R Bruce Weisman

List of Publications by Year
in descending order

135 papers	16,547 citations	50170 46 h-index	14702 127 g-index
141 all docs	141 docs citations	141 times ranked	11947 citing authors

#	Article	IF	Citations
1	Band Gap Fluorescence from Individual Single-Walled Carbon Nanotubes. Science, 2002, 297, 593-596.	6.0	3,582
2	Structure-Assigned Optical Spectra of Single-Walled Carbon Nanotubes. Science, 2002, 298, 2361-2366.	6.0	2,826
3	Dependence of Optical Transition Energies on Structure for Single-Walled Carbon Nanotubes in Aqueous Suspension:â€‰ An Empirical Kataura Plot. Nano Letters, 2003, 3, 1235-1238.	4.5	1,070
4	Narrow (n,m)-Distribution of Single-Walled Carbon Nanotubes Grown Using a Solid Supported Catalyst. Journal of the American Chemical Society, 2003, 125, 11186-11187.	6.6	807
5	Near-Infrared Fluorescence Microscopy of Single-Walled Carbon Nanotubes in Phagocytic Cells. Journal of the American Chemical Society, 2004, 126, 15638-15639.	6.6	792
6	Advanced sorting of single-walled carbon nanotubes by nonlinear density-gradient ultracentrifugation. Nature Nanotechnology, 2010, 5, 443-450.	15.6	527
7	Mammalian pharmacokinetics of carbon nanotubes using intrinsic near-infrared fluorescence. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 18882-18886.	3.3	460
8	Stepwise Quenching of Exciton Fluorescence in Carbon Nanotubes by Single-Molecule Reactions. Science, 2007, 316, 1465-1468.	6.0	441
9	Carbon nanotubeâ€enhanced thermal destruction of cancer cells in a noninvasive radiofrequency field. Cancer, 2007, 110, 2654-2665.	2.0	381
10	Oxygen Doping Modifies Near-Infrared Band Gaps in Fluorescent Single-Walled Carbon Nanotubes. Science, 2010, 330, 1656-1659.	6.0	323
11	Identification of a Class of Disordered One-Dimensional Conductors. Physical Review Letters, 1972, 28, 753-756.	2.9	278
12	Quasi-Molecular Fluorescence from Graphene Oxide. Scientific Reports, 2011, 1, 85.	1.6	253
13	Single-Walled Carbon Nanotubes in the Intact Organism:â€‰ Near-IR Imaging and Biocompatibility Studies in Drosophila. Nano Letters, 2007, 7, 2650-2654.	4.5	221
14	Solubilization and Purification of Single-Wall Carbon Nanotubes in Water by in Situ Radical Polymerization of Sodium 4-Styrenesulfonate. Macromolecules, 2004, 37, 3965-3967.	2.2	209
15	Ultrafast carrier dynamics in single-walled carbon nanotubes probed by femtosecond spectroscopy. Journal of Chemical Physics, 2004, 120, 3368-3373.	1.2	186
16	Structure-Dependent Fluorescence Efficiencies of Individual Single-Walled Carbon Nanotubes. Nano Letters, 2007, 7, 3080-3085.	4.5	156
17	Absorption Spectroscopy of Individual Single-Walled Carbon Nanotubes. Nano Letters, 2007, 7, 1203-1207.	4.5	154
18	Analyzing Absorption Backgrounds in Single-Walled Carbon Nanotube Spectra. ACS Nano, 2011, 5, 1639-1648.	7.3	142

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19	Versatile Visualization of Individual Single-Walled Carbon Nanotubes with Near-Infrared Fluorescence Microscopy. Nano Letters, 2005, 5, 975-979.	4.5	140
20	Diameter-dependent bending dynamics of single-walled carbon nanotubes in liquids. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 14219-14223.	3.3	134
21	Fullerene (C60) immunoconjugates: interaction of water-soluble C60 derivatives with the murine anti-gp240 melanoma antibody. Chemical Communications, 2006, , 3004.	2.2	116
22	C60O3, a Fullerene Ozonide:Â Synthesis and Dissociation to C60O and O2. Journal of the American Chemical Society, 2000, 122, 11473-11479.	6.6	107
23	Isolation and Spectral Properties of Kr@C60, a Stable van der Waals Molecule. Journal of the American Chemical Society, 1999, 121, 1591-1596.	6.6	102
24	In vivo therapeutic silencing of hypoxia-inducible factor 1 alpha (HIF-1Î±) using single-walled carbon nanotubes noncovalently coated with siRNA. Nano Research, 2009, 2, 279-291.	5.8	102
25	Directly Measured Optical Absorption Cross Sections for Structure-Selected Single-Walled Carbon Nanotubes. Nano Letters, 2014, 14, 1530-1536.	4.5	96
26	Synthesis and Characterization of the â€œMissingâ€• Oxide of C60:Â [5,6]-Open C60O. Journal of the American Chemical Society, 2001, 123, 9720-9721.	6.6	91
27	Surfactant-Dependent Exciton Mobility in Single-Walled Carbon Nanotubes Studied by Single-Molecule Reactions. Nano Letters, 2010, 10, 1595-1599.	4.5	88
28	Fluorescence spectroscopy of single-walled carbon nanotubes in aqueous suspension. Applied Physics A: Materials Science and Processing, 2004, 78, 1111-1116.	1.1	86
29	Structure-Dependent Reactivity of Semiconducting Single-Walled Carbon Nanotubes with Benzenediazonium Salts. Journal of the American Chemical Society, 2008, 130, 6795-6800.	6.6	85
30	Determination of Triplet Quantum Yields from Tripletâ^'Triplet Annihilation Fluorescence. Journal of Physical Chemistry A, 2000, 104, 7711-7714.	1.1	83
31	Enrichment of Armchair Carbon Nanotubes via Density Gradient Ultracentrifugation: Raman Spectroscopy Evidence. ACS Nano, 2010, 4, 1955-1962.	7.3	83
32	Peptides that non-covalently functionalize single-walled carbon nanotubes to give controlled solubility characteristics. Journal of Materials Chemistry, 2007, 17, 1909.	6.7	76
33	Efficient photosensitized energy transfer and near-IR fluorescence from porphyrinâ€"SWNT complexes. Journal of Materials Chemistry, 2008, 18, 1510.	6.7	70
34	Self-Assembling Peptide Coatings Designed for Highly Luminescent Suspension of Single-Walled Carbon Nanotubes. Journal of the American Chemical Society, 2008, 130, 17134-17140.	6.6	69
35	Banning carbon nanotubes would be scientifically unjustified and damaging to innovation. Nature Nanotechnology, 2020, 15, 164-166.	15.6	69
36	Ozonides, Epoxides, and Oxidoannulenes of C70. Journal of the American Chemical Society, 2002, 124, 6317-6323.	6.6	66

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37	Quantifying the Semiconducting Fraction in Single-Walled Carbon Nanotube Samples through Comparative Atomic Force and Photoluminescence Microscopies. Nano Letters, 2009, 9, 3203-3208.	4.5	65
38	Creating fluorescent quantum defects in carbon nanotubes using hypochlorite and light. Nature Communications, 2019, 10, 2874.	5.8	63
39	Determination of Exciton-Phonon Coupling Elements in Single-Walled Carbon Nanotubes by Raman Overtone Analysis. Physical Review Letters, 2007, 98, 037405.	2.9	61
40	Strain Measurements on Individual Single-Walled Carbon Nanotubes in a Polymer Host: Structure-Dependent Spectral Shifts and Load Transfer. Nano Letters, 2008, 8, 826-831.	4.5	59
41	Translational and Rotational Dynamics of Individual Single-Walled Carbon Nanotubes in Aqueous Suspension. ACS Nano, 2008, 2, 1770-1776.	7.3	58
42	(<i>n</i>,<i>m</i>)-Specific Absorption Cross Sections of Single-Walled Carbon Nanotubes Measured by Variance Spectroscopy. Nano Letters, 2016, 16, 6903-6909.	4.5	57
43	Measuring Single-Walled Carbon Nanotube Length Distributions from Diffusional Trajectories. ACS Nano, 2012, 6, 8424-8431.	7.3	51
44	Strain Paint: Noncontact Strain Measurement Using Single-Walled Carbon Nanotube Composite Coatings. Nano Letters, 2012, 12, 3497-3500.	4.5	51
45	Structure-Dependent Hydrostatic Deformation Potentials of Individual Single-Walled Carbon Nanotubes. Physical Review Letters, 2004, 93, .	2.9	49
46	Carbon Nanotubes: Solution for the Therapeutic Delivery of siRNA?. Materials, 2012, 5, 278-301.	1.3	49
47	Fluorimetric characterization of single-walled carbon nanotubes. Analytical and Bioanalytical Chemistry, 2010, 396, 1015-1023.	1.9	46
48	Length- and Defect-Dependent Fluorescence Efficiencies of Individual Single-Walled Carbon Nanotubes. ACS Nano, 2012, 6, 843-850.	7.3	46
49	Fullerene oxides andÂozonides. Comptes Rendus Chimie, 2006, 9, 1107-1116.	0.2	43
50	Do Inner Shells of Double-Walled Carbon Nanotubes Fluoresce?. Nano Letters, 2009, 9, 3282-3289.	4.5	42
51	Controlled Patterning of Carbon Nanotube Energy Levels by Covalent DNA Functionalization. ACS Nano, 2019, 13, 8222-8228.	7.3	42
52	Collisional vibrational relaxation of a triplet state: Energyâ€dependent energy loss from T1 pyrazine. Journal of Chemical Physics, 1993, 98, 6316-6326.	1.2	40
53	SWCNT PEG-eggs: Single-walled carbon nanotubes in biocompatible shell-crosslinked micelles. Carbon, 2007, 45, 2388-2393.	5.4	39
54	Curvature effects on the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>E</mml:mi><mml:mn>33</mml:mn></mml:msub></mml:math>and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>E</mml:mi><mml:mn>44</mml:mn></mml:msub></mml:math>exciton transitions in semiconducting single-walled carbon nanotubes. Physical Review B, 2008, 77, .	1.1	39

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55	Subdiffraction Far-Field Imaging of Luminescent Single-Walled Carbon Nanotubes. Nano Letters, 2008, 8, 749-753.	4.5	37
56	Dependence of Exciton Mobility on Structure in Single-Walled Carbon Nanotubes. Journal of Physical Chemistry Letters, 2010, 1, 2189-2192.	2.1	37
57	Multidomain Peptides as Single-Walled Carbon Nanotube Surfactants in Cell Culture. Biomacromolecules, 2009, 10, 2201-2206.	2.6	36
58	Efficient Spectrofluorimetric Analysis of Single-Walled Carbon Nanotube Samples. Analytical Chemistry, 2011, 83, 7431-7437.	3.2	36
59	Quenching of Single-Walled Carbon Nanotube Fluorescence by Dissolved Oxygen Reveals Selective Single-Stranded DNA Affinities. Journal of Physical Chemistry Letters, 2017, 8, 1952-1955.	2.1	35
60	Time-Resolved Thermally Activated Delayed Fluorescence in C70and 1,2-C70H2. Journal of Physical Chemistry A, 2000, 104, 11265-11269.	1.1	34
61	Four degrees of separation. Nature Materials, 2003, 2, 569-570.	13.3	32
62	Photoexcited Aromatic Reactants Give Multicolor Carbon Nanotube Fluorescence from Quantum Defects. ACS Nano, 2020, 14, 715-723.	7.3	32
63	Nonradiative relaxation of pyridine vapor: Transient absorption studies of triplet state formation, decay, quenching, and structure. Journal of Chemical Physics, 1983, 79, 3269-3278.	1.2	31
64	Chirality-Resolved Length Analysis of Single-Walled Carbon Nanotube Samples through Shear-Aligned Photoluminescence Anisotropy. ACS Nano, 2008, 2, 1738-1746.	7.3	31
65	Resonance Raman Optical Activity Spectra of Single-Walled Carbon Nanotube Enantiomers. Journal of Physical Chemistry Letters, 2016, 7, 221-225.	2.1	30
66	Full-field, high-spatial-resolution detection of local structural damage from low-resolution random strain field measurements. Journal of Sound and Vibration, 2017, 399, 75-85.	2.1	27
67	Kinetics of fullerene triplet states. Research on Chemical Intermediates, 1997, 23, 431-451.	1.3	26
68	Carbon nanotubes as non-contact optical strain sensors in smart skins. Journal of Strain Analysis for Engineering Design, 2015, 50, 505-512.	1.0	25
69	Dynamics of the twoâ€step photodissociation of azomethane. Journal of Chemical Physics, 1992, 96, 1111-1120.	1.2	24
70	C70 Triplet Excimers: Evidence from Transient Absorption Kinetics. The Journal of Physical Chemistry, 1995, 99, 2782-2787.	2.9	24
71	Enabling <i>in vivo</i> measurements of nanoparticle concentrations with threeâ€dimensional optoacoustic tomography. Journal of Biophotonics, 2014, 7, 581-588.	1.1	24
72	Photoluminescence Side Band Spectroscopy of Individual Single-Walled Carbon Nanotubes. Journal of Physical Chemistry C, 2016, 120, 23898-23904.	1.5	24

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73	Enantiomers of Single-Wall Carbon Nanotubes Show Distinct Coating Displacement Kinetics. Journal of Physical Chemistry Letters, 2018, 9, 3793-3797.	2.1	24
74	Electric Field Quenching of Carbon Nanotube Photoluminescence. Nano Letters, 2008, 8, 1527-1531.	4.5	23
75	Length-dependent optical properties of single-walled carbon nanotube samples. Chemical Physics, 2013, 422, 255-263.	0.9	23
76	Vibrational relaxation of T1 pyrazine: Results from the refined competitive radiationless decay method. Journal of Chemical Physics, 1998, 108, 9404-9413.	1.2	22
77	Efficient collisional vibrational relaxation of triplet state molecules: Pyrazine deuteration and methylation effects. Journal of Chemical Physics, 1999, 110, 5047-5055.	1.2	22
78	Films of Bare Single-Walled Carbon Nanotubes from Superacids with Tailored Electronic and Photoluminescence Properties. ACS Nano, 2012, 6, 5727-5734.	7.3	22
79	In Vivo Optical Detection and Spectral Triangulation of Carbon Nanotubes. ACS Applied Materials & Interfaces, 2017, 9, 41680-41690.	4.0	22
80	Quantum Light Emission from Coupled Defect States in DNA-Functionalized Carbon Nanotubes. ACS Nano, 2021, 15, 10406-10414.	7.3	22
81	Reversible Dimerization of [5,6]-C60O. Journal of the American Chemical Society, 2004, 126, 7350-7358.	6.6	21
82	Strong energy dependence of collisional vibrational relaxation between 2500 and 5400 cmâ˜'1 in T1 pyrazine. Journal of Chemical Physics, 1990, 92, 4627-4628.	1.2	20
83	Spectral triangulation: a 3D method for locating single-walled carbon nanotubes in vivo. Nanoscale, 2016, 8, 10348-10357.	2.8	20
84	Triplet State Dissociation of C120, the Dimer of C60. Journal of Physical Chemistry A, 2001, 105, 9845-9850.	1.1	18
85	Comparative Photophysics of C61H2Isomersâ€. Journal of Physical Chemistry A, 2003, 107, 10674-10679.	1.1	17
86	Evidence for Long-lived, Optically Generated Quenchers of Excitons in Single-Walled Carbon Nanotubes. Nano Letters, 2012, 12, 33-38.	4.5	16
87	Removing Aggregates from Single-Walled Carbon Nanotube Samples by Magnetic Purification. Journal of Physical Chemistry C, 2014, 118, 4489-4494.	1.5	16
88	Structure-Dependent Thermal Defunctionalization of Single-Walled Carbon Nanotubes. ACS Nano, 2015, 9, 6324-6332.	7.3	16
89	Toward Practical Non-Contact Optical Strain Sensing Using Single-Walled Carbon Nanotubes. ECS Journal of Solid State Science and Technology, 2016, 5, M3012-M3017.	0.9	16
90	Dualâ€layer nanotubeâ€based smart skin for enhanced noncontact strain sensing. Structural Control and Health Monitoring, 2019, 26, e2279.	1.9	15

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91	Dye Quenching of Carbon Nanotube Fluorescence Reveals Structure-Selective Coating Coverage. ACS Nano, 2020, 14, 12148-12158.	7.3	15
92	Oxime as a general photocage for the design of visible light photo-activatable fluorophores. Chemical Science, 2021, 12, 15572-15580.	3.7	15
93	Delayed Fluorescence from Carbon Nanotubes through Singlet Oxygen-Sensitized Triplet Excitons. Journal of the American Chemical Society, 2020, 142, 21189-21196.	6.6	14
94	Chapter 5 Optical spectroscopy of single-walled carbon nanotubes. Contemporary Concepts of Condensed Matter Science, 2008, 3, 109-133.	0.5	13
95	Variance Spectroscopy. Journal of Physical Chemistry Letters, 2015, 6, 3976-3981.	2.1	13
96	Indexing the Quality of Single-Wall Carbon Nanotube Dispersions Using Absorption Spectra. Journal of Physical Chemistry C, 2018, 122, 4681-4690.	1.5	12
97	Transient spectroscopy of pyridazine vapor: Photophysics of the S1 origin. Journal of Chemical Physics, 1986, 84, 1996-2001.	1.2	11
98	<i>In vivo</i> detection of single-walled carbon nanotubes: progress and challenges. Nanomedicine, 2016, 11, 2885-2888.	1.7	11
99	Noncontact Strain Mapping Using Laser-Induced Fluorescence from Nanotube-Based Smart Skin. Journal of Structural Engineering, 2019, 145, 04018238.	1.7	11
100	Dynamical spectroscopy of triplet state pyridine. Journal of Chemical Physics, 1982, 77, 1600-1601.	1.2	9
101	Structure and dissociation of the methyldiazenyl radical: A quadratic configuration interaction computational study. Journal of Chemical Physics, 1994, 101, 6776-6781.	1.2	9
102	Direct stimulated emission spectroscopy of gas phase polyatomics: Pyridazine. Journal of Chemical Physics, 1983, 79, 4083-4085.	1.2	8
103	Vibrational Energy Distributions through Kinetic Analysis. Early Collisional Relaxation of T1 Pyrazine. Journal of Physical Chemistry A, 1997, 101, 5218-5221.	1.1	8
104	Relative Energies and Entropies of Fullerene Triplet States in Solution. Journal of the American Chemical Society, 1999, 121, 1110-1111.	6.6	8
105	High Precision Fractionator for Use with Density Gradient Ultracentrifugation. Analytical Chemistry, 2014, 86, 11018-11023.	3.2	8
106	Guanine-Specific Chemical Reaction Reveals ssDNA Interactions on Carbon Nanotube Surfaces. Journal of Physical Chemistry Letters, 2022, 13, 2231-2236.	2.1	8
107	Photophysical Studies of 1,2-C70H2. Journal of Physical Chemistry A, 1999, 103, 10842-10845.	1.1	7
108	THE ELUSIVE C60S: THREE ATTEMPTED SYNTHESES. Fullerenes Nanotubes and Carbon Nanostructures, 2002, 10, 37-47.	1.0	7

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109	Intense Photoluminescence from Mixed Solutions of C70and Palladium Octaethylporphyrin:Â A Supramolecular Heavy Atom Effect. Journal of Physical Chemistry A, 2006, 110, 10731-10736.	1.1	7
110	Near-infrared photoluminescence of Portland cement. Scientific Reports, 2022, 12, 1197.	1.6	7
111	Pressure dependence of optical transitions in semiconducting single-walled carbon nanotubes. Physica Status Solidi (B): Basic Research, 2004, 241, 3367-3373.	0.7	6
112	Structure-dependent Optical Activity of Single-walled Carbon Nanotube Enantiomers. Fullerenes Nanotubes and Carbon Nanostructures, 2014, 22, 269-279.	1.0	6
113	Next-generation 2D optical strain mapping with strain-sensing smart skin compared to digital image correlation. Scientific Reports, 2022, 12, .	1.6	6
114	The Influence of Ir and Pt Addition on the Synthesis of Fullerenes at Atmospheric Pressure. Fullerenes Nanotubes and Carbon Nanostructures, 2003, 11, 371-382.	1.0	4
115	Chromatic Aberration Short-Wave Infrared Spectroscopy: Nanoparticle Spectra without a Spectrometer. Analytical Chemistry, 2013, 85, 1337-1341.	3.2	4
116	"Smart Skin" optical strain sensor using single wall carbon nanotubes. , 2014, , .		4
117	Assessing Inhomogeneity in Sorted Samples of Single-Walled Carbon Nanotubes through Fluorescence and Variance Spectroscopy. ECS Journal of Solid State Science and Technology, 2017, 6, M3097-M3102.	0.9	4
118	Skewness Analysis in Variance Spectroscopy Measures Nanoparticle Individualization. Journal of Physical Chemistry Letters, 2017, 8, 2924-2929.	2.1	4
119	Variance Spectroscopy Studies of Single-Wall Carbon Nanotube Aggregation. Journal of Physical Chemistry C, 2018, 122, 26251-26259.	1.5	4
120	Introduction to Optical Spectroscopy of Single-Wall Carbon Nanotubes. World Scientific Series on Carbon Nanoscience, 2019, , 1-43.	0.1	4
121	Tailoring the Properties of Single-Wall Carbon Nanotube Samples through Structure-Selective Near-Infrared Photochemistry. Journal of Physical Chemistry Letters, 2020, 11, 6492-6497.	2.1	4
122	Photophysical Properties of C84Major Isomersâ€. Journal of Physical Chemistry C, 2007, 111, 17720-17724.	1.5	3
123	Selfâ€compensating optical frequency conversion. Review of Scientific Instruments, 1983, 54, 502-503.	0.6	2
124	Kinetics and spectra of fullerene triplet states. , 1997, , .		2
125	Monte Carlo analysis of T1 pyrazine collisional vibrational relaxation: Evidence for supercollisions. Journal of Chemical Physics, 2000, 112, 10173-10178.	1.2	2
126	Electron density as the main parameter influencing the formation of fullerenes in a carbon plasma. Physics of the Solid State, 2002, 44, 419-423.	0.2	2

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127	(n,m)-Assigned Absorption and Emission Spectra of Single-Walled Carbon Nanotubes. AIP Conference Proceedings, 2003, , .	0.3	2
128	Towards non-invasivein vivomeasurements of nanoparticle concentrations using 3D optoacoustic tomography. , 2013, , .		2
129	Strain-sensing smart skin. , 2016, , 353-375.		2
130	Synchro-Excited Free-Running Single Photon Counting: A Novel Method for Measuring Short-Wave Infrared Emission Kinetics. Analytical Chemistry, 2019, 91, 12484-12491.	3.2	2
131	Raman studies of electronâ€“phonon coupling in single walled carbon nanotubes. Physica Status Solidi (B): Basic Research, 2006, 243, 3171-3175.	0.7	1
132	A New Method for Measuring Vibrational Energy Distributions of Polyatomics. ACS Symposium Series, 1997, , 191-201.	0.5	0
133	Synthesis of fullerene derivatives. Physics of the Solid State, 2002, 44, 601-602.	0.2	0
134	(Invited) Progress in Using Carbon Nanotube Spectra for Mechanical Strain Sensing. ECS Meeting Abstracts, 2020, MA2020-01, 696-696.	0.0	0
135	(Invited) Different Fluorescent Modifications of Carbon Nanotubes with Aromatic Reactants. ECS Meeting Abstracts, 2020, MA2020-01, 720-720.	0.0	0