Biman Bagchi

List of Publications by Citations

398 papers	14,628 citations	59 h-index	104 g-index
408 ext. papers	15,373 ext. citations	4.5 avg, IF	6.96 L-index

#	Paper	IF	Citations
398	Dielectric relaxation and solvation dynamics of water in complex chemical and biological systems. *Chemical Reviews*, **2000**, 100, 2013-46	68.1	787
397	Water dynamics in the hydration layer around proteins and micelles. *Chemical Reviews*, **2005**, 105, 3197-3219	68.1	677
396	Biological Water: Femtosecond Dynamics of Macromolecular Hydration. *Journal of Physical Chemistry B*, **2002**, 106, 12376-12395	3.4	434
395	Collapse of stiff conjugated polymers with chemical defects into ordered, cylindrical conformations. *Nature*, **2000**, 405, 1030-3	50.4	400
394	Dielectric Relaxation of Biological Water *Journal of Physical Chemistry B*, **1997**, 101, 10954-10961	3.4	392
393	Slow Dynamics of Constrained Water in Complex Geometries. *Journal of Physical Chemistry A*, **2000**, 104, 10603-10613	2.8	337
392	Theory of the time development of the stokes shift in polar media. *Chemical Physics*, **1984**, 86, 257-267	2.3	331
391	Hydrogen-bond dynamics near a micellar surface: origin of the universal slow relaxation at complex aqueous interfaces. *Physical Review Letters*, **2002**, 89, 115505	7.4	320
390	Theory of electronic relaxation in solution in the absence of an activation barrier. *Journal of Chemical Physics*, **1983**, 78, 7375-7385	3.9	309
389	Nonspecifically bound proteins spin while diffusing along DNA. *Nature Structural and Molecular Biology*, **2009**, 16, 1224-9	17.6	252
388	Dynamics of activationless reactions in solution. *The Journal of Physical Chemistry*, **1990**, 94, 9-20		207
387	Distance and Orientation Dependence of Excitation Transfer Rates in Conjugated Systems: Beyond the Förster Theory. *Journal of Physical Chemistry A*, **2004**, 108, 5752-5763	2.8	206
386	The effect of frequency dependent friction on isomerization dynamics in solution. *Journal of Chemical Physics*, **1983**, 78, 2735-2741	3.9	188
385	Solvation dynamics in dipolar liquids. *Chemical Society Reviews*, **2010**, 39, 1936-54	58.5	175
384	Collective Orientational Relaxation in Dense Dipolar Liquids. *Advances in Chemical Physics*, **2007**, 1-126		157
383	Water in Biological and Chemical Processes: From Structure and Dynamics to Function **2013**,		154
382	On the molecular mechanism of drug intercalation into DNA: a simulation study of the intercalation pathway, free energy, and DNA structural changes. *Journal of the American Chemical Society*, **2008**, 130, 9747-55	16.4	151

381	Ultrafast solvation dynamics in water: Isotope effects and comparison with experimental results. *Journal of Chemical Physics*, **1995**, 102, 1390-1397	3.9	138
380	Anomalous diffusion of small particles in dense liquids. *Journal of Chemical Physics*, **1997**, 106, 1757-1763	3.9	132
379	Structure and dynamics of DNA-dendrimer complexation: role of counterions, water, and base pair sequence. *Nano Letters*, **2006**, 6, 2478-85	11.5	129
378	Secondary structure sensitivity of hydrogen bond lifetime dynamics in the protein hydration layer. *Journal of the American Chemical Society*, **2005**, 127, 16660-7	16.4	125
377	Distance and orientation dependence of excitation energy transfer: from molecular systems to metal nanoparticles. *Journal of Physical Chemistry B*, **2009**, 113, 1817-32	3.4	118
376	Anomalous Dielectric Relaxation of Aqueous Protein Solutions. *Journal of Physical Chemistry A*, **1998**, 102, 8217-8221	2.8	114
375	Ultrafast Solvation Dynamics of an Ion in the Cyclodextrin Cavity: The Role of Restricted Environment. *The Journal of Physical Chemistry*, **1996**, 100, 13914-13919		112
374	Solvation dynamics in liquid water. A novel interplay between librational and diffusive modes. *Journal of Chemical Physics*, **1993**, 99, 9938-9943	3.9	111
373	The dynamics of polar solvation: Inhomogeneous dielectric continuum models. *Journal of Chemical Physics*, **1988**, 89, 3519-3534	3.9	110
372	Identity, Energy, and Environment of Interfacial Water Molecules in a Micellar Solution. *Journal of Physical Chemistry B*, **2003**, 107, 5194-5202	3.4	94
371	Facilitation, complexity growth, mode coupling, and activated dynamics in supercooled liquids. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 16077-82	11.5	87
370	Theoretical and computational analysis of static and dynamic anomalies in water-DMSO binary mixture at low DMSO concentrations. *Journal of Physical Chemistry B*, **2011**, 115, 685-92	3.4	84
369	Sensitivity of polar solvation dynamics to the secondary structures of aqueous proteins and the role of surface exposure of the probe. *Journal of the American Chemical Society*, **2005**, 127, 4071-5	16.4	84
368	Hydration layer of a cationic micelle, C(10)TAB: structure, rigidity, slow reorientation, hydrogen bond lifetime, and solvation dynamics. *Journal of Physical Chemistry B*, **2005**, 109, 12879-90	3.4	83
367	Enhanced pair hydrophobicity in the water-dimethylsulfoxide (DMSO) binary mixture at low DMSO concentrations. *Journal of Physical Chemistry B*, **2010**, 114, 12875-82	3.4	82
366	Multiple time scales in solvation dynamics of DNA in aqueous solution: the role of water, counterions, and cross-correlations. *Journal of Physical Chemistry B*, **2006**, 110, 26396-402	3.4	82
365	Resonance energy transfer from a fluorescent dye to a metal nanoparticle. *Journal of Chemical Physics*, **2006**, 125, 181102	3.9	82
364	Anomalous ion diffusion in dense dipolar liquids. *Physical Review Letters*, **1995**, 75, 1098-1101	7.4	81

363	Ionic Mobility and Ultrafast Solvation: Control of a Slow Phenomenon by Fast Dynamics. *Accounts of Chemical Research*, **1998**, 31, 181-187	24.3	77
362	Molecular theory of nonpolar solvation dynamics. *Journal of Chemical Physics*, **1994**, 100, 6658-6664	3.9	77
361	Frequency dependence of ionic conductivity of electrolyte solutions. *Journal of Chemical Physics*, **2000**, 112, 1876-1886	3.9	75
360	Microscopic expression for frequency and wave vector dependent dielectric constant of a dipolar liquid. *Journal of Chemical Physics*, **1989**, 90, 1832-1840	3.9	75
359	Slow Solvation Dynamics near an Aqueous Micellar Surface. *Journal of Physical Chemistry B*, **2001**, 105, 12529-12533	3.4	74
358	Diffusion constant of a nonspecifically bound protein undergoing curvilinear motion along DNA. *Journal of Physical Chemistry B*, **2008**, 112, 6282-4	3.4	73
357	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		73
356	Dynamics of bound and free water in an aqueous micellar solution: analysis of the lifetime and vibrational frequencies of hydrogen bonds at a complex interface. *Physical Review E*, **2003**, 67, 061502	2.4	73
355	A molecular theory of collective orientational relaxation in pure and binary dipolar liquids. *Journal of Chemical Physics*, **1989**, 91, 1829-1842	3.9	73
354	Microscopic expression for dielectric friction on a moving ion. *Journal of Chemical Physics*, **1991**, 95, 467-478	3.9	72
353	Entropy of water in the hydration layer of major and minor grooves of DNA. *Journal of Physical Chemistry B*, **2006**, 110, 19611-8	3.4	71
352	Structural and Electronic Characterization of Chemical and Conformational Defects in Conjugated Polymers. *Journal of Physical Chemistry B*, **2001**, 105, 6103-6107	3.4	70
351	Comparison of the ultrafast to slow time scale dynamics of three liquid crystals in the isotropic phase. *Journal of Chemical Physics*, **2002**, 116, 6339-6347	3.9	69
350	Temperature dependence of water dynamics at an aqueous micellar surface: Atomistic molecular dynamics simulation studies of a complex system. *Journal of Chemical Physics*, **2002**, 117, 2852-2859	3.9	69
349	Molecular Origin of the Intrinsic Bending Force for Helical Morphology Observed in Chiral Amphiphilic Assemblies: Concentration and Size Dependence. *Journal of the American Chemical Society*, **1996**, 118, 11208-11216	16.4	69
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344	Two-dimensional reaction free energy surfaces of catalytic reaction: effects of protein conformational dynamics on enzyme catalysis. *Journal of Physical Chemistry B*, **2008**, 112, 454-66	3.4	64
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340	Mode Coupling Theory Approach to the Liquid-State Dynamics. *Advances in Chemical Physics*, **2007**, 67-221		60
339	Influence of non-Debye relaxation and of molecular shape on the time dependence of the stokes shift in polar media. *Chemical Physics Letters*, **1988**, 143, 270-276	2.5	59
338	Diffusion of flexible, charged, nanoscopic molecules in solution: Size and pH dependence for PAMAM dendrimer. *Journal of Chemical Physics*, **2009**, 131, 214901	3.9	58
337	Fluorescence resonance energy transfer (FRET) in chemistry and biology: Non-Förster distance dependence of the FRET rate. *Journal of Chemical Sciences*, **2006**, 118, 23-35	1.8	58
336	Atomistic Simulation Study of the Coupled Motion of Amino Acid Residues and Water Molecules around Protein HP-36: Fluctuations at and around the Active Sites. *Journal of Physical Chemistry B*, **2004**, 108, 12608-12616	3.4	58
335	Molecular theory of solvation and solvation dynamics of a classical ion in a dipolar liquid. *The Journal of Physical Chemistry*, **1989**, 93, 6996-7003		57
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328	Dimethyl sulfoxide induced structural transformations and non-monotonic concentration dependence of conformational fluctuation around active site of lysozyme. *Journal of Chemical Physics*, **2012**, 136, 115103	3.9	49

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325	5 Water solvation dynamics in the bulk and in the hydration layer of proteins and self-assemblies. *Annual Reports on the Progress of Chemistry Section C*, **2003**, 99, 127-175		48
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