Tilman Kottke

List of Publications by Year
in descending order

84 papers	3,577 citations	109321 35 h-index	144013 57 g-index
87 all docs	87 docs citations	87 times ranked	3450 citing authors

#	Article	IF	Citations
1	Phot-LOV1: Photocycle of a Blue-Light Receptor Domain from the Green Alga Chlamydomonas reinhardtii. Biophysical Journal, 2003, 84, 1192-1201.	0.5	227
2	A blue-light photoreceptor mediates the feedback regulation of photosynthesis. Nature, 2016, 537, 563-566.	27.8	185
3	A Novel Photoreaction Mechanism for the Circadian Blue Light Photoreceptor Drosophila Cryptochrome. Journal of Biological Chemistry, 2007, 282, 13011-13021.	3.4	178
4	A Flavin Binding Cryptochrome Photoreceptor Responds to Both Blue and Red Light in <i>Chlamydomonas reinhardtii</i>. Plant Cell, 2012, 24, 2992-3008.	6.6	151
5	Tailoring the properties and the reactivity of the spinel cobalt oxide. Physical Chemistry Chemical Physics, 2009, 11, 9224.	2.8	144
6	Single-Shot Sub-microsecond Mid-infrared Spectroscopy on Protein Reactions with Quantum Cascade Laser Frequency Combs. Analytical Chemistry, 2018, 90, 10494-10500.	6.5	123
7	Blue-Light-Induced Changes in Arabidopsis Cryptochrome 1 Probed by FTIR Difference Spectroscopy. Biochemistry, 2006, 45, 2472-2479.	2.5	103
8	Boreal pollen contain ice-nucleating as well as ice-binding â€˜antifreezeâ€™ polysaccharides. Scientific Reports, 2017, 7, 41890.	3.3	97
9	Thinner, Smaller, Faster: IR Techniques To Probe the Functionality of Biological and Biomimetic Systems. Angewandte Chemie - International Edition, 2010, 49, 5416-5424.	13.8	96
10	Microsecond Light-Induced Proton Transfer to Flavin in the Blue Light Sensor Plant Cryptochrome. Journal of the American Chemical Society, 2009, 131, 14274-14280.	13.7	85
11	The Phot LOV2 Domain and Its Interaction with LOV1. Biophysical Journal, 2005, 89, 402-412.	0.5	72
12	Time-Resolved Fourier Transform Infrared Study on Photoadduct Formation and Secondary Structural Changes within the Phototropin LOV Domain. Biophysical Journal, 2009, 96, 1462-1470.	0.5	72
13	Primary Events in the Blue Light Sensor Plant Cryptochrome: Intraprotein Electron and Proton Transfer Revealed by Femtosecond Spectroscopy. Journal of the American Chemical Society, 2012, 134, 12536-12546.	13.7	70
14	The Grateful Infrared: Sequential Protein Structural Changes Resolved by Infrared Difference Spectroscopy. Journal of Physical Chemistry B, 2017, 121, 335-350.	2.6	69
15	Recording of Blue Light-Induced Energy and Volume Changes within the Wild-Type and Mutated Phot-LOV1 Domain from Chlamydomonas reinhardtii. Biophysical Journal, 2004, 86, 1051-1060.	0.5	66
16	Photoreceptors Take Charge: Emerging Principles for Light Sensing. Annual Review of Biophysics, 2018, 47, 291-313.	10.0	65
17	Evidence for Tautomerisation of Glutamine in BLUF Blue Light Receptors by Vibrational Spectroscopy and Computational Chemistry. Scientific Reports, 2016, 6, 22669.	3.3	64
18	Blue Light Induces Radical Formation and Autophosphorylation in the Light-sensitive Domain of Chlamydomonas Cryptochrome. Journal of Biological Chemistry, 2007, 282, 21720-21728.	3.4	62

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19	Blue-Light-Induced Unfolding of the JÎ± Helix Allows for the Dimerization of Aureochrome-LOV from the Diatom <i>Phaeodactylum tricornutum</i>. Biochemistry, 2013, 52, 3094-3101.	2.5	60
20	An update on aureochromes: Phylogeny â€" mechanism â€" function. Journal of Plant Physiology, 2017, 217, 20-26.	3.5	57
21	A flavin-dependent halogenase from metagenomic analysis prefers bromination over chlorination. PLoS ONE, 2018, 13, e0196797.	2.5	57
22	Blue Light Induces Global and Localized Conformational Changes in the Kinase Domain of Full-Length Phototropin. Biochemistry, 2010, 49, 1024-1032.	2.5	55
23	Irreversible Photoreduction of Flavin in a Mutated Phot-LOV1 Domainâ€. Biochemistry, 2003, 42, 9854-9862.	2.5	54
24	Allosteric communication between DNA-binding and light-responsive domains of diatom class I aureochromes. Nucleic Acids Research, 2016, 44, 5957-5970.	14.5	53
25	A novel cryptochrome in the diatom <i><scp>P</scp>haeodactylumÂtricornutum</i> influences the regulation of lightâ€harvesting protein levels. FEBS Journal, 2014, 281, 2299-2311.	4.7	52
26	Solid-State Photo-CIDNP Effect Observed in Phototropin LOV1-C57S by ¹³C Magic-Angle Spinning NMR Spectroscopy. Journal of the American Chemical Society, 2010, 132, 15542-15543.	13.7	51
27	Essential Role of an Unusually Long-lived Tyrosyl Radical in the Response to Red Light of the Animal-like Cryptochrome aCRY. Journal of Biological Chemistry, 2016, 291, 14062-14071.	3.4	51
28	Cryptochrome photoreceptors in green algae: Unexpected versatility of mechanisms and functions. Journal of Plant Physiology, 2017, 217, 4-14.	3.5	51
29	Chromophoreâ€"Protein Interplay during the Phytochrome Photocycle Revealed by Step-Scan FTIR Spectroscopy. Journal of the American Chemical Society, 2018, 140, 12396-12404.	13.7	51
30	Proton Transfer to Flavin Stabilizes the Signaling State of the Blue Light Receptor Plant Cryptochrome. Journal of Biological Chemistry, 2015, 290, 1743-1751.	3.4	50
31	A Plant Cryptochrome Controls Key Features of the <i>Chlamydomonas</i> Circadian Clock and Its Life Cycle. Plant Physiology, 2017, 174, 185-201.	4.8	50
32	Microsecond Deprotonation of Aspartic Acid and Response of the Î±/Î² Subdomain Precede C-Terminal Signaling in the Blue Light Sensor Plant Cryptochrome. Journal of the American Chemical Society, 2015, 137, 5990-5999.	13.7	49
33	Structure of a Native-like Aureochrome 1a LOV Domain Dimer from Phaeodactylum tricornutum. Structure, 2016, 24, 171-178.	3.3	47
34	Allosterically Regulated Unfolding of the Aâ€²Î± Helix Exposes the Dimerization Site of the Blue-Light-Sensing Aureochrome-LOV Domain. Biochemistry, 2015, 54, 1484-1492.	2.5	46
35	Identification of the Product of Photoswitching of an Oxazine Fluorophore Using Fourier Transform Infrared Difference Spectroscopy. Journal of Physical Chemistry Letters, 2010, 1, 3156-3159.	4.6	38
36	Photoreaction of Plant and DASH Cryptochromes Probed by Infrared Spectroscopy: The Neutral Radical State of Flavoproteins. Journal of Physical Chemistry B, 2010, 114, 17155-17161.	2.6	36

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37	An Animal-Like Cryptochrome Controls the <i>Chlamydomonas</i> Sexual Cycle. Plant Physiology, 2017, 174, 1334-1347.	4.8	35
38	Straightforward Regeneration of Reduced Flavin Adenine Dinucleotide Required for Enzymatic Tryptophan Halogenation. ACS Catalysis, 2019, 9, 1389-1395.	11.2	35
39	Infrared spectrum and absorption coefficient of the cofactor flavin in water. Vibrational Spectroscopy, 2011, 57, 282-287.	2.2	33
40	Indication for a Radical Intermediate Preceding the Signaling State in the LOV Domain Photocycle^{â€}. Photochemistry and Photobiology, 2011, 87, 548-553.	2.5	32
41	The photochemistry of the light-, oxygen-, and voltage-sensitive domains in the algal blue light receptor phot. Biopolymers, 2006, 82, 373-378.	2.4	31
42	Single Amino Acid Substitution Reveals Latent Photolyase Activity in <i>Arabidopsis</i> cry1. Angewandte Chemie - International Edition, 2012, 51, 9356-9360.	13.8	31
43	Photochemically Driven Biocatalysis of Halogenases for the Green Production of Chlorinated Compounds. ChemCatChem, 2018, 10, 3336-3341.	3.7	30
44	Coreâ€"shell microgels as thermoresponsive carriers for catalytic palladium nanoparticles. Soft Matter, 2020, 16, 5422-5430.	2.7	30
45	Protonated triplet-excited flavin resolved by step-scan FTIR spectroscopy: implications for photosensory LOV domains. Physical Chemistry Chemical Physics, 2013, 15, 5916.	2.8	29
46	Timeâ€Resolved FTâ€IR Spectroscopy Traces Signal Relay within the Blueâ€Light Receptor AppA. ChemPhysChem, 2007, 8, 1787-1789.	2.1	28
47	The cryptochromeâ€"photolyase protein family in diatoms. Journal of Plant Physiology, 2017, 217, 15-19.	3.5	26
48	News about cryptochrome photoreceptors in algae. Plant Signaling and Behavior, 2013, 8, e22870.	2.4	25
49	Response of the Sensory Animal-like Cryptochrome aCRY to Blue and Red Light As Revealed by Infrared Difference Spectroscopy. Biochemistry, 2014, 53, 1041-1050.	2.5	24
50	Phosphorus and nitrogen starvation reveal lifeâ€cycle specific responses in the metabolome of <i>Emiliania huxleyi</i> (Haptophyta). Limnology and Oceanography, 2018, 63, 203-226.	3.1	23
51	Swelling behaviour of coreâ€"shell microgels in H₂O, analysed by temperature-dependent FTIR spectroscopy. Physical Chemistry Chemical Physics, 2019, 21, 572-580.	2.8	21
52	Recombinant expression and characterization of a l-amino acid oxidase from the fungus Rhizoctonia solani. Applied Microbiology and Biotechnology, 2017, 101, 2853-2864.	3.6	20
53	The World of Algae Reveals a Broad Variety of Cryptochrome Properties and Functions. Frontiers in Plant Science, 2021, 12, 766509.	3.6	20
54	Following local light-induced structure changes and dynamics of the photoreceptor PYP with the thiocyanate IR label. Physical Chemistry Chemical Physics, 2019, 21, 6622-6634.	2.8	15

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55	DASH cryptochrome 1, a UVâ€A receptor, balances the photosynthetic machinery of <i>Chlamydomonas reinhardtii</i>. New Phytologist, 2021, 232, 610-624.	7.3	15
56	Nuclear spin-hyperpolarization generated in a flavoprotein under illumination: experimental field-dependence and theoretical level crossing analysis. Scientific Reports, 2019, 9, 18436.	3.3	14
57	Microphase separation of smart double-responsive copolymer microgels studied by local fluorescence probes. Polymer, 2017, 125, 110-116.	3.8	12
58	Activation of Recombinantly Expressed l-Amino Acid Oxidase from Rhizoctonia solani by Sodium Dodecyl Sulfate. Molecules, 2017, 22, 2272.	3.8	12
59	Time-Resolved Infrared Spectroscopy on Plant Cryptochromeâ€"Relevance of Proton Transfer and ATP Binding for Signaling. Journal of Physical Chemistry A, 2018, 122, 140-147.	2.5	12
60	Tailored flavoproteins acting as light-driven spin machines pump nuclear hyperpolarization. Scientific Reports, 2020, 10, 18658.	3.3	12
61	Smart membranes by electron beam cross-linking of copolymer microgels. Soft Matter, 2021, 17, 2205-2214.	2.7	12
62	In-cell infrared difference spectroscopy of LOV photoreceptors reveals structural responses to light altered in living cells. Journal of Biological Chemistry, 2020, 295, 11729-11741.	3.4	11
63	Acrylamide precipitation polymerization in a continuous flow reactor: an in situ FTIR study reveals kinetics. Colloid and Polymer Science, 2021, 299, 221-232.	2.1	11
64	Synthesis of Monodisperse Oligo(1,4-phenyleneethynylene-alt-1,4-triptycyleneethynylene)s. Journal of Organic Chemistry, 2009, 74, 7733-7742.	3.2	10
65	Lightâ€Induced Conformational Changes in the Plant Cryptochrome Photolyase Homology Region Resolved by Selective Isotope Labeling and Infrared Spectroscopy. Photochemistry and Photobiology, 2017, 93, 881-887.	2.5	10
66	Arguments for an additional long-lived intermediate in the photocycle of the full-length aureochrome 1c receptor: A time-resolved small-angle X-ray scattering study. Structural Dynamics, 2019, 6, 034701.	2.3	10
67	Synthesis of smart dual-responsive microgels: correlation between applied surfactants and obtained particle morphology. Soft Matter, 2019, 15, 5673-5684.	2.7	9
68	Smart Microgels from Unconventional Acrylamides. Macromolecular Chemistry and Physics, 2021, 222, 2100067.	2.2	9
69	Site-by-site tracking of signal transduction in an azidophenylalanine-labeled bacteriophytochrome with step-scan FTIR spectroscopy. Physical Chemistry Chemical Physics, 2021, 23, 5615-5628.	2.8	9
70	Time-Resolved Infrared and Visible Spectroscopy on Cryptochrome aCRY: Basis for Red Light Reception. Biophysical Journal, 2019, 117, 490-499.	0.5	8
71	Aurophilicity in action: stepwise formation of dinuclear Au(<scp>i</scp>) macrocycles with rigid 1,8-dialkynylanthracenes. Dalton Transactions, 2019, 48, 4109-4113.	3.3	7
72	Tongue Refolding in the Knotless Cyanobacterial Phytochrome All2699. Biochemistry, 2020, 59, 2047-2054.	2.5	7

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73	C-Terminal Extension of a Plant Cryptochrome Dissociates from the Î²-Sheet of the Flavin-Binding Domain. Journal of Physical Chemistry Letters, 2021, 12, 5558-5563.	4.6	7
74	Characterization of Robust and Free-Standing 2D-Nanomembranes of UV-Polymerized Diacetylene Lipids. Langmuir, 2018, 34, 3256-3263.	3.5	6
75	Plant Cryptochromes Illuminated: A Spectroscopic Perspective on the Mechanism. Frontiers in Chemistry, 2021, 9, 780199.	3.6	6
76	Genetically Encoded Ratiometric pH Sensors for the Measurement of Intra- and Extracellular pH and Internalization Rates. Biosensors, 2022, 12, 271.	4.7	6
77	Peripheral Methionine Residues Impact Flavin Photoreduction and Protonation in an Engineered LOV Domain Light Sensor. Biochemistry, 2021, 60, 1148-1164.	2.5	5
78	A quantum cascade laser setup for studying irreversible photoreactions in H₂O with nanosecond resolution and microlitre consumption. Physical Chemistry Chemical Physics, 2020, 22, 26459-26467.	2.8	4
79	Coreâ€“shell microgels synthesized in continuous flow: deep insight into shell growth using temperature-dependent FTIR. Soft Matter, 2022, 18, 5492-5501.	2.7	4
80	Preparation of 2D Phospholipid and Copolymer Nanomembranes. Materials Today: Proceedings, 2017, 4, S87-S92.	1.8	2
81	Die groÃŸe Ausnahme: flavinhaltige Blaulichtsensoren. Nachrichten Aus Der Chemie, 2011, 59, 23-28.	0.0	1
82	Biphasic Formation of 2D Nanomembranes by Photopolymerization of Diacetylene Lipids as Revealed by Infrared Difference Spectroscopy. Langmuir, 2019, 35, 9343-9351.	3.5	1
83	Calculation of the Geometries and Infrared Spectra of the Stacked Cofactor Flavin Adenine Dinucleotide (FAD) as the Prerequisite for Studies of Light-Triggered Proton and Electron Transfer. Biomolecules, 2020, 10, 573.	4.0	1
84	Resolving Structural Changes of Photoreceptors in Living Escherichia coli via In-cell Infrared Difference Spectroscopy. Bio-protocol, 2021, 11, e3909.	0.4	0