Guangwen Chen

List of Publications by Year
in descending order

109 papers	5,389 citations	57631 44 h-index	91712 69 g-index
110 all docs	110 docs citations	110 times ranked	3140 citing authors

#	Article	IF	Citations
1	Hydrodynamics and mass transfer characteristics in gasâ€“liquid flow through a rectangular microchannel. Chemical Engineering Science, 2007, 62, 2096-2108.	1.9	435
2	Liquid-liquid two-phase flow patterns in a rectangular microchannel. AICHE Journal, 2006, 52, 4052-4060.	1.8	284
3	Liquidâ€“liquid twoâ€phase mass transfer in the Tâ€junction microchannels. AICHE Journal, 2007, 53, 3042-3053.	1.8	203
4	Catalytic dehydration of bioethanol to ethylene over TiO2/Î³-Al2O3 catalysts in microchannel reactors. Catalysis Today, 2007, 125, 111-119.	2.2	184
5	An experimental study of airâ€“water Taylor flow and mass transfer inside square microchannels. Chemical Engineering Science, 2009, 64, 3697-3708.	1.9	175
6	An experimental investigation of gasâ€“liquid two-phase flow in single microchannel contactors. Chemical Engineering Science, 2008, 63, 4189-4202.	1.9	158
7	Liquidâ€“liquid two-phase flow and mass transfer characteristics in packed microchannels. Chemical Engineering Science, 2010, 65, 3947-3956.	1.9	133
8	Highly efficient synthesis of cyclic carbonate with CO₂catalyzed by ionic liquid in a microreactor. Green Chemistry, 2013, 15, 446-452.	4.6	108
9	Intensification of liquidâ€“liquid twoâ€phase mass transfer by gas agitation in a microchannel. AICHE Journal, 2009, 55, 1948-1958.	1.8	106
10	An online method to measure mass transfer of slug flow in a microchannel. Chemical Engineering Science, 2014, 112, 15-24.	1.9	106
11	CO selective oxidation in a microchannel reactor for PEM fuel cell. Chemical Engineering Journal, 2004, 101, 101-106.	6.6	99
12	Gas-Liquid Microreaction Technology: Recent Developments and Future Challenges. Chinese Journal of Chemical Engineering, 2008, 16, 663-669.	1.7	89
13	Multiphase processes with ionic liquids in microreactors: hydrodynamics, mass transfer and applications. Chemical Engineering Science, 2018, 189, 340-359.	1.9	83
14	A high throughput methodology for continuous preparation of monodispersed nanocrystals in microfluidic reactors. Chemical Engineering Journal, 2008, 135, 209-215.	6.6	82
15	Hydrodynamics and mass transfer characteristics of liquidâ€“liquid slug flow in microchannels: The effects of temperature, fluid properties and channel size. Chemical Engineering Journal, 2019, 358, 794-805.	6.6	82
16	Two-phase flow and mass transfer in microchannels: A review from local mechanism to global models. Chemical Engineering Science, 2021, 229, 116017.	1.9	81
17	Gas-liquid flow and mass transfer in a microchannel under elevated pressures. Chemical Engineering Science, 2015, 123, 137-145.	1.9	78
18	A high-power ultrasonic microreactor and its application in gasâ€“liquid mass transfer intensification. Lab on A Chip, 2015, 15, 1145-1152.	3.1	76

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19	Mixing and residence time distribution in ultrasonic microreactors. AIChE Journal, 2017, 63, 1404-1418.	1.8	75
20	Hydrodynamics and mass transfer of oscillating gasâ€liquid flow in ultrasonic microreactors. AIChE Journal, 2016, 62, 1294-1307.	1.8	68
21	Hydrodynamics and mass transfer of gasâ€"liquid flow in a falling film microreactor. AIChE Journal, 2009, 55, 1110-1120.	1.8	67
22	Process Characteristics of CO2 Absorption by Aqueous Monoethanolamine in a Microchannel Reactor. Chinese Journal of Chemical Engineering, 2012, 20, 111-119.	1.7	67
23	Gasâ€"liquid two-phase flow in microchannel at elevated pressure. Chemical Engineering Science, 2013, 87, 122-132.	1.9	67
24	Ideal micromixing performance in packed microchannels. Chemical Engineering Science, 2011, 66, 2912-2919.	1.9	66
25	Microfluidic synthesis of Ag@Cu2O core-shell nanoparticles with enhanced photocatalytic activity. Journal of Colloid and Interface Science, 2017, 486, 16-26.	5.0	66
26	Effect of surface properties on the flow characteristics and mass transfer performance in microchannels. Chemical Engineering Science, 2010, 65, 1563-1570.	1.9	64
27	Liquidâ€"liquid twoâ€phase flow in ultrasonic microreactors: Cavitation, emulsification, and mass transfer enhancement. AIChE Journal, 2018, 64, 1412-1423.	1.8	63
28	Safe, efficient and selective synthesis of dinitro herbicidesvia a multifunctional continuous-flow microreactor: one-step dinitration with nitric acid as agent. Green Chemistry, 2013, 15, 91-94.	4.6	62
29	The effect of system pressure on gasâ€liquid slug flow in a microchannel. AIChE Journal, 2014, 60, 1132-1142.	1.8	60
30	Formation of liquidâ€"liquid slug flow in a microfluidic Tâ€junction: Effects of fluid properties and leakage flow. AIChE Journal, 2018, 64, 346-357.	1.8	59
31	High-temperature steam reforming of methanol over ZnOâ€"Al2O3 catalysts. Applied Catalysis B: Environmental, 2011, 101, 409-416.	10.8	56
32	Intensification of liquid-liquid two-phase mass transfer by oscillating bubbles in ultrasonic microreactor. Chemical Engineering Science, 2018, 186, 122-134.	1.9	55
33	Pressure drops of single and two-phase flows through T-type microchannel mixers. Chemical Engineering Journal, 2004, 102, 11-24.	6.6	54
34	Flow distribution and mass transfer in a parallel microchannel contactor integrated with constructal distributors. AIChE Journal, 2010, 56, 298-317.	1.8	53
35	An experimental study on the numbering-up of microchannels for liquid mixing. Lab on A Chip, 2015, 15, 179-187.	3.1	53
36	Influence of hydrodynamics on liquid mixing during Taylor flow in a microchannel. AIChE Journal, 2012, 58, 1660-1670.	1.8	52

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37	Process analysis on CO2 absorption by monoethanolamine solutions in microchannel reactors. Chemical Engineering Journal, 2013, 225, 120-127.	6.6	51
38	Process Development and Scale-up of the Continuous Flow Nitration of Trifluoromethoxybenzene. Organic Process Research and Development, 2017, 21, 1843-1850.	1.3	49
39	Methanol-steam reforming over a ZnOâ€"Cr2O3/CeO2â€"ZrO2/Al2O3 catalyst. Chemical Engineering Journal, 2006, 119, 93-98.	6.6	48
40	The intensification of rapid reactions for multiphase systems in a microchannel reactor by packing microparticles. AIChE Journal, 2011, 57, 1409-1418.	1.8	47
41	Numerical simulation of Taylor bubble formation in a microchannel with a converging shape mixing junction. Chemical Engineering Journal, 2015, 262, 616-627.	6.6	47
42	Intensified CO2 absorption in a microchannel reactor under elevated pressures. Chemical Engineering Journal, 2017, 319, 179-190.	6.6	47
43	On the leakage flow around gas bubbles in slug flow in a microchannel. AIChE Journal, 2015, 61, 3964-3972.	1.8	46
44	Investigation of Nitration Processes of iso-Octanol with Mixed Acid in a Microreactor. Chinese Journal of Chemical Engineering, 2009, 17, 412-418.	1.7	45
45	Acoustic cavitation and ultrasound-assisted nitration process in ultrasonic microreactors: The effects of channel dimension, solvent properties and temperature. Chemical Engineering Journal, 2019, 374, 68-78.	6.6	45
46	A Numerical Study on Liquid Mixing in Multichannel Micromixers. Industrial & Engineering Chemistry Research, 2014, 53, 390-401.	1.8	42
47	Mass transfer in liquid-liquid Taylor flow in a microchannel: Local concentration distribution, mass transfer regime and the effect of fluid viscosity. Chemical Engineering Science, 2020, 223, 115734.	1.9	42
48	Experimental and kinetic study of the nitration of 2-ethylhexanol in capillary microreactors. Chemical Engineering and Processing: Process Intensification, 2017, 117, 179-185.	1.8	41
49	Characteristics of gas-liquid Taylor flow with different liquid viscosities in a rectangular microchannel. Chemical Engineering Journal, 2019, 373, 437-445.	6.6	41
50	Continuous Synthesis of Ag/AgCl/ZnO Composites Using Flow Chemistry and Photocatalytic Application. Industrial & Engineering Chemistry Research, 2018, 57, 3263-3273.	1.8	40
51	Pd-Zn/Cu-Zn-Al catalysts prepared for methanol oxidation reforming in microchannel reactors. Catalysis Today, 2007, 120, 63-70.	2.2	39
52	Manipulation of gas-liquid-liquid systems in continuous flow microreactors for efficient reaction processes. Journal of Flow Chemistry, 2020, 10, 103-121.	1.2	39
53	Gas phase catalytic partial oxidation of toluene in a microchannel reactor. Catalysis Today, 2005, 110, 171-178.	2.2	38
54	Enhancement of catalytic activity over TiO2-modified Al2O3 and ZnOâ€"Cr2O3 composite catalyst for hydrogen production via dimethyl ether steam reforming. Applied Catalysis A: General, 2012, 433-434, 26-34.	2.2	38

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55	Effect of Viscosity on the Hydrodynamics of Liquid Processes in Microchannels. Chemical Engineering and Technology, 2014, 37, 427-434.	0.9	37
56	Hydrogen production by steam reforming of dimethyl ether over ZnOâ€“Al2O3 bi-functional catalyst. International Journal of Hydrogen Energy, 2012, 37, 8360-8369.	3.8	35
57	Gas phase partial oxidation of toluene over modified V2O5/TiO2 catalysts in a microreactor. Chemical Engineering Journal, 2007, 127, 39-46.	6.6	33
58	Formation characteristics of Taylor bubbles in a microchannel with a converging shape mixing junction. Chemical Engineering Journal, 2013, 223, 99-109.	6.6	33
59	Bubble/droplet formation and mass transfer during gasâ€“liquidâ€“liquid segmented flow with soluble gas in a microchannel. AIChE Journal, 2017, 63, 1727-1739.	1.8	33
60	Role of ultrasonic oscillation in chemical processes in microreactors: A mesoscale issue. Particuology, 2020, 48, 88-99.	2.0	33
61	The effect of liquid viscosity and modeling of mass transfer in gasâ€“liquid slug flow in a rectangular microchannel. AIChE Journal, 2020, 66, e16934.	1.8	31
62	Gas-liquid hydrodynamics and mass transfer in microreactors under ultrasonic oscillation. Chemical Engineering Journal, 2020, 397, 125411.	6.6	31
63	The ozone mass transfer characteristics and ozonation of pentachlorophenol in a novel microchannel reactor. Chemical Engineering Journal, 2012, 210, 374-384.	6.6	29
64	Development of a Continuousâ€Flow Microreactor for Asymmetric Sulfoxidation Using a Biomimetic Manganese Catalyst. Advanced Synthesis and Catalysis, 2016, 358, 667-671.	2.1	27
65	Effect of mixing on mass transfer characterization in continuous slugs and dispersed droplets in biphasic slug flow microreactors. Chemical Engineering Journal, 2021, 406, 126885.	6.6	27
66	Thermal Performance of Crossflow Microchannel Heat Exchangers. Industrial & Engineering Chemistry Research, 2010, 49, 6215-6220.	1.8	25
67	A simple and efficient synthesis protocol for sulfonation of nitrobenzene under solvent-free conditions via a microreactor. RSC Advances, 2012, 2, 5637.	1.7	25
68	Desorption of carbon dioxide from aqueous MDEA solution in a microchannel reactor. Chemical Engineering Journal, 2017, 307, 776-784.	6.6	25
69	Ultrasound-assisted gasâ€“liquid mass transfer process in microreactors: The influence of surfactant, channel size and ultrasound frequency. Chemical Engineering Journal, 2021, 405, 126720.	6.6	25
70	Testing and Design of a Microchannel Heat Exchanger with Multiple Plates. Industrial & Engineering Chemistry Research, 2009, 48, 4535-4541.	1.8	24
71	Continuous synthesis of hedgehog-like Agâ€“ZnO nanoparticles in a two-stage microfluidic system. RSC Advances, 2016, 6, 45503-45511.	1.7	24
72	Kinetics study of heterogeneous continuous-flow nitration of trifluoromethoxybenzene. Reaction Chemistry and Engineering, 2018, 3, 379-387.	1.9	24

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73	Toward the Efficient Synthesis of Pseudoionone from Citral in a Continuous-Flow Microreactor. Industrial & Engineering Chemistry Research, 2018, 57, 11288-11298.	1.8	20
74	Bubble splitting under gasâ€“liquidâ€“liquid threeâ€phase flow in a double Tâ€junction microchannel. AIChE Journal, 2018, 64, 376-388.	1.8	19
75	Continuous synthesis of TiO2-supported noble metal nanoparticles and their application in ammonia borane hydrolysis. Chemical Engineering Science, 2022, 251, 117479.	1.9	19
76	Continuous Synthesis of Highly Uniform Noble Metal Nanoparticles over Reduced Graphene Oxide Using Microreactor Technology. ACS Sustainable Chemistry and Engineering, 2018, 6, 8719-8726.	3.2	17
77	Ultrasonic Enhancement of CO₂ Desorption from MDEA Solution in Microchannels. Industrial & Engineering Chemistry Research, 2019, 58, 1711-1719.	1.8	17
78	Numerical investigation on the hydrodynamics of Taylor flow in ultrasonically oscillating microreactors. Chemical Engineering Science, 2021, 235, 116477.	1.9	17
79	Enhancement of gas-liquid mass transfer and mixing in zigzag microreactor under ultrasonic oscillation. Chemical Engineering Science, 2022, 247, 117094.	1.9	17
80	Optimization design of microchannel heat sink geometry for high power laser mirror. Applied Thermal Engineering, 2010, 30, 1644-1651.	3.0	16
81	Hydrodynamics and mass transfer of Taylor bubbles flowing in non-Newtonian fluids in a microchannel. Chemical Engineering Science, 2021, 231, 116299.	1.9	16
82	Ultrasonic emulsification: basic characteristics, cavitation, mechanism, devices and application. Frontiers of Chemical Science and Engineering, 2022, 16, 1560-1583.	2.3	16
83	Methanol oxidation reforming over a ZnO-Cr2O3/CeO2-ZrO2/Al2O3 catalyst in a monolithic reactor. Catalysis Today, 2007, 125, 97-102.	2.2	15
84	High throughput preparation of magnesium hydroxide flame retardant via microreaction technology. RSC Advances, 2016, 6, 92670-92681.	1.7	15
85	Heat Transfer Characteristics of CO₂ Desorption from <i>N</i>â€Methyldiethanolamine Solution in a Microchannel Reactor. Chemical Engineering and Technology, 2018, 41, 1398-1405.	0.9	15
86	Hydrodynamics and local mass transfer characterization under gasâ€“liquidâ€“liquid slug flow in a rectangular microchannel. AIChE Journal, 2020, 66, e16805.	1.8	15
87	CFD Simulation of Internal Flow and Mixing within Droplets in a T-Junction Microchannel. Industrial & Engineering Chemistry Research, 2021, 60, 6038-6047.	1.8	15
88	Development of a Continuous-Flow Microreactor for Asymmetric Epoxidation of Electron-Deficient Olefins. Synthesis, 2016, 48, 2653-2658.	1.2	13
89	High-Throughput Preparation of Monodispersed Layered Double Hydroxides via Microreaction Technology. Journal of Flow Chemistry, 2014, 4, 164-167.	1.2	12
90	Facile Synthesis of Co₃O₄ with Different Morphologies via Oxidation Kinetic Control and Its Application in Hydrogen Peroxide Decomposition. Crystal Growth and Design, 2016, 16, 6286-6293.	1.4	12

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91	Cyclization of Pseudoionone Catalyzed by Sulfuric Acid in a Microreactor. Chemical Engineering and Technology, 2016, 39, 849-856.	0.9	11
92	Template-free synthesis of Co₃O₄ nanorings and their catalytic application. CrystEngComm, 2018, 20, 679-688.	1.3	11
93	Ethylene/ethane absorption with AgNO3 solutions in ultrasonic microreactors. Chemical Engineering and Processing: Process Intensification, 2019, 137, 137-147.	1.8	11
94	Effect of fluid viscosities on the liquid-liquid slug flow and pressure drop in a rectangular microreactor. Chemical Engineering Science, 2021, 241, 116697.	1.9	11
95	A self-sustained, complete and miniaturized methanol fuel processor for proton exchange membrane fuel cell. Journal of Power Sources, 2015, 287, 100-107.	4.0	10
96	Microfluidic synthesis of ultrasmall Co nanoparticles over reduced graphene oxide and their catalytic properties. AIChE Journal, 2020, 66, e16950.	1.8	10
97	NOx storage-reduction over Pt/Mg-Al-O catalysts with different Mg/Al atomic ratios. Korean Journal of Chemical Engineering, 2004, 21, 595-600.	1.2	9
98	Ethylene/ethane separation and mass transfer characteristics through absorption by AgNO3 solutions in microchannels. Chemical Engineering and Processing: Process Intensification, 2018, 130, 110-118.	1.8	9
99	Facile Preparation of <i>N</i>-Alkyl-2-pyrrolidones in a Continuous-Flow Microreactor. Organic Process Research and Development, 2018, 22, 504-511.	1.3	8
100	Continuous Synthesis of Reduced Graphene Oxide-Supported Bimetallic NPs in Liquidâ€"Liquid Segmented Flow. Industrial & Engineering Chemistry Research, 2020, 59, 8456-8468.	1.8	8
101	Effect of ultrasonic waveforms on gasâ€"liquid mass transfer in microreactors. AIChE Journal, 2022, 68, .	1.8	8
102	Theoretical approach to CO2 absorption in microreactors and reactor volume prediction. Chemical Engineering and Processing: Process Intensification, 2020, 150, 107904.	1.8	6
103	Dean instability and vortex-induced mixing for two miscible fluids in T-micromixers. Chemical Engineering and Processing: Process Intensification, 2022, 176, 108975.	1.8	6
104	The separation and enrichment of molecules with part amphipathy using a novel ultrasonic emulsion-enrichment method. Chemical Engineering Journal, 2022, 444, 136682.	6.6	5
105	Using expansion units to improve CO2 absorption for natural gas purification - A study on the hydrodynamics and mass transfer. Chinese Journal of Chemical Engineering, 2021, 29, 35-46.	1.7	2
106	A colorimetric technique to characterize mass transfer during liquid-liquid slug flow in circular capillaries. MethodsX, 2021, 8, 101346.	0.7	2
107	Influence of precursors on the catalytic activity of alumina for bio-ethanol dehydration in microchannel reactors. International Journal of Global Warming, 2009, 1, 456.	0.2	1
108	Chemical Engineering in China. Chemical Engineering and Technology, 2016, 39, 806-806.	0.9	0

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109	Numerical Investigation of Gasâ€Liquid Reacting Flow in a Jetâ€Type Singlet Oxygen Generator. Chemical Engineering and Technology, 2020, 43, 1859-1865.	0.9	0