# Taeghwan Hyeon

#### List of Publications by Citations

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291 51,117 114 225 h-index g-index citations papers 56,993 16 316 7.85 L-index avg, IF ext. citations ext. papers

#	Paper	IF	Citations
291	Ultra-large-scale syntheses of monodisperse nanocrystals. <i>Nature Materials</i> , <b>2004</b> , 3, 891-5	27	3372
290	Synthesis of highly crystalline and monodisperse maghemite nanocrystallites without a size-selection process. <i>Journal of the American Chemical Society</i> , <b>2001</b> , 123, 12798-801	16.4	1764
289	Synthesis of monodisperse spherical nanocrystals. <i>Angewandte Chemie - International Edition</i> , <b>2007</b> , 46, 4630-60	16.4	1613
288	Chemical synthesis of magnetic nanoparticles. Chemical Communications, 2003, 927-34	5.8	1267
287	A graphene-based electrochemical device with thermoresponsive microneedles for diabetes monitoring and therapy. <i>Nature Nanotechnology</i> , <b>2016</b> , 11, 566-572	28.7	1093
286	Multifunctional uniform nanoparticles composed of a magnetite nanocrystal core and a mesoporous silica shell for magnetic resonance and fluorescence imaging and for drug delivery. <i>Angewandte Chemie - International Edition</i> , <b>2008</b> , 47, 8438-41	16.4	1065
285	Multifunctional wearable devices for diagnosis and therapy of movement disorders. <i>Nature Nanotechnology</i> , <b>2014</b> , 9, 397-404	28.7	1037
284	The surface science of nanocrystals. <i>Nature Materials</i> , <b>2016</b> , 15, 141-53	27	1017
283	Multifunctional nanostructured materials for multimodal imaging, and simultaneous imaging and therapy. <i>Chemical Society Reviews</i> , <b>2009</b> , 38, 372-90	58.5	915
282	Stretchable silicon nanoribbon electronics for skin prosthesis. <i>Nature Communications</i> , <b>2014</b> , 5, 5747	17.4	902
281	Prospects of nanoscience with nanocrystals. <i>ACS Nano</i> , <b>2015</b> , 9, 1012-57	16.7	849
280	Designed synthesis of uniformly sized iron oxide nanoparticles for efficient magnetic resonance imaging contrast agents. <i>Chemical Society Reviews</i> , <b>2012</b> , 41, 2575-89	58.5	751
279	Recent Advances in Flexible and Stretchable Bio-Electronic Devices Integrated with Nanomaterials. <i>Advanced Materials</i> , <b>2016</b> , 28, 4203-18	24	729
278	Large-scale synthesis of uniform and extremely small-sized iron oxide nanoparticles for high-resolution T1 magnetic resonance imaging contrast agents. <i>Journal of the American Chemical Society</i> , <b>2011</b> , 133, 12624-31	16.4	691
277	Iron Oxide Based Nanoparticles for Multimodal Imaging and Magnetoresponsive Therapy. <i>Chemical Reviews</i> , <b>2015</b> , 115, 10637-89	68.1	675
276	Synthesis of a new mesoporous carbon and its application to electrochemical double-layer capacitors. <i>Chemical Communications</i> , <b>1999</b> , 2177-2178	5.8	659
275	Uniform mesoporous dye-doped silica nanoparticles decorated with multiple magnetite nanocrystals for simultaneous enhanced magnetic resonance imaging, fluorescence imaging, and drug delivery. <i>Journal of the American Chemical Society</i> , <b>2010</b> , 132, 552-7	16.4	645

### (2015-2011)

274	Multifunctional mesoporous silica nanocomposite nanoparticles for theranostic applications. <i>Accounts of Chemical Research</i> , <b>2011</b> , 44, 893-902	24.3	608
273	Wearable/disposable sweat-based glucose monitoring device with multistage transdermal drug delivery module. <i>Science Advances</i> , <b>2017</b> , 3, e1601314	14.3	596
272	One-nanometer-scale size-controlled synthesis of monodisperse magnetic iron oxide nanoparticles. <i>Angewandte Chemie - International Edition</i> , <b>2005</b> , 44, 2873-7	16.4	537
271	Development of a T1 contrast agent for magnetic resonance imaging using MnO nanoparticles. <i>Angewandte Chemie - International Edition</i> , <b>2007</b> , 46, 5397-401	16.4	505
270	Nonblinking and Nonbleaching Upconverting Nanoparticles as an Optical Imaging Nanoprobe and T1 Magnetic Resonance Imaging Contrast Agent. <i>Advanced Materials</i> , <b>2009</b> , 21, 4467-4471	24	501
269	Continuous O-Evolving MnFeO Nanoparticle-Anchored Mesoporous Silica Nanoparticles for Efficient Photodynamic Therapy in Hypoxic Cancer. <i>Journal of the American Chemical Society</i> , <b>2017</b> , 139, 10992-10995	16.4	486
268	Reverse-micelle-induced porous pressure-sensitive rubber for wearable human-machine interfaces. <i>Advanced Materials</i> , <b>2014</b> , 26, 4825-30	24	473
267	Designed fabrication of multifunctional magnetic gold nanoshells and their application to magnetic resonance imaging and photothermal therapy. <i>Angewandte Chemie - International Edition</i> , <b>2006</b> , 45, 775	5 <del>4-8</del> 4	453
266	Mesoporous silica-coated hollow manganese oxide nanoparticles as positive T1 contrast agents for labeling and MRI tracking of adipose-derived mesenchymal stem cells. <i>Journal of the American Chemical Society</i> , <b>2011</b> , 133, 2955-61	16.4	446
265	Upconverting nanoparticles: a versatile platform for wide-field two-photon microscopy and multi-modal in vivo imaging. <i>Chemical Society Reviews</i> , <b>2015</b> , 44, 1302-17	58.5	440
264	Highly conductive, stretchable and biocompatible Ag-Au core-sheath nanowire composite for wearable and implantable bioelectronics. <i>Nature Nanotechnology</i> , <b>2018</b> , 13, 1048-1056	28.7	440
263	Galvanic replacement reactions in metal oxide nanocrystals. <i>Science</i> , <b>2013</b> , 340, 964-8	33.3	421
262	Nano-sized CT contrast agents. Advanced Materials, 2013, 25, 2641-60	24	411
261	Formation mechanisms of uniform nanocrystals via hot-injection and heat-up methods. <i>Small</i> , <b>2011</b> , 7, 2685-702	11	402
260	Wearable red-green-blue quantum dot light-emitting diode array using high-resolution intaglio transfer printing. <i>Nature Communications</i> , <b>2015</b> , 6, 7149	17.4	397
259	Highly Durable and Active PtFe Nanocatalyst for Electrochemical Oxygen Reduction Reaction. Journal of the American Chemical Society, 2015, 137, 15478-85	16.4	393
258	Ni/NiO core/shell nanoparticles for selective binding and magnetic separation of histidine-tagged proteins. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 10658-9	16.4	393
257	Transparent and Stretchable Interactive Human Machine Interface Based on Patterned Graphene Heterostructures. <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 375-383	15.6	389

256	Colloidal chemical synthesis and formation kinetics of uniformly sized nanocrystals of metals, oxides, and chalcogenides. <i>Accounts of Chemical Research</i> , <b>2008</b> , 41, 1696-709	24.3	388
255	Synthesis of uniform ferrimagnetic magnetite nanocubes. <i>Journal of the American Chemical Society</i> , <b>2009</b> , 131, 454-5	16.4	383
254	Multifunctional tumor pH-sensitive self-assembled nanoparticles for bimodal imaging and treatment of resistant heterogeneous tumors. <i>Journal of the American Chemical Society</i> , <b>2014</b> , 136, 564	17 <sup>1</sup> 65 <sup>4</sup>	378
253	Kinetics of monodisperse iron oxide nanocrystal formation by "heating-up" process. <i>Journal of the American Chemical Society</i> , <b>2007</b> , 129, 12571-84	16.4	374
252	Wrap-bake-peel process for nanostructural transformation from beta-FeOOH nanorods to biocompatible iron oxide nanocapsules. <i>Nature Materials</i> , <b>2008</b> , 7, 242-7	27	371
251	Large-Scale Synthesis of Carbon-Shell-Coated FeP Nanoparticles for Robust Hydrogen Evolution Reaction Electrocatalyst. <i>Journal of the American Chemical Society</i> , <b>2017</b> , 139, 6669-6674	16.4	369
250	Electric Double-Layer Capacitor Performance of a New Mesoporous Carbon. <i>Journal of the Electrochemical Society</i> , <b>2000</b> , 147, 2507	3.9	368
249	Synthesis of new nanoporous carbon materials using nanostructured silica materials as templates. <i>Journal of Materials Chemistry</i> , <b>2004</b> , 14, 478		366
248	Stretchable Heater Using Ligand-Exchanged Silver Nanowire Nanocomposite for Wearable Articular Thermotherapy. <i>ACS Nano</i> , <b>2015</b> , 9, 6626-33	16.7	365
247	Synthesis of Monodisperse Palladium Nanoparticles. <i>Nano Letters</i> , <b>2003</b> , 3, 1289-1291	11.5	361
246	Ceria nanoparticles that can protect against ischemic stroke. <i>Angewandte Chemie - International Edition</i> , <b>2012</b> , 51, 11039-43	16.4	357
245	Chemical synthesis and assembly of uniformly sized iron oxide nanoparticles for medical applications. <i>Accounts of Chemical Research</i> , <b>2015</b> , 48, 1276-85	24.3	354
244	Synthesis and biomedical applications of hollow nanostructures. <i>Nano Today</i> , <b>2009</b> , 4, 359-373	17.9	337
243	Mitochondria-Targeting Ceria Nanoparticles as Antioxidants for Alzheimer's Disease. <i>ACS Nano</i> , <b>2016</b> , 10, 2860-70	16.7	334
242	Theranostic probe based on lanthanide-doped nanoparticles for simultaneous in vivo dual-modal imaging and photodynamic therapy. <i>Advanced Materials</i> , <b>2012</b> , 24, 5755-61	24	334
241	Chemical design of biocompatible iron oxide nanoparticles for medical applications. <i>Small</i> , <b>2013</b> , 9, 145	0166	333
240	Atomic-level tuning of Co-N-C catalyst for high-performance electrochemical HO production. <i>Nature Materials</i> , <b>2020</b> , 19, 436-442	27	315
239	Self-assembled Fe3O4 nanoparticle clusters as high-performance anodes for lithium ion batteries via geometric confinement. <i>Nano Letters</i> , <b>2013</b> , 13, 4249-56	11.5	302

### (2013-2018)

238	Enzyme-Based Glucose Sensor: From Invasive to Wearable Device. <i>Advanced Healthcare Materials</i> , <b>2018</b> , 7, e1701150	10.1	288
237	Large-scale soft colloidal template synthesis of 1.4 nm thick CdSe nanosheets. <i>Angewandte Chemie - International Edition</i> , <b>2009</b> , 48, 6861-4	16.4	281
236	Reversible and cooperative photoactivation of single-atom Cu/TiO photocatalysts. <i>Nature Materials</i> , <b>2019</b> , 18, 620-626	27	275
235	Large-scale synthesis of bioinert tantalum oxide nanoparticles for X-ray computed tomography imaging and bimodal image-guided sentinel lymph node mapping. <i>Journal of the American Chemical Society</i> , <b>2011</b> , 133, 5508-15	16.4	270
234	High-performance direct methanol fuel cell electrodes using solid-phase-synthesized carbon nanocoils. <i>Angewandte Chemie - International Edition</i> , <b>2003</b> , 42, 4352-6	16.4	268
233	Synthesis of Highly Crystalline and Monodisperse Cobalt Ferrite Nanocrystals. <i>Journal of Physical Chemistry B</i> , <b>2002</b> , 106, 6831-6833	3.4	264
232	Chitosan oligosaccharide-stabilized ferrimagnetic iron oxide nanocubes for magnetically modulated cancer hyperthermia. <i>ACS Nano</i> , <b>2012</b> , 6, 5266-73	16.7	263
231	Fabric-based integrated energy devices for wearable activity monitors. <i>Advanced Materials</i> , <b>2014</b> , 26, 6329-34	24	261
230	Generalized synthesis of metal phosphide nanorods via thermal decomposition of continuously delivered metal-phosphine complexes using a syringe pump. <i>Journal of the American Chemical Society</i> , <b>2005</b> , 127, 8433-40	16.4	257
229	High-performance stretchable conductive nanocomposites: materials, processes, and device applications. <i>Chemical Society Reviews</i> , <b>2019</b> , 48, 1566-1595	58.5	256
228	Low-temperature solution-phase synthesis of quantum well structured CdSe nanoribbons. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 5632-3	16.4	250
227	Fabrication of novel mesocellular carbon foams with uniform ultralarge mesopores. <i>Journal of the American Chemical Society</i> , <b>2001</b> , 123, 5146-7	16.4	249
226	Nonclassical nucleation and growth of inorganic nanoparticles. <i>Nature Reviews Materials</i> , <b>2016</b> , 1,	73.3	240
225	Design Principle of Fe-N-C Electrocatalysts: How to Optimize Multimodal Porous Structures?. <i>Journal of the American Chemical Society</i> , <b>2019</b> , 141, 2035-2045	16.4	240
224	Water-dispersible ferrimagnetic iron oxide nanocubes with extremely high rirelaxivity for highly sensitive in vivo MRI of tumors. <i>Nano Letters</i> , <b>2012</b> , 12, 3127-31	11.5	238
223	Fabrication of New Nanoporous Carbons through Silica Templates and Their Application to the Adsorption of Bulky Dyes. <i>Chemistry of Materials</i> , <b>2000</b> , 12, 3337-3341	9.6	226
222	Nanostructured T1 MRI contrast agents. <i>Journal of Materials Chemistry</i> , <b>2009</b> , 19, 6267		223
221	High-resolution three-photon biomedical imaging using doped ZnS nanocrystals. <i>Nature Materials</i> , <b>2013</b> , 12, 359-66	27	218

220	Large-scale nonhydrolytic sol-gel synthesis of uniform-sized ceria nanocrystals with spherical, wire, and tadpole shapes. <i>Angewandte Chemie - International Edition</i> , <b>2005</b> , 44, 7411-4	16.4	216
219	Generalized fabrication of multifunctional nanoparticle assemblies on silica spheres. <i>Angewandte Chemie - International Edition</i> , <b>2006</b> , 45, 4789-93	16.4	215
218	Facile Synthesis of Various Phosphine-Stabilized Monodisperse Palladium Nanoparticles through the Understanding of Coordination Chemistry of the Nanoparticles. <i>Nano Letters</i> , <b>2004</b> , 4, 1147-1151	11.5	210
217	Direct synthesis of self-assembled ferrite/carbon hybrid nanosheets for high performance lithium-ion battery anodes. <i>Journal of the American Chemical Society</i> , <b>2012</b> , 134, 15010-5	16.4	209
216	Surface design of magnetic nanoparticles for stimuli-responsive cancer imaging and therapy. <i>Biomaterials</i> , <b>2017</b> , 136, 98-114	15.6	203
215	Long-term real-time tracking of lanthanide ion doped upconverting nanoparticles in living cells. <i>Angewandte Chemie - International Edition</i> , <b>2011</b> , 50, 6093-7	16.4	200
214	Giant Zeeman splitting in nucleation-controlled doped CdSe:Mn2+ quantum nanoribbons. <i>Nature Materials</i> , <b>2010</b> , 9, 47-53	27	197
213	Synthesis, characterization, and self-assembly of pencil-shaped CoO nanorods. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 9753-60	16.4	194
212	Multifunctional Fe3O4/TaO(x) core/shell nanoparticles for simultaneous magnetic resonance imaging and X-ray computed tomography. <i>Journal of the American Chemical Society</i> , <b>2012</b> , 134, 10309-1	2 <sup>16.4</sup>	193
211	Synthesis of uniform hollow oxide nanoparticles through nanoscale acid etching. <i>Nano Letters</i> , <b>2008</b> , 8, 4252-8	11.5	192
<b>2</b> 10	Facile scalable synthesis of magnetite nanocrystals embedded in carbon matrix as superior anode materials for lithium-ion batteries. <i>Chemical Communications</i> , <b>2010</b> , 46, 118-20	5.8	184
209	Arginine-Rich Manganese Silicate Nanobubbles as a Ferroptosis-Inducing Agent for Tumor-Targeted Theranostics. <i>ACS Nano</i> , <b>2018</b> , 12, 12380-12392	16.7	180
208	Synthesis of hollow iron nanoframes. <i>Journal of the American Chemical Society</i> , <b>2007</b> , 129, 5812-3	16.4	178
207	One-pot synthesis of copper-indium sulfide nanocrystal heterostructures with acorn, bottle, and larva shapes. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 2520-1	16.4	178
206	Flexible quantum dot light-emitting diodes for next-generation displays. <i>Npj Flexible Electronics</i> , <b>2018</b> , 2,	10.7	177
205	Designed Assembly and Integration of Colloidal Nanocrystals for Device Applications. <i>Advanced Materials</i> , <b>2016</b> , 28, 1176-207	24	174
204	Synergistic Oxygen Generation and Reactive Oxygen Species Scavenging by Manganese Ferrite/Ceria Co-decorated Nanoparticles for Rheumatoid Arthritis Treatment. <i>ACS Nano</i> , <b>2019</b> , 13, 320	6 <sup>16</sup> 3717	, 171
203	Magnetosome-like ferrimagnetic iron oxide nanocubes for highly sensitive MRI of single cells and transplanted pancreatic islets. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 2662-7	11.5	166

202	Ceria-Zirconia Nanoparticles as an Enhanced Multi-Antioxidant for Sepsis Treatment. <i>Angewandte Chemie - International Edition</i> , <b>2017</b> , 56, 11399-11403	16.4	161	
201	Bioresorbable Electronic Stent Integrated with Therapeutic Nanoparticles for Endovascular Diseases. <i>ACS Nano</i> , <b>2015</b> , 9, 5937-46	16.7	158	
200	Device-assisted transdermal drug delivery. Advanced Drug Delivery Reviews, 2018, 127, 35-45	18.5	157	
199	Simple and generalized synthesis of oxide-metal heterostructured nanoparticles and their applications in multimodal biomedical probes. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 1557	<sup>7</sup> 3-80	156	
198	Synthesis and Biomedical Applications of Multifunctional Nanoparticles. <i>Advanced Materials</i> , <b>2018</b> , 30, e1802309	24	154	
197	Highly Efficient Copper-Indium-Selenide Quantum Dot Solar Cells: Suppression of Carrier Recombination by Controlled ZnS Overlayers. <i>ACS Nano</i> , <b>2015</b> , 9, 11286-95	16.7	149	
196	Surface ligands in synthesis, modification, assembly and biomedical applications of nanoparticles. <i>Nano Today</i> , <b>2014</b> , 9, 457-477	17.9	147	
195	Cephalopod-Inspired Miniaturized Suction Cups for Smart Medical Skin. <i>Advanced Healthcare Materials</i> , <b>2016</b> , 5, 80-7	10.1	147	
194	Designed Fabrication of Multifunctional Magnetic Gold Nanoshells and Their Application to Magnetic Resonance Imaging and Photothermal Therapy. <i>Angewandte Chemie</i> , <b>2006</b> , 118, 7918-7922	3.6	142	
193	Electromechanical cardioplasty using a wrapped elasto-conductive epicardial mesh. <i>Science Translational Medicine</i> , <b>2016</b> , 8, 344ra86	17.5	136	
192	Thermally Controlled, Patterned Graphene Transfer Printing for Transparent and Wearable Electronic/Optoelectronic System. <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 7109-7118	15.6	134	
191	Synthese monodisperser sphfischer Nanokristalle. <i>Angewandte Chemie</i> , <b>2007</b> , 119, 4714-4745	3.6	134	
190	Ultrathin Quantum Dot Display Integrated with Wearable Electronics. Advanced Materials, 2017, 29, 170	0 <u>0</u> 217	129	
189	Multifunctional Uniform Nanoparticles Composed of a Magnetite Nanocrystal Core and a Mesoporous Silica Shell for Magnetic Resonance and Fluorescence Imaging and for Drug Delivery. <i>Angewandte Chemie</i> , <b>2008</b> , 120, 8566-8569	3.6	127	
188	Ceria Nanoparticle Systems for Selective Scavenging of Mitochondrial, Intracellular, and Extracellular Reactive Oxygen Species in Parkinson's Disease. <i>Angewandte Chemie - International Edition</i> , <b>2018</b> , 57, 9408-9412	16.4	125	
187	Colloidal Synthesis of Uniform-Sized Molybdenum Disulfide Nanosheets for Wafer-Scale Flexible Nonvolatile Memory. <i>Advanced Materials</i> , <b>2016</b> , 28, 9326-9332	24	123	
186	Extremely Vivid, Highly Transparent, and Ultrathin Quantum Dot Light-Emitting Diodes. <i>Advanced Materials</i> , <b>2018</b> , 30, 1703279	24	122	
185	Highly Sensitive Diagnosis of Small Hepatocellular Carcinoma Using pH-Responsive Iron Oxide Nanocluster Assemblies. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 10071-10074	16.4	122	

184	An endoscope with integrated transparent bioelectronics and theranostic nanoparticles for colon cancer treatment. <i>Nature Communications</i> , <b>2015</b> , 6, 10059	17.4	122
183	Wearable Force Touch Sensor Array Using a Flexible and Transparent Electrode. <i>Advanced Functional Materials</i> , <b>2017</b> , 27, 1605286	15.6	121
182	Parallel Comparative Studies on Mouse Toxicity of Oxide Nanoparticle- and Gadolinium-Based T1 MRI Contrast Agents. <i>ACS Nano</i> , <b>2015</b> , 9, 12425-35	16.7	121
181	Simple synthesis of Pd-Fe3O4 heterodimer nanocrystals and their application as a magnetically recyclable catalyst for Suzuki cross-coupling reactions. <i>Physical Chemistry Chemical Physics</i> , <b>2011</b> , 13, 2512-6	3.6	120
180	Ultra-Wideband Multi-Dye-Sensitized Upconverting Nanoparticles for Information Security Application. <i>Advanced Materials</i> , <b>2017</b> , 29, 1603169	24	118
179	Iron oxide nanoclusters for T magnetic resonance imaging of non-human primates. <i>Nature Biomedical Engineering</i> , <b>2017</b> , 1, 637-643	19	117
178	Filtration-Free Recyclable Catalytic Asymmetric Dihydroxylation Using a Ligand Immobilized on Magnetic Mesocellular Mesoporous Silica. <i>Advanced Synthesis and Catalysis</i> , <b>2006</b> , 348, 41-46	5.6	117
177	A wearable multiplexed silicon nonvolatile memory array using nanocrystal charge confinement. <i>Science Advances</i> , <b>2016</b> , 2, e1501101	14.3	113
176	Dual Roles of Graphene Oxide in Chondrogenic Differentiation of Adult Stem Cells: Cell-Adhesion Substrate and Growth Factor-Delivery Carrier. <i>Advanced Functional Materials</i> , <b>2014</b> , 24, 6455-6464	15.6	112
175	Facile and economical synthesis of hierarchical carbon-coated magnetite nanocomposite particles and their applications in lithium ion battery anodes. <i>Energy and Environmental Science</i> , <b>2012</b> , 5, 9528	35.4	109
174	Multiple-interaction ligands inspired by mussel adhesive protein: synthesis of highly stable and biocompatible nanoparticles. <i>Angewandte Chemie - International Edition</i> , <b>2011</b> , 50, 11360-5	16.4	108
173	Applications of inorganic nanoparticles as therapeutic agents. <i>Nanotechnology</i> , <b>2014</b> , 25, 012001	3.4	107
172	Fabrication of a novel polypyrrole/poly(methyl methacrylate) coaxial nanocable using mesoporous silica as a nanoreactor. <i>Chemical Communications</i> , <b>2001</b> , 83-84	5.8	106
171	Stretchable and Transparent Biointerface Using Cell-Sheet@raphene Hybrid for Electrophysiology and Therapy of Skeletal Muscle. <i>Advanced Functional Materials</i> , <b>2016</b> , 26, 3207-3217	15.6	103
170	Iron oxide nanoparticle-mediated development of cellular gap junction crosstalk to improve mesenchymal stem cells' therapeutic efficacy for myocardial infarction. <i>ACS Nano</i> , <b>2015</b> , 9, 2805-19	16.7	102
169	Multifunctional Wearable System that Integrates Sweat-Based Sensing and Vital-Sign Monitoring to Estimate Pre-/Post-Exercise Glucose Levels. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1805754	15.6	102
168	Simple one-pot synthesis of Rh-Fe3O4 heterodimer nanocrystals and their applications to a magnetically recyclable catalyst for efficient and selective reduction of nitroarenes and alkenes. <i>Chemical Communications</i> , <b>2011</b> , 47, 3601-3	5.8	101
167	Hybrid Cellular Nanosheets for High-Performance Lithium-Ion Battery Anodes. <i>Journal of the American Chemical Society</i> , <b>2015</b> , 137, 11954-61	16.4	100

### (2017-2001)

166	Colloidal cobalt nanoparticles: a highly active and reusable PausonKhand catalyst. <i>Chemical Communications</i> , <b>2001</b> , 2212-2213	5.8	97
165	Flexible, sticky, and biodegradable wireless device for drug delivery to brain tumors. <i>Nature Communications</i> , <b>2019</b> , 10, 5205	17.4	91
164	Defect Engineering for High-Performance n-Type PbSe Thermoelectrics. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 9282-9290	16.4	88
163	Dimension-controlled synthesis of CdS nanocrystals: from 0D quantum dots to 2D nanoplates. <i>Small</i> , <b>2012</b> , 8, 2394-402	11	87
162	Large-Scale Synthesis of Ultrathin Manganese Oxide Nanoplates and Their Applications to T1 MRI Contrast Agents. <i>Chemistry of Materials</i> , <b>2011</b> , 23, 3318-3324	9.6	83
161	Versatile PEG-derivatized phosphine oxide ligands for water-dispersible metal oxide nanocrystals. <i>Chemical Communications</i> , <b>2007</b> , 5167-9	5.8	80
160	Dynamically Reversible Iron Oxide Nanoparticle Assemblies for Targeted Amplification of T1-Weighted Magnetic Resonance Imaging of Tumors. <i>Nano Letters</i> , <b>2019</b> , 19, 4213-4220	11.5	79
159	Enhancing p-Type Thermoelectric Performances of Polycrystalline SnSe via Tuning Phase Transition Temperature. <i>Journal of the American Chemical Society</i> , <b>2017</b> , 139, 10887-10896	16.4	79
158	Therapeutic Efficacy-Potentiated and Diseased Organ-Targeting Nanovesicles Derived from Mesenchymal Stem Cells for Spinal Cord Injury Treatment. <i>Nano Letters</i> , <b>2018</b> , 18, 4965-4975	11.5	78
157	Size Dependence of Metal-Insulator Transition in Stoichiometric FeD4Nanocrystals. <i>Nano Letters</i> , <b>2015</b> , 15, 4337-42	11.5	77
156	pH-Sensitive Pt Nanocluster Assembly Overcomes Cisplatin Resistance and Heterogeneous Stemness of Hepatocellular Carcinoma. <i>ACS Central Science</i> , <b>2016</b> , 2, 802-811	16.8	77
155	Recent Advances in Electrochemical Oxygen Reduction to H2O2: Catalyst and Cell Design. <i>ACS Energy Letters</i> , <b>2020</b> , 5, 1881-1892	20.1	74
154	In Vivo Micro-CT Imaging of Human Mesenchymal Stem Cells Labeled with Gold-Poly-L-Lysine Nanocomplexes. <i>Advanced Functional Materials</i> , <b>2017</b> , 27, 1604213	15.6	73
153	Chemical Synthesis, Doping, and Transformation of Magic-Sized Semiconductor Alloy Nanoclusters. Journal of the American Chemical Society, <b>2017</b> , 139, 6761-6770	16.4	69
152	Route to the Smallest Doped Semiconductor: Mn(2+)-Doped (CdSe)13 Clusters. <i>Journal of the American Chemical Society</i> , <b>2015</b> , 137, 12776-9	16.4	69
151	Multifunctional mesoporous silica nanocomposite nanoparticles for pH controlled drug release and dual modal imaging. <i>Journal of Materials Chemistry</i> , <b>2011</b> , 21, 16869		69
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148	Magnetically separable carbon nanocomposite catalysts for efficient nitroarene reduction and Suzuki reactions. <i>Applied Catalysis A: General</i> , <b>2014</b> , 476, 133-139	5.1	67
147	Inorganic nanoparticles with enzyme-mimetic activities for biomedical applications. <i>Coordination Chemistry Reviews</i> , <b>2020</b> , 403, 213092	23.2	66
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145	High-Performance n-Type PbSe-CuSe Thermoelectrics through Conduction Band Engineering and Phonon Softening. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 15535-15545	16.4	64
144	Extraordinary Off-Stoichiometric Bismuth Telluride for Enhanced n-Type Thermoelectric Power Factor. <i>Journal of the American Chemical Society</i> , <b>2016</b> , 138, 14458-14468	16.4	63
143	Microporosity-Controlled Synthesis of Heteroatom Codoped Carbon Nanocages by Wrap-Bake-Sublime Approach for Flexible All-Solid-State-Supercapacitors. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1803786	15.6	63
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140	Multi-modal transfection agent based on monodisperse magnetic nanoparticles for stem cell gene delivery and tracking. <i>Biomaterials</i> , <b>2014</b> , 35, 7239-47	15.6	61
139	Advances in the Colloidal Synthesis of Two-Dimensional Semiconductor Nanoribbons. <i>Chemistry of Materials</i> , <b>2013</b> , 25, 1190-1198	9.6	60
138	Curved neuromorphic image sensor array using a MoS-organic heterostructure inspired by the human visual recognition system. <i>Nature Communications</i> , <b>2020</b> , 11, 5934	17.4	60
137	Generalized Fabrication of Multifunctional Nanoparticle Assemblies on Silica Spheres. <i>Angewandte Chemie</i> , <b>2006</b> , 118, 4907-4911	3.6	59
136	Large-Scale Synthesis and Medical Applications of Uniform-Sized Metal Oxide Nanoparticles. <i>Advanced Materials</i> , <b>2018</b> , 30, e1704290	24	58
135	Wearable Fall Detector using Integrated Sensors and Energy Devices. <i>Scientific Reports</i> , <b>2015</b> , 5, 17081	4.9	58
134	Multifunctional cell-culture platform for aligned cell sheet monitoring, transfer printing, and therapy. <i>ACS Nano</i> , <b>2015</b> , 9, 2677-88	16.7	58
133	Critical differences in 3D atomic structure of individual ligand-protected nanocrystals in solution. <i>Science</i> , <b>2020</b> , 368, 60-67	33.3	56
132	Tissue-like skin-device interface for wearable bioelectronics by using ultrasoft, mass-permeable, and low-impedance hydrogels. <i>Science Advances</i> , <b>2021</b> , 7,	14.3	56
131	Recent Advances in Inorganic Nanoparticle-Based NIR Luminescence Imaging: Semiconductor Nanoparticles and Lanthanide Nanoparticles. <i>Bioconjugate Chemistry</i> , <b>2017</b> , 28, 115-123	6.3	54

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129	Experimental studies of strong dipolar interparticle interaction in monodisperse Fe3O4 nanoparticles. <i>Applied Physics Letters</i> , <b>2007</b> , 91, 102502	3.4	53	
128	Engineering Titanium Dioxide Nanostructures for Enhanced Lithium-Ion Storage. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 16676-16684	16.4	53	
127	Amorphous-Phase-Mediated Crystallization of Ni Nanocrystals Revealed by High-Resolution Liquid-Phase Electron Microscopy. <i>Journal of the American Chemical Society</i> , <b>2019</b> , 141, 763-768	16.4	52	
126	Liquid-Phase Transmission Electron Microscopy for Studying Colloidal Inorganic Nanoparticles. <i>Advanced Materials</i> , <b>2018</b> , 30, 1703316	24	52	
125	Deep Tumor Penetration of Drug-Loaded Nanoparticles by Click Reaction-Assisted Immune Cell Targeting Strategy. <i>Journal of the American Chemical Society</i> , <b>2019</b> , 141, 13829-13840	16.4	51	
124	Nanovesicles derived from iron oxide nanoparticles-incorporated mesenchymal stem cells for cardiac repair. <i>Science Advances</i> , <b>2020</b> , 6, eaaz0952	14.3	49	
123	Efficient Photoluminescence of Mn2+-Doped ZnS Quantum Dots Excited by Two-Photon Absorption in Near-Infrared Window II. <i>Journal of Physical Chemistry C</i> , <b>2013</b> , 117, 20905-20911	3.8	48	
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121	Nanomaterial-Based Soft Electronics for Healthcare Applications. <i>ChemNanoMat</i> , <b>2016</b> , 2, 1006-1017	3.5	47	
120	Sizing by weighing: characterizing sizes of ultrasmall-sized iron oxide nanocrystals using MALDI-TOF mass spectrometry. <i>Journal of the American Chemical Society</i> , <b>2013</b> , 135, 2407-10	16.4	46	
119	Recent development of nanoparticles for molecular imaging. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2017</b> , 375,	3	45	
118	High-Performance Direct Methanol Fuel Cell Electrodes using Solid-Phase-Synthesized Carbon Nanocoils. <i>Angewandte Chemie</i> , <b>2003</b> , 115, 4488-4492	3.6	44	
117	Ferrimagnetic Nanochains-Based Mesenchymal Stem Cell Engineering for Highly Efficient Post-Stroke Recovery. <i>Advanced Functional Materials</i> , <b>2019</b> , 29, 1900603	15.6	43	
116	General and Facile Coating of Single Cells via Mild Reduction. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 1199-1202	16.4	43	
115	Oxide nanomembrane hybrids with enhanced mechano- and thermo-sensitivity for semitransparent epidermal electronics. <i>Advanced Healthcare Materials</i> , <b>2015</b> , 4, 992-7	10.1	43	
114	Magnetically-separable and highly-stable enzyme system based on crosslinked enzyme aggregates shipped in magnetite-coated mesoporous silica. <i>Journal of Materials Chemistry</i> , <b>2009</b> , 19, 7864		43	
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111	A sensitive and specific nanosensor for monitoring extracellular potassium levels in the brain. <i>Nature Nanotechnology</i> , <b>2020</b> , 15, 321-330	28.7	42
110	Transformation of hydrophobic iron oxide nanoparticles to hydrophilic and biocompatible maghemite nanocrystals for use as highly efficient MRI contrast agent. <i>Journal of Materials Chemistry</i> , <b>2011</b> , 21, 11472		42
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107	Highly conductive and elastic nanomembrane for skin electronics. <i>Science</i> , <b>2021</b> , 373, 1022-1026	33.3	41
106	Direct Observation of Redox Mediator-Assisted Solution-Phase Discharging of Li-O Battery by Liquid-Phase Transmission Electron Microscopy. <i>Journal of the American Chemical Society</i> , <b>2019</b> , 141, 8047-8052	16.4	39
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104	Sulfur-Modified Graphitic Carbon Nitride Nanostructures as an Efficient Electrocatalyst for Water Oxidation. <i>Small</i> , <b>2017</b> , 13, 1603893	11	38
103	Ceria Nanoparticles that can Protect against Ischemic Stroke. <i>Angewandte Chemie</i> , <b>2012</b> , 124, 11201-11	296	37
102	Design and synthesis of multigrain nanocrystals via geometric misfit strain. <i>Nature</i> , <b>2020</b> , 577, 359-363	50.4	36
101	Multiplexible Wash-Free Immunoassay Using Colloidal Assemblies of Magnetic and Photoluminescent Nanoparticles. <i>ACS Nano</i> , <b>2017</b> , 11, 8448-8455	16.7	36
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99	Toward Full-Color Electroluminescent Quantum Dot Displays. <i>Nano Letters</i> , <b>2021</b> , 21, 26-33	11.5	36
98	Epitaxially Strained CeO /Mn O Nanocrystals as an Enhanced Antioxidant for Radioprotection. <i>Advanced Materials</i> , <b>2020</b> , 32, e2001566	24	33
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96	Cu Intercalation and Br Doping to Thermoelectric SnSe2 Lead to Ultrahigh Electron Mobility and Temperature-Independent Power Factor. <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 1908405	15.6	27
95	Highly Fluorescent Gold Cluster Assembly. <i>Journal of the American Chemical Society</i> , <b>2021</b> , 143, 326-334	· 16.4	26

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93	Effect of interacting nanoparticles on the ordered morphology of block copolymer/nanoparticle mixtures. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2006</b> , 44, 3571-3579	2.6	25	
92	Fabrication of novel mesoporous dimethylsiloxane-incorporated silicas. <i>Chemical Communications</i> , <b>2000</b> , 1487-1488	5.8	25	
91	Advances in drug delivery technology for the treatment of glioblastoma multiforme. <i>Journal of Controlled Release</i> , <b>2020</b> , 328, 350-367	11.7	25	
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87	Room-Temperature Vapor Deposition of Cobalt Nitride Nanofilms for Mesoscopic and Perovskite Solar Cells. <i>Advanced Energy Materials</i> , <b>2018</b> , 8, 1703114	21.8	23	
86	Large-Scale Synthesis of Water Dispersible Ceria Nanocrystals by a Simple Sol <b>G</b> el Process and Their Use as a Chemical Mechanical Planarization Slurry. <i>European Journal of Inorganic Chemistry</i> , <b>2008</b> , 2008, 855-858	2.3	23	
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84	Two-dimensional assemblies of ultrathin titanate nanosheets for lithium ion battery anodes. <i>RSC Advances</i> , <b>2014</b> , 4, 12087	3.7	19	
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82	Enhanced Chemodynamic Therapy by Cu-Fe Peroxide Nanoparticles: Tumor Microenvironment-Mediated Synergistic Fenton Reaction <i>ACS Nano</i> , <b>2022</b> ,	16.7	18	
81	Iron Oxide Nanoparticles: Chemical Design of Biocompatible Iron Oxide Nanoparticles for Medical Applications (Small 910/2013). <i>Small</i> , <b>2013</b> , 9, 1449-1449	11	17	
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77	Advances in Soft Bioelectronics for Brain Research and Clinical Neuroengineering. <i>Matter</i> , <b>2020</b> , 3, 1923-	-12 <del>9</del> 7	15	

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75	Highly selective microglial uptake of ceria-zirconia nanoparticles for enhanced analgesic treatment of neuropathic pain. <i>Nanoscale</i> , <b>2019</b> , 11, 19437-19447	7.7	14
74	Electronic interaction between transition metal single-atoms and anatase TiO2 boosts CO2 photoreduction with H2O. <i>Energy and Environmental Science</i> ,	35.4	14
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71	Large scale and integrated platform for digital mass culture of anchorage dependent cells. <i>Nature Communications</i> , <b>2019</b> , 10, 4824	17.4	12
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68	Three-dimensional foldable quantum dot light-emitting diodes. <i>Nature Electronics</i> , <b>2021</b> , 4, 671-680	28.4	12
67	Revealing Kinetics of Two-Electron Oxygen Reduction Reaction at Single-Molecule Level. <i>Journal of the American Chemical Society</i> , <b>2020</b> , 142, 13201-13209	16.4	11
66	Ceria Nanoparticle Systems for Selective Scavenging of Mitochondrial, Intracellular, and Extracellular Reactive Oxygen Species in Parkinson's Disease. <i>Angewandte Chemie</i> , <b>2018</b> , 130, 9552-955	6 <sup>3.6</sup>	11
65	Soft Bioelectronics Based on Nanomaterials <i>Chemical Reviews</i> , <b>2021</b> ,	68.1	11
64	Wearable Electronics: Transparent and Stretchable Interactive Human Machine Interface Based on Patterned Graphene Heterostructures (Adv. Funct. Mater. 3/2015). <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 374-374	15.6	10
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60	Enhanced hot electron generation by inverse metal-oxide interfaces on catalytic nanodiode. <i>Faraday Discussions</i> , <b>2019</b> , 214, 353-364	3.6	9
59	Electrochemical Activity Studies of Glucose Oxidase (GOx)-Based and Pyranose Oxidase (POx)-Based Electrodes in Mesoporous Carbon: Toward Biosensor and Biofuel Cell Applications. <i>Electroanalysis</i> , <b>2014</b> , 26, 2075-2079	3	9

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56	Synthesis of nanostructured P2-NaMnO for high performance sodium-ion batteries. <i>Chemical Communications</i> , <b>2019</b> , 55, 4757-4760	5.8	8
55	Endosome-triggered ion-releasing nanoparticles as therapeutics to enhance the angiogenic efficacy of human mesenchymal stem cells. <i>Journal of Controlled Release</i> , <b>2020</b> , 324, 586-597	11.7	8
54	Operando Identification of the Chemical and Structural Origin of Li-Ion Battery Aging at Near-Ambient Temperature. <i>Journal of the American Chemical Society</i> , <b>2020</b> , 142, 13406-13414	16.4	8
53	Giant thermal hysteresis in Verwey transition of single domain FeO nanoparticles. <i>Scientific Reports</i> , <b>2018</b> , 8, 5092	4.9	8
52	Multifunctional Capsule-in-Capsules for Immunoprotection and Trimodal Imaging. <i>Angewandte Chemie</i> , <b>2011</b> , 123, 2365-2369	3.6	8
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49	Photodynamic Therapy: Responsive Assembly of Upconversion Nanoparticles for pH-Activated and Near-Infrared-Triggered Photodynamic Therapy of Deep Tumors (Adv. Mater. 35/2018). <i>Advanced Materials</i> , <b>2018</b> , 30, 1870264	24	7
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37	Recent Advances and Prospects in Colloidal Nanomaterials. <i>Jacs Au</i> , <b>2021</b> , 1, 1849-1859		4
36	Metastable hexagonal close-packed palladium hydride in liquid cell TEM <i>Nature</i> , <b>2022</b> , 603, 631-636	50.4	4
35	Synthesis and catalytic applications of uniform-sized nanocrystals. <i>Studies in Surface Science and Catalysis</i> , <b>2006</b> , 159, 47-54	1.8	3
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29	MRI Contrast Agents Based on Inorganic Nanoparticles <b>2011</b> , 279-308		2
28	The path of chemistry in Korea. <i>Nature Materials</i> , <b>2007</b> , 6, 541-3	27	2
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25	In Vivo Sol-Gel Reaction of Tantalum Alkoxide for Endovascular Embolization. <i>Advanced Healthcare Materials</i> , <b>2021</b> , e2101908	10.1	2
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20	Role of the Precursor Composition in the Synthesis of Metal Ferrite Nanoparticles. <i>Inorganic Chemistry</i> , <b>2021</b> , 60, 4261-4268	5.1	2
19	Ag44(EBT)26(TPP)4 Nanoclusters With Tailored Molecular and Electronic Structure. <i>Angewandte Chemie</i> , <b>2021</b> , 133, 9120-9126	3.6	2
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