Angela M Belcher

List of Publications by Year
in descending order

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Version: 2024-02-01

102 papers	15,766 citations	31976 53 h-index	36028 97 g-index
104 all docs	104 docs citations	104 times ranked	16445 citing authors

#	Article	IF	Citations
1	Virus-Enabled Synthesis and Assembly of Nanowires for Lithium Ion Battery Electrodes. Science, 2006, 312, 885-888.	12.6	1,756
2	Selection of peptides with semiconductor binding specificity for directed nanocrystal assembly. Nature, 2000, 405, 665-668.	27.8	1,252
3	Molecular mechanistic origin of the toughness of natural adhesives, fibres and composites. Nature, 1999, 399, 761-763.	27.8	1,153
4	Ordering of Quantum Dots Using Genetically Engineered Viruses. Science, 2002, 296, 892-895.	12.6	975
5	Virus-Based Toolkit for the Directed Synthesis of Magnetic and Semiconducting Nanowires. Science, 2004, 303, 213-217.	12.6	946
6	Fabricating Genetically Engineered High-Power Lithium-Ion Batteries Using Multiple Virus Genes. Science, 2009, 324, 1051-1055.	12.6	688
7	Viral assembly of oriented quantum dot nanowires. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 6946-6951.	7.1	468
8	Bacterial Biosynthesis of Cadmium Sulfide Nanocrystals. Chemistry and Biology, 2004, 11, 1553-1559.	6.0	415
9	Emulating biology: Building nanostructures from the bottom up. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 6451-6455.	7.1	398
10	Highly Efficient Plasmon-Enhanced Dye-Sensitized Solar Cells through Metal@Oxide Coreâ€“Shell Nanostructure. ACS Nano, 2011, 5, 7108-7116.	14.6	386
11	Virus-templated self-assembled single-walled carbon nanotubes for highly efficient electron collection in photovoltaic devices. Nature Nanotechnology, 2011, 6, 377-384.	31.5	368
12	Programmable Assembly of Nanoarchitectures Using Genetically Engineered Viruses. Nano Letters, 2005, 5, 1429-1434.	9.1	361
13	Scalable enhancement of graphene oxide properties by thermally driven phase transformation. Nature Chemistry, 2014, 6, 151-158.	13.6	326
14	Viruses as vehicles for growth, organization and assembly of materials11The Golden Jubilee Issueâ€”Selected topics in Materials Science and Engineering: Past, Present and Future, edited by S. Suresh.. Acta Materialia, 2003, 51, 5867-5880.	7.9	295
15	M13-templated magnetic nanoparticles for targeted in vivo imaging of prostate cancer. Nature Nanotechnology, 2012, 7, 677-682.	31.5	261
16	M13 Phage-Functionalized Single-Walled Carbon Nanotubes As Nanoprobes for Second Near-Infrared Window Fluorescence Imaging of Targeted Tumors. Nano Letters, 2012, 12, 1176-1183.	9.1	256
17	Tailoring metal halide perovskites through metal substitution: influence on photovoltaic and material properties. Energy and Environmental Science, 2017, 10, 236-246.	30.8	230
18	Biologically templated photocatalytic nanostructures for sustained light-driven water oxidation. Nature Nanotechnology, 2010, 5, 340-344.	31.5	221

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19	Deep, noninvasive imaging and surgical guidance of submillimeter tumors using targeted M13-stabilized single-walled carbon nanotubes. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13948-13953.	7.1	221
20	Biological Routes to Metal Alloy Ferromagnetic Nanostructures. Nano Letters, 2004, 4, 1127-1132.	9.1	212
21	Design Criteria for Engineering Inorganic Material- Specific Peptides. Langmuir, 2005, 21, 6929-6933.	3.5	198
22	Synthesis and organization of nanoscale IIâ€“VI semiconductor materials using evolved peptide specificity and viral capsid assembly. Journal of Materials Chemistry, 2003, 13, 2414-2421.	6.7	174
23	Harnessing the hygroscopic and biofluorescent behaviors of genetically tractable microbial cells to design biohybrid wearables. Science Advances, 2017, 3, e1601984.	10.3	170
24	Layer-by-layer assembled fluorescent probes in the second near-infrared window for systemic delivery and detection of ovarian cancer. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5179-5184.	7.1	166
25	Biologically enhanced cathode design for improved capacity and cycle life for lithium-oxygen batteries. Nature Communications, 2013, 4, 2756.	12.8	157
26	Stamped microbattery electrodes based on self-assembled M13 viruses. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17227-17231.	7.1	144
27	Peptide-Mediated Reduction of Silver Ions on Engineered Biological Scaffolds. ACS Nano, 2008, 2, 1480-1486.	14.6	139
28	Biologically Activated Noble Metal Alloys at the Nanoscale: For Lithium Ion Battery Anodes. Nano Letters, 2010, 10, 2433-2440.	9.1	121
29	Virus-templated Au and Auâ€“Pt coreâ€“shell nanowires and their electrocatalytic activities for fuel cell applications. Energy and Environmental Science, 2012, 5, 8328.	30.8	119
30	M13 Virus-Directed Synthesis of Nanostructured Metal Oxides for Lithiumâ€“Oxygen Batteries. Nano Letters, 2014, 14, 4837-4845.	9.1	112
31	Biotemplated Synthesis of Perovskite Nanomaterials for Solar Energy Conversion. Advanced Materials, 2012, 24, 2885-2889.	21.0	109
32	Genetically Driven Assembly of Nanorings Based on the M13 Virus. Nano Letters, 2004, 4, 23-27.	9.1	108
33	Carbon nanotubes as in vivo bacterial probes. Nature Communications, 2014, 5, 4918.	12.8	108
34	Early tumor detection afforded by inÂvivo imaging of near-infrared II fluorescence. Biomaterials, 2017, 134, 202-215.	11.4	100
35	New insights into the thermal reduction of graphene oxide: Impact of oxygen clustering. Carbon, 2016, 100, 90-98.	10.3	94
36	M13 Bacteriophage Display Framework That Allows Sortase-Mediated Modification of Surface-Accessible Phage Proteins. Bioconjugate Chemistry, 2012, 23, 1478-1487.	3.6	91

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37	Refactored M13 Bacteriophage as a Platform for Tumor Cell Imaging and Drug Delivery. ACS Synthetic Biology, 2012, 1, 576-582.	3.8	89
38	Versatile Three-Dimensional Virus-Based Template for Dye-Sensitized Solar Cells with Improved Electron Transport and Light Harvesting. ACS Nano, 2013, 7, 6563-6574.	14.6	84
39	Chiral Smectic C Structures of Virus-Based Filmsâ€. Langmuir, 2003, 19, 1592-1598.	3.5	82
40	Single M13 bacteriophage tethering and stretching. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 4892-4897.	7.1	82
41	Enhanced energy transport in genetically engineered excitonic networks. Nature Materials, 2016, 15, 211-216.	27.5	82
42	Controlling Surface Mobility in Interdiffusing Polyelectrolyte Multilayers. ACS Nano, 2008, 2, 561-571.	14.6	78
43	Structural and Microstructural Characterization of the Growth Lines and Prismatic Microarchitecture in Red Abalone Shell and the Microstructures of Abalone â€œFlat Pearlsâ€. Chemistry of Materials, 2002, 14, 3106-3117.	6.7	75
44	Using yeast to sustainably remediate and extract heavy metals from waste waters. Nature Sustainability, 2020, 3, 303-311.	23.7	75
45	Spectroscopy of individual silicon nanowires. Applied Physics Letters, 2003, 82, 2616-2618.	3.3	74
46	Nanostructure design of amorphous FePO4facilitated by a virus for 3 V lithium ion battery cathodes. Journal of Materials Chemistry, 2011, 21, 1033-1039.	6.7	72
47	Improving the Capacity of Sodium Ion Battery Using a Virus-Templated Nanostructured Composite Cathode. Nano Letters, 2015, 15, 2917-2921.	9.1	70
48	Real-Time Single-Walled Carbon Nanotube-Based Fluorescence Imaging Improves Survival after Debulking Surgery in an Ovarian Cancer Model. ACS Nano, 2019, 13, 5356-5365.	14.6	70
49	Solvent-Assisted Patterning of Polyelectrolyte Multilayers and Selective Deposition of Virus Assemblies. Nano Letters, 2008, 8, 1081-1089.	9.1	66
50	Assembly of a Bacteriophageâ€Based Template for the Organization of Materials into Nanoporous Networks. Advanced Materials, 2014, 26, 3398-3404.	21.0	63
51	Creating fluorescent quantum defects in carbon nanotubes using hypochlorite and light. Nature Communications, 2019, 10, 2874.	12.8	63
52	A particulate saponin/TLR agonist vaccine adjuvant alters lymph flow and modulates adaptive immunity. Science Immunology, 2021, 6, eabf1152.	11.9	63
53	Probing the interface between biomolecules and inorganic materials using yeast surface display and genetic engineering. Acta Biomaterialia, 2005, 1, 145-154.	8.3	60
54	Peptide tags for enhanced cellular and protein adhesion to single-crystalline sapphire. Biotechnology and Bioengineering, 2007, 97, 1009-1020.	3.3	59

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55	Graphene Sheets Stabilized on Genetically Engineered M13 Viral Templates as Conducting Frameworks for Hybrid Energyâ€Storage Materials. Small, 2012, 8, 1006-1011.	10.0	57
56	Deep-tissue optical imaging of near cellular-sized features. Scientific Reports, 2019, 9, 3873.	3.3	57
57	Production of Hydrogen Using Nanocrystalline Protein-Templated Catalysts on M13 Phage. ACS Nano, 2010, 4, 3227-3235.	14.6	54
58	Enhanced Cell Capture on Functionalized Graphene Oxide Nanosheets through Oxygen Clustering. ACS Nano, 2017, 11, 1548-1558.	14.6	52
59	Virus-templated iridium oxideâ€“gold hybrid nanowires for electrochromic application. Nanoscale, 2012, 4, 3405.	5.6	49
60	Assembly of Viral Hydrogels for Threeâ€Dimensional Conducting Nanocomposites. Advanced Materials, 2014, 26, 5101-5107.	21.0	49
61	Designing yeast as plant-like hyperaccumulators for heavy metals. Nature Communications, 2019, 10, 5080.	12.8	46
62	Virus-templated Ptâ€“Ni(OH)2 nanonetworks for enhanced electrocatalytic reduction of water. Nano Energy, 2019, 58, 167-174.	16.0	46
63	Orthogonal Labeling of M13 Minor Capsid Proteins with DNA to Self-Assemble End-to-End Multiphage Structures. ACS Synthetic Biology, 2013, 2, 490-496.	3.8	45
64	M13 Virus-Enabled Synthesis of Titanium Dioxide Nanowires for Tunable Mesoporous Semiconducting Networks. Chemistry of Materials, 2015, 27, 1531-1540.	6.7	44
65	Engineered yeast for enhanced CO2 mineralization. Energy and Environmental Science, 2013, 6, 660.	30.8	43
66	M13 Virus Aerogels as a Scaffold for Functional Inorganic Materials. Advanced Functional Materials, 2017, 27, 1603203.	14.9	37
67	Rareâ€Earth Metal Ions Doped Graphene Quantum Dots for Nearâ€IR In Vitro/In Vivo/Ex Vivo Imaging Applications. Advanced Optical Materials, 2020, 8, 2000897.	7.3	37
68	Layer-by-layer assembled porous photoanodes for efficient electron collection in dye-sensitized solar cells. Journal of Materials Chemistry A, 2013, 1, 2217-2224.	10.3	36
69	Ambient pressure, low-temperature synthesis and characterization of colloidal InN nanocrystals. Journal of Materials Chemistry, 2010, 20, 1435.	6.7	35
70	Virusâ€Templated Nickel Phosphide Nanofoams as Additiveâ€Free, Thinâ€Film Liâ€Ion Microbattery Anodes. Small, 2019, 15, e1903166.	10.0	31
71	Near-infrared emitting graphene quantum dots synthesized from reduced graphene oxide for in vitro/in vivo/ex vivo bioimaging applications. 2D Materials, 2021, 8, 035013.	4.4	31
72	M13 Virusâ€Based Framework for High Fluorescence Enhancement. Small, 2019, 15, e1901233.	10.0	30

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73	Carbon nanotubeâ€“polyaniline coreâ€“shell nanostructured hydrogel for electrochemical energy storage. RSC Advances, 2015, 5, 37970-37977.	3.6	28
74	Virus-templated visible spectrum active perovskite photocatalyst. Catalysis Communications, 2014, 44, 68-72.	3.3	27
75	DNA Origami and G-Quadruplex Hybrid Complexes Induce Size Control of Single-Walled Carbon Nanotubes via Biological Activation. ACS Nano, 2018, 12, 7986-7995.	14.6	26
76	Genetically Engineered Phage Fibers and Coatings for Antibacterial Applications. Advanced Functional Materials, 2010, 20, 209-214.	14.9	24
77	Biological-Templating of a Segregating Binary Alloy for Nanowire-Like Phase-Change Materials and Memory. ACS Applied Nano Materials, 2018, 1, 6556-6562.	5.0	24
78	Surface Plasmonâ€Enhanced Shortâ€Wave Infrared Fluorescence for Detecting Subâ€Millimeterâ€Sized Tumors. Advanced Materials, 2021, 33, e2006057.	21.0	23
79	M13 Virus based detection of bacterial infections in living hosts. Journal of Biophotonics, 2014, 7, 617-623.	2.3	22
80	Graphene Oxide Nanosheets Modified with Singleâ€Domain Antibodies for Rapid and Efficient Capture of Cells. Chemistry - A European Journal, 2015, 21, 17178-17183.	3.3	22
81	Biotemplated Zinc Sulfide Nanofibers as Anode Materials for Sodium-Ion Batteries. ACS Applied Nano Materials, 2018, 1, 5631-5639.	5.0	20
82	Highly adjustable 3D nano-architectures and chemistries via assembled 1D biological templates. Nanoscale, 2019, 11, 1091-1102.	5.6	19
83	Phage Particles of Controlled Length and Genome for In Vivo Targeted Glioblastoma Imaging and Therapeutic Delivery. ACS Nano, 2022, 16, 11676-11691.	14.6	19
84	Simulating selective binding of a biological template to a nanoscale architecture: a core concept of a clamp-based binding-pocket-favored N-terminal-domain assembly. Nanoscale, 2020, 12, 24214-24227.	5.6	18
85	Graphene, Carbon Nanotube and Plasmonic Nanosensors for Detection of Viral Pathogens: Opportunities for Rapid Testing in Pandemics like COVID-19. Frontiers in Nanotechnology, 2021, 3, .	4.8	17
86	A bio-facilitated synthetic route for nano-structured complex electrode materials. Green Chemistry, 2016, 18, 2619-2624.	9.0	16
87	Constructing Multifunctional Virus-Templated Nanoporous Composites for Thin Film Solar Cells: Contributions of Morphology and Optics to Photocurrent Generation. Journal of Physical Chemistry C, 2015, , 150610114441003.	3.1	14
88	Biotemplated Silica and Silicon Materials as Building Blocks for Micro- to Nanostructures. Chemistry of Materials, 2015, 27, 5361-5370.	6.7	14
89	Structural ceramic batteries using an earth-abundant inorganic waterglass binder. Nature Communications, 2021, 12, 6494.	12.8	14
90	Imaging Bacterial Cell Death Induced by Antimicrobial Peptides in Real Time Using High Speed AFM. Microscopy and Microanalysis, 2010, 16, 466-467.	0.4	7

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91	Thermally robust solvent-free biofluids of M13 bacteriophage engineered for high compatibility with anhydrous ionic liquids. Chemical Communications, 2019, 55, 10752-10755.	4.1	7
92	Molecular orientation of a ZnS-nanocrystal-modified M13 virus on a silicon substrate. Journal of Polymer Science, Part B: Polymer Physics, 2004, 42, 629-635.	2.1	6
93	Polymer-Functionalized NIR-Emitting Nanoparticles: Applications in Cancer Theranostics and Treatment of Bacterial Infections. , 2020, , 231-277.		5
94	Genetic Control of Aerogel and Nanofoam Properties, Applied to Niâ€“MnO_x Cathode Design. Advanced Functional Materials, 2021, 31, 2010867.	14.9	3
95	Surface Plasmon Enhanced Upconversion Fluorescence in Short-Wave Infrared for In Vivo Imaging of Ovarian Cancer. ACS Nano, 2022, 16, 12930-12940.	14.6	3
96	Borrowing Ideas from Nature: Peptide Specific Binding to Gallium Arsenide. Materials Research Society Symposia Proceedings, 1999, 599, 189.	0.1	1
97	Virus constructed iron phosphate lithium ion batteries in unmanned aircraft systems. , 2010, , .		1
98	Real-time single-walled nanotube (SWNT)-based imaging system to improve tumor detection and survival in ovarian cancer preclinical model.. Journal of Clinical Oncology, 2016, 34, 5530-5530.	1.6	1
99	Imaging Cellular and Viral Materials with Small Cantilevers Developed for High Speed Atomic Force Microscopy. Materials Research Society Symposia Proceedings, 2007, 1025, 1.	0.1	0
100	Antibacterial Coatings: Genetically Engineered Phage Fibers and Coatings for Antibacterial Applications (Adv. Funct. Mater. 2/2010). Advanced Functional Materials, 2010, 20, NA-NA.	14.9	0
101	Nanoporous Networks: Assembly of a Bacteriophage-Based Template for the Organization of Materials into Nanoporous Networks (Adv. Mater. 21/2014). Advanced Materials, 2014, 26, 3568-3568.	21.0	0
102	Forging the Frontiers of Image-Guided Neurosurgeryâ€”The Emerging Uses of Theranostics in Neurosurgical Oncology. Frontiers in Bioengineering and Biotechnology, 0, 10, .	4.1	0