Mordechai Sheves

List of Publications by Year
in descending order

107 papers	2,890 citations	172457 29 h-index	189892 50 g-index
111 all docs	111 docs citations	111 times ranked	2340 citing authors

#	Article	IF	Citations
1	Protein bioelectronics: a review of what we do and do not know. Reports on Progress in Physics, 2018, 81, 026601.	20.1	180
2	Electronic Transport via Proteins. Advanced Materials, 2014, 26, 7142-7161.	21.0	175
3	Proteins as Electronic Materials: Electron Transport through Solid-State Protein Monolayer Junctions. Journal of the American Chemical Society, 2010, 132, 4131-4140.	13.7	156
4	Proteins as Solid-State Electronic Conductors. Accounts of Chemical Research, 2010, 43, 945-953.	15.6	118
5	Electronic Transport via Homopeptides: The Role of Side Chains and Secondary Structure. Journal of the American Chemical Society, 2015, 137, 9617-9626.	13.7	101
6	Bacteriorhodopsin as an electronic conduction medium for biomolecular electronics. Chemical Society Reviews, 2008, 37, 2422.	38.1	93
7	Bacteriorhodopsin (bR) as an electronic conduction medium: Current transport through bR-containing monolayers. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 8601-8606.	7.1	91
8	Tunneling explains efficient electron transport via protein junctions. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E4577-E4583.	7.1	81
9	Solid-State Electron Transport across Azurin: From a Temperature-Independent to a Temperature-Activated Mechanism. Journal of the American Chemical Society, 2011, 133, 2421-2423.	13.7	78
10	Tuning electronic transport via hepta-alanine peptides junction by tryptophan doping. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10785-10790.	7.1	77
11	Probing and Modeling the Absorption of Retinal Protein Chromophores inâ€…Vacuo. Angewandte Chemie - International Edition, 2010, 49, 1790-1793.	13.8	72
12	The Molecular Origin of the Inhibition of Transducin Activation in Rhodopsin Lacking the 9-Methyl Group of the Retinal Chromophore:Â A UVâ˜Vis and FTIR Spectroscopic Studyâ€. Biochemistry, 2000, 39, 8895-8908.	2.5	70
13	Temperature and Force Dependence of Nanoscale Electron Transport <i>via</i> the Cu Protein Azurin. ACS Nano, 2012, 6, 10816-10824.	14.6	63
14	Temperature-Dependent Solid-State Electron Transport through Bacteriorhodopsin: Experimental Evidence for Multiple Transport Paths through Proteins. Journal of the American Chemical Society, 2012, 134, 4169-4176.	13.7	59
15	Bacteriorhodopsin/Ag Nanoparticle-Based Hybrid Nano-Bio Electrocatalyst for Efficient and Robust H₂ Evolution from Water. Journal of the American Chemical Society, 2015, 137, 2840-2843.	13.7	59
16	Molecular Dynamics Studies of Bacteriorhodopsin's Photocycles. Israel Journal of Chemistry, 1995, 35, 447-464.	2.3	58
17	Primary photochemical event in bacteriorhodopsin: study with artificial pigments. Biochemistry, 1985, 24, 1260-1265.	2.5	56
18	Steric Interaction between the 9-Methyl Group of the Retinal and Tryptophan 182 Controls 13-cistoall-transReisomerization and Proton Uptake in the Bacteriorhodopsin Photocycleâ€. Biochemistry, 1996, 35, 10807-10814.	2.5	55

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19	Solid-state electron transport via cytochrome <i>c</i> depends on electronic coupling to electrodes and across the protein. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5556-5561.	7.1	55
20	Insights into Solid-State Electron Transport through Proteins from Inelastic Tunneling Spectroscopy: The Case of Azurin. ACS Nano, 2015, 9, 9955-9963.	14.6	54
21	Protein Electronics: Chemical Modulation of Contacts Control Energy Level Alignment in Gold-Azurin-Gold Junctions. Journal of the American Chemical Society, 2018, 140, 13317-13326.	13.7	53
22	Redox activity distinguishes solid-state electron transport from solution-based electron transfer in a natural and artificial protein: cytochrome C and hemin-doped human serum albumin. Physical Chemistry Chemical Physics, 2013, 15, 17142.	2.8	44
23	Coherent Electron Transport across a 3 nm Bioelectronic Junction Made of Multi-Heme Proteins. Journal of Physical Chemistry Letters, 2020, 11, 9766-9774.	4.6	42
24	Electron Transfer Proteins as Electronic Conductors: Significance of the Metal and Its Binding Site in the Blue Cu Protein, Azurin. Advanced Science, 2015, 2, 1400026.	11.2	39
25	Direct evidence for heme-assisted solid-state electronic conduction in multi-heme<i>c</i>-type cytochromes. Chemical Science, 2018, 9, 7304-7310.	7.4	39
26	6-<i>s-cis</i> Conformation and Polar Binding Pocket of the Retinal Chromophore in the Photoactivated State of Rhodopsin. Journal of the American Chemical Society, 2009, 131, 15160-15169.	13.7	38
27	Light-Induced Charge Redistribution in the Retinal Chromophore Is Required for Initiating the Bacteriorhodopsin Photocycle. Journal of the American Chemical Society, 2002, 124, 11844-11845.	13.7	34
28	Doping Human Serum Albumin with Retinoate Markedly Enhances Electron Transport across the Protein. Journal of the American Chemical Society, 2012, 134, 18221-18224.	13.7	31
29	Specific Binding Sites for Cations in Bacteriorhodopsin. Biophysical Journal, 2001, 81, 1155-1162.	0.5	30
30	Photoselective Ultrafast Investigation of Xanthorhodopsin and Its Carotenoid Antenna Salinixanthin. Journal of Physical Chemistry B, 2010, 114, 3038-3045.	2.6	30
31	Solid-State Protein Junctions: Cross-Laboratory Study Shows Preservation of Mechanism at Varying Electronic Coupling. IScience, 2020, 23, 101099.	4.1	30
32	Solid-State Electron Transport via the Protein Azurin is Temperature-Independent Down to 4 K. Journal of Physical Chemistry Letters, 2020, 11, 144-151.	4.6	28
33	Bacteriorhodpsin Experiences Light-induced Conformational Alterations in Nonisomerizable C13=C14Pigments. Journal of Biological Chemistry, 2000, 275, 21010-21016.	3.4	27
34	Chromophore Interaction in Xanthorhodopsinâ€"Retinal Dependence of Salinixanthin Binding^{â€}. Photochemistry and Photobiology, 2008, 84, 977-984.	2.5	26
35	Conjugated Cofactor Enables Efficient Temperature-Independent Electronic Transport Across âˆ¼6 nm Long Halorhodopsin. Journal of the American Chemical Society, 2015, 137, 11226-11229.	13.7	26
36	Modulation of thermal noise and spectral sensitivity in Lake Baikal cottoid fish rhodopsins. Scientific Reports, 2016, 6, 38425.	3.3	26

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37	A Solidâ€State Protein Junction Serves as a Biasâ€Induced Current Switch. Angewandte Chemie - International Edition, 2019, 58, 11852-11859.	13.8	26
38	Nanoscale Electron Transport and Photodynamics Enhancement in Lipid-Depleted Bacteriorhodopsin Monomers. ACS Nano, 2014, 8, 7714-7722.	14.6	24
39	Transistor configuration yields energy level control in protein-based junctions. Nanoscale, 2018, 10, 21712-21720.	5.6	24
40	Temperature Independence of Ultrafast Photoisomerization in Thermophilic Rhodopsin: Assessment versus Other Microbial Proton Pumps. Journal of the American Chemical Society, 2016, 138, 12401-12407.	13.7	23
41	Proteinâ^'Î²-Ionone Ring Interactions Enhance the Light-Induced Dipole of the Chromophore in Bacteriorhodopsin. Journal of Physical Chemistry B, 2003, 107, 6221-6225.	2.6	20
42	Retinalâ^'Salinixanthin Interactions in Xanthorodopsin: A Circular Dichroism (CD) Spectroscopy Study with Artificial Pigments. Biochemistry, 2009, 48, 8179-8188.	2.5	20
43	Heterogeneity Effects in the Binding ofAll-TransRetinal to Bacterio-opsinâ€. Biochemistry, 2003, 42, 11281-11288.	2.5	19
44	The surface potential on the purple membrane measured using a modified bacteriorhodopsin chromophore as the spectroscopic probe. FEBS Letters, 1989, 250, 179-182.	2.8	18
45	Interface Electrostatics Dictates the Electron Transport via Bioelectronic Junctions. ACS Applied Materials & Interfaces, 2018, 10, 41599-41607.	8.0	18
46	Protein Binding and Orientation Matter: Bias-Induced Conductance Switching in a Mutated Azurin Junction. Journal of the American Chemical Society, 2020, 142, 19217-19225.	13.7	18
47	Conformation-dependent charge transport through short peptides. Nanoscale, 2021, 13, 3002-3009.	5.6	18
48	What Can We Learn from Protein-Based Electron Transport Junctions?. Journal of Physical Chemistry Letters, 2021, 12, 11598-11603.	4.6	18
49	Efficient Femtosecond Energy Transfer from Carotenoid to Retinal in Gloeobacter Rhodopsinâ€"Salinixanthin Complex. Journal of Physical Chemistry B, 2015, 119, 2345-2349.	2.6	17
50	Oriented bacteriorhodopsin/polyaniline hybrid bio-nanofilms as photo-assisted electrodes for high performance supercapacitors. Journal of Materials Chemistry A, 2020, 8, 8268-8272.	10.3	16
51	Probing Bacteriorhodopsin Photochemistry with Nonlinear Optics: Comparing the Second Harmonic Generation of bR and the Photochemically Induced Intermediate K. The Journal of Physical Chemistry, 1995, 99, 10648-10657.	2.9	15
52	Retinalâ€"Salinixanthin Interactions in a Thermophilic Rhodopsin. Journal of Physical Chemistry B, 2019, 123, 10-20.	2.6	15
53	Interaction between Asp-85 and the Proton-Releasing Group in Bacteriorhodopsin. A Study of an O-like Photocycle Intermediate. Biochemistry, 1997, 36, 4135-4148.	2.5	13
54	Ultrafast Protein Conformational Alterations in Bacteriorhodopsin and Its Locked Analogue BR5.12. Journal of Physical Chemistry B, 2009, 113, 7851-7860.	2.6	13

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55	Protein Electronic Conductors: Heminâ€“Substrate Bonding Dictates Transport Mechanism and Efficiency across Myoglobin. Angewandte Chemie - International Edition, 2015, 54, 12379-12383.	13.8	13
56	Retinal Î²-Ionone Ringâ€“Salinixanthin Interactions in Xanthorhodopsin: A Study Using Artificial Pigments. Biochemistry, 2013, 52, 1290-1301.	2.5	12
57	Origin of Circular Dichroism of Xanthorhodopsin. A Study with Artificial Pigments. Journal of Physical Chemistry B, 2015, 119, 456-464.	2.6	12
58	Complexation of the Signal Transducing Protein HtrI to Sensory Rhodopsin I and Its Effect on Thermodynamics of Signaling State Deactivation. Journal of Physical Chemistry B, 1997, 101, 109-113.	2.6	11
59	Investigating excited state dynamics of salinixanthin and xanthorhodopsin in the near-infrared. Physical Chemistry Chemical Physics, 2011, 13, 3782-3787.	2.8	11
60	Engineered-membranes and engineered-micelles as efficient tools for purification of halorhodopsin and bacteriorhodopsin. Analyst, The, 2015, 140, 204-212.	3.5	9
61	Retinal Binding to Apo-Gloeobacter Rhodopsin: The Role of pH and Retinalâ€“Carotenoid Interaction. Journal of Physical Chemistry B, 2017, 121, 10759-10769.	2.6	9
62	Electronic structure of dipeptides in the gas-phase and as an adsorbed monolayer. Physical Chemistry Chemical Physics, 2018, 20, 6860-6867.	2.8	9
63	A general platform for antibody purification utilizing engineered-micelles. MAbs, 2019, 11, 583-592.	5.2	8
64	Early Photolysis Intermediates of Gecko and Bovine Artificial Visual Pigmentsâ€. Biochemistry, 1997, 36, 14593-14600.	2.5	7
65	Chemically induced enhancement of the opto-electronic response of Halobacterium purple membrane monolayer. Chemical Communications, 2006, , 1310.	4.1	7
66	Molecular mechanism for thermal denaturation of thermophilic rhodopsin. Chemical Science, 2019, 10, 7365-7374.	7.4	7
67	The chirality origin of retinal-carotenoid complex in gloeobacter rhodopsin: a temperature-dependent excitonic coupling. Scientific Reports, 2020, 10, 13992.	3.3	7
68	The role of carotenoids in proton-pumping rhodopsin as a primitive solar energy conversion system. Journal of Photochemistry and Photobiology B: Biology, 2021, 221, 112241.	3.8	7
69	Photoactivated Bacteriorhodopsin/SiN_{<i>x</i>} Nanopore-Based Biological Nanofluidic Generator with Single-Protein Sensitivity. ACS Nano, 2022, 16, 1589-1599.	14.6	7
70	Influence of External Negative Charges on the Absorption Maxima of Symmetrical Cyanines. A Study with Model Compounds and Artificial Bacteriorhodopsin Pigments. Angewandte Chemie International Edition in English, 1986, 25, 284-286.	4.4	6
71	Nonionic detergent micelle aggregates: An economical alternative to protein A chromatography. New Biotechnology, 2021, 61, 90-98.	4.4	6
72	Cï£¾C Stretching Frequencies in Model Compounds of the Protonated Retinal Schiff Base. Angewandte Chemie International Edition in English, 1984, 23, 803-804.	4.4	5

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73	Cation Binding to Halorhodopsin. Biochemistry, 2015, 54, 3164-3172.	2.5	5
74	Electron transport via a soluble photochromic photoreceptor. Physical Chemistry Chemical Physics, 2016, 18, 25671-25675.	2.8	5
75	Membrane protein crystallization in micelles conjugated by nucleoside base-pairing: A different concept. Journal of Structural Biology, 2016, 195, 379-386.	2.8	5
76	Action and Ion Mobility Spectroscopy of a Shortened Retinal Derivative. Journal of the American Society for Mass Spectrometry, 2018, 29, 2152-2159.	2.8	5
77	Backbone-Constrained Peptides: Temperature and Secondary Structure Affect Solid-State Electron Transport. Journal of Physical Chemistry B, 2019, 123, 10951-10958.	2.6	5
78	Inelastic Electron Tunneling Spectroscopic Analysis of Biasâ€Induced Structural Changes in a Solidâ€State Protein Junction. Small, 2021, 17, e2008218.	10.0	5
79	Light-Induced Conformational Alterations in Heliorhodopsin Triggered by the Retinal Excited State. Journal of Physical Chemistry B, 2021, 125, 8797-8804.	2.6	5
80	Conformational Analysis of Flexible <i>trans</i>â€Dienes by Polarization Spectroscopy. Israel Journal of Chemistry, 1979, 18, 359-363.	2.3	4
81	On the Absorption Maxima of Protonated Retinal Schiff Bases. An Interaction with External Charges. Israel Journal of Chemistry, 1985, 25, 53-55.	2.3	4
82	Protein Structure Alteration Induced by Light-Activated Water Absorption. A Study with Bacteriorhodopsin. Journal of the American Chemical Society, 1996, 118, 11299-11300.	13.7	4
83	The Protonated Schiff Base of Halorhodopsin from Natronobacterium pharaonis is Hydrolyzed at Elevated Temperatures. Photochemistry and Photobiology, 2006, 82, 1414-1421.	2.5	4
84	Engineered-membranes: A novel concept for clustering of native lipid bilayers. Journal of Colloid and Interface Science, 2012, 388, 300-305.	9.4	4
85	Isotope Labeling Study of Retinal Chromophore Fragmentation. Journal of Physical Chemistry A, 2016, 120, 2547-2549.	2.5	4
86	Structural and Functional Consequences of the Weak Binding of Chlorin e6 to Bovine Rhodopsin. Photochemistry and Photobiology, 2019, 95, 787-802.	2.5	4
87	Promoting crystallization of intrinsic membrane proteins with conjugated micelles. Scientific Reports, 2020, 10, 12199.	3.3	4
88	Purification of antibody fragments via interaction with detergent micellar aggregates. Scientific Reports, 2021, 11, 11697.	3.3	4
89	Retinalâ€“Protein Interactions in Halorhodopsin from Natronomonas pharaonis: Binding and Retinal Thermal Isomerization Catalysis. Journal of Molecular Biology, 2009, 394, 472-484.	4.2	3
90	The role of retinal light induced dipole in halorhodopsin structural alteration. FEBS Letters, 2015, 589, 3576-3580.	2.8	3

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91	Protein conformational alterations induced by the retinal excited state in proton and sodium pumping rhodopsins. Physical Chemistry Chemical Physics, 2019, 21, 9450-9455.	2.8	3
92	Spectroscopy and photoisomerization of protonated Schiff-base retinal derivatives in vacuo. Physical Chemistry Chemical Physics, 2021, 23, 27227-27233.	2.8	3
93	Reversible Conjugation of Non-ionic Detergent Micelles Promotes Partitioning of Membrane Proteins under Non-denaturing Conditions. Langmuir, 2022, 38, 2626-2633.	3.5	3
94	Conjugated detergent micelles as a platform for IgM purification. Biotechnology and Bioengineering, 2022, , .	3.3	3
95	Covalent Attachment of Bacteriorhodopsin Monolayer to Bromoâ€terminated Solid Supports: Preparation, Characterization, and Protein Stability. Chemistry - an Asian Journal, 2008, 3, 1146-1155.	3.3	2
96	Protein Electronic Conductors: Heminâ€"Substrate Bonding Dictates Transport Mechanism and Efficiency across Myoglobin. Angewandte Chemie, 2015, 127, 12556-12560.	2.0	2
97	Ultrafast Carotenoid to Retinal Energy Transfer in Xanthorhodopsin Revealed by the Combination of Transient Absorption and Twoâ€Dimensional Electronic Spectroscopy. Chemistry - A European Journal, 2018, 24, 12084-12092.	3.3	2
98	Controlled micelle conjugation via charged peptide amphiphiles. Journal of Peptide Science, 2019, 25, e3174.	1.4	2
99	Electronic Transport Through Organophosphonate-Grafted Bacteriorhodopsin Films on Titanium Nitride. , 2021, , .		2
100	Interactions between protonated retinal schiff base and various counter ions: A study by two-dimensional NOE NMR spectroscopy. Magnetic Resonance in Chemistry, 1987, 25, 21-24.	1.9	1
101	Membrane Independence of Ultrafast Photochemistry in Pharaonis Halorhodopsin: Testing the Role of Bacterioruberin. Journal of Physical Chemistry B, 2017, 121, 2319-2325.	2.6	1
102	Cation Binding to Xanthorhodopsin: Electron Paramagnetic Resonance and Magnetic Studies. Journal of Physical Chemistry B, 2017, 121, 4333-4340.	2.6	1
103	A Solidâ€State Protein Junction Serves as a Biasâ€Induced Current Switch. Angewandte Chemie, 2019, 131, 11978-11985.	2.0	1
104	Photoreduction of Bacteriorhodopsin Schiff Base at Low Humidity. A Study with C13=C14 Nonisomerizable Artificial PigmentsÂ¶. Photochemistry and Photobiology, 2007, 75, 668-674.	2.5	0
105	Frontispiece: Direct Measurement of the Isomerization Barrier of the Isolated Retinal Chromophore. Angewandte Chemie - International Edition, 2015, 54, .	13.8	0
106	InnenrÃ¼cktitelbild: A Solidâ€State Protein Junction Serves as a Biasâ€Induced Current Switch (Angew.) Tj ETQq0 0 0 rgBT /Overlock 10	2.0	0
107	Conjugation of native membranes via linear oligo-amines. Colloids and Surfaces B: Biointerfaces, 2020, 193, 111101.	5.0	0