Derrick M Mott

List of Publications by Year
in descending order

109 papers	5,923 citations	81839 39 h-index	71651 76 g-index
115 all docs	115 docs citations	115 times ranked	8646 citing authors

#	Article	IF	Citations
1	Size Correlation of Optical and Spectroscopic Properties for Gold Nanoparticles. Journal of Physical Chemistry C, 2007, 111, 14664-14669.	1.5	533
2	Synthesis of Size-Controlled and Shaped Copper Nanoparticles. Langmuir, 2007, 23, 5740-5745.	1.6	455
3	Characterization of Carbon-Supported AuPt Nanoparticles for Electrocatalytic Methanol Oxidation Reaction. Langmuir, 2006, 22, 2892-2898.	1.6	266
4	Phase Properties of Carbon-Supported Goldâ˜Platinum Nanoparticles with Different Bimetallic Compositions. Chemistry of Materials, 2005, 17, 3086-3091.	3.2	239
5	Core/Shell Nanoparticles as Electrocatalysts for Fuel Cell Reactions. Advanced Materials, 2008, 20, 4342-4347.	11.1	231
6	Synergistic activity of gold-platinum alloy nanoparticle catalysts. Catalysis Today, 2007, 122, 378-385.	2.2	221
7	Nanoscale Alloying, Phase-Segregation, and Coreâ˜Shell Evolution of Goldâ˜Platinum Nanoparticles and Their Electrocatalytic Effect on Oxygen Reduction Reaction. Chemistry of Materials, 2010, 22, 4282-4294.	3.2	205
8	Core@shell nanomaterials: gold-coated magnetic oxide nanoparticles. Journal of Materials Chemistry, 2008, 18, 2629.	6.7	187
9	Nanoengineered PtCo and PtNi Catalysts for Oxygen Reduction Reaction: An Assessment of the Structural and Electrocatalytic Properties. Journal of Physical Chemistry C, 2011, 115, 1682-1694.	1.5	173
10	Doxorubicin loaded dual pH- and thermo-responsive magnetic nanocarrier for combined magnetic hyperthermia and targeted controlled drug delivery applications. Nanoscale, 2016, 8, 12152-12161.	2.8	173
11	Interparticle Interactions in Glutathione Mediated Assembly of Gold Nanoparticles. Langmuir, 2008, 24, 8857-8863.	1.6	146
12	Fuel cell technology: nano-engineered multimetallic catalysts. Energy and Environmental Science, 2008, 1, 454.	15.6	144
13	Homocysteine-Mediated Reactivity and Assembly of Gold Nanoparticles. Langmuir, 2007, 23, 826-833.	1.6	137
14	Gold-platinum nanoparticles: alloying and phase segregation. Journal of Materials Chemistry, 2011, 21, 4012-4020.	6.7	125
15	Adsorption of Cyanine Dyes on Gold Nanoparticles and Formation of J-Aggregates in the Nanoparticle Assembly. Journal of Physical Chemistry B, 2006, 110, 6673-6682.	1.2	124
16	Silver nanoparticle loaded TiO 2 nanotubes with high photocatalytic and antibacterial activity synthesized by photoreduction method. Journal of Photochemistry and Photobiology A: Chemistry, 2018, 352, 106-112.	2.0	96
17	Ternary alloy nanoparticles with controllable sizes and composition and electrocatalytic activity. Journal of Materials Chemistry, 2006, 16, 1665.	6.7	95
18	Thermal Treatment of PtNiCo Electrocatalysts: Effects of Nanoscale Strain and Structure on the Activity and Stability for the Oxygen Reduction Reaction. Journal of Physical Chemistry C, 2010, 114, 17580-17590.	1.5	95

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19	Role of base in the formation of silver nanoparticles synthesized using sodium acrylate as a dual reducing and encapsulating agent. Physical Chemistry Chemical Physics, 2011, 13, 9335.	1.3	87
20	Catalytic and Electrocatalytic Oxidation of Ethanol over Palladium-Based Nanoalloy Catalysts. Langmuir, 2013, 29, 9249-9258.	1.6	87
21	Chemical synthesis of blue-emitting metallic zinc nano-hexagons. CrystEngComm, 2013, 15, 6606.	1.3	86
22	Nanoparticle-structured sensing array materials and pattern recognition for VOC detection. Sensors and Actuators B: Chemical, 2005, 106, 431-441.	4.0	85
23	Goldâ€“Copper Nanoparticles: Nanostructural Evolution and Bifunctional Catalytic Sites. Chemistry of Materials, 2012, 24, 4662-4674.	3.2	85
24	Interparticle Chiral Recognition of Enantiomers: A Nanoparticle-Based Regulation Strategy. Analytical Chemistry, 2009, 81, 689-698.	3.2	82
25	MicroRNA Conjugated Gold Nanoparticles and Cell Transfection. Analytical Chemistry, 2012, 84, 26-29.	3.2	78
26	Gold and magnetic oxide/gold core/shell nanoparticles as bio-functional nanoprobes. Nanotechnology, 2008, 19, 305102.	1.3	77
27	From Ultrafine Thiolate-Capped Copper Nanoclusters toward Copper Sulfide Nanodiscs: A Thermally Activated Evolution Route. Chemistry of Materials, 2010, 22, 261-271.	3.2	77
28	Synthesis and Characterization of Monolayer-Capped PtVFe Nanoparticles with Controllable Sizes and Composition. Chemistry of Materials, 2005, 17, 5282-5290.	3.2	76
29	Nanocrystal and surface alloy properties of bimetallic Gold-Platinum nanoparticles. Nanoscale Research Letters, 2007, 2, 12-16.	3.1	76
30	Synthesis and surface functionalization of Fe 3 O 4 -SiO 2 core-shell nanoparticles with 3-glycidoxypropyltrimethoxysilane and 1,1â€²-carbonyldiimidazole for bio-applications. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2016, 504, 376-383.	2.3	75
31	X-ray Absorption Near-Edge Structure and X-ray Photoelectron Spectroscopy Studies of Interfacial Charge Transfer in Goldâ€“Silverâ€“Gold Double-Shell Nanoparticles. Journal of Physical Chemistry C, 2012, 116, 4511-4516.	1.5	69
32	Electronic transfer as a route to increase the chemical stability in gold and silver coreâ€“shell nanoparticles. Advances in Colloid and Interface Science, 2012, 185-186, 14-33.	7.0	55
33	Chemical stabilization of gold coated by silver coreâ€“shell nanoparticles via electron transfer. Nanotechnology, 2012, 23, 245704.	1.3	55
34	Catalytic activity of bimetallic catalysts highly sensitive to the atomic composition and phase structure at the nanoscale. Nanoscale, 2015, 7, 18936-18948.	2.8	53
35	Charge-transfer-induced suppression of galvanic replacement and synthesis of (Au@Ag)@Au double shell nanoparticles for highly uniform, robust and sensitive bioprobes. Applied Physics Letters, 2011, 99, 073107.	1.5	50
36	Aqueous synthesis and characterization of Ag and Agâ€“Au nanoparticles: addressing challenges in size, monodispersity and structure. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 4275-4292.	1.6	49

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37	Chromium-assisted synthesis of platinum nanocube electrocatalysts. Chemical Communications, 2010, 46, 7184.	2.2	46
38	Nanostructured PtVFe catalysts: Electrocatalytic performance in proton exchange membrane fuel cells. Electrochemistry Communications, 2009, 11, 1139-1141.	2.3	40
39	Nanoscale alloying effect of goldâ€“platinum nanoparticles as cathode catalysts on the performance of a rechargeable lithiumâ€“oxygen battery. Nanotechnology, 2012, 23, 305404.	1.3	40
40	Sensing Arrays Constructed from Nanoparticle Thin Films and Interdigitated Microelectrodes. Sensors, 2006, 6, 667-679.	2.1	32
41	Ag/FeCo/Ag Core/Shell/Shell Magnetic Nanoparticles with Plasmonic Imaging Capability. Langmuir, 2015, 31, 2228-2236.	1.6	31
42	Preparation of PdCu Alloy Nanocatalysts for Nitrate Hydrogenation and Carbon Monoxide Oxidation. Catalysts, 2016, 6, 96.	1.6	31
43	Assembly of Gold Nanoparticles Mediated by Multifunctional Fullerenes. Langmuir, 2007, 23, 10715-10724.	1.6	30
44	Synthesis, Characterization and Potential Application of MnZn Ferrite and MnZn Ferrite@Au Nanoparticles. Journal of Nanoscience and Nanotechnology, 2009, 9, 3005-3012.	0.9	29
45	Anin situreal-time x-ray diffraction study of phase segregation in Auâ€“Pt nanoparticles. Nanotechnology, 2009, 20, 245708.	1.3	28
46	Intensification of surface enhanced Raman scattering of thiol-containing molecules using Ag@Au core@shell nanoparticles. Journal of Applied Physics, 2011, 109, .	1.1	28
47	High-performance nonvolatile write-once-read-many-times memory devices with ZnO nanoparticles embedded in polymethylmethacrylate. Applied Physics Letters, 2011, 99, .	1.5	28
48	One-pot synthesis and characterization of well defined coreâ€“shell structure of FePt@CdSe nanoparticles. RSC Advances, 2011, 1, 100.	1.7	27
49	Oxophilicity and Structural Integrity in Maneuvering Surface Oxygenated Species on Nanoalloys for CO Oxidation. ACS Catalysis, 2013, 3, 3075-3085.	5.5	27
50	Bifunctional nanoparticles for SERS monitoring and magnetic intervention of assembly and enzyme cutting of DNAs. Journal of Materials Chemistry B, 2013, 1, 4320.	2.9	27
51	Rigid, conjugated and shaped arylethynes as mediators for the assembly of gold nanoparticles. Journal of Materials Chemistry, 2011, 21, 1890-1901.	6.7	25
52	Surface oxygenation of multicomponent nanoparticles toward active and stable oxidation catalysts. Nature Communications, 2020, 11, 4201.	5.8	25
53	Comparative trial of saccharin-added electrolyte for improving the structure of an electrodeposited magnetic FeCoNi thin film. Thin Solid Films, 2017, 642, 51-57.	0.8	24
54	Boehmite nanorod/gold nanoparticle nanocomposite film for an easy-to-use optical humidity sensor. Sensors and Actuators B: Chemical, 2012, 168, 429-435.	4.0	23

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55	Enhanced Electronic Properties of Pt@Ag Heterostructured Nanoparticles. Sensors, 2013, 13, 7813-7826.	2.1	23
56	Synthesis of delafossite CuAlO2 p-type semiconductor with a nanoparticle-based Cu(I) acetate-loaded boehmite precursor. Materials Research Bulletin, 2011, 46, 1819-1827.	2.7	22
57	Magneticâ€“Plasmonic FePt@Ag Coreâ€“Shell Nanoparticles and Their Magnetic and SERS Properties. Plasmonics, 2013, 8, 1177-1184.	1.8	22
58	Formation mechanism of magneticâ€“plasmonic Ag@FeCo@Ag coreâ€“shellâ€“shell nanoparticles: fact is more interesting than fiction. CrystEngComm, 2015, 17, 6923-6929.	1.3	22
59	Multicore magnetic FePt nanoparticles: controlled formation and properties. RSC Advances, 2014, 4, 1039-1044.	1.7	20
60	Bismuth, antimony and tellurium alloy nanoparticles with controllable shape and composition for efficient thermoelectric devices. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 52-58.	0.8	19
61	Copper Sulfideâ€“Zinc Sulfide Janus Nanoparticles and Their Seebeck Characteristics for Sustainable Thermoelectric Materials. Journal of Physical Chemistry C, 2016, 120, 5869-5875.	1.5	19
62	Exchange bias in Ag/FeCo/Ag core/shell/shell nanoparticles due to partial oxidation of FeCo intermediate shell. Journal of Magnetism and Magnetic Materials, 2016, 401, 339-344.	1.0	17
63	Sustainable thermoelectric materials fabricated by using Cu2Sn1-xZnxS3 nanoparticles as building blocks. Applied Physics Letters, 2017, 111, .	1.5	16
64	Molecularly-mediated assembly of gold nanoparticles with interparticle rigid, conjugated and shaped aryl ethynyl structures. Chemical Communications, 2010, 46, 2218.	2.2	15
65	Study on formation mechanism and ligand-directed architectural control of nanoparticles composed of Bi, Sb and Te: towards one-pot synthesis of ternary (Bi,Sb)2Te3 nanobuilding blocks. RSC Advances, 2011, 1, 1089.	1.7	14
66	AuFePt Ternary Homogeneous Alloy Nanoparticles with Magnetic and Plasmonic Properties. Langmuir, 2017, 33, 1687-1694.	1.6	14
67	A Study on the Plasmonic Properties of Silver Core Gold Shell Nanoparticles: Optical Assessment of the Particle Structure. Japanese Journal of Applied Physics, 2011, 50, 065004.	0.8	13
68	Novel nickelâ€“palladium catalysts encased in a platinum nanocage. RSC Advances, 2014, 4, 26667-26672.	1.7	13
69	Enhancement of the Thermoelectric Figure of Merit in Blended Cu₂Sn_{1â€“x}Zn_xS₃ Nanobulk Materials. ACS Applied Nano Materials, 2018, 1, 4819-4827.	2.4	13
70	Peak shape analysis of Ag 3d coreâ€level Xâ€ray photoelectron spectra of Au@Ag coreâ€shell nanoparticles using an asymmetric Gaussianâ€“Lorentzian mixed function. Surface and Interface Analysis, 2012, 44, 1611-1614.	0.8	12
71	Catalytic oxidation of propane over palladium alloyed with gold: an assessment of the chemical and intermediate species. Catalysis Science and Technology, 2018, 8, 6228-6240.	2.1	12
72	Colloid Chemical Approach for Fabricating Cuâ€“Feâ€“S Nanobulk Thermoelectric Materials by Blending Cu₂S and FeS Nanoparticles as Building Blocks. Industrial & Engineering Chemistry Research, 2019, 58, 3688-3697.	1.8	12

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73	Low-temperature phase and morphology transformations in noble metal nanocatalysts. Nanotechnology, 2011, 22, 025701.	1.3	11
74	Ultrafast Exciton Dynamics in Cd x Hg (1 â˜' x) Te alloy Quantum Dots. Chemical Physics, 2016, 469-470, 25-30.	0.9	10
75	Gold-Based Nanoparticle Catalysts for Fuel Cell Reactions. , 2007, , 289-307.		9
76	Elucidation of the Complex Structure of Nanoparticles Composed of Bismuth, Antimony, and Tellurium Using Scanning Transmission Electron Microscopy. Journal of Physical Chemistry C, 2011, 115, 17334-17340.	1.5	9
77	Chalcopyrite nanocomposite material for sustainable thermoelectrics. Japanese Journal of Applied Physics, 2014, 53, 120301.	0.8	9
78	Organic nanocrystal enrichment in paper microfluidic analysis. Sensors and Actuators B: Chemical, 2021, 333, 129548.	4.0	9
79	Chalcopyrite Nanoparticles as a Sustainable Thermoelectric Material. Nanomaterials, 2015, 5, 1820-1830.	1.9	8
80	One-pot Chemical Synthesis of Zinc Antimonide Nanoparticles as Building Blocks for Nanostructured Thermoelectric Materials. Chemistry Letters, 2012, 41, 1529-1531.	0.7	7
81	Size Determination of Nanoparticles Based on Tapping-Mode Atomic Force Microscopy Measurements. Journal of Scanning Probe Microscopy, 2008, 3, 1-8.	0.0	7
82	A Study on the Plasmonic Properties of Silver Core Gold Shell Nanoparticles: Optical Assessment of the Particle Structure. Japanese Journal of Applied Physics, 2011, 50, 065004.	0.8	6
83	Combinatorial Assessment of the Activity-Composition Correlation for Several Alloy Nanoparticle Catalysts. Industrial & Engineering Chemistry Research, 2008, 47, 4675-4682.	1.8	5
84	Gold/WÃ¼stite Coreâ€“shell Nanoparticles: Suppression of Iron Oxidation through the Electronâ€Transfer Phenomenon. ChemPhysChem, 2013, 14, 3278-3283.	1.0	5
85	Attenuation of surface-enhanced Raman scattering of magneticâ€“plasmonic FePt@Ag coreâ€“shell nanoparticles due to an external magnetic field. Chemical Physics Letters, 2013, 574, 94-99.	1.2	5
86	An influence of bottom electrode material on electrical conduction and resistance switching of TiO_xthin films. EPJ Applied Physics, 2013, 64, 30102.	0.3	5
87	Quantitative two-dimensional strain mapping of small coreâ€“shell FePt@Fe₃O₄nanoparticles. New Journal of Physics, 2016, 18, 033016.	1.2	5
88	Evolution of surface catalytic sites on thermochemically-tuned goldâ€“palladium nanoalloys. Nanoscale, 2018, 10, 3849-3862.	2.8	5
89	Synthesis and Characterization of Copper Sulfideâ€Manganese Sulfide Nanoparticles with Chestnut Morphology and Study on the Semiconducting Properties. ChemistrySelect, 2019, 4, 3898-3904.	0.7	4
90	Wet-chemical preparation of digold bismuthide, gold diantimonide, and gold ditelluride particles. Journal of Materials Research, 2013, 28, 2106-2112.	1.2	3

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91	Transition of exchange bias from the linear to oscillatory regime with the progression of surface oxidation of Ag@FeCo@Ag core@shell@shell nanoparticles. Journal of Applied Physics, 2016, 120, 134301.	1.1	3
92	Characterization of the detector subsystem for the near-infrared spectrograph (NIRSpec) on the James Webb Space Telescope. Proceedings of SPIE, 2008, , .	0.8	2
93	Chemical Synthesis of Binary Solid Solution Bismuthâ€“Antimony Nanoparticles with Control of Composition and Morphology. Chemistry Letters, 2014, 43, 615-617.	0.7	2
94	Characterization of Metallic Nanoparticles Based on the Abundant Usages of X-ray Techniques. , 2015, , 1-24.		2
95	FePt Nanoparticles as Promising Magnetic Nanobeads for Biomedical Applications. Funtai Oyobi Fummatsu Yakin/Journal of the Japan Society of Powder and Powder Metallurgy, 2014, 61, S104-S110.	0.1	1
96	Nanoparticle Building Blocks as a Foundation for Advanced Thermoelectric Energy Generators. ACS Symposium Series, 2015, , 41-54.	0.5	1
97	Harvesting Nanocatalytic Heat Localized in Nanoalloy Catalyst as a Heat Source in a Nanocomposite Thin Film Thermoelectric Device. Langmuir, 2015, 31, 11158-11163.	1.6	1
98	Silica-Supported Au and Pt Nanoparticles and CO Adsorption. Materials Research Society Symposia Proceedings, 2005, 900, 1.	0.1	0
99	Synthesis of Size and Shape Controlled Silver Nanoparticles Coated by a Thin Layer of Gold and Their Use as Ultrasensitive Biomolecular Probes. Materials Research Society Symposia Proceedings, 2010, 1253, 4.	0.1	0
100	Assembly of Ag@Au Nanoparticles Using Complementery Stranded DNA Molecules and Their Detection Using UV-Vis and RAMAN Spectroscopic Techniques. Materials Research Society Symposia Proceedings, 2010, 1272, 1.	0.1	0
101	Design and Synthesis of One and Two Dimensional Thermoelectric Nanomaterials Composed of Bismuth, Antimony, and Tellurium. Materials Research Society Symposia Proceedings, 2010, 1267, 1.	0.1	0
102	Synthesis, Fabrication, and Characterization of Multidimensional Nanoparticle Based Thermoelectric Materials Composed of Bismuth, Antimony, and Tellurium.. Materials Research Society Symposia Proceedings, 2011, 1329, 1.	0.1	0
103	Back Cover: Bismuth, antimony and tellurium alloy nanoparticles with controllable shape and composition for efficient thermoelectric devices (Phys. Status Solidi A 1/2011). Physica Status Solidi (A) Applications and Materials Science, 2011, 208, .	0.8	0
104	True Atomic Level Imaging of Shaped Nanoparticles Composed of Bismuth, Antimony and Tellurium using Scanning Transmission Electron Microscopy.. Materials Research Society Symposia Proceedings, 2011, 1349, 140201.	0.1	0
105	Manipulation of the Electronic Properties of Gold and Silver Coreâ"Shell Nanoparticles. ACS Symposium Series, 2012, , 327-358.	0.5	0
106	Plasmonicâ€“magnetic dual-functional graded nanoparticles with oxide shell passivation designed for bioapplications. Applied Physics Express, 2018, 11, 105001.	1.1	0
107	Characterization of Metallic Nanoparticles Based on the Abundant Usages of X-ray Techniques. , 2016, , 217-244.		0
108	Organic Nanocrystal Coated-Microfluidic Paper Analytical Device for Heavy Metal Ions Detection. ECS Meeting Abstracts, 2020, MA2020-01, 2334-2334.	0.0	0

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109	Influence of Naturally Occurring Organic Surfactants on the Surface Tension of Sessile Droplets and Atmospheric Aerosols Measured with a Quasi-Elastic Laser Scattering System. ECS Meeting Abstracts, 2020, MA2020-01, 2272-2272.	0.0	0