Anil Kumar

List of Publications by Year
in descending order

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53 papers	1,907 citations	257450 24 h-index	254184 43 g-index
55 all docs	55 docs citations	55 times ranked	1281 citing authors

#	Article	IF	Citations
1	Proton-Coupled Electron Transfer in DNA on Formation of Radiation-Produced Ion Radicals. Chemical Reviews, 2010, 110, 7002-7023.	47.7	185
2	The Guanine Cation Radical:Â Investigation of Deprotonation States by ESR and DFT. Journal of Physical Chemistry B, 2006, 110, 24171-24180.	2.6	133
3	Influence of Hydration on Proton Transfer in the Guanineâ˜'Cytosine Radical Cation (G^{â€¢+}â˜'C) Base Pair: A Density Functional Theory Study. Journal of Physical Chemistry B, 2009, 113, 11359-11361.	2.6	97
4	Hydroxyl Radical (OH^{â€¢}) Reaction with Guanine in an Aqueous Environment: A DFT Study. Journal of Physical Chemistry B, 2011, 115, 15129-15137.	2.6	92
5	A Simple ab Initio Model for the Hydrated Electron That Matches Experiment. Journal of Physical Chemistry A, 2015, 119, 9148-9159.	2.5	88
6	Low-Energy Electron Attachment to 5â€˜-Thymidine Monophosphate:Â Modeling Single Strand Breaks Through Dissociative Electron Attachment. Journal of Physical Chemistry B, 2007, 111, 5464-5474.	2.6	81
7	Effect of Base Stacking on the Acidâ˜'Base Properties of the Adenine Cation Radical [Aâ€¢+] in Solution: ESR and DFT Studies. Journal of the American Chemical Society, 2008, 130, 10282-10292.	13.7	74
8	The Role of Ï€Ïƒ* Excited States in Electron-Induced DNA Strand Break Formation:â€‰ A Time-Dependent Density Functional Theory Study. Journal of the American Chemical Society, 2008, 130, 2130-2131.	13.7	71
9	Photo-induced Hole Transfer from Base to Sugar in DNA: Relationship to Primary Radiation Damage. Radiation Research, 2006, 165, 479-484.	1.5	55
10	Density Functional Theory Studies of the Extent of Hole Delocalization in One-Electron Oxidized Adenine and Guanine Base Stacks. Journal of Physical Chemistry B, 2011, 115, 4990-5000.	2.6	55
11	Observation of dissociative quasi-free electron attachment to nucleoside via excited anion radical in solution. Nature Communications, 2019, 10, 102.	12.8	55
12	Prototropic equilibria in DNA containing one-electron oxidized GC: intra-duplex vs. duplex to solvent deprotonation. Physical Chemistry Chemical Physics, 2010, 12, 5353.	2.8	54
13	Reaction of Electrons with DNA: Radiation Damage to Radiosensitization. International Journal of Molecular Sciences, 2019, 20, 3998.	4.1	54
14	SOMOâ€“HOMO Level Inversion in Biologically Important Radicals. Journal of Physical Chemistry B, 2018, 122, 98-105.	2.6	52
15	Microhydration of the Guanineâ˜'Cytosine (GC) Base Pair in the Neutral and Anionic Radical States:â€‰ A Density Functional Study. Journal of Physical Chemistry B, 2008, 112, 5189-5198.	2.6	48
16	Gamma and ion-beam irradiation of DNA: Free radical mechanisms, electron effects, and radiation chemical track structure. Radiation Physics and Chemistry, 2016, 128, 60-74.	2.8	47
17	Photoexcitation of Dinucleoside Radical Cations:Â A Time-Dependent Density Functional Study. Journal of Physical Chemistry B, 2006, 110, 24181-24188.	2.6	45
18	Role of Excited States in Lowâ€Energy Electron (LEE) Induced Strand Breaks in DNA Model Systems: Influence of Aqueous Environment. ChemPhysChem, 2009, 10, 1426-1430.	2.1	45

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19	Do Solvated Electrons (e_{aq}^{â€“}) Reduce DNA Bases? A Gaussian 4 and Density Functional Theory-Molecular Dynamics Study. Journal of Physical Chemistry B, 2016, 120, 2115-2123.	2.6	43
20	Hydroxyl Ion Addition to One-Electron Oxidized Thymine: Unimolecular Interconversion of C5 to C6 OH-Adducts. Journal of the American Chemical Society, 2013, 135, 3121-3135.	13.7	42
21	Proton Transfer Induced SOMO-to-HOMO Level Switching in One-Electron Oxidized A-T and G-C Base Pairs: A Density Functional Theory Study. Journal of Physical Chemistry B, 2014, 118, 5453-5458.	2.6	40
22	Photoexcitation of Adenine Cation Radical [Aâ€¢+] in the near UVâ^'vis Region Produces Sugar Radicals in Adenosine and in Its Nucleotides. Journal of Physical Chemistry B, 2008, 112, 15844-15855.	2.6	36
23	Formation of Sugar Radicals in RNA Model Systems and Oligomers via Excitation of Guanine Cation Radical. Journal of Physical Chemistry B, 2008, 112, 2168-2178.	2.6	33
24	Formation of Sâ€“Cl Phosphorothioate Adduct Radicals in dsDNA S-Oligomers: Hole Transfer to Guanine vs Disulfide Anion Radical Formation. Journal of the American Chemical Society, 2013, 135, 12827-12838.	13.7	27
25	Ï€- vs Ïƒ-Radical States of One-Electron-Oxidized DNA/RNA Bases: A Density Functional Theory Study. Journal of Physical Chemistry B, 2013, 117, 11623-11632.	2.6	21
26	Sugar Radical Formation by a Proton Coupled Hole Transfer in 2â€²-Deoxyguanosine Radical Cation (2â€²-dGâ€¢+): A Theoretical Treatment. Journal of Physical Chemistry B, 2009, 113, 13374-13380.	2.6	20
27	One-Electron Oxidation of Neutral Sugar Radicals of 2â€²-Deoxyguanosine and 2â€²-Deoxythymidine: A Density Functional Theory (DFT) Study. Journal of Physical Chemistry B, 2012, 116, 9409-9416.	2.6	20
28	Ï€-Radical to Ïƒ-Radical Tautomerization in One-Electron-Oxidized 1-Methylcytosine and Its Analogs. Journal of Physical Chemistry B, 2015, 119, 11496-11505.	2.6	20
29	Direct observation of the oxidation of DNA bases by phosphate radicals formed under radiation: a model of the backbone-to-base hole transfer. Physical Chemistry Chemical Physics, 2018, 20, 14927-14937.	2.8	20
30	Excited States of One-Electron Oxidized Guanine-Cytosine Base Pair Radicals: A Time Dependent Density Functional Theory Study. Journal of Physical Chemistry A, 2019, 123, 3098-3108.	2.5	18
31	Radiation Effects On DNA: Theoretical Investigations Of Electron, Hole And Excitation Pathways To DNA Damage. Challenges and Advances in Computational Chemistry and Physics, 2008, , 577-617.	0.6	17
32	An ESR and DFT study of hydration of the 2â€²-deoxyuridine-5-yl radical: a possible hydroxyl radical intermediate. Chemical Communications, 2014, 50, 14605-14608.	4.1	15
33	One-Electron Oxidation of Gemcitabine and Analogs: Mechanism of Formation of C3â€² and C2â€² Sugar Radicals. Journal of the American Chemical Society, 2014, 136, 15646-15653.	13.7	15
34	Temperature Effects on CO₂ Electroreduction Pathways in an Imidazolium-Based Ionic Liquid on Pt Electrode. Journal of Physical Chemistry C, 2020, 124, 26094-26105.	3.1	15
35	One-electron oxidation of ds(5â€²-GGG-3â€²) and ds(5â€²-G(8OG)G-3â€²) and the nature of hole distribution: a density functional theory (DFT) study. Physical Chemistry Chemical Physics, 2020, 22, 5078-5089.	2.8	15
36	Excited state proton-coupled electron transfer in 8-oxoG-C and 8-oxoG-A base pairs: a time dependent density functional theory (TD-DFT) study. Photochemical and Photobiological Sciences, 2013, 12, 1328-1340.	2.9	14

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37	Comment on â€œProton Transfer of Guanine Radical Cations Studied by Time-Resolved Resonance Raman Spectroscopy Combined with Pulse Radiolysisâ€. Journal of Physical Chemistry B, 2016, 120, 2984-2986.	2.6	14
38	Electron-Mediated Aminyl and Iminyl Radicals from C5 Azido-Modified Pyrimidine Nucleosides Augment Radiation Damage to Cancer Cells. Organic Letters, 2018, 20, 7400-7404.	4.6	14
39	Low-Energy Electron (LEE)-Induced DNA Damage: Theoretical Approaches to Modeling Experiment. , 2017, , 1741-1802.		13
40	Hydrogen Electrooxidation in Ionic Liquids Catalyzed by the NTf2 Radical. Journal of Physical Chemistry C, 2017, 121, 5161-5167.	3.1	13
41	Prehydrated One-Electron Attachment to Azido-Modified Pentofuranoses: Aminyl Radical Formation, Rapid H-Atom Transfer, and Subsequent Ring Opening. Journal of Physical Chemistry B, 2017, 121, 4968-4980.	2.6	11
42	Presolvated Electron Reactions with Methyl Acetoacetate: Electron Localization, Proton-Deuteron Exchange, and H-Atom Abstraction. Molecules, 2014, 19, 13486-13497.	3.8	10
43	Reactions of 5-methylcytosine cation radicals in DNA and model systems: Thermal deprotonation from the 5-methyl group vs. excited state deprotonation from sugar. International Journal of Radiation Biology, 2014, 90, 433-445.	1.8	10
44	Adsorption and Electrochemistry of Carbon Monoxide at the Ionic Liquidâ€“Pt Interface. Journal of Physical Chemistry B, 2019, 123, 4726-4734.	2.6	10
45	Cytosine Iminyl Radical (cytN^{â€¢}) Formation via Electron-Induced Debromination of 5-Bromocytosine: A DFT and Gaussian 4 Study. Journal of Physical Chemistry A, 2017, 121, 4825-4829.	2.5	9
46	Anaerobic Oxidation of Methane to Methyl Radical in NTf₂-Based Ionic Liquids. Journal of Physical Chemistry C, 2016, 120, 13466-13473.	3.1	7
47	Electron-Induced Repair of 2â€²-Deoxyribose Sugar Radicals in DNA: A Density Functional Theory (DFT) Study. International Journal of Molecular Sciences, 2021, 22, 1736.	4.1	5
48	Site of Azido Substitution in the Sugar Moiety of Azidopyrimidine Nucleosides Influences the Reactivity of Aminyl Radicals Formed by Dissociative Electron Attachment. Journal of Physical Chemistry B, 2020, 124, 11357-11370.	2.6	4
49	One Way Traffic: Baseâ€¢â€“Backbone Hole Transfer in Nucleoside Phosphorodithioate. Chemistry - A European Journal, 2020, 26, 9495-9505.	3.3	4
50	Proton-Transfer Reactions in One-Electron-Oxidized G-Quadruplexes: A Density Functional Theory Study. Journal of Physical Chemistry B, 2022, 126, 1483-1491.	2.6	3
51	Modulation of the Directionality of Hole Transfer between the Base and the Sugar-Phosphate Backbone in DNA with the Number of Sulfur Atoms in the Phosphate Group. Journal of Physical Chemistry B, 2022, 126, 430-442.	2.6	2
52	Low-Energy Electron (LEE)-Induced DNA Damage: Theoretical Approaches to Modeling Experiment. , 2015, , 1-63.		1
53	One Way Traffic: Baseâ€¢â€“Backbone Hole Transfer in Nucleoside Phosphorodithioate. Chemistry - A European Journal, 2020, 26, 9407-9407.	3.3	0