

Chao Wang

List of Publications by Year in descending order

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131
papers

19,464
citations

14655

66
h-index

15266

126
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143
all docs

143
docs citations

143
times ranked

20251
citing authors

#	ARTICLE	IF	CITATIONS
1	Designing an innovation system to support profitable electro- and bio-catalytic carbon upgrade. Energy and Environmental Science, 2022, 15, 1222-1233.	30.8	9
2	Probing the Thermal Behavior and Stability of Metal-Fe ₃ O ₄ Heterodimer Nanoparticles Utilizing In Situ Pulsed Laser Heating TEM. Journal of Nanomaterials, 2022, 2022, 1-9.	2.7	3
3	Extremely Slow Diffusion of Gold Nanoparticles under Confinement in Mesoporous Silica. Journal of Physical Chemistry C, 2022, 126, 3614-3622.	3.1	3
4	Oxo dicopper anchored on carbon nitride for selective oxidation of methane. Nature Communications, 2022, 13, 1375.	12.8	98
5	High-entropy nanoparticles: Synthesis-structure-property relationships and data-driven discovery. Science, 2022, 376, eabn3103.	12.6	239
6	Asymmetrical C-C Coupling for Electroreduction of CO on Bimetallic Cu-Pd Catalysts. ACS Catalysis, 2022, 12, 5275-5283.	11.2	35
7	Metal-Organic Framework-Derived Bin Bimetallic Oxide Nanoparticles Embedded in Carbon Networks for Efficient Electrochemical Reduction of CO ₂ to Formate. Inorganic Chemistry, 2022, 61, 12003-12011.	4.0	17
8	An overview of amphoteric ion exchange membranes for vanadium redox flow batteries. Journal of Materials Science and Technology, 2021, 69, 212-227.	10.7	41
9	Pt nanoparticles encapsulated on V ₂ O ₅ nanosheets carriers as efficient catalysts for promoted aerobic oxidative desulfurization performance. Chinese Journal of Catalysis, 2021, 42, 557-562.	14.0	53
10	Denary oxide nanoparticles as highly stable catalysts for methane combustion. Nature Catalysis, 2021, 4, 62-70.	34.4	153
11	Bridging adsorption analytics and catalytic kinetics for metal-exchanged zeolites. Nature Catalysis, 2021, 4, 144-156.	34.4	27
12	In Situ Electrochemical Route to Bromide Anion-Adsorbed Coral-like Porous Silver Microspheres Achieving Highly Selective Electroreduction of CO ₂ to CO over a Wide Potential Range. ACS Sustainable Chemistry and Engineering, 2021, 9, 6756-6763.	6.7	4
13	Continuous Fly-Through High-Temperature Synthesis of Nanocatalysts. Nano Letters, 2021, 21, 4517-4523.	9.1	13
14	Ab Initio modeling of Near-Edge EELS spectra for chemisorbed molecules. Nanotechnology, 2021, 32, 355702.	2.6	4
15	Electrocatalysis for CO ₂ and CO Reduction. ECS Meeting Abstracts, 2021, MA2021-02, 835-835.	0.0	0
16	Electrocatalytic conversion of carbon dioxide for the Paris goals. Nature Catalysis, 2021, 4, 915-920.	34.4	53
17	Eliminating dissolution of platinum-based electrocatalysts at the atomic scale. Nature Materials, 2020, 19, 1207-1214.	27.5	127
18	Effect of cobalt addition on platinum supported on multi-walled carbon nanotubes for water-gas shift. Journal of Catalysis, 2020, 391, 25-34.	6.2	3

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19	Advanced Electrocatalysts with Single-Metal-Atom Active Sites. <i>Chemical Reviews</i> , 2020, 120, 12217-12314.	47.7	563
20	Undercoordinated Active Sites on 4H Gold Nanostructures for CO ₂ Reduction. <i>Nano Letters</i> , 2020, 20, 8074-8080.	9.1	46
21	Conductive Wood for High-Performance Structural Electromagnetic Interference Shielding. <i>Chemistry of Materials</i> , 2020, 32, 5280-5289.	6.7	117
22	Improving the High-Current-Density Performance of PEMFC through Much Enhanced Utilization of Platinum Electrocatalysts on Carbon. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 26076-26083.	8.0	38
23	Unveiling One-Pot Template-Free Fabrication of Exquisite Multidimensional PtNi Multicube Nanoarchitectonics for the Efficient Electrochemical Oxidation of Ethanol and Methanol with a Great Tolerance for CO. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 31309-31318.	8.0	73
24	Computationally aided, entropy-driven synthesis of highly efficient and durable multi-elemental alloy catalysts. <i>Science Advances</i> , 2020, 6, eaaz0510.	10.3	158
25	Graphene-Metal-Metastructure Monolith via Laser Shock-Induced Thermochemical Stitching of MOF Crystals. <i>Matter</i> , 2020, 2, 1535-1549.	10.0	49
26	Thermal Radiation Synthesis of Ultrafine Platinum Nanoclusters toward Methanol Oxidation. <i>Small Methods</i> , 2020, 4, 2000265.	8.6	16
27	High-throughput, combinatorial synthesis of multimetallic nanoclusters. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 6316-6322.	7.1	119
28	(Invited) First Principles Studies of Oxygen Cycle Electrocatalysis: Multifunctional Materials and Reactivity Trends. <i>ECS Meeting Abstracts</i> , 2020, MA2020-01, 1522-1522.	0.0	0
29	First Principles Analysis of Oxygen Cycle Electrocatalysis: Multifunctional Materials and Reactivity Trends. <i>ECS Meeting Abstracts</i> , 2020, MA2020-02, 2487-2487.	0.0	0
30	High temperature shockwave stabilized single atoms. <i>Nature Nanotechnology</i> , 2019, 14, 851-857.	31.5	278
31	Ultrafast, Controllable Synthesis of Sub-Nano Metallic Clusters through Defect Engineering. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 29773-29779.	8.0	28
32	Synthesis of Metal Oxide Nanoparticles by Rapid, High-Temperature 3D Microwave Heating. <i>Advanced Functional Materials</i> , 2019, 29, 1904282.	14.9	65
33	Copper Nanocubes for CO ₂ Reduction in Gas Diffusion Electrodes. <i>Nano Letters</i> , 2019, 19, 8461-8468.	9.1	135
34	Highly efficient decomposition of ammonia using high-entropy alloy catalysts. <i>Nature Communications</i> , 2019, 10, 4011.	12.8	376
35	Ensemble Effect in Bimetallic Electrocatalysts for CO ₂ Reduction. <i>Journal of the American Chemical Society</i> , 2019, 141, 16635-16642.	13.7	238
36	Unprecedented Electromagnetic Interference Shielding from Three-Dimensional Bi-continuous Nanoporous Graphene. <i>Matter</i> , 2019, 1, 1077-1087.	10.0	53

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37	Migration of Cobalt Species within Mixed Platinum-Cobalt Oxide Bifunctional Electrocatalysts in Alkaline Electrolytes. <i>Journal of the Electrochemical Society</i> , 2019, 166, F3093-F3097.	2.9	7
38	Sub-6 nm Fully Ordered Pt-Co Nanoparticles Enhance Oxygen Reduction via Co Doping Induced Ferromagnetism Enhancement and Optimized Surface Strain. <i>Advanced Energy Materials</i> , 2019, 9, 1803771.	19.5	127
39	Nanoscale Laser Metallurgy and Patterning in Air Using MOFs. <i>Journal of the American Chemical Society</i> , 2019, 141, 5481-5489.	13.7	61
40	Tunable intrinsic strain in two-dimensional transition metal electrocatalysts. <i>Science</i> , 2019, 363, 870-874.	12.6	384
41	Nano-folded Gold Catalysts for Electroreduction of Carbon Dioxide. <i>Nano Letters</i> , 2019, 19, 9154-9159.	9.1	28
42	Electrocatalytic Oxidation of Glycerol on Platinum. <i>Journal of Physical Chemistry C</i> , 2019, 123, 426-432.	3.1	26
43	Electrocatalytic Study of Ethylene Glycol Oxidation on Pt ₃ Sn Alloy Nanoparticles. <i>ChemElectroChem</i> , 2019, 6, 1004-1008.	3.4	13
44	(Invited) Tailoring Metal Nanostructures for Energy-Efficient Electroreduction of CO ₂ and O ₂ . <i>ECS Meeting Abstracts</i> , 2019, . .	0.0	0
45	H-Cell Vs Gas Diffusion Electrolyzer for Evaluating Intrinsic Activity of Nanocatalysts for Electrochemical CO ₂ Reduction. <i>ECS Meeting Abstracts</i> , 2019, MA2019-02, 1072-1072.	0.0	1
46	Mass transport modelling for the electroreduction of CO ₂ on Cu nanowires. <i>Nanotechnology</i> , 2018, 29, 044001.	2.6	82
47	Nanoceria-Supported Single-Atom Platinum Catalysts for Direct Methane Conversion. <i>ACS Catalysis</i> , 2018, 8, 4044-4048.	11.2	214
48	Mass transfer effects in CO ₂ reduction on Cu nanowire electrocatalysts. <i>Catalysis Science and Technology</i> , 2018, 8, 2364-2369.	4.1	54
49	Comparative Studies of Ethanol and Ethylene Glycol Oxidation on Platinum Electrocatalysts. <i>Topics in Catalysis</i> , 2018, 61, 1035-1042.	2.8	9
50	Recovery of ammonium from aqueous solutions using ZSM-5. <i>Chemosphere</i> , 2018, 198, 501-509.	8.2	29
51	Carbothermal shock synthesis of high-entropy-alloy nanoparticles. <i>Science</i> , 2018, 359, 1489-1494.	12.6	1,065
52	Core-Shell Nanostructured Cobalt-Platinum Electrocatalysts with Enhanced Durability. <i>ACS Catalysis</i> , 2018, 8, 35-42.	11.2	72
53	Electrochemical alternative to Fischer-Tropsch. <i>Nature Catalysis</i> , 2018, 1, 741-742.	34.4	17
54	Electro-Oxidation of Ethanol Using Pt ₃ Sn Alloy Nanoparticles. <i>ACS Catalysis</i> , 2018, 8, 10931-10937.	11.2	53

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55	Overview of carbon nanostructures and nanocomposites for electromagnetic wave shielding. Carbon, 2018, 140, 696-733.	10.3	574
56	Three-Dimensional Hierarchical Copper-Based Nanostructures as Advanced Electrocatalysts for CO ₂ Reduction. ACS Applied Energy Materials, 2018, 1, 2392-2398.	5.1	27
57	Recent Advances in CO ₂ Reduction Electrocatalysis on Copper. ACS Energy Letters, 2018, 3, 1545-1556.	17.4	280
58	High-Flux CO Reduction Enabled by Three-Dimensional Nanostructured Copper Electrodes. ACS Catalysis, 2018, 8, 5657-5663.	11.2	35
59	Local pH Effect in the CO ₂ Reduction Reaction on High-Surface-Area Copper Electrocatalysts. Journal of the Electrochemical Society, 2018, 165, F799-F804.	2.9	90
60	Improved Prediction of Nanoalloy Structures by the Explicit Inclusion of Adsorbates in Cluster Expansions. Journal of Physical Chemistry C, 2018, 122, 18040-18047.	3.1	19
61	Prospects of Platinum-Based Nanostructures for the Electrocatalytic Reduction of Oxygen. ACS Catalysis, 2018, 8, 9388-9398.	11.2	52
62	Advanced Core-Shell Nanostructures for Electrocatalytic Applications. ECS Meeting Abstracts, 2018, , .	0.0	0
63	Self-Driven Strain Tuning in Transition Metal Nanocrystals for the Oxygen Reduction Reaction. ECS Meeting Abstracts, 2018, , .	0.0	0
64	Three-Dimensional Hierarchical Copper Nanostructures As Advanced Electrocatalysts for CO ₂ Reduction. ECS Meeting Abstracts, 2018, , .	0.0	0
65	Catalytic Dephosphorylation Using Ceria Nanocrystals. ACS Catalysis, 2017, 7, 1931-1938.	11.2	115
66	Plating Precious Metals on Nonprecious Metal Nanoparticles for Sustainable Electrocatalysts. Nano Letters, 2017, 17, 3391-3395.	9.1	61
67	Recovery of Inorganic Phosphorus Using Copper-Substituted ZSM-5. ACS Sustainable Chemistry and Engineering, 2017, 5, 6192-6200.	6.7	10
68	Low-Overpotential Electroreduction of Carbon Monoxide Using Copper Nanowires. ACS Catalysis, 2017, 7, 4467-4472.	11.2	137
69	Platinum-nickel hydroxide nanocomposites for electrocatalytic reduction of water. Nano Energy, 2017, 31, 456-461.	16.0	119
70	Mechanistic Insights for Low-Overpotential Electroreduction of CO ₂ to CO on Copper Nanowires. ACS Catalysis, 2017, 7, 8578-8587.	11.2	106
71	A Discovery of Strong Metal-Support Bonding in Nanoengineered Au-Fe ₃ O ₄ Dumbbell-like Nanoparticles by in Situ Transmission Electron Microscopy. Nano Letters, 2017, 17, 4576-4582.	9.1	27
72	Advanced Core-Shell Nanostructures for Electrocatalysis. ECS Meeting Abstracts, 2017, , .	0.0	0

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73	Nanoporous Cu Thin Films for Electrochemical CO ₂ Reduction. ECS Meeting Abstracts, 2017, , .	0.0	0
74	Interplay of Mass Transfer and Local pH Effects in CO ₂ Reduction Electrocatalysis. ECS Meeting Abstracts, 2017, , .	0.0	0
75	Recent Development of Platinum-Based Nanocatalysts for Oxygen Reduction Electrocatalysis. Nanostructure Science and Technology, 2016, , 253-280.	0.1	2
76	Macromolecular Brushes as Stabilizers of Hydrophobic Solute Nanoparticles. Molecular Pharmaceutics, 2016, 13, 1855-1865.	4.6	13
77	Oriented-assembly of hollow FePt nanochains with tunable catalytic and magnetic properties. Nanoscale, 2016, 8, 11432-11440.	5.6	45
78	Synthesis of Platinum Nanotubes and Nanorings via Simultaneous Metal Alloying and Etching. Journal of the American Chemical Society, 2016, 138, 6332-6335.	13.7	49
79	Pt ₃ Re alloy nanoparticles as electrocatalysts for the oxygen reduction reaction. Nano Energy, 2016, 20, 202-211.	16.0	38
80	Oxygen reduction over dealloyed Pt layers on glancing angle deposited Ni nanostructures. Electrochimica Acta, 2015, 176, 620-626.	5.2	2
81	Rational Design of Metal Nanoframes for Catalysis and Plasmonics. Small, 2015, 11, 2593-2605.	10.0	121
82	Highly Dense Cu Nanowires for Low-Overpotential CO ₂ Reduction. Nano Letters, 2015, 15, 6829-6835.	9.1	354
83	Surface faceting and elemental diffusion behaviour at atomic scale for alloy nanoparticles during in situ annealing. Nature Communications, 2015, 6, 8925.	12.8	159
84	Glancing angle deposited Ni nanopillars coated with conformal, thin layers of Pt by a novel electrodeposition: Application to the oxygen reduction reaction. Electrochimica Acta, 2015, 151, 537-543.	5.2	4
85	Exchange bias effect in Au-Fe ₃ O ₄ nanocomposites. Nanotechnology, 2014, 25, 055702.	2.6	43
86	Functional links between Pt single crystal morphology and nanoparticles with different size and shape: the oxygen reduction reaction case. Energy and Environmental Science, 2014, 7, 4061-4069.	30.8	205
87	Formation mechanisms for the dominant kinks with different angles in InP nanowires. Nanoscale Research Letters, 2014, 9, 211.	5.7	9
88	Improving the hydrogen oxidation reaction rate by promotion of hydroxyl adsorption. Nature Chemistry, 2013, 5, 300-306.	13.6	945
89	Template-free synthesis of uniform single-crystal hollow cerium dioxide nanocubes and their catalytic activity. Nanoscale, 2013, 5, 7193.	5.6	12
90	Mesostructured thin films as electrocatalysts with tunable composition and surface morphology. Nature Materials, 2012, 11, 1051-1058.	27.5	323

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91	Cross-linked Heterogeneous Nanoparticles as Bifunctional Probe. <i>Chemistry of Materials</i> , 2012, 24, 2423-2425.	6.7	17
92	Surfactant Removal for Colloidal Nanoparticles from Solution Synthesis: The Effect on Catalytic Performance. <i>ACS Catalysis</i> , 2012, 2, 1358-1362.	11.2	426
93	Controlling the morphologies of WO ₃ particles and tuning the gas sensing properties. <i>New Journal of Chemistry</i> , 2012, 36, 2205.	2.8	71
94	Chapter 2. Design, Synthesis and Applications of Dumbbell-like Nanoparticles. <i>RSC Smart Materials</i> , 2012, , 29-53.	0.1	0
95	Rational Development of Ternary Alloy Electrocatalysts. <i>Journal of Physical Chemistry Letters</i> , 2012, 3, 1668-1673.	4.6	130
96	Advanced Platinum Alloy Electrocatalysts for the Oxygen Reduction Reaction. <i>ACS Catalysis</i> , 2012, 2, 891-898.	11.2	403
97	Unique Electrochemical Adsorption Properties of Pt-Skin Surfaces. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 3139-3142.	13.8	264
98	Morphologic evolution of Au nanocrystals grown in ionic liquid by plasma reduction. <i>Journal of Colloid and Interface Science</i> , 2012, 374, 40-44.	9.4	21
99	Ultrathin W ₁₈ O ₄₉ Nanowires with Diameters below 10 nm: Synthesis, Near-Infrared Absorption, Photoluminescence, and Photochemical Reduction of Carbon Dioxide. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 2395-2399.	13.8	492
100	Multimetallic Au/FePt ₃ Nanoparticles as Highly Durable Electrocatalyst. <i>Nano Letters</i> , 2011, 11, 919-926.	9.1	435
101	Design and Synthesis of Bimetallic Electrocatalyst with Multilayered Pt-Skin Surfaces. <i>Journal of the American Chemical Society</i> , 2011, 133, 14396-14403.	13.7	541
102	Surfactant-Induced Postsynthetic Modulation of Pd Nanoparticle Crystallinity. <i>Nano Letters</i> , 2011, 11, 1614-1617.	9.1	98
103	Synthesis of Homogeneous Pt-Bimetallic Nanoparticles as Highly Efficient Electrocatalysts. <i>ACS Catalysis</i> , 2011, 1, 1355-1359.	11.2	124
104	Platinum-alloy nanostructured thin film catalysts for the oxygen reduction reaction. <i>Electrochimica Acta</i> , 2011, 56, 8695-8699.	5.2	101
105	Correlation Between Surface Chemistry and Electrocatalytic Properties of Monodisperse Pt _x Ni _{1-x} Nanoparticles. <i>Advanced Functional Materials</i> , 2011, 21, 147-152.	14.9	218
106	On the importance of correcting for the uncompensated Ohmic resistance in model experiments of the Oxygen Reduction Reaction. <i>Journal of Electroanalytical Chemistry</i> , 2010, 647, 29-34.	3.8	177
107	Cold welding of ultrathin gold nanowires. <i>Nature Nanotechnology</i> , 2010, 5, 218-224.	31.5	432
108	A General Approach to Noble Metal~Metal Oxide Dumbbell Nanoparticles and Their Catalytic Application for CO Oxidation. <i>Chemistry of Materials</i> , 2010, 22, 3277-3282.	6.7	246

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109	Bending Nanowire Growth in Solution by Mechanical Disturbance. <i>Nano Letters</i> , 2010, 10, 2121-2125.	9.1	42
110	Monodisperse Pt ₃ Co nanoparticles as electrocatalyst: the effects of particle size and pretreatment on electrocatalytic reduction of oxygen. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 6933.	2.8	124
111	Synthesis of Supported Platinum Nanoparticles from Li~Pt Solid Solution. <i>Journal of the American Chemical Society</i> , 2010, 132, 2151-2153.	13.7	16
112	Rational Synthesis of Heterostructured Nanoparticles with Morphology Control. <i>Journal of the American Chemical Society</i> , 2010, 132, 6524-6529.	13.7	145
113	Recent Progress in Syntheses and Applications of Dumbbell-like Nanoparticles. <i>Advanced Materials</i> , 2009, 21, 3045-3052.	21.0	308
114	Synthesis of high magnetic moment CoFe nanoparticles via interfacial diffusion in core/shell structured Co/Fe nanoparticles. <i>Nano Research</i> , 2009, 2, 380-385.	10.4	88
115	Synthesis of AuAg Alloy Nanoparticles from Core/Shell-structured Ag/Au. <i>Small</i> , 2009, 5, 567-570.	10.0	134
116	Facile Synthesis of Ultrathin and Single-crystalline Au Nanowires. <i>Chemistry - an Asian Journal</i> , 2009, 4, 1028-1034.	3.3	47
117	Interparticle interactions in coupled Au~Fe ₃ O ₄ nanoparticles. <i>Journal of Applied Physics</i> , 2009, 105, 07B502.	2.5	41
118	Tug-of-War in Nanoparticles: Competitive Growth of Au on Au~Fe ₃ O ₄ Nanoparticles. <i>Nano Letters</i> , 2009, 9, 4544-4547.	9.1	70
119	One-Pot Synthesis of Oleylamine Coated AuAg Alloy NPs and Their Catalysis for CO Oxidation. <i>Chemistry of Materials</i> , 2009, 21, 433-435.	6.7	184
120	Monodisperse Pt ₃ Co Nanoparticles as a Catalyst for the Oxygen Reduction Reaction: Size-Dependent Activity. <i>Journal of Physical Chemistry C</i> , 2009, 113, 19365-19368.	3.1	192
121	Dumbbell-like Pt~Fe ₃ O ₄ Nanoparticles and Their Enhanced Catalysis for Oxygen Reduction Reaction. <i>Nano Letters</i> , 2009, 9, 1493-1496.	9.1	467
122	A facile synthesis of monodisperse Au nanoparticles and their catalysis of CO oxidation. <i>Nano Research</i> , 2008, 1, 229-234.	10.4	398
123	Au~Fe ₃ O ₄ Dumbbell Nanoparticles as Dual-functional Probes. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 173-176.	13.8	490
124	A General Approach to the Size- and Shape-controlled Synthesis of Platinum Nanoparticles and Their Catalytic Reduction of Oxygen. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 3588-3591.	13.8	791
125	Ultrathin Au Nanowires and Their Transport Properties. <i>Journal of the American Chemical Society</i> , 2008, 130, 8902-8903.	13.7	445
126	Colloidal deposition synthesis of supported gold nanocatalysts based on Au~Fe ₃ O ₄ dumbbell nanoparticles. <i>Chemical Communications</i> , 2008, , 4357.	4.1	113

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127	Synthesis of Monodisperse Pt Nanocubes and Their Enhanced Catalysis for Oxygen Reduction. Journal of the American Chemical Society, 2007, 129, 6974-6975.	13.7	530
128	Modeling Multiterminal Spintronic Devices. IEEE Nanotechnology Magazine, 2007, 6, 309-315.	2.0	1
129	A General Strategy for Synthesizing FePt Nanowires and Nanorods. Angewandte Chemie - International Edition, 2007, 46, 6333-6335.	13.8	297
130	Static and Dynamic Magnetic Properties of Composite Au-Fe ₃ O ₄ Nanoparticles. IEEE Transactions on Magnetics, 2007, 43, 3094-3096.	2.1	19
131	Synthesis and Stabilization of Monodisperse Fe Nanoparticles. Journal of the American Chemical Society, 2006, 128, 10676-10677.	13.7	483