolysates by selective adsorption using porous carbon materials. <i>Carbon</i> , 2015 , 87, 309-316	10.4	13
39	Interactions Between Electrolytes and Carbon-Based Materials—NMR Studies on Electrical Double-Layer Capacitors, Lithium-Ion Batteries, and Fuel Cells. <i>Annual Reports on NMR Spectroscopy</i> , 2016 , 237-318	1.7	13
38	Aus Carbiden abgeleitete Kohlenstoffmonolithe mit hierarchischer Porenarchitektur. <i>Angewandte Chemie</i> , 2012 , 124, 7695-7698	3.6	13

37	CeO ₂ /Pt Catalyst Nanoparticle Containing Carbide-Derived Carbon Composites by a New In situ Functionalization Strategy. <i>Chemistry of Materials</i> , 2011 , 23, 57-66	9.6	13
36	A hard-templating route towards ordered mesoporous tungsten carbide and carbide-derived carbons. <i>Microporous and Mesoporous Materials</i> , 2014 , 186, 163-167	5.3	12
35	Extraction of ACE-inhibiting dipeptides from protein hydrolysates using porous carbon materials. <i>Carbon</i> , 2014 , 77, 191-198	10.4	12
34	The Formation and Morphology of Nanoparticle Supracrystals. <i>Advanced Functional Materials</i> , 2016 , 26, 4890-4895	15.6	12
33	Tailoring the porosity of a mesoporous carbon by a solvent-free mechanochemical approach. <i>Carbon</i> , 2019 , 147, 43-50	10.4	12
32	The mechanochemical synthesis of polymers.. <i>Chemical Society Reviews</i> , 2022 ,	58.5	12
31	Mechanochemical Cyclodehydrogenation with Elemental Copper: An Alternative Pathway toward Nanographenes. <i>ACS Sustainable Chemistry and Engineering</i> , 2020 , 8, 7569-7573	8.3	11
30	Zwillingspolymerisation an sphärischen Hart-Templaten –ein Weg zu Kohlenstoffhohlkugeln mit einstellbarer Größe und mikro- oder mesoporener Schale. <i>Angewandte Chemie</i> , 2013 , 125, 6204-6207	3.6	11
29	Sustainable and rapid preparation of nanosized Fe/Ni-pentlandite particles by mechanochemistry. <i>Chemical Science</i> , 2020 , 11, 12835-12842	9.4	11
28	Upcycling of polyurethane waste by mechanochemistry: synthesis of N-doped porous carbon materials for supercapacitor applications. <i>Beilstein Journal of Nanotechnology</i> , 2019 , 10, 1618-1627	3	10
27	Complete and partial oxidation of methane on ceria/platinum silicon carbide nanocomposites. <i>Catalysis Science and Technology</i> , 2012 , 2, 139-146	5.5	10
26	Titanium Niobium Oxide Ti Nb O /Carbon Hybrid Electrodes Derived by Mechanochemically Synthesized Carbide for High-Performance Lithium-Ion Batteries. <i>ChemSusChem</i> , 2021 , 14, 398-407	8.3	10
25	Direkte Mechanokatalyse: Palladium als Mahlmittel und Katalysator in der mechanochemischen Suzuki-Polymerisation. <i>Angewandte Chemie</i> , 2019 , 131, 19118-19123	3.6	9
24	Revealing the Impact of Hierarchical Pore Organization in Supercapacitor Electrodes by Coupling Ionic Dynamics at Micro- and Macroscales. <i>Advanced Energy Materials</i> , 2021 , 11, 2100700	21.8	9
23	On the origin of mesopore collapse in functionalized porous carbons. <i>Carbon</i> , 2019 , 149, 743-749	10.4	8
22	A guide to direct mechanocatalysis.. <i>Chemical Communications</i> , 2022 ,	5.8	8
21	Influence of surface wettability on methane hydrate formation in hydrophilic and hydrophobic mesoporous silicas. <i>Chemical Engineering Journal</i> , 2021 , 405, 126955	14.7	8
20	In Situ Generation of Electrolyte inside Pyridine-Based Covalent Triazine Frameworks for Direct Supercapacitor Integration. <i>ChemSusChem</i> , 2020 , 13, 3192-3198	8.3	7

19	Mechanochemical Functionalization of Carbon Black at Room Temperature. <i>Journal of Carbon Research</i> , 2018 , 4, 14	3.3	6
18	Ceria/silicon carbide core-shell materials prepared by miniemulsion technique. <i>Beilstein Journal of Nanotechnology</i> , 2011 , 2, 638-44	3	6
17	A comprehensive approach for the characterization of porous polymers using C and N dynamic nuclear polarization NMR spectroscopy. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 23307-23314	3.6	5
16	The In Situ Electrolyte Concept: Using Activation Chemicals as Electrolytes for Carbon-Based Supercapacitors. <i>Advanced Sustainable Systems</i> , 2018 , 2, 1800087	5.9	5
15	Solvent-free hierarchization of zeolites by carbochlorination. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 221-229	13	4
14	The mechanochemical Friedel-Crafts polymerization as a solvent-free cross-linking approach toward microporous polymers. <i>Journal of Polymer Science</i> ,	2.4	4
13	Solid-state transformation of aqueous to organic electrolyte Enhancing the operating voltage window of In situ electrolyte Supercapacitors. <i>Sustainable Energy and Fuels</i> , 2020 , 4, 2438-2447	5.8	3
12	Tailoring the Adsorption of ACE-Inhibiting Peptides by Nitrogen Functionalization of Porous Carbons. <i>Langmuir</i> , 2019 , 35, 9721-9731	4	3
11	Bronze Age of Direct Mechanocatalysis: How Alloyed Milling Materials Advance Coupling in Ball Mills. <i>Advanced Energy and Sustainability Research</i> , 2021 , 2, 2100011	1.6	3
10	Mechanochemically Assisted Synthesis of Hexaazatriphenylenehexacarbonitrile. <i>Journal of Organic Chemistry</i> , 2021 , 86, 14011-14015	4.2	3
9	Diffusion: Revising the Concept of Pore Hierarchy for Ionic Transport in Carbon Materials for Supercapacitors (Adv. Energy Mater. 24/2018). <i>Advanced Energy Materials</i> , 2018 , 8, 1870108	21.8	3
8	Nanoporous Carbide-Derived Carbons as Electrode Materials in Electrochemical Double-Layer Capacitors 2015 , 417-453		2
7	Mechanochemically-Assisted Synthesis of Polyimides. <i>ChemSusChem</i> , 2021 , 15, e202101975	8.3	2
6	Reaktoren für spezielle technisch-chemische Prozesse: Tribochemische Reaktoren. <i>Springer Reference Naturwissenschaften</i> , 2018 , 1-28	0.2	1
5	Non-porous organic crystals and their interaction with guest molecules from the gas phase. <i>Adsorption</i> , 2020 , 26, 1323-1333	2.6	1
4	An Asymmetric Supercapacitor Diode (CAPode) for Unidirectional Energy Storage. <i>Angewandte Chemie</i> , 2019 , 131, 13194-13199	3.6	0
3	Beyond the Scholl reaction - one-step planarization and edge chlorination of nanographenes by mechanochemistry.. <i>RSC Advances</i> , 2021 , 11, 38026-38032	3.7	0
2	Reaktoren für spezielle technisch-chemische Prozesse: Tribochemische Reaktoren. <i>Springer Reference Naturwissenschaften</i> , 2020 , 1155-1182	0.2	

- 1 Supercapacitors: Revealing the Impact of Hierarchical Pore Organization in Supercapacitor Electrodes by Coupling Ionic Dynamics at Micro- and Macroscales (Adv. Energy Mater. 24/2021). *Advanced Energy Materials*, **2021**, 11, 2170090 21.8