Keith Moffat

List of Publications by Year
in descending order

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95 papers	10,262 citations	41344 49 h-index	42399 92 g-index
99 all docs	99 docs citations	99 times ranked	6199 citing authors

#	Article	IF	Citations
1	Structure and Signaling Mechanism of Per-ARNT-Sim Domains. Structure, 2009, 17, 1282-1294.	3.3	457
2	Structure of a Protein Photocycle Intermediate by Millisecond Time-Resolved Crystallography. Science, 1997, 275, 1471-1475.	12.6	445
3	Structure and Function of Plant Photoreceptors. Annual Review of Plant Biology, 2010, 61, 21-47.	18.7	436
4	Time-resolved serial crystallography captures high-resolution intermediates of photoactive yellow protein. Science, 2014, 346, 1242-1246.	12.6	418
5	The LOV Domain Family:â€‰ Photoresponsive Signaling Modules Coupled to Diverse Output Domains. Biochemistry, 2003, 42, 2-10.	2.5	387
6	Photoexcited Structure of a Plant Photoreceptor Domain Reveals a Light-Driven Molecular Switch. Plant Cell, 2002, 14, 1067-1075.	6.6	358
7	Femtosecond structural dynamics drives the trans/cis isomerization in photoactive yellow protein. Science, 2016, 352, 725-729.	12.6	348
8	Protein Conformational Relaxation and Ligand Migration in Myoglobin:â€‰ A Nanosecond to Millisecond Molecular Movie from Time-Resolved Laue X-ray Diffraction. Biochemistry, 2001, 40, 13802-13815.	2.5	329
9	Design and Signaling Mechanism of Light-Regulated Histidine Kinases. Journal of Molecular Biology, 2009, 385, 1433-1444.	4.2	316
10	Energy Transduction on the Nanosecond Time Scale: Early Structural Events in a Xanthopsin Photocycle. Science, 1998, 279, 1946-1950.	12.6	302
11	Crystal structure of Pseudomonas aeruginosa bacteriophytochrome: Photoconversion and signal transduction. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 14715-14720.	7.1	293
12	N- and C-Terminal Flanking Regions Modulate Light-Induced Signal Transduction in the LOV2 Domain of the Blue Light Sensor Phototropin 1 from Avena sativa[,]. Biochemistry, 2007, 46, 14001-14009.	2.5	283
13	Light-activated DNA binding in a designed allosteric protein. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 10709-10714.	7.1	273
14	From The Cover: Visualizing reaction pathways in photoactive yellow protein from nanoseconds to seconds. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 7145-7150.	7.1	256
15	Structure of a Novel Photoreceptor, the BLUF Domain of AppA from Rhodobacter sphaeroides,. Biochemistry, 2005, 44, 7998-8005.	2.5	217
16	Primary Reactions of the LOV2 Domain of Phototropin, a Plant Blue-Light Photoreceptor. Biochemistry, 2003, 42, 3385-3392.	2.5	214
17	Structural Basis for Light-dependent Signaling in the Dimeric LOV Domain of the Photosensor YtvA. Journal of Molecular Biology, 2007, 373, 112-126.	4.2	211
18	From Dusk till Dawn: One-Plasmid Systems for Light-Regulated Gene Expression. Journal of Molecular Biology, 2012, 416, 534-542.	4.2	207

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19	Engineered photoreceptors as novel optogenetic tools. Photochemical and Photobiological Sciences, 2010, 9, 1286-1300.	2.9	195
20	A Molecular Movie at 1.8 Ã... Resolution Displays the Photocycle of Photoactive Yellow Protein, a Eubacterial Blue-Light Receptor, from Nanoseconds to Seconds. Biochemistry, 2001, 40, 13788-13801.	2.5	190
21	Time-Resolved Biochemical Crystallography:â€‰ A Mechanistic Perspective. Chemical Reviews, 2001, 101, 1569-1582.	47.7	180
22	Volume-conserving transâ€“cis isomerization pathways in photoactive yellow protein visualized by picosecond X-ray crystallography. Nature Chemistry, 2013, 5, 212-220.	13.6	178
23	Crystal structure of the chromophore binding domain of an unusual bacteriophytochrome, RpBphP3, reveals residues that modulate photoconversion. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 12571-12576.	7.1	167
24	Temperature-scan cryocrystallography reveals reaction intermediates in bacteriophytochrome. Nature, 2011, 479, 428-432.	27.8	155
25	Application of Singular Value Decomposition to the Analysis of Time-Resolved Macromolecular X-Ray Data. Biophysical Journal, 2003, 84, 2112-2129.	0.5	146
26	Time-resolved structural studies at synchrotrons and X-ray free electron lasers: opportunities and challenges. Current Opinion in Structural Biology, 2012, 22, 651-659.	5.7	144
27	Crystal Structures of theSynechocystisPhotoreceptor Slr1694 Reveal Distinct Structural States Related to Signalingâ€,â€¡. Biochemistry, 2006, 45, 12687-12694.	2.5	140
28	Conformational differences between the Pfr and Pr states in Pseudomonas aeruginosa bacteriophytochrome. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15639-15644.	7.1	133
29	Proton-transfer and hydrogen-bond interactions determine fluorescence quantum yield and photochemical efficiency of bacteriophytochrome. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9170-9175.	7.1	132
30	Laue crystallography: coming of age. Journal of Synchrotron Radiation, 1999, 6, 891-917.	2.4	122
31	Structure of cyanide methemoglobin. Journal of Molecular Biology, 1976, 104, 687-706.	4.2	103
32	Structure of the Redox Sensor Domain ofAzotobacter vinelandiiNifL at Atomic Resolution:Â Signaling, Dimerization, and Mechanismâ€,â€¡. Biochemistry, 2007, 46, 3614-3623.	2.5	103
33	The LOV2 Domain of Phototropin:Â A Reversible Photochromic Switch. Journal of the American Chemical Society, 2004, 126, 4512-4513.	13.7	102
34	Short hydrogen bonds in photoactive yellow protein. Acta Crystallographica Section D: Biological Crystallography, 2004, 60, 1008-1016.	2.5	97
35	Insights into specificity of cleavage and mechanism of cell entry from the crystal structure of the highly specific Aspergillus ribotoxin, restrictocin. Structure, 1996, 4, 837-852.	3.3	89
36	Protein kinetics: Structures of intermediates and reaction mechanism from time-resolved x-ray data. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 4799-4804.	7.1	88

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37	Time-resolved structures of macromolecules at the ESRF: Single-pulse Laue diffraction, stroboscopic data collection and femtosecond flash photolysis. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1997, 398, 69-84.	1.6	85
38	Crystal Structures of Deoxy and CO-BoundbjFixLH Reveal Details of Ligand Recognition and Signalingâ€¡. Biochemistry, 2005, 44, 4627-4635.	2.5	78
39	The primary structural photoresponse of phytochrome proteins captured by a femtosecond X-ray laser. ELife, 2020, 9, .	6.0	78
40	Freeze trapping of reaction intermediates. Current Opinion in Structural Biology, 1995, 5, 656-663.	5.7	76
41	Structure of nitric oxide hemoglobin. Journal of Molecular Biology, 1979, 134, 401-417.	4.2	75
42	Optical Studies of a Bacterial Photoreceptor Protein, Photoactive Yellow Protein, in Single Crystals. Biochemistry, 1995, 34, 879-890.	2.5	75
43	A Structural Pathway for Signaling in the E46Q Mutant of Photoactive Yellow Protein. Structure, 2005, 13, 55-63.	3.3	73
44	Addition at the Molecular Level: Signal Integration in Designed Perâ€“ARNTâ€“Sim Receptor Proteins. Journal of Molecular Biology, 2010, 400, 477-486.	4.2	73
45	Fluorescence quantum yield and photochemistry of bacteriophytochrome constructs. Physical Chemistry Chemical Physics, 2011, 13, 11985.	2.8	70
46	Crystal Structures of Aureochrome1 LOV Suggest New Design Strategies for Optogenetics. Structure, 2012, 20, 698-706.	3.3	67
47	Time-resolved crystallographic studies of light-induced structural changes in the photosynthetic reaction center. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 5982-5987.	7.1	65
48	Chromophore Conformation and the Evolution of Tertiary Structural Changes in Photoactive Yellow Protein. Structure, 2004, 12, 1039-1045.	3.3	65
49	Influence of the Crystalline State on Photoinduced Dynamics of Photoactive Yellow Protein Studied by Ultraviolet-Visible Transient Absorption Spectroscopy. Biophysical Journal, 2006, 90, 4224-4235.	0.5	52
50	The frontiers of time-resolved macromolecular crystallography: movies and chirped X-ray pulses. Faraday Discussions, 2003, 122, 65-77.	3.2	51
51	Analysis of experimental time-resolved crystallographic data by singular value decomposition. Acta Crystallographica Section D: Biological Crystallography, 2004, 60, 860-871.	2.5	50
52	FTIR Spectroscopy Revealing Light-Dependent Refolding of the Conserved Tongue Region of Bacteriophytochrome. Journal of Physical Chemistry Letters, 2014, 5, 2512-2515.	4.6	49
53	Time-Resolved Crystallographic Studies of the Heme Domain of the Oxygen Sensor FixL:â€‰ Structural Dynamics of Ligand Rebinding and Their Relation to Signal Transduction,. Biochemistry, 2007, 46, 4706-4715.	2.5	45
54	Changes in Quaternary Structure in the Signaling Mechanisms of PAS Domains[,]. Biochemistry, 2008, 47, 12078-12086.	2.5	45

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55	Primary Reactions of Bacteriophytochrome Observed with Ultrafast Mid-Infrared Spectroscopy. Journal of Physical Chemistry A, 2011, 115, 3778-3786.	2.5	43
56	Light Signaling Mechanism of Two Tandem Bacteriophytochromes. Structure, 2015, 23, 1179-1189.	3.3	42
57	Structure of fluoride methemoglobin. Journal of Molecular Biology, 1976, 104, 723-728.	4.2	41
58	Crystal structure of a photoactive yellow protein from a sensor histidine kinase: Conformational variability and signal transduction. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 1649-1654.	7.1	39
59	The room temperature crystal structure of a bacterial phytochrome determined by serial femtosecond crystallography. Scientific Reports, 2016, 6, 35279.	3.3	39
60	Time-resolved crystallography and protein design: signalling photoreceptors and optogenetics. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130568.	4.0	36
61	[22] Laue diffraction. Methods in Enzymology, 1997, 277, 433-447.	1.0	35
62	Coiled-coil dimerization of the LOV2 domain of the blue-light photoreceptor phototropin 1 fromArabidopsis thaliana. Acta Crystallographica Section F: Structural Biology Communications, 2013, 69, 1316-1321.	0.7	33
63	Structural basis for light control of cell development revealed by crystal structures of a myxobacterial phytochrome. IUCrJ, 2018, 5, 619-634.	2.2	33
64	Resolution of structural heterogeneity in dynamic crystallography. Acta Crystallographica Section D: Biological Crystallography, 2013, 69, 946-959.	2.5	32
65	Photocycle populations with femtosecond excitation of crystalline photoactive yellow protein. Chemical Physics Letters, 2016, 654, 63-71.	2.6	32
66	Extraction of accurate structure-factor amplitudes from Laue data: wavelength normalization with wiggler and undulator X-ray sources. Journal of Synchrotron Radiation, 2000, 7, 236-244.	2.4	30
67	Optical monitoring of protein crystals in timeâ€resolved xâ€ray experiments: Microspectrophotometer design and performance. Review of Scientific Instruments, 1994, 65, 1506-1511.	1.3	29
68	Ultrafast time-resolved crystallography. Nature Structural Biology, 1998, 5, 641-643.	9.7	29
69	The structure of metmanganoglobin. Journal of Molecular Biology, 1976, 104, 669-685.	4.2	28
70	Structural Heterogeneity of Cryotrapped Intermediates in the Bacterial Blue Light Photoreceptor, Photoactive Yellow ProteinÂ¶. Photochemistry and Photobiology, 2004, 80, 7.	2.5	26
71	Structure of azide methemoglobin. Journal of Molecular Biology, 1979, 134, 419-429.	4.2	24
72	Reply to 'Contradictions in X-ray structures of intermediates in the photocycle of photoactive yellow protein'. Nature Chemistry, 2014, 6, 259-260.	13.6	23

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73	Purification and Initial Characterization of a Putative Blue Light Regulated Phosphodiesterase from Escherichia coli. Photochemistry and Photobiology, 2004, 80, 542-7.	2.5	23
74	Bacteriophytochrome Photoisomerization Proceeds Homogeneously Despite Heterogeneity in Ground State. Biophysical Journal, 2016, 111, 2125-2134.	0.5	21
75	Synchrotron radiation applications to macromolecular crystallography. Current Opinion in Structural Biology, 1997, 7, 689-696.	5.7	20
76	Analytical trapping: extraction of time-independent structures from time-dependent crystallographic data. Journal of Structural Biology, 2004, 147, 211-222.	2.8	20
77	Structure of hemoglobin reconstituted with mesoheme. Journal of Molecular Biology, 1977, 113, 419-430.	4.2	19
78	Structure of isothiocyanate methemoglobin. Journal of Molecular Biology, 1981, 145, 815-824.	4.2	19
79	Structure of imidazole methemoglobin. Journal of Molecular Biology, 1981, 147, 325-335.	4.2	19
80	Cluster Analysis of Time-Dependent Crystallographic Data: DirectÂIdentification of Time-Independent Structural Intermediates. Biophysical Journal, 2011, 100, 440-449.	0.5	19
81	Signal to noise considerations for single crystal femtosecond time resolved crystallography of the Photoactive Yellow Protein. Faraday Discussions, 2014, 171, 439-455.	3.2	19
82	The structure of hemoglobin reconstituted with deuteroheme. Journal of Molecular Biology, 1976, 106, 895-902.	4.2	18
83	The Primary Photophysics of the Avena sativa Phototropin 1 LOV2 Domain Observed with Timeâ€resolved Emission Spectroscopy^{â€}. Photochemistry and Photobiology, 2011, 87, 534-541.	2.5	18
84	Laue diffraction and time-resolved crystallography: a personal history. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180243.	3.4	17
85	Crystallographic studies on manganese hemoglobin. Journal of the American Chemical Society, 1974, 96, 5259-5261.	13.7	14
86	Light-induced protein structural dynamics in bacteriophytochrome revealed by time-resolved x-ray solution scattering. Science Advances, 2022, 8, .	10.3	10
87	Pigmentâ€“Protein Interactions in Phytochromes Probed by Fluorescence Line Narrowing Spectroscopy. Journal of Physical Chemistry B, 2013, 117, 14940-14950.	2.6	7
88	Structure of the response regulator RPA3017 involved in red-light signaling in Rhodopseudomonas palustris. Acta Crystallographica Section F, Structural Biology Communications, 2015, 71, 1215-1222.	0.8	5
89	Structure Refinement Against Synchrotron Laue Data: Strategies for Data Collection and Reduction. Acta Crystallographica Section D: Biological Crystallography, 1998, 54, 367-377.	2.5	4
90	Femtosecond Studies of the Initial Events in the Photocycle of Photoactive Yellow Protein (PYP). , 0, , 381-390.		3

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91	Structural Heterogeneity of Cryotrapped Intermediates in the Bacterial Blue Light Photoreceptor, Photoactive Yellow Protein^{Â¶}. Photochemistry and Photobiology, 2004, 80, 7-14.	2.5	3
92	Small crystals, fast dynamics and noisy data are indeed beautiful. IUCrJ, 2017, 4, 303-305.	2.2	2
93	Femtosecond structural photobiology. Science, 2018, 361, 127-128.	12.6	2
94	Picosecond Structural Dynamics at the Advanced Photon Source. Synchrotron Radiation News, 2010, 23, 18-25.	0.8	0
95	TIME-RESOLVED MACROMOLECULAR CRYSTALLOGRAPHY. , 2000, , .		0