

# Yasushi Imamoto

## List of Publications by Citations

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113  
papers

2,706  
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33  
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48  
g-index

116  
ext. papers

2,923  
ext. citations

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4.52  
L-index

#	Paper	IF	Citations
113	Novel Photochromic Molecules Based on 4,5-Dithienyl Thiazole with Fast Thermal Bleaching Rate. <i>Chemistry of Materials</i> , <b>2007</b> , 19, 3479-3483	9.6	135
112	Photoreaction cycle of photoactive yellow protein from <i>Ectothiorhodospira halophila</i> studied by low-temperature spectroscopy. <i>Biochemistry</i> , <b>1996</b> , 35, 14047-53	3.2	120
111	Reconstitution photoactive yellow protein from apoprotein and p-coumaric acid derivatives. <i>FEBS Letters</i> , <b>1995</b> , 374, 157-60	3.8	116
110	Femtosecond-picosecond fluorescence studies on excited state dynamics of photoactive yellow protein from <i>Ectothiorhodospira halophila</i> . <i>Chemical Physics Letters</i> , <b>1997</b> , 270, 267-272	2.5	99
109	Structure and photoreaction of photoactive yellow protein, a structural prototype of the PAS domain superfamily. <i>Photochemistry and Photobiology</i> , <b>2007</b> , 83, 40-9	3.6	85
108	Evidence for proton transfer from Glu-46 to the chromophore during the photocycle of photoactive yellow protein. <i>Journal of Biological Chemistry</i> , <b>1997</b> , 272, 12905-8	5.4	81
107	A single CH/π weak hydrogen bond governs stability and the photocycle of the photoactive yellow protein. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 10646-7	16.4	79
106	Primary photoreaction of photoactive yellow protein studied by subpicosecond-nanosecond spectroscopy. <i>Biochemistry</i> , <b>2001</b> , 40, 6047-52	3.2	77
105	Photochemical properties of mammalian melanopsin. <i>Biochemistry</i> , <b>2012</b> , 51, 5454-62	3.2	74
104	Low-temperature Fourier transform infrared spectroscopy of photoactive yellow protein. <i>Biochemistry</i> , <b>2001</b> , 40, 8997-9004	3.2	69
103	Light-induced global conformational change of photoactive yellow protein in solution. <i>Biochemistry</i> , <b>2002</b> , 41, 13595-601	3.2	64
102	Photochemical and biochemical properties of chicken blue-sensitive cone visual pigment. <i>Biochemistry</i> , <b>1997</b> , 36, 12773-9	3.2	61
101	Effects of Modification of Protein Nanospace Structure and Change of Temperature on the Femtosecond to Picosecond Fluorescence Dynamics of Photoactive Yellow Protein. <i>Journal of Physical Chemistry B</i> , <b>2000</b> , 104, 5191-5199	3.4	61
100	Environmental Effects on the Femtosecond-Picosecond Fluorescence Dynamics of Photoactive Yellow Protein: Chromophores in Aqueous Solutions and in Protein Nanospaces Modified by Site-Directed Mutagenesis. <i>Journal of Physical Chemistry B</i> , <b>1998</b> , 102, 7695-7698	3.4	59
99	The last phase of the reprotonation switch in bacteriorhodopsin: the transition between the M-type and the N-type protein conformation depends on hydration. <i>Biochemistry</i> , <b>1997</b> , 36, 12282-7	3.2	56
98	Structural change of site-directed mutants of PYP: new dynamics during pR state. <i>Biophysical Journal</i> , <b>2002</b> , 83, 1567-77	2.9	56
97	The primary structure of iodopsin, a chicken red-sensitive cone pigment. <i>FEBS Letters</i> , <b>1990</b> , 272, 128-32	3.8	55

96	Ultrafast photoreactions in protein nanospaces as revealed by fs fluorescence dynamics measurements on photoactive yellow protein and related systems. <i>Physical Chemistry Chemical Physics</i> , <b>2003</b> , 5, 2454-2460	3.6	52
95	Concentration-dependent tetramerization of bovine visual arrestin. <i>Biophysical Journal</i> , <b>2003</b> , 85, 1186-95	9.5	51
94	Roles of amino acid residues near the chromophore of photoactive yellow protein. <i>Biochemistry</i> , <b>2001</b> , 40, 4679-85	3.2	50
93	Cone visual pigments. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , <b>2014</b> , 1837, 664-73	4.6	49
92	Presence of two rhodopsin intermediates responsible for transducin activation. <i>Biochemistry</i> , <b>1997</b> , 36, 14173-80	3.2	49
91	Ultrafast photoinduced reaction dynamics of photoactive yellow protein (PYP): observation of coherent oscillations in the femtosecond fluorescence decay dynamics. <i>Chemical Physics Letters</i> , <b>2002</b> , 352, 220-225	2.5	45
90	Temperature-Dependent Volume Change of the Initial Step of the Photoreaction of Photoactive Yellow Protein (PYP) Studied by Transient Grating. <i>Journal of the American Chemical Society</i> , <b>2000</b> , 122, 8524-8528	16.4	43
89	NANOSECOND LASER PHOTOLYSIS OF PHOBORHODOPSIN: FROM <i>Natronobacterium pharaonis</i> APPEARANCE OF KL AND L INTERMEDIATES IN THE PHOTOCYCLE AT ROOM TEMPERATURE. <i>Photochemistry and Photobiology</i> , <b>1992</b> , 56, 1129-1134	3.6	42
88	Light-induced conformational changes of rhodopsin probed by fluorescent alexa594 immobilized on the cytoplasmic surface. <i>Biochemistry</i> , <b>2000</b> , 39, 15225-33	3.2	40
87	Evolution of mammalian Opn5 as a specialized UV-absorbing pigment by a single amino acid mutation. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 3991-4000	5.4	37
86	Conformational changes of PYP monitored by diffusion coefficient: effect of N-terminal alpha-helices. <i>Biophysical Journal</i> , <b>2006</b> , 90, 3686-93	2.9	36
85	Light induces destabilization of photoactive yellow protein. <i>Biochemistry</i> , <b>2001</b> , 40, 2854-9	3.2	36
84	Structural Effects on the Ultrafast Photoisomerization of Photoactive Yellow Protein. Transient Absorption Spectroscopy of Two Point Mutants. <i>Journal of Physical Chemistry C</i> , <b>2009</b> , 113, 11605-11613	3.8	35
83	Role of arginine 52 on the primary photoinduced events in the PYP photocycle. <i>Chemical Physics Letters</i> , <b>2007</b> , 434, 320-325	2.5	35
82	Direct observation of the thermal equilibria among lumirhodopsin, metarhodopsin I, and metarhodopsin II in chicken rhodopsin. <i>Biochemistry</i> , <b>1994</b> , 33, 14351-8	3.2	35
81	Origin of the low thermal isomerization rate of rhodopsin chromophore. <i>Scientific Reports</i> , <b>2015</b> , 5, 11081	4.9	33
80	Conformational changes in the N-terminal region of photoactive yellow protein: a time-resolved diffusion study. <i>Biophysical Journal</i> , <b>2008</b> , 94, 2187-93	2.9	29
79	Role of C-terminal region of Staphylococcal nuclease for foldability, stability, and activity. <i>Proteins: Structure, Function and Bioinformatics</i> , <b>2002</b> , 49, 255-65	4.2	29

78	pH-dependent equilibrium between long lived near-UV intermediates of photoactive yellow protein. <i>Journal of Biological Chemistry</i> , <b>2006</b> , 281, 4318-25	5.4	28
77	Photoisomerization by hula twist: 2,2'-dimethylstilbene and a ring-fused analogue. <i>Angewandte Chemie - International Edition</i> , <b>2003</b> , 42, 3630-3	16.4	27
76	Spectroscopic characterization of the photocycle intermediates of photoactive yellow protein. <i>Biochemistry</i> , <b>2001</b> , 40, 14336-43	3.2	26
75	Structure around C6-C7 bond of the chromophore in bathorhodopsin: low-temperature spectroscopy of 6s-cis-locked bicyclic rhodopsin analogs. <i>Biochemistry</i> , <b>1996</b> , 35, 6257-62	3.2	25
74	Time-resolved thermodynamics: heat capacity change of transient species during photoreaction of PYP. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 1002-8	16.4	24
73	Shape of the chromophore binding site in pharaonis phoborhodopsin from a study using retinal analogs. <i>Photochemistry and Photobiology</i> , <b>1994</b> , 60, 388-93	3.6	24
72	Stilbene analogs in Hula-twist photoisomerization. <i>Photochemical and Photobiological Sciences</i> , <b>2006</b> , 5, 874-82	4.2	23
71	Adaptation of cone pigments found in green rods for scotopic vision through a single amino acid mutation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, 5437-5442	11.5	21
70	Evolutionary steps involving counterion displacement in a tunicate opsin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, 6028-6033	11.5	20
69	Efficiencies of activation of transducin by cone and rod visual pigments. <i>Biochemistry</i> , <b>2013</b> , 52, 3010-8	3.2	20
68	Analysis of the Excited-State Dynamics of 13-trans-locked-Bacteriorhodopsin. <i>Journal of Physical Chemistry A</i> , <b>1997</b> , 101, 412-417	2.8	20
67	Rod visual pigment optimizes active state to achieve efficient G protein activation as compared with cone visual pigments. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 5061-73	5.4	19
66	Direct observation of the pH-dependent equilibrium between L-like and M intermediates of photoactive yellow protein. <i>FEBS Letters</i> , <b>2004</b> , 577, 75-80	3.8	19
65	Mechanistic pathways for the photoisomerization reaction of the anchored, tethered chromophore of the photoactive yellow protein and its mutants. <i>Photochemistry and Photobiology</i> , <b>2002</b> , 76, 584-9	3.6	19
64	Ultrafast carbonyl motion of the photoactive yellow protein chromophore probed by femtosecond circular dichroism. <i>Journal of the American Chemical Society</i> , <b>2013</b> , 135, 14637-43	16.4	18
63	CONFORMATIONAL ANALYSIS OF THE RHODOPSIN CHROMOPHORE USING BICYCLIC RETINAL ANALOGUES. <i>Photochemistry and Photobiology</i> , <b>1992</b> , 56, 915-919	3.6	18
62	Characterization of the solution structure of the M intermediate of photoactive yellow protein using high-angle solution x-ray scattering. <i>Biophysical Journal</i> , <b>2007</b> , 92, 3633-42	2.9	17
61	A biosensor in the time domain based on the diffusion coefficient measurement: intermolecular interaction of an intermediate of photoactive yellow protein. <i>Analytical Chemistry</i> , <b>2005</b> , 77, 6625-9	7.8	17

60	Photochemical nature of parietopsin. <i>Biochemistry</i> , <b>2012</b> , 51, 1933-41	3.2	16
59	Effect of organic anions on the photoreaction of photoactive yellow protein. <i>Journal of Biochemistry</i> , <b>2002</b> , 132, 257-63	3.1	14
58	Opn5L1 is a retinal receptor that behaves as a reverse and self-regenerating photoreceptor. <i>Nature Communications</i> , <b>2018</b> , 9, 1255	17.4	13
57	Diversity of Active States in TMT Opsins. <i>PLoS ONE</i> , <b>2015</b> , 10, e0141238	3.7	13
56	Low-temperature spectrophotometry of phoborhodopsin. <i>FEBS Letters</i> , <b>1988</b> , 236, 333-336	3.8	13
55	Comparative studies on the late bleaching processes of four kinds of cone visual pigments and rod visual pigment. <i>Biochemistry</i> , <b>2012</b> , 51, 4300-8	3.2	12
54	Array of aromatic amino acid side chains located near the chromophore of photoactive yellow protein. <i>Photochemistry and Photobiology</i> , <b>2007</b> , 83, 280-5	3.6	12
53	Single-molecule observation of the ligand-induced population shift of rhodopsin, a G-protein-coupled receptor. <i>Biophysical Journal</i> , <b>2014</b> , 106, 915-24	2.9	10
52	Thermal recovery of iodopsin from photobleaching intermediates. <i>Photochemistry and Photobiology</i> , <b>2008</b> , 84, 941-8	3.6	10
51	Thermal recovery of iodopsin from its meta I-intermediate. <i>FEBS Letters</i> , <b>1994</b> , 354, 165-8	3.8	10
50	EXCITED STATE DYNAMICS OF RETINAL PROTEINS AS STUDIED BY FOURIER TRANSFORM OF OPTICAL ABSORPTION SPECTRUM: DEVELOPMENT OF ANALYTICAL METHOD. <i>Photochemistry and Photobiology</i> , <b>1992</b> , 56, 977-987	3.6	10
49	Ultrafast time-resolved pump-probe spectroscopy of PYP by a sub-8 fs pulse laser at 400 nm. <i>Journal of Physical Chemistry B</i> , <b>2013</b> , 117, 4818-26	3.4	9
48	Functional analysis of the second extracellular loop of rhodopsin by characterizing split variants. <i>Photochemical and Photobiological Sciences</i> , <b>2010</b> , 9, 1490-7	4.2	9
47	Diverse roles of glycine residues conserved in photoactive yellow proteins. <i>Biophysical Journal</i> , <b>2008</b> , 94, 3620-8	2.9	9
46	Preparation of large crystals of photoactive yellow protein for neutron diffraction and high resolution crystal structure analysis. <i>Photochemistry and Photobiology</i> , <b>2007</b> , 83, 336-8	3.6	9
45	Helical rearrangement of photoactivated rhodopsin in monomeric and dimeric forms probed by high-angle X-ray scattering. <i>Photochemical and Photobiological Sciences</i> , <b>2015</b> , 14, 1965-73	4.2	8
44	Intramolecular interactions that induce helical rearrangement upon rhodopsin activation: light-induced structural changes in metarhodopsin IIa probed by cysteine S-H stretching vibrations. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 13792-800	5.4	8
43	Interaction between N-terminal loop and beta-scaffold of photoactive yellow protein. <i>Photochemistry and Photobiology</i> , <b>2008</b> , 84, 1031-7	3.6	8

42	Structure and photobleaching process of chicken iodopsin. <i>Biophysical Chemistry</i> , <b>1995</b> , 56, 57-62	3.5	8
41	Red-Tuning of the Channelrhodopsin Spectrum Using Long Conjugated Retinal Analogues. <i>Biochemistry</i> , <b>2018</b> , 57, 5544-5556	3.2	7
40	Attempt to simplify the amino-acid sequence of photoactive yellow protein with a set of simple rules. <i>Proteins: Structure, Function and Bioinformatics</i> , <b>2007</b> , 67, 821-33	4.2	6
39	Shift in Conformational Equilibrium Induces Constitutive Activity of G-Protein-Coupled Receptor, Rhodopsin. <i>Journal of Physical Chemistry B</i> , <b>2018</b> , 122, 4838-4843	3.4	5
38	Low-temperature spectroscopy of Met100Ala mutant of photoactive yellow protein. <i>Photochemistry and Photobiology</i> , <b>2008</b> , 84, 970-6	3.6	4
37	Photoisomerization by Hula Twist: 2,2'-Dimethylstilbene and a Ring-Fused Analogue. <i>Angewandte Chemie</i> , <b>2003</b> , 115, 3758-3761	3.6	4
36	Creation of photocyclic vertebrate rhodopsin by single amino acid substitution.. <i>ELife</i> , <b>2022</b> , 11,	8.9	4
35	Mapping of the local environmental changes in proteins by cysteine scanning. <i>Biophysics (Nagoya-shi, Japan)</i> , <b>2014</b> , 10, 1-7		3
34	Amino acid residue at position 188 determines the UV-sensitive bistable property of vertebrate non-visual opsin Opn5.. <i>Communications Biology</i> , <b>2022</b> , 5, 63	6.7	3
33	Synthesis of One Double Bond-Inserted Retinal Analogs and Their Binding Experiments with Opsins: Preparation of Novel Red-Shifted Channelrhodopsin Variants. <i>Chemical and Pharmaceutical Bulletin</i> , <b>2020</b> , 68, 265-272	1.9	2
32	Alternative Formation of Red-Shifted Channelrhodopsins: Noncovalent Incorporation with Retinal-Based Enamine-Type Schiff Bases and Mutated Channelopsin. <i>Chemical and Pharmaceutical Bulletin</i> , <b>2017</b> , 65, 356-358	1.9	2
31	Rapid Oxidation Following Photoreduction in the Avian Cryptochrome4 Photocycle. <i>Biochemistry</i> , <b>2020</b> , 59, 3615-3625	3.2	2
30	Evolutionary adaptation of visual pigments in geckos for their photic environment. <i>Science Advances</i> , <b>2021</b> , 7, eabj1316	14.3	2
29	Conformational Differences among Metarhodopsin I, Metarhodopsin II, and Opsin Probed by Wide-Angle X-ray Scattering. <i>Journal of Physical Chemistry B</i> , <b>2019</b> , 123, 9134-9142	3.4	1
28	The Progress and Problem of X-ray Crystallography of Photocycle Intermediate of Photoactive Yellow Protein.. <i>Seibutsu Butsuri</i> , <b>2002</b> , 42, 162-167	0	1
27	Regulation of Photocycle Kinetics of Photoactive Yellow Protein by Modulating Flexibility of the Turn. <i>Journal of Physical Chemistry B</i> , <b>2020</b> , 124, 1452-1459	3.4	
26	Foreword to a Special Issue of Light to Maintain Life and Light to Observe Life: Seven-colored Light Illuminating Biophysics. <i>Seibutsu Butsuri</i> , <b>2015</b> , 55, 289-290	0	
25	3P246 Single-molecule analyses of the activation mechanisms of G proteins in constitutively active mutant of G protein-coupled receptor(18A. Photobiology: Vision & Photoreception,Poster). <i>Seibutsu Butsuri</i> , <b>2013</b> , 53, S252	0	

24	1Q1448 P65 Analysis of photobleaching processes of rhodopsin and cone pigments in nanodiscs(Photobiology: Vision & Photoreception 1,The 49th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2011</b> , 51, S70	○
23	1Q1424 Single-molecule detection of conformational equilibria in rhodopsin(Photobiology: Vision & Photoreception 1,The 49th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2011</b> , 51, S70	○
22	1Q1436 Exploring the molecular function of Parietopsin(Photobiology: Vision & Photoreception 1,The 49th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2011</b> , 51, S70	○
21	2TA2-02 The role of C terminus of alpha subunit in the GDP-GTP exchange reaction on G protein.(The 47th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2009</b> , 49, S40	○
20	2TA2-01 Detection of the binding of activated rhodopsin and transducin by using fluorescence resonance energy transfer(FRET)(The 47th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2009</b> , 49, S40	○
19	1P-225 Exploring Molecular Functions of Parietopsin(Photobiology:Vision & Photoreception, The 47th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2009</b> , 49, S97	○
18	1TP2-06 Exploring Molecular Functions of Parietopsin(The 47th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2009</b> , 49, S33	○
17	2P275 1A1450 Single-molecule detection of rhodopsin activation(The 48th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2010</b> , 50, S131	○
16	3P280 Direct interlink between the C-terminus of alpha subunit and the nucleotide binding site in G protein activation by rhodopsin(Photobiology: Vision & Photoreception,The 48th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2010</b> , 50, S194-S195	○
15	1P-272 Photoreaction of parietopsin(The 46th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2008</b> , 48, S64	○
14	2S4-6 Protein structural changes : tertiary-structure-based model and real reaction(2S4 What protein tertiary structure tells us,The 46th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2008</b> , 48, S10	○
13	1P-271 Analysis of transducin activation efficiencies of cone visual pigments(The 46th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2008</b> , 48, S64	○
12	1P-273 Analysis of the regions in the C-terminus of G protein alpha subunit controlling the binding and activation efficiency by rhodopsin(The 46th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2008</b> , 48, S64	○
11	1P-276 Comparative studies of the photoreactions of all-trans-retinal-containing opsins, peropsin and retinochrome(The 46th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , <b>2008</b> , 48, S65	○
10	Mechanistic Pathways for the Photoisomerization Reaction of the Anchored, Tethered Chromophore of the Photoactive Yellow Protein and its Mutants. <i>Photochemistry and Photobiology</i> , <b>2007</b> , 76, 584-589	3.6
9	2P343 Construction and expression of rhodopsin mutants for analyzing the function of the second extracellular loop(Photobiology-vision and photoreception,Poster Presentations). <i>Seibutsu Butsuri</i> , <b>2007</b> , 47, S198	○
8	1P146 Attempt to understand the information encoded in the amino acid sequence of photoactive yellow protein by the simplification of sequence(4. Protein engineering,Poster Session,Abstract,Meeting Program of EABS & BSJ 2006). <i>Seibutsu Butsuri</i> , <b>2006</b> , 46, S183	○
7	1P110 Characterization of conformational rearrangement during the folding process of Staphylococcal nuclease(3. Protein folding and misfolding (I),Poster Session,Abstract,Meeting Program of EABS & BSJ 2006). <i>Seibutsu Butsuri</i> , <b>2006</b> , 46, S174	○

- 6 2P092 Elucidation of the unfolding-state and the folding process of the disulfide-bond introduced mutant of Staphylococcal nuclease(31. Protein folding and misfolding (II),Poster Session,Abstract,Meeting Program of EABS & BSJ 2006). *Seibutsu Butsuri*, **2006**, 46, S318 ○
- 5 2P342 The Photocycle of Met100Ala Mutant of Photoactive Yellow Protein Studied by Low-Temperature Spectroscopy(42. Sensory signal transduction,Poster Session,Abstract,Meeting Program of EABS & BSJ 2006). *Seibutsu Butsuri*, **2006**, 46, S381 ○
- 4 2P343 Isolation of Photoactive Yellow Protein associated protein from Rhodobacter capsulatus(42. Sensory signal transduction,Poster Session,Abstract,Meeting Program of EABS & BSJ 2006). *Seibutsu Butsuri*, **2006**, 46, S381 ○
- 3 2P339 Neutron diffraction and high resolution X-ray crystal structure analysis of photoactive yellow protein(42. Sensory signal transduction,Poster Session,Abstract,Meeting Program of EABS & BSJ 2006). *Seibutsu Butsuri*, **2006**, 46, S380 ○
- 2 Time and Frequency Domain Investigations on Ultrafast Photoreaction Dynamics of Photoactive Yellow Protein (PYP). *The Review of Laser Engineering*, **2004**, 32, 114-120 ○
- 1 3TA2-04 Functional analysis of all-trans-retinal-containing opsin peropsin(The 47th Annual Meeting of the Biophysical Society of Japan). *Seibutsu Butsuri*, **2009**, 49, S53 ○