Kalyan C Vinnakota

List of Publications by Year
in descending order

49 papers	1,030 citations	489802 18 h-index	488211 31 g-index
50 all docs	50 docs citations	50 times ranked	1573 citing authors

#	Article	IF	Citations
1	Predicting changes in renal metabolism after compound exposure with a genome-scale metabolic model. Toxicology and Applied Pharmacology, 2021, 412, 115390.	1.3	10
2	Identifying functional metabolic shifts in heart failure with the integration of omics data and a heart-specific, genome-scale model. Cell Reports, 2021, 34, 108836.	2.9	15
3	Genome-Scale Model-Based Identification of Metabolite Indicators for Early Detection of Kidney Toxicity. Toxicological Sciences, 2020, 173, 293-312.	1.4	5
4	Genome-Scale Characterization of Toxicity-Induced Metabolic Alterations in Primary Hepatocytes. Toxicological Sciences, 2019, 172, 279-291.	1.4	15
5	Network Modeling of Liver Metabolism to Predict Plasma Metabolite Changes During Short-Term Fasting in the Laboratory Rat. Frontiers in Physiology, 2019, 10, 161.	1.3	6
6	Mechanistic identification of biofluid metabolite changes as markers of acetaminophen-induced liver toxicity in rats. Toxicology and Applied Pharmacology, 2019, 372, 19-32.	1.3	32
7	A simplified metabolic network reconstruction to promote understanding and development of flux balance analysis tools. Computers in Biology and Medicine, 2019, 105, 64-71.	3.9	21
8	Metabolic network-based predictions of toxicant-induced metabolite changes in the laboratory rat. Scientific Reports, 2018, 8, 11678.	1.6	37
9	Systems-level computational modeling demonstrates fuel selection switching in high capacity running and low capacity running rats. PLoS Computational Biology, 2018, 14, e1005982.	1.5	4
10	Estrogen maintains mitochondrial content and function in the right ventricle of rats with pulmonary hypertension. Physiological Reports, 2017, 5, e13157.	0.7	39
11	Mitochondrial structure and function are not different between nonfailing donor and endâ€stage failing human hearts. FASEB Journal, 2016, 30, 2698-2707.	0.2	21
12	Feedback Regulation and Time Hierarchy of Oxidative Phosphorylation in Cardiac Mitochondria. Biophysical Journal, 2016, 110, 972-980.	0.2	26
13	Open-Loop Control of Oxidative Phosphorylation in Skeletal and Cardiac Muscle Mitochondria by Ca2+. Biophysical Journal, 2016, 110, 954-961.	0.2	16
14	Influence of metabolic dysfunction on cardiac mechanics in decompensated hypertrophy and heart failure. Journal of Molecular and Cellular Cardiology, 2016, 94, 162-175.	0.9	25
15	Catalytic Coupling of Oxidative Phosphorylation, ATP Demand, and Reactive Oxygen Species Generation. Biophysical Journal, 2016, 110, 962-971.	0.2	55
16	Improving the physiological realism of experimental models. Interface Focus, 2016, 6, 20150076.	1.5	4
17	Characterization of the Kinetics of Cardiac Cytosolic Malate Dehydrogenase and Comparative Analysis of Cytosolic and Mitochondrial Isoforms. Biophysical Journal, 2015, 108, 420-430.	0.2	12
18	Determination of the Catalytic Mechanism for Mitochondrial Malate Dehydrogenase. Biophysical Journal, 2015, 108, 408-419.	0.2	19

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19	Analysis of the Kinetics and Bistability of Ubiquinol:Cytochrome c Oxidoreductase. Biophysical Journal, 2013, 105, 343-355.	0.2	24
20	Carrier-Mediated Transport Through Biomembranes. , 2013, , 181-212.		1
21	A Minimal Model of Ubiquinol:Cytochrome C Reductase Capable of Simulating Superoxide Production. Biophysical Journal, 2013, 104, 304a.	0.2	0
22	Optimization and Parameter Estimation, Genetic Algorithms. , 2013, , 1600-1604.		4
23	Modeling to Link Regional Myocardial Work, Metabolism and Blood Flows. Annals of Biomedical Engineering, 2012, 40, 2379-2398.	1.3	13
24	A Quantitative Description of Oxidative Phosphorylation in Cardiac Mitochondria. Biophysical Journal, 2012, 102, 572a.	0.2	0
25	Mitochondrial sensitivity to regulatory signals in muscle energy balance: is it constant during exercise?. FASEB Journal, 2012, 26, 887.13.	0.2	0
26	Elucidation of mechanisms of biochemical regulation of fumarase activity under physiological conditions. FASEB Journal, 2012, 26, 963.14.	0.2	0
27	Kinetic Analysis and Design of Experiments to Identify the Catalytic Mechanism of the Monocarboxylate Transporter Isoforms 4 and 1. Biophysical Journal, 2011, 100, 369-380.	0.2	21
28	Last Word on Point:Counterpoint: Muscle lactate and H⁺ production do/do not have a 1:1 association. Journal of Applied Physiology, 2011, 110, 1497-1497.	1.2	0
29	Last Word on Point:Counterpoint: Muscle lactate and H⁺ production do/do not have a 1:1 association. Journal of Applied Physiology, 2011, 110, 1498-1498.	1.2	0
30	Stimulatory Effects of Calcium on Respiration and NAD(P)H Synthesis in Intact Rat Heart Mitochondria Utilizing Physiological Substrates Cannot Explain Respiratory Control in Vivo. Journal of Biological Chemistry, 2011, 286, 30816-30822.	1.6	22
31	Point: Muscle lactate and H⁺ production do have a 1:1 association in skeletal muscle. Journal of Applied Physiology, 2011, 110, 1487-1489.	1.2	7
32	Identification of the Catalytic Mechanism and Estimation of Kinetic Parameters for Fumarase. Journal of Biological Chemistry, 2011, 286, 21100-21109.	1.6	28
33	Calcium has no stimulatory effect on respiration or NADH synthesis in intact rat heart mitochondria utilizing physiological substrates. FASEB Journal, 2011, 25, 1033.2.	0.2	1
34	Common phenotype of resting mouse extensor digitorum longus and soleus muscles: equal ATPase and glycolytic flux during transient anoxia. Journal of Physiology, 2010, 588, 1961-1983.	1.3	13
35	Analysis of the diffusion of Ras2 in<i>Saccharomyces cerevisiae</i>using fluorescence recovery after photobleaching. Physical Biology, 2010, 7, 026011.	0.8	20
36	A Database of Thermodynamic Quantities for the Reactions of Glycolysis and the Tricarboxylic Acid Cycle. Journal of Physical Chemistry B, 2010, 114, 16068-16082.	1.2	23

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37	Design of experiments for identification of complex biochemical systems with applications to mitochondrial bioenergetics. , 2009, 2009, 4171-4.		0
38	BISEN: Biochemical Simulation Environment. Bioinformatics, 2009, 25, 836-837.	1.8	13
39	Chapter 2 Multiple Ion Binding Equilibria, Reaction Kinetics, and Thermodynamics in Dynamic Models of Biochemical Pathways. Methods in Enzymology, 2009, 454, 29-68.	0.4	20
40	Diffusion and Exchange of Non-Integral Membrane Associated Fluorophores During Fluorescence Recovery After Photobleaching with the Confocal Laser Scanning Microscope: ROI Size Analysis of EGFP:Ras2 Plasma Membrane Diffusion in Saccharomyces cerevisiae. Biophysical Journal, 2009, 96, 32a-33a.	0.2	0
41	Modeling Regulation of Mitochondrial Free Ca2+ by ATP/ADP-Dependent Ca2+ Buffering. Biophysical Journal, 2009, 96, 8a.	0.2	0
42	Computational Analysis of Cardiac Energetics during Ischemia and Reperfusion in Bufferâ€Perfused Rabbit Hearts. FASEB Journal, 2009, 23, 763.4.	0.2	0
43	Regulation of ENaC expression at the cell surface by Rab11. Biochemical and Biophysical Research Communications, 2008, 377, 521-525.	1.0	40
44	Detailed Enzyme Kinetics in Terms of Biochemical Species: Study of Citrate Synthase. PLoS ONE, 2008, 3, e1825.	1.1	18
45	ADP and CCCP â€induced increases in mitochondrial free Ca 2+ : greater contribution of matrix Ca 2+ buffering by ATP/ADP. FASEB Journal, 2008, 22, 756.6.	0.2	0
46	Computer Modeling of Mitochondrial Tricarboxylic Acid Cycle, Oxidative Phosphorylation, Metabolite Transport, and Electrophysiology*. Journal of Biological Chemistry, 2007, 282, 24525-24537.	1.6	174
47	Dynamics of Muscle Glycogenolysis Modeled with pH Time Course Computation and pH-Dependent Reaction Equilibria and Enzyme Kinetics. Biophysical Journal, 2006, 91, 1264-1287.	0.2	59
48	The Computational Integrated Myocyte: A View into the Virtual Heart. Annals of the New York Academy of Sciences, 2004, 1015, 391-404.	1.8	14
49	Myocardial density and composition: a basis for calculating intracellular metabolite concentrations. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 286, H1742-H1749.	1.5	152