

Peter Kast

List of Publications by Year in descending order

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29
papers

2,032
citations

304743

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477307

29
g-index

30
all docs

30
docs citations

30
times ranked

1855
citing authors

#	ARTICLE	IF	CITATIONS
1	Protein Design by Directed Evolution. Annual Review of Biophysics, 2008, 37, 153-173.	10.0	344
2	An evolution-based model for designing chorismate mutase enzymes. Science, 2020, 369, 440-445.	12.6	195
3	Investigating and Engineering Enzymes by Genetic Selection. Angewandte Chemie - International Edition, 2001, 40, 3310-3335.	13.8	182
4	Redesigning Enzyme Topology by Directed Evolution. Science, 1998, 279, 1958-1961.	12.6	139
5	Amino acid substrate specificity of Escherichia coli phenylalanyl-tRNA synthetase altered by distinct mutations. Journal of Molecular Biology, 1991, 222, 99-124.	4.2	132
6	Salicylate Biosynthesis in Pseudomonas aeruginosa. Journal of Biological Chemistry, 2002, 277, 21768-21775.	3.4	115
7	pKSS â€” A second-generation general purpose cloning vector for efficient positive selection of recombinant clones. Gene, 1994, 138, 109-114.	2.2	91
8	A Small, Thermostable, and Monofunctional Chorismate Mutase from the Archeon Methanococcus jannaschii. Biochemistry, 1998, 37, 10062-10073.	2.5	88
9	Heavy Atom Isotope Effects Reveal a Highly Polarized Transition State for Chorismate Mutase. Journal of the American Chemical Society, 1999, 121, 1756-1757.	13.7	88
10	Characterization of the secreted chorismate mutase from the pathogen Mycobacterium tuberculosis. FEBS Journal, 2005, 272, 375-389.	4.7	68
11	1.6Å... Crystal Structure of the Secreted Chorismate Mutase from Mycobacterium tuberculosis: Novel Fold Topology Revealed. Journal of Molecular Biology, 2006, 357, 1483-1499.	4.2	55
12	Bacillus subtilis chorismate mutase is partially diffusion-controlled. FEBS Journal, 1999, 261, 25-32.	0.2	54
13	Mechanistic Insights into the Isochorismate Pyruvate Lyase Activity of the Catalytically Promiscuous PchB from Combinatorial Mutagenesis and Selection. Journal of Biological Chemistry, 2005, 280, 32827-32834.	3.4	54
14	Structure and function of a complex between chorismate mutase and DAHP synthase: efficiency boost for the junior partner. EMBO Journal, 2009, 28, 2128-2142.	7.8	52
15	UGA Read-Through Artifactsâ€”When Popular Gene Expression Systems Need a pATCH. BioTechniques, 1998, 24, 789-794.	1.8	50
16	Efficient in Vivo Synthesis and Rapid Purification of Chorismic Acid Using an Engineered Escherichia coli Strain. Bioorganic Chemistry, 1997, 25, 297-305.	4.1	45
17	Probing the Role of the C-Terminus of Bacillus subtilis Chorismate Mutase by a Novel Random Protein-Termination Strategyâ€”. Biochemistry, 2000, 39, 14087-14094.	2.5	37
18	Probing enzyme quaternary structure by combinatorial mutagenesis and selection. Protein Science, 1998, 7, 1757-1767.	7.6	31

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19	Electrostatic transition state stabilization rather than reactant destabilization provides the chemical basis for efficient chorismate mutase catalysis. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 17516-17521.	7.1	31
20	Exhaustive Mutagenesis of Six Secondary Active-Site Residues in <i>Escherichia coli</i> Chorismate Mutase Shows the Importance of Hydrophobic Side Chains and a Helix N-Capping Position for Stability and Catalysis. Biochemistry, 2007, 46, 6883-6891.	2.5	30
21	Remote Control by Inter-Enzyme Allostery: A Novel Paradigm for Regulation of the Shikimate Pathway. Journal of Molecular Biology, 2016, 428, 1237-1255.	4.2	26
22	Inter-Enzyme Allosteric Regulation of Chorismate Mutase in <i>Corynebacterium glutamicum</i> : Structural Basis of Feedback Activation by Trp. Biochemistry, 2018, 57, 557-573.	2.5	23
23	Exploring sequence constraints on an interhelical turn using in vivo selection for catalytic activity. Protein Science, 1998, 7, 325-335.	7.6	20
24	An N-Terminal Protein Degradation Tag Enables Robust Selection of Highly Active Enzymes. Biochemistry, 2011, 50, 8594-8602.	2.5	20
25	Functional Mapping of Protein-Protein Interactions in an Enzyme Complex by Directed Evolution. PLoS ONE, 2014, 9, e116234.	2.5	16
26	Genetic selection strategies for generating and characterizing catalysts. Pure and Applied Chemistry, 1996, 68, 2017-2024.	1.9	14
27	Evolutionary Cycles for Pericyclic Reactions – Or Why We Keep Mutating Mutases. Chimia, 2009, 63, 313.	0.6	11
28	Affinity maturation of a computationally designed binding protein affords a functional but disordered polypeptide. Journal of Structural Biology, 2014, 185, 168-177.	2.8	10
29	Evolving the naturally compromised chorismate mutase from <i>Mycobacterium tuberculosis</i> to top performance. Journal of Biological Chemistry, 2020, 295, 17514-17534.	3.4	10