

Tadeusz J Sarna

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127
papers

7,644
citations

45
h-index

86
g-index

136
ext. papers

8,720
ext. citations

4.8
avg, IF

5.89
L-index

#	Paper	IF	Citations
127	The physical and chemical properties of eumelanin. <i>Pigment Cell & Melanoma Research</i> , 2006 , 19, 572-94		701
126	Chemical and structural diversity in eumelanins: unexplored bio-optoelectronic materials. <i>Angewandte Chemie - International Edition</i> , 2009 , 48, 3914-21	16.4	462
125	Blue light-induced reactivity of retinal age pigment. In vitro generation of oxygen-reactive species. <i>Journal of Biological Chemistry</i> , 1995 , 270, 18825-30	5.4	324
124	Interactions of iron, dopamine and neuromelanin pathways in brain aging and Parkinson's disease. <i>Progress in Neurobiology</i> , 2017 , 155, 96-119	10.9	322
123	Properties and function of the ocular melanin—a photobiophysical view. <i>Journal of Photochemistry and Photobiology B: Biology</i> , 1992 , 12, 215-58	6.7	315
122	Melanins and melanogenesis: methods, standards, protocols. <i>Pigment Cell and Melanoma Research</i> , 2013 , 26, 616-33	4.5	280
121	Free radical scavenging properties of melanin interaction of eu- and pheo-melanin models with reducing and oxidising radicals. <i>Free Radical Biology and Medicine</i> , 1999 , 26, 518-25	7.8	248
120	Melanins and melanogenesis: from pigment cells to human health and technological applications. <i>Pigment Cell and Melanoma Research</i> , 2015 , 28, 520-44	4.5	242
119	Photodynamic therapy with fullerenes. <i>Photochemical and Photobiological Sciences</i> , 2007 , 6, 1139-49	4.2	219
118	Functionalized fullerenes mediate photodynamic killing of cancer cells: Type I versus Type II photochemical mechanism. <i>Free Radical Biology and Medicine</i> , 2007 , 43, 711-9	7.8	188
117	Loss of melanin from human RPE with aging: possible role of melanin photooxidation. <i>Experimental Eye Research</i> , 2003 , 76, 89-98	3.7	182
116	Blue light-induced singlet oxygen generation by retinal lipofuscin in non-polar media. <i>Free Radical Biology and Medicine</i> , 1998 , 24, 1107-12	7.8	174
115	The microenvironment effect on the generation of reactive oxygen species by Pd-bacteriopheophorbide. <i>Journal of the American Chemical Society</i> , 2005 , 127, 6487-97	16.4	166
114	Photocytotoxicity of lipofuscin in human retinal pigment epithelial cells. <i>Free Radical Biology and Medicine</i> , 2001 , 31, 256-65	7.8	152
113	Senescence, Stress, and Reactive Oxygen Species. <i>Plants</i> , 2015 , 4, 393-411	4.5	145
112	Role of ocular melanin in ophthalmic physiology and pathology. <i>Photochemistry and Photobiology</i> , 2008 , 84, 639-44	3.6	145
111	Light-induced damage to the retina: role of rhodopsin chromophore revisited. <i>Photochemistry and Photobiology</i> , 2005 , 81, 1305-30	3.6	134

110	Neuromelanin can protect against iron-mediated oxidative damage in system modeling iron overload of brain aging and Parkinson's disease. <i>Journal of Neurochemistry</i> , 2008 , 106, 1866-75	6	126
109	Interaction of melanin with oxygen. <i>Archives of Biochemistry and Biophysics</i> , 1980 , 200, 140-8	4.1	125
108	Photocatalytic generation of oxygen radicals by the water-soluble bacteriochlorophyll derivative WST11, noncovalently bound to serum albumin. <i>Journal of Physical Chemistry A</i> , 2009 , 113, 8027-37	2.8	101
107	Cooperation of antioxidants in protection against photosensitized oxidation. <i>Free Radical Biology and Medicine</i> , 2003 , 35, 1319-29	7.8	100
106	Binding of iron to neuromelanin of human substantia nigra and synthetic melanin: an electron paramagnetic resonance spectroscopy study. <i>Free Radical Biology and Medicine</i> , 1997 , 23, 110-9	7.8	97
105	Interactions of plasmalogens and their diacyl analogs with singlet oxygen in selected model systems. <i>Free Radical Biology and Medicine</i> , 2011 , 50, 892-8	7.8	94
104	The effect of a synthetic neuromelanin on yield of free hydroxyl radicals generated in model systems. <i>Biochimica Et Biophysica Acta - Molecular Basis of Disease</i> , 1995 , 1271, 343-8	6.9	89
103	Paradoxical potentiation of methylene blue-mediated antimicrobial photodynamic inactivation by sodium azide: role of ambient oxygen and azide radicals. <i>Free Radical Biology and Medicine</i> , 2012 , 53, 2062-71	7.8	88
102	Spectroscopic and morphological studies of human retinal lipofuscin granules. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 3179-84	11.5	81
101	Potassium Iodide Potentiates Broad-Spectrum Antimicrobial Photodynamic Inactivation Using Photofrin. <i>ACS Infectious Diseases</i> , 2017 , 3, 320-328	5.5	79
100	Photoreactivity of aged human RPE melanosomes: a comparison with lipofuscin. <i>Investigative Ophthalmology and Visual Science</i> , 2002 , 43, 2088-96		78
99	Zeaxanthin in combination with ascorbic acid or alpha-tocopherol protects ARPE-19 cells against photosensitized peroxidation of lipids. <i>Free Radical Biology and Medicine</i> , 2004 , 36, 1094-101	7.8	75
98	Potassium Iodide Potentiates Antimicrobial Photodynamic Inactivation Mediated by Rose Bengal in and Studies. <i>Antimicrobial Agents and Chemotherapy</i> , 2017 , 61,	5.9	74
97	Antimicrobial photodynamic therapy with fulleropyrrolidine: photoinactivation mechanism of Staphylococcus aureus, in vitro and in vivo studies. <i>Applied Microbiology and Biotechnology</i> , 2015 , 99, 4031-43	5.7	74
96	Dynamics of H ₂ O ₂ availability to ARPE-19 cultures in models of oxidative stress. <i>Free Radical Biology and Medicine</i> , 2010 , 48, 1064-70	7.8	73
95	Photoionization thresholds of melanins obtained from free electron laser-photoelectron emission microscopy, femtosecond transient absorption spectroscopy and electron paramagnetic resonance measurements of oxygen photoconsumption. <i>Photochemistry and Photobiology</i> , 2006 , 82, 733-7	3.6	68
94	Hydration-controlled X-band EPR spectroscopy: a tool for unravelling the complexities of the solid-state free radical in eumelanin. <i>Journal of Physical Chemistry B</i> , 2013 , 117, 4965-72	3.4	66
93	Effects of photodegradation on the physical and antioxidant properties of melanosomes isolated from retinal pigment epithelium. <i>Photochemistry and Photobiology</i> , 2006 , 82, 1024-9	3.6	64

92	Age-related changes in the photoreactivity of retinal lipofuscin granules: role of chloroform-insoluble components. <i>Investigative Ophthalmology and Visual Science</i> , 2004 , 45, 1052-60		64
91	Comparison of the aerobic photoreactivity of A2E with its precursor retinal. <i>Photochemistry and Photobiology</i> , 2003 , 77, 253-8	3.6	59
90	Oxidative stress in ARPE-19 cultures: do melanosomes confer cytoprotection?. <i>Free Radical Biology and Medicine</i> , 2006 , 40, 87-100	7.8	58
89	New insight into singlet oxygen generation at surface modified nanocrystalline TiO ₂ —the effect of near-infrared irradiation. <i>Dalton Transactions</i> , 2013 , 42, 9468-75	4.3	55
88	The role of retinal pigment epithelium melanin in photoinduced oxidation of ascorbate. <i>Photochemistry and Photobiology</i> , 1997 , 65, 472-9	3.6	55
87	Pulse radiolysis and steady-state analyses of the reaction between hydroethidine and superoxide and other oxidants. <i>Archives of Biochemistry and Biophysics</i> , 2006 , 456, 39-47	4.1	51
86	The phototoxicity of aged human retinal melanosomes. <i>Photochemistry and Photobiology</i> , 2008 , 84, 650-3.6	3.6	50
85	Human RPE melanosomes protect from photosensitized and iron-mediated oxidation but become pro-oxidant in the presence of iron upon photodegradation. <i>Investigative Ophthalmology and Visual Science</i> , 2008 , 49, 2838-47		47
84	Photodegradation of Eumelanin and Pheomelanin and Its Pathophysiological Implications. <i>Photochemistry and Photobiology</i> , 2018 , 94, 409-420	3.6	46
83	Photobleaching of retinal pigment epithelium melanosomes reduces their ability to inhibit iron-induced peroxidation of lipids. <i>Pigment Cell & Melanoma Research</i> , 2007 , 20, 52-60		46
82	Photoaging of human retinal pigment epithelium is accompanied by oxidative modifications of its eumelanin. <i>Pigment Cell and Melanoma Research</i> , 2013 , 26, 357-66	4.5	43
81	A 3D model of tumour angiogenic microenvironment to monitor hypoxia effects on cell interactions and cancer stem cell selection. <i>Cancer Letters</i> , 2017 , 396, 10-20	9.9	40
80	Thiocyanate potentiates antimicrobial photodynamic therapy: in situ generation of the sulfur trioxide radical anion by singlet oxygen. <i>Free Radical Biology and Medicine</i> , 2013 , 65, 800-810	7.8	39
79	Action spectra for the photoconsumption of oxygen by human ocular lipofuscin and lipofuscin extracts. <i>Archives of Biochemistry and Biophysics</i> , 2002 , 403, 59-62	4.1	36
78	Primary Photophysical Properties of A2E in Solution. <i>Journal of Physical Chemistry B</i> , 2001 , 105, 11507-11512	11.2	36
77	Zinc-induced structural effects enhance oxygen consumption and superoxide generation in synthetic pheomelanins on UVA/visible light irradiation. <i>Photochemistry and Photobiology</i> , 2010 , 86, 757-64	3.6	35
76	Aerobic photoreactivity of synthetic eumelanins and pheomelanins: generation of singlet oxygen and superoxide anion. <i>Pigment Cell and Melanoma Research</i> , 2016 , 29, 669-678	4.5	34
75	Cell elasticity is an important indicator of the metastatic phenotype of melanoma cells. <i>Experimental Dermatology</i> , 2014 , 23, 813-8	4	33

74	The Physical Properties of Melanins	311-341		31
73	Dynamic analyses reveal cytoprotection by RPE melanosomes against non-photoc stress. <i>Molecular Vision</i> , 2011 , 17, 2864-77		2.3	31
72	Effect of untreated and photobleached bovine RPE melanosomes on the photoinduced peroxidation of lipids. <i>Photochemical and Photobiological Sciences</i> , 2009 , 8, 830-7		4.2	30
71	Pulse radiolysis study of the interaction of retinoids with peroxy radicals. <i>Free Radical Biology and Medicine</i> , 2005 , 39, 1399-405		7.8	30
70	Structural differences in unbleached and mildly-bleached synthetic tyrosine-derived melanins identified by scanning probe microscopies. <i>Pigment Cell & Melanoma Research</i> , 2000 , 13, 99-108			30
69	Atomic Force Microscopy and Near-Field Scanning Optical Microscopy Measurements of Single Human Retinal Lipofuscin Granules. <i>Journal of Physical Chemistry B</i> , 2000 , 104, 12098-12101		3.4	29
68	Different molecular constituents in pheomelanin are responsible for emission, transient absorption and oxygen photoconsumption. <i>Photochemistry and Photobiology</i> , 2008 , 84, 437-43		3.6	27
67	Roles of reactive oxygen species in UVA-induced oxidation of 5,6-dihydroxyindole-2-carboxylic acid-melanin as studied by differential spectrophotometric method. <i>Pigment Cell and Melanoma Research</i> , 2016 , 29, 340-51		4.5	26
66	Photochemical studies of porphyrin-melanin interactions. <i>Journal of the Chemical Society, Faraday Transactions 2</i> , 1986 , 82, 1469-1474			25
65	Photolysis of pheomelanin precursors: an ESR-spin trapping study. <i>Photochemistry and Photobiology</i> , 1986 , 44, 689-96		3.6	24
64	Melanosome-iron interactions within retinal pigment epithelium-derived cells. <i>Pigment Cell and Melanoma Research</i> , 2012 , 25, 804-14		4.5	22
63	Nanomechanical analysis of pigmented human melanoma cells. <i>Pigment Cell and Melanoma Research</i> , 2013 , 26, 727-30		4.5	22
62	Photobleaching of melanosomes from retinal pigment epithelium: II. Effects on the response of living cells to photic stress. <i>Photochemistry and Photobiology</i> , 2007 , 83, 925-30		3.6	22
61	Photobleaching of melanosomes from retinal pigment epithelium: I. Effects on protein oxidation. <i>Photochemistry and Photobiology</i> , 2007 , 83, 920-4		3.6	21
60	Redox-Active Quinone Chelators: Properties, Mechanisms of Action, Cell Delivery, and Cell Toxicity. <i>Antioxidants and Redox Signaling</i> , 2018 , 28, 1394-1403		8.4	20
59	Photodynamic Inactivation of <i>Candida albicans</i> with Imidazoacridinones: Influence of Irradiance, Photosensitizer Uptake and Reactive Oxygen Species Generation. <i>PLoS ONE</i> , 2015 , 10, e0129301		3.7	19
58	On the interaction of anisyl-3,4-semiquinone with oxygen. <i>Free Radical Research Communications</i> , 1987 , 4, 131-8			19
57	Free radicals from the photodecomposition of bleomycin. <i>Photochemistry and Photobiology</i> , 1985 , 41, 393-9		3.6	19

56	Ultrafast Energy Transfer from Bound Tetra(4-N,N,N,N-trimethylanilinium)porphyrin to Synthetic Dopa and Cysteinyldopa Melanins. <i>Photochemistry and Photobiology</i> , 2003 , 77, 1	3.6	18
55	Photosensitized oxidative stress to ARPE-19 cells decreases protein receptors that mediate photoreceptor outer segment phagocytosis 2013 , 54, 2276-87		16
54	Changes in production of reactive oxygen species in illuminated thylakoids isolated during development and senescence of barley. <i>Journal of Plant Physiology</i> , 2015 , 184, 49-56	3.6	15
53	Melanoma, Melanin, and Melanogenesis: The Yin and Yang Relationship.. <i>Frontiers in Oncology</i> , 2022 , 12, 842496	5.3	15
52	Lipofuscin-mediated photic stress inhibits phagocytic activity of ARPE-19 cells; effect of donors age and antioxidants. <i>Free Radical Research</i> , 2017 , 51, 799-811	4	14
51	The nanomechanical role of melanin granules in the retinal pigment epithelium. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2017 , 13, 801-807	6	13
50	Inhibition of phagocytic activity of ARPE-19 cells by free radical mediated oxidative stress. <i>Free Radical Research</i> , 2016 , 50, 887-97	4	13
49	Photic injury to cultured RPE varies among individual cells in proportion to their endogenous lipofuscin content as modulated by their melanosome content 2014 , 55, 4982-90		13
48	Sub-lethal photodynamic damage to ARPE-19 cells transiently inhibits their phagocytic activity. <i>Photochemistry and Photobiology</i> , 2010 , 86, 772-80	3.6	13
47	Structural characterization of plasmenylcholine photooxidation products. <i>Photochemistry and Photobiology</i> , 2003 , 78, 323-30	3.6	13
46	Zeaxanthin and Tocopherol reduce the inhibitory effects of photodynamic stress on phagocytosis by ARPE-19 cells. <i>Free Radical Biology and Medicine</i> , 2015 , 89, 873-82	7.8	12
45	Melanopsin: From a small molecule to brain functions. <i>Neuroscience and Biobehavioral Reviews</i> , 2020 , 113, 190-203	9	12
44	Antimicrobial photodynamic inactivation is potentiated by the addition of selenocyanate: Possible involvement of selenocyanogen?. <i>Journal of Biophotonics</i> , 2018 , 11, e201800029	3.1	12
43	Oxidative stress increases HO-1 expression in ARPE-19 cells, but melanosomes suppress the increase when light is the stressor 2013 , 54, 47-56		12
42	Redox Active Transition Metal ions Make Melanin Susceptible to Chemical Degradation Induced by Organic Peroxide. <i>Cell Biochemistry and Biophysics</i> , 2017 , 75, 319-333	3.2	12
41	Photoaging of retinal pigment epithelial melanosomes: The effect of photobleaching on morphology and reactivity of the pigment granules. <i>Free Radical Biology and Medicine</i> , 2016 , 97, 320-329	7.8	11
40	EPR spin labeling measurements of thylakoid membrane fluidity during barley leaf senescence. <i>Journal of Plant Physiology</i> , 2014 , 171, 1046-53	3.6	11
39	Spectroscopic properties and reactivity of free radical forms of A2E. <i>Free Radical Biology and Medicine</i> , 2005 , 38, 1037-46	7.8	11

38	Amphiphilic tetracationic porphyrins are exceptionally active antimicrobial photosensitizers: In vitro and in vivo studies with the free-base and Pd-chelate. <i>Journal of Biophotonics</i> , 2019 , 12, e201800318	3.1	10
37	Photoactivation and Detection of Photoexcited Molecules and Photochemical Products. <i>Israel Journal of Chemistry</i> , 2012 , 52, 745-756	3.4	10
36	Ascorbate enhances photogeneration of hydrogen peroxide mediated by the iris melanin. <i>Photochemistry and Photobiology</i> , 2008 , 84, 683-91	3.6	10
35	Carotenoid Radical-Melanin Interactions. <i>Journal of Physical Chemistry B</i> , 2000 , 104, 7193-7196	3.4	10
34	Developing [60]Fullerene Nanomaterials for Better Photodynamic Treatment of Non-Melanoma Skin Cancers. <i>ACS Biomaterials Science and Engineering</i> , 2020 , 6, 5930-5940	5.5	10
33	Lipofuscin-mediated photodynamic stress induces adverse changes in nanomechanical properties of retinal pigment epithelium cells. <i>Scientific Reports</i> , 2018 , 8, 17929	4.9	10
32	Photobleaching of pheomelanin increases its phototoxic potential: Physicochemical studies of synthetic pheomelanin subjected to aerobic photolysis. <i>Pigment Cell and Melanoma Research</i> , 2019 , 32, 359-372	4.5	8
31	Scavenging of Retinoid Cation Radicals by Urate, Trolox, and β -Carotene and Tocopherols. <i>International Journal of Molecular Sciences</i> , 2019 , 20,	6.3	7
30	phototoxicity of rhodopsin photobleaching products in the retinal pigment epithelium (RPE). <i>Free Radical Research</i> , 2019 , 53, 456-471	4	7
29	EPR Studies on the Properties of Model Photoreceptor Membranes Made of Natural and Synthetic Lipids. <i>Cell Biochemistry and Biophysics</i> , 2017 , 75, 433-442	3.2	7
28	Interaction of iron ions with melanin. <i>Acta Biochimica Polonica</i> , 2019 , 66, 459-462	2	7
27	Sodium nitrite potentiates antimicrobial photodynamic inactivation: possible involvement of peroxyxynitrate. <i>Photochemical and Photobiological Sciences</i> , 2019 , 18, 505-515	4.2	6
26	Comparison of thiocyanate and selenocyanate for potentiation of antimicrobial photodynamic therapy. <i>Journal of Biophotonics</i> , 2019 , 12, e201800092	3.1	6
25	Uniform field loop-gap resonator and rectangular TE for aqueous sample EPR at 94GHz. <i>Journal of Magnetic Resonance</i> , 2017 , 282, 129-135	3	6
24	9-cis Retinal Increased in Retina of RPE65 Knockout Mice with Decrease in Coat Pigmentation. <i>Photochemistry and Photobiology</i> , 2006 , 82, 1461-1467	3.6	6
23	Investigation of photoexcited states in porcine eumelanin through their transient radical products. <i>Journal of Physical Chemistry B</i> , 2009 , 113, 10480-2	3.4	5
22	The effect of aging and antioxidants on photoreactivity and phototoxicity of human melanosomes: An in vitro study. <i>Pigment Cell and Melanoma Research</i> , 2021 , 34, 670-682	4.5	5
21	The Ability of Functionalized Fullerenes and Surface-Modified TiO Nanoparticles to Photosensitize Peroxidation of Lipids in Selected Model Systems. <i>Photochemistry and Photobiology</i> , 2019 , 95, 227-236	3.6	5

20	Farnesol potentiates photodynamic inactivation of <i>Staphylococcus aureus</i> with the use of red light-activated porphyrin TMPyP. <i>Journal of Photochemistry and Photobiology B: Biology</i> , 2020 , 206, 1118-63	6.7	4
19	Phototoxicity of the Eye 1994 , 125-141		4
18	Zeaxanthin and Lutein in the Management of Eye Diseases. <i>Journal of Ophthalmology</i> , 2016 , 2016, 4915-216	2	4
17	Oxidized Lipids Decrease Phagocytic Activity of ARPE-19 Cells In Vitro. <i>European Journal of Lipid Science and Technology</i> , 2019 , 121, 1800476	3	3
16	Quercetin protects ARPE-19 cells against photic stress mediated by the products of rhodopsin photobleaching. <i>Photochemical and Photobiological Sciences</i> , 2020 , 19, 1022-1034	4.2	3
15	Ultrafast Energy Transfer from Bound Tetra(4-N,N,N,N-trimethylanilinium)porphyrin to Synthetic Dopa and Cysteinyldopa Melanins. <i>Photochemistry and Photobiology</i> , 2007 , 77, 1-4	3.6	3
14	Comparison of the Aerobic Photoreactivity of A2E with its Precursor Retinal. <i>Photochemistry and Photobiology</i> , 2007 , 77, 253-258	3.6	3
13	Interaction of Melanin with Metal Ions Modulates Their Cytotoxic Potential. <i>Applied Magnetic Resonance</i> , 1	0.8	3
12	Ultrafast energy transfer from bound tetra(4-N,N,N,N-trimethylanilinium)porphyrin to synthetic dopa and cysteinyldopa melanins. <i>Photochemistry and Photobiology</i> , 2003 , 77, 1-4	3.6	3
11	Regulation of Melanopsin Signaling: Key Interactions of the Nonvisual Photopigment. <i>Photochemistry and Photobiology</i> , 2019 , 95, 83-94	3.6	2
10	The influence of iron on selected properties of synthetic pheomelanin. <i>Cell Biochemistry and Biophysics</i> , 2020 , 78, 181-189	3.2	2
9	The Effect of Antioxidants on Photoreactivity and Phototoxic Potential of RPE Melanolipofuscin Granules from Human Donors of Different Age. <i>Antioxidants</i> , 2020 , 9,	7.1	2
8	Probing the Spatial Dependence of the Emission Spectrum of Single Human Retinal Lipofuscin Granules Using Near-field Scanning Optical Microscopy. <i>Photochemistry and Photobiology</i> , 2007 , 74, 364-368	3.6	1
7	Structural Characterization of Plasmemylcholine Photooxidation Products. <i>Photochemistry and Photobiology</i> , 2007 , 78, 323-330	3.6	1
6	Melanin and Oxidative Reactions 2008 , 147-158		1
5	Photoreactivity of Bis-retinoid A2E Complexed with a Model Protein in Selected Model Systems. <i>Cell Biochemistry and Biophysics</i> , 2020 , 78, 415-427	3.2	1
4	The role of hydrogen peroxide and singlet oxygen in the photodegradation of melanin. <i>Photochemical and Photobiological Sciences</i> , 2020 , 19, 654-667	4.2	1
3	Removal of RPE lipofuscin results in rescue from retinal degeneration in a mouse model of advanced Stargardt disease: Role of reactive oxygen species.. <i>Free Radical Biology and Medicine</i> , 2022 , 182, 132-149	7.8	1

- 2 Melanopsin Signaling Pathway in HEK293 Cell Line with Stable Expression of Human Melanopsin: Possible Participation of Phospholipase C beta 4 and Diacylglycerol. *Photochemistry and Photobiology*, **2021**, 97, 1136-1144 3.6 0
- 1 Comparison of photodynamic efficiency of cholesterol, selected cholesterol esters, metabolites and oxidation products on lipid peroxidation processes. *Acta Biochimica Polonica*, **2021**, 68, 527-533 2