James D Batteas

List of Publications by Year
in descending order

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105 papers	5,702 citations	70961 41 h-index	79541 73 g-index
107 all docs	107 docs citations	107 times ranked	7832 citing authors

#	Article	IF	Citations
1	Porphyrins as molecular electronic components of functional devices. Coordination Chemistry Reviews, 2010, 254, 2297-2310.	9.5	432
2	Preparation and Characterization of Porphyrin Nanoparticles. Journal of the American Chemical Society, 2002, 124, 14290-14291.	6.6	280
3	Porphyrin Tessellation by Design: Metal-Mediated Self-Assembly of Large Arrays and Tapes. Angewandte Chemie - International Edition, 1998, 37, 2344-2347.	7.2	273
4	2D-nanomaterials for controlling friction and wear at interfaces. Nano Today, 2015, 10, 301-314.	6.2	269
5	Ultrasensitive Copper(II) Detection Using Plasmon-Enhanced and Photo-Brightened Luminescence of CdSe Quantum Dots. Analytical Chemistry, 2010, 82, 3671-3678.	3.2	259
6	Cutin deficiency in the tomato fruit cuticle consistently affects resistance to microbial infection and biomechanical properties, but not transpirational water loss. Plant Journal, 2009, 60, 363-377.	2.8	253
7	Evaporation-Induced Assembly of Quantum Dots into Nanorings. ACS Nano, 2009, 3, 173-180.	7.3	155
8	Synthesis of CuPt Nanorod Catalysts with Tunable Lengths. Journal of the American Chemical Society, 2009, 131, 5720-5721.	6.6	141
9	Designing supramolecular porphyrin arrays that self-organize into nanoscale optical and magnetic materials. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 6498-6502.	3.3	131
10	Zirconium phosphate nano-platelets: a novel platform for drug delivery in cancer therapy. Chemical Communications, 2012, 48, 1754.	2.2	131
11	Dynamical LEED analyses of the Pt(111)-p(2Ã— 2)-NO and the Ni(111)-c(4 Ã— 2)-2NO structures: substrate relaxation and unexpected hollow-site adsorption. Surface Science, 1994, 303, 319-332.	0.8	114
12	The growth and structure of titanium oxide films on Pt(111) investigated by LEED, XPS, ISS, and STM. Surface Science, 1995, 326, 80-92.	0.8	113
13	Using Patterned Arrays of Metal Nanoparticles to Probe Plasmon Enhanced Luminescence of CdSe Quantum Dots. ACS Nano, 2009, 3, 1735-1744.	7.3	113
14	Pickering emulsions stabilized by amphiphilic nano-sheets. Soft Matter, 2012, 8, 10245.	1.2	111
15	Superhydrophobic Surfaces Formed Using Layer-by-Layer Self-Assembly with Aminated Multiwall Carbon Nanotubes. Langmuir, 2008, 24, 4245-4253.	1.6	103
16	Controlled Hierarchical Self-Assembly and Deposition of Nanoscale Photonic Materials We gratefully acknowledge support from the National Science Foundation (CHE-0135509, CHE-0095649, and IGERT) Tj ETQq0 0 0 rgBT /Overlock 10 department infrastructure is partially supported by NIH RCMI program GM3037. Dr. Andy Round is thanked for technical assistance.. Angewandte Chemie - International Edition, 2002, 41, 2117.	7.2	97
17	Effect of Block Length on Solvent Response of Block Copolymer Brushes:Â Combinatorial Study with Block Copolymer Brush Gradients. Macromolecules, 2006, 39, 3359-3364.	2.2	97
18	Robust and Flexible Aramid Nanofiber/Graphene Layer-by-Layer Electrodes. ACS Applied Materials & Interfaces, 2017, 9, 17125-17135.	4.0	94

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19	Hollow-site molecular adsorption for NO on Pt(111) and Ni(111): Invalidating vibrational site assignment rules. Physical Review B, 1993, 48, 2859-2861.	1.1	92
20	Fluorinated porphyrinoids as efficient platforms for new photonic materials, sensors, and therapeutics. Organic and Biomolecular Chemistry, 2016, 14, 389-408.	1.5	85
21	Self-Organization of Self-Assembled Tetrameric Porphyrin Arrays on Surfaces. Langmuir, 2004, 20, 3974-3983.	1.6	82
22	Depth profiling using C60+ SIMSâ€"Deposition and topography development during bombardment of silicon. Applied Surface Science, 2006, 252, 6521-6525.	3.1	78
23	Zirconium phosphate nanoplatelets: a biocompatible nanomaterial for drug delivery to cancer. Nanoscale, 2013, 5, 2328.	2.8	78
24	Microchannel Confined Surface-Initiated Polymerization. Macromolecules, 2005, 38, 6-8.	2.2	72
25	The Influence of Water on the Nanomechanical Behavior of the Plant Biopolyester Cutin as Studied by AFM and Solid-State NMR. Biophysical Journal, 2000, 79, 2761-2767.	0.2	70
26	Reversible Changes in Solution pH Resulting from Changes in Thermoresponsive Polymer Solubility. Journal of the American Chemical Society, 2012, 134, 7378-7383.	6.6	65
27	Solution and Surface Composition Gradients via Microfluidic Confinement: Fabrication of a Statistical-Copolymer-Brush Composition Gradient. Advanced Materials, 2006, 18, 1427-1430.	11.1	64
28	Designing Surfaces with Wettability That Varies in Response to Solute Identity and Concentration. Langmuir, 2009, 25, 26-28.	1.6	61
29	Carbon, nitrogen, and sulfur on Ni(111): formation of complex structures and consequences for molecular decomposition. Surface Science, 1993, 296, 25-35.	0.8	58
30	The influence of surface oxidation on the reactions of methanol on Fe(110). Surface Science, 1997, 384, 156-167.	0.8	53
31	Temperature-controlled depth profiling in polymeric materials using cluster secondary ion mass spectrometry (SIMS). Applied Surface Science, 2006, 252, 6502-6505.	3.1	52
32	Coadsorbate Induced Reconstruction of a Stepped Pt(111) Surface by Sulfur and CO: A Novel Surface Restructuring Mechanism Observed by Scanning Tunneling Microscopy. Physical Review Letters, 1996, 77, 534-537.	2.9	50
33	Directed Electroless Growth of Metal Nanostructures on Patterned Self-Assembled Monolayers. Langmuir, 2007, 23, 7874-7879.	1.6	50
34	Temperature-Controlled Depth Profiling of Poly(methyl methacrylate) Using Cluster Secondary Ion Mass Spectrometry.Â 2. Investigation of Sputter-Induced Topography, Chemical Damage, and Depolymerization Effects. Analytical Chemistry, 2007, 79, 837-845.	3.2	49
35	The influence of nanoscale roughness and substrate chemistry on the frictional properties of single and few layer graphene. Nanoscale, 2015, 7, 10021-10029.	2.8	49
36	Synthesis and Characterization of Tapered Copolymer Brushes via Surface-Initiated Atom Transfer Radical Copolymerization. Langmuir, 2005, 21, 11136-11140.	1.6	47

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37	Effects of Direct Solvent-Quantum Dot Interaction on the Optical Properties of Colloidal Monolayer WS₂ Quantum Dots. Nano Letters, 2017, 17, 7471-7477.	4.5	47
38	Parallel Effects of Cations on PNIPAM Graft Wettability and PNIPAM Solubility. ACS Applied Materials & Interfaces, 2010, 2, 452-458.	4.0	46
39	Phase Behavior of Cationic Hydroxyethyl Celluloseâ^'Sodium Dodecyl Sulfate Mixtures:Â Effects of Molecular Weight and Ethylene Oxide Side Chain Length of Polymers. Langmuir, 2004, 20, 8482-8489.	1.6	45
40	Self-Assembled Monolayers Based Upon a Zirconium Phosphate Platform. Chemistry of Materials, 2013, 25, 723-728.	3.2	45
41	Photoinduced charge separation in a porphyrin-tetraviologen supramolecular array. Journal of the American Chemical Society, 1990, 112, 126-133.	6.6	43
42	The Rh(110)-p2mg(2 Ã— 1)-2O surface structure determined by automated tensor LEED: structure changes with oxygen coverage. Surface Science, 1995, 339, 142-150.	0.8	43
43	Surface-grafted block copolymer gradients: Effect of block length on solvent response. Applied Surface Science, 2006, 252, 2529-2534.	3.1	40
44	Passivation of Fe(110) via phosphorus deposition: the reactions of trimethylphosphite. Surface Science, 1998, 401, L437-L443.	0.8	39
45	Mapping Catalytically Relevant Edge Electronic States of MoS₂. ACS Central Science, 2018, 4, 493-503.	5.3	39
46	Structural and Chemical Characterization of Monofluoro-Substituted Oligo(phenyleneâ^'ethynylene) Thiolate Self-Assembled Monolayers on Gold. Langmuir, 2004, 20, 6195-6205.	1.6	37
47	Synthesis and Characterization of a Thiol-Tethered Tripyridyl Porphyrin on Au(111). Journal of Physical Chemistry C, 2008, 112, 6110-6118.	1.5	37
48	2D or not 2D? The impact of nanoscale roughness and substrate interactions on the tribological properties of graphene and MoS₂. Journal Physics D: Applied Physics, 2017, 50, 103003.	1.3	37
49	Disorder in Alkylsilane Monolayers Assembled on Surfaces with Nanoscopic Curvature. Journal of Physical Chemistry C, 2009, 113, 4507-4514.	1.5	36
50	Redox-controlled â€˜smartâ€™ polyacrylamide solubility. Polymer Chemistry, 2010, 1, 631.	1.9	35
51	Driving Surface Chemistry at the Nanometer Scale Using Localized Heat and Stress. Nano Letters, 2017, 17, 2111-2117.	4.5	35
52	Shape-controlled synthesis of nanopyramids and nanoprisms of nickel sulfide (Ni₃S₄). Nanoscale, 2014, 6, 8935-8942.	2.8	33
53	Molecular Dynamics Simulations of Alkylsilane Monolayers on Silica Nanoasperities: Impact of Surface Curvature on Monolayer Structure and Pathways for Energy Dissipation in Tribological Contacts. Journal of Physical Chemistry C, 2012, 116, 25165-25177.	1.5	31
54	A tensor LEED analysis of the Rh(110)-p2mg(2 Ã— 1)-2CO structure. Surface Science, 1994, 313, 341-348.	0.8	30

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55	Adhesion and wear of colloidal silica probed by force microscopy. Tribology Letters, 1999, 7, 121-128.	1.2	29
56	Formation of Coherent 1Hâ€“1T Heterostructures in Single-Layer MoS₂ on Au(111). ACS Nano, 2020, 14, 16939-16950.	7.3	29
57	Adhesion and Friction at Graphene/Self-Assembled Monolayer Interfaces Investigated by Atomic Force Microscopy. Journal of Physical Chemistry C, 2017, 121, 5635-5641.	1.5	28
58	A Quasimolecular Approach to the Conductance of Moleculeâ^'Metal Junctions:â€‰ Theory and Application to Voltage-Induced Conductance Switching. Journal of Physical Chemistry B, 2004, 108, 18414-18420.	1.2	27
59	A LEED, TDS, and HREELS study of CO adsorbed on the Rh(311) stepped surface. Surface Science, 1993, 297, 11-18.	0.8	26
60	A Benchtop Method for the Fabrication and Patterning of Nanoscale Structures on Polymers. Journal of the American Chemical Society, 2004, 126, 628-634.	6.6	25
61	Plug-and-Play Approach for Preparing Chromatin Containing Site-Specific DNA Modifications: The Influence of Chromatin Structure on Base Excision Repair. Journal of the American Chemical Society, 2018, 140, 8260-8267.	6.6	23
62	Insight into the Electrical Double Layer of Ionic Liquids Revealed through Its Temporal Evolution. Advanced Materials Interfaces, 2020, 7, 2001313.	1.9	22
63	Effects of ozonolysis and subsequent growth of quantum dots on the electrical properties of freestanding single-walled carbon nanotube films. Chemical Physics Letters, 2007, 442, 354-359.	1.2	21
64	Dynamic Variations in Adhesion of Selfâ€Assembled Monolayers on Nanoasperities Probed by Atomic Force Microscopy. Scanning, 2008, 30, 106-117.	0.7	21
65	Tensor LEED analysis of the Ni(111)-p(2 Ã— 2)-CH3CN structure. Surface Science, 1994, 304, 316-324.	0.8	20
66	Spatially Selective Optical Tuning of Quantum Dot Thin Film Luminescence. Journal of the American Chemical Society, 2009, 131, 18204-18205.	6.6	20
67	Enhanced visible-light absorption and dopant distribution of iodine-TiO2 nanoparticles synthesized by a new facile two-step hydrothermal method. Journal of Solid State Chemistry, 2011, 184, 2244-2249.	1.4	20
68	Preparation and Structure of a Low-Density, Flat-Lying Decanethiol Monolayer from the Densely Packed, Upright Monolayer on Gold. Langmuir, 2006, 22, 174-180.	1.6	19
69	Influence of Surface Modifiers on the Thermal Decomposition of Methanethiol on Fe(110). Langmuir, 1999, 15, 2391-2397.	1.6	18
70	Wear of Mica under Aqueous Environments:Direct Observation of Defect Nucleation by AFM. Langmuir, 2005, 21, 633-639.	1.6	18
71	Synthesis and Structural Characterization of Glucopyranosylamide Films on Gold. Langmuir, 2007, 23, 700-707.	1.6	18
72	Curvature-Induced Modification of Mechano-Electrochemical Coupling and Nucleation Kinetics in a Cathode Material. Matter, 2020, 3, 1754-1773.	5.0	18

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73	Intercalation of 3-Phenyl-1-proponal into OTS SAMs on Silica Nanoasperities to Create Self-Repairing Interfaces for MEMS Lubrication. Langmuir, 2010, 26, 16355-16361.	1.6	17
74	Hierarchical organization of a robust porphyrin cage self-assembled by hydrogen bonds. Chemical Communications, 2011, 47, 7134.	2.2	16
75	Utilizing Nearest-Neighbor Interactions To Alter Charge Transport Mechanisms in Molecular Assemblies of Porphyrins on Surfaces. Journal of Physical Chemistry C, 2015, 119, 13569-13579.	1.5	16
76	Efficient Free Triplet Generation Follows Singlet Fission in Diketopyrrolopyrrole Polymorphs with Goldilocks Coupling. Journal of Physical Chemistry C, 2021, 125, 12207-12213.	1.5	14
77	Controlled hierarchical self-assembly and deposition of nanoscale photonic materials. Angewandte Chemie - International Edition, 2002, 41, 2117-9.	7.2	13
78	Triplet-state electron transfer in poly(methacrylic acid) with covalently bound phenanthrene and naphthalene. The Journal of Physical Chemistry, 1991, 95, 960-965.	2.9	11
79	Implications of the Contact Radius to Line Step (CRLS) Ratio in AFM for Nanotribology Measurements. Langmuir, 2006, 22, 6130-6141.	1.6	11
80	Solute- and Temperature-Responsive â€œSmartâ€•Grafts and Supported Membranes Formed by Covalent Layer-by-Layer Assembly. Langmuir, 2012, 28, 5237-5242.	1.6	11
81	Fabrication and Electrochemical Performance of Structured Mesoscale Open Shell V₂O₅ Networks. Langmuir, 2017, 33, 5975-5981.	1.6	11
82	Preparation, Size Control, Surface Deposition, and Catalytic Reactivity of Hydrophobic Corrolazine Nanoparticles in an Aqueous Environment. Inorganic Chemistry, 2010, 49, 8465-8473.	1.9	10
83	Utilizing Atomistic Simulations To Map Pressure Distributions and Contact Areas in Molecular Adlayers within Nanoscale Surface-Asperity Junctions: A Demonstration with Octadecylsilane-Functionalized Silica Interfaces. Langmuir, 2014, 30, 11897-11905.	1.6	10
84	Using Particle Lithography to Tailor the Architecture of Au Nanoparticle Plasmonic Nanoring Arrays. Journal of Physical Chemistry B, 2018, 122, 730-736.	1.2	10
85	Responsive porphyrinoid nanoparticles: development and applications. Journal of Porphyrins and Phthalocyanines, 2011, 15, 338-349.	0.4	9
86	The role of substrate interactions in the modification of surface forces by self-assembled monolayers. RSC Advances, 2014, 4, 16803-16812.	1.7	9
87	One-Pot Synthesis of Four Chlorin Derivatives by a Divergent Ylide. Journal of Organic Chemistry, 2018, 83, 6307-6314.	1.7	9
88	Suppression of Quenching in Plasmon-Enhanced Luminescence via Rapid Intraparticle Energy Transfer in Doped Quantum Dots. ACS Nano, 2013, 7, 10544-10551.	7.3	8
89	Mechanical and Electronic Properties of Diacetylene and Polydiacetylene Self-Assembled Monolayers on Au(111). Journal of Physical Chemistry C, 2020, 124, 4081-4089.	1.5	7
90	Using Patterned Self-Assembled Monolayers to Tune Grapheneâ€“Substrate Interactions. Langmuir, 2021, 37, 9996-10005.	1.6	6

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91	Nanofabrication with Self-Assembled Monolayers by Scanning Probe Lithography. Nanoscience and Technology, 2006, , 105-135.	1.5	6
92	Designing Supramolecular Porphyrin Arrays for Surface Assembly and Patterning of Optoelectronic Materials. ACS Symposium Series, 2006, , 168-183.	0.5	5
93	Three-Dimensional Inverse Opal TiO₂ Coatings to Enable the Gliding of Viscous Oils. Energy & Fuels, 2020, 34, 13606-13613.	2.5	5
94	Bonding and Interparticle Interactions of Silica Nanoparticles. , 2003, , 387-398.		5
95	Studies of the structure and phase transitions of nano-confined pentanedithiol and its application in directing hierarchical molecular assemblies on Au(1â€‰1â€‰1). Journal of Physics Condensed Matter, 2016, 28, 094013.	0.7	4
96	The influence of nearest-neighbour interactions and assembly dynamics on the transport properties of porphyrin supramolecular assemblies on Au(111). Faraday Discussions, 2017, 204, 349-366.	1.6	4
97	Scanned Probe Microscopy-Mediated Patterning of Metallic Nanostructures. Advanced Engineering Materials, 2005, 7, 811-814.	1.6	3
98	Why Did the Electron Cross the Road? A Scanning Tunneling Microscopy (STM) Study of Molecular Conductance for the Physical Chemistry Lab. Journal of Chemical Education, 2014, 91, 283-290.	1.1	3
99	Practical, high-yield synthesis of thiol-terminated diacetylenes for formation of conductive monolayers. Tetrahedron Letters, 2018, 59, 3629-3631.	0.7	3
100	Porphyrin Tessellation by Design: Metal-Mediated Self-Assembly of Large Arrays and Tapes. , 1998, 37, 2344.		3
101	Mica Surfaces. , 2008, , 2211-2228.		1
102	Designing Supramolecular Porphyrin Arrays That Selforganize into Nanoscale Optical and Magnetic Materials.. ChemInform, 2002, 33, 273-273.	0.1	0
103	Porphyrinic Materials: Self-Assembly on Surfaces. , 2014, , 3885-3903.		0
104	Mica Surfaces: Charge Nucleation and Wear. , 0, , 2566-2582.		0
105	Reorganization of porphyrin nanoparticle morphology driven by surface energetics. Journal of Porphyrins and Phthalocyanines, 2016, 20, 438-443.	0.4	0