Ranjit Biswas

List of Publications by Year
in descending order

106 papers	3,220 citations	109321 35 h-index	182427 51 g-index
106 all docs	106 docs citations	106 times ranked	1329 citing authors

#	Article	IF	Citations
1	Interaction and dynamics of (alkylamide + electrolyte) deep eutectics: Dependence on alkyl chain-length, temperature, and anion identity. Journal of Chemical Physics, 2014, 140, 104514.	3.0	91
2	Structural transition in alcohol-water binary mixtures: A spectroscopic study. Journal of Chemical Sciences, 2008, 120, 275-287.	1.5	90
3	Ionic Mobility and Ultrafast Solvation:â€‰ Control of a Slow Phenomenon by Fast Dynamics. Accounts of Chemical Research, 1998, 31, 181-187.	15.6	88
4	Fluorescence Spectroscopic Studies of (Acetamide + Sodium/Potassium Thiocyanates) Molten Mixtures: Composition and Temperature Dependence. Journal of Physical Chemistry B, 2010, 114, 5066-5081.	2.6	88
5	Anomalous Ion Diffusion in Dense Dipolar Liquids. Physical Review Letters, 1995, 75, 1098-1101.	7.8	87
6	Solvation Dynamics of Dipolar Probes in Dipolar Room Temperature Ionic Liquids: Separation of Ionâ^'Dipole and Dipoleâ^'Dipole Interaction Contributions. Journal of Physical Chemistry B, 2010, 114, 254-268.	2.6	87
7	Polar and Nonpolar Solvation Dynamics, Ion Diffusion, and Vibrational Relaxation: Role of Biphasic Solvent Response in Chemical Dynamics. Advances in Chemical Physics, 2007, , 207-433.	0.3	80
8	Medium decoupling of dynamics at temperatures â^¼100 K above glass-transition temperature: A case study with (acetamide + lithium bromide/nitrate) melts. Journal of Chemical Physics, 2012, 136, 174503.	3.0	77
9	Dielectric Relaxations of (Acetamide + Electrolyte) Deep Eutectic Solvents in the Frequency Window, 0.2 â‰ Î½/GHz â‰ 50: Anion and Cation Dependence. Journal of Physical Chemistry B, 2015, 119, 8063-8071.	2.6	74
10	Dynamic Solvent Control of a Reaction in Ionic Deep Eutectic Solvents: Time-Resolved Fluorescence Measurements of Reactive and Nonreactive Dynamics in (Choline Chloride + Urea) Melts. Journal of Physical Chemistry B, 2015, 119, 10102-10113.	2.6	72
11	Density relaxation and particle motion characteristics in a non-ionic deep eutectic solvent (acetamide) Tj ETQq1 1 0.784314 rgBT /Ov Journal of Chemical Physics, 2015, 142, 034505.	3.0	69
12	Dipolar Solvation Dynamics in Room Temperature Ionic Liquids: An Effective Medium Calculation Using Dielectric Relaxation Data. Journal of Physical Chemistry B, 2008, 112, 12431-12438.	2.6	68
13	Ionic mobility in alcohols: From dielectric friction to the solventâ€“berg model. Journal of Chemical Physics, 1997, 106, 5587-5598.	3.0	66
14	Reorientational Jump Dynamics and Its Connections to Hydrogen Bond Relaxation in Molten Acetamide: An All-Atom Molecular Dynamics Simulation Study. Journal of Physical Chemistry B, 2015, 119, 274-283.	2.6	63
15	Spectroscopic Studies of Catanionic Reverse Microemulsion: Correlation with the Superactivity of Horseradish Peroxidase Enzyme in a Restricted Environment. Journal of Physical Chemistry B, 2008, 112, 6620-6628.	2.6	62
16	Orientational Jumps in (Acetamide + Electrolyte) Deep Eutectics: Anion Dependence. Journal of Physical Chemistry B, 2015, 119, 11157-11168.	2.6	61
17	Intramolecular Charge Transfer Reaction, Polarity, and Dielectric Relaxation in AOT/Water/Heptane Reverse Micelles: Pool Size Dependence. Journal of Physical Chemistry B, 2008, 112, 9379-9388.	2.6	59
18	Excited State Intramolecular Charge Transfer Reaction in Binary Mixtures of Water and Tertiary Butanol (TBA):â€‰ Alcohol Mole Fraction Dependence. Journal of Physical Chemistry A, 2008, 112, 915-924.	2.5	57

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19	Heterogeneity and viscosity decoupling in (acetamide+electrolyte) molten mixtures: A model simulation study. Chemical Physics Letters, 2011, 517, 180-185.	2.6	55
20	Solvation Dynamics in Slow, Viscous Liquids:Â Application to Amidesâ€. The Journal of Physical Chemistry, 1996, 100, 1238-1245.	2.9	52
21	Limiting Ionic Conductance of Symmetrical, Rigid Ions in Aqueous Solutions:Â Temperature Dependence and Solvent Isotope Effects. Journal of the American Chemical Society, 1997, 119, 5946-5953.	13.7	52
22	Stokes Shift Dynamics in Ionic Liquids: Temperature Dependence. Journal of Physical Chemistry B, 2010, 114, 16811-16823.	2.6	52
23	Fluorescence dynamics in supercooled (acetamide+calcium nitrate) molten mixtures. Chemical Physics Letters, 2011, 501, 358-363.	2.6	51
24	Slow solvation in ionic liquids: Connections to non-Gaussian moves and multi-point correlations. Journal of Chemical Physics, 2014, 141, 104501.	3.0	49
25	Solvation Dynamics in Monohydroxy Alcohols:â€‰ Agreement between Theory and Different Experiments. Journal of Physical Chemistry B, 1997, 101, 2968-2979.	2.6	48
26	Fast fluctuations in deep eutectic melts: Multi-probe fluorescence measurements and all-atom molecular dynamics simulation study. Chemical Physics Letters, 2013, 581, 47-51.	2.6	47
27	Glass transition dynamics and conductivity scaling in ionic deep eutectic solvents: The case of (acetamide + lithium nitrate/sodium thiocyanate) melts. Journal of Chemical Physics, 2015, 142, 184504.	3.0	46
28	Rank-dependent orientational relaxation in an ionic liquid: an all-atom simulation study. Theoretical Chemistry Accounts, 2013, 132, 1.	1.4	45
29	Heterogeneity in Binary Mixtures of (Water + Tertiary Butanol): Temperature Dependence Across Mixture Composition. Journal of Physical Chemistry A, 2011, 115, 2447-2455.	2.5	43
30	Low-frequency collective dynamics in deep eutectic solvents of acetamide and electrolytes: A femtosecond Raman-induced Kerr effect spectroscopic study. Journal of Chemical Physics, 2014, 141, 134506.	3.0	42
31	Electrolyte-Concentration and Ion-Size Dependence of Excited-State Intramolecular Charge-Transfer Reaction in (Alkylamino)benzonitriles:â€‰ Steady-State Spectroscopic Studies. Journal of Physical Chemistry A, 2007, 111, 11514-11523.	2.5	39
32	Solute and Solvent Dynamics in Confined Equal-Sized Aqueous Environments of Charged and Neutral Reverse Micelles: A Combined Dynamic Fluorescence and All-Atom Molecular Dynamics Simulation Study. Journal of Physical Chemistry B, 2013, 117, 3345-3361.	2.6	38
33	Composition Dependence of Dynamic Heterogeneity Time- and Length Scales in [Omim][BF₄]/Water Binary Mixtures: Molecular Dynamics Simulation Study. Journal of Physical Chemistry B, 2015, 119, 15683-15695.	2.6	38
34	Dynamics of a PEG based non-ionic deep eutectic solvent: Temperature dependence. Fluid Phase Equilibria, 2017, 448, 22-29.	2.5	37
35	Heterogeneity in (2-butoxyethanol + water) mixtures: Hydrophobicity-induced aggregation or criticality-driven concentration fluctuations?. Journal of Chemical Physics, 2015, 142, 204501.	3.0	36
36	Solvation Dynamics in Nonassociated Polar Solvents. Journal of Physical Chemistry A, 1999, 103, 2495-2500.	2.5	35

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37	Electrolyte-Concentration and Ion-Size Dependence of Excited-State Intramolecular Charge-Transfer Reaction in (Alkylamino)benzonitriles:â€‰ Time-Resolved Fluorescence Emission Studies. Journal of Physical Chemistry A, 2007, 111, 11524-11530.	2.5	35
38	Dielectric relaxation in ionic liquids: Role of ion-ion and ion-dipole interactions, and effects of heterogeneity. Journal of Chemical Physics, 2014, 140, 014504.	3.0	35
39	Activated barrier crossing dynamics in slow, viscous liquids. Journal of Chemical Physics, 1996, 105, 7543-7549.	3.0	34
40	Vibrational energy relaxation, nonpolar solvation dynamics and instantaneous normal modes: Role of binary interaction in the ultrafast response of a dense liquid. Journal of Chemical Physics, 1998, 108, 4963-4971.	3.0	34
41	Structural anomaly and dynamic heterogeneity in cycloether/water binary mixtures: Signatures from composition dependent dynamic fluorescence measurements and computer simulations. Journal of Chemical Physics, 2016, 144, 124506.	3.0	34
42	Dielectric relaxation in acetamide + urea deep eutectics and neat molten urea: Origin of time scales via temperature dependent measurements and computer simulations. Journal of Chemical Physics, 2018, 149, 124501.	3.0	34
43	Interaction and Dynamics in a Fully Biodegradable Glucose-Containing Naturally Abundant Deep Eutectic Solvent: Temperature-Dependent Time-Resolved Fluorescence Measurements. Journal of Physical Chemistry B, 2019, 123, 9378-9387.	2.6	34
44	Composition Dependent Stokes Shift Dynamics in Binary Mixtures of 1-Butyl-3-methylimidazolium Tetrafluoroborate with Water and Acetonitrile: Quantitative Comparison between Theory and Complete Measurements. Journal of Physical Chemistry B, 2014, 118, 1327-1339.	2.6	33
45	Isomerization dynamics in viscous liquids: Microscopic investigation of the coupling and decoupling of the rate to and from solvent viscosity and dependence on the intermolecular potential. Journal of Chemical Physics, 1999, 110, 7365-7375.	3.0	32
46	Limiting ionic conductivity and solvation dynamics in formamide. Journal of Chemical Physics, 2006, 125, 174506.	3.0	32
47	Ultrafast solvation response in room temperature ionic liquids: Possible origin and importance of the collective and the nearest neighbour solvent modes. Journal of Chemical Physics, 2012, 137, 114501.	3.0	32
48	Influence of Chain Length of Alcohols on Stokesâ€™ Shift Dynamics in Catanionic Vesicles. Journal of Physical Chemistry B, 2011, 115, 9040-9049.	2.6	31
49	Stokes shift dynamics of ionic liquids: Solute probe dependence, and effects of self-motion, dielectric relaxation frequency window, and collective intermolecular solvent modes. Journal of Chemical Physics, 2013, 139, 164503.	3.0	31
50	Subpicosecond Solvation Response and Partial Viscosity Decoupling of Solute Diffusion in Ionic Acetamide Deep Eutectic Solvents: Fluorescence Up-Conversion and Fluorescence Correlation Spectroscopic Measurements. Journal of Physical Chemistry B, 2020, 124, 1995-2005.	2.6	31
51	Hydrogen-bond dynamics of water in presence of an amphiphile, tetramethylurea: signature of confinement-induced effects. Molecular Simulation, 2015, 41, 471-482.	2.0	30
52	Collective dynamic dipole moment and orientation fluctuations, cooperative hydrogen bond relaxations, and their connections to dielectric relaxation in ionic acetamide deep eutectics: Microscopic insight from simulations. Journal of Chemical Physics, 2016, 145, 084504.	3.0	28
53	Self-Consistent Microscopic Treatment of the Effects of Self-Motion of the Probe on Ionic and Dipolar Solvation Dynamics. The Journal of Physical Chemistry, 1996, 100, 4261-4268.	2.9	26
54	Excited state intramolecular charge transfer reaction in nonaqueous electrolyte solutions: Temperature dependence. Journal of Chemical Physics, 2009, 131, 054507.	3.0	26

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55	Molecular Theory for the Effects of Specific Soluteâ^'Solvent Interaction on the Diffusion of a Solute Particle in a Molecular Liquid. Journal of Physical Chemistry B, 1998, 102, 3252-3256.	2.6	25
56	Temperature-Dependent Ultrafast Solvation Response and Solute Diffusion in Acetamideâ€"Urea Deep Eutectic Solvent. Journal of Physical Chemistry B, 2019, 123, 9212-9221.	2.6	25
57	How Heterogeneous Are Trehalose/Glycerol Cryoprotectant Mixtures? A Combined Time-Resolved Fluorescence and Computer Simulation Investigation. Journal of Physical Chemistry B, 2016, 120, 11214-11228.	2.6	24
58	Ions in a binary asymmetric dipolar mixture: Mole fraction dependent Born energy of solvation and partial solvent polarization structure. Journal of Chemical Physics, 2007, 127, 184502.	3.0	21
59	Dipolar Solute Rotation in a Supercritical Polar Fluid. Journal of Physical Chemistry A, 2011, 115, 973-978.	2.5	19
60	Stokesâ€™ shift dynamics in alkylimidazolium aluminate ionic liquids: Domination of solute-IL dipoleâ€"dipole interaction. Chemical Physics Letters, 2011, 510, 202-207.	2.6	19
61	Microstructures and their lifetimes in acetamide/electrolyte deep eutectics: anion dependence. Journal of Chemical Sciences, 2017, 129, 939-951.	1.5	18
62	Heterogeneous Orientational Relaxations and Translationâ€"Rotation Decoupling in (Choline Chloride) Tj ETQq0 0 0 rgBT /Overlock 10 T Relaxation Measurements. Journal of Physical Chemistry B, 2021, 125, 5920-5936.	2.6	17
63	Stokes shift dynamics of [Na][TOTO] â€" A new class of ionic liquids: A comparative study with more common imidazolium analogs. Chemical Physics Letters, 2012, 545, 54-59.	2.6	16
64	Is dynamic heterogeneity of water in presence of a protein denaturing agent different from that in presence of a protein stabilizer? A molecular dynamics simulation study. Journal of Chemical Sciences, 2016, 128, 1943-1954.	1.5	15
65	Heterogeneous dynamics, correlated time and length scales in ionic deep eutectics: Anion and temperature dependence. Journal of Chemical Physics, 2020, 153, 234502.	3.0	15
66	Dielectric relaxation in ionic liquid/dipolar solvent binary mixtures: A semi-molecular theory. Journal of Chemical Physics, 2016, 144, 104505.	3.0	14
67	Impact of the aggregation behaviour of sodium cholate and sodium deoxycholate on aqueous solution structure and dynamics: A combined time resolved fluorescence and dielectric relaxation spectroscopic study. Journal of Molecular Liquids, 2016, 222, 495-502.	4.9	14
68	Orientational dynamics in a room temperature ionic liquid: Are angular jumps predominant?. Journal of Chemical Physics, 2018, 148, 193839.	3.0	14
69	How frictional response during solute solvation controls solute rotation in naturally abundant deep eutectic solvent (NADES)? A case study with amino acid derivative containing DES. Journal of Molecular Liquids, 2020, 303, 112451.	4.9	14
70	Excited state intramolecular charge transfer reaction in non-aqueous reverse micelles: Effects of solvent confinement and electrolyte concentration#. Journal of Chemical Sciences, 2012, 124, 355-373.	1.5	13
71	Dipolar solute rotation in ionic liquids, electrolyte solutions and common polar solvents: Emergence of universality. Chemical Physics Letters, 2013, 558, 36-41.	2.6	13
72	Does polar interaction influence medium viscosity? A computer simulation investigation using model liquids. Journal of Chemical Sciences, 2012, 124, 763-771.	1.5	12

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73	Ionic arrest of segmental motion and emergence of spatio-temporal heterogeneity: A fluorescence investigation of (polyethylene glycol + electrolyte) composites. Journal of Chemical Physics, 2013, 138, 114909.	3.0	11
74	Stokes shift dynamics in (non-dipolar ionic liquid + dipolar solvent) binary mixtures: A semi-molecular theory. Journal of Chemical Physics, 2014, 141, 164502.	3.0	10
75	Are water-xylitol mixtures heterogeneous? An investigation employing composition and temperature dependent dielectric relaxation and time-resolved fluorescence measurements. Journal of Chemical Sciences, 2019, 131, 1.	1.5	10
76	Does Confinement Modify Preferential Solvation and H-Bond Fluctuation Dynamics? A Molecular Level Investigation through Simulations of a Bulk and Confined Three-Component Mixture. Journal of Physical Chemistry B, 2020, 124, 11718-11729.	2.6	10
77	Dynamic Susceptibility and Structural Heterogeneity of Large Reverse Micellar Water: An Examination of the Coreâ€“Shell Model via Probing the Layer-wise Features. Journal of Physical Chemistry B, 2020, 124, 2848-2863.	2.6	10
78	Solute rotation in polar liquids: Microscopic basis for the Stokes-Einstein-Debye model. Journal of Chemical Physics, 2012, 136, 014505.	3.0	9
79	Exploring Aqueous Solution Dynamics of an Amphiphilic Diblock Copolymer: Dielectric Relaxation and Time-Resolved Fluorescence Measurements. Journal of Physical Chemistry B, 2019, 123, 5892-5901.	2.6	9
80	Cloud Point Driven Dynamics in Aqueous Solutions of Thermoresponsive Copolymers: Are They Akin to Criticality Driven Solution Dynamics?. Journal of Physical Chemistry B, 2019, 123, 11042-11054.	2.6	9
81	Are N-methyl groups of Tetramethylurea (TMU) Hydrophobic? A composition and temperature-dependent fluorescence spectroscopic investigation of TMU/water binary mixtures. Journal of Chemical Sciences, 2016, 128, 753-761.	1.5	8
82	Cosolvent polarity dependence of solution structure in [BMIM] [PF6]Â+Âacetonitrile/1, 4-dioxane/hexane binary mixtures: Insights from composition dependent Voronoi polyhedra analyses, iso-surfaces and radial distribution functions. Journal of Molecular Liquids, 2020, 317, 113746.	4.9	8
83	Water in biodegradable glucoseâ€“waterâ€“urea deep eutectic solvent: modifications of structure and dynamics in a crowded environment. Physical Chemistry Chemical Physics, 2021, 23, 12191-12203.	2.8	8
84	Intramolecular Charge Transfer Reaction inÂSolutions ofÂLow toÂHigh Electrolyte Concentrations: InterplayÂbetweenÂFriction andÂSolvation. Journal of Solution Chemistry, 2009, 38, 517-530.	1.2	7
85	Solvent sorting in (mixed solvent + electrolyte) systems: Time-resolved fluorescence measurements and theory. Journal of Chemical Sciences, 2015, 127, 61-70.	1.5	7
86	Solvent dependent relaxation dynamics in lithium ion battery electrolytes: Coupling to medium friction. Journal of Molecular Liquids, 2019, 290, 111225.	4.9	7
87	Hydration dynamics in aqueous Pluronic P123 solution: Concentration and temperature dependence. Journal of Chemical Physics, 2019, 151, 184901.	3.0	7
88	Temperature-Dependent Dielectric Relaxation in Ionic Acetamide Deep Eutectics: Partial Viscosity Decoupling and Explanations from the Simulated Single-Particle Reorientation Dynamics and Hydrogen-Bond Fluctuations. Journal of Physical Chemistry B, 2021, 125, 12552-12567.	2.6	7
89	Does urea modify microheterogeneous nature of ionic amide deep eutectics? Clues from non-reactive and reactive solute-centered dynamics. Journal of Molecular Liquids, 2022, 349, 118126.	4.9	7
90	Excited state charge transfer reaction in (mixed solvent + electrolyte) systems: Role of reactantâ€“solvent and reactantâ€“ion interactions. Journal of Chemical Sciences, 2011, 123, 265-277.	1.5	6

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91	Dynamics at the non-ionic micelle/water interface: Impact of linkage substitution. Journal of Chemical Physics, 2019, 151, 154902.	3.0	6
92	Interactions and Dynamics in Aqueous Solutions of pH-Responsive Polymers: A Combined Fluorescence and Dielectric Relaxation Study. Journal of Physical Chemistry B, 2021, 125, 6023-6035.	2.6	5
93	Dielectric relaxations of molten acetamide: dependence on the model interaction potentials and the effects of system size. Journal of Chemical Sciences, 2021, 133, 1.	1.5	5
94	Excited state intramolecular charge transfer reaction in 4-(1-azetidinyl)benzonitrile: Solvent isotope effects. Journal of Chemical Sciences, 2009, 121, 95-101.	1.5	4
95	Excited state intramolecular charge transfer reaction of 4-(morpholenyl) benzonitrile in solution: Effects of hetero atom in the donor moiety. Journal of Chemical Sciences, 2010, 122, 481-490.	1.5	4
96	Specific Conductivities and Viscosities of 0.1LiNO₃ + 0.9[xCH₃CONH₂ + (1 â€“ x)CO(NH₂)₂] as Functions of Mole Fraction, x, and Temperature. Journal of Chemical & Engineering Data, 2012, 57, 3467-3472.	1.9	4
97	Comment on â€œDynamics of solvated ion in polar liquids: An interaction-site-model descriptionâ€•[J. Chem. Phys. 108, 7339 (1998)]. Journal of Chemical Physics, 1999, 110, 1833-1834.	3.0	3
98	Non-ideality in Born-free energy of solvation in alcohol-water and dimethylsulfoxide-acetonitrile mixtures: Solvent size ratio and ion size dependence. Journal of Chemical Sciences, 2007, 119, 391-399.	1.5	3
99	Anomalous solubility of organic solutes in supercritical water: A molecular explanation. Journal of Chemical Sciences, 1999, 111, 387-394.	1.5	3
100	Dynamical Anomaly of Aqueous Amphiphilic Solutions: Connection to Solution H-Bond Fluctuation Dynamics?. ACS Omega, 2022, 7, 10970-10984.	3.5	3
101	Solvation dynamics of a charge bubble in water. Journal of Chemical Sciences, 1997, 109, 347-352.	1.5	2
102	Solvent density mode instability in non-polar solutions. Pramana - Journal of Physics, 2008, 71, 211-232.	1.8	1
103	Effects of acid concentration on intramolecular charge transfer reaction of 4-(azetidinyl) benzonitrile in solution. Journal of Chemical Sciences, 2014, 126, 55-63.	1.5	1
104	Heterogeneous dynamics in [BMIM][PF6]Â+ÂCosolvent binary Mixtures: Does It depend upon cosolvent Polarity?. Journal of Molecular Liquids, 2021, 341, 117342.	4.9	1
105	Dynamics of a <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si20.svg"><mml:mrow><mml:mi mathvariant="normal">P</mml:mi><mml:mi mathvariant="normal">E</mml:mi><mml:mi mathvariant="normal">G</mml:mi></mml:mrow></mml:math> based polymer gel Electrolyte: A combined frequency dependent dielectric relaxation and Time-resolved fluorescence spectroscopic study. Journal of Molecular Liquids, 2022, 360, 119491.	4.9	1
106	Why do some reactions possess similar reaction rate in wildly different viscous media? A possible explanation via frequency-dependent friction. Journal of Chemical Sciences, 2022, 134, 1.	1.5	0