Masahiko Hirao

List of Publications by Year
in descending order

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63 papers	951 citations	430874 18 h-index	477307 29 g-index
65 all docs	65 docs citations	65 times ranked	1051 citing authors

#	Article	IF	Citations
1	Decision framework for chemical process design including different stages of environmental, health, and safety assessment. AICHE Journal, 2008, 54, 1037-1053.	3.6	126
2	Analysis of factors influencing consumers' proenvironmental behavior based on life cycle thinking. Part I: effect of environmental awareness and trust in environmental information on product choice. Journal of Cleaner Production, 2016, 117, 10-18.	9.3	68
3	Life-cycle assessment of domestic and transboundary recycling of post-consumer PET bottles. International Journal of Life Cycle Assessment, 2010, 15, 590-597.	4.7	67
4	Evaluating nanotechnology opportunities and risks through integration of life-cycle and risk assessment. Nature Nanotechnology, 2017, 12, 734-739.	31.5	46
5	Decision Support Method for the Choice between Batch and Continuous Technologies in Solid Drug Product Manufacturing. Industrial & Engineering Chemistry Research, 2018, 57, 9798-9809.	3.7	45
6	Framework for analyzing the effects of packaging on food loss reduction by considering consumer behavior. Journal of Cleaner Production, 2018, 174, 26-34.	9.3	39
7	A structured framework and language for scenario-based Life Cycle assessment. International Journal of Life Cycle Assessment, 2002, 7, 317.	4.7	38
8	Design of recycling system for poly(methyl methacrylate) (PMMA). Part 1: recycling scenario analysis. International Journal of Life Cycle Assessment, 2014, 19, 120-129.	4.7	37
9	Practical Method of Assessing Local and Global Impacts for Risk-Based Decision Making: A Case Study of Metal Degreasing Processes. Environmental Science & Technology, 2008, 42, 4527-4533.	10.0	34
10	Environmental Performance of Biomass-Derived Chemical Production: A Case Study on Sugarcane-Derived Polyethylene. Journal of Chemical Engineering of Japan, 2013, 46, 319-325.	0.6	32
11	Activity Modeling for Integrating Environmental, Health and Safety (EHS) Consideration as a New Element in Industrial Chemical Process Design. Journal of Chemical Engineering of Japan, 2008, 41, 884-897.	0.6	31
12	Designing Interventions for Behavioral Shifts toward Product Sharing: The Case of Laundry Activities in Japan. Sustainability, 2018, 10, 2687.	3.2	28
13	Environmental potential of reusing, renting, and sharing consumer products: Systematic analysis approach. Journal of Cleaner Production, 2020, 242, 118487.	9.3	28
14	Development of a Structure-Based Lumping Kinetic Model for Light Gas Oil Hydrodesulfurization. Energy & Fuels, 2017, 31, 5673-5681.	5.1	27
15	Technoâ€economic and environmental assessment of bioethanolâ€based chemical process: A case study on ethyl acetate. Environmental Progress and Sustainable Energy, 2011, 30, 675-684.	2.3	26
16	Design of recycling system for poly(methyl methacrylate) (PMMA). Part 2: process hazards and material flow analysis. International Journal of Life Cycle Assessment, 2014, 19, 307-319.	4.7	22
17	Climate Change Implications of Bio-Based and Marine-Biodegradable Plastic: Evidence from Poly(3-hydroxybutyrate-co-3-hydroxyhexanoate). Environmental Science & Technology, 2021, 55, 3380-3388.	10.0	22
18	Integrated design of agricultural and industrial processes: A case study of combined sugar and ethanol production. AICHE Journal, 2017, 63, 560-581.	3.6	20

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19	Local risks and global impacts considering plant-specific functions and constraints: a case study of metal parts cleaning. International Journal of Life Cycle Assessment, 2010, 15, 17-31.	4.7	15
20	A graphical representation for consequential life cycle assessment of future technologies. Part 1: methodological framework. International Journal of Life Cycle Assessment, 2012, 17, 119-125.	4.7	14
21	Decision-Support Method for the Choice Between Single-Use and Multi-Use Technologies in Sterile Drug Product Manufacturing. Journal of Pharmaceutical Innovation, 2017, 12, 1-13.	2.4	13
22	Design assessment framework for food packaging integrating consumer preferences and environmental impact. Sustainable Production and Consumption, 2021, 27, 1514-1525.	11.0	12
23	Consumer Motivation and Environmental Impact of Laundry Machine-Sharing: Analysis of Surveys in Tokyo and Bangkok. Sustainability, 2020, 12, 9756.	3.2	11
24	Systematic packaging design tools integrating functional and environmental consequences on product life cycle: Case studies on laundry detergent and milk. Packaging Technology and Science, 2020, 33, 445-459.	2.8	11
25	A graphical representation for consequential life cycle assessment of future technologiesâ€”Part 2: two case studies on choice of technologies and evaluation of technology improvements. International Journal of Life Cycle Assessment, 2012, 17, 270-276.	4.7	10
26	Method for reducing environmental, health, and safety risks in active pharmaceutical ingredient manufacturing based on multiobjective evaluation. Chemical Engineering Research and Design, 2016, 104, 304-313.	5.6	10
27	Design-oriented regression models for H2O2 decontamination processes in sterile drug product manufacturing considering rapidity and sterility. International Journal of Pharmaceutics, 2018, 548, 466-473.	5.2	10
28	Environmental analysis of packagingâ€derived changes in food production and consumer behavior. Journal of Industrial Ecology, 2019, 23, 1253-1263.	5.5	9
29	Environmentally Benign Separation Process Synthesis. Journal of Chemical Engineering of Japan, 2004, 37, 243-252.	0.6	9
30	Multiobjective decision-support tools for the choice between single-use and multi-use technologies in sterile filling of biopharmaceuticals. Computers and Chemical Engineering, 2019, 122, 114-128.	3.8	8
31	Extension of Event Correlation Analysis for Rationalization of Plant Alarm Systems. Kagaku Kogaku Ronbunshu, 2011, 37, 338-343.	0.3	8
32	Laundry Habits in Bangkok: Use Patterns of Products and Services. Sustainability, 2019, 11, 4486.	3.2	7
33	Risk Classification and Identification for Chemicals Management in Process Design. Journal of Chemical Engineering of Japan, 2013, 46, 488-500.	0.6	7
34	Safety, health, and environmental assessment of bioethanol production from sugarcane, corn, and corn stover. Green Processing and Synthesis, 2012, 1, .	3.4	6
35	Design Method of Alarm System for Identifying Possible Malfunctions in a Plant Based on Cause-Effect Model. Computer Aided Chemical Engineering, 2012, 31, 285-289.	0.5	5
36	Developing technology introduction strategies based on visualized scenario analysis: Application in energy systems design. Environmental Progress and Sustainable Energy, 2015, 34, 832-840.	2.3	4

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37	Transition pathway of consumer perception toward a sharing economy: Analysis of consumption value for behavioral transition to laundromats. Sustainable Production and Consumption, 2021, 28, 1708-1723.	11.0	4
38	Structural Framework Supporting Selection of Extraction Processes under Sustainable Criteria. Journal of Chemical Engineering of Japan, 2010, 43, 186-195.	0.6	4
39	Decision Support for Plastics Recycling System Design Based on Individual Fossil Resource Consumption. Kagaku Kogaku Ronbunshu, 2010, 36, 243-254.	0.3	4
40	Multi-Viewpoint Activity Model of Environmental and Health Risk Management for Middle-Stream Industrial Processes in the Supply Chain. Kagaku Kogaku Ronbunshu, 2014, 40, 174-186.	0.3	4
41	Life Cycle Inventory and Cost Analysis of Waste Plastics Utilization in the Steel Industry. Tetsu-To-Hagane/Journal of the Iron and Steel Institute of Japan, 2005, 91, 184-191.	0.4	3
42	Planning Method for Reducing Product Losses in Manufacturing Sterile Drug Products. Journal of Chemical Engineering of Japan, 2015, 48, 848-855.	0.6	3
43	Impact of local conditions on bioâ€based chemical process design: selection of input feedstock and production scale and scenario. Environmental Progress and Sustainable Energy, 2016, 35, 174-182.	2.3	3
44	Process Model for Enhancing Yield in Sterile Drug Product Manufacturing. Journal of Pharmaceutical Innovation, 2017, 12, 194-205.	2.4	3
45	Risk Evaluation Models for the Design of Parenterals Manufacturing Processes. Computer Aided Chemical Engineering, 2017, 40, 2791-2796.	0.5	2
46	Co-designing workshops on sustainable consumption and production in Southeast Asia: application of idea cards and structuring methods. Sustainability: Science, Practice, and Policy, 2021, 17, 242-263.	1.9	2
47	A Prototype Method for Selecting Interventions for Enhancing Medication Adherence in Medicine Taking Processes. Journal of Chemical Engineering of Japan, 2021, 54, 152-161.	0.6	2
48	Multiobjective Retrofitting Methodology for Manufacturing Processes of Active Pharmaceutical Ingredients Considering Environment, Health and Safety Risks. Computer Aided Chemical Engineering, 2016, 38, 79-84.	0.5	2
49	Design Support for VOC Control in SMEs by Simulation-Based Life-Cycle Engineering Part 1: Framework. Journal of Chemical Engineering of Japan, 2016, 49, 776-784.	0.6	2
50	Process Modeling of Bio-Based Production on Interdisciplinary Analysis across Agriculture and Engineering. Computer Aided Chemical Engineering, 2012, 31, 1105-1109.	0.5	1
51	Design Support for VOC Control in SMEs by Simulation-Based Life-Cycle Engineering Part 2: Case Study of Metal Cleaning Process. Journal of Chemical Engineering of Japan, 2017, 50, 68-78.	0.6	1
52	Integrated Information Infrastructure for Environmentally Conscious Process Design. Journal of Computer Chemistry Japan, 2003, 2, 79-86.	0.1	1
53	Conference Report on the First Meeting of The Institute of Life Cycle Assessment, Japan. Journal of Life Cycle Assessment Japan, 2006, 2, 190-192.	0.0	1
54	Conference report on the first meeting of The Institute of Life Cycle Assessment, Japan. Journal of Life Cycle Assessment Japan, 2006, 2, 101-103.	0.0	1

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55	Development of Environmental Information Provision Approaches for Enhancing Consumersâ€™ Life Cycle Thinking Skills: Based on Scenario Analysis between Disposable and Reusable Shopping Bags. Journal of Life Cycle Assessment Japan, 2017, 13, 332-348.	0.0	1
56	Towards Ensuring Sustainable Consumption and Production Patterns. Journal of Life Cycle Assessment Japan, 2019, 15, 135-135.	0.0	1
57	The Properties of Silicon Clusters in Zeolite. Materials Research Society Symposia Proceedings, 1997, 486, 361.	0.1	0
58	Effect of Hydrogen Coverage on Silicon Thin Film Growth: Molecular Dynamics Investigation. Materials Research Society Symposia Proceedings, 1999, 584, 251.	0.1	0
59	Recycling System Design that incorporates Robustness and Flexibility against Variation Risk. Journal of the Japan Society of Material Cycles and Waste Management, 2015, 26, 1-15.	0.0	0
60	Introduction: Special Issue on â€œContributions from the 2nd Annual Meeting of The Institute of Life Cycle Assessment, Japanâ€• Journal of Life Cycle Assessment Japan, 2007, 3, 207-207.	0.0	0
61	Conference Report on the Second Meeting of The Institute of Life Cycle Assessment, Japan. Journal of Life Cycle Assessment Japan, 2007, 3, 116-118.	0.0	0
62	Conference Report on the Second Meeting of The Institute of Life Cycle Assessment, Japan. Journal of Life Cycle Assessment Japan, 2007, 3, 184-186.	0.0	0
63	Plant Alarm Signal Selection under Assumption of the Best Alarm Generation. Kagaku Kogaku Ronbunshu, 2012, 38, 408-414.	0.3	0