Richard M Crooks

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206 papers	19,690 citations	75 h-index	137 g-index
217 ext. papers	21,072 ext. citations	8.9 avg, IF	7.03 L-index

#	Paper	IF	Citations
206	Dendrimer-encapsulated metal nanoparticles: synthesis, characterization, and applications to catalysis. *Accounts of Chemical Research*, **2001**, 34, 181-90	24.3	1839
205	Preparation of Cu Nanoclusters within Dendrimer Templates. *Journal of the American Chemical Society*, **1998**, 120, 4877-4878	16.4	887
204	Synthesis, characterization, and applications of dendrimer-encapsulated nanoparticles. *Journal of Physical Chemistry B*, **2005**, 109, 692-704	3.4	782
203	Beyond fossil fuel-driven nitrogen transformations. *Science*, **2018**, 360,	33.3	772
202	Homogeneous Hydrogenation Catalysis with Monodisperse, Dendrimer-Encapsulated Pd and Pt Nanoparticles. *Angewandte Chemie - International Edition*, **1999**, 38, 364-366	16.4	553
201	Bipolar electrochemistry. *Angewandte Chemie - International Edition*, **2013**, 52, 10438-56	16.4	460
200	Three-dimensional paper microfluidic devices assembled using the principles of origami. *Journal of the American Chemical Society*, **2011**, 133, 17564-6	16.4	397
199	Size-Selective Hydrogenation of Olefins by Dendrimer-Encapsulated Palladium Nanoparticles. *Journal of the American Chemical Society*, **2001**, 123, 6840-6846	16.4	319
198	Effect of Pd nanoparticle size on the catalytic hydrogenation of allyl alcohol. *Journal of the American Chemical Society*, **2006**, 128, 4510-1	16.4	313
197	Bimetallic palladium-gold dendrimer-encapsulated catalysts. *Journal of the American Chemical Society*, **2004**, 126, 15583-91	16.4	305
196	Preparation and Characterization of 1⍰ nm Dendrimer-Encapsulated Gold Nanoparticles Having Very Narrow Size Distributions. *Chemistry of Materials*, **2004**, 16, 167-172	9.6	300
195	Dendrimer-encapsulated nanoparticles: New synthetic and characterization methods and catalytic applications. *Chemical Science*, **2011**, 2, 1632	9.4	275
194	Bimetallic palladium-platinum dendrimer-encapsulated catalysts. *Journal of the American Chemical Society*, **2003**, 125, 3708-9	16.4	273
193	Bipolar electrodes: a useful tool for concentration, separation, and detection of analytes in microelectrochemical systems. *Analytical Chemistry*, **2010**, 82, 8766-74	7.8	262
192	Interactions between Organized, Surface-Confined Monolayers and Vapor-Phase Probe Molecules. 10. Preparation and Properties of Chemically Sensitive Dendrimer Surfaces. *Journal of the American Chemical Society*, **1996**, 118, 3988-3989	16.4	254
191	Electrochemistry Using Single Carbon Nanotubes. *Journal of the American Chemical Society*, **1999**, 121, 3779-3780	16.4	251
190	New Organic Materials Suitable for Use in Chemical Sensor Arrays. *Accounts of Chemical Research*, **1998**, 31, 219-227	24.3	243

189	Preparation and characterization of dendrimer-gold colloid nanocomposites. *Analytical Chemistry*, **1999**, 71, 256-8	7.8	241
188	Self-Assembled Inverted Micelles Prepared from a Dendrimer Template: Phase Transfer of Encapsulated Guests. *Journal of the American Chemical Society*, **1999**, 121, 4910-4911	16.4	231
187	Dendrimer-Encapsulated Pd Nanoparticles as Fluorous Phase-Soluble Catalysts. *Journal of the American Chemical Society*, **2000**, 122, 1243-1244	16.4	219
186	Aptamer-based origami paper analytical device for electrochemical detection of adenosine. *Angewandte Chemie - International Edition*, **2012**, 51, 6925-8	16.4	216
185	Dendrimer-encapsulated metal nanoparticles and their applications to catalysis. *Comptes Rendus Chimie*, **2003**, 6, 1049-1059	2.7	191
184	A large-scale, wireless electrochemical bipolar electrode microarray. *Journal of the American Chemical Society*, **2009**, 131, 8364-5	16.4	190
183	Synthesis, Characterization, and Stability of Dendrimer-Encapsulated Palladium Nanoparticles. *Chemistry of Materials*, **2003**, 15, 3873-3878	9.6	186
182	Structural Distortion of Dendrimers on Gold Surfaces: A Tapping-Mode AFM Investigation. *Journal of the American Chemical Society*, **1998**, 120, 5323-5324	16.4	184
181	Intradendrimer Exchange of Metal Nanoparticles. *Chemistry of Materials*, **1999**, 11, 3379-3385	9.6	184
180	Efficient mixing and reactions within microfluidic channels using microbead-supported catalysts. *Journal of the American Chemical Society*, **2002**, 124, 13360-1	16.4	172
179	Preparation and Characterization of Dendrimer-Encapsulated CdS Semiconductor Quantum Dots. *Journal of the American Chemical Society*, **2000**, 122, 12886-12887	16.4	172
178	Determination of the Intrinsic Proton Binding Constants for Poly(amidoamine) Dendrimers via Potentiometric pH Titration. *Macromolecules*, **2003**, 36, 5725-5731	5.5	169
177	Corrosion Passivation of Gold by n-Alkanethiol Self-Assembled Monolayers: Effect of Chain Length and End Group. *Langmuir*, **1998**, 14, 3279-3286	4	169
176	Hollow-channel paper analytical devices. *Analytical Chemistry*, **2013**, 85, 7976-9	7.8	149
175	Synthesis, characterization, and surface immobilization of platinum and palladium nanoparticles encapsulated within amine-terminated poly(amidoamine) dendrimers. *Langmuir*, **2004**, 20, 2915-20	4	147
174	Structural Rearrangement of Bimetallic Alloy PdAu Nanoparticles within Dendrimer Templates to Yield Core/Shell Configurations *Chemistry of Materials*, **2008**, 20, 1019-1028	9.6	138
173	Paper electrochemical device for detection of DNA and thrombin by target-induced conformational switching. *Analytical Chemistry*, **2014**, 86, 6166-70	7.8	137
172	Effect of particle size on the kinetics of the electrocatalytic oxygen reduction reaction catalyzed by Pt dendrimer-encapsulated nanoparticles. *Langmuir*, **2007**, 23, 11901-6	4	134

171	Design of Pt-shell nanoparticles with alloy cores for the oxygen reduction reaction. *ACS Nano*, **2013**, 7, 9168-72	16.7	133
170	pH-Switchable, Ultrathin Permselective Membranes Prepared from Multilayer Polymer Composites. *Journal of the American Chemical Society*, **1997**, 119, 8720-8721	16.4	130
169	Preparation of Hyperbranched Polymer Films Grafted on Self-Assembled Monolayers. *Journal of the American Chemical Society*, **1996**, 118, 3773-3774	16.4	130
168	A Theoretical and Experimental Framework for Understanding Electrogenerated Chemiluminescence (ECL) Emission at Bipolar Electrodes. *Analytical Chemistry*, **2009**, 81, 6218-6225	7.8	128
167	Synthesis and Characterization of Surface-Grafted, Hyperbranched Polymer Films Containing Fluorescent, Hydrophobic, Ion-Binding, Biocompatible, and Electroactive Groups. *Langmuir*, **1997**, 13, 770-778	4	128
166	Electrochemical synthesis and electrocatalytic properties of Au@Pt dendrimer-encapsulated nanoparticles. *Journal of the American Chemical Society*, **2010**, 132, 10988-9	16.4	126
165	Synthesis and Characterization of Pt Dendrimer-Encapsulated Nanoparticles: Effect of the Template on Nanoparticle Formation. *Chemistry of Materials*, **2008**, 20, 5218-5228	9.6	126
164	Detection of hepatitis B virus DNA with a paper electrochemical sensor. *Analytical Chemistry*, **2015**, 87, 9009-15	7.8	123
163	Three-dimensional wax patterning of paper fluidic devices. *Langmuir*, **2014**, 30, 7030-6	4	120
162	Extraction of Au nanoparticles having narrow size distributions from within dendrimer templates. *Journal of the American Chemical Society*, **2004**, 126, 16170-8	16.4	119
161	Electrochemistry in hollow-channel paper analytical devices. *Journal of the American Chemical Society*, **2014**, 136, 4616-23	16.4	115
160	Surface Acoustic Wave Chemical Sensor Arrays: New Chemically Sensitive Interfaces Combined with Novel Cluster Analysis To Detect Volatile Organic Compounds and Mixtures. *Accounts of Chemical Research*, **1998**, 31, 289-296	24.3	114
159	Monolayers of Thiol-Terminated Dendrimers on the Surface of Planar and Colloidal Gold. *Langmuir*, **1999**, 15, 6364-6369	4	106
158	Bipolar electrode focusing: simultaneous concentration enrichment and separation in a microfluidic channel containing a bipolar electrode. *Analytical Chemistry*, **2009**, 81, 8923-9	7.8	104
157	Characterization of Poly(amidoamine) Dendrimers and Their Complexes with Cu2+ by Matrix-Assisted Laser Desorption Ionization Mass Spectrometry. *Macromolecules*, **2001**, 34, 3567-3573	5.5	103
156	Oxygen Reduction Reaction on Classically Immiscible Bimetallics: A Case Study of RhAu. *Journal of Physical Chemistry C*, **2018**, 122, 2712-2716	3.8	102
155	DNA detection using origami paper analytical devices. *Analytical Chemistry*, **2013**, 85, 9713-20	7.8	102
154	Detection of microRNA by Electrocatalytic Amplification: A General Approach for Single-Particle Biosensing. *Journal of the American Chemical Society*, **2017**, 139, 7657-7664	16.4	100

153	Transient effects on microchannel electrokinetic filtering with an ion-permselective membrane. *Analytical Chemistry*, **2008**, 80, 1039-48	7.8	95
152	NMR characterization of fourth-generation PAMAM dendrimers in the presence and absence of palladium dendrimer-encapsulated nanoparticles. *Journal of the American Chemical Society*, **2009**, 131, 341-50	16.4	94
151	Efficient electrocatalytic oxidation of formic acid using Au@Pt dendrimer-encapsulated nanoparticles. *Journal of the American Chemical Society*, **2013**, 135, 5521-4	16.4	93
150	Scanning Probe Lithography. 3. Nanometer-Scale Electrochemical Patterning of Au and Organic Resists in the Absence of Intentionally Added Solvents or Electrolytes. *The Journal of Physical Chemistry*, **1996**, 100, 11086-11091		89
149	Electrokinetics in microfluidic channels containing a floating electrode. *Journal of the American Chemical Society*, **2008**, 130, 10480-1	16.4	88
148	Electrokinetic trapping and concentration enrichment of DNA in a microfluidic channel. *Journal of the American Chemical Society*, **2003**, 125, 13026-7	16.4	87
147	Size Stability and H/CO Selectivity for Au Nanoparticles during Electrocatalytic CO Reduction. *Journal of the American Chemical Society*, **2017**, 139, 16161-16167	16.4	86
146	Structural analysis of PdAu dendrimer-encapsulated bimetallic nanoparticles. *Langmuir*, **2010**, 26, 1137-46		86
145	Electric field gradient focusing in microchannels with embedded bipolar electrode. *Lab on A Chip*, **2009**, 9, 1903-13	7.2	84
144	Size-selective catalytic activity of Pd nanoparticles encapsulated within end-group functionalized dendrimers. *Langmuir*, **2005**, 21, 10209-13	4	83
143	Catalysis in supercritical CO2 using dendrimer-encapsulated palladium nanoparticles. *Chemical Communications*, **2001**, 2290-2291	5.8	83
142	Preparation of Dendrimer-Encapsulated Metal Nanoparticles Using Organic Solvents. *Chemistry of Materials*, **2003**, 15, 3463-3467	9.6	82
141	Spectroscopic, Voltammetric, and Electrochemical Scanning Tunneling Microscopic Study of Underpotentially Deposited Cu Corrosion and Passivation with Self-Assembled Organomercaptan Monolayers. *Langmuir*, **1998**, 14, 640-647	4	81
140	Imaging of Defects Contained within n-Alkylthiol Monolayers by Combination of Underpotential Deposition and Scanning Tunneling Microscopy: Kinetics of Self-Assembly. *Journal of the Electrochemical Society*, **1991**, 138, L23-L25	3.9	80
139	New Functionalities for Paper-Based Sensors Lead to Simplified User Operation, Lower Limits of Detection, and New Applications. *Annual Review of Analytical Chemistry*, **2016**, 9, 183-202	12.5	80
138	Synthesis and Catalytic Evaluation of Dendrimer-Encapsulated Cu Nanoparticles. An Undergraduate Experiment Exploring Catalytic Nanomaterials. *Journal of Chemical Education*, **2009**, 86, 368	2.4	79
137	Photophysical Properties of Pyrene-Functionalized Poly(propylene imine) Dendrimers. *Macromolecules*, **2000**, 33, 9034-9039	5.5	79
136	Interactions between Organized, Surface-Confined Monolayers and Vapor-Phase Probe Molecules. 9. Structure/Reactivity Relationship between Three Surface-Confined Isomers of Mercaptobenzoic Acid and Vapor-Phase Decylamine. *Langmuir*, **1996**, 12, 1989-1996	4	79

135	Tunability of the Adsorbate Binding on Bimetallic Alloy Nanoparticles for the Optimization of Catalytic Hydrogenation. *Journal of the American Chemical Society*, **2017**, 139, 5538-5546	16.4	78
134	Electrochemically mediated seawater desalination. *Angewandte Chemie - International Edition*, **2013**, 52, 8107-10	16.4	77
133	Interactions between Organized, Surface-Confined Monolayers and Vapor-Phase Probe Molecules. 12. Two New Methods for Surface-Immobilization and Functionalization of Chemically Sensitive Dendrimer Surfaces. *Langmuir*, **1997**, 13, 5608-5612	4	76
132	Synthesis, Characterization, and Surface Immobilization of Metal Nanoparticles Encapsulated within Bifunctionalized Dendrimers. *Langmuir*, **2003**, 19, 10420-10425	4	76
131	Aptamer-Based Origami Paper Analytical Device for Electrochemical Detection of Adenosine. *Angewandte Chemie*, **2012**, 124, 7031-7034	3.6	73
130	Evaluating Electrocatalysts for the Hydrogen Evolution Reaction Using Bipolar Electrode Arrays: Bi- and Trimetallic Combinations of Co, Fe, Ni, Mo, and W. *ACS Catalysis*, **2014**, 4, 1332-1339	13.1	72
129	Bipolar electrode focusing: faradaic ion concentration polarization. *Analytical Chemistry*, **2011**, 83, 2351-8	7.8	72
128	Bipolar electrode focusing: the effect of current and electric field on concentration enrichment. *Analytical Chemistry*, **2009**, 81, 10149-55	7.8	72
127	Scanning Probe Lithography. 4. Characterization of Scanning Tunneling Microscope-Induced Patterns in n-Alkanethiol Self-Assembled Monolayers. *Langmuir*, **1997**, 13, 2323-2332	4	72
126	Simple, sensitive, and quantitative electrochemical detection method for paper analytical devices. *Analytical Chemistry*, **2014**, 86, 6501-7	7.8	71
125	Bipolare Elektrochemie. *Angewandte Chemie*, **2013**, 125, 10632-10651	3.6	71
124	In-SituElectrochemical Scanning Tunneling Microscopy (ECSTM) Study of Cyanide-Induced Corrosion of Naked and Hexadecyl Mercaptan-Passivated Au(111). *Langmuir*, **1997**, 13, 122-126	4	71
123	A Simple Lithographic Approach for Preparing Patterned, Micron-Scale Corrals for Controlling Cell Growth. *Angewandte Chemie - International Edition*, **1999**, 38, 1592-1595	16.4	71
122	Dendrimer-Mediated Immobilization of Catalytic Nanoparticles on Flat, Solid Supports. *Langmuir*, **2002**, 18, 8231-8236	4	70
121	Patterning Bacteria within Hyperbranched Polymer Film Templates. *Langmuir*, **2002**, 18, 9914-9917	4	70
120	A theoretical and experimental approach for correlating nanoparticle structure and electrocatalytic activity. *Accounts of Chemical Research*, **2015**, 48, 1351-7	24.3	69
119	Periodicity and Atomic Ordering in Nanosized Particles of Crystals. *Journal of Physical Chemistry C*, **2008**, 112, 8907-8911	3.8	68
118	Wire, mesh, and fiber electrodes for paper-based electroanalytical devices. *Analytical Chemistry*, **2014**, 86, 3659-66	7.8	66

117	Interactions between Organized, Surface-Confined Monolayers and Vapor-Phase Probe Molecules. 11. Synthesis, Characterization, and Chemical Sensitivity of Self-Assembled Polydiacetylene/Calix[n]arene Bilayers. *Journal of the American Chemical Society*, **1996**, 118, 11912-11917	16.4	66
116	Titania-Supported Au and Pd Composites Synthesized from Dendrimer-Encapsulated Metal Nanoparticle Precursors. *Chemistry of Materials*, **2004**, 16, 5682-5688	9.6	64
115	Electrochemical Rectification Using Mixed Monolayers of Redox-Active Ferrocenyl Dendrimers andn-Alkanethiols. *Langmuir*, **2002**, 18, 6981-6987	4	64
114	Independent Geometrical and Electrochemical Characterization of Arrays of Nanometer-Scale Electrodes. *Journal of Physical Chemistry B*, **1998**, 102, 10041-10046	3.4	62
113	A theoretical and experimental examination of systematic ligand-induced disorder in Au dendrimer-encapsulated nanoparticles. *Chemical Science*, **2013**, 4, 2912	9.4	61
112	Principles of Bipolar Electrochemistry. *ChemElectroChem*, **2016**, 3, 357-359	4.3	60
111	An experimental and theoretical investigation of the inversion of pd@pt core@shell dendrimer-encapsulated nanoparticles. *ACS Nano*, **2013**, 7, 9345-53	16.7	60
110	Low-voltage origami-paper-based electrophoretic device for rapid protein separation. *Analytical Chemistry*, **2014**, 86, 12390-7	7.8	60
109	Inhibition of Electrochemical Reactions at Gold Surfaces by Grafted, Highly Fluorinated, Hyperbranched Polymer Films. *Langmuir*, **1997**, 13, 1388-1391	4	60
108	Dendrimer-Mediated Adhesion between Vapor-Deposited Au and Glass or Si Wafers. *Analytical Chemistry*, **1999**, 71, 4403-6	7.8	59
107	Homogene katalytische Hydrierung mit monodispersen, dendrimerumhüllten Pd- und Pt-Nanopartikeln. *Angewandte Chemie*, **1999**, 111, 375-377	3.6	58
106	Bipolar electrode focusing: tuning the electric field gradient. *Lab on A Chip*, **2011**, 11, 518-27	7.2	53
105	Au@Pt dendrimer encapsulated nanoparticles as model electrocatalysts for comparison of experiment and theory. *Chemical Science*, **2012**, 3, 1033	9.4	51
104	Chemically Grafted Polymeric Filters for Chemical Sensors: Hyperbranched Poly(acrylic acid) Films Incorporating Cyclodextrin Receptors and Amine-Functionalized Filter Layers. *Langmuir*, **1999**, 15, 885-890	4	50
103	Preparation of polycyclodextrin hollow spheres by templating gold nanoparticles. *Chemical Communications*, **2001**, 359-360	5.8	49
102	Electrochemical detection of individual DNA hybridization events. *Lab on A Chip*, **2013**, 13, 349-54	7.2	48
101	Characterization of Pt@Cu core@shell dendrimer-encapsulated nanoparticles synthesized by Cu underpotential deposition. *Langmuir*, **2011**, 27, 4227-35	4	48
100	Nanometer-Scale Patterning of Metals by Electrodeposition from an STM Tip in Air. *Journal of the American Chemical Society*, **1998**, 120, 9700-9701	16.4	48

99	Low-voltage paper isotachophoresis device for DNA focusing. *Lab on A Chip*, **2015**, 15, 4090-8	7.2	47
98	Addressing Colloidal Stability for Unambiguous Electroanalysis of Single Nanoparticle Impacts. *Journal of Physical Chemistry Letters*, **2016**, 7, 2512-7	6.4	47
97	Well-Defined Nanoparticle Electrocatalysts for the Refinement of Theory. *Chemical Reviews*, **2020**, 120, 814-850	68.1	47
96	Paper-Based Sensor for Electrochemical Detection of Silver Nanoparticle Labels by Galvanic Exchange. *ACS Sensors*, **2016**, 1, 40-47	9.2	45
95	Separation of Dendrimer-Encapsulated Au and Ag Nanoparticles by Selective Extraction. *Chemistry of Materials*, **2004**, 16, 4202-4204	9.6	45
94	Synthesis of Hyperbranched, Hydrophilic Fluorinated Surface Grafts. *Langmuir*, **1996**, 12, 5519-5521	4	45
93	Electrochemical and Spectroscopic Characterization of Viologen-Functionalized Poly(Amidoamine) Dendrimers. *Journal of Physical Chemistry B*, **2001**, 105, 8885-8894	3.4	44
92	Increasing the Collision Rate of Particle Impact Electroanalysis with Magnetically Guided Pt-Decorated Iron Oxide Nanoparticles. *ACS Nano*, **2015**, 9, 7583-95	16.7	43
91	In Situ Probing of the Active Site Geometry of Ultrathin Nanowires for the Oxygen Reduction Reaction. *Journal of the American Chemical Society*, **2015**, 137, 12597-609	16.4	43
90	Time-Dependent Phase Segregation of Dendrimer/n-Alkylthiol Mixed-Monolayers on Au(111): An Atomic Force Microscopy Study. *Langmuir*, **1999**, 15, 7632-7638	4	42
89	Aqueous Solvation and Functionalization of Weak-Acid Polyelectrolyte Thin Films. *Langmuir*, **1998**, 14, 4232-4237	4	41
88	Site-selective Cu deposition on Pt dendrimer-encapsulated nanoparticles: correlation of theory and experiment. *Journal of the American Chemical Society*, **2012**, 134, 4153-62	16.4	40
87	Dual-channel bipolar electrode focusing: simultaneous separation and enrichment of both anions and cations. *Lab on A Chip*, **2012**, 12, 4107-14	7.2	40
86	Paper diagnostic device for quantitative electrochemical detection of ricin at picomolar levels. *Lab on A Chip*, **2015**, 15, 3707-15	7.2	39
85	Single nanoparticle collisions at microfluidic microband electrodes: the effect of electrode material and mass transfer. *Langmuir*, **2014**, 30, 13462-9	4	39
84	Magnetic properties of dendrimer-encapsulated iron nanoparticles containing an average of 55 and 147 atoms. *New Journal of Chemistry*, **2007**, 31, 1349	3.6	39
83	Two New Approaches for Patterning Polymer Films Using Templates Prepared by Microcontact Printing. *Macromolecules*, **2001**, 34, 1230-1236	5.5	39
82	Electrocatalytic amplification of nanoparticle collisions at electrodes modified with polyelectrolyte multilayer films. *Langmuir*, **2015**, 31, 876-85	4	38

81	Dual-electrode microfluidic cell for characterizing electrocatalysts. *Lab on A Chip*, **2012**, 12, 986-93	7.2	36
80	Effect of mass transfer on the oxygen reduction reaction catalyzed by platinum dendrimer encapsulated nanoparticles. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 11493-7	11.5	36
79	Electrocatalytic Amplification of Single Nanoparticle Collisions Using DNA-Modified Surfaces. *Langmuir*, **2015**, 31, 11724-33	4	35
78	Efficient CO Oxidation Using Dendrimer-Encapsulated Pt Nanoparticles Activated with . *ACS Nano*, **2016**, 10, 8760-9	16.7	35
77	Enrichment of cations via bipolar electrode focusing. *Analytical Chemistry*, **2012**, 84, 7393-9	7.8	34
76	Micrometer-Scale Patterning of Multiple Dyes on Hyperbranched Polymer Thin Films Using Photoacid-Based Lithography. *Langmuir*, **1999**, 15, 7418-7421	4	33
75	Bipolar electrode depletion: membraneless filtration of charged species using an electrogenerated electric field gradient. *Analyst, The*, **2011**, 136, 4134-7	5	32
74	Interactions between Dendrimers and Charged Probe Molecules. 1. Theoretical Methods for Simulating Proton and Metal Ion Binding to Symmetric Polydentate Ligands. *Journal of Physical Chemistry B*, **2002**, 106, 5864-5872	3.4	32
73	Label-free electrochemical monitoring of concentration enrichment during bipolar electrode focusing. *Analytical Chemistry*, **2011**, 83, 6746-53	7.8	31
72	Correlating Structure and Function of Metal Nanoparticles for Catalysis. *Surface Science*, **2015**, 640, 65-72	2.8	30
71	Synthesis, characterization, and electrocatalysis using Pt and Pd dendrimer-encapsulated nanoparticles prepared by galvanic exchange. *New Journal of Chemistry*, **2011**, 35, 2054	3.6	30
70	Electrochemical Desalination for a Sustainable Water Future. *ChemElectroChem*, **2014**, 1, 850-857	4.3	29
69	Direct electrochemical detection of individual collisions between magnetic microbead/silver nanoparticle conjugates and a magnetized ultramicroelectrode. *Chemical Science*, **2015**, 6, 6665-6671	9.4	28
68	Fabrication and Characterization of Single Pores for Modeling Mass Transport across Porous Membranes. *Langmuir*, **1999**, 15, 738-741	4	28
67	Electrocatalytic Study of the Oxygen Reduction Reaction at Gold Nanoparticles in the Absence and Presence of Interactions with SnO Supports. *Journal of the American Chemical Society*, **2018**, 140, 13775-13785	14.4	27
66	Synthesis and characterization of NiSn dendrimer-encapsulated nanoparticles. *Langmuir*, **2010**, 26, 12994-9	4	26
65	Electroactive Composite Dendrimer Films Containing Thiophene-Terminated Poly(amidoamine) Dendrimers Cross-Linked by Poly(3-methylthiophene). *Chemistry of Materials*, **2002**, 14, 3995-4001	9.6	26
64	Electrocatalytic amplification of DNA-modified nanoparticle collisions enzymatic digestion. *Chemical Science*, **2016**, 7, 6450-6457	9.4	26

63	Faradaic Ion Concentration Polarization on a Paper Fluidic Platform. *Analytical Chemistry*, **2017**, 89, 4294-4300	7.3	25
62	Experimental and Theoretical Structural Investigation of AuPt Nanoparticles Synthesized Using a Direct Electrochemical Method. *Journal of the American Chemical Society*, **2018**, 140, 6249-6259	16.4	24
61	Covalent Grafting of a Patterned, Hyperbranched Polymer onto a Plastic Substrate Using Microcontact Printing. *Journal of the American Chemical Society*, **1999**, 121, 8395-8396	16.4	24
60	Quantitative electrochemical metalloimmunoassay for TFF3 in urine using a paper analytical device. *Analyst, The*, **2016**, 141, 1734-44	5	23
59	Electrochemically-gated delivery of analyte bands in microfluidic devices using bipolar electrodes. *Lab on A Chip*, **2013**, 13, 2292-9	7.2	23
58	Multistep galvanic exchange synthesis yielding fully reduced Pt dendrimer-encapsulated nanoparticles. *Langmuir*, **2014**, 30, 15009-15	4	23
57	Pressure-driven bipolar electrochemistry. *Journal of the American Chemical Society*, **2011**, 133, 4687-9	16.4	23
56	In situ X-ray absorption analysis of ~1.8 nm dendrimer-encapsulated Pt nanoparticles during electrochemical CO oxidation. *ChemPhysChem*, **2010**, 11, 2942-50	3.2	23
55	A combined theoretical and experimental EXAFS study of the structure and dynamics of Au147 nanoparticles. *Catalysis Science and Technology*, **2016**, 6, 6879-6885	5.5	22
54	Concluding remarks: single entity electrochemistry one step at a time. *Faraday Discussions*, **2016**, 193, 533-547	3.6	21
53	Electron Transfer Facilitated by Dendrimer-Encapsulated Pt Nanoparticles Across Ultrathin, Insulating Oxide Films. *Journal of the American Chemical Society*, **2016**, 138, 6829-37	16.4	20
52	Hybrid paper and 3D-printed microfluidic device for electrochemical detection of Ag nanoparticle labels. *Lab on A Chip*, **2020**, 20, 1648-1657	7.2	19
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50	Electrochemical Detection of NT-proBNP Using a Metalloimmunoassay on a Paper Electrode Platform. *ACS Sensors*, **2020**, 5, 853-860	9.2	18
49	Unusual Activity Trend for CO Oxidation on Pd(x)Au(140-x)@Pt Core@Shell Nanoparticle Electrocatalysts. *Journal of Physical Chemistry Letters*, **2015**, 6, 2562-8	6.4	17
48	Focusing, sorting, and separating microplastics by serial faradaic ion concentration polarization. *Chemical Science*, **2020**, 11, 5547-5558	9.4	16
47	In situ structural characterization of platinum dendrimer-encapsulated oxygen reduction electrocatalysts. *Langmuir*, **2012**, 28, 1596-603	4	16
46	Effect of pH, Fluorination, and Number of Layers on the Inhibition of Electrochemical Reactions by Grafted, Hyperbranched Poly(acrylic acid) Films. *Israel Journal of Chemistry*, **1997**, 37, 277-286	3.4	15

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44	Electrochemical scanning tunneling microscopy study of the electrochemical behavior of naked and n-alkanethiol-modified Au(111) surfaces in F□and CN□containing electrolyte solutions. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1995**, 13, 1300		14
43	Orientation-Controlled Bioconjugation of Antibodies to Silver Nanoparticles. *Bioconjugate Chemistry*, **2019**, 30, 3078-3086	6.3	13
42	Electrochemical Synthesis of Ceramic Materials. 5. An Electrochemical Method Suitable for the Preparation of Nine Metal Nitrides. *Chemistry of Materials*, **1997**, 9, 248-254	9.6	13
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