

Seishi Shimizu

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

107
papers

2,942
citations

32
h-index

50
g-index

120
ext. papers

3,288
ext. citations

5.2
avg, IF

5.94
L-index

#	Paper	IF	Citations
107	Estimating hydration changes upon biomolecular reactions from osmotic stress, high pressure, and preferential hydration experiments. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 1195-9	11.5	168
106	Cooperativity principles in protein folding. <i>Methods in Enzymology</i> , 2004 , 380, 350-79	1.7	157
105	Temperature dependence of hydrophobic interactions: A mean force perspective, effects of water density, and nonadditivity of thermodynamic signatures. <i>Journal of Chemical Physics</i> , 2000 , 113, 4683-4700	2.0	152
104	Preferential hydration and the exclusion of cosolvents from protein surfaces. <i>Journal of Chemical Physics</i> , 2004 , 121, 1148-54	3.9	117
103	Mechanism of hydrophobic drug solubilization by small molecule hydrotropes. <i>Journal of Physical Chemistry B</i> , 2012 , 116, 14915-21	3.4	97
102	The Kirkwood-Buff theory and the effect of cosolvents on biochemical reactions. <i>Journal of Chemical Physics</i> , 2004 , 121, 9147-55	3.9	95
101	Hydrotropy: monomer-micelle equilibrium and minimum hydrotrope concentration. <i>Journal of Physical Chemistry B</i> , 2014 , 118, 10515-24	3.4	83
100	Origins of protein denatured state compactness and hydrophobic clustering in aqueous urea: inferences from nonpolar potentials of mean force. <i>Proteins: Structure, Function and Bioinformatics</i> , 2002 , 49, 560-6	4.2	82
99	Anti-cooperativity and cooperativity in hydrophobic interactions: Three-body free energy landscapes and comparison with implicit-solvent potential functions for proteins. <i>Proteins: Structure, Function and Bioinformatics</i> , 2002 , 48, 15-30	4.2	77
98	Preferential solvation: dividing surface vs excess numbers. <i>Journal of Physical Chemistry B</i> , 2014 , 118, 3922-30	3.4	74
97	The Hofmeister series and protein-salt interactions. <i>Journal of Chemical Physics</i> , 2006 , 124, 234905	3.9	71
96	Hydrotrope accumulation around the drug: the driving force for solubilization and minimum hydrotrope concentration for nicotinamide and urea. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 8028-37	3.6	68
95	Roles of Hydrogen Bonding and the Hard Core of Water on Hydrophobic Hydration. <i>Journal of Physical Chemistry B</i> , 1998 , 102, 5891-5898	3.4	59
94	Hydrotropy: binding models vs. statistical thermodynamics. <i>Physical Chemistry Chemical Physics</i> , 2013 , 15, 20625-32	3.6	58
93	Temperature dependence of three-body hydrophobic interactions: potential of mean force, enthalpy, entropy, heat capacity, and nonadditivity. <i>Journal of the American Chemical Society</i> , 2005 , 127, 303-16	16.4	58
92	Configuration-dependent heat capacity of pairwise hydrophobic interactions. <i>Journal of the American Chemical Society</i> , 2001 , 123, 2083-4	16.4	55
91	Gelation of carrageenan: Effects of sugars and polyols. <i>Food Hydrocolloids</i> , 2016 , 54, 284-292	10.6	52

90	Residual water in ionic liquids: clustered or dissociated?. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 14710-8	3.6	50
89	Tissue response of a small saccular aneurysm after incomplete occlusion with a Guglielmi detachable coil. <i>American Journal of Neuroradiology</i> , 1999 , 20, 546-8	4.4	49
88	Interactions in Water-Ionic Liquid Mixtures: Comparing Protic and Aprotic Systems. <i>Journal of Physical Chemistry B</i> , 2017 , 121, 599-609	3.4	47
87	Gelation: the role of sugars and polyols on gelatin and agarose. <i>Journal of Physical Chemistry B</i> , 2014 , 118, 13210-6	3.4	44
86	Preferential hydration of proteins: A Kirkwood-Buff approach. <i>Chemical Physics Letters</i> , 2006 , 420, 518-523	3.6	44
85	Ionic interactions. Subnanoscale hydrophobic modulation of salt bridges in aqueous media. <i>Science</i> , 2015 , 348, 555-9	33.3	43
84	Enhanced dissolution of ibuprofen using ionic liquids as cationic hydrotropes. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 2094-2103	3.6	43
83	The origin of cooperative solubilisation by hydrotropes. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 25621-25628	3.6	42
82	Anti-cooperativity in hydrophobic interactions: A simulation study of spatial dependence of three-body effects and beyond. <i>Journal of Chemical Physics</i> , 2001 , 115, 1414-1421	3.9	42
81	Water Networks Can Determine the Affinity of Ligand Binding to Proteins. <i>Journal of the American Chemical Society</i> , 2019 , 141, 15818-15826	16.4	40
80	Alcohol Denaturation: Thermodynamic Theory of Peptide Unit Solvation. <i>Journal of the American Chemical Society</i> , 1999 , 121, 2387-2394	16.4	37
79	Gastrophysics: Statistical thermodynamics of biomolecular denaturation and gelation from the Kirkwood-Buff theory towards the understanding of tofu. <i>Food Hydrocolloids</i> , 2017 , 62, 128-139	10.6	35
78	Supercritical CO ₂ Extraction as an Effective Pretreatment Step for Wax Extraction in a Miscanthus Biorefinery. <i>ACS Sustainable Chemistry and Engineering</i> , 2016 , 4, 5979-5988	8.3	33
77	Estimation of excess solvation numbers of water and cosolvents from preferential interaction and volumetric experiments. <i>Journal of Chemical Physics</i> , 2004 , 120, 4989-90	3.9	33
76	Size dependence of transfer free energies: A hard-sphere-chain-based formalism. <i>Journal of Chemical Physics</i> , 1999 , 110, 2971-2982	3.9	33
75	Unifying hydrotrophy under Gibbs phase rule. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 23597-23605	3.6	31
74	Calorimetric dissection of colicin DNase-immunity protein complex specificity. <i>Biochemistry</i> , 2006 , 45, 3243-54	3.2	30
73	The properties of residual water molecules in ionic liquids: a comparison between direct and inverse Kirkwood-Buff approaches. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 18924-18937	3.6	28

72	Practical molecular thermodynamics for greener solution chemistry. <i>Green Chemistry</i> , 2017 , 19, 68-75	10	26
71	How Entrainers Enhance Solubility in Supercritical Carbon Dioxide. <i>Journal of Physical Chemistry B</i> , 2016 , 120, 3713-23	3.4	26
70	Geminal Diol of Dihydrolevoglucosenone as a Switchable Hydrotrope: A Continuum of Green Nanostructured Solvents. <i>ACS Sustainable Chemistry and Engineering</i> , 2019 , 7, 7878-7883	8.3	25
69	Molecular Interpretation of Preferential Interactions in Protein Solvation: A Solvent-Shell Perspective by Means of Minimum-Distance Distribution Functions. <i>Journal of Chemical Theory and Computation</i> , 2017 , 13, 6358-6372	6.4	25
68	A unified perspective on preferential solvation and adsorption based on inhomogeneous solvation theory. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2018 , 492, 1988-1996	3.3	25
67	Green profiling of aprotic versus protic ionic liquids: Synthesis and microbial toxicity of analogous structures. <i>Sustainable Chemistry and Pharmacy</i> , 2018 , 7, 17-26	3.9	24
66	Origin of non-linearity in phase solubility: solubilisation by cyclodextrin beyond stoichiometric complexation. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 15205-17	3.6	24
65	Caffeine dimerization: effects of sugar, salts, and water structure. <i>Food and Function</i> , 2015 , 6, 3228-35	6.1	23
64	Unveiling the mechanism of hydrotropy: evidence for water-mediated aggregation of hydrotropes around the solute. <i>Chemical Communications</i> , 2020 , 56, 7143-7146	5.8	22
63	Structure-property relationships in protic ionic liquids: a study of solvent-solvent and solvent-solute interactions. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 28133-28138	3.6	20
62	Molecular origin of the cosolvent-induced changes in the thermal stability of proteins. <i>Chemical Physics Letters</i> , 2011 , 514, 156-158	2.5	20
61	Soluble, folded and active subtilisin in a protic ionic liquid. <i>Chemical Communications</i> , 2010 , 46, 749-51	5.8	20
60	Unexpected preferential dehydration of artemisinin in ionic liquids. <i>Journal of Physical Chemistry A</i> , 2009 , 113, 10143-5	2.8	20
59	The effect of urea on hydrophobic hydration: Preferential interaction and the enthalpy of transfer. <i>Chemical Physics Letters</i> , 2011 , 517, 76-79	2.5	19
58	Glycerol Ethers as Hydrotropes and Their Use to Enhance the Solubility of Phenolic Acids in Water. <i>ACS Sustainable Chemistry and Engineering</i> , 2020 , 8, 5742-5749	8.3	18
57	The mechanism of salt effects on starch gelatinization from a statistical thermodynamic perspective. <i>Food Hydrocolloids</i> , 2019 , 87, 593-601	10.6	18
56	The use of sequence comparison to detect 'identities' in tRNA genes. <i>Nucleic Acids Research</i> , 1998 , 26, 1974-9	20.1	18
55	Hydrotropy and scattering: pre-ouzo as an extended near-spinodal region. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 26734-26742	3.6	16

54	Statistical mechanics of solvophobic aggregation: Additive and cooperative effects. <i>Journal of Chemical Physics</i> , 2001 , 115, 3424-3431	3.9	16
53	Formulating rationally via statistical thermodynamics. <i>Current Opinion in Colloid and Interface Science</i> , 2020 , 48, 53-64	7.6	15
52	Water activity in liquid food systems: A molecular scale interpretation. <i>Food Chemistry</i> , 2017 , 237, 1133-1138	8.1	14
51	Structure-property relationships in protic ionic liquids: a thermochemical study. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 19928-19936	3.6	14
50	Statistical thermodynamic foundation for mesoscale aggregation in ternary mixtures. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 13777-13784	3.6	12
49	How Osmolytes Counteract Pressure Denaturation on a Molecular Scale. <i>ChemPhysChem</i> , 2017 , 18, 2243-2249	3.3	11
48	Reply to Comment on Anti-cooperativity in hydrophobic interactions: A simulation study of spatial dependence of three-body effects and beyond [J. Chem. Phys. 116, 2665 (2002)]. <i>Journal of Chemical Physics</i> , 2002 , 116, 2668-2669	3.9	11
47	Osmolyte depletion viewed in terms of the dividing membrane and its work of expansion against osmotic pressure. <i>Biophysical Chemistry</i> , 2017 , 231, 111-115	3.5	10
46	Kirkwood-Buff Integrals for Aqueous Urea Solutions Based upon the Quantum Chemical Electrostatic Potential and Interaction Energies. <i>Journal of Physical Chemistry B</i> , 2016 , 120, 7714-23	3.4	10
45	Sucrose-water mixture: From thermodynamics to solution structure. <i>Chemical Physics Letters</i> , 2013 , 582, 129-133	2.5	10
44	Assessing the mutagenicity of protic ionic liquids using the mini Ames test. <i>Sustainable Chemical Processes</i> , 2015 , 3,		10
43	Cellulose dissolution and regeneration using a non-aqueous, non-stoichiometric protic ionic liquid system. <i>Cellulose</i> , 2020 , 27, 9593-9603	5.5	10
42	Statistical thermodynamics of casein aggregation: Effects of salts and water. <i>Biophysical Chemistry</i> , 2019 , 247, 34-42	3.5	9
41	Pial arteriovenous malformation with massive perinidal edema. <i>Neurological Research</i> , 1998 , 20, 249-52	2.7	8
40	Statistical thermodynamics unveils the dissolution mechanism of cellobiose. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 23106-23112	3.6	7
39	Quantifying non-specific interactions between flavour and food biomolecules. <i>Food and Function</i> , 2017 , 8, 2999-3009	6.1	7
38	Extracting contact free energy from solubility: excluded volume effects of polymers in continuum space. <i>Chemical Physics Letters</i> , 1997 , 268, 93-100	2.5	7
37	Fluctuation adsorption theory: quantifying adsorbate-adsorbate interaction and interfacial phase transition from an isotherm. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 28304-28316	3.6	7

36	Ion hydration: linking self-diffusion and reorientational motion to water structure. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 5909-5917	3.6	6
35	Hydrophilicity, the major determining factor influencing the solvation environment of protic ionic liquids. <i>Physical Chemistry Chemical Physics</i> , 2010 , 12, 9063-6	3.6	6
34	An off-lattice theory of solvation: extension of the Flory χ parameter into continuum space. <i>Chemical Physics Letters</i> , 1998 , 282, 79-90	2.5	6
33	Molecular volume, surface area, and curvature dependence of the configurational entropy change upon solvation: effects of molecular bonding. <i>Chemical Physics Letters</i> , 1998 , 284, 235-246	2.5	6
32	The hydrophobic effect and the excess free energy of solvation. <i>Chemical Physics Letters</i> , 2004 , 392, 456-459	2.5	6
31	Intensive nature of fluctuations: Reconceptualizing Kirkwood-Buff theory via elementary algebra. <i>Journal of Molecular Liquids</i> , 2020 , 318, 114225	6	6
30	Sorption: A Statistical Thermodynamic Fluctuation Theory. <i>Langmuir</i> , 2021 , 37, 7380-7391	4	6
29	Effect of solute aggregation on solubilization. <i>Journal of Molecular Liquids</i> , 2019 , 274, 209-214	6	6
28	Phase stability condition and liquid-liquid phase separation under mesoscale confinement. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2021 , 563, 125385	3.3	6
27	Royal jelly does not prevent bone loss but improves bone strength in ovariectomized rats. <i>Climacteric</i> , 2018 , 21, 601-606	3.1	6
26	Quantifying non-specific interactions via liquid chromatography. <i>Analyst, The</i> , 2019 , 144, 1632-1641	5	5
25	Thermodynamic stability condition can judge whether a nanoparticle dispersion can be considered a solution in a single phase. <i>Journal of Colloid and Interface Science</i> , 2020 , 575, 472-479	9.3	5
24	The Perspective of Cooperative Hydrotropy on the Solubility in Aqueous Solutions of Cyrene. <i>Industrial & Engineering Chemistry Research</i> , 2020 , 59, 18649-18658	3.9	5
23	Solubility Enhancement of Hydrophobic Substances in Water/Cyrene Mixtures: A Computational Study. <i>Industrial & Engineering Chemistry Research</i> , 2020 , 59, 18247-18253	3.9	5
22	Implicit function theorem and Jacobians in solvation and adsorption. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2021 , 570, 125801	3.3	5
21	The impact of the counterion in the performance of ionic hydrotropes. <i>Chemical Communications</i> , 2021 , 57, 2951-2954	5.8	5
20	Cooperative Sorption on Porous Materials. <i>Langmuir</i> , 2021 , 37, 10279-10290	4	5
19	Adsorbate-adsorbate interactions on microporous materials. <i>Microporous and Mesoporous Materials</i> , 2021 , 323, 111254	5.3	5

18	A comparison of the solvation power of the green solvent 2,2,5,5-tetramethyloxolane versus toluene via partition coefficients. <i>Journal of Cleaner Production</i> , 2019 , 240, 118175	10.3	4
17	Calculation of temperature dependence of free energy caused by potential function changes. <i>Chemical Physics Letters</i> , 1998 , 288, 333-337	2.5	3
16	Comment on "Molecular origin of anticooperativity in hydrophobic association". <i>Journal of Physical Chemistry B</i> , 2005 , 109, 21220-1; discussion 21222-4	3.4	3
15	Temperature Dependence of Three-Body Hydrophobic Interactions: Potential of Mean Force, Enthalpy, Entropy, Heat Capacity, and Nonadditivity [J. Am. Chem. Soc.2005,127, 303B16].. <i>Journal of the American Chemical Society</i> , 2005 , 127, 2363-2363	16.4	3
14	Cooperativity in micellar solubilization. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 8705-8716	3.6	3
13	Statistical Thermodynamics Unveils How Ions Influence an Aqueous Diels-Alder Reaction. <i>ChemPhysChem</i> , 2019 , 20, 1538-1544	3.2	2
12	Salt-induced LCST-type thermal gelation of methylcellulose: quantifying non-specific interactions via fluctuation theory. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 15999-16006	3.6	2
11	Connecting precursors to a protic ionic liquid: Effects of hydrogen bond synergy in acid-base binary mixtures on the solvent-solute interactions. <i>Journal of Molecular Liquids</i> , 2020 , 297, 111746	6	2
10	Mechanism of dye solubilization and de-aggregation by urea. <i>Dyes and Pigments</i> , 2021 , 193, 109530	4.6	1
9	Statistical thermodynamics of regular solutions and solubility parameters. <i>Journal of Molecular Liquids</i> , 2019 , 273, 626-633	6	1
8	Response to the "Comments on 'Statistical thermodynamics of casein aggregation: Effects of salts and water' [Biophys Chem. 247 (2019) 34-42]". <i>Biophysical Chemistry</i> , 2020 , 256, 106267	3.5	1
7	The impact of size and shape in the performance of hydrotropes: a case-study of alkanediols.. <i>Physical Chemistry Chemical Physics</i> , 2022 , 24, 7624-7634	3.6	1
6	Temperature Dependence of Sorption. <i>Langmuir</i> , 2021 , 37, 11008-11017	4	0
5	Ensemble transformation in the fluctuation theory. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2022 , 585, 126430	3.3	0
4	47. Prolonged Cerebral Circulatory Interruption under Extremely Profounded Regional Hypothermia by means of Isolated Cerebral Vascular Irrigation. <i>Neurologia Medico-Chirurgica</i> , 1962 , 4, 179a-179	2.6	
3	S42. Sustained Cerebral Extremely Profound Hypothermia by Means of Exchange Perfusion of the Blood Substitute. <i>Neurologia Medico-Chirurgica</i> , 1963 , 5, 160b-161	2.6	
2	Contrast-tuneable microscopy for single-shot real-time imaging. <i>EPJ Applied Physics</i> , 2020 , 91, 30701	1.1	
1	A Molecular Thermodynamics Approach to Capture Non-specific Flavour-Macromolecule Interactions 2019 , 522-527		

