

# Richard B Kaner

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

421 papers	65,906 citations	105 h-index	253 g-index
469 ext. papers	71,727 ext. citations	11.7 avg, IF	8.21 L-index

#	Paper	IF	Citations
421	Processable aqueous dispersions of graphene nanosheets. <i>Nature Nanotechnology</i> , <b>2008</b> , 3, 101-5	28.7	7729
420	Honeycomb carbon: a review of graphene. <i>Chemical Reviews</i> , <b>2010</b> , 110, 132-45	68.1	5411
419	Laser scribing of high-performance and flexible graphene-based electrochemical capacitors. <i>Science</i> , <b>2012</b> , 335, 1326-30	33.3	3197
418	High-throughput solution processing of large-scale graphene. <i>Nature Nanotechnology</i> , <b>2009</b> , 4, 25-9	28.7	1778
417	A chemical route to graphene for device applications. <i>Nano Letters</i> , <b>2007</b> , 7, 3394-8	11.5	1734
416	Polyaniline nanofibers: facile synthesis and chemical sensors. <i>Journal of the American Chemical Society</i> , <b>2003</b> , 125, 314-5	16.4	1504
415	Design and Mechanisms of Asymmetric Supercapacitors. <i>Chemical Reviews</i> , <b>2018</b> , 118, 9233-9280	68.1	1396
414	Scalable fabrication of high-power graphene micro-supercapacitors for flexible and on-chip energy storage. <i>Nature Communications</i> , <b>2013</b> , 4, 1475	17.4	1376
413	Materials science. Graphene-based materials. <i>Science</i> , <b>2008</b> , 320, 1170-1	33.3	1257
412	A general chemical route to polyaniline nanofibers. <i>Journal of the American Chemical Society</i> , <b>2004</b> , 126, 851-5	16.4	1227
411	Practical chemical sensors from chemically derived graphene. <i>ACS Nano</i> , <b>2009</b> , 3, 301-6	16.7	1215
410	Nanostructured Tungsten Oxide [Properties, Synthesis, and Applications. <i>Advanced Functional Materials</i> , <b>2011</b> , 21, 2175-2196	15.6	994
409	Polyaniline Nanofiber Gas Sensors: Examination of Response Mechanisms. <i>Nano Letters</i> , <b>2004</b> , 4, 491-496	11.5	936
408	Low-temperature solution processing of graphene-carbon nanotube hybrid materials for high-performance transparent conductors. <i>Nano Letters</i> , <b>2009</b> , 9, 1949-55	11.5	899
407	Graphene-based materials for flexible supercapacitors. <i>Chemical Society Reviews</i> , <b>2015</b> , 44, 3639-65	58.5	851
406	Polyaniline nanofibers: a unique polymer nanostructure for versatile applications. <i>Accounts of Chemical Research</i> , <b>2009</b> , 42, 135-45	24.3	832
405	Polyaniline nanofiber/gold nanoparticle nonvolatile memory. <i>Nano Letters</i> , <b>2005</b> , 5, 1077-80	11.5	760

404	Graphene for batteries, supercapacitors and beyond. <i>Nature Reviews Materials</i> , <b>2016</b> , 1,	73.3	681
403	Alkali-Fulleride Superconductors: Synthesis, Composition, and Diamagnetic Shielding. <i>Science</i> , <b>1991</b> , 252, 1154-1157	33.3	680
402	Structure of single-phase superconducting K3C60. <i>Nature</i> , <b>1991</b> , 351, 632-634	50.4	676
401	Synthesis of ultra-incompressible superhard rhenium diboride at ambient pressure. <i>Science</i> , <b>2007</b> , 316, 436-9	33.3	646
400	A chemical route to carbon nanoscrolls. <i>Science</i> , <b>2003</b> , 299, 1361	33.3	636
399	Nanofiber formation in the chemical polymerization of aniline: a mechanistic study. <i>Angewandte Chemie - International Edition</i> , <b>2004</b> , 43, 5817-21	16.4	605
398	Materials science. Designing superhard materials. <i>Science</i> , <b>2005</b> , 308, 1268-9	33.3	570
397	A one-step, solvothermal reduction method for producing reduced graphene oxide dispersions in organic solvents. <i>ACS Nano</i> , <b>2010</b> , 4, 3845-52	16.7	509
396	Towards establishing standard performance metrics for batteries, supercapacitors and beyond. <i>Chemical Society Reviews</i> , <b>2019</b> , 48, 1272-1341	58.5	461
395	Nanostructured polyaniline sensors. <i>Chemistry - A European Journal</i> , <b>2004</b> , 10, 1314-9	4.8	458
394	Shape and aggregation control of nanoparticles: not shaken, not stirred. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 968-75	16.4	437
393	One-Dimensional Conducting Polymer Nanostructures: Bulk Synthesis and Applications. <i>Advanced Materials</i> , <b>2009</b> , 21, 1487-1499	24	422
392	Nanostructured Bulk Silicon as an Effective Thermoelectric Material. <i>Advanced Functional Materials</i> , <b>2009</b> , 19, 2445-2452	15.6	419
391	Engineering three-dimensional hybrid supercapacitors and microsupercapacitors for high-performance integrated energy storage. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 4233-8	11.5	408
390	Graphene, a promising transparent conductor. <i>Materials Today</i> , <b>2010</b> , 13, 52-59	21.8	407
389	Osmium diboride, an ultra-incompressible, hard material. <i>Journal of the American Chemical Society</i> , <b>2005</b> , 127, 7264-5	16.4	395
388	Palladium nanoparticles supported on polyaniline nanofibers as a semi-heterogeneous catalyst in water. <i>Angewandte Chemie - International Edition</i> , <b>2007</b> , 46, 7251-4	16.4	390
387	Graphene/Polyaniline Nanocomposite for Hydrogen Sensing. <i>Journal of Physical Chemistry C</i> , <b>2010</b> , 114, 16168-16173	3.8	387

386	A liquid metal reaction environment for the room-temperature synthesis of atomically thin metal oxides. <i>Science</i> , <b>2017</b> , 358, 332-335	33.3	384
385	Two-Dimensional Molybdenum Trioxide and Dichalcogenides. <i>Advanced Functional Materials</i> , <b>2013</b> , 23, 3952-3970	15.6	378
384	Conjugated polymer films for gas separations. <i>Science</i> , <b>1991</b> , 252, 1412-5	33.3	359
383	Polyaniline nanofibers: broadening applications for conducting polymers. <i>Chemical Society Reviews</i> , <b>2017</b> , 46, 1510-1525	58.5	355
382	Intercalation and exfoliation routes to graphite nanoplatelets. <i>Journal of Materials Chemistry</i> , <b>2005</b> , 15, 974		342
381	The intrinsic nanofibrillar morphology of polyaniline. <i>Chemical Communications</i> , <b>2006</b> , 367-76	5.8	341
380	3D Freeze-Casting of Cellular Graphene Films for Ultrahigh-Power-Density Supercapacitors. <i>Advanced Materials</i> , <b>2016</b> , 28, 6719-26	24	335
379	Graphene-like nano-sheets for surface acoustic wave gas sensor applications. <i>Chemical Physics Letters</i> , <b>2009</b> , 467, 344-347	2.5	321
378	Highly Ordered Mesoporous CuCo <sub>2</sub> O <sub>4</sub> Nanowires, a Promising Solution for High-Performance Supercapacitors. <i>Chemistry of Materials</i> , <b>2015</b> , 27, 3919-3926	9.6	295
377	Patterning and electronic tuning of laser scribed graphene for flexible all-carbon devices. <i>ACS Nano</i> , <b>2012</b> , 6, 1395-403	16.7	291
376	Designing 3D highly ordered nanoporous CuO electrodes for high-performance asymmetric supercapacitors. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2015</b> , 7, 4851-60	9.5	278
375	Graphene-supported hemin as a highly active biomimetic oxidation catalyst. <i>Angewandte Chemie - International Edition</i> , <b>2012</b> , 51, 3822-5	16.4	275
374	Advancements in the Search for Superhard Ultra-Incompressible Metal Borides. <i>Advanced Functional Materials</i> , <b>2009</b> , 19, 3519-3533	15.6	259
373	Tungsten tetraboride, an inexpensive superhard material. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 10958-62	11.5	256
372	Tunable plasmon resonances in two-dimensional molybdenum oxide nanoflakes. <i>Advanced Materials</i> , <b>2014</b> , 26, 3931-7	24	252
371	The oxidation of aniline to produce polyaniline—a process yielding many different nanoscale structures. <i>Journal of Materials Chemistry</i> , <b>2011</b> , 21, 3534-3550		234
370	A Simple Route to Porous Graphene from Carbon Nanodots for Supercapacitor Applications. <i>Advanced Materials</i> , <b>2018</b> , 30, 1704449	24	230
369	Facile synthesis of nanostructured CuCo <sub>2</sub> O <sub>4</sub> as a novel electrode material for high-rate supercapacitors. <i>Chemical Communications</i> , <b>2014</b> , 50, 1972-5	5.8	230

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- 366 High-pressure synthesis, characterization, and equation of state of cubic C-BN solid solutions. *Physical Review B*, **1995**, 51, 12149-12156 3.3 213
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- 364 Synthesis of nanometre-thick MoO<sub>3</sub> sheets. *Nanoscale*, **2010**, 2, 429-33 7.7 207
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- 359 Synthesis of Refractory Ceramics via Rapid Metathesis Reactions between Solid-State Precursors. *Chemistry of Materials*, **1996**, 8, 333-343 9.6 193
- 358 Carbon nanotube/polyaniline composite nanofibers: facile synthesis and chemosensors. *Nano Letters*, **2011**, 11, 954-9 11.5 192
- 357 Graphite Nanoplatelet Reinforcement of Electrospun Polyacrylonitrile Nanofibers. *Advanced Materials*, **2005**, 17, 77-80 24 192
- 356 Polyaniline nanofiber composites with metal salts: chemical sensors for hydrogen sulfide. *Small*, **2005**, 1, 624-7 11 192
- 355 Lanthanum carbide (La<sub>2</sub>C<sub>80</sub>): a soluble dimetallofullerene. *The Journal of Physical Chemistry*, **1991**, 95, 10561-10563 191
- 354 Rediscovering the Crystal Chemistry of Borides. *Advanced Materials*, **2017**, 29, 1604506 24 187
- 353 Vapor-phase polymerization of nanofibrillar poly(3,4-ethylenedioxythiophene) for supercapacitors. *ACS Nano*, **2014**, 8, 1500-10 16.7 186
- 352 Nanoscale morphology, dimensional control, and electrical properties of oligoanilines. *Journal of the American Chemical Society*, **2010**, 132, 10365-73 16.4 186
- 351 A layered surface acoustic wave gas sensor based on a polyaniline/In<sub>2</sub>O<sub>3</sub> nanofibre composite. *Nanotechnology*, **2006**, 17, 4488-4492 3.4 184

- 350 Mechanochemical synthesis and thermoelectric properties of high quality magnesium silicide. *Journal of Materials Chemistry*, **2011**, 21, 12259 179
- 349 Pressure and field dependence of superconductivity in Rb3C60. *Physical Review Letters*, **1992**, 68, 1228-1231 177
- 348 Next-Generation Activated Carbon Supercapacitors: A Simple Step in Electrode Processing Leads to Remarkable Gains in Energy Density. *Advanced Functional Materials*, **2017**, 27, 1605745 15.6 174
- 347 Pressure Dependence of Superconductivity in Single-Phase K3C60. *Science*, **1991**, 252, 1829-31 33.3 174
- 346 Wafer-scale two-dimensional semiconductors from printed oxide skin of liquid metals. *Nature Communications*, **2017**, 8, 14482 17.4 172
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- 342 Rapid solid-state precursor synthesis of materials. *Science*, **1992**, 255, 1093-7 33.3 162
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- 338 Monolithic Actuators from Flash-Welded Polyaniline Nanofibers. *Advanced Materials*, **2008**, 20, 155-158 24 154
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- 336 Elevated temperature anodized Nb2O5: a photoanode material with exceptionally large photoconversion efficiencies. *ACS Nano*, **2012**, 6, 4045-53 16.7 150
- 335 Nanofiber Formation in the Chemical Polymerization of Aniline: A Mechanistic Study. *Angewandte Chemie*, **2004**, 116, 5941-5945 3.6 150
- 334 Toward an understanding of the formation of conducting polymer nanofibers. *ACS Nano*, **2008**, 2, 1841-8 16.7 146
- 333 Direct preparation and processing of graphene/RuO<sub>2</sub> nanocomposite electrodes for high-performance capacitive energy storage. *Nano Energy*, **2015**, 18, 57-70 17.1 145

332	Photothermal deoxygenation of graphene oxide for patterning and distributed ignition applications. <i>Advanced Materials</i> , <b>2010</b> , 22, 419-23	24	144
331	Hydrazine Detection by Polyaniline Using Fluorinated Alcohol Additives. <i>Chemistry of Materials</i> , <b>2005</b> , 17, 1256-1260	9.6	141
330	Mechanochemical Route to the Conducting Polymer Polyaniline. <i>Macromolecules</i> , <b>2005</b> , 38, 317-321	5.5	138
329	Thermal Properties of Polyaniline and Poly(aniline-co-o-ethylaniline). <i>Macromolecules</i> , <b>1995</b> , 28, 6522-6527	5.5	136
328	Processable stabilizer-free polyaniline nanofiber aqueous colloids. <i>Chemical Communications</i> , <b>2005</b> , 3286-8	5.8	134
327	Design of hard crystals. <i>International Journal of Refractory Metals and Hard Materials</i> , <b>2006</b> , 24, 1-5	4.1	124
326	Fabrication and characterization of iron oxide nanoparticles filled polypyrrole nanocomposites. <i>Journal of Nanoparticle Research</i> , <b>2009</b> , 11, 1441-1452	2.3	123
325	Size control of gold nanoparticles grown on polyaniline nanofibers for bistable memory devices. <i>ACS Nano</i> , <b>2011</b> , 5, 3469-74	16.7	122
324	High Surface Area Tunnels in Hexagonal WO <sub>3</sub> . <i>Nano Letters</i> , <b>2015</b> , 15, 4834-8	11.5	118
323	Doped and dedoped polyaniline nanofiber based conductometric hydrogen gas sensors. <i>Sensors and Actuators A: Physical</i> , <b>2007</b> , 139, 53-57	3.9	118
322	Rapid Solid-State Synthesis of Refractory Nitrides. <i>Inorganic Chemistry</i> , <b>1994</b> , 33, 5693-5700	5.1	113
321	Endohedral rare-earth fullerene complexes. <i>The Journal of Physical Chemistry</i> , <b>1992</b> , 96, 6869-6871		112
320	Direct laser writing of graphene electronics. <i>ACS Nano</i> , <b>2014</b> , 8, 8725-9	16.7	111
319	Structure of Rb:C60 compounds. <i>Physical Review B</i> , <b>1992</b> , 45, 543-546	3.3	111
318	Preparation and properties of metallic, superhard rhenium diboride crystals. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 16953-8	16.4	109
317	Oh, the places you'll go with graphene. <i>Accounts of Chemical Research</i> , <b>2013</b> , 46, 2244-53	24.3	105
316	Polypyrrole nanofiber surface acoustic wave gas sensors. <i>Sensors and Actuators B: Chemical</i> , <b>2008</b> , 134, 826-831	8.5	101
315	Solution-processed transparent electrodes. <i>MRS Bulletin</i> , <b>2011</b> , 36, 749-755	3.2	98

- 314 Crystalline Liquid-like Behavior: Surface-Induced Secondary Grain Growth of Photovoltaic Perovskite Thin Film. *Journal of the American Chemical Society*, **2019**, 141, 13948-13953 16.4 96
- 313 Integrated Triboelectric Nanogenerators in the Era of the Internet of Things. *Advanced Science*, **2019**, 6, 1802230 13.6 95
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- 306 The use of an electrocatalytic redox electrolyte for pushing the energy density boundary of a flexible polyaniline electrode to a new limit. *Nano Energy*, **2018**, 44, 489-498 17.1 88
- 305 Pore-structure, hydrophilicity, and particle filtration characteristics of polyaniline-polysulfone ultrafiltration membranes. *Journal of Materials Chemistry*, **2010**, 20, 4621 87
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- 299 Integration of molecular and enzymatic catalysts on graphene for biomimetic generation of antithrombotic species. *Nature Communications*, **2014**, 5, 3200 17.4 83
- 298 Boosting the capacitance and voltage of aqueous supercapacitors via redox charge contribution from both electrode and electrolyte. *Nano Today*, **2017**, 15, 15-25 17.9 83
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- 296 Wafer-Scale Synthesis of Semiconducting SnO Monolayers from Interfacial Oxide Layers of Metallic Liquid Tin. *ACS Nano*, **2017**, 11, 10974-10983 16.7 80
- 295 Gas separation membranes: A novel application for conducting polymers. *Synthetic Metals*, **1991**, 41, 1151-1154 3.6 80
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- 292 Facile synthesis of water-dispersible conducting polymer nanospheres. *ACS Nano*, **2010**, 4, 5193-202 16.7 77
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278	Flash Converted Graphene for Ultra-High Power Supercapacitors. <i>Advanced Energy Materials</i> , <b>2015</b> , 5, 1500786	21.8	68
277	Polyaniline Nanofiber Based Surface Acoustic Wave Gas SensorsEffect of Nanofiber Diameter on $H_2$ Response. <i>IEEE Sensors Journal</i> , <b>2007</b> , 7, 213-218	4	68
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275	Intercalation and Solution Processing of Bismuth Telluride and Bismuth Selenide. <i>Advanced Materials</i> , <b>2001</b> , 13, 797-800	24	67
274	A molecular cross-linking approach for hybrid metal oxides. <i>Nature Materials</i> , <b>2018</b> , 17, 341-348	27	66
273	Polyaniline sol-gels and their third-order nonlinear optical effects. <i>Synthetic Metals</i> , <b>1991</b> , 43, 3183-3187	3.6	66
272	High sensitivity DNA detection using gold nanoparticle functionalised polyaniline nanofibres. <i>Biosensors and Bioelectronics</i> , <b>2011</b> , 26, 2613-8	11.8	65
271	Synthesis of Graphene Nanoribbons via the Topochemical Polymerization and Subsequent Aromatization of a Diacetylene Precursor. <i>Chem</i> , <b>2016</b> , 1, 78-90	16.2	65
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269	Structure of superhard tungsten tetraboride: a missing link between MB2 and MB12 higher borides. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 3223-8	11.5	63
268	Enhanced Gas Permeation through Graphene Nanocomposites. <i>Journal of Physical Chemistry C</i> , <b>2015</b> , 119, 13700-13712	3.8	62
267	Hydrogen Detection by Polyaniline Nanofibers on Gold and Platinum Electrodes. <i>Journal of Physical Chemistry C</i> , <b>2009</b> , 113, 6444-6449	3.8	62
266	Laser-scribed graphene presents an opportunity to print a new generation of disposable electrochemical sensors. <i>Nanoscale</i> , <b>2014</b> , 6, 13613-22	7.7	61
265	Superhard Monoborides: Hardness Enhancement through Alloying in $W_{1-x}Ta_xB$ . <i>Advanced Materials</i> , <b>2016</b> , 28, 6993-8	24	60
264	An integrated electrochemical device based on earth-abundant metals for both energy storage and conversion. <i>Energy Storage Materials</i> , <b>2018</b> , 11, 282-293	19.4	59
263	Incompressibility and Hardness of Solid Solution Transition Metal Diborides: $Os_{1-x}Ru_xB_2$ . <i>Chemistry of Materials</i> , <b>2009</b> , 21, 1915-1921	9.6	59
262	Fabrication of Low-Fouling Ultrafiltration Membranes Using a Hydrophilic, Self-Doping Polyaniline Additive. <i>Chemistry of Materials</i> , <b>2013</b> , 25, 3597-3602	9.6	58
261	The effects of thionyl chloride on the properties of graphene and graphene-carbon nanotube composites. <i>Journal of Materials Chemistry</i> , <b>2011</b> , 21, 3391		58

260	Structure of Ultralong Polyaniline Nanofibers Using Initiators. <i>Macromolecules</i> , <b>2011</b> , 44, 2735-2742	5.5	58
259	Lithium intercalation and exfoliation of layered bismuth selenide and bismuth telluride. <i>Journal of Materials Chemistry</i> , <b>2009</b> , 19, 2588		58
258	Synthesis of N = 8 Armchair Graphene Nanoribbons from Four Distinct Polydiacetylenes. <i>Journal of the American Chemical Society</i> , <b>2017</b> , 139, 15878-15890	16.4	57
257	Full elastic tensor of a crystal of the superhard compound ReB <sub>2</sub> . <i>Acta Materialia</i> , <b>2010</b> , 58, 1530-1535	8.4	57
256	Rapid synthesis of transition-metal borides by solid-state metathesis. <i>Journal of Materials Research</i> , <b>1995</b> , 10, 353-361	2.5	56
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