Dimitrios Papavassiliou

List of Publications by Year
in descending order

146 papers	4,274 citations	101496 36 h-index	133188 59 g-index
147 all docs	147 docs citations	147 times ranked	3931 citing authors

#	Article	IF	Citations
1	Review of Fluid Slip over Superhydrophobic Surfaces and Its Dependence on the Contact Angle. Industrial & Engineering Chemistry Research, 2008, 47, 2455-2477.	1.8	253
2	Scalable, eco-friendly and ultrafast solar steam generators based on one-step melamine-derived carbon sponges toward water purification. Nano Energy, 2019, 58, 322-330.	8.2	246
3	Liquid water can slip on a hydrophilic surface. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16170-16175.	3.3	223
4	Boundary slip and wetting properties of interfaces: Correlation of the contact angle with the slip length. Journal of Chemical Physics, 2006, 124, 204701.	1.2	130
5	Transport of a passive scalar in a turbulent channel flow. International Journal of Heat and Mass Transfer, 1997, 40, 1303-1311.	2.5	106
6	Computational modeling of flow-induced shear stresses within 3D salt-leached porous scaffolds imaged via micro-CT. Journal of Biomechanics, 2010, 43, 1279-1286.	0.9	99
7	Molybdenum and tungsten disulfides-based nanocomposite films for energy storage and conversion: A review. Chemical Engineering Journal, 2018, 348, 908-928.	6.6	98
8	Carotid geometry effects on blood flow and on risk for vascular disease. Journal of Biomechanics, 2008, 41, 11-19.	0.9	95
9	Unique Thermal Conductivity Behavior of Single-Walled Carbon Nanotubeâ^'Polystyrene Composites. Macromolecules, 2008, 41, 7274-7277.	2.2	95
10	Agricultural waste-derived moisture-absorber for all-weather atmospheric water collection and electricity generation. Nano Energy, 2020, 74, 104922.	8.2	91
11	Interpretation of large-scale structures observed in a turbulent plane Couette flow. International Journal of Heat and Fluid Flow, 1997, 18, 55-69.	1.1	87
12	Use of direct numerical simulation to study the effect of Prandtl number on temperature fields. International Journal of Heat and Fluid Flow, 1999, 20, 187-195.	1.1	82
13	Interfacial water on crystalline silica: a comparative molecular dynamics simulation study. Molecular Simulation, 2011, 37, 172-195.	0.9	81
14	Thermal boundary resistance at the grapheneâ€"graphene interface estimated by molecular dynamics simulations. Chemical Physics Letters, 2012, 527, 47-50.	1.2	77
15	Analysis of a Melt-Blowing Die:Â Comparison of CFD and Experiments. Industrial & Engineering Chemistry Research, 2002, 41, 5125-5138.	1.8	74
16	Two-Phase Flow Regime Identification with a Multiclassification Support Vector Machine (SVM) Model. Industrial & Engineering Chemistry Research, 2005, 44, 4414-4426.	1.8	72
17	Solid waste and graphite derived solar steam generator for highly-efficient and cost-effective water purification. Applied Energy, 2020, 261, 114410.	5.1	70
18	Slip length and contact angle over hydrophobic surfaces. Chemical Physics Letters, 2007, 441, 273-276.	1.2	65

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19	Turbulent flow in a channel at a low Reynolds number. Experiments in Fluids, 1998, 25, 503-511.	1.1	64
20	Computational modeling of the thermal conductivity of single-walled carbon nanotubeâ€“polymer composites. Nanotechnology, 2008, 19, 065702.	1.3	63
21	Heat transfer in high volume fraction CNT nanocomposites: Effects of inter-nanotube thermal resistance. Chemical Physics Letters, 2011, 508, 248-251.	1.2	60
22	Simulation insights into thermally conductive graphene-based nanocomposites. Molecular Physics, 2011, 109, 97-111.	0.8	58
23	Effects of Die Geometry on the Flow Field of the Melt-Blowing Process. Industrial & Engineering Chemistry Research, 2003, 42, 5541-5553.	1.8	57
24	Enhanced Electrochemical and Thermal Transport Properties of Graphene/MoS₂ Heterostructures for Energy Storage: Insights from Multiscale Modeling. ACS Applied Materials & Interfaces, 2018, 10, 14614-14621.	4.0	56
25	Thermal transport phenomena and limitations in heterogeneous polymer composites containing carbon nanotubes and inorganic nanoparticles. Carbon, 2014, 78, 305-316.	5.4	50
26	Random walks in nanotube composites: Improved algorithms and the role of thermal boundary resistance. Applied Physics Letters, 2005, 87, 013101.	1.5	48
27	On the Prandtl or Schmidt number dependence of the turbulent heat or mass transfer coefficient. Chemical Engineering Science, 2004, 59, 543-555.	1.9	46
28	Effects of Temperature and Geometry on the Flow Field of the Melt Blowing Process. Industrial & Engineering Chemistry Research, 2004, 43, 4199-4210.	1.8	44
29	Morphology Effects on Nonisotropic Thermal Conduction of Aligned Single-Walled and Multi-Walled Carbon Nanotubes in Polymer Nanocomposites. Journal of Physical Chemistry C, 2010, 114, 8851-8860.	1.5	44
30	Recent Advances in Graphene-Based Free-Standing Films for Thermal Management: Synthesis, Properties, and Applications. Coatings, 2018, 8, 63.	1.2	43
31	Inter-carbon nanotube contact in thermal transport of controlled-morphology polymer nanocomposites. Nanotechnology, 2009, 20, 155702.	1.3	41
32	Effective Heat Transfer Properties of Graphene Sheet Nanocomposites and Comparison to Carbon Nanotube Nanocomposites. Journal of Physical Chemistry C, 2011, 115, 3872-3880.	1.5	41
33	Significance of Extensional Stresses to Red Blood Cell Lysis in a Shearing Flow. Annals of Biomedical Engineering, 2011, 39, 1632-1642.	1.3	40
34	Analysis of isothermal annular jets: Comparison of computational fluid dynamics and experimental data. Journal of Applied Polymer Science, 2004, 94, 909-922.	1.3	38
35	Turbulent transport from continuous sources at the wall of a channel. International Journal of Heat and Mass Transfer, 2002, 45, 3571-3583.	2.5	37
36	The Use of Lagrangian Methods To Describe Turbulent Transport of Heat from a Wall. Industrial & Engineering Chemistry Research, 1995, 34, 3359-3367.	1.8	36

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37	Calculated Thermal Properties of Single-Walled Carbon Nanotube Suspensions. Journal of Physical Chemistry C, 2008, 112, 19860-19865.	1.5	34
38	Flowâ€Field Simulations and Hemolysis Estimates for the Food and Drug Administration Critical Path Initiative Centrifugal Blood Pump. Artificial Organs, 2017, 41, E129-E140.	1.0	32
39	Effects of Scaffold Architecture on Preosteoblastic Cultures under Continuous Fluid Shear. Industrial & Engineering Chemistry Research, 2011, 50, 620-629.	1.8	31
40	Scalar dispersion from an instantaneous line source at the wall of a turbulent channel for medium and high Prandtl number fluids. International Journal of Heat and Fluid Flow, 2002, 23, 161-172.	1.1	30
41	Next-Generation Modeling of Melt Blowing. Industrial & Engineering Chemistry Research, 2011, 50, 12233-12245.	1.8	30
42	Turbulent dispersion from elevated line sources in channel and couette flow. AIChE Journal, 2005, 51, 2402-2414.	1.8	29
43	A numerical study on the effective thermal conductivity of biological fluids containing single-walled carbon nanotubes. International Journal of Heat and Mass Transfer, 2009, 52, 5591-5597.	2.5	29
44	Analysis of the Temperature Field from Multiple Jets in the Schwarz Melt Blowing Die Using Computational Fluid Dynamics. Industrial & Engineering Chemistry Research, 2006, 45, 5098-5109.	1.8	28
45	A Facile Approach to Tune the Electrical and Thermal Properties of Graphene Aerogels by Including Bulk MoS2. Nanomaterials, 2017, 7, 420.	1.9	28
46	Online Measurement of Fiber Diameter and Temperature in the Melt-Spinning and Melt-Blowing Processes. Industrial & Engineering Chemistry Research, 2009, 48, 8736-8744.	1.8	27
47	Synergistic effects of surfactants and heterogeneous nanoparticles at oil-water interface: Insights from computations. Journal of Colloid and Interface Science, 2019, 553, 50-58.	5.0	27
48	Analysis of Multiple Jets in the Schwarz Melt-Blowing Die Using Computational Fluid Dynamics. Industrial & Engineering Chemistry Research, 2005, 44, 8922-8932.	1.8	26
49	Efficient Lagrangian scalar tracking method for reactive local mass transport simulation through porous media. International Journal for Numerical Methods in Fluids, 2011, 67, 501-517.	0.9	26
50	Thermal Behavior of Double-Walled Carbon Nanotubes and Evidence of Thermal Rectification. Journal of Physical Chemistry C, 2012, 116, 4449-4454.	1.5	26
51	Adsorption of anionic and non-ionic surfactants on carbon nanotubes in water with dissipative particle dynamics simulation. Journal of Chemical Physics, 2016, 144, 204701.	1.2	26
52	Mesoscopic modeling of cancer photothermal therapy using single-walled carbon nanotubes and near infrared radiation: insights through an off-lattice Monte Carlo approach. Nanotechnology, 2014, 25, 205101.	1.3	24
53	Oil-water interfaces with surfactants: A systematic approach to determine coarse-grained model parameters. Journal of Chemical Physics, 2018, 148, 204704.	1.2	24
54	Effects of a first-order chemical reaction on turbulent mass transfer. International Journal of Heat and Mass Transfer, 2004, 47, 43-61.	2.5	23

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55	Turbulent Heat Transfer in Plane Couette Flow. Journal of Heat Transfer, 2006, 128, 53-62.	1.2	22
56	Effects of the Polymer Fiber on the Flow Field from a Slot Melt Blowing Die. Industrial & Engineering Chemistry Research, 2008, 47, 935-945.	1.8	22
57	Hemolysis Related to Turbulent Eddy Size Distributions Using Comparisons of Experiments to Computations. Artificial Organs, 2015, 39, E227-39.	1.0	21
58	Inter-Carbon Nanotube Contact and Thermal Resistances in Heat Transport of Three-Phase Composites. Journal of Physical Chemistry C, 2015, 119, 7614-7620.	1.5	21
59	Physical adsorption of polyvinyl pyrrolidone on carbon nanotubes under shear studied with dissipative particle dynamics simulations. Carbon, 2016, 100, 291-301.	5.4	21
60	A PORE NETWORK MODEL FOR THE CALCULATION OF NON-DARCY FLOW COEFFICIENTS IN FLUID FLOW THROUGH POROUS MEDIA. Chemical Engineering Communications, 2004, 191, 1285-1322.	1.5	20
61	Distribution of flow-induced stresses in highly porous media. Applied Physics Letters, 2010, 97, 024101.	1.5	20
62	Transport properties for turbulent dispersion from wall sources. AICHE Journal, 2003, 49, 1095-1108.	1.8	19
63	Effects of the Polymer Fiber on the Flow Field from an Annular Melt-Blowing Die. Industrial & Engineering Chemistry Research, 2007, 46, 655-666.	1.8	19
64	Bulk stress distributions in the pore space of sphere-packed beds under Darcy flow conditions. Physical Review E, 2014, 89, 033016.	0.8	18
65	Off-Lattice Monte Carlo Simulation of Heat Transfer through Carbon Nanotube Multiphase Systems Taking into Account Thermal Boundary Resistances. Numerical Heat Transfer; Part A: Applications, 2014, 65, 1023-1043.	1.2	18
66	Effective thermal transport properties in multiphase biological systems containing carbon nanomaterials. RSC Advances, 2017, 7, 13615-13622.	1.7	18
67	Prediction of the Turbulent Prandtl Number in Wall Flows with Lagrangian Simulations. Industrial & Engineering Chemistry Research, 2011, 50, 8881-8891.	1.8	17
68	3D Tissue-Engineered Construct Analysis via Conventional High-Resolution Microcomputed Tomography Without X-Ray Contrast. Tissue Engineering - Part C: Methods, 2013, 19, 327-335.	1.1	17
69	Review of Recent Developments on Using an Off-Lattice Monte Carlo Approach to Predict the Effective Thermal Conductivity of Composite Systems with Complex Structures. Nanomaterials, 2016, 6, 142.	1.9	17
70	Hydrodynamic Dispersion in Porous Media and the Significance of Lagrangian Time and Space Scales. Fluids, 2020, 5, 79.	0.8	17
71	Use of an Infrared Camera for Accurate Determination of the Temperature of Polymer Filaments. Industrial & Engineering Chemistry Research, 2007, 46, 336-344.	1.8	16
72	A physical picture of the mechanism of turbulent heat transfer from the wall. International Journal of Heat and Mass Transfer, 2009, 52, 4873-4882.	2.5	16

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73	A Flow Induced Autoimmune Response and Accelerated Senescence of Red Blood Cells in Cardiovascular Devices. Scientific Reports, 2019, 9, 19443.	1.6	16
74	Transport of nanoparticles and kinetics in packed beds: A numerical approach with lattice Boltzmann simulations and particle tracking. International Journal of Heat and Mass Transfer, 2014, 72, 319-328.	2.5	15
75	Drag Coefficient Correction for Spherical and Nonspherical Particles Suspended in Square Microducts. Industrial & Engineering Chemistry Research, 2014, 53, 10465-10474.	1.8	15
76	Modification of Oilâ€"Water Interfaces by Surfactant-Stabilized Carbon Nanotubes. Journal of Physical Chemistry C, 2018, 122, 27734-27744.	1.5	15
77	Modifying Air Fields To Improve Melt Blowing. Industrial & Engineering Chemistry Research, 2012, 51, 3472-3482.	1.8	14
78	Effect of Sodium Dodecyl Sulfate Adsorption on the Behavior of Water inside Single Walled Carbon Nanotubes with Dissipative Particle Dynamics Simulation. Molecules, 2016, 21, 500.	1.7	14
79	Use of Computational Fluid Dynamics to Analyze Blood Flow, Hemolysis and Sublethal Damage to Red Blood Cells in a Bileaflet Artificial Heart Valve. Fluids, 2019, 4, 19.	0.8	14
80	Effect of Janus particles and non-ionic surfactants on the collapse of the oil-water interface under compression. Journal of Colloid and Interface Science, 2022, 609, 158-169.	5.0	14
81	Image-based modeling: A novel tool for realistic simulations of artificial bone cultures. Technology, 2016, 04, 229-233.	1.4	13
82	Hydrodynamic effects on the aggregation of nanoparticles in porous media. International Journal of Heat and Mass Transfer, 2018, 121, 477-487.	2.5	13
83	Predictions of the thermal conductivity of multiphase nanocomposites with complex structures. Journal of Materials Science, 2018, 53, 12157-12166.	1.7	13
84	Turbulence structure for plane Poiseuilleâ€"Couette flow and implications for drag reduction over surfaces with slip. Canadian Journal of Chemical Engineering, 2009, 87, 38-46.	0.9	12
85	Predicting the stress distribution within scaffolds with ordered architecture. Biorheology, 2012, 49, 235-247.	1.2	12
86	Modeling of cancer photothermal therapy using nearâ€infrared radiation and functionalized graphene nanosheets. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3275.	1.0	12
87	Arterial deformation with renal artery aneurysm as a basis for secondary hypertension. Biorheology, 2013, 50, 17-31.	1.2	11
88	Recycling Polymeric Solid Wastes for Energyâ€Efficient Water Purification, Organic Distillation, and Oil Spill Cleanup. Small, 2021, 17, e2102459.	5.2	11
89	Modeling the Melt Blowing of Hollow Fibers. Industrial & Engineering Chemistry Research, 2006, 45, 407-415.	1.8	10
90	Effect of carbon nanotube persistence length on heat transfer in nanocomposites: A simulation approach. Applied Physics Letters, 2013, 102, 203116.	1.5	10

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91	Turbulent plane Poiseuille-Couette flow as a model for fluid slip over superhydrophobic surfaces. Physical Review E, 2013, 88, 063015.	0.8	10
92	An Approach for Assessing Turbulent Flow Damage to Blood in Medical Devices. Journal of Biomechanical Engineering, 2017, 139, .	0.6	10
93	Effects of a reacting channel wall on turbulent mass transfer. International Journal of Heat and Mass Transfer, 2008, 51, 2940-2949.	2.5	9
94	Flow effects on the kinetics of a second-order reaction. Chemical Engineering Journal, 2008, 140, 370-380.	6.6	9
95	The effects of shear and particle shape on the physical adsorption of polyvinyl pyrrolidone on carbon nanoparticles. Nanotechnology, 2016, 27, 325709.	1.3	9
96	Nanoparticle transport in heterogeneous porous media with particle tracking numerical methods. Computational Particle Mechanics, 2017, 4, 87-100.	1.5	9
97	Production of erythrocyte microparticles in a sub-hemolytic environment. Journal of Artificial Organs, 2021, 24, 135-145.	0.4	9
98	Elongational Stresses and Cells. Cells, 2021, 10, 2352.	1.8	9
99	Using helicity to investigate scalar transport in wall turbulence. Physical Review Fluids, 2020, 5, .	1.0	9
100	Flow around Surface-Attached Carbon Nanotubes. Industrial & Engineering Chemistry Research, 2006, 45, 1797-1804.	1.8	8
101	On temperature prediction at low Re turbulent flows using the Churchill turbulent heat flux correlation. International Journal of Heat and Mass Transfer, 2006, 49, 3681-3690.	2.5	8
102	EFFECTS OF HYDROPHOBICITY-INDUCING ROUGHNESS ON MICRO-FLOWS. Chemical Engineering Communications, 2013, 200, 919-934.	1.5	8
103	Reynolds Stresses and Hemolysis in Turbulent Flow Examined by Threshold Analysis. Fluids, 2016, 1, 42.	0.8	8
104	Interaction parameters between carbon nanotubes and water in Dissipative Particle Dynamics. Molecular Simulation, 2016, 42, 737-744.	0.9	8
105	Effects of Temperature and Shear on the Adsorption of Surfactants on Carbon Nanotubes. Journal of Physical Chemistry C, 2017, 121, 14339-14348.	1.5	8
106	Contamination in Sodium Dodecyl Sulfate Solutions: Insights from the Measurements of Surface Tension and Surface Rheology. Langmuir, 2022, 38, 7179-7189.	1.6	8
107	Using Swirl Dies To Spin Solid and Hollow Fibers. Industrial & Engineering Chemistry Research, 2006, 45, 2331-2340.	1.8	7
108	Backwards and forwards dispersion of a scalar in turbulent wall flows. International Journal of Heat and Mass Transfer, 2010, 53, 1023-1035.	2.5	7

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109	Direction of scalar transport in turbulent channel flow. Physics of Fluids, 2011, 23, .	1.6	7
110	Near-wall velocity structures that drive turbulent transport from a line source at the wall. Physics of Fluids, 2012, 24, .	1.6	7
111	Transport and deposition kinetics of polymerâ€coated multiwalled carbon nanotubes in packed beds. AIChE Journal, 2016, 62, 3774-3783.	1.8	7
112	A statistical model to predict streamwise turbulent dispersion from the wall at small times. Physics of Fluids, 2016, 28, .	1.6	7
113	Scalar mixing in anisotropic turbulent flow. AIChE Journal, 2018, 64, 2803-2815.	1.8	7
114	Knowledge-Based Multiclass Support Vector Machines Applied to Vertical Two-Phase Flow. Lecture Notes in Computer Science, 2006, , 188-195.	1.0	7
115	Comparison of backwards and forwards scalar relative dispersion in turbulent shear flow. International Journal of Heat and Mass Transfer, 2012, 55, 5650-5664.	2.5	6
116	Numerical Calculation of the Effective Thermal Conductivity of Nanocomposites. Numerical Heat Transfer; Part A: Applications, 2013, 63, 590-603.	1.2	6
117	Heat Transfer Scaling Close to the Wall for Turbulent Channel Flows. Applied Mechanics Reviews, 2013, 65, .	4.5	6
118	Flow-induced separation in wall turbulence. Physical Review E, 2015, 91, 033019.	0.8	6
119	Validation of Non-darcy Well Models Using Direct Numerical Simulation. , 2000, , 156-169.		6
120	Distribution and history of extensional stresses on vWF surrogate molecules in turbulent flow. Scientific Reports, 2022, 12, 171.	1.6	6
121	Coarse Grained Modeling of Multiphase Flows with Surfactants. Polymers, 2022, 14, 543.	2.0	6
122	Transient stenotic-like occlusions as a possible mechanism forÂrenovascular hypertension due to aneurysm. Journal of the American Society of Hypertension, 2009, 3, 192-200.	2.3	5
123	Lagrangian Modeling of Turbulent Dispersion from Instantaneous Point Sources at the Center of a Turbulent Flow Channel. Fluids, 2017, 2, 46.	0.8	5
124	Velocity Magnitude Distribution for Flow in Porous Media. Industrial & Engineering Chemistry Research, 2021, 60, 13979-13990.	1.8	5
125	Mesoscopic modeling of heat transfer in carbon nanotube multiphase polymer composites. AIP Conference Proceedings, 2016, , .	0.3	4
126	Hemolysis estimation in turbulent flow for the FDA critical path initiative centrifugal blood pump. Biomechanics and Modeling in Mechanobiology, 2021, 20, 1709-1722.	1.4	4

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127	Non-Darcy Flow Pore Network Simulation: Development and Validation of a 3D Model. , 2007, , 1331.		3
128	On the scaling of heat transfer using thermal flux gradients for fully developed turbulent channel and Couette flows. International Communications in Heat and Mass Transfer, 2008, 35, 404-412.	2.9	3
129	Unsteady State Heat Transfer from Cylinders to Air in Normal and Parallel Flow. Industrial & Engineering Chemistry Research, 2009, 48, 4119-4126.	1.8	3
130	Effect of spatial distribution of porous matrix surface charge heterogeneity on nanoparticle attachment in a packed bed. Physics of Fluids, 2017, 29, .	1.6	3
131	Understanding Macroscopic Heat/Mass Transfer Using Meso- and Macro-Scale Simulations. , 2006, , 489-513.		2
132	A computational investigation of the geometric factors affecting the severity of renal arterial stenoses. Journal of Biorheology, 2009, 23, 102-110.	0.2	2
133	Heat Transfer in Nanocomposites with Monte-Carlo Simulations. Defect and Diffusion Forum, 2011, 312-315, 177-182.	0.4	2
134	Entropy Generation in Laminar Flow Junctions. , 2012, , .		2
135	Flow Recovery Downstream from Nanoposts Grown at the Wall of a Microchannel. Nanoscale and Microscale Thermophysical Engineering, 2014, 18, 1-17.	1.4	2
136	Interaction between polymer-coated carbon nanotubes with coarse-grained computations. Chemical Physics Letters, 2017, 685, 77-83.	1.2	2
137	Quality Measures of Mixing in Turbulent Flow and Effects of Molecular Diffusivity. Fluids, 2018, 3, 53.	0.8	2
138	Recycling Polymeric Solid Wastes for Energyâ€Efficient Water Purification, Organic Distillation, and Oil Spill Cleanup (Small 46/2021). Small, 2021, 17, 2170244.	5.2	2
139	Simulation of Heat Transfer With LBM and Lagrangian Methods for Microfluidic Applications. , 2005, , 563.		1
140	Simulations to Determine Laminar Loss Coefficients for Flow in Circular Ducts With Arbitrary Planar Bifurcation Geometries. , 2008, , .		1
141	Hemodynamics of the renal artery ostia with implications for their structural development and efficiency of flow. Biorheology, 2015, 52, 257-268.	1.2	1
142	Simulation of Thermal Conductivity in Fabricated Variable Volume Fraction Aligned Carbon Nanotube Polymer Composites. , 2008, , .		0
143	Chemical Fate and Transport in the Environment. AIAA Journal, 2016, 54, 3320-3320.	1.5	0
144	Flow and Heat or Mass Transfer in the Chemical Process Industry. Fluids, 2018, 3, 61.	0.8	0

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145	Coupled Flow and Heat or Mass Transfer. Fluids, 2020, 5, 66.	0.8	0
146	Sublethal Damage to Erythrocytes during Blood Flow. Fluids, 2022, 7, 66.	0.8	0