Steven G Boxer

List of Publications by Year
in descending order

247 papers	17,716 citations	8732 75 h-index	15683 125 g-index
306 all docs	306 docs citations	306 times ranked	12417 citing authors

#	Article	IF	Citations
1	Formation and Spreading of Lipid Bilayers on Planar Glass Supports. Journal of Physical Chemistry B, 1999, 103, 2554-2559.	1.2	654
2	STARK SPECTROSCOPY: Applications in Chemistry, Biology, and Materials Science. Annual Review of Physical Chemistry, 1997, 48, 213-242.	4.8	574
3	Micropatterning Fluid Lipid Bilayers on Solid Supports. Science, 1997, 275, 651-653.	6.0	553
4	Extreme electric fields power catalysis in the active site of ketosteroid isomerase. Science, 2014, 346, 1510-1514.	6.0	392
5	Measuring Electric Fields and Noncovalent Interactions Using the Vibrational Stark Effect. Accounts of Chemical Research, 2015, 48, 998-1006.	7.6	387
6	Micropattern Formation in Supported Lipid Membranes. Accounts of Chemical Research, 2002, 35, 149-157.	7.6	341
7	Electric Fields and Enzyme Catalysis. Annual Review of Biochemistry, 2017, 86, 387-415.	5.0	298
8	Electric Fields at the Active Site of an Enzyme: Direct Comparison of Experiment with Theory. Science, 2006, 313, 200-204.	6.0	296
9	Architecture and Function of Membrane Proteins in Planar Supported Bilayers:Â A Study with Photosynthetic Reaction Centersâ€. Biochemistry, 1996, 35, 14773-14781.	1.2	291
10	Advances in Imaging Secondary Ion Mass Spectrometry for Biological Samples. Annual Review of Biophysics, 2009, 38, 53-74.	4.5	281
11	Studies of the Electronic Structure of Metallocene-Based Second-Order Nonlinear Optical Dyes. Journal of the American Chemical Society, 1999, 121, 3715-3723.	6.6	268
12	Stark Realities. Journal of Physical Chemistry B, 2009, 113, 2972-2983.	1.2	262
13	Effects of linker sequences on vesicle fusion mediated by lipid-anchored DNA oligonucleotides. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 979-984.	3.3	260
14	Brownian Ratchets: Molecular Separations in Lipid Bilayers Supported on Patterned Arrays. Science, 1999, 285, 1046-1048.	6.0	251
15	Choose Your Label Wisely: Water-Soluble Fluorophores Often Interact with Lipid Bilayers. PLoS ONE, 2014, 9, e87649.	1.1	249
16	Vibrational Stark Effects of Nitriles I. Methods and Experimental Results. Journal of Physical Chemistry A, 2000, 104, 11853-11863.	1.1	243
17	Green Fluorescent Protein Variants as Ratiometric Dual Emission pH Sensors. 1. Structural Characterization and Preliminary Applicationâ€. Biochemistry, 2002, 41, 15477-15488.	1.2	237
18	Vibrational Stark Effects Calibrate the Sensitivity of Vibrational Probes for Electric Fields in Proteinsâ€. Biochemistry, 2003, 42, 12050-12055.	1.2	228

#	Article	IF	Citations
19	Arrays of Mobile Tethered Vesicles on Supported Lipid Bilayers. Journal of the American Chemical Society, 2003, 125, 3696-3697.	6.6	225
20	Vibrational Stark Spectroscopy in Proteins:â€‰ A Probe and Calibration for Electrostatic Fields. Journal of Physical Chemistry B, 1999, 103, 9813-9817.	1.2	209
21	Electroabsorption (Stark effect) spectroscopy of mono- and biruthenium charge-transfer complexes: measurements of changes in dipole moments and other electrooptic properties. Journal of the American Chemical Society, 1991, 113, 6880-6890.	6.6	199
22	Molecular transport and organization in supported lipid membranes. Current Opinion in Chemical Biology, 2000, 4, 704-709.	2.8	196
23	Vesicle Adsorption and Lipid Bilayer Formation on Glass Studied by Atomic Force Microscopy. Langmuir, 2004, 20, 11600-11606.	1.6	188
24	Site-Specific Conversion of Cysteine Thiols into Thiocyanate Creates an IR Probe for Electric Fields in Proteins. Journal of the American Chemical Society, 2006, 128, 13356-13357.	6.6	187
25	Patterning and Composition Arrays of Supported Lipid Bilayers by Microcontact Printing. Langmuir, 2001, 17, 3400-3405.	1.6	181
26	Measuring Electrostatic Fields in Both Hydrogen-Bonding and Non-Hydrogen-Bonding Environments Using Carbonyl Vibrational Probes. Journal of the American Chemical Society, 2013, 135, 11181-11192.	6.6	176
27	Patterning Barriers to Lateral Diffusion in Supported Lipid Bilayer Membranes by Blotting and Stamping. Langmuir, 2000, 16, 894-897.	1.6	173
28	Patterning Hybrid Surfaces of Proteins and Supported Lipid Bilayers. Langmuir, 2000, 16, 6773-6776.	1.6	167
29	Crystal Structure and Photodynamic Behavior of the Blue Emission Variant Y66H/Y145F of Green Fluorescent Proteinâ€. Biochemistry, 1997, 36, 9759-9765.	1.2	162
30	Oscillations in the Spontaneous Fluorescence from Photosynthetic Reaction Centers. The Journal of Physical Chemistry, 1995, 99, 859-863.	2.9	156
31	Substrateâ˜Membrane Interactions:â€‰ Mechanisms for Imposing Patterns on a Fluid Bilayer Membrane. Langmuir, 1998, 14, 3347-3350.	1.6	146
32	General Method for Modification of Liposomes for Encoded Assembly on Supported Bilayers. Journal of the American Chemical Society, 2005, 127, 1356-1357.	6.6	146
33	Dielectric relaxation in a protein matrix. The Journal of Physical Chemistry, 1992, 96, 5560-5566.	2.9	145
34	Vibrational Stark Effects of Nitriles II. Physical Origins of Stark Effects from Experiment and Perturbation Models. Journal of Physical Chemistry A, 2002, 106, 469-477.	1.1	142
35	Lipid-anchored DNA mediates vesicle fusion as observed by lipid and content mixing. Biointerphases, 2008, 3, FA17-FA21.	0.6	138
36	Decomposition of Vibrational Shifts of Nitriles into Electrostatic and Hydrogen-Bonding Effects. Journal of the American Chemical Society, 2010, 132, 12811-12813.	6.6	136

#	Article	IF	Citations
37	A conserved water-mediated hydrogen bond network defines bosutinib's kinase selectivity. Nature Chemical Biology, 2014, 10, 127-132.	3.9	134
38	Origins of the Sensitivity of Molecular Vibrations to Electric Fields:Â Carbonyl and Nitrosyl Stretches in Model Compounds and Proteins. Journal of Physical Chemistry B, 2002, 106, 5800-5806.	1.2	133
39	Split Green Fluorescent Proteins: Scope, Limitations, and Outlook. Annual Review of Biophysics, 2019, 48, 19-44.	4.5	131
40	Excited states, electron-transfer reactions, and intermediates in bacterial photosynthetic reaction centers. The Journal of Physical Chemistry, 1989, 93, 8280-8294.	2.9	129
41	Vibrational Stark Effect Spectroscopy. Journal of the American Chemical Society, 1995, 117, 1449-1450.	6.6	128
42	Cell adhesion to protein-micropatterned-supported lipid bilayer membranes. Journal of Biomedical Materials Research Part B, 2001, 55, 487-495.	3.0	127
43	Antibody evolution constrains conformational heterogeneity by tailoring protein dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 13722-13727.	3.3	118
44	Rapid isolation of bacterial photosynthetic reaction centers with an engineered poly-histidine tag. Biochimica Et Biophysica Acta - Bioenergetics, 1996, 1276, 171-175.	0.5	115
45	Experimental Quantification of Electrostatics in Xâ€“HÂ·Â·Â·Ï€ Hydrogen Bonds. Journal of the American Chemical Society, 2012, 134, 18986-18997.	6.6	115
46	Quantum delocalization of protons in the hydrogen-bond network of an enzyme active site. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 18454-18459.	3.3	115
47	Protonation, Photobleaching, and Photoactivation of Yellow Fluorescent Protein (YFP 10C):â€‰ A Unifying Mechanism. Biochemistry, 2005, 44, 5510-5524.	1.2	113
48	Dynamic Stokes shift in green fluorescent protein variants. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 20189-20194.	3.3	111
49	Electrostatic interactions in wild-type and mutant recombinant human myoglobins. Biochemistry, 1989, 28, 3771-3781.	1.2	108
50	A Solvatochromic Model Calibrates Nitrilesâ€™ Vibrational Frequencies to Electrostatic Fields. Journal of the American Chemical Society, 2012, 134, 10373-10376.	6.6	107
51	Writing and Erasing Barriers to Lateral Mobility into Fluid Phospholipid Bilayers. Langmuir, 1999, 15, 3893-3896.	1.6	106
52	Stark effect spectra of Ru(diimine)32+ complexes. Journal of the American Chemical Society, 1989, 111, 1130-1131.	6.6	105
53	Measurement of Solvation Responses at Multiple Sites in a Globular Protein. Journal of Physical Chemistry B, 2007, 111, 8269-8276.	1.2	102
54	Functional cavities in proteins: A general method for proximal ligand substitution in myoglobin. Journal of the American Chemical Society, 1994, 116, 6981-6982.	6.6	101

#	Article	IF	Citations
55	Stark Spectroscopy of Donor/Acceptor Substituted Polyenes. Journal of the American Chemical Society, 1997, 119, 3365-3376.	6.6	101
56	Polymer-Supported Lipid Bilayers on Benzophenone-Modified Substrates. Biomacromolecules, 2001, 2, 70-79.	2.6	101
57	Discovery of new ligand binding pathways in myoglobin by random mutagenesis. Nature Structural and Molecular Biology, 1994, 1, 226-229.	3.6	100
58	Direct Measurements of Electric Fields in Weak OHÂ·Â·Â·Ï€ Hydrogen Bonds. Journal of the American Chemical Society, 2011, 133, 17414-17419.	6.6	99
59	Solvent-Induced Infrared Frequency Shifts in Aromatic Nitriles Are Quantitatively Described by the Vibrational Stark Effect. Journal of Physical Chemistry B, 2012, 116, 10470-10476.	1.2	99
60	Photophysics ofDsRed, a Red Fluorescent Protein, from the Ensemble to the Single-Molecule Level. Journal of Physical Chemistry B, 2001, 105, 5048-5054.	1.2	97
61	Structureâ€based analysis of the initial electron transfer step in bacterial photosynthesis: Electric field induced fluorescence anisotropy. Journal of Chemical Physics, 1988, 89, 1408-1415.	1.2	94
62	A Critical Test of the Electrostatic Contribution to Catalysis with Noncanonical Amino Acids in Ketosteroid Isomerase. Journal of the American Chemical Society, 2016, 138, 11890-11895.	6.6	94
63	Electrostatic Fields Near the Active Site of Human Aldose Reductase: 1. New Inhibitors and Vibrational Stark Effect Measurements. Biochemistry, 2008, 47, 1588-1598.	1.2	92
64	Nitrile Bonds as Infrared Probes of Electrostatics in Ribonuclease S. Journal of Physical Chemistry B, 2010, 114, 13536-13544.	1.2	90
65	Excited State Energy Transfer Pathways in Photosynthetic Reaction Centers. 1. Structural Symmetry Effects. The Journal of Physical Chemistry, 1996, 100, 12052-12059.	2.9	87
66	Patterned Supported Lipid Bilayers and Monolayers on Poly(dimethylsiloxane). Langmuir, 2004, 20, 11092-11099.	1.6	87
67	Quantitative, directional measurement of electric field heterogeneity in the active site of ketosteroid isomerase. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E299-308.	3.3	87
68	Green Fluorescent Protein Variants as Ratiometric Dual Emission pH Sensors. 2. Excited-State Dynamicsâ€. Biochemistry, 2002, 41, 15489-15494.	1.2	86
69	Electronic Structure of the Chromophore in Green Fluorescent Protein (GFP). Journal of the American Chemical Society, 1998, 120, 9370-9371.	6.6	83
70	Kinetics of DNA-mediated docking reactions between vesicles tethered to supported lipid bilayers. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18913-18918.	3.3	83
71	Calculations of the Electric Fields in Liquid Solutions. Journal of Physical Chemistry B, 2013, 117, 16236-16248.	1.2	83
72	Formation of Supported Lipid Bilayer Composition Arrays by Controlled Mixing and Surface Capture. Journal of the American Chemical Society, 2000, 122, 12901-12902.	6.6	82

#	Article	IF	Citations
73	Electric field modulation of the fluorescence from Rhodobacter sphaeroides reaction centers. Chemical Physics Letters, 1988, 144, 243-250.	1.2	81
74	Electrochromism in the near-infrared absorption spectra of bridged ruthenium mixed-valence complexes. Journal of the American Chemical Society, 1990, 112, 8161-8162.	6.6	79
75	Chemical Synthesis and Self-Assembly of a Ladderane Phospholipid. Journal of the American Chemical Society, 2016, 138, 15845-15848.	6.6	78
76	Electrostatic control of photoisomerization pathways in proteins. Science, 2020, 367, 76-79.	6.0	78
77	Mg Coordination by Amino Acid Side Chains Is Not Required for Assembly and Function of the Special Pair in Bacterial Photosynthetic Reaction Centersâ€. Biochemistry, 1996, 35, 2421-2428.	1.2	76
78	Ultrafast Excited-State Dynamics in the Green Fluorescent Protein Variant S65T/H148D. 1. Mutagenesis and Structural Studies[,]. Biochemistry, 2007, 46, 12005-12013.	1.2	76
79	Characterization of the Light-Harvesting Antennas of Photosynthetic Purple Bacteria by Stark Spectroscopy. 1. LH1 Antenna Complex and the B820 Subunit from Rhodospirillum rubrum. Journal of Physical Chemistry B, 1997, 101, 7284-7292.	1.2	75
80	TransEffects in Nitric Oxide Binding to Myoglobin Cavity Mutant H93Gâ€. Biochemistry, 1996, 35, 4939-4944.	1.2	74
81	DNA-tethered membranes formed by giant vesicle rupture. Journal of Structural Biology, 2009, 168, 190-199.	1.3	74
82	Effective Polarity of Frozen Solvent Glasses in the Vicinity of Dipolar Solutes. Journal of the American Chemical Society, 1998, 120, 3988-3992.	6.6	70
83	Ultrafast Excited-State Dynamics in the Green Fluorescent Protein Variant S65T/H148D. 2. Unusual Photophysical Properties. Biochemistry, 2007, 46, 12014-12025.	1.2	70
84	Reversible photochemical holeburning in Rhodopseudomonas viridis reaction centers. FEBS Letters, 1986, 200, 237-241.	1.3	69
85	Probing the Structure of Supported Membranes and Tethered Oligonucleotides by Fluorescence Interference Contrast Microscopy. Langmuir, 2005, 21, 4976-4983.	1.6	69
86	Colocalization of the Ganglioside GM1 and Cholesterol Detected by Secondary Ion Mass Spectrometry. Journal of the American Chemical Society, 2013, 135, 5620-5630.	6.6	69
87	Vibrational Stark Spectroscopy of NO Bound to Heme:Â Effects of Protein Electrostatic Fields on the NO Stretch Frequency. Journal of the American Chemical Society, 2000, 122, 12297-12303.	6.6	67
88	Spatially Selective Manipulation of Supported Lipid Bilayers by Laminar Flow:Â Steps Toward Biomembrane Microfluidicsâ€. Langmuir, 2003, 19, 1624-1631.	1.6	67
89	Individual Vesicle Fusion Events Mediated by Lipid-Anchored DNA. Biophysical Journal, 2013, 105, 409-419.	0.2	67
90	Vibrational Stark Effects of Carbonyl Probes Applied to Reinterpret IR and Raman Data for Enzyme Inhibitors in Terms of Electric Fields at the Active Site. Journal of Physical Chemistry B, 2016, 120, 9672-9684.	1.2	67

#	Article	IF	Citations
91	Effective Charge Transfer Distances in Cyanide-Bridged Mixed-Valence Transition Metal Complexes. Journal of the American Chemical Society, 1998, 120, 6068-6075.	6.6	66
92	Distance dependence of electron-transfer reactions in organized systems: the role of superexchange and non-Condon effects in photosynthetic reaction centers. The Journal of Physical Chemistry, 1993, 97, 3040-3053.	2.9	64
93	Controlling Two-Dimensional Tethered Vesicle Motion Using an Electric Field:Â Interplay of Electrophoresis and Electro-Osmosis. Langmuir, 2006, 22, 2384-2391.	1.6	64
94	Excited-State Electronic Asymmetry of the Special Pair in Photosynthetic Reaction Center Mutants:Â Absorption and Stark Spectroscopyâ€. Biochemistry, 1999, 38, 11949-11960.	1.2	61
95	Membrane-tethered mucin-like polypeptides sterically inhibit binding and slow fusion kinetics of influenza A virus. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12643-12650.	3.3	60
96	Short Hydrogen Bonds and Proton Delocalization in Green Fluorescent Protein (GFP). ACS Central Science, 2015, 1, 148-156.	5.3	59
97	Ladderane phospholipids form a densely packed membrane with normal hydrazine and anomalously low proton/hydroxide permeability. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9098-9103.	3.3	58
98	Vibrational Stark Effect Probes for Nucleic Acids. Journal of Physical Chemistry B, 2007, 111, 11611-11613.	1.2	57
99	Vesicle Fusion Observed by Content Transfer across a Tethered Lipid Bilayer. Biophysical Journal, 2011, 101, L37-L39.	0.2	55
100	Unified Model for Photophysical and Electro-Optical Properties of Green Fluorescent Proteins. Journal of the American Chemical Society, 2019, 141, 15250-15265.	6.6	55
101	Effects of Nuclear Spin Polarization on Reaction Dynamics in Photosynthetic Bacterial Reaction Centers. Biophysical Journal, 1987, 51, 937-946.	0.2	54
102	High Yield of M-Side Electron Transfer in Mutants ofRhodobacter capsulatusReaction Centers Lacking the L-Side Bacteriopheophytinâ€. Biochemistry, 2006, 45, 3845-3851.	1.2	54
103	Dynamic Reorganization and Correlation among Lipid Raft Components. Journal of the American Chemical Society, 2016, 138, 9996-10001.	6.6	54
104	Structural Evidence of Photoisomerization Pathways in Fluorescent Proteins. Journal of the American Chemical Society, 2019, 141, 15504-15508.	6.6	54
105	Assignment of the Heme Axial Ligand(s) for the Ferric Myoglobin (H93G) and Heme Oxygenase (H25A) Cavity Mutants as Oxygen Donors Using Magnetic Circular Dichroism. Biochemistry, 1999, 38, 7601-7608.	1.2	53
106	Ground-State Proton Transfer Kinetics in Green Fluorescent Protein. Biochemistry, 2014, 53, 5947-5957.	1.2	51
107	The Role of the Distal and Proximal Protein Environments in Controlling the Ferric Spin State and in Stabilizing Thiolate Ligation in Heme Systems:Â Thiolate Adducts of the Myoglobin H93G Cavity Mutant. Journal of the American Chemical Society, 1999, 121, 12088-12093.	6.6	49
108	Supported Membrane Composition Analysis by Secondary Ion Mass Spectrometry with High Lateral Resolution. Biophysical Journal, 2005, 88, 2965-2975.	0.2	49

#	Article	IF	Citations
109	Deconstructing Green Fluorescent Protein. Journal of the American Chemical Society, 2008, 130, 9664-9665.	6.6	49
110	Vibrational Dynamics of Carbon Monoxide at the Active Sites of Mutant Heme Proteinsâ€. The Journal of Physical Chemistry, 1996, 100, 12100-12107.	2.9	48
111	Dynamics of protein relaxation in site-specific mutants of human myoglobin. Biochemistry, 1993, 32, 10116-10124.	1.2	47
112	On the Origin of Heme Absorption Band Shifts and Associated Protein Structural Relaxation in Myoglobin following Flash Photolysis. Journal of Biological Chemistry, 1997, 272, 9655-9660.	1.6	46
113	A liquid nitrogen immersion cryostat for optical measurements. Review of Scientific Instruments, 2000, 71, 3567-3569.	0.6	46
114	The H93G Myoglobin Cavity Mutant as a Versatile Template for Modeling Heme Proteins:Â Ferrous, Ferric, and Ferryl Mixed-Ligand Complexes with Imidazole in the Cavity. Inorganic Chemistry, 2000, 39, 6061-6066.	1.9	45
115	Direct measurement of the protein response to an electrostatic perturbation that mimics the catalytic cycle in ketosteroid isomerase. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16612-16617.	3.3	45
116	A Preorganized Electric Field Leads to Minimal Geometrical Reorientation in the Catalytic Reaction of Ketosteroid Isomerase. Journal of the American Chemical Society, 2020, 142, 9993-9998.	6.6	45
117	1H NMR Characterization of Myoglobins Where Exogenous Ligands Replace the Proximal Histidine. Biochemistry, 1995, 34, 2122-2129.	1.2	44
118	Probing Excited-State Electron Transfer by Resonance Stark Spectroscopy. 1. Experimental Results for Photosynthetic Reaction Centers. Journal of Physical Chemistry B, 1998, 102, 9139-9147.	1.2	44
119	Synthetic Control of Green Fluorescent Protein. Journal of the American Chemical Society, 2009, 131, 15988-15989.	6.6	43
120	pH Dependence of Zika Membrane Fusion Kinetics Reveals an Off-Pathway State. ACS Central Science, 2018, 4, 1503-1510.	5.3	43
121	Modulation of Protein Function by Exogenous Ligands in Protein Cavities:Â CO Binding to a Myoglobin Cavity Mutant Containing Unnatural Proximal Ligandsâ€. Biochemistry, 1996, 35, 3925-3932.	1.2	42
122	Disentangling Viral Membrane Fusion from Receptor Binding Using Synthetic DNA-Lipid Conjugates. Biophysical Journal, 2016, 111, 123-131.	0.2	42
123	The Mechanism of Triplet Energy Transfer from the Special Pair to the Carotenoid in Bacterial Photosynthetic Reaction Centers. Journal of Physical Chemistry B, 1999, 103, 8786-8789.	1.2	40
124	Charge Delocalization in the Special-Pair Radical Cation of Mutant Reaction Centers ofRhodobactersphaeroidesfrom Stark Spectra and Nonadiabatic Spectral Simulations. Journal of Physical Chemistry B, 2006, 110, 18688-18702.	1.2	40
125	Anomalous Negative Fluorescence Anisotropy in Yellow Fluorescent Protein (YFP 10C):â€‰ Quantitative Analysis of FRET in YFP Dimers. Biochemistry, 2007, 46, 14403-14417.	1.2	40
126	Phosphate Vibrations Probe Local Electric Fields and Hydration in Biomolecules. Journal of the American Chemical Society, 2011, 133, 13236-13239.	6.6	40

#	Article	IF	Citations
127	Electrophoresis of DNA Adsorbed to a Cationic Supported Bilayer. Langmuir, 2001, 17, 7396-7401.	1.6	39
128	Higher-Order Stark Spectroscopy: Polarizability of Photosynthetic Pigments. The Journal of Physical Chemistry, 1995, 99, 496-500.	2.9	38
129	Thermodynamics, Kinetics, and Photochemistry of Î²-Strand Association and Dissociation in a Split-GFP System. Journal of the American Chemical Society, 2011, 133, 18078-18081.	6.6	38
130	Nonphotochemical holeburning in a protein matrix: Chlorophyllide in apomyoglobin. Journal of Chemical Physics, 1987, 86, 2439-2441.	1.2	37
131	Charge Transfer in Photoacids Observed by Stark Spectroscopy. Journal of Physical Chemistry A, 2008, 112, 10244-10249.	1.1	37
132	A Theory of Intervalence Band Stark Effects. Journal of Physical Chemistry A, 2004, 108, 1764-1778.	1.1	36
133	Frictional Drag and Electrical Manipulation of Recombinant Proteins in Polymer-Supported Membranes. Langmuir, 2007, 23, 5638-5644.	1.6	36
134	Quantitative dissection of hydrogen bond-mediated proton transfer in the ketosteroid isomerase active site. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E2552-61.	3.3	36
135	Solvent-Independent Anharmonicity for Carbonyl Oscillators. Journal of Physical Chemistry B, 2017, 121, 2331-2338.	1.2	36
136	FTIR and Resonance Raman Studies of Nitric Oxide Binding to H93G Cavity Mutants of Myoglobinâ€. Biochemistry, 2001, 40, 15047-15056.	1.2	35
137	Target Membrane Cholesterol Modulates Single Influenza Virus Membrane Fusion Efficiency butÂNotÂRate. Biophysical Journal, 2020, 118, 2426-2433.	0.2	35
138	Charge Resonance Effects on Electronic Absorption Line Shapes:Â Application to the Heterodimer Absorption of Bacterial Photosynthetic Reaction Centers. Journal of Physical Chemistry B, 1997, 101, 5759-5766.	1.2	34
139	Probing Excited-State Electron Transfer by Resonance Stark Spectroscopy. 2. Theory and Application. Journal of Physical Chemistry B, 1998, 102, 9148-9160.	1.2	34
140	Functional Aspects of Ultra-rapid Heme Doming in Hemoglobin, Myoglobin, and the Myoglobin Mutant H93G. Journal of Biological Chemistry, 1995, 270, 1718-1720.	1.6	33
141	Excited State Energy Transfer Pathways in Photosynthetic Reaction Centers. 3. Ultrafast Emission from the Monomeric Bacteriochlorophylls. Journal of Physical Chemistry B, 2000, 104, 8895-8902.	1.2	33
142	Variable Incidence Angle Fluorescence Interference Contrast Microscopy for Z-Imaging Single Objects. Biophysical Journal, 2005, 89, 2759-2769.	0.2	33
143	Green Fluorescent Protein Variants as Ratiometric Dual Emission pH Sensors. 3. Temperature Dependence of Proton Transferâ€. Biochemistry, 2005, 44, 8701-8711.	1.2	33
144	Quantitative analysis of supported membrane composition using the NanoSIMS. Applied Surface Science, 2006, 252, 6950-6956.	3.1	33

#	Article	IF	Citations
145	Light-Activated Reassembly of Split Green Fluorescent Protein. Journal of the American Chemical Society, 2011, 133, 4046-4052.	6.6	33
146	A two-directional vibrational probe reveals different electric field orientations in solution and an enzyme active site. Nature Chemistry, 2022, 14, 891-897.	6.6	33
147	Two-Photon Excitation of 4'-Hydroxymethyl-4,5',8-Trimethylpsoralen. Photochemistry and Photobiology, 1997, 65, 91-95.	1.3	32
148	Dynamics of Myoglobinâ"CO with the Proximal Histidine Removed:Â Vibrational Echo Experiments. Journal of Physical Chemistry B, 1998, 102, 331-333.	1.2	32
149	Hydrogen Bonding Modulates Binding of Exogenous Ligands in a Myoglobin Proximal Cavity Mutantâ€. Biochemistry, 1999, 38, 11086-11092.	1.2	31
150	Excited State Energy Transfer Pathways in Photosynthetic Reaction Centers. 4. Asymmetric Energy Transfer in the Heterodimer Mutant. Journal of Physical Chemistry B, 2001, 105, 1856-1862.	1.2	31
151	Electrostatic Fields near the Active Site of Human Aldose Reductase: 2. New Inhibitors and Complications Caused by Hydrogen Bonds. Biochemistry, 2011, 50, 8311-8322.	1.2	31
152	Formation and analysis of topographical domains between lipid membranes tethered by DNA hybrids of different lengths. Faraday Discussions, 2013, 161, 333-345.	1.6	31
153	Nitrile Infrared Intensities Characterize Electric Fields and Hydrogen Bonding in Protic, Aprotic, and Protein Environments. Journal of the American Chemical Society, 2022, 144, 7562-7567.	6.6	30
154	Contributions of spin-spin interactions to the magnetic field dependence of the triplet quantum yield in photosynthetic reaction centers. Chemical Physics Letters, 1982, 87, 582-588.	1.2	29
155	Temperature Dependence of Electron Transfer to the M-Side Bacteriopheophytin in Rhodobacter capsulatus Reaction Centers. Journal of Physical Chemistry B, 2008, 112, 5487-5499.	1.2	29
156	Resonance Raman Studies of Heme Axial Ligation in H93G Myoglobin. Journal of Physical Chemistry B, 2000, 104, 10359-10367.	1.2	27
157	Vesicle Fusion Mediated by Solanesol-Anchored DNA. Biophysical Journal, 2017, 113, 1260-1268.	0.2	26
158	Detecting and Controlling Dye Effects in Single-Virus Fusion Experiments. Biophysical Journal, 2019, 117, 445-452.	0.2	26
159	Stability of DNA-Tethered Lipid Membranes with Mobile Tethers. Langmuir, 2011, 27, 5492-5497.	1.6	25
160	Lateral Reorganization of Fluid Lipid Membranes in Response to the Electric Field Produced by a Buried Charge. Journal of Physical Chemistry B, 2000, 104, 11409-11415.	1.2	23
161	Intervalence Band Stark Effect of the Special Pair Radical Cation in Bacterial Photosynthetic Reaction Centers. Journal of Physical Chemistry B, 2003, 107, 11230-11239.	1.2	23
162	Electric Field Effects in Multicomponent Fluid Lipid Membranes. Journal of Physical Chemistry B, 2000, 104, 119-124.	1.2	22

#	Article	IF	Citations
163	A Photolysis-Triggered Heme Ligand Switch in H93G Myoglobinâ€. Biochemistry, 2001, 40, 5299-5305.	1.2	22
164	Site-Specific Measurement of Water Dynamics in the Substrate Pocket of Ketosteroid Isomerase Using Time-Resolved Vibrational Spectroscopy. Journal of Physical Chemistry B, 2012, 116, 11414-11421.	1.2	22
165	GFP Variants with Alternative Î²-Strands and Their Application as Light-driven Protease Sensors: A Tale of Two Tails. Journal of the American Chemical Society, 2013, 135, 10226-10229.	6.6	21
166	Local and Global Electric Field Asymmetry in Photosynthetic Reaction Centers. Journal of Physical Chemistry B, 2019, 123, 1527-1536.	1.2	21
167	Mechanism of Color and Photoacidity Tuning for the Protonated Green Fluorescent Protein Chromophore. Journal of the American Chemical Society, 2020, 142, 11032-11041.	6.6	20
168	Single-virus content-mixing assay reveals cholesterol-enhanced influenza membrane fusion efficiency. Biophysical Journal, 2021, 120, 4832-4841.	0.2	20
169	The Interplay of Electrostatics and Chemical Positioning in the Evolution of Antibiotic Resistance in TEM Î²-Lactamases. ACS Central Science, 2021, 7, 1996-2008.	5.3	19
170	Dissecting Proton Delocalization in an Enzymeâ€™s Hydrogen Bond Network with Unnatural Amino Acids. Biochemistry, 2015, 54, 7110-7119.	1.2	18
171	Structural Insight into the Photochemistry of Split Green Fluorescent Proteins: A Unique Role for a His-Tag. Journal of the American Chemical Society, 2018, 140, 375-381.	6.6	18
172	Trapping the P⁺B_L^{â^’} Initial Intermediate State of Charge Separation in Photosynthetic Reaction Centers from Rhodobacter capsulatus. Biochemistry, 2009, 48, 2571-2573.	1.2	17
173	Photochemistry of a Bacterial Photosynthetic Reaction Center Missing the Initial Bacteriochlorophyll Electron Acceptor. Journal of Physical Chemistry B, 2012, 116, 9971-9982.	1.2	17
174	Electrostatic and Conformational Effects on the Electronic Structures of Distortional Isomers of a Mixed-Valence Binuclear Cu Complex. Inorganic Chemistry, 2001, 40, 6375-6382.	1.9	16
175	Proximal ligand motions in H93G myoglobin. FEBS Journal, 2002, 269, 4879-4886.	0.2	16
176	Probing Excited-State Electron Transfer by Resonance Stark Spectroscopy:Â 4. Mutations near BLin Photosynthetic Reaction Centers Perturb Multiple Factors that Affect â†'. Journal of Physical Chemistry B, 2004, 108, 13523-13535.	1.2	16
177	Stark spectroscopy of mixed-valence systems. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 33-45.	1.6	16
178	Atomic Recombination in Dynamic Secondary Ion Mass Spectrometry Probes Distance in Lipid Assemblies: A Nanometer Chemical Ruler. Journal of the American Chemical Society, 2016, 138, 16737-16744.	6.6	16
179	Mechanism and bottlenecks in strand photodissociation of split green fluorescent proteins (GFPs). Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E2146-E2155.	3.3	15
180	Stark-Effect Spectroscopy of the Heme Charge-Transfer Bands of Deoxymyoglobin. Journal of Physical Chemistry B, 1999, 103, 3070-3072.	1.2	14

#	Article	IF	Citations
181	19F NMR of Trifluoroacetyl-Labeled Cysteine Mutants of Myoglobin:â€‰ Structural Probes of Nitric Oxide Bound to the H93G Cavity Mutant. Biochemistry, 2001, 40, 8588-8596.	1.2	14
182	Excited State Energy Transfer Pathways in Photosynthetic Reaction Centers. 2. Heterodimer Special Pair. Journal of Physical Chemistry B, 1997, 101, 3644-3648.	1.2	13
183	Energetics of Primary Charge Separation in Bacterial Photosynthetic Reaction Center Mutants:Â Triplet Decay in Large Magnetic Fieldsâ€. Journal of Physical Chemistry A, 2003, 107, 3341-3350.	1.1	13
184	Evaluation of the Energetics of the Concerted Acidâ€“Base Mechanism in Enzymatic Catalysis: The Case of Ketosteroid Isomerase. Journal of Physical Chemistry B, 2012, 116, 690-697.	1.2	13
185	Thermodynamic framework for identifying free energy inventories of enzyme catalytic cycles. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12271-12276.	3.3	13
186	Putative Hydrogen Bond to Tyrosine M208 in Photosynthetic Reaction Centers from Rhodobacter capsulatus Significantly Slows Primary Charge Separation. Journal of Physical Chemistry B, 2014, 118, 6721-6732.	1.2	13
187	Chlorophyllâ€Amino Acid Interactions in Synthetic Models. Israel Journal of Chemistry, 1981, 21, 259-264.	1.0	12
188	Title is missing!. Photosynthesis Research, 1998, 55, 173-180.	1.6	12
189	Perturbation of Short Hydrogen Bonds in Photoactive Yellow Protein via Noncanonical Amino Acid Incorporation. Journal of Physical Chemistry B, 2019, 123, 4844-4849.	1.2	12
190	Probing Excited-State Electron Transfer by Resonance Stark Spectroscopy:Â 3. Theoretical Foundations and Practical Applications. Journal of Physical Chemistry B, 2004, 108, 13513-13522.	1.2	11
191	Unusual Spectroscopic and Electric Field Sensitivity of Chromophores with Short Hydrogen Bonds: GFP and PYP as Model Systems. Journal of Physical Chemistry B, 2020, 124, 9513-9525.	1.2	11
192	Analysis of Noise for Rapid-Scan and Step-Scan Methods of FT-IR Difference Spectroscopy. Applied Spectroscopy, 2001, 55, 1161-1165.	1.2	10
193	Response to Comments on â€œExtreme electric fields power catalysis in the active site of ketosteroid isomeraseâ€. Science, 2015, 349, 936-936.	6.0	10
194	Excited-state energy transfer pathways in photosynthetic reaction centers: 5. Oxidized and triplet excited special pairs as energy acceptors. Chemical Physics, 2003, 294, 359-369.	0.9	9
195	Energetic Basis and Design of Enzyme Function Demonstrated Using GFP, an Excited-State Enzyme. Journal of the American Chemical Society, 2022, 144, 3968-3978.	6.6	9
196	Testing the Limitations of MD-Based Local Electric Fields Using the Vibrational Stark Effect in Solution: Penicillin G as a Test Case. Journal of Physical Chemistry B, 2021, 125, 4415-4427.	1.2	8
197	Another green revolution. Nature, 1996, 383, 484-485.	13.7	7
198	Genetic Code Expansion in Rhodobacter sphaeroides to Incorporate Noncanonical Amino Acids into Photosynthetic Reaction Centers. ACS Synthetic Biology, 2018, 7, 1618-1628.	1.9	7

#	Article	IF	Citations
199	Biosynthetic Incorporation of Site-Specific Isotopes in Î²-Lactam Antibiotics Enables Biophysical Studies. ACS Chemical Biology, 2020, 15, 1148-1153.	1.6	7
200	Manipulation of Electron-Transfer Reaction Rates with Applied Electric Fields. Advances in Chemistry Series, 1991, , 149-162.	0.6	6
201	Enantioselective Total Synthesis of the Archaeal Lipid Parallel GDGTâ€0 (Isocaldarchaeol)**. Angewandte Chemie - International Edition, 2021, 60, 17491-17496.	7.2	6
202	Photosynthetic reaction center variants made via genetic code expansion show Tyr at M210 tunes the initial electron transfer mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	6
203	Casting a cold eye over myoglobin. Nature Structural Biology, 1994, 1, 749-751.	9.7	4
204	Modulating the Influenza A Virusâ€“Target Membrane Fusion Interface With Synthetic DNAâ€“Lipid Receptors. Langmuir, 2022, , .	1.6	4
205	Halogenation-Dependent Effects of the Chlorosulfolipids of Ochromonas danica on Lipid Bilayers. ACS Chemical Biology, 2020, 15, 2986-2995.	1.6	3
206	Recombination between ¹³C and ²H to Form Acetylide (¹³C₂²H^{â€“}) Probes Nanoscale Interactions in Lipid Bilayers via Dynamic Secondary Ion Mass Spectrometry: Cholesterol and GM₁ Clustering. Analytical Chemistry, 2022, 94, 9750-9757.	3.2	3
207	Micropatterning fluid membranes. Advanced Materials, 1997, 9, 1121-1123.	11.1	2
208	Structural and spectroscopic characterization of photoactive yellow protein and photoswitchable fluorescent protein constructs containing heavy atoms. Journal of Photochemistry and Photobiology A: Chemistry, 2020, 401, 112738.	2.0	2
209	Enantioselective Total Synthesis of the Archaeal Lipid Parallel GDGTâ€0 (Isocaldarchaeol)**. Angewandte Chemie, 2021, 133, 17632-17637.	1.6	2
210	Direct Measurements of Electric Fields in Weak Hydrogen Bonds. Biophysical Journal, 2012, 102, 269a.	0.2	1
211	A Conserved Water-Mediated Hydrogen Bond Network Underlies Selectivity of the Kinase Inhibitor Bosutinib. Biophysical Journal, 2014, 106, 647a.	0.2	1
212	Dissecting Proton Delocalization and the Electrostatic Contribution to Catalysis in an Enzyme's Hydrogen Bond Network with Unnatural Amino Acids. Biophysical Journal, 2016, 110, 546a-547a.	0.2	1
213	Comment on â€œTransient Conformational Changes of Sensory Rhodopsin II Investigated by Vibrational Stark Effect Probesâ€• Journal of Physical Chemistry B, 2017, 121, 7395-7396.	1.2	1
214	Covalent Tethering of Lipid Vesicles to a Supported Lipid Bilayer by a DNA-Templated Click Reaction. Biophysical Journal, 2010, 98, 673a-674a.	0.2	0
215	Membrane Interactions Mediated by DNA Hybridization. Biophysical Journal, 2010, 98, 618a.	0.2	0
216	DNA-Mediated Fusion between Individual Tethered Vesicles. Biophysical Journal, 2010, 98, 673a.	0.2	0

#	Article	IF	Citations
217	Fabrication of a Membrane Interferometer Containing Electrodes. Biophysical Journal, 2010, 98, 271a.	0.2	0
218	The Phosphorus-Oxygen Bond As An Intrinsic Vibrational Probe of Electric Field in Biological Systems. Biophysical Journal, 2010, 98, 45a.	0.2	0
219	The Phase Behavior of Supported Lipid Bilayer Mixtures and Cell Membranes Imaged By Secondary Ion Mass Spectrometry. Biophysical Journal, 2010, 98, 75a.	0.2	0
220	Novel Photosynthetic Reaction Center Chromophore Configuration. Biophysical Journal, 2010, 98, 173a.	0.2	0
221	Application of Split-GFP System in Biophysical Research and in Cell Biology. Biophysical Journal, 2012, 102, 257a.	0.2	0
222	Kinome-Wide Spectroscopic Study of Drug Binding Site Electrostatics. Biophysical Journal, 2012, 102, 410a-411a.	0.2	0
223	Incorporation of a Potassium Channel into a Suspended Lipid Bilayer Platform. Biophysical Journal, 2012, 102, 95a-96a.	0.2	0
224	Ground-State Proton Transfer in Green Fluorescent Protein Measured by NMR. Biophysical Journal, 2012, 102, 576a.	0.2	0
225	DNA-Based Patterning of Tethered Membrane Patches. Biophysical Journal, 2013, 104, 33a.	0.2	0
226	Protein-Chromophore Interactions in Green Fluorescent Protein (GFP) Studied by Split Protein Reconstitution. Biophysical Journal, 2014, 106, 654a.	0.2	0
227	Electric Field Induced Co-Localization of Membrane Components in Supported Lipid Bilayers Detected by Secondary Ion Mass Spectrometry. Biophysical Journal, 2014, 106, 40a-41a.	0.2	0
228	Electric Field Asymmetry in the Photosynthetic Reaction Center?. Biophysical Journal, 2014, 106, 588a.	0.2	0
229	Be Careful When Choosing Your Dye Label: Commercial, Water-Soluble Fluorophores Often Interact with Lipid Bilayers. Biophysical Journal, 2014, 106, 702a.	0.2	0
230	GFP Variants with Alternative Strands: Protease Sensor Design and their Thermodynamic Analysis. Biophysical Journal, 2014, 106, 674a.	0.2	0
231	Calculations of the Electric Field in Solutions and Proteins with Polarizable Force Fields. Biophysical Journal, 2014, 106, 403a.	0.2	0
232	Quantum Delocalization of Protons in the Ketosteroid Isomerase Active Site. Biophysical Journal, 2014, 106, 589a.	0.2	0
233	Correlated Motion and Complex Formation of Lipid-Raft Components Analyzed by High-Resolution Secondary Ion Mass Spectrometry. Biophysical Journal, 2015, 108, 404a.	0.2	0
234	Atomic Recombination in Nanosims as a Method to Measure Nanometer-Scale Intermolecular Distances in Lipid Bilayers. Biophysical Journal, 2016, 110, 17a.	0.2	0

#	Article	IF	Citations
235	Disentangling Viral Membrane Fusion from Receptor Binding by using Synthetic DNA-Lipid Conjugates to Tether Influenza Virus to Model Lipid Membranes. Biophysical Journal, 2016, 110, 251a.	0.2	0
236	A Split GFP Barrel with an Internal Cavity that Binds the Chromophore. Biophysical Journal, 2016, 110, 540a.	0.2	0
237	Vibrational Stark Effects for Diverse Carbonyl Probes Applied to the Re-Interpretation of IR and Raman Data in Terms of Electric Fields at Enzyme Active Sites. Biophysical Journal, 2016, 110, 547a.	0.2	0
238	Structural Insight into Split Green Fluorescent Protein. Biophysical Journal, 2016, 110, 380a.	0.2	0
239	Control of Influenza Virus Binding by Target Membrane Composition. Biophysical Journal, 2016, 110, 248a-249a.	0.2	0
240	A Reversibly Photodissociable Split GFP. Biophysical Journal, 2016, 110, 540a.	0.2	0
241	Combining Fluorescence Microscopy on Freestanding Lipid Bilayers with Electrical Measurements. Biophysical Journal, 2016, 110, 370a-371a.	0.2	0
242	Influenza Binding Avidity Governed by Sterol-Dependent Ganglioside Dynamics. Biophysical Journal, 2017, 112, 75a.	0.2	0
243	Single-Virus Observation of pH-Triggered Zika Fusion in the Absence of a Cellular Receptor. Biophysical Journal, 2017, 112, 80a.	0.2	0
244	Nanometer-Scale Lipid Clusters in Model Membranes Revealed by Atomic Recombination in Nanosims. Biophysical Journal, 2017, 112, 175a.	0.2	0
245	Detecting and Controlling Dye and Illumination Effects in Single-Virus Fusion Experiments. Biophysical Journal, 2019, 116, 181a.	0.2	0
246	Thiolate Adducts of the Myoglobin Cavity Mutant H93G as Models for Cytochrome P-450. , 1998, , 172-180.		0
247	ELECTRIC FIELDS AND ENZYME CATALYSIS. , 2018, , .		0