Sergei M Bachilo

List of Publications by Year
in descending order

122 papers	13,759 citations	94269 37 h-index	28224 105 g-index
127 all docs	127 docs citations	127 times ranked	9879 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	Oxygen Doping Modifies Near-Infrared Band Gaps in Fluorescent Single-Walled Carbon Nanotubes. Science, 2010, 330, 1656-1659.	6.0	323
8	Femtosecond Spectroscopy of Optical Excitations in Single-Walled Carbon Nanotubes: Evidence for Exciton-Exciton Annihilation. Physical Review Letters, 2005, 94, 157402.	2.9	214
9	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
10	Ultrafast carrier dynamics in single-walled carbon nanotubes probed by femtosecond spectroscopy. Journal of Chemical Physics, 2004, 120, 3368-3373.	1.2	186
11	Structure-Dependent Fluorescence Efficiencies of Individual Single-Walled Carbon Nanotubes. Nano Letters, 2007, 7, 3080-3085.	4.5	156
12	Analyzing Absorption Backgrounds in Single-Walled Carbon Nanotube Spectra. ACS Nano, 2011, 5, 1639-1648.	7.3	142
13	Versatile Visualization of Individual Single-Walled Carbon Nanotubes with Near-Infrared Fluorescence Microscopy. Nano Letters, 2005, 5, 975-979.	4.5	140
14	Solvent and Temperature Effects on Dual Fluorescence in a Series of Carotenes. Energy Gap Dependence of the Internal Conversion Rate. The Journal of Physical Chemistry, 1995, 99, 16199-16209.	2.9	130
15	Exciton Binding Energy in Semiconducting Single-Walled Carbon Nanotubes. Journal of Physical Chemistry B, 2005, 109, 15671-15674.	1.2	110
16	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
17	Directly Measured Optical Absorption Cross Sections for Structure-Selected Single-Walled Carbon Nanotubes. Nano Letters, 2014, 14, 1530-1536.	4.5	96
18	Reversible Formation of Ammonium Persulfate/Sulfuric Acid Graphite Intercalation Compounds and Their Peculiar Raman Spectra. ACS Nano, 2012, 6, 7842-7849.	7.3	95

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19	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
20	Surfactant-Dependent Exciton Mobility in Single-Walled Carbon Nanotubes Studied by Single-Molecule Reactions. Nano Letters, 2010, 10, 1595-1599.	4.5	88
21	Fluorescence spectroscopy of single-walled carbon nanotubes in aqueous suspension. Applied Physics A: Materials Science and Processing, 2004, 78, 1111-1116.	1.1	86
22	Determination of Triplet Quantum Yields from Tripletâ^'Triplet Annihilation Fluorescence. Journal of Physical Chemistry A, 2000, 104, 7711-7714.	1.1	83
23	Efficient photosensitized energy transfer and near-IR fluorescence from porphyrinâ€"SWNT complexes. Journal of Materials Chemistry, 2008, 18, 1510.	6.7	70
24	S2 â†' S0 fluorescence and transient Sn â†•S1 absorption of all-rans-Î²-carotene in solid and liquid solutions. Journal of Photochemistry and Photobiology A: Chemistry, 1989, 46, 315-322.	2.0	68
25	Ozonides, Epoxides, and Oxidoannulenes of C70. Journal of the American Chemical Society, 2002, 124, 6317-6323.	6.6	66
26	Creating fluorescent quantum defects in carbon nanotubes using hypochlorite and light. Nature Communications, 2019, 10, 2874.	5.8	63
27	Determination of Exciton-Phonon Coupling Elements in Single-Walled Carbon Nanotubes by Raman Overtone Analysis. Physical Review Letters, 2007, 98, 037405.	2.9	61
28	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
29	Translational and Rotational Dynamics of Individual Single-Walled Carbon Nanotubes in Aqueous Suspension. ACS Nano, 2008, 2, 1770-1776.	7.3	58
30	(<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
31	Excited state energies and internal conversion in diphenylpolyenes: from diphenylbutadiene to diphenyltetradecaheptaene. Chemical Physics Letters, 1998, 283, 235-242.	1.2	51
32	Measuring Single-Walled Carbon Nanotube Length Distributions from Diffusional Trajectories. ACS Nano, 2012, 6, 8424-8431.	7.3	51
33	Strain Paint: Noncontact Strain Measurement Using Single-Walled Carbon Nanotube Composite Coatings. Nano Letters, 2012, 12, 3497-3500.	4.5	51
34	Unusual dynamic relaxation of triplet-excited meso-phenyl-substituted porphyrins and their chemical dimers at room temperatures. Chemical Physics Letters, 1998, 297, 97-108.	1.2	50
35	Structure-Dependent Hydrostatic Deformation Potentials of Individual Single-Walled Carbon Nanotubes. Physical Review Letters, 2004, 93, .	2.9	49
36	Do Inner Shells of Double-Walled Carbon Nanotubes Fluoresce?. Nano Letters, 2009, 9, 3282-3289.	4.5	42

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37	Controlled Patterning of Carbon Nanotube Energy Levels by Covalent DNA Functionalization. ACS Nano, 2019, 13, 8222-8228.	7.3	42
38	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
39	Dependence of Exciton Mobility on Structure in Single-Walled Carbon Nanotubes. Journal of Physical Chemistry Letters, 2010, 1, 2189-2192.	2.1	37
40	Efficient Spectrofluorimetric Analysis of Single-Walled Carbon Nanotube Samples. Analytical Chemistry, 2011, 83, 7431-7437.	3.2	36
41	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
42	Time-Resolved Thermally Activated Delayed Fluorescence in C70and 1,2-C70H2. Journal of Physical Chemistry A, 2000, 104, 11265-11269.	1.1	34
43	Photoexcited Aromatic Reactants Give Multicolor Carbon Nanotube Fluorescence from Quantum Defects. ACS Nano, 2020, 14, 715-723.	7.3	32
44	Î2-carotene triplet state absorption in the near-IR range. Journal of Photochemistry and Photobiology A: Chemistry, 1995, 91, 111-115.	2.0	31
45	Chirality-Resolved Length Analysis of Single-Walled Carbon Nanotube Samples through Shear-Aligned Photoluminescence Anisotropy. ACS Nano, 2008, 2, 1738-1746.	7.3	31
46	Self-assembled nanoscale photomimetic models: structure and related dynamics. Chemical Physics, 2002, 275, 185-209.	0.9	27
47	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
48	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
49	Efficient low temperature charge transfer in a self-assembled porphyrin aggregate. Journal of Photochemistry and Photobiology A: Chemistry, 1999, 126, 99-109.	2.0	24
50	Enabling <i>in vivo</i> measurements of nanoparticle concentrations with threeâ€dimensional optoacoustic tomography. Journal of Biophotonics, 2014, 7, 581-588.	1.1	24
51	Photoluminescence Side Band Spectroscopy of Individual Single-Walled Carbon Nanotubes. Journal of Physical Chemistry C, 2016, 120, 23898-23904.	1.5	24
52	Enantiomers of Single-Wall Carbon Nanotubes Show Distinct Coating Displacement Kinetics. Journal of Physical Chemistry Letters, 2018, 9, 3793-3797.	2.1	24
53	The purification of HiPco SWCNTs with liquid bromine at room temperature. Carbon, 2007, 45, 1013-1017.	5.4	23
54	Electric Field Quenching of Carbon Nanotube Photoluminescence. Nano Letters, 2008, 8, 1527-1531.	4.5	23

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55	Length-dependent optical properties of single-walled carbon nanotube samples. Chemical Physics, 2013, 422, 255-263.	0.9	23
56	Pathways for photoinduced electron transfer in meso-nitro-phenyl-octaethylporphyrins and their chemical dimers. Chemical Physics Letters, 1999, 304, 155-166.	1.2	22
57	Quantum Light Emission from Coupled Defect States in DNA-Functionalized Carbon Nanotubes. ACS Nano, 2021, 15, 10406-10414.	7.3	22
58	Solvent effect on radiative and non-radiative transitions in all-trans-1,6-diphenylhexatriene. Journal of Photochemistry and Photobiology A: Chemistry, 1991, 59, 273-283.	2.0	21
59	Spectral shape of diphenylpolyene fluorescence and mixing of the S1 and S2 states. Chemical Physics, 1998, 229, 75-91.	0.9	21
60	Reversible Dimerization of [5,6]-C60O. Journal of the American Chemical Society, 2004, 126, 7350-7358.	6.6	21
61	Spectral triangulation: a 3D method for locating single-walled carbon nanotubes in vivo. Nanoscale, 2016, 8, 10348-10357.	2.8	20
62	Manifestation of nonplanarity effects and charge-transfer interactions in spectral and kinetic properties of triplet states of sterically strained octaethylporphyrins. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2001, 90, 67-77.	0.2	19
63	Fluorescence properties of protonated and unprotonated Schiff bases of retinal at room temperature. Journal of Photochemistry and Photobiology B: Biology, 1996, 34, 39-46.	1.7	18
64	Triplet State Dissociation of C120, the Dimer of C60. Journal of Physical Chemistry A, 2001, 105, 9845-9850.	1.1	18
65	Title is missing!. Journal of Fluorescence, 2000, 10, 55-68.	1.3	17
66	Comparative Photophysics of C61H2Isomersâ€. Journal of Physical Chemistry A, 2003, 107, 10674-10679.	1.1	17
67	Evidence for Long-lived, Optically Generated Quenchers of Excitons in Single-Walled Carbon Nanotubes. Nano Letters, 2012, 12, 33-38.	4.5	16
68	Removing Aggregates from Single-Walled Carbon Nanotube Samples by Magnetic Purification. Journal of Physical Chemistry C, 2014, 118, 4489-4494.	1.5	16
69	Structure-Dependent Thermal Defunctionalization of Single-Walled Carbon Nanotubes. ACS Nano, 2015, 9, 6324-6332.	7.3	16
70	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
71	Dualâ€layer nanotubeâ€based smart skin for enhanced noncontact strain sensing. Structural Control and Health Monitoring, 2019, 26, e2279.	1.9	15
72	Dye Quenching of Carbon Nanotube Fluorescence Reveals Structure-Selective Coating Coverage. ACS Nano, 2020, 14, 12148-12158.	7.3	15

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73	Delayed Fluorescence from Carbon Nanotubes through Singlet Oxygen-Sensitized Triplet Excitons. Journal of the American Chemical Society, 2020, 142, 21189-21196.	6.6	14
74	Fluorescence of Retinal Schiff Base in Alcohols. Journal of Physical Chemistry A, 1999, 103, 2481-2488.	1.1	13
75	Temperature effects on femtosecond transient absorption kinetics of semiconducting single-walled carbon nanotubes. Physical Chemistry Chemical Physics, 2006, 8, 5689.	1.3	13
76	Variance Spectroscopy. Journal of Physical Chemistry Letters, 2015, 6, 3976-3981.	2.1	13
77	Diphenyloctatetraene S2 emission. Chemical Physics Letters, 1994, 218, 557-562.	1.2	12
78	Indexing the Quality of Single-Wall Carbon Nanotube Dispersions Using Absorption Spectra. Journal of Physical Chemistry C, 2018, 122, 4681-4690.	1.5	12
79	Noncontact Strain Mapping Using Laser-Induced Fluorescence from Nanotube-Based Smart Skin. Journal of Structural Engineering, 2019, 145, 04018238.	1.7	11
80	Photoinduced electron transfer in meso-nitrophenyl-substituted porphyrins and their chemical dimers. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2000, 88, 205-216.	0.2	10
81	Competition between electron transfer and energy migration in self-assembled porphyrin triads. Materials Science and Engineering C, 2001, 18, 99-111.	3.8	9
82	Thermolysis and Photolysis of C60Diozonides. Fullerenes Nanotubes and Carbon Nanostructures, 2005, 13, 73-88.	1.0	9
83	High Precision Fractionator for Use with Density Gradient Ultracentrifugation. Analytical Chemistry, 2014, 86, 11018-11023.	3.2	8
84	Guanine-Specific Chemical Reaction Reveals ssDNA Interactions on Carbon Nanotube Surfaces. Journal of Physical Chemistry Letters, 2022, 13, 2231-2236.	2.1	8
85	Photophysical Studies of 1,2-C70H2. Journal of Physical Chemistry A, 1999, 103, 10842-10845.	1.1	7
86	THE ELUSIVE C60S: THREE ATTEMPTED SYNTHESES. Fullerenes Nanotubes and Carbon Nanostructures, 2002, 10, 37-47.	1.0	7
87	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
88	Near-infrared photoluminescence of Portland cement. Scientific Reports, 2022, 12, 1197.	1.6	7
89	Pressure dependence of optical transitions in semiconducting single-walled carbon nanotubes. Physica Status Solidi (B): Basic Research, 2004, 241, 3367-3373.	0.7	6
90	Structure-dependent Optical Activity of Single-walled Carbon Nanotube Enantiomers. Fullerenes Nanotubes and Carbon Nanostructures, 2014, 22, 269-279.	1.0	6

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91	Next-generation 2D optical strain mapping with strain-sensing smart skin compared to digital image correlation. Scientific Reports, 2022, 12, .	1.6	6
92	Electron Transfer in Porphyrin Multimolecular Self-Organized Nanostructures. Molecular Crystals and Liquid Crystals, 1998, 324, 169-176.	0.3	5
93	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
94	Chromatic Aberration Short-Wave Infrared Spectroscopy: Nanoparticle Spectra without a Spectrometer. Analytical Chemistry, 2013, 85, 1337-1341.	3.2	4
95	"Smart Skin" optical strain sensor using single wall carbon nanotubes. , 2014, , .		4
96	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
97	Skewness Analysis in Variance Spectroscopy Measures Nanoparticle Individualization. Journal of Physical Chemistry Letters, 2017, 8, 2924-2929.	2.1	4
98	Variance Spectroscopy Studies of Single-Wall Carbon Nanotube Aggregation. Journal of Physical Chemistry C, 2018, 122, 26251-26259.	1.5	4
99	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
100	Photophysical Properties of C84Major Isomersâ€. Journal of Physical Chemistry C, 2007, 111, 17720-17724.	1.5	3
101	Picosecond kinetics and S n <-- S 1 absorption spectra of retinoids and carotenoids. , 1991, , .		2
102	(n,m)-Assigned Absorption and Emission Spectra of Single-Walled Carbon Nanotubes. AIP Conference Proceedings, 2003, , .	0.3	2
103	Photorearrangement of Î±-Azoxy Ketones and Triplet Sensitization of Azoxy Compounds. Journal of Organic Chemistry, 2005, 70, 2598-2605.	1.7	2
104	Towards non-invasivein vivomeasurements of nanoparticle concentrations using 3D optoacoustic tomography. , 2013, , .		2
105	Strain-sensing smart skin. , 2016, , 353-375.		2
106	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
107	<title>Beta-carotene S<formula><inf><roman>1</roman></inf></formula> fluorescence</title>. , 1995, 2370, 719.		1
108	Steric Interactions Influence on Electron Transfer Efficiency in Meso-Nitrophenylporphyrins and their Chemical Dimers. Molecular Crystals and Liquid Crystals, 2001, 361, 77-82.	0.3	1

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109	Raman studies of electronâ€“phonon coupling in single walled carbon nanotubes. Physica Status Solidi (B): Basic Research, 2006, 243, 3171-3175.	0.7	1
110	Time-resolved laser study of the transient absorption and conductivity on iodine-doped Î²-carotene films. , 1993, , .		1
111	(Invited) Progress in Using Carbon Nanotube Spectra for Mechanical Strain Sensing. ECS Meeting Abstracts, 2021, MA2021-01, 568-568.	0.0	0
112	(Invited) Computational Simulations of Selective Interactions between ssDNA and SWCNTs. ECS Meeting Abstracts, 2021, MA2021-01, 582-582.	0.0	0
113	(Invited) Quantum Light Emission from Coupled Defect-States in DNA-Functionalized Carbon Nanotubes. ECS Meeting Abstracts, 2021, MA2021-01, 559-559.	0.0	0
114	(Invited) Different Pathways of Fluorescent SWCNT Modifications with Aromatic Reactants. ECS Meeting Abstracts, 2021, MA2021-01, 557-557.	0.0	0
115	Tailoring the Spectral Properties of Single-Wall Carbon Nanotube Samples through Structure-Selective Photochemistry. ECS Meeting Abstracts, 2021, MA2021-01, 588-588.	0.0	0
116	(Invited) Toward Spectral Homogeneity in Guanine Functionalized SWCNTs. ECS Meeting Abstracts, 2021, MA2021-01, 552-552.	0.0	0
117	(Invited) Spectroscopic Titration Shows (n,m)-Dependent Displacement of SDS By ssDNA on Single-Wall Carbon Nanotubes. ECS Meeting Abstracts, 2021, MA2021-01, 543-543.	0.0	0
118	(Invited) Camera-Based Strain Visualization Using Carbon Nanotube Fluorescence. ECS Meeting Abstracts, 2022, MA2022-01, 754-754.	0.0	0
119	Exploring the Role of Photosensitizer in Guanine Functionalization of Single-Wall Carbon Nanotubes. ECS Meeting Abstracts, 2022, MA2022-01, 732-732.	0.0	0
120	(Digital Presentation) Realistic Molecular Dynamics Modeling of ssDNA/SWCNT Hybrids. ECS Meeting Abstracts, 2022, MA2022-01, 715-715.	0.0	0
121	DNA Wrapping Causes Strain in Single-Wall Carbon Nanotubes. ECS Meeting Abstracts, 2022, MA2022-01, 719-719.	0.0	0
122	Exploring the Covalent Doping of Single-Wall Carbon Nanotubes Induced By Photoexcited Hypochlorite. ECS Meeting Abstracts, 2022, MA2022-01, 733-733.	0.0	0