Ming Zheng

List of Publications by Year
in descending order

94 papers	10,597 citations	66234 42 h-index	62479 80 g-index
95 all docs	95 docs citations	95 times ranked	7623 citing authors

#	Article	IF	Citations
1	DNA-assisted dispersion and separation of carbon nanotubes. Nature Materials, 2003, 2, 338-342.	13.3	2,573
2	Structure-Based Carbon Nanotube Sorting by Sequence-Dependent DNA Assembly. Science, 2003, 302, 1545-1548.	6.0	1,547
3	DNA sequence motifs for structure-specific recognition and separation of carbon nanotubes. Nature, 2009, 460, 250-253.	13.7	996
4	Solution Redox Chemistry of Carbon Nanotubes. Journal of the American Chemical Society, 2004, 126, 15490-15494.	6.6	298
5	Spontaneous Partition of Carbon Nanotubes in Polymer-Modified Aqueous Phases. Journal of the American Chemical Society, 2013, 135, 6822-6825.	6.6	292
6	Chirality Pure Carbon Nanotubes: Growth, Sorting, and Characterization. Chemical Reviews, 2020, 120, 2693-2758.	23.0	278
7	High-Resolution Length Sorting and Purification of DNA-Wrapped Carbon Nanotubes by Size-Exclusion Chromatography. Analytical Chemistry, 2005, 77, 6225-6228.	3.2	241
8	Enrichment of Single Chirality Carbon Nanotubes. Journal of the American Chemical Society, 2007, 129, 6084-6085.	6.6	229
9	Isolation of Specific Smallâ€Diameter Singleâ€Wall Carbon Nanotube Species via Aqueous Twoâ€Phase Extraction. Advanced Materials, 2014, 26, 2800-2804.	11.1	215
10	Understanding the Nature of the DNA-Assisted Separation of Single-Walled Carbon Nanotubes Using Fluorescence and Raman Spectroscopy. Nano Letters, 2004, 4, 543-550.	4.5	191
11	Chirality-Controlled Synthesis and Applications of Single-Wall Carbon Nanotubes. ACS Nano, 2017, 11, 31-53.	7.3	170
12	DNA-Controlled Partition of Carbon Nanotubes in Polymer Aqueous Two-Phase Systems. Journal of the American Chemical Society, 2014, 136, 10383-10392.	6.6	163
13	Differentiating Left- and Right-Handed Carbon Nanotubes by DNA. Journal of the American Chemical Society, 2016, 138, 16677-16685.	6.6	160
14	Chirality-controlled synthesis of single-wall carbon nanotubes using vapour-phase epitaxy. Nature Communications, 2012, 3, 1199.	5.8	156
15	A DNA-based approach to the carbon nanotube sorting problem. Nano Research, 2008, 1, 185-194.	5.8	140
16	Isolation of >1 nm Diameter Single-Wall Carbon Nanotube Species Using Aqueous Two-Phase Extraction. ACS Nano, 2015, 9, 5377-5390.	7.3	137
17	Theory of Structure-Based Carbon Nanotube Separations by Ion-Exchange Chromatography of DNA/CNT Hybrids. Journal of Physical Chemistry B, 2005, 109, 2559-2566.	1.2	135
18	Racemic Single-Walled Carbon Nanotubes Exhibit Circular Dichroism When Wrapped with DNA. Journal of the American Chemical Society, 2006, 128, 9004-9005.	6.6	124

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19	Fluorescence Efficiency of Individual Carbon Nanotubes. Nano Letters, 2007, 7, 3698-3703.	4.5	116
20	DNA-directed nanofabrication of high-performance carbon nanotube field-effect transistors. Science, 2020, 368, 878-881.	6.0	99
21	Precise pitch-scaling of carbon nanotube arrays within three-dimensional DNA nanotrenches. Science, 2020, 368, 874-877.	6.0	97
22	Recognition Ability of DNA for Carbon Nanotubes Correlates with Their Binding Affinity. Langmuir, 2011, 27, 8282-8293.	1.6	90
23	Chiral Index Dependence of the <i>G</i>⁺ and <i>G</i>^{â€“} Raman Modes in Semiconducting Carbon Nanotubes. ACS Nano, 2012, 6, 904-911.	7.3	85
24	Redox Sorting of Carbon Nanotubes. Nano Letters, 2015, 15, 1642-1646.	4.5	85
25	Analyzing Surfactant Structures on Length and Chirality Resolved (6,5) Single-Wall Carbon Nanotubes by Analytical Ultracentrifugation. ACS Nano, 2013, 7, 3373-3387.	7.3	82
26	Label-Free and Ultrasensitive Electrochemical DNA Biosensor Based on Urchinlike Carbon Nanotube-Gold Nanoparticle Nanoclusters. Analytical Chemistry, 2020, 92, 4780-4787.	3.2	82
27	An optical nanoreporter of endolysosomal lipid accumulation reveals enduring effects of diet on hepatic macrophages in vivo. Science Translational Medicine, 2018, 10, .	5.8	80
28	Narrow-band single-photon emission through selective aryl functionalization of zigzag carbon nanotubes. Nature Chemistry, 2018, 10, 1089-1095.	6.6	78
29	Evolution of DNA Sequences Toward Recognition of Metallic Armchair Carbon Nanotubes. Journal of the American Chemical Society, 2011, 133, 12998-13001.	6.6	77
30	Chirality-Dependent Vapor-Phase Epitaxial Growth and Termination of Single-Wall Carbon Nanotubes. Nano Letters, 2013, 13, 4416-4421.	4.5	76
31	Separation of Specific Single-Enantiomer Single-Wall Carbon Nanotubes in the Large-Diameter Regime. ACS Nano, 2020, 14, 948-963.	7.3	75
32	Sorting Carbon Nanotubes. Topics in Current Chemistry, 2017, 375, 13.	3.0	66
33	Detection of ovarian cancer via the spectral fingerprinting of quantum-defect-modified carbon nanotubes in serum by machine learning. Nature Biomedical Engineering, 2022, 6, 267-275.	11.6	65
34	Optical Characterizations and Electronic Devices of Nearly Pure (10,5) Single-Walled Carbon Nanotubes. Journal of the American Chemical Society, 2009, 131, 2454-2455.	6.6	63
35	Molecular-Crowding-Induced Clustering of DNA-Wrapped Carbon Nanotubes for Facile Length Fractionation. ACS Nano, 2011, 5, 8258-8266.	7.3	58
36	Fundamental optical processes in armchair carbon nanotubes. Nanoscale, 2013, 5, 1411.	2.8	56

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37	A Scanning Probe Microscopy Based Assay for Single-Walled Carbon Nanotube Metallicity. Nano Letters, 2009, 9, 1668-1672.	4.5	55
38	Violation of the Condon Approximation in Semiconducting Carbon Nanotubes. ACS Nano, 2011, 5, 5233-5241.	7.3	51
39	High-Resolution Length Fractionation of Surfactant-Dispersed Carbon Nanotubes. Analytical Chemistry, 2013, 85, 1382-1388.	3.2	51
40	Intensity Ratio of Resonant Raman Modes for (<i>n</i>,<i>m</i>) Enriched Semiconducting Carbon Nanotubes. ACS Nano, 2016, 10, 5252-5259.	7.3	48
41	Single-Step Total Fractionation of Single-Wall Carbon Nanotubes by Countercurrent Chromatography. Analytical Chemistry, 2014, 86, 3980-3984.	3.2	47
42	Organizing End-Site-Specific SWCNTs in Specific Loci Using DNA. Journal of the American Chemical Society, 2019, 141, 11923-11928.	6.6	45
43	Toward Complete Resolution of DNA/Carbon Nanotube Hybrids by Aqueous Two-Phase Systems. Journal of the American Chemical Society, 2019, 141, 20177-20186.	6.6	45
44	Photoinduced Charge Transfer Mediated by DNA-Wrapped Carbon Nanotubes. Journal of the American Chemical Society, 2006, 128, 7702-7703.	6.6	44
45	A perception-based nanosensor platform to detect cancer biomarkers. Science Advances, 2021, 7, eabj0852.	4.7	43
46	A Low Energy Route to DNA-Wrapped Carbon Nanotubes via Replacement of Bile Salt Surfactants. Analytical Chemistry, 2017, 89, 10496-10503.	3.2	40
47	Directed Assembly of Single Wall Carbon Nanotube Field Effect Transistors. ACS Nano, 2016, 10, 2975-2981.	7.3	39
48	Measurement of Electrostatic Properties of DNA-Carbon Nanotube Hybrids by Capillary Electrophoresis. Journal of Physical Chemistry C, 2009, 113, 13616-13621.	1.5	35
49	Mapping Structure-Property Relationships of Organic Color Centers. CheM, 2018, 4, 2180-2191.	5.8	34
50	Protective Roles of Singleâ€Wall Carbon Nanotubes in Ultrasonicationâ€Induced DNA Base Damage. Small, 2013, 9, 205-208.	5.2	32
51	A facile and low-cost length sorting of single-wall carbon nanotubes by precipitation and applications for thin-film transistors. Nanoscale, 2016, 8, 3467-3473.	2.8	32
52	Learning to predict single-wall carbon nanotube-recognition DNA sequences. Npj Computational Materials, 2019, 5, .	3.5	31
53	Site-Specific One-to-One Click Coupling of Single Proteins to Individual Carbon Nanotubes: A Single-Molecule Approach. Journal of the American Chemical Society, 2017, 139, 17834-17840.	6.6	30
54	Controlled Formation of Carbon Nanotube Junctions via Linker-Induced Assembly in Aqueous Solution. Journal of the American Chemical Society, 2013, 135, 8440-8443.	6.6	29

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55	Directed Assembly of End-Functionalized Single Wall Carbon Nanotube Segments. Nano Letters, 2015, 15, 6547-6552.	4.5	29
56	Solution-Processable Carbon Nanoelectrodes for Single-Molecule Investigations. Journal of the American Chemical Society, 2016, 138, 2905-2908.	6.6	26
57	Asymmetric excitation profiles in the resonance Raman response of armchair carbon nanotubes. Physical Review B, 2015, 91, .	1.1	24
58	Single-Chirality Near-Infrared Carbon Nanotube Sub-Cellular Imaging and FRET Probes. Nano Letters, 2021, 21, 6441-6448.	4.5	23
59	Concentration Measurement of Length-Fractionated Colloidal Single-Wall Carbon Nanotubes. Analytical Chemistry, 2012, 84, 8733-8739.	3.2	22
60	Carbon Nanotubeâ€Quantum Dot Nanohybrids: Coupling with Singleâ€Particle Control in Aqueous Solution. Small, 2017, 13, 1603042.	5.2	22
61	Mod(n-m,3) Dependence of Defect-State Emission Bands in Aryl-Functionalized Carbon Nanotubes. Nano Letters, 2019, 19, 8503-8509.	4.5	22
62	Quantum Interference between the Third and Fourth Exciton States in Semiconducting Carbon Nanotubes Using Resonance Raman Spectroscopy. Physical Review Letters, 2012, 108, 117404.	2.9	20
63	Characterizing the Effect of Salt and Surfactant Concentration on the Counterion Atmosphere around Surfactant Stabilized SWCNTs Using Analytical Ultracentrifugation. Langmuir, 2016, 32, 3926-3936.	1.6	20
64	Pathway-Dependent Structures of DNA-Wrapped Carbon Nanotubes: Direct Sonication vs Surfactant/DNA Exchange. Journal of Physical Chemistry C, 2020, 124, 9045-9055.	1.5	19
65	Beyond Color: The New Carbon Ink. Advanced Materials, 2021, 33, e2005890.	11.1	17
66	Preparation and Separation of DNAâ€Wrapped Carbon Nanotubes. Current Protocols in Chemical Biology, 2015, 7, 43-51.	1.7	16
67	Re-growth of single-walled carbon nanotube by hot-wall and cold-wall chemical vapor deposition. Carbon, 2015, 95, 497-502.	5.4	14
68	Hidden Fine Structure of Quantum Defects Revealed by Single Carbon Nanotube Magneto-Photoluminescence. ACS Nano, 2020, 14, 3451-3460.	7.3	14
69	Quantification of DNA/SWCNT Solvation Differences by Aqueous Two-Phase Separation. Langmuir, 2018, 34, 1834-1843.	1.6	13
70	Nanotube chemistry tunes light. Nature Photonics, 2017, 11, 535-537.	15.6	12
71	Energetic Basis of Single-Wall Carbon Nanotube Enantiomer Recognition by Single-Stranded DNA. Journal of Physical Chemistry C, 2017, 121, 17479-17487.	1.5	12
72	Alkane Encapsulation Induces Strain in Small-Diameter Single-Wall Carbon Nanotubes. Journal of Physical Chemistry C, 2018, 122, 11577-11585.	1.5	11

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73	Optical Detection of Stereoselective Interactions with DNA-Wrapped Single-Wall Carbon Nanotubes. Journal of the American Chemical Society, 2021, 143, 20628-20632.	6.6	10
74	Machine Learning-Guided Systematic Search of DNA Sequences for Sorting Carbon Nanotubes. ACS Nano, 2022, 16, 4705-4713.	7.3	10
75	Two-color spectroscopy of UV excited ssDNA complex with a single-wall nanotube photoluminescence probe: Fast relaxation by nucleobase autoionization mechanism. Nano Research, 2016, 9, 571-583.	5.8	7
76	Structure-Defined DNA-Carbon Nanotube Hybrids and Their Applications. ECS Transactions, 2018, 85, 511-517.	0.3	6
77	Diameter dependence of TO phonon frequencies and the Kohn anomaly in armchair single-wall carbon nanotubes. Physical Review B, 2014, 90, .	1.1	5
78	Sorting Carbon Nanotubes. Topics in Current Chemistry Collections, 2019, , 129-164.	0.2	5
79	Band structure dependent electronic localization in macroscopic films of single-chirality single-wall carbon nanotubes. Carbon, 2021, 183, 774-779.	5.4	5
80	Broadening of van Hove Singularities Measured by Photoemission Spectroscopy of Single- and Mixed-Chirality Single-Walled Carbon Nanotubes. Journal of Physical Chemistry C, 2019, 123, 26683-26694.	1.5	4
81	(Invited) Developing Optical Nanosensors for the Early Detection of Gynecologic Cancers. ECS Meeting Abstracts, 2022, MA2022-01, 689-689.	0.0	1
82	Developing Ovarian Cancer Sensors Using Molecular Perceptron. ECS Meeting Abstracts, 2021, MA2021-01, 538-538.	0.0	0
83	(Invited) Organic Color Center Photoluminescence Modulation for Biomedical Applications. ECS Meeting Abstracts, 2021, MA2021-01, 560-560.	0.0	0
84	(Invited) Machine Learning for DNA/SWCNT Based Molecular Perceptron: Finding Sequences and Training Sensor Arrays. ECS Meeting Abstracts, 2021, MA2021-01, 567-567.	0.0	0
85	(Invited) Exploration of Short DNA Sequences Toward Complete Resolution of Single-Chirality SWCNTs. ECS Meeting Abstracts, 2021, MA2021-01, 579-579.	0.0	0
86	Development of Single-Walled Carbon Nanotube-Based Optical Sensors Via Data Analytics. ECS Meeting Abstracts, 2021, MA2021-01, 523-523.	0.0	0
87	(Invited) Stereoselective Photoluminescent Properties of DNA-Carbon Nanotubes: A Primer for Molecular Perceptron. ECS Meeting Abstracts, 2021, MA2021-01, 509-509.	0.0	0
88	Organic Color Center Platform for Cancer Diagnosis. ECS Meeting Abstracts, 2021, MA2021-01, 562-562.	0.0	0
89	(Invited) DNA-Directed High-Precision Assembly of High-Performance CNT FETs. ECS Meeting Abstracts, 2021, MA2021-01, 585-585.	0.0	0
90	Machine Learning for Carbon Nanotube Optical Sensors. ECS Meeting Abstracts, 2022, MA2022-01, 714-714.	0.0	0

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91	Carbon Nanotube Quantum Defect Photoluminescence Modulation for Biosensors. ECS Meeting Abstracts, 2022, MA2022-01, 686-686.	0.0	0
92	(Invited) Bio-Templated Carbon Nanotube Electronics. ECS Meeting Abstracts, 2022, MA2022-01, 752-752.	0.0	0
93	(Invited) DNA-Controlled Carbon Nanotube Functionalization. ECS Meeting Abstracts, 2022, MA2022-01, 729-729.	0.0	0
94	(Invited) Machine Learning for DNA/SWCNT Based Molecular Perceptron: Finding Sequences and Training Sensor Arrays. ECS Meeting Abstracts, 2022, MA2022-01, 687-687.	0.0	0