Yuji Furutani

List of Publications by Year
in descending order

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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	In Situ Spectroscopic, Electrochemical, and Theoretical Studies of the Photoinduced Hostâ^'Guest Electron Transfer that Precedes Unusual Host-Mediated Alkane Photooxidation. Journal of the American Chemical Society, 2009, 131, 4764-4768.	13.7	108
2	Excited-state dynamics of rhodopsin probed by femtosecond fluorescence spectroscopy. Chemical Physics Letters, 2001, 334, 271-276.	2.6	94
3	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
4	FTIR Study of the Retinal Schiff Base and Internal Water Molecules of Proteorhodopsin. Biochemistry, 2007, 46, 5365-5373.	2.5	73
5	Structural Changes of Water Molecules during the Photoactivation Processes in Bovine Rhodopsinâ€. Biochemistry, 2003, 42, 9619-9625.	2.5	72
6	Photochromism ofAnabaenaSensory Rhodopsin. Journal of the American Chemical Society, 2007, 129, 8644-8649.	13.7	71
7	Crystal structure of heliorhodopsin. Nature, 2019, 574, 132-136.	27.8	71
8	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
9	Internal Water Molecules of pharaonis Phoborhodopsin Studied by Low-Temperature Infrared Spectroscopy. Biochemistry, 2001, 40, 15693-15698.	2.5	64
10	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
11	Salinibacter Sensory Rhodopsin. Journal of Biological Chemistry, 2008, 283, 23533-23541.	3.4	61
12	Engineering an Inward Proton Transport from a Bacterial Sensor Rhodopsin. Journal of the American Chemical Society, 2009, 131, 16439-16444.	13.7	60
13	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
14	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
15	Hydrogen Bonding Alteration of Thr-204 in the Complex betweenpharaonisPhoborhodopsin and Its Transducer Proteinâ€. Biochemistry, 2003, 42, 14166-14172.	2.5	56
16	Interaction between Na⁺ Ion and Carboxylates of the PomAâ^'PomB Stator Unit Studied by ATR-FTIR Spectroscopy. Biochemistry, 2009, 48, 11699-11705.	2.5	55
17	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
18	Structural Changes of the Complex betweenpharaonisPhoborhodopsin and Its Cognate Transducer upon Formation of the M Photointermediateâ€. Biochemistry, 2005, 44, 2909-2915.	2.5	52

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19	Strongly hydrogen-bonded water molecules in the Schiff base region of rhodopsins. Photochemical and Photobiological Sciences, 2005, 4, 661.	2.9	51
20	FTIR Spectroscopy of the M Photointermediate in pharaonis Phoborhodopsin. Biophysical Journal, 2002, 83, 3482-3489.	0.5	43
21	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
22	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
23	Structural insights into the nucleotide base specificity of P2X receptors. Scientific Reports, 2017, 7, 45208.	3.3	41
24	Molecular Insight into Intrinsic Heme Distortion in Ligand Binding in Hemoprotein. Biochemistry, 2010, 49, 5642-5650.	2.5	40
25	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
26	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
27	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
28	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
29	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
30	Strongly hydrogen-bonded water molecule is observed only in the alkaline form of proteorhodopsin. Chemical Physics, 2006, 324, 705-708.	1.9	35
31	Early Photocycle Structural Changes in a Bacteriorhodopsin Mutant Engineered to Transmit Photosensory Signals. Journal of Biological Chemistry, 2007, 282, 15550-15558.	3.4	35
32	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
33	An FTIR Study of Monkey Greenâ€•and Redâ€Sensitive Visual Pigments. Angewandte Chemie - International Edition, 2010, 49, 891-894.	13.8	33
34	Protein-Bound Water Molecules in Primate Red- and Green-Sensitive Visual Pigments. Biochemistry, 2012, 51, 1126-1133.	2.5	33
35	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
36	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

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37	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
38	FTIR Spectroscopy of the Complex betweenpharaonisPhoborhodopsin and Its Transducer Proteinâ€. Biochemistry, 2003, 42, 4837-4842.	2.5	30
39	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
40	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
41	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
42	Mechanism of Inward Proton Transport in an Antarctic Microbial Rhodopsin. Journal of Physical Chemistry B, 2020, 124, 4851-4872.	2.6	29
43	Proton Release Group of <i>pharaonis</i> Phoborhodopsin Revealed by ATR-FTIR Spectroscopy. Biochemistry, 2009, 48, 1595-1603.	2.5	28
44	FTIR Spectroscopy of the O Photointermediate inpharaonisPhoborhodopsinâ€. Biochemistry, 2004, 43, 5204-5212.	2.5	27
45	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
46	Structural Changes of Salinibacter Sensory Rhodopsin I upon Formation of the K and M Photointermediates. Biochemistry, 2008, 47, 12750-12759.	2.5	27
47	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
48	Vibrational Modes of the Protonated Schiff Base inpharaonisPhoborhodopsinâ€. Biochemistry, 2003, 42, 7801-7806.	2.5	26
49	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
50	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
51	New insights into metal ionâ€"crown ether complexes revealed by SEIRA spectroscopy. New Journal of Chemistry, 2015, 39, 8673-8680.	2.8	25
52	Rhodopsin-bestrophin fusion proteins from unicellular algae form gigantic pentameric ion channels. Nature Structural and Molecular Biology, 2022, 29, 592-603.	8.2	23
53	Clay Mimics Color Tuning in Visual Pigments. Angewandte Chemie - International Edition, 2007, 46, 8010-8012.	13.8	21
54	FTIR Study of the L Intermediate of Anabaena Sensory Rhodopsin: Structural Changes in the Cytoplasmic Region. Biochemistry, 2008, 47, 10033-10040.	2.5	21

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55	Retinal Attachment Instability Is Diversified among Mammalian Melanopsins. Journal of Biological Chemistry, 2015, 290, 27176-27187.	3.4	21
56	Temperature-Dependent Interactions between Photoactivated Pharaonis Phoborhodopsin and Its Transducer. Biochemistry, 2006, 45, 4859-4866.	2.5	20
57	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
58	Quantum yields for the light adaptations in Anabaena sensory rhodopsin and bacteriorhodopsin. Chemical Physics Letters, 2008, 453, 105-108.	2.6	19
59	Functional Evaluation of Iron Oxypyriporphyrin in Protein Heme Pocket. Inorganic Chemistry, 2008, 47, 10771-10778.	4.0	19
60	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
61	Distribution of Mammalian-Like Melanopsin in Cyclostome Retinas Exhibiting a Different Extent of Visual Functions. PLoS ONE, 2014, 9, e108209.	2.5	19
62	ApharaonisPhoborhodopsin Mutant with the Same Retinal Binding Site Residues As in Bacteriorhodopsinâ€. Biochemistry, 2002, 41, 6504-6509.	2.5	18
63	Structural Changes in Lumirhodopsin and Metarhodopsin I Studied by Their Photoreactions at 77 Kâ€. Biochemistry, 2003, 42, 8494-8500.	2.5	18
64	FTIR Studies of the Photoactivation Processes in Squid Retinochrome. Biochemistry, 2005, 44, 7988-7997.	2.5	18
65	Zinc Binding to Heliorhodopsin. Journal of Physical Chemistry Letters, 2020, 11, 8604-8609.	4.6	17
66	Role of Asp193 in Chromophore-Protein Interaction of pharaonis Phoborhodopsin (Sensory Rhodopsin) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.5	16
67	Chimeric Microbial Rhodopsins Containing the Third Cytoplasmic Loop of Bovine Rhodopsin. Biophysical Journal, 2011, 100, 1874-1882.	0.5	15
68	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
69	Proton Transfer Reactions in the F86D and F86E Mutants ofpharaonisPhoborhodopsin (Sensory) Tj ETQq1 1 0.784314 rgBT /Overlock	2.5	14
70	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
71	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
72	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

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73	Internal water molecules of archaeal rhodopsins (Review). Molecular Membrane Biology, 2002, 19, 257-265.	2.0	12
74	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
75	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
76	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
77	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
78	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
79	An inward proton transport using anabaena sensory rhodopsin. Journal of Microbiology, 2011, 49, 1-6.	2.8	10
80	Comparative FTIR Study of a New Fungal Rhodopsin. Journal of Physical Chemistry B, 2012, 116, 11881-11889.	2.6	10
81	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
82	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
83	Sensory Rhodopsin-I as a Bidirectional Switch: Opposite Conformational Changes from the Same Photoisomerization. Biophysical Journal, 2011, 100, 2178-2183.	0.5	8
84	Attenuated total reflectance spectroscopy with chirped-pulse upconversion. Optics Express, 2014, 22, 29611.	3.4	8
85	His166 Is the Schiff Base Proton Acceptor in Attractant Phototaxis Receptor Sensory Rhodopsin I. Biochemistry, 2014, 53, 5923-5929.	2.5	8
86	Infrared spectroscopic studies on the V-ATPase. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 134-141.	1.0	8
87	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
88	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
89	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
90	Self-assembly of the chaperonin GroEL nanocage induced at submicellar detergent. Scientific Reports, 2014, 4, 5614.	3.3	6

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91	Optogenetic Modulation of Ion Channels by Photoreceptive Proteins. Advances in Experimental Medicine and Biology, 2021, 1293, 73-88.	1.6	6
92	Structural Changes in the O-Decay Accelerated Mutants of <i>pharaonis</i> Phoborhodopsin. Biochemistry, 2008, 47, 2866-2874.	2.5	5
93	Protein-Protein Interaction Changes in an Archaeal Light-Signal Transduction. Journal of Biomedicine and Biotechnology, 2010, 2010, 1-14.	3.0	5
94	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
95	Manipulation of protein-complex function by using an engineered heterotrimeric coiled-coil switch. Organic and Biomolecular Chemistry, 2009, 7, 3102.	2.8	4
96	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
97	PDMS-Based Microfluidic Device for Infrared-Transmission Spectro-Electrochemistry. Bulletin of the Chemical Society of Japan, 2018, 91, 728-734.	3.2	3
98	1P418 FTIR study of Internal Water Molecules in the Schiff Base Region of Proteorhodopsin(17. Light) Tj ETQq0 0 0 rgBT /Overlock 10 Tf S251.	0.1	0
99	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 ETQq1 1 0.784314 rgBT	0.1	0
100	1P441 Color Tuning of the Rhodopsin Chromophore Using Clay(17. Light driven system,Poster) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 38	0.1	0
101	2P330 Photochromism of Anabaena sensory rhodopsin(42. Sensory signal transduction,Poster) Tj ETQq1 1 0.784314 rgBT /Overlock 10	0.1	0
102	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
103	3P229 Protein-protein interaction in the pharaonis phoborhodopsin-pHtrI1 complex under the aqueous environment studied by ATR-FTIR spectroscopy(Photobiology- vision and) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 257 Td	0.1	0
104	2P337 Structural fluctuations affecting the retinal-binding pocket in bovine rhodopsin studied by hydrogen/deuterium exchange of Thr118(Photobiology-vision and photoreception,Poster) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 217 Td	0.1	0
105	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
106	3P242 A Proteorhodopsin mutant engineered like a "dry-battery"(Photobiology- vision and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 142 Td	0.1	0
107	S05I1 FT-IR Study of Protein-Protein Interaction : Rhodopsin as a Model System(Vibrational) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf	0.1	0
108	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

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109	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
110	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
111	A photochromic photoreceptor from a eubacterium. Communicative and Integrative Biology, 2008, 1, 150-152.	1.4	0
112	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
113	Ion-Protein Interaction in Channel and Pump Proteins Studied by FTIR Spectroscopy. Biophysical Journal, 2014, 106, 612a.	0.5	0
114	Molecular Mechanisms for Ion Transportation of Microbial Rhodopsins Studied by Light-Induced Difference FTIR Spectroscopy. , 2015, , 63-76.		0
115	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
116	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
117	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
118	Creation of Rhodopsin-like Materials by Use of Clay. Seibutsu Butsuri, 2008, 48, 284-286.	0.1	0
119	Molecular Mechanisms of Membrane Proteins Studied by Infrared Spectroscopy. Molecular Science, 2014, 8, A0067.	0.2	0
120	Development of Rapid-Buffer Exchange ATR-FTIR Spectroscopy for Membrane Proteins. Seibutsu Butsuri, 2014, 54, 272-275.	0.1	0
121	Attenuated total reflectance infrared spectroscopy with chirped-pulse upconversion. , 2015, , .		0