Manickam Sugumaran

List of Publications by Year
in descending order

83 papers	3,442 citations	126858 33 h-index	149623 56 g-index
83 all docs	83 docs citations	83 times ranked	2152 citing authors

#	Article	IF	Citations
1	Comparative Biochemistry of Eumelanogenesis and the Protective Roles of Phenoloxidase and Melanin in Insects. Pigment Cell & Melanoma Research, 2002, 15, 2-9.	4.0	432
2	Critical Analysis of the Melanogenic Pathway in Insects and Higher Animals. International Journal of Molecular Sciences, 2016, 17, 1753.	1.8	143
3	Biological and toxicological consequences of quinone methide formation. Chemico-Biological Interactions, 1993, 86, 129-162.	1.7	130
4	Molecular Mechanisms for Cuticular Sclerotization. Advances in Insect Physiology, 1988, 21, 179-231.	1.1	129
5	Unified Mechanism for Sclerotization of Insect Cuticle. Advances in Insect Physiology, 1998, , 229-334.	1.1	114
6	Purification, characterization and molecular cloning of prophenoloxidases from Sarcophaga bullata. Insect Biochemistry and Molecular Biology, 2000, 30, 953-967.	1.2	103
7	Molecular mechanisms for mammalian melanogenesis Comparison with insect cuticular sclerotization1. FEBS Letters, 1991, 293, 4-10.	1.3	79
8	Molecular mechanisms for mammalian melanogenesis. FEBS Letters, 1991, 295, 233-239.	1.3	79
9	Lysolecithin â€" A potent activator of prophenoloxidase from the hemolymph of the lobster, Homarus americanas. Biochemical and Biophysical Research Communications, 1991, 176, 1371-1376.	1.0	75
10	Tyrosinase catalyzes an unusual oxidative decarboxylation of 3,4-dihydroxymandelate. Biochemistry, 1986, 25, 4489-4492.	1.2	73
11	Studies on the enzymes involved in puparial cuticle sclerotization inDrosophila melanogaster. Archives of Insect Biochemistry and Physiology, 1992, 19, 271-283.	0.6	73
12	Chemical Reactivities of ortho-Quinones Produced in Living Organisms: Fate of Quinonoid Products Formed by Tyrosinase and Phenoloxidase Action on Phenols and Catechols. International Journal of Molecular Sciences, 2020, 21, 6080.	1.8	72
13	Protease mediated prophenoloxidase activation in the hemolymph of the tobacco hornworm,Manduca sexta. Archives of Insect Biochemistry and Physiology, 1987, 5, 1-11.	0.6	68
14	Quinone methide sclerotization: A revised mechanism for Î²-sclerotization of insect cuticle. Bioorganic Chemistry, 1987, 15, 194-211.	2.0	68
15	A novel quinone: Quinone methide isomerase generates quinone methides in insect cuticle. FEBS Letters, 1988, 237, 155-158.	1.3	68
16	Endogenous protease inhibitors prevent undesired activation of prophenolase in insect hemolymph. Biochemical and Biophysical Research Communications, 1985, 132, 1124-1129.	1.0	67
17	Reactivities of Quinone Methides versus o-Quinones in Catecholamine Metabolism and Eumelanin Biosynthesis. International Journal of Molecular Sciences, 2016, 17, 1576.	1.8	64
18	Protease inhibitor controls prophenoloxidase activation in Manduca sexta. FEBS Letters, 1986, 208, 113-116.	1.3	58

#	Article	IF	Citations
19	A New Mechanism for the Control of Phenoloxidase Activity: Inhibition and Complex Formation with Quinone Isomerase. Archives of Biochemistry and Biophysics, 2000, 379, 252-260.	1.4	58
20	Regulation of Insect Hemolymph Phenoloxidases. , 1993, , 317-342.		53
21	Protein cross-linking by peroxidase: Possible mechanism for sclerotization of insect cuticle. Archives of Insect Biochemistry and Physiology, 1987, 5, 13-28.	0.6	47
22	N -acetyldopamine quinone methide/1,2-dehydro-N -acetyl dopamine tautomerase. FEBS Letters, 1989, 255, 340-344.	1.3	47
23	Chemistry of Cuticular Sclerotization. Advances in Insect Physiology, 2010, 39, 151-209.	1.1	46
24	Characterization of a new enzyme system that desaturates the side chain ofN-acetyldopamine. FEBS Letters, 1989, 251, 69-73.	1.3	45
25	Prophenoloxidase activation in the hemolymph ofSarcophaga bullata larvae. Archives of Insect Biochemistry and Physiology, 1988, 7, 91-103.	0.6	44
26	Chemical- and cuticular phenoloxidase- mediated synthesis of cysteinyl-catechol adducts. Archives of Insect Biochemistry and Physiology, 1989, 11, 127-137.	0.6	43
27	o -Quinone/quinone methide isomerase: A novel enzyme preventing the destruction of self-matter by phenoloxidase-generated quinones during immune response in insects. FEBS Letters, 1989, 249, 155-158.	1.3	42
28	Bioactive Dehydrotyrosyl and Dehydrodopyl Compounds of Marine Origin. Marine Drugs, 2010, 8, 2906-2935.	2.2	40
29	The crosslinking and antimicrobial properties of tunichrome. Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 2008, 151, 110-117.	0.7	39
30	On the nature of nonenzymatic and enzymatic oxidation of the putative sclerotizing precursor, 1,2-dehydro-N-acetyldopamine. Archives of Insect Biochemistry and Physiology, 1988, 8, 89-100.	0.6	37
31	Characterization of a Defense Complex Consisting of Interleukin 1 and Phenol Oxidase from the Hemolymph of the Tobacco Hornworm, Manduca sexta. Journal of Biological Chemistry, 1996, 271, 11035-11038.	1.6	37
32	Insect cuticular melanins are distinctly different from those of mammalian epidermal melanins. Pigment Cell and Melanoma Research, 2018, 31, 384-392.	1.5	37
33	Tyrosinase catalyzed protein polymerization as an in vitro model for quinone tanning of insect cuticle. Archives of Insect Biochemistry and Physiology, 1987, 6, 9-25.	0.6	36
34	Quinone methides?and not dehydrodopamine derivatives?as reactive intermediates of ?-sclerotization in the puparia of flesh flySarcophaga bullata. Archives of Insect Biochemistry and Physiology, 1988, 8, 73-88.	0.6	35
35	Unusual, intramolecular cyclization and side chain desaturation of carboxyethyl-o-benzoquinone derivatives. Bioorganic Chemistry, 1989, 17, 443-453.	2.0	35
36	Characterization of a New Phenoloxidase Inhibitor from the Cuticle of Manduca sexta. Biochemical and Biophysical Research Communications, 2000, 268, 379-383.	1.0	34

#	Article	IF	Citations
37	On the mechanism of formation of N-acetyldopamine quinone methide in insect cuticle. Archives of Insect Biochemistry and Physiology, 1988, 9, 269-281.	0.6	33
38	Formation of a stable quinone methide during tyrosinase-catalyzed oxidation of Î±-methyl dopa methyl ester and its implication in melanin biosynthesis. Bioorganic Chemistry, 1990, 18, 144-153.	2.0	33
39	On the latency and nature of phenoloxidase present in the left colleterial gland of the cockroachPeriplaneta americana. Archives of Insect Biochemistry and Physiology, 1990, 15, 165-181.	0.6	31
40	Complexities of cuticular pigmentation in insects. Pigment Cell and Melanoma Research, 2009, 22, 523-525.	1.5	30
41	Structure, biosynthesis and possible function of tunichromes and related compounds. Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 2012, 163, 1-25.	0.7	30
42	Novel transformations of enzymatically generated carboxymethyl-o-benzoquinone to 2,5,6-trihydroxybenzofuran and 3,4-dihydroxymandelic acid. Bioorganic Chemistry, 1989, 17, 86-95.	2.0	28
43	Trapping of transiently formed quinone methide during enzymatic conversion of N -acetyldopamine to N -acetylnorepinephrine. FEBS Letters, 1989, 252, 135-138.	1.3	27
44	Insect Melanogenesis. Archives of Biochemistry and Biophysics, 2000, 378, 393-403.	1.4	27
45	Oxidation Chemistry of 1,2-Dehydro-N-acetyldopamines: Direct Evidence for the Formation of 1,2-Dehydro-N-acetyldopamine Quinone. Archives of Biochemistry and Biophysics, 2000, 378, 404-410.	1.4	26
46	AN IMPROVED SYNTHESIS OF 1, 2-DEHYDRO-N-ACETYLDOPAMINE. Organic Preparations and Procedures International, 1988, 20, 191-195.	0.6	25
47	Laccaseâ€"and Not Tyrosinaseâ€"Is the Enzyme Responsible for Quinone Methide Production from 2,6-Dimethoxy-4-allyl Phenol. Archives of Biochemistry and Biophysics, 1998, 353, 207-212.	1.4	25
48	Reexamination of the mechanisms of oxidative transformation of the insect cuticular sclerotizing precursor, 1,2-dehydro-N-acetyldopamine. Insect Biochemistry and Molecular Biology, 2010, 40, 650-659.	1.2	23
49	Nonenzymatic transformations of enzymatically generated N -acetyldopamine quinone and isomeric dihydrocaffeiyl methyl amide quinone. FEBS Letters, 1989, 255, 345-349.	1.3	22
50	Oxidation of 3,4-dihydroxybenzyl alcohol: A sclerotizing precursor for cockroach ootheca. Archives of Insect Biochemistry and Physiology, 1991, 16, 31-44.	0.6	22
51	Insect Melanogenesis. II. Inability of Manduca Phenoloxidase to Act on 5, 6-Dihydroxyindole-2-Carboxylic Acid1. Pigment Cell & Melanoma Research, 1999, 12, 118-125.	4.0	22
52	On the oxidation of 3,4-dihydroxyphenethyl alcohol and 3,4-dihydroxyphenyl glycol by cuticular enzyme(s) fromSarcophaga bullata. Archives of Insect Biochemistry and Physiology, 1989, 10, 13-27.	0.6	21
53	Biosynthesis of dehydro-N-acetyldopamine by a soluble enzyme preparation from the larval cuticle ofSarcophaga bullata involves intermediary formation of N-acetyldopamine quinone and N-acetyldopamine quinone methide. Archives of Insect Biochemistry and Physiology, 1990, 15, 237-254.	0.6	21
54	Formation of a New Quinone Methide Intermediate during the Oxidative Transformation of 3,4-Dihydroxyphenylacetic Acids: Implication for Eumelanin Biosynthesis. Archives of Biochemistry and Biophysics, 1999, 371, 98-106.	1.4	21

#	Article	IF	Citations
55	Mechanism of activation of 1,2-dehydro-N-acetyldopamine for cuticular sclerotization. Archives of Insect Biochemistry and Physiology, 1990, 14, 93-109.	0.6	20
56	Model sclerotization studies. 3. Cuticular enzyme catalyzed oxidation of peptidyl model tyrosine and dopa derivatives. Archives of Insect Biochemistry and Physiology, 1995, 28, 17-32.	0.6	20
57	Model sclerotization studies. 4. Generation of N-acetylmethionyl catechol adducts during tyrosinase-catalyzed oxidation of catechols in the presence of N-acetylmethionine. Archives of Insect Biochemistry and Physiology, 1998, 38, 44-52.	0.6	18
58	On the mechanism of side chain oxidation of N-?-alanyldopamine by cuticular enzymes fromSarcophaga bullata. Archives of Insect Biochemistry and Physiology, 1990, 15, 255-269.	0.6	17
59	Unraveling complex molecular transformations of <i>N</i>â€Î²â€alanyldopamine that account for brown coloration of insect cuticle. Rapid Communications in Mass Spectrometry, 2017, 31, 1363-1373.	0.7	16
60	Differential mechanism of oxidation of N-acetyldopamine and N-acetylnorepinephrine by cuticular phenoloxidase fromSarcophaga bullata. Archives of Insect Biochemistry and Physiology, 1988, 8, 229-241.	0.6	15
61	Further studies on the mechanism of oxidation of N-acetyldopamine by the cuticular enzymes fromSarcophaga bullata and other insects. Archives of Insect Biochemistry and Physiology, 1989, 11, 109-125.	0.6	15
62	Tyrosinase-Catalyzed Oxidation of 3,4-Dihydroxyphenylglycine. Archives of Biochemistry and Biophysics, 1996, 329, 175-180.	1.4	15
63	Quinone and quinone methide as transient intermediates involved in the side chain hydroxylation of N-acyldopamine derivatives by soluble enzymes fromManduca sexta cuticle. Archives of Insect Biochemistry and Physiology, 1991, 16, 123-138.	0.6	14
64	Oxidative transformation of a tunichrome model compound provides new insight into the crosslinking and defense reaction of tunichromes. Bioorganic Chemistry, 2017, 71, 219-229.	2.0	14
65	Nonenzymatic Spontaneous Oxidative Transformation of 5,6-Dihydroxyindole. International Journal of Molecular Sciences, 2020, 21, 7321.	1.8	14
66	Characterization of quinone tautomerase activity in the hemolymph ofSarcophaga bullata larvae. Archives of Insect Biochemistry and Physiology, 1989, 12, 157-172.	0.6	13
67	Quinone methide as a reactive intermediate formed during the biosynthesis of papiliochrome II, a yellow wing pigment of papilionid butterflies. FEBS Letters, 1991, 279, 145-148.	1.3	13
68	Letter to the Editor. Pigment Cell & Melanoma Research, 1992, 5, 203-204.	4.0	13
69	Control Mechanisms of the Prophenoloxidase Cascade. Advances in Experimental Medicine and Biology, 2001, 484, 289-298.	0.8	12
70	Mass spectrometric studies shed light on unusual oxidative transformations of 1,2â€dehydroâ€<i>N</i>â€acetyldopa. Rapid Communications in Mass Spectrometry, 2013, 27, 1785-1793.	0.7	11
71	Drosophila yellowâ€h encodes dopaminechrome tautomerase: A new enzyme in the eumelanin biosynthetic pathway. Pigment Cell and Melanoma Research, 2021, , .	1.5	10
72	Complex Formation Between Mushroom Tyrosinase and Manduca Dopachrome Isomerase. Pigment Cell & Melanoma Research, 1995, 8, 180-186.	4.0	9

#	Article	IF	Citations
73	Novel post-translational oligomerization of peptidyl dehydrodopa model compound, 1,2-dehydro-N-acetyldopa methyl ester. Bioorganic Chemistry, 2016, 66, 33-40.	2.0	9
74	Density Functional Theory-Based Calculation Shed New Light on the Bizarre Addition of Cysteine Thiol to Dopaquinone. International Journal of Molecular Sciences, 2021, 22, 1373.	1.8	9
75	Genomic and cDNA Sequence of Prophenoloxidases From Drosophila Melanogaster. Advances in Experimental Medicine and Biology, 2001, 484, 349-362.	0.8	8
76	Cuticular sclerotization in insects â€“ A critical review. Advances in Insect Physiology, 2022, , 111-214.	1.1	8
77	Oxidation of 3,4-Dihydroxybenzylamine Affords 3,4-Dihydroxybenzaldehyde via the Quinone Methide Intermediate. Pigment Cell & Melanoma Research, 1995, 8, 250-254.	4.0	7
78	Oxidative transformation of tunichromes â€“ Model studies with 1,2-dehydro-N-acetyldopamine and N-acetylcysteine. Bioorganic Chemistry, 2017, 73, 53-62.	2.0	7
79	<i>Drosophila melanogaster</i> has the enzymatic machinery to make the melanic component of neuromelanin. Pigment Cell and Melanoma Research, 2018, 31, 683-692.	1.5	5
80	Oxidative Transformations of 3,4-Dihydroxyphenylacetaldehyde Generate Potential Reactive Intermediates as Causative Agents for Its Neurotoxicity. International Journal of Molecular Sciences, 2021, 22, 11751.	1.8	4
81	On the mechanism of formation of arterenone in insect cuticular hydrolyzates. Insect Biochemistry and Molecular Biology, 2013, 43, 209-218.	1.2	3
82	Oxidative Oligomerization of DBL Catechol, a potential Cytotoxic Compound for Melanocytes, Reveals the Occurrence of Novel Ionic Diels-Alder Type Additions. International Journal of Molecular Sciences, 2020, 21, 6774.	1.8	3
83	Hardening and tanning ofÂinsect ootheca, egg cases, egg sac, chorion, and silk. Advances in Insect Physiology, 2022, , 215-271.	1.1	3