Seishi Shimizu

List of Publications by Year in Descending Order

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	Ensemble transformation in the fluctuation theory. *Physica A: Statistical Mechanics and Its Applications*, **2022**, 585, 126430	3.3	0
106	The impact of size and shape in the performance of hydrotropes: a case-study of alkanediols.. *Physical Chemistry Chemical Physics*, **2022**, 24, 7624-7634	3.6	1
105	Implicit function theorem and Jacobians in solvation and adsorption. *Physica A: Statistical Mechanics and Its Applications*, **2021**, 570, 125801	3.3	5
104	Mechanism of dye solubilization and de-aggregation by urea. *Dyes and Pigments*, **2021**, 193, 109530	4.6	1
103	Sorption: A Statistical Thermodynamic Fluctuation Theory. *Langmuir*, **2021**, 37, 7380-7391	4	6
102	Phase stability condition and liquid□quid phase separation under mesoscale confinement. *Physica A: Statistical Mechanics and Its Applications*, **2021**, 563, 125385	3.3	6
101	The impact of the counterion in the performance of ionic hydrotropes. *Chemical Communications*, **2021**, 57, 2951-2954	5.8	5
100	Cooperativity in micellar solubilization. *Physical Chemistry Chemical Physics*, **2021**, 23, 8705-8716	3.6	3
99	Cooperative Sorption on Porous Materials. *Langmuir*, **2021**, 37, 10279-10290	4	5
98	Adsorbate-adsorbate interactions on microporous materials. *Microporous and Mesoporous Materials* , **2021**, 323, 111254	5.3	5
97	Temperature Dependence of Sorption. *Langmuir*, **2021**, 37, 11008-11017	4	0
96	Unveiling the mechanism of hydrotropy: evidence for water-mediated aggregation of hydrotropes around the solute. *Chemical Communications*, **2020**, 56, 7143-7146	5.8	22
95	Glycerol Ethers as Hydrotropes and Their Use to Enhance the Solubility of Phenolic Acids in Water. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 5742-5749	8.3	18
94	Salt-induced LCST-type thermal gelation of methylcellulose: quantifying non-specific interactions via fluctuation theory. *Physical Chemistry Chemical Physics*, **2020**, 22, 15999-16006	3.6	2
93	Formulating rationally via statistical thermodynamics. *Current Opinion in Colloid and Interface Science*, **2020**, 48, 53-64	7.6	15
92	Thermodynamic stability condition can judge whether a nanoparticle dispersion can be considered a solution in a single phase. *Journal of Colloid and Interface Science*, **2020**, 575, 472-479	9.3	5
91	Connecting precursors to a protic ionic liquid: Effects of hydrogen bond synergy in acid-base binary mixtures on the solvent-solute interactions. *Journal of Molecular Liquids*, **2020**, 297, 111746	6	2

90	The Perspective of Cooperative Hydrotropy on the Solubility in Aqueous Solutions of Cyrene. *Industrial & Engineering Chemistry Research*, **2020**, 59, 18649-18658	3.9	5
89	Intensive nature of fluctuations: Reconceptualizing Kirkwood-Buff theory via elementary algebra. *Journal of Molecular Liquids*, **2020**, 318, 114225	6	6
88	Solubility Enhancement of Hydrophobic Substances in Water/Cyrene Mixtures: A Computational Study. *Industrial & Engineering Chemistry Research*, **2020**, 59, 18247-18253	3.9	5
87	Contrast-tuneable microscopy for single-shot real-time imaging. *EPJ Applied Physics*, **2020**, 91, 30701	1.1	
86	Cellulose dissolution and regeneration using a non-aqueous, non-stoichiometric protic ionic liquid system. *Cellulose*, **2020**, 27, 9593-9603	5.5	10
85	Fluctuation adsorption theory: quantifying adsorbate-adsorbate interaction and interfacial phase transition from an isotherm. *Physical Chemistry Chemical Physics*, **2020**, 22, 28304-28316	3.6	7
84	Response to the "Comments on 'Statistical thermodynamics of casein aggregation: Effects of salts and water' [Biophys Chem. 247 (2019) 34-42]". *Biophysical Chemistry*, **2020**, 256, 106267	3.5	1
83	A comparison of the solvation power of the green solvent 2,2,5,5-tetramethyloxolane versus toluene via partition coefficients. *Journal of Cleaner Production*, **2019**, 240, 118175	10.3	4
82	Water Networks Can Determine the Affinity of Ligand Binding to Proteins. *Journal of the American Chemical Society*, **2019**, 141, 15818-15826	16.4	40
81	Quantifying non-specific interactions via liquid chromatography. *Analyst, The*, **2019**, 144, 1632-1641	5	5
80	Geminal Diol of Dihydrolevoglucosenone as a Switchable Hydrotrope: A Continuum of Green Nanostructured Solvents. *ACS Sustainable Chemistry and Engineering*, **2019**, 7, 7878-7883	8.3	25
79	Statistical Thermodynamics Unveils How Ions Influence an Aqueous Diels-Alder Reaction. *ChemPhysChem*, **2019**, 20, 1538-1544	3.2	2
78	The mechanism of salt effects on starch gelatinization from a statistical thermodynamic perspective. *Food Hydrocolloids*, **2019**, 87, 593-601	10.6	18
77	Statistical thermodynamics of casein aggregation: Effects of salts and water. *Biophysical Chemistry*, **2019**, 247, 34-42	3.5	9
76	Effect of solute aggregation on solubilization. *Journal of Molecular Liquids*, **2019**, 274, 209-214	6	6
75	A Molecular Thermodynamics Approach to Capture Non-specific Flavour Macromolecule Interactions **2019**, 522-527		
74	Statistical thermodynamics of regular solutions and solubility parameters. *Journal of Molecular Liquids*, **2019**, 273, 626-633	6	1
73	Ion hydration: linking self-diffusion and reorientational motion to water structure. *Physical Chemistry Chemical Physics*, **2018**, 20, 5909-5917	3.6	6

72	Enhanced dissolution of ibuprofen using ionic liquids as catanionic hydrotropes. *Physical Chemistry Chemical Physics*, **2018**, 20, 2094-2103	3.6	43
71	Green profiling of aprotic versus protic ionic liquids: Synthesis and microbial toxicity of analogous structures. *Sustainable Chemistry and Pharmacy*, **2018**, 7, 17-26	3.9	24
70	Statistical thermodynamic foundation for mesoscale aggregation in ternary mixtures. *Physical Chemistry Chemical Physics*, **2018**, 20, 13777-13784	3.6	12
69	A unified perspective on preferential solvation and adsorption based on inhomogeneous solvation theory. *Physica A: Statistical Mechanics and Its Applications*, **2018**, 492, 1988-1996	3.3	25
68	Royal jelly does not prevent bone loss but improves bone strength in ovariectomized rats. *Climacteric*, **2018**, 21, 601-606	3.1	6
67	Interactions in Water-Ionic Liquid Mixtures: Comparing Protic and Aprotic Systems. *Journal of Physical Chemistry B*, **2017**, 121, 599-609	3.4	47
66	Osmolyte depletion viewed in terms of the dividing membrane and its work of expansion against osmotic pressure. *Biophysical Chemistry*, **2017**, 231, 111-115	3.5	10
65	Unifying hydrotropy under Gibbs phase rule. *Physical Chemistry Chemical Physics*, **2017**, 19, 23597-23605	3.6	31
64	Water activity in liquid food systems: A molecular scale interpretation. *Food Chemistry*, **2017**, 237, 1133-1138	5.3	14
63	Practical molecular thermodynamics for greener solution chemistry. *Green Chemistry*, **2017**, 19, 68-75	10	26
62	Hydrotropy and scattering: pre-ouzo as an extended near-spinodal region. *Physical Chemistry Chemical Physics*, **2017**, 19, 26734-26742	3.6	16
61	Structure-property relationships in protic ionic liquids: a study of solvent-solvent and solvent-solute interactions. *Physical Chemistry Chemical Physics*, **2017**, 19, 28133-28138	3.6	20
60	Statistical thermodynamics unveils the dissolution mechanism of cellobiose. *Physical Chemistry Chemical Physics*, **2017**, 19, 23106-23112	3.6	7
59	The properties of residual water molecules in ionic liquids: a comparison between direct and inverse Kirkwood-Buff approaches. *Physical Chemistry Chemical Physics*, **2017**, 19, 18924-18937	3.6	28
58	How Osmolytes Counteract Pressure Denaturation on a Molecular Scale. *ChemPhysChem*, **2017**, 18, 2243-2249	3.2	11
57	Quantifying non-specific interactions between flavour and food biomolecules. *Food and Function*, **2017**, 8, 2999-3009	6.1	7
56	Molecular Interpretation of Preferential Interactions in Protein Solvation: A Solvent-Shell Perspective by Means of Minimum-Distance Distribution Functions. *Journal of Chemical Theory and Computation*, **2017**, 13, 6358-6372	6.4	25
55	Structure-property relationships in protic ionic liquids: a thermochemical study. *Physical Chemistry Chemical Physics*, **2017**, 19, 19928-19936	3.6	14

54	Gastrophysics: Statistical thermodynamics of biomolecular denaturation and gelation from the Kirkwood-Buff theory towards the understanding of tofu. *Food Hydrocolloids*, **2017**, 62, 128-139	10.6	35
53	Supercritical CO2Extraction as an Effective Pretreatment Step for Wax Extraction in a Miscanthus Biorefinery. *ACS Sustainable Chemistry and Engineering*, **2016**, 4, 5979-5988	8.3	33
52	The origin of cooperative solubilisation by hydrotropes. *Physical Chemistry Chemical Physics*, **2016**, 18, 25621-25628	3.6	42
51	Kirkwood-Buff Integrals for Aqueous Urea Solutions Based upon the Quantum Chemical Electrostatic Potential and Interaction Energies. *Journal of Physical Chemistry B*, **2016**, 120, 7714-23	3.4	10
50	Gelation of carrageenan: Effects of sugars and polyols. *Food Hydrocolloids*, **2016**, 54, 284-292	10.6	52
49	Origin of non-linearity in phase solubility: solubilisation by cyclodextrin beyond stoichiometric complexation. *Physical Chemistry Chemical Physics*, **2016**, 18, 15205-17	3.6	24
48	How Entrainers Enhance Solubility in Supercritical Carbon Dioxide. *Journal of Physical Chemistry B*, **2016**, 120, 3713-23	3.4	26
47	Caffeine dimerization: effects of sugar, salts, and water structure. *Food and Function*, **2015**, 6, 3228-35	6.1	23
46	Ionic interactions. Subnanoscale hydrophobic modulation of salt bridges in aqueous media. *Science*, **2015**, 348, 555-9	33.3	43
45	Residual water in ionic liquids: clustered or dissociated?. *Physical Chemistry Chemical Physics*, **2015**, 17, 14710-8	3.6	50
44	Hydrotrope accumulation around the drug: the driving force for solubilization and minimum hydrotrope concentration for nicotinamide and urea. *Physical Chemistry Chemical Physics*, **2015**, 17, 8028-37	3.6	68
43	Assessing the mutagenicity of protic ionic liquids using the mini Ames test. *Sustainable Chemical Processes*, **2015**, 3,		10
42	Gelation: the role of sugars and polyols on gelatin and agarose. *Journal of Physical Chemistry B*, **2014**, 118, 13210-6	3.4	44
41	Hydrotropy: monomer-micelle equilibrium and minimum hydrotrope concentration. *Journal of Physical Chemistry B*, **2014**, 118, 10515-24	3.4	83
40	Preferential solvation: dividing surface vs excess numbers. *Journal of Physical Chemistry B*, **2014**, 118, 3922-30	3.4	74
39	Sucrose–water mixture: From thermodynamics to solution structure. *Chemical Physics Letters*, **2013**, 582, 129-133	2.5	10
38	Hydrotropy: binding models vs. statistical thermodynamics. *Physical Chemistry Chemical Physics*, **2013**, 15, 20625-32	3.6	58
37	Mechanism of hydrophobic drug solubilization by small molecule hydrotropes. *Journal of Physical Chemistry B*, **2012**, 116, 14915-21	3.4	97

36	Molecular origin of the cosolvent-induced changes in the thermal stability of proteins. *Chemical Physics Letters*, **2011**, 514, 156-158	2.5	20
35	The effect of urea on hydrophobic hydration: Preferential interaction and the enthalpy of transfer. *Chemical Physics Letters*, **2011**, 517, 76-79	2.5	19
34	Soluble, folded and active subtilisin in a protic ionic liquid. *Chemical Communications*, **2010**, 46, 749-51	5.8	20
33	Hydrophilicity, the major determining factor influencing the solvation environment of protic ionic liquids. *Physical Chemistry Chemical Physics*, **2010**, 12, 9063-6	3.6	6
32	Unexpected preferential dehydration of artemisinin in ionic liquids. *Journal of Physical Chemistry A*, **2009**, 113, 10143-5	2.8	20
31	The Hofmeister series and protein-salt interactions. *Journal of Chemical Physics*, **2006**, 124, 234905	3.9	71
30	Calorimetric dissection of colicin DNase--immunity protein complex specificity. *Biochemistry*, **2006**, 45, 3243-54	3.2	30
29	Preferential hydration of proteins: A Kirkwood-Buff approach. *Chemical Physics Letters*, **2006**, 420, 518-522	2.5	44
28	Comment on "Molecular origin of anticooperativity in hydrophobic association". *Journal of Physical Chemistry B*, **2005**, 109, 21220-1; discussion 21222-4	3.4	3
27	Temperature Dependence of Three-Body Hydrophobic Interactions:Potential of Mean Force, Enthalpy, Entropy, Heat Capacity, and Nonadditivity [J. Am. Chem. Soc.2005,127, 303316].. *Journal of the American Chemical Society*, **2005**, 127, 2363-2363	16.4	3
26	Temperature dependence of three-body hydrophobic interactions: potential of mean force, enthalpy, entropy, heat capacity, and nonadditivity. *Journal of the American Chemical Society*, **2005**, 127, 303-16	16.4	58
25	The Kirkwood-Buff theory and the effect of cosolvents on biochemical reactions. *Journal of Chemical Physics*, **2004**, 121, 9147-55	3.9	95
24	Preferential hydration and the exclusion of cosolvents from protein surfaces. *Journal of Chemical Physics*, **2004**, 121, 1148-54	3.9	117
23	Estimation of excess solvation numbers of water and cosolvents from preferential interaction and volumetric experiments. *Journal of Chemical Physics*, **2004**, 120, 4989-90	3.9	33
22	The hydrophobic effect and the excess free energy of solvation. *Chemical Physics Letters*, **2004**, 392, 456-459	2.5	6
21	Estimating hydration changes upon biomolecular reactions from osmotic stress, high pressure, and preferential hydration experiments. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 1195-9	11.5	168
20	Cooperativity principles in protein folding. *Methods in Enzymology*, **2004**, 380, 350-79	1.7	157
19	Anti-cooperativity and cooperativity in hydrophobic interactions: Three-body free energy landscapes and comparison with implicit-solvent potential functions for proteins. *Proteins: Structure, Function and Bioinformatics*, **2002**, 48, 15-30	4.2	77

18	Origins of protein denatured state compactness and hydrophobic clustering in aqueous urea: inferences from nonpolar potentials of mean force. *Proteins: Structure, Function and Bioinformatics*, **2002**, 49, 560-6	4.2	82
17	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)]. *Journal of Chemical Physics*, **2002**, 116, 2668-2669	3.9	11
16	Statistical mechanics of solvophobic aggregation: Additive and cooperative effects. *Journal of Chemical Physics*, **2001**, 115, 3424-3431	3.9	16
15	Anti-cooperativity in hydrophobic interactions: A simulation study of spatial dependence of three-body effects and beyond. *Journal of Chemical Physics*, **2001**, 115, 1414-1421	3.9	42
14	Configuration-dependent heat capacity of pairwise hydrophobic interactions. *Journal of the American Chemical Society*, **2001**, 123, 2083-4	16.4	55
13	Temperature dependence of hydrophobic interactions: A mean force perspective, effects of water density, and nonadditivity of thermodynamic signatures. *Journal of Chemical Physics*, **2000**, 113, 4683-4700	3.9	152
12	Size dependence of transfer free energies: A hard-sphere-chain- based formalism. *Journal of Chemical Physics*, **1999**, 110, 2971-2982	3.9	33
11	Alcohol Denaturation: Thermodynamic Theory of Peptide Unit Solvation. *Journal of the American Chemical Society*, **1999**, 121, 2387-2394	16.4	37
10	Tissue response of a small saccular aneurysm after incomplete occlusion with a Guglielmi detachable coil. *American Journal of Neuroradiology*, **1999**, 20, 546-8	4.4	49
9	An off-lattice theory of solvation: extension of the Flory parameter into continuum space. *Chemical Physics Letters*, **1998**, 282, 79-90	2.5	6
8	Molecular volume, surface area, and curvature dependence of the configurational entropy change upon solvation: effects of molecular bonding. *Chemical Physics Letters*, **1998**, 284, 235-246	2.5	6
7	Calculation of temperature dependence of free energy caused by potential function changes. *Chemical Physics Letters*, **1998**, 288, 333-337	2.5	3
6	Roles of Hydrogen Bonding and the Hard Core of Water on Hydrophobic Hydration. *Journal of Physical Chemistry B*, **1998**, 102, 5891-5898	3.4	59
5	The use of sequence comparison to detect 'identities' in tRNA genes. *Nucleic Acids Research*, **1998**, 26, 1974-9	20.1	18
4	Pial arteriovenous malformation with massive perinidal edema. *Neurological Research*, **1998**, 20, 249-52	2.7	8
3	Extracting contact free energy from solubility: excluded volume effects of polymers in continuum space. *Chemical Physics Letters*, **1997**, 268, 93-100	2.5	7
2	S42. Sustained Cerebral Extremely Profound Hypothermia by Means of Exchange Perfusion of the Blood Substitute. *Neurologia Medico-Chirurgica*, **1963**, 5, 160b-161	2.6	
1	47. Prolonged Cerebral Circuratory Interruption under Extremely Profounded Regional Hypothermia by means of Isolated Cerebral Vascular Irrigation. *Neurologia Medico-Chirurgica*, **1962**, 4, 179a-179	2.6	