Fumihide Shiraishi

List of Publications by Year
in descending order

56 papers	1,044 citations	471509 17 h-index	454955 30 g-index
58 all docs	58 docs citations	58 times ranked	954 citing authors

#	Article	IF	Citations
1	Preserving the quality of agricultural products via the photocatalytic decomposition of ethylene in a spiral-type reactor. Chemical Engineering Journal Advances, 2021, 7, 100111.	5.2	2
2	A Promising Method for Calculating True Steady-State Metabolite Concentrations in Large-Scale Metabolic Reaction Network Models. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2020, 17, 27-36.	3.0	2
3	Enhancing the photocatalytic decomposition of acetaldehyde in air by immobilized titanium dioxide. Journal of Chemical Technology and Biotechnology, 2020, 95, 2034-2044.	3.2	2
4	Evaluation of an S-system root-finding method for estimating parameters in a metabolic reaction model. Mathematical Biosciences, 2018, 301, 21-31.	1.9	3
5	Using metabolome data for mathematical modeling of plant metabolic systems. Current Opinion in Biotechnology, 2018, 54, 138-144.	6.6	3
6	Investigation of kinetic-order sensitivities in metabolic reaction networks. Journal of Theoretical Biology, 2017, 415, 32-40.	1.7	1
7	A better UV light and TiO 2 -PET sheet arrangement for enhancing photocatalytic decomposition of volatile organic compounds. Separation and Purification Technology, 2017, 175, 185-193.	7.9	17
8	Mathematical Modeling and Dynamic Simulation of Metabolic Reaction Systems Using Metabolome Time Series Data. Frontiers in Molecular Biosciences, 2016, 3, 15.	3.5	19
9	A new parametric method to smooth time-series data of metabolites in metabolic networks. Mathematical Biosciences, 2016, 282, 21-33.	1.9	3
10	Performance of continuous stirred-tank reactors connected in series as a photocatalytic reactor system. Chemical Engineering Journal, 2016, 286, 594-601.	12.7	17
11	Using dynamic sensitivities to characterize metabolic reaction systems. Mathematical Biosciences, 2015, 269, 153-163.	1.9	13
12	A mechanism of the photocatalytic decomposition of 2,4-dinitrophenol on TiO2 immobilized on a glass surface. Chemical Engineering Journal, 2015, 262, 831-838.	12.7	9
13	An Efficient and Very Accurate Method for Calculating Steady-State Sensitivities in Metabolic Reaction Systems. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2014, 11, 1077-1086.	3.0	9
14	Effect of silanization of titanium dioxide on photocatalytic decomposition of 2,4â€dinitropheonol under irradiation with artificial <scp>UV</scp> light and sunlight. Journal of Chemical Technology and Biotechnology, 2014, 89, 81-87.	3.2	7
15	PENDISC: A Simple Method for Constructing a Mathematical Model from Time-Series Data of Metabolite Concentrations. Bulletin of Mathematical Biology, 2014, 76, 1333-1351.	1.9	8
16	Estimation of kinetic parameters in an S-system equation model for a metabolic reaction system using the Newtonâ€“Raphson method. Mathematical Biosciences, 2014, 248, 11-21.	1.9	13
17	A U-system approach for predicting metabolic behaviors and responses based on an alleged metabolic reaction network. BMC Systems Biology, 2014, 8, S4.	3.0	12
18	Reaction mechanism of photocatalytic decomposition of 2,4-dinitrophenol in aqueous suspension of TiO2 fine particles. Chemical Engineering Journal, 2013, 233, 369-376.	12.7	18

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19	Identification of a Metabolic Reaction Network from Time-Series Data of Metabolite Concentrations. PLoS ONE, 2013, 8, e51212.	2.5	18
20	Highly accurate computation of dynamic sensitivities in metabolic reaction systems by a Taylor series method. Mathematical Biosciences, 2011, 233, 59-67.	1.9	6
21	Photocatalytic decomposition of gaseous HCHO over a titanium dioxide film formed on a hydrophobic PET sheet. Journal of Chemical Technology and Biotechnology, 2011, 86, 852-857.	3.2	6
22	Photocatalytic and adsorptive treatment of 2,4-dinitrophenol using a TiO2 film covering activated carbon surface. Chemical Engineering Journal, 2010, 156, 98-105.	12.7	31
23	A mechanism of photocatalytic and adsorptive treatment of 2,4-dinitrophenol on a porous thin film of TiO2 covering granular activated carbon particles. Chemical Engineering Journal, 2010, 160, 651-659.	12.7	24
24	Selection of Best Indicators for Ranking and Determination of Bottleneck Enzymes in Metabolic Reaction Systems. Industrial & Engineering Chemistry Research, 2010, 49, 9738-9742.	3.7	7
25	Instantaneous and Overall Indicators for Determination of Bottleneck Ranking in Metabolic Reaction Networks. Industrial & Engineering Chemistry Research, 2010, 49, 2122-2129.	3.7	8
26	Calculation errors of time-varying flux control coefficients obtained from elasticity coefficients by means of summation and connectivity theorems in metabolic control analysis. Mathematical Biosciences, 2010, 223, 105-114.	1.9	5
27	Investigation of the performance of fermentation processes using a mathematical model including effects of metabolic bottleneck and toxic product on cells. Mathematical Biosciences, 2010, 228, 1-9.	1.9	12
28	Photocatalytic decompositions of gaseous HCHO over thin films of anatase titanium oxide converted from amorphous in a heated air and in an aqueous solution of hydrogen peroxide. Chemical Engineering Journal, 2009, 148, 234-241.	12.7	21
29	Toluene removal from indoor air using a miniaturized photocatalytic air purifier including a preceding adsorption/desorption unit. Chemical Engineering Science, 2009, 64, 2466-2472.	3.8	44
30	Method for Determination of the Main Bottleneck Enzyme in a Metabolic Reaction Network by Dynamic Sensitivity Analysis. Industrial & Engineering Chemistry Research, 2009, 48, 415-423.	3.7	12
31	A reliable Taylor series-based computational method for the calculation of dynamic sensitivities in large-scale metabolic reaction systems: Algorithm and software evaluation. Mathematical Biosciences, 2009, 222, 73-85.	1.9	15
32	A simple and highly accurate numerical differentiation method for sensitivity analysis of large-scale metabolic reaction systems. Mathematical Biosciences, 2007, 208, 590-606.	1.9	18
33	Rapid removal of trace HCHO from indoor air by an air purifier consisting of a continuous concentrator and photocatalytic reactor and its computer simulation. Chemical Engineering Journal, 2007, 127, 157-165.	12.7	17
34	Dynamic sensitivities in chaotic dynamical systems. Applied Mathematics and Computation, 2007, 186, 1347-1359.	2.2	10
35	Characterization of a photocatalytic reaction in a continuous-flow recirculation reactor system. Journal of Chemical Technology and Biotechnology, 2006, 81, 1039-1048.	3.2	19
36	Decomposition of gaseous formaldehyde in a photocatalytic reactor with a parallel array of light sources. Chemical Engineering Journal, 2005, 114, 153-159.	12.7	46

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37	An efficient method for calculation of dynamic logarithmic gains in biochemical systems theory. Journal of Theoretical Biology, 2005, 234, 79-85.	1.7	25
38	Decomposition of gaseous formaldehyde in a photocatalytic reactor with a parallel array of light sources. Chemical Engineering Journal, 2005, 114, 145-151.	12.7	28
39	Photocatalytic activities enhanced for decompositions of organic compounds over metal-photodepositing titanium dioxide. Chemical Engineering Journal, 2004, 97, 203-211.	12.7	84
40	Effect of Diffusional Film on Formation of Hydrogen Peroxide in Photocatalytic Reactions. Journal of Physical Chemistry A, 2004, 108, 10491-10496.	2.5	26
41	A rapid treatment of formaldehyde in a highly tight room using a photocatalytic reactor combined with a continuous adsorption and desorption apparatus. Chemical Engineering Science, 2003, 58, 929-934.	3.8	85
42	Formation of Hydrogen Peroxide in Photocatalytic Reactions. Journal of Physical Chemistry A, 2003, 107, 11072-11081.	2.5	76
43	Decomposition of formic acid in a photocatalytic reactor with a parallel array of four light sources. Journal of Chemical Technology and Biotechnology, 2002, 77, 805-810.	3.2	19
44	A synergistic effect of photocatalysis and ozonation on decomposition of formic acid in an aqueous solution. Chemical Engineering Journal, 2002, 87, 261-271.	12.7	102
45	Solution of a two-point boundary value model of immobilized enzyme reactions, using an S-system-based root-finding method. Applied Mathematics and Computation, 2002, 127, 289-310.	2.2	4
46	Highly accurate solution of the axial dispersion model expressed in S-system canonical form by Taylor series method. Chemical Engineering Journal, 2001, 83, 175-183.	12.7	21
47	A Rapid Treatment of Indoor Formaldehyde at a Very Low Concentration in a Photocatalytic Reactor System Combined with a Continuous Adsorption and Desorption Technique. Chemie-Ingenieur-Technik, 2001, 73, 601-602.	0.8	3
48	Numerical Tests for Usefulness of Power-Law Formalism Method in Parameter Optimization Problem of Immobilized Enzyme Reaction.. Journal of Chemical Engineering of Japan, 2000, 33, 197-204.	0.6	5
49	Photocatalytic decomposition of acetaldehyde in air over titanium dioxide. Journal of Chemical Technology and Biotechnology, 1999, 74, 1096-1100.	3.2	23
50	Effect of Nonuniform Activity Distribution in a Porous Support on Apparent Kinetic Parameters of a Packed-Bed Immobilized Enzyme Reactor.. Kagaku Kogaku Ronbunshu, 1998, 24, 517-519.	0.3	3
51	A Film Diffusional Effect on the Apparent Kinetic Parameters in Packed-Bed Immobilized Enzyme Reactors. Journal of Chemical Technology and Biotechnology, 1997, 69, 456-462.	3.2	3
52	Electrostatic Effect on Apparent Kinetic Parameters in a Packed-Bed Immobilized Enzyme Reactor.. Kagaku Kogaku Ronbunshu, 1997, 23, 587-590.	0.3	2
53	A Computational Method for Determination of The Mass-Transfer Coefficient in Packed-Bed Immobilized Enzyme Reactors. Journal of Chemical Technology and Biotechnology, 1996, 66, 405-413.	3.2	13
54	An Efficient Method for Solving Two-Point Boundary Value Problems with Extremely High Accuracy.. Journal of Chemical Engineering of Japan, 1996, 29, 88-94.	0.6	12

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55	Numerical solution of two-point boundary value problem by combined taylor series method with a technique for rapidly selecting suitable step sizes.. Journal of Chemical Engineering of Japan, 1995, 28, 306-315.	0.6	14
56	Accuracy of the numerical solution of a two-point boundary value problem by the orthogonal collocation method.. Journal of Chemical Engineering of Japan, 1995, 28, 316-323.	0.6	13