Yuji Furutani

List of Publications by Year
in descending order

121 papers	2,887 citations	136950 32 h-index	214800 47 g-index
126 all docs	126 docs citations	126 times ranked	1926 citing authors

#	Article	IF	Citations
1	Rhodopsin-bestrophin fusion proteins from unicellular algae form gigantic pentameric ion channels. Nature Structural and Molecular Biology, 2022, 29, 592-603.	8.2	23
2	Optogenetic Modulation of Ion Channels by Photoreceptive Proteins. Advances in Experimental Medicine and Biology, 2021, 1293, 73-88.	1.6	6
3	Inverse Hydrogen-Bonding Change Between the Protonated Retinal Schiff Base and Water Molecules upon Photoisomerization in Heliorhodopsin 48C12. Journal of Physical Chemistry B, 2021, 125, 8331-8341.	2.6	9
4	Zinc Binding to Heliorhodopsin. Journal of Physical Chemistry Letters, 2020, 11, 8604-8609.	4.6	17
5	Infrared spectroscopic analysis on structural changes around the protonated Schiff base upon retinal isomerization in light-driven sodium pump KR2. Biochimica Et Biophysica Acta - Bioenergetics, 2020, 1861, 148190.	1.0	15
6	Regulation of Photocycle Kinetics of Photoactive Yellow Protein by Modulating Flexibility of the Î2-Turn. Journal of Physical Chemistry B, 2020, 124, 1452-1459.	2.6	0
7	Mechanism of Inward Proton Transport in an Antarctic Microbial Rhodopsin. Journal of Physical Chemistry B, 2020, 124, 4851-4872.	2.6	29
8	Crystal structure of heliorhodopsin. Nature, 2019, 574, 132-136.	27.8	71
9	PDMS-Based Microfluidic Device for Infrared-Transmission Spectro-Electrochemistry. Bulletin of the Chemical Society of Japan, 2018, 91, 728-734.	3.2	3
10	â€œ<i>In situ</i>â€•observation of the role of chloride ion binding to monkey green sensitive visual pigment by ATR-FTIR spectroscopy. Physical Chemistry Chemical Physics, 2018, 20, 3381-3387.	2.8	14
11	Structural properties determining low K+ affinity of the selectivity filter in the TWIK1 K+ channel. Journal of Biological Chemistry, 2018, 293, 6969-6984.	3.4	11
12	Ionâ€"protein interactions of a potassium ion channel studied by attenuated total reflection Fourier transform infrared spectroscopy. Biophysical Reviews, 2018, 10, 235-239.	3.2	8
13	Vibrational and Molecular Properties of Mg²⁺ Binding and Ion Selectivity in the Magnesium Channel MgtE. Journal of Physical Chemistry B, 2018, 122, 9681-9696.	2.6	5
14	Structural insights into the nucleotide base specificity of P2X receptors. Scientific Reports, 2017, 7, 45208.	3.3	41
15	The Impact of the Polymer Chain Length on the Catalytic Activity of Poly(N-vinyl-2-pyrrolidone)-supported Gold Nanoclusters. Scientific Reports, 2017, 7, 9579.	3.3	37
16	A ciliary opsin in the brain of a marine annelid zooplankton is ultraviolet-sensitive, and the sensitivity is tuned by a single amino acid residue. Journal of Biological Chemistry, 2017, 292, 12971-12980.	3.4	27
17	Simple and Rapid Fabrication of PDMS Microfluidic Devices Compatible with FTIR Microspectroscopy. Bulletin of the Chemical Society of Japan, 2016, 89, 195-202.	3.2	12
18	The Molecular Mechanisms of Ion Transportation in Microbial Rhodopsins Studied using Light-Induced Infrared Difference Spectroscopy. Nippon Laser Igakkaishi, 2016, 36, 460-465.	0.0	0

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19	Live-cell single-molecule imaging of the cytokine receptor MPL for analysis of dynamic dimerization. Journal of Molecular Cell Biology, 2016, 8, 553-555.	3.3	10
20	Ion-Protein Interactions between a Potassium Channel and Alkali Metal Cations Studied by ATR-FTIR Spectroscopy. Biophysical Journal, 2016, 110, 373a-374a.	0.5	0
21	Molecular Mechanisms for Ion Transportation of Microbial Rhodopsins Studied by Light-Induced Difference FTIR Spectroscopy. , 2015, , 63-76.		0
22	Chimeras of Channelrhodopsin-1 and -2 from Chlamydomonas reinhardtii Exhibit Distinctive Light-induced Structural Changes from Channelrhodopsin-2. Journal of Biological Chemistry, 2015, 290, 11623-11634.	3.4	31
23	Retinal Attachment Instability Is Diversified among Mammalian Melanopsins. Journal of Biological Chemistry, 2015, 290, 27176-27187.	3.4	21
24	New insights into metal ionâ€“crown ether complexes revealed by SEIRA spectroscopy. New Journal of Chemistry, 2015, 39, 8673-8680.	2.8	25
25	Infrared spectroscopic studies on the V-ATPase. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 134-141.	1.0	8
26	Specific interactions between alkali metal cations and the KcsA channel studied using ATR-FTIR spectroscopy. Biophysics and Physicobiology, 2015, 12, 37-45.	1.0	11
27	Attenuated total reflectance infrared spectroscopy with chirped-pulse upconversion. , 2015, , .		0
28	Attenuated total reflectance spectroscopy with chirped-pulse upconversion. Optics Express, 2014, 22, 29611.	3.4	8
29	Hydrogen-bonding changes of internal water molecules upon the actions of microbial rhodopsins studied by FTIR spectroscopy. Biochimica Et Biophysica Acta - Bioenergetics, 2014, 1837, 598-605.	1.0	29
30	Formation of hostâ€“guest complexes on gold surface investigated by surface-enhanced IR absorption spectroscopy. Chemical Physics Letters, 2014, 592, 90-95.	2.6	6
31	His166 Is the Schiff Base Proton Acceptor in Attractant Phototaxis Receptor Sensory Rhodopsin I. Biochemistry, 2014, 53, 5923-5929.	2.5	8
32	Ion-Protein Interaction in Channel and Pump Proteins Studied by FTIR Spectroscopy. Biophysical Journal, 2014, 106, 612a.	0.5	0
33	Self-assembly of the chaperonin GroEL nanocage induced at submicellar detergent. Scientific Reports, 2014, 4, 5614.	3.3	6
34	Distribution of Mammalian-Like Melanopsin in Cyclostome Retinas Exhibiting a Different Extent of Visual Functions. PLoS ONE, 2014, 9, e108209.	2.5	19
35	Molecular Mechanisms of Membrane Proteins Studied by Infrared Spectroscopy. Molecular Science, 2014, 8, A0067.	0.2	0
36	Development of Rapid-Buffer Exchange ATR-FTIR Spectroscopy for Membrane Proteins. Seibutsu Butsuri, 2014, 54, 272-275.	0.1	0

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37	Distortion of the amide-I and -II bands of an Î±-helical membrane protein, pharaonis halorhodopsin, depends on thickness of gold films utilized for surface-enhanced infrared absorption spectroscopy. Chemical Physics, 2013, 419, 8-16.	1.9	19
38	Large Spectral Change due to Amide Modes of a Î²-Sheet upon the Formation of an Early Photointermediate of Middle Rhodopsin. Journal of Physical Chemistry B, 2013, 117, 3449-3458.	2.6	7
39	Development of a rapid Buffer-exchange system for time-resolved ATR-FTIR spectroscopy with the step-scan mode. Biophysics (Nagoya-shi, Japan), 2013, 9, 123-129.	0.4	11
40	Dynamics of Dangling Bonds of Water Molecules in <i>pharaonis</i> Halorhodopsin during Chloride Ion Transportation. Journal of Physical Chemistry Letters, 2012, 3, 2964-2969.	4.6	26
41	Comparative FTIR Study of a New Fungal Rhodopsin. Journal of Physical Chemistry B, 2012, 116, 11881-11889.	2.6	10
42	ATR-FTIR Spectroscopy Revealing the Different Vibrational Modes of the Selectivity Filter Interacting with K⁺ and Na⁺ in the Open and Collapsed Conformations of the KcsA Potassium Channel. Journal of Physical Chemistry Letters, 2012, 3, 3806-3810.	4.6	32
43	Protein-Bound Water Molecules in Primate Red- and Green-Sensitive Visual Pigments. Biochemistry, 2012, 51, 1126-1133.	2.5	33
44	Sodium or Lithium Ion-Binding-Induced Structural Changes in the K-Ring of V-ATPase from Enterococcus hirae Revealed by ATR-FTIR Spectroscopy. Journal of the American Chemical Society, 2011, 133, 2860-2863.	13.7	32
45	Chimeric Microbial Rhodopsins Containing the Third Cytoplasmic Loop of Bovine Rhodopsin. Biophysical Journal, 2011, 100, 1874-1882.	0.5	15
46	Sensory Rhodopsin-I as a Bidirectional Switch: Opposite Conformational Changes from the Same Photoisomerization. Biophysical Journal, 2011, 100, 2178-2183.	0.5	8
47	An inward proton transport using anabaena sensory rhodopsin. Journal of Microbiology, 2011, 49, 1-6.	2.8	10
48	An FTIR Study of Monkey Greenâ€•and Redâ€Sensitive Visual Pigments. Angewandte Chemie - International Edition, 2010, 49, 891-894.	13.8	33
49	Protein-Protein Interaction Changes in an Archaeal Light-Signal Transduction. Journal of Biomedicine and Biotechnology, 2010, 2010, 1-14.	3.0	5
50	Molecular Insight into Intrinsic Heme Distortion in Ligand Binding in Hemoprotein. Biochemistry, 2010, 49, 5642-5650.	2.5	40
51	Protein Fluctuations as the Possible Origin of the Thermal Activation of Rod Photoreceptors in the Dark. Journal of the American Chemical Society, 2010, 132, 5693-5703.	13.7	37
52	Low-Temperature FTIR Study of Gloeobacter Rhodopsin: Presence of Strongly Hydrogen-Bonded Water and Long-Range Structural Protein Perturbation upon Retinal Photoisomerization. Biochemistry, 2010, 49, 3343-3350.	2.5	39
53	FTIR Study of the Photoreaction of Bovine Rhodopsin in the Presence of Hydroxylamine. Journal of Physical Chemistry B, 2010, 114, 9039-9046.	2.6	10
54	Manipulation of protein-complex function by using an engineered heterotrimeric coiled-coil switch. Organic and Biomolecular Chemistry, 2009, 7, 3102.	2.8	4

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55	Characterization of a Signaling Complex Composed of Sensory Rhodopsin I and Its Cognate Transducer Protein from the Eubacterium<i>Salinibacter ruber</i>. Biochemistry, 2009, 48, 10136-10145.	2.5	30
56	In Situ Spectroscopic, Electrochemical, and Theoretical Studies of the Photoinduced Hostâˆ’Guest Electron Transfer that Precedes Unusual Host-Mediated Alkane Photooxidation. Journal of the American Chemical Society, 2009, 131, 4764-4768.	13.7	108
57	Proton Release Group of <i>pharaonis</i> Phoborhodopsin Revealed by ATR-FTIR Spectroscopy. Biochemistry, 2009, 48, 1595-1603.	2.5	28
58	Effects of Chloride Ion Binding on the Photochemical Properties of Salinibacter Sensory Rhodopsin I. Journal of Molecular Biology, 2009, 392, 48-62.	4.2	37
59	Engineering an Inward Proton Transport from a Bacterial Sensor Rhodopsin. Journal of the American Chemical Society, 2009, 131, 16439-16444.	13.7	60
60	Interaction between Na⁺ Ion and Carboxylates of the PomAâˆ’PomB Stator Unit Studied by ATR-FTIR Spectroscopy. Biochemistry, 2009, 48, 11699-11705.	2.5	55
61	Color Change of Proteorhodopsin by a Single Amino Acid Replacement at a Distant Cytoplasmic Loop. Angewandte Chemie - International Edition, 2008, 47, 3923-3926.	13.8	35
62	Quantum yields for the light adaptations in Anabaena sensory rhodopsin and bacteriorhodopsin. Chemical Physics Letters, 2008, 453, 105-108.	2.6	19
63	Proteinâ€"Protein Interaction of a <i>Pharaonis</i> Halorhodopsin Mutant Forming a Complex with <i>Pharaonis</i> Halobacterial Transducer Protein II Detected by Fourierâ€Transform Infrared Spectroscopy^{â€}. Photochemistry and Photobiology, 2008, 84, 874-879.	2.5	3
64	Steric Constraint in the Primary Photoproduct of Sensory Rhodopsin II Is a Prerequisite for Light-Signal Transfer to HtrII. Biochemistry, 2008, 47, 6208-6215.	2.5	30
65	Active Internal Waters in the Bacteriorhodopsin Photocycle. A Comparative Study of the L and M Intermediates at Room and Cryogenic Temperatures by Infrared Spectroscopy. Biochemistry, 2008, 47, 4071-4081.	2.5	65
66	Structural Changes in the O-Decay Accelerated Mutants of <i>pharaonis</i> Phoborhodopsin. Biochemistry, 2008, 47, 2866-2874.	2.5	5
67	Structural Changes of Salinibacter Sensory Rhodopsin I upon Formation of the K and M Photointermediates. Biochemistry, 2008, 47, 12750-12759.	2.5	27
68	Structural Changes of Sensory Rhodopsin I and Its Transducer Protein Are Dependent on the Protonated State of Asp76. Biochemistry, 2008, 47, 2875-2883.	2.5	14
69	FTIR Study of the L Intermediate of Anabaena Sensory Rhodopsin: Structural Changes in the Cytoplasmic Region. Biochemistry, 2008, 47, 10033-10040.	2.5	21
70	Functional Evaluation of Iron Oxypyriporphyrin in Protein Heme Pocket. Inorganic Chemistry, 2008, 47, 10771-10778.	4.0	19
71	A photochromic photoreceptor from a eubacterium. Communicative and Integrative Biology, 2008, 1, 150-152.	1.4	0
72	Salinibacter Sensory Rhodopsin. Journal of Biological Chemistry, 2008, 283, 23533-23541.	3.4	61

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73	Electronic Properties in a Five-Coordinate Azido Complex of Nonplanar Iron(III) Porphyrin: Revisiting to Quantum Mechanical Spin Admixing. Bulletin of the Chemical Society of Japan, 2008, 81, 136-141.	3.2	13
74	2P-254 Hydration dependent thermal equilibrium of retinal configuration between all-trans and 13-cis forms in Gloeobacter Rhodopsin(The 46th Annual Meeting of the Biophysical Society of Japan). Seibutsu Butsuri, 2008, 48, S114.	0.1	0
75	Creation of Rhodopsin-like Materials by Use of Clay. Seibutsu Butsuri, 2008, 48, 284-286.	0.1	0
76	Early Photocycle Structural Changes in a Bacteriorhodopsin Mutant Engineered to Transmit Photosensory Signals. Journal of Biological Chemistry, 2007, 282, 15550-15558.	3.4	35
77	2P336 Characteristics of the Rhodopsin Chromophore in Clay Interlayers(Photobiology-photosynthesis, and vision and photoreception,Oral Presentations). Seibutsu Butsuri, 2007, 47, S197.	0.1	0
78	3P229 Protein-protein interaction in the pharaonis phoborhodopsin-pHtrl1 complex under the aqueous environment studied by ATR-FTIR spectroscopy(Photobiology- vision and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 537 Td (photor	0.1	0
79	2P337 Structural fluctuations affecting the retinal-binding pocket in bovine rhodopsin studied by hydrogen/deuterium exchange of Thr118(Photobiology-vision and photoreception,Poster) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50	0.1	0
80	3P234 Structural changes in the cytoplasmic region of the L photointermediate of Anabaena sensory rhodopsin(Photobiology- vision and photoreception. Actinobiology,Oral Presentations). Seibutsu Butsuri, 2007, 47, S261.	0.1	0
81	3P242 A Proteorhodopsin mutant engineered like a "dry-battery"(Photobiology- vision and) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5	0.1	0
82	S05I1 FT-IR Study of Protein-Protein Interaction : Rhodopsin as a Model System(Vibrational) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 382 Td	0.1	0
83	3P235 Structural and Interaction Changes of Sensory Rhodopsin I with its Transducer Protein studied by FTIR Spectroscopy.(Photobiology- vision and photoreception,Poster Presentations). Seibutsu Butsuri, 2007, 47, S261.	0.1	0
84	3P236 Specific Protein-Chromophore Interaction Initiates Light Signal Transduction of pharaonis Sensory Rhodopsin II(Photobiology- vision and photoreception. Actinobiology,Oral Presentations). Seibutsu Butsuri, 2007, 47, S262.	0.1	0
85	3P240 The Proton Donor for the Schiff base is perturbed upon retinal photoisomerization in Gloeobacter rhodopsin(Photobiology- vision and photoreception. Actinobiology,Oral Presentations). Seibutsu Butsuri, 2007, 47, S263.	0.1	0
86	FTIR Study of the Retinal Schiff Base and Internal Water Molecules of Proteorhodopsin. Biochemistry, 2007, 46, 5365-5373.	2.5	73
87	Photochromism ofAnabaenaSensory Rhodopsin. Journal of the American Chemical Society, 2007, 129, 8644-8649.	13.7	71
88	Clay Mimics Color Tuning in Visual Pigments. Angewandte Chemie - International Edition, 2007, 46, 8010-8012.	13.8	21
89	Magnetic and Infrared Properties of the Azide Complex of (2,7,12,17-Tetrapropylporphycenato)iron(III): A Novel Admixing Mechanism of theS = 5/2 andS = 3/2 States. European Journal of Inorganic Chemistry, 2007, 2007, 3188-3194.	2.0	27
90	FTIR Study of the Photoisomerization Processes in the 13-cis and All-trans Forms of Anabaena Sensory Rhodopsin at 77 K. Biochemistry, 2006, 45, 4362-4370.	2.5	57

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91	Structural Changes in the Schiff Base Region of Squid Rhodopsin upon Photoisomerization Studied by Low-Temperature FTIR Spectroscopyâ€. Biochemistry, 2006, 45, 2845-2851.	2.5	38
92	Conformational Coupling between the Cytoplasmic Carboxylic Acid and the Retinal in a Fungal Light-Driven Proton Pumpâ€. Biochemistry, 2006, 45, 15349-15358.	2.5	19
93	Temperature-Dependent Interactions between Photoactivated Pharaonis Phoborhodopsin and Its Transducer. Biochemistry, 2006, 45, 4859-4866.	2.5	20
94	Assignment of the Hydrogen-Out-Of-Plane and -in-Plane Vibrations of the Retinal Chromophore in the K Intermediate ofpharaonisPhoborhodopsinâ€. Biochemistry, 2006, 45, 11836-11843.	2.5	26
95	1P418 FTIR study of Internal Water Molecules in the Schiff Base Region of Proteorhodopsin(17. Light) Tj ETQq1 1 0.784314 rgBT /Overl S251.	0.1	0
96	1P421 FTIR Study of the O Intermediate in the Complex between pharaonis Phoborhodopsin and Its Cognate Transducer(17. Light driven system,Poster Session,Abstract,Meeting Program of EABS &BSJ) Tj ETQq0 0 0 rgBT /Overlock 1	0.1	0
97	1P441 Color Tuning of the Rhodopsin Chromophore Using Clay(17. Light driven system,Poster) Tj ETQq1 1 0.784314 rgBT /Overlock 10	0.1	0
98	2P330 Photochromism of Anabaena sensory rhodopsin(42. Sensory signal transduction,Poster) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 46	0.1	0
99	Strongly hydrogen-bonded water molecule is observed only in the alkaline form of proteorhodopsin. Chemical Physics, 2006, 324, 705-708.	1.9	35
100	Functional Importance of the Interhelical Hydrogen Bond between Thr204 and Tyr174 of Sensory Rhodopsin II and Its Alteration during the Signaling Process. Journal of Biological Chemistry, 2006, 281, 34239-34245.	3.4	54
101	Strongly hydrogen-bonded water molecules in the Schiff base region of rhodopsins. Photochemical and Photobiological Sciences, 2005, 4, 661.	2.9	51
102	Steric Constraint in the Primary Photoproduct of an Archaeal Rhodopsin from Regiospecific Perturbation of Câ^'D Stretching Vibration of the Retinyl Chromophore. Journal of the American Chemical Society, 2005, 127, 16036-16037.	13.7	42
103	Strongly Hydrogen-Bonded Water Molecule Present near the Retinal Chromophore ofLeptosphaeriaRhodopsin, the Bacteriorhodopsin-like Proton Pump from a Eukaryoteâ€. Biochemistry, 2005, 44, 15159-15166.	2.5	41
104	FTIR Spectroscopy of the All-Trans Form ofAnabaenaSensory Rhodopsin at 77 K:Â Hydrogen Bond of a Water between the Schiff Base and Asp75â€. Biochemistry, 2005, 44, 12287-12296.	2.5	57
105	FTIR Studies of the Photoactivation Processes in Squid Retinochrome. Biochemistry, 2005, 44, 7988-7997.	2.5	18
106	Structural Changes of the Complex betweenpharaonisPhoborhodopsin and Its Cognate Transducer upon Formation of the M Photointermediateâ€. Biochemistry, 2005, 44, 2909-2915.	2.5	52
107	FTIR Spectroscopy of the O Photointermediate inpharaonisPhoborhodopsinâ€. Biochemistry, 2004, 43, 5204-5212.	2.5	27
108	FTIR Spectroscopy of the K Photointermediate ofNeurosporaRhodopsin:Â Structural Changes of the Retinal, Protein, and Water Molecules after Photoisomerizationâ€. Biochemistry, 2004, 43, 9636-9646.	2.5	61

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109	Structural Changes of Water in the Schiff Base Region of Bacteriorhodopsin:â€‰ Proposal of a Hydration Switch Model. Biochemistry, 2003, 42, 2300-2306.	2.5	84
110	Structural Changes of Water Molecules during the Photoactivation Processes in Bovine Rhodopsinâ€. Biochemistry, 2003, 42, 9619-9625.	2.5	72
111	Hydrogen Bonding Alteration of Thr-204 in the Complex betweenpharaonisPhoborhodopsin and Its Transducer Proteinâ€. Biochemistry, 2003, 42, 14166-14172.	2.5	56
112	Vibrational Modes of the Protonated Schiff Base inpharaonisPhoborhodopsinâ€. Biochemistry, 2003, 42, 7801-7806.	2.5	26
113	Proton Transfer Reactions in the F86D and F86E Mutants ofpharaonisPhoborhodopsin (Sensory) Tj ETQq1 1 0.784314 rgBT /Overlock 1(	2.5	14
114	Structural Changes in Lumirhodopsin and Metarhodopsin I Studied by Their Photoreactions at 77 Kâ€. Biochemistry, 2003, 42, 8494-8500.	2.5	18
115	FTIR Spectroscopy of the Complex betweenpharaonisPhoborhodopsin and Its Transducer Proteinâ€. Biochemistry, 2003, 42, 4837-4842.	2.5	30
116	ApharaonisPhoborhodopsin Mutant with the Same Retinal Binding Site Residues As in Bacteriorhodopsinâ€. Biochemistry, 2002, 41, 6504-6509.	2.5	18
117	Internal water molecules of archaeal rhodopsins (Review). Molecular Membrane Biology, 2002, 19, 257-265.	2.0	12
118	Role of Asp193 in Chromophore-Protein Interaction of pharaonis Phoborhodopsin (Sensory Rhodopsin) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.5	16
119	FTIR Spectroscopy of the M Photointermediate in pharaonis Phoborhodopsin. Biophysical Journal, 2002, 83, 3482-3489.	0.5	43
120	Internal Water Molecules of pharaonis Phoborhodopsin Studied by Low-Temperature Infrared Spectroscopy. Biochemistry, 2001, 40, 15693-15698.	2.5	64
121	Excited-state dynamics of rhodopsin probed by femtosecond fluorescence spectroscopy. Chemical Physics Letters, 2001, 334, 271-276.	2.6	94