Taotao Fu

List of Publications by Year
in descending order

127 papers	3,081 citations	159585 30 h-index	206112 48 g-index
127 all docs	127 docs citations	127 times ranked	1607 citing authors

#	Article	IF	Citations
1	Droplet formation and breakup dynamics in microfluidic flow-focusing devices: From dripping to jetting. Chemical Engineering Science, 2012, 84, 207-217.	3.8	224
2	Squeezing-to-dripping transition for bubble formation in a microfluidic T-junction. Chemical Engineering Science, 2010, 65, 3739-3748.	3.8	163
3	Bubble formation and breakup dynamics in microfluidic devices: A review. Chemical Engineering Science, 2015, 135, 343-372.	3.8	128
4	Bubble formation and breakup mechanism in a microfluidic flow-focusing device. Chemical Engineering Science, 2009, 64, 2392-2400.	3.8	117
5	Dynamics of bubble breakup in a microfluidic T-junction divergence. Chemical Engineering Science, 2011, 66, 4184-4195.	3.8	106
6	Ferrofluid droplet formation and breakup dynamics in a microfluidic flow-focusing device. Soft Matter, 2013, 9, 9792.	2.7	64
7	Flow patterns of liquidâ€"liquid two-phase flow in non-Newtonian fluids in rectangular microchannels. Chemical Engineering and Processing: Process Intensification, 2015, 91, 114-120.	3.6	64
8	Scaling the formation of slug bubbles in microfluidic flow-focusing devices. Microfluidics and Nanofluidics, 2010, 8, 467-475.	2.2	61
9	Dynamics of droplet breakup and formation of satellite droplets in a microfluidic T-junction. Chemical Engineering Science, 2018, 188, 158-169.	3.8	53
10	Breakup dynamics for highâ€viscosity droplet formation in a flowâ€focusing device: Symmetrical and asymmetrical ruptures. AIChE Journal, 2016, 62, 325-337.	3.6	52
11	Scaling of the bubble formation in a flow-focusing device: Role of the liquid viscosity. Chemical Engineering Science, 2014, 105, 213-219.	3.8	49
12	Active control of ferrofluid droplet breakup dynamics in a microfluidic T-junction. Microfluidics and Nanofluidics, 2015, 18, 19-27.	2.2	48
13	Numerical simulation of the interactions between three equal-interval parallel bubbles rising in non-Newtonian fluids. Chemical Engineering Science, 2013, 93, 55-66.	3.8	47
14	Hydrodynamic feedback on bubble breakup at a Tâ€junction within an asymmetric loop. AIChE Journal, 2014, 60, 1920-1929.	3.6	47
15	Breakup dynamics of slender droplet formation in shear-thinning fluids in flow-focusing devices. Chemical Engineering Science, 2016, 144, 75-86.	3.8	46
16	Hydrodynamics and mass transfer of gas-liquid flow in a tree-shaped parallel microchannel with T-type bifurcations. Chemical Engineering Journal, 2019, 373, 1203-1211.	12.7	45
17	Breakup dynamics of slender bubbles in nonâ€newtonian fluids in microfluidic flowâ€focusing devices. AIChE Journal, 2012, 58, 3560-3567.	3.6	44
18	Gas-liquid two-phase flow in a square microchannel with chemical mass transfer: Flow pattern, void fraction and frictional pressure drop. International Journal of Heat and Mass Transfer, 2018, 127, 484-496.	4.8	39

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19	Experimental investigation on gas-liquid mass transfer with fast chemical reaction in microchannel. International Journal of Heat and Mass Transfer, 2017, 114, 83-89.	4.8	38
20	Breakup dynamics for droplet formation in shear-thinning fluids in a flow-focusing device. Chemical Engineering Science, 2018, 176, 66-76.	3.8	38
21	An effective hybrid solvent of MEA/DEEA for CO2 absorption and its mass transfer performance in microreactor. Separation and Purification Technology, 2020, 242, 116795.	7.9	38
22	Asymmetrical breakup of bubbles at a microfluidic T-junction divergence: feedback effect of bubble collision. Microfluidics and Nanofluidics, 2012, 13, 723-733.	2.2	37
23	Critical lengths for the transition of bubble breakup in microfluidic T-junctions. Chemical Engineering Science, 2014, 111, 244-254.	3.8	37
24	Dynamics of bubble breakup with partly obstruction in a microfluidic T-junction. Chemical Engineering Science, 2015, 132, 128-138.	3.8	37
25	Enhancement effect and mechanism of gas-liquid mass transfer by baffles embedded in the microchannel. Chemical Engineering Science, 2019, 201, 264-273.	3.8	35
26	Mass transfer characteristics of CO2 absorption into 1-butyl-3-methylimidazolium tetrafluoroborate aqueous solution in microchannel. International Journal of Heat and Mass Transfer, 2019, 128, 1064-1071.	4.8	35
27	Gasâ€“liquid flow stability and bubble formation in non-Newtonian fluids in microfluidic flow-focusing devices. Microfluidics and Nanofluidics, 2011, 10, 1135-1140.	2.2	34
28	Bubble formation in non-Newtonian fluids in a microfluidic T-junction. Chemical Engineering and Processing: Process Intensification, 2011, 50, 438-442.	3.6	34
29	Breakup dynamics for droplet formation in a flow-focusing device: Rupture position of viscoelastic thread from matrix. Chemical Engineering Science, 2016, 153, 255-269.	3.8	33
30	Systematic Study on the Coalescence and Breakup Behaviors of Multiple Parallel Bubbles Rising in Power-law Fluid. Industrial & Engineering Chemistry Research, 2014, 53, 4850-4860.	3.7	32
31	Bubble breakup with permanent obstruction in an asymmetric microfluidic <scp>T</scp>â€junction. AIChE Journal, 2015, 61, 1081-1091.	3.6	31
32	Dynamics and mass transfer characteristics of CO2 absorption into MEA/[Bmim][BF4] aqueous solutions in a microchannel. Separation and Purification Technology, 2019, 210, 541-552.	7.9	31
33	Dynamics of bubble formation in highly viscous liquids in a flow-focusing device. Chemical Engineering Science, 2017, 172, 278-285.	3.8	30
34	Numbering-up strategies of micro-chemical process: Uniformity of distribution of multiphase flow in parallel microchannels. Chemical Engineering and Processing: Process Intensification, 2018, 132, 148-159.	3.6	30
35	Mass transfer characteristics of CO2 absorption into 2-amino-2-methyl-1-propanol non-aqueous solution in a microchannel. Journal of Industrial and Engineering Chemistry, 2019, 75, 194-201.	5.8	30
36	Mass transfer of chemical absorption of CO2 in a serpentine minichannel. Chemical Engineering Journal, 2021, 414, 128791.	12.7	29

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37	Micro-magnetofluidics of ferrofluid droplet formation in a T-junction. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2018, 537, 572-579.	4.7	27
38	Effects of the Gas Feed on Bubble Formation in a Microfluidic T-Junction: Constant-Pressure versus Constant-Flow-Rate Injection. Industrial & Engineering Chemistry Research, 2019, 58, 10092-10105.	3.7	27
39	Bubble coalescence at a microfluidic T-junction convergence: from colliding to squeezing. Microfluidics and Nanofluidics, 2014, 16, 275-286.	2.2	26
40	Microfluidic step emulsification techniques based on spontaneous transformation mechanism: A review. Journal of Industrial and Engineering Chemistry, 2020, 92, 18-40.	5.8	24
41	Formation dynamics of elastic droplets in a microfluidic T-junction. Chemical Engineering Research and Design, 2018, 139, 188-196.	5.6	23
42	Pinch-off mechanism for Taylor bubble formation in a microfluidic flow-focusing device. Microfluidics and Nanofluidics, 2014, 16, 1047-1055.	2.2	22
43	Bubble coalescence in non-Newtonian fluids in a microfluidic expansion device. Chemical Engineering and Processing: Process Intensification, 2015, 97, 38-44.	3.6	22
44	Dynamics of bubble breakup at a T junction. Physical Review E, 2016, 93, 022802.	2.1	22
45	Mass-Transfer Characteristics of CO₂ Absorption into Aqueous Solutions of <i>N</i>-Methyldiethanolamine + Diethanolamine in a T-Junction Microchannel. ACS Sustainable Chemistry and Engineering, 2019, 7, 4368-4375.	6.7	22
46	Intensification of gas-liquid two-phase flow and mass transfer in microchannels by sudden expansions. Chemical Engineering Science, 2021, 229, 116040.	3.8	22
47	The breakup dynamics and mechanism of viscous droplets in Y-shaped microchannels. Chemical Engineering Science, 2021, 231, 116300.	3.8	22
48	Magnetofluidic control of the breakup of ferrofluid droplets in a microfluidic Y-junction. RSC Advances, 2016, 6, 778-785.	3.6	21
49	Formation of droplet and â€œstring of sausagesâ€•for water-ionic liquid ([BMIM][PF6]) two-phase flow in a flow-focusing device. Chemical Engineering and Processing: Process Intensification, 2018, 125, 8-17.	3.6	21
50	Critical condition for bubble breakup in a microfluidic flow-focusing junction. Chemical Engineering Science, 2017, 164, 178-187.	3.8	20
51	Volumetric and viscometric properties of binary and ternary mixtures of monoethanolamine, 2-(diethylamino) ethanol and water from (293.15 to 333.15) K. Journal of Chemical Thermodynamics, 2019, 138, 350-365.	2.0	20
52	Breakup dynamics of ferrofluid droplet in a microfluidic T-junction. Journal of Industrial and Engineering Chemistry, 2017, 54, 408-420.	5.8	19
53	Selfâ€similar breakup of viscoelastic thread for droplet formation in flowâ€focusing devices. AIChE Journal, 2017, 63, 5196-5206.	3.6	19
54	Distribution of gas-liquid two-phase flow in parallel microchannels with the splitting of the liquid feed. Chemical Engineering Journal, 2020, 398, 125630.	12.7	19

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55	Enhancement of gas-liquid mass transfer by nanofluids in a microchannel under Taylor flow regime. International Journal of Heat and Mass Transfer, 2021, 176, 121435.	4.8	19
56	Threeâ€dimensional numerical simulation of coalescence and interactions of multiple horizontal bubbles rising in shearâ€thinning fluids. AIChE Journal, 2015, 61, 3528-3546.	3.6	18
57	The minimum in-line coalescence height of bubbles in non-Newtonian fluid. International Journal of Multiphase Flow, 2017, 92, 161-170.	3.4	18
58	The effect of flow distribution on mass transfer of gas-liquid two-phase flow in two parallelized microchannels in a microfluidic loop. International Journal of Heat and Mass Transfer, 2019, 130, 266-273.	4.8	18
59	Dynamics of droplet formation and mechanisms of satellite droplet formation in T-junction microchannel. Chemical Engineering Science, 2022, 248, 117217.	3.8	18
60	The Drag Coefficient and the Shape for a Single Bubble Rising in Non-Newtonian Fluids. Journal of Fluids Engineering, Transactions of the ASME, 2012, 134, .	1.5	17
61	Formation and uniformity of bubbles in highly viscous fluids in symmetric parallel microchannels. Chemical Engineering Science, 2021, 230, 116166.	3.8	17
62	Pressure drop model of gas-liquid flow with mass transfer in tree-typed microchannels. Chemical Engineering Journal, 2020, 397, 125340.	12.7	16
63	Newtonian and Nonâ€Newtonian Flows in Microchannels: Inline Rheological Characterization. Chemical Engineering and Technology, 2016, 39, 987-992.	1.5	15
64	Manipulation of microdroplets at a T-junction: Coalescence and scaling law. Journal of Industrial and Engineering Chemistry, 2018, 65, 272-279.	5.8	15
65	Manipulable Formation of Ferrofluid Droplets in Y-Shaped Flow-Focusing Microchannels. Industrial & Engineering Chemistry Research, 2019, 58, 19226-19238.	3.7	15
66	Breakup dynamics of elastic droplet and stretching of polymeric filament in a T-junction. Chemical Engineering Science, 2019, 206, 212-223.	3.8	15
67	Mechanism of bubble formation in stepâ€emulsification devices. AIChE Journal, 2020, 66, e16777.	3.6	15
68	Enhancement of gas-liquid mass transfer in microchannels by rectangular baffles. Separation and Purification Technology, 2020, 236, 116306.	7.9	15
69	Bubble formation in T-junctions within parallelized microchannels: Effect of viscoelasticity. Chemical Engineering Journal, 2021, 426, 131783.	12.7	15
70	Shear-induced tail breakup of droplets (bubbles) flowing in a straight microfluidic channel. Chemical Engineering Science, 2015, 135, 61-66.	3.8	14
71	Experimental investigation on the breakup dynamics for bubble formation in viscous liquids in a flow-focusing device. Chemical Engineering Science, 2016, 152, 516-527.	3.8	14
72	Asymmetrical breakup and size distribution of droplets in a branching microfluidic T-junction. Korean Journal of Chemical Engineering, 2019, 36, 21-29.	2.7	14

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73	An effective method to facile coalescence of microdroplet in the symmetrical T-junction with expanded convergence. Chemical Engineering Science, 2020, 213, 115389.	3.8	14
74	The breakup dynamics of bubbles stabilized by nanoparticles in a microfluidic Y-junction. Chemical Engineering Science, 2021, 245, 116867.	3.8	14
75	Hydrodynamics and gas-liquid mass transfer in a cross-flow T-junction microchannel: Comparison of two operation modes. Separation and Purification Technology, 2021, 255, 117697.	7.9	13
76	Mass transfer enhancement of CO2 absorption into [Bmim][BF4] aqueous solution in microchannels by heart-shaped grooves. Chemical Engineering and Processing: Process Intensification, 2021, 167, 108536.	3.6	13
77	Effects on droplet generation in step-emulsification microfluidic devices. Chemical Engineering Science, 2021, 246, 116959.	3.8	13
78	Distribution of liquid-liquid two-phase flow and droplet dynamics in asymmetric parallel microchannels. Chemical Engineering Journal, 2022, 441, 136027.	12.7	13
79	Measurement and Correlation of Pressure Drop for Gas-Liquid Two-phase Flow in Rectangular Microchannels. Chinese Journal of Chemical Engineering, 2010, 18, 940-947.	3.5	12
80	Study on the mass transfer of bubble swarms in three different rheological fluids. International Journal of Heat and Mass Transfer, 2012, 55, 6010-6016.	4.8	12
81	Inertio-capillary cross-streamline drift of droplets in Poiseuille flow using dissipative particle dynamics simulations. Soft Matter, 2018, 14, 2267-2280.	2.7	12
82	Dynamics of non-Newtonian droplet breakup with partial obstruction in microfluidic Y-junction. Chemical Engineering Science, 2021, 240, 116696.	3.8	12
83	Dynamics and interfacial evolution for bubble breakup in shear-thinning non-Newtonian fluid in microfluidic T-junction. Chemical Engineering Science, 2019, 208, 115158.	3.8	11
84	Gas-liquid distribution and mass transfer of CO2 absorption into sodium glycinate aqueous solution in parallel multi-channel microreactor. International Journal of Heat and Mass Transfer, 2020, 157, 119943.	4.8	11
85	Formation of droplets of shearâ€thinning<scp>nonâ€Newtonian</scp>fluids in a stepâ€emulsification microdevice. AIChE Journal, 2022, 68, e17395.	3.6	11
86	Bubble dynamics and mass transfer enhancement in splitâ€“andâ€“recombine (SAR) microreactor with rapid chemical reaction. Separation and Purification Technology, 2022, 287, 120573.	7.9	11
87	Dynamics and formation of alternating droplets under magnetic field at a T-junction. Chemical Engineering Science, 2019, 200, 248-256.	3.8	10
88	Performance and pressure drop of<scp>CO₂</scp>absorption into taskâ€specific and halideâ€free ionic liquids in a microchannel. AIChE Journal, 2022, 68, .	3.6	10
89	Dynamics of partially obstructed breakup of bubbles in microfluidic Yâ€junctions. Electrophoresis, 2019, 40, 376-387.	2.4	9
90	CO₂ Absorption by Liquid Films under Taylor Flow in Serpentine Minichannels. Industrial & Engineering Chemistry Research, 2020, 59, 12250-12261.	3.7	9

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91	Bubble formation in a step-emulsification microdevice with parallel microchannels. Chemical Engineering Science, 2020, 224, 115815.	3.8	9
92	Comparison of formation of bubbles and droplets in step-emulsification microfluidic devices. Journal of Industrial and Engineering Chemistry, 2022, 106, 469-481.	5.8	9
93	Formation of viscoelastic droplets in a stepâ€emulsification microdevice. AIChE Journal, 2022, 68, .	3.6	9
94	Pressure drop of single phase flow in microchannels and its application in characterizing the apparent rheological property of fluids. Microfluidics and Nanofluidics, 2019, 23, 1.	2.2	8
95	Effect of solvent on CO2 absorption performance in the microchannel. Journal of Molecular Liquids, 2022, 357, 119133.	4.9	8
96	Volumetric and Viscometric Properties of Alcohol Amines + Ethanol Binary Mixtures. Journal of Chemical & Engineering Data, 2017, 62, 3261-3273.	1.9	7
97	The effect of liquid viscosity on bubble formation dynamics in a flow-focusing device. International Journal of Multiphase Flow, 2019, 117, 206-211.	3.4	7
98	3D simulation of interaction and drag coefficient of bubbles continuously rising with equilateral triangle arrangement in shear-thinning fluids. International Journal of Multiphase Flow, 2019, 110, 69-81.	3.4	7
99	Flow Distribution and Mass Transfer of Gasâ€"Liquid Flow in Parallel Microchannels with Different Tree-Shaped Distributors: Halving-Width versus Constant-Width. Industrial & Engineering Chemistry Research, 2020, 59, 1327-1335.	3.7	7
100	Volumetric and Viscometric Properties of Maltitol in Glycylglycine Aqueous Solutions at <i>T</i> = 293.15â€"333.15 K. Journal of Chemical & Engineering Data, 2021, 66, 360-367.	1.9	7
101	Local deformation and coalescence between two equal-sized droplets in a cross-focused microchannel. Chemical Engineering Journal, 2022, 430, 133087.	12.7	7
102	Stability and uniformity of gasâ€"liquid two-phase flow in shear-thinning fluids in parallelized microchannels. Chemical Engineering Journal, 2022, 444, 136679.	12.7	7
103	Self-assembly of droplet swarms and its feedback on droplet generation in a step-emulsification microdevice with parallel microchannels. Chemical Engineering Science, 2022, 256, 117685.	3.8	6
104	Microfluidics in CO2 Capture, Sequestration, and Applications. , 2016, , .		5
105	Interfacial dynamics of the â€œsausageâ€• wave for glycerol-water solution/ionic liquid ([BMIM][PF6]) two-phase flow in a microfluidic flow-focusing junction. Chemical Engineering and Processing: Process Intensification, 2018, 133, 294-302.	3.6	5
106	Velocity Evolution for the Coalescence of Two In-Line Bubbles Rising in Non-Newtonian Fluids. Theoretical Foundations of Chemical Engineering, 2018, 52, 459-464.	0.7	5
107	Interfacial dynamics of the core-annular flow for glycerolâ€"water solution / ionic liquid ([BMIM][PF6]) two-phase flow in a microfluidic flow-focusing junction. Journal of the Taiwan Institute of Chemical Engineers, 2019, 98, 45-52.	5.3	5
108	Density, viscosity and excess properties of N, N-dimethylethanolamine +2-(ethylamino) ethanol +H2O at TÂ=Â(293.15 to 333.15) K. Journal of Molecular Liquids, 2020, 319, 114095.	4.9	5

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109	Controllable Droplet Coalescence in the T-Junction Microchannel with a Funnel-Typed Expansion Chamber. Industrial & Engineering Chemistry Research, 2020, 59, 10298-10307.	3.7	5
110	Mesoscale effect on bubble formation in stepâ€emulsification devices with two parallel microchannels. AIChE Journal, 2021, 67, .	3.6	5
111	Dynamics and modelling of bubble formation in asymmetric parallel microchannels. Chemical Engineering Science: X, 2019, 4, 100039.	1.5	4
112	Bubble formation in a step-emulsification microdevice: hydrodynamic effects in the cavity. Journal of Industrial and Engineering Chemistry, 2021, 94, 127-133.	5.8	4
113	Formation characteristics of Taylor bubbles in a T-junction microchannel with chemical absorption. Chinese Journal of Chemical Engineering, 2022, 46, 214-222.	3.5	4
114	Gas-liquid hydrodynamics with different liquid viscosities in a split-and-recombine microchannel. Chemical Engineering and Processing: Process Intensification, 2022, 177, 108988.	3.6	4
115	Interaction and drag coefficient of three horizontal bubbles with different sizes rising in the shear-thinning fluids. International Journal of Multiphase Flow, 2020, 125, 103214.	3.4	3
116	Formation dynamics and size prediction of bubbles for slurry system in T-shape microchannel. Chinese Journal of Chemical Engineering, 2022, 45, 153-161.	3.5	3
117	Coalescence dynamics of two droplets in T-junction microchannel with a lantern-shaped expansion chamber. Journal of the Taiwan Institute of Chemical Engineers, 2022, 131, 104193.	5.3	3
118	Distribution of liquidâ€“liquid two-phase flow in branching T-junction microchannels. Chemical Engineering Journal, 2022, 431, 133939.	12.7	3
119	Early stage of externally driven filling of viscous fluids within a microfluidic pore-doublet network. Physics of Fluids, 2022, 34, .	4.0	3
120	Effects of gas concentration on hydrodynamics of gas absorption in a microchannel. AIChE Journal, 2022, 68, .	3.6	3
121	Computational Fluid Dynamics Simulation of Generation and Coalescence of Bubbles in Nonâ€Newtonian Fluids. Chemical Engineering and Technology, 2018, 41, 541-552.	1.5	2
122	Volumetric and Viscometric Properties for Binary and Ternary Solutions of Diethylenetriamine, <i>N</i>,<i>N</i>-Diethylethanolamine, and Water. Journal of Chemical & Engineering Data, 2020, 65, 239-254.	1.9	2
123	Coalescence dynamics of two droplets of different viscosities in T-junction microchannel with a funnel-typed expansion chamber. Chinese Journal of Chemical Engineering, 2021, 38, 43-52.	3.5	2
124	Volumetric and Viscometric Properties of Sugar Alcohols in Glycylglycineâ€“Water Mixtures from 293.15 to 333.15 K. Journal of Chemical & Engineering Data, 2022, 67, 305-320.	1.9	2
125	Bubble formation in high-viscosity liquids in step-emulsification microdevices. Journal of Industrial and Engineering Chemistry, 2022, 114, 221-232.	5.8	2
126	Effects of the resultant force due to two-phase density difference on droplet formation in a step-emulsification microfluidic device. Journal of Industrial and Engineering Chemistry, 2022, 110, 564-575.	5.8	1

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127	Slug bubble deformation and its influence on bubble breakup dynamics in microchannel. Chinese Journal of Chemical Engineering, 2022, 50, 66-74.	3.5	1