

Vishal Govind Rao

List of Publications by Year in descending order

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56
papers

2,109
citations

236612

25
h-index

233125

45
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58
all docs

58
docs citations

58
times ranked

2790
citing authors

#	ARTICLE	IF	CITATIONS
1	Catalytic conversion of solar to chemical energy on plasmonic metal nanostructures. <i>Nature Catalysis</i> , 2018, 1, 656-665.	16.1	582
2	Chemical Requirement for Extracting Energetic Charge Carriers from Plasmonic Metal Nanoparticles to Perform Electron-Transfer Reactions. <i>Journal of the American Chemical Society</i> , 2019, 141, 643-647.	6.6	116
3	An Understanding of the Modulation of Photophysical Properties of Curcumin inside a Micelle Formed by an Ionic Liquid: A New Possibility of Tunable Drug Delivery System. <i>Journal of Physical Chemistry B</i> , 2012, 116, 3369-3379.	1.2	85
4	Designing a New Strategy for the Formation of IL-in-Oil Microemulsions. <i>Journal of Physical Chemistry B</i> , 2012, 116, 2850-2855.	1.2	71
5	Microemulsions with Surfactant TX100, Cyclohexane, and an Ionic Liquid Investigated by Conductance, DLS, FTIR Measurements, and Study of Solvent and Rotational Relaxation within this Microemulsion. <i>Journal of Physical Chemistry B</i> , 2010, 114, 7579-7586.	1.2	60
6	Ionic Liquid Containing Microemulsions: Probe by Conductance, Dynamic Light Scattering, Diffusion-Ordered Spectroscopy NMR Measurements, and Study of Solvent Relaxation Dynamics. <i>Journal of Physical Chemistry B</i> , 2011, 115, 2322-2330.	1.2	57
7	Pluronic Micellar Aggregates Loaded with Gold Nanoparticles (Au NPs) and Fluorescent Dyes: A Study of Controlled Nanometal Surface Energy Transfer. <i>Journal of Physical Chemistry C</i> , 2012, 116, 5585-5597.	1.5	56
8	Ionic Liquid-in-Oil Microemulsions Composed of Double Chain Surface Active Ionic Liquid as a Surfactant: Temperature Dependent Solvent and Rotational Relaxation Dynamics of Coumarin-153 in [Py][TF ₂ N]/[C ₄ mim][AOT]/Benzene Microemulsions. <i>Journal of Physical Chemistry B</i> , 2012, 116, 8210-8221.	1.2	52
9	A Step toward the Development of High-Temperature Stable Ionic Liquid-in-Oil Microemulsions Containing Double-Chain Anionic Surface Active Ionic Liquid. <i>Journal of Physical Chemistry B</i> , 2013, 117, 7472-7480.	1.2	51
10	Plasmon-induced hot-hole generation and extraction at nano-heterointerfaces for photocatalysis. <i>Communications Materials</i> , 2021, 2, .	2.9	49
11	Photophysics and Photodynamics of 1-Hydroxy-2-acetonaphthone (HAN) in Micelles and Nonionic Surfactants Forming Vesicles: A Comparative Study of Different Microenvironments of Surfactant Assemblies. <i>Journal of Physical Chemistry B</i> , 2011, 115, 12108-12119.	1.2	44
12	Phase Boundaries, Structural Characteristics, and NMR Spectra of Ionic Liquid-in-Oil Microemulsions Containing Double Chain Surface Active Ionic Liquid: A Comparative Study. <i>Journal of Physical Chemistry B</i> , 2013, 117, 1480-1493.	1.2	39
13	Ionic Liquid-Induced Changes in Properties of Aqueous Cetyltrimethylammonium Bromide: A Comparative Study of Two Protic Ionic Liquids with Different Anions. <i>Journal of Physical Chemistry B</i> , 2011, 115, 3828-3837.	1.2	38
14	Room Temperature Ionic Liquid in Confined Media: A Temperature Dependence Solvation Study in [bmim][BF ₄]/BHDC/Benzene Reverse Micelles. <i>Journal of Physical Chemistry B</i> , 2011, 115, 5971-5979.	1.2	36
15	The Pivotal Role of Hot Carriers in Plasmonic Catalysis of C-N Bond Forming Reaction of Amines. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 12532-12538.	7.2	36
16	Effects of 1-Butyl-3-methyl Imidazolium Tetrafluoroborate Ionic Liquid on Triton X-100 Aqueous Micelles: Solvent and Rotational Relaxation Studies. <i>Journal of Physical Chemistry B</i> , 2011, 115, 6957-6963.	1.2	34
17	The effect of membrane fluidity on FRET parameters: an energy transfer study inside small unilamellar vesicle. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 3711-3720.	1.3	34
18	Solvation Dynamics and Rotational Relaxation Study Inside Niosome, A Nonionic Innocuous Poly(ethylene Glycol)-Based Surfactant Assembly: An Excitation Wavelength Dependent Experiment. <i>Journal of Physical Chemistry B</i> , 2011, 115, 12514-12520.	1.2	32

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19	Single-Molecule Interfacial Electron Transfer Dynamics of Porphyrin on TiO ₂ Nanoparticles: Dissecting the Complex Electronic Coupling Dependent Dynamics. <i>Journal of Physical Chemistry C</i> , 2014, 118, 20209-20221.	1.5	32
20	To Probe the Interaction of Methanol and Acetonitrile with the Ionic Liquid N,N,N-Trimethyl-N-propyl Ammonium Bis(trifluoromethanesulfonyl) Imide at Different Temperatures by Solvation Dynamics Study. <i>Journal of Physical Chemistry B</i> , 2009, 113, 8626-8634.	1.2	31
21	Synthesis of silver nanoparticle in imidazolium and pyrrolidinium based ionic liquid reverse micelles: A step forward in nanostructure inorganic material in room temperature ionic liquid field. <i>Journal of Molecular Liquids</i> , 2011, 162, 33-37.	2.3	31
22	Study of Fluorescence Resonance Energy Transfer in Zwitterionic Micelle: Ionic-Liquid-Induced Changes in FRET Parameters. <i>Journal of Physical Chemistry B</i> , 2012, 116, 12021-12029.	1.2	30
23	Dynamics of Solvation and Rotational Relaxation of Coumarin 480 in Pure Aqueous-AOT Reverse Micelle and Reverse Micelle Containing Different-Sized Silver Nanoparticles Inside Its Core: A Comparative Study. <i>Journal of Physical Chemistry B</i> , 2012, 116, 3704-3712.	1.2	29
24	Photoinduced Electron Transfer in a Room Temperature Ionic Liquid 1-Butyl-3-methylimidazolium Octyl Sulfate Micelle: A Temperature Dependent Study. <i>Journal of Physical Chemistry B</i> , 2011, 115, 6100-6110.	1.2	28
25	Photoinduced Electron Transfer in an Imidazolium Ionic Liquid and in Its Binary Mixtures with Water, Methanol, and 2-Propanol: Appearance of Marcus-Type of Inversion. <i>Journal of Physical Chemistry B</i> , 2012, 116, 1335-1344.	1.2	28
26	Recent Progress and Challenges in Plasmon-Mediated Reduction of CO ₂ to Chemicals and Fuels. <i>Advanced Materials Interfaces</i> , 2022, 9, .	1.9	26
27	Effect of Alkyl Chain of Room Temperature Ionic Liquid (RTILs) on the Phase Behavior of [C ₂ mim][C _n SO ₄]/TX-100/Cyclohexane Microemulsions: Solvent and Rotational Relaxation Study. <i>Journal of Physical Chemistry B</i> , 2013, 117, 5886-5897.	1.2	25
28	Modulation of the Photophysical Properties of 2,2'-Bipyridine-3,3'-diol inside Bile Salt Aggregates: A Fluorescence-based Study for the Molecular Recognition of Bile Salts. <i>Langmuir</i> , 2013, 29, 133-143.	1.6	24
29	Unearthing the factors governing site specific rates of electronic excitations in multicomponent plasmonic systems and catalysts. <i>Faraday Discussions</i> , 2019, 214, 441-453.	1.6	24
30	Photoinduced electron transfer between various coumarin analogues and N,N-dimethylaniline inside niosome, a nonionic innocuous polyethylene glycol-based surfactant assembly. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 8925.	1.3	23
31	Single-molecule interfacial electron transfer dynamics of porphyrin on TiO ₂ nanoparticles: dissecting the interfacial electric field and electron accepting state density dependent dynamics. <i>Chemical Communications</i> , 2015, 51, 16821-16824.	2.2	22
32	Aggregation Behavior of Triton X-100 with a Mixture of Two Room-Temperature Ionic Liquids: Can We Identify the Mutual Penetration of Ionic Liquids in Ionic Liquid Containing Micellar Aggregates?. <i>Journal of Physical Chemistry B</i> , 2012, 116, 13868-13877.	1.2	21
33	Characterization of 1-ethyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide ([Emim][Tf ₂ N])/TX-100/cyclohexane ternary microemulsion: Investigation of photoinduced electron transfer in this RTIL containing microemulsion. <i>Journal of Chemical Physics</i> , 2011, 134, 074507.	1.2	20
34	Photoinduced intermolecular electron transfer in a room temperature imidazolium ionic liquid: An excitation wavelength dependence study. <i>Chemical Physics Letters</i> , 2011, 506, 211-216.	1.2	20
35	Probing Electric Field Effect on Covalent Interactions at a Molecule-Semiconductor Interface. <i>Journal of the American Chemical Society</i> , 2016, 138, 1536-1542.	6.6	20
36	Modulation of Photophysics and Photodynamics of 1-Hydroxy-2-acetonaphthone (HAN) in Bile Salt Aggregates: A Study of Polarity and Nanoconfinement Effects. <i>Journal of Physical Chemistry B</i> , 2012, 116, 8780-8792.	1.2	19

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37	The Chameleon-Like Nature of Zwitterionic Micelles: The Effect of Ionic Liquid Addition on the Properties of Aqueous Sulfobetaine Micelles. <i>ChemPhysChem</i> , 2012, 13, 1893-1901.	1.0	18
38	Effect of water on the solvent relaxation dynamics in an ionic liquid containing microemulsion of 1-butyl-3-methyl imidazolium tetrafluoroborate/TritonX-100/cyclohexane. <i>Chemical Physics Letters</i> , 2010, 490, 154-158.	1.2	15
39	Solvent and rotational relaxation study in ionic liquid containing reverse micellar system: A picosecond fluorescence spectroscopy study. <i>Chemical Physics Letters</i> , 2011, 512, 217-222.	1.2	13
40	Solvation and Rotational Dynamics of Coumarin-153 in Ethylammonium Nitrate Containing β -Cyclodextrin. <i>Journal of Physical Chemistry B</i> , 2011, 115, 10500-10508.	1.2	12
41	Photophysics of 3,3'-Diethyloxadicarbocyanine Iodide (DODCI) in Ionic Liquid Micelle and Binary Mixtures of Ionic Liquids: Effect of Confinement and Viscosity on Photoisomerization Rate. <i>Journal of Physical Chemistry B</i> , 2012, 116, 9482-9491.	1.2	11
42	Förster resonance energy transfer among a structural isomer of adenine and various Coumarins inside a nanosized reverse micelle. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2012, 89, 67-73.	2.0	11
43	Tuning the Probe Location on Zwitterionic Micellar System with Variation of pH and Addition of Surfactants with Different Alkyl Chains: Solvent and Rotational Relaxation Studies. <i>Journal of Physical Chemistry B</i> , 2012, 116, 11313-11322.	1.2	10
44	Inhomogeneous and Complex Interfacial Electron-Transfer Dynamics: A Single-Molecule Perspective. <i>ACS Energy Letters</i> , 2016, 1, 773-791.	8.8	10
45	The Pivotal Role of Hot Carriers in Plasmonic Catalysis of C-N Bond Forming Reaction of Amines. <i>Angewandte Chemie</i> , 2021, 133, 12640-12646.	1.6	10
46	Solvent and rotational relaxation of Coumarin-153 in a micellar solution of a room-temperature ionic liquid, 1-butyl-3-methylimidazolium octyl sulfate, in ethylammonium nitrate. <i>Chemical Physics Letters</i> , 2010, 499, 89-93.	1.2	9
47	Zwitterionic micelles as a soft template for the extremely rapid synthesis of small hollow gold nanocontainers. <i>RSC Advances</i> , 2013, 3, 14963.	1.7	9
48	Solvent and rotational relaxation of coumarin-153 and coumarin-480 in ionic liquid (1-butyl-3-methylimidazolium tetrafluoroborate) modified sodium 1,4-bis(2-ethylhexyl) sulfosuccinate (NaAOT) micelle. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2013, 102, 371-378.	2.0	9
49	Simultaneous Spectroscopic and Topographic Imaging of Single-Molecule Interfacial Electron-Transfer Reactivity and Local Nanoscale Environment. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 2221-2227.	2.1	9
50	Probing Driving Force and Electron Accepting State Density Dependent Interfacial Electron Transfer Dynamics: Suppressed Fluorescence Blinking of Single Molecules on Indium Tin Oxide Semiconductor. <i>Journal of Physical Chemistry B</i> , 2016, 120, 1685-1697.	1.2	9
51	Nanocavity Effect On Photophysical Properties Of Colchicine: A Proof by Circular Dichroism Study and Picosecond Time-Resolved Analysis in Various Reverse Micellar Assemblies. <i>Journal of Physical Chemistry B</i> , 2011, 115, 6644-6652.	1.2	6
52	Ionic-Liquid-Induced Changes in the Properties of Aqueous Zwitterionic Surfactant Solution: Solvent and Rotational Relaxation Studies. <i>Journal of Physical Chemistry B</i> , 2012, 116, 3690-3698.	1.2	6
53	Protic ionic liquid-induced changes in the properties of aqueous triton X-100-CTAB surfactant solution: Solvent and rotational relaxation studies. <i>Chemical Physics Letters</i> , 2012, 552, 38-43.	1.2	6
54	Probing single-molecule electron-hole transfer dynamics at a molecule-NiO semiconductor nanocrystalline interface. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 17216-17223.	1.3	4

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55	Electronic Couplingâ€“Decoupling-Dependent Single-Molecule Interfacial Electron Transfer Dynamics in Electrostatically Attached Porphyrin on TiO2 Nanoparticles. Journal of Physical Chemistry C, 2016, 120, 12313-12324.	1.5	3
56	Efficient Extraction of Energetic Charge Carriers from an Engineered Plasmonic Nanocomposite to Perform Cascade Reactions. ChemNanoMat, 2022, 8, .	1.5	3