

# Prashant K Jain

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

113  
papers

21,171  
citations

48  
h-index

122  
g-index

122  
ext. papers

23,266  
ext. citations

10.7  
avg, IF

7.36  
L-index

#	Paper	IF	Citations
113	Control of Chemical Reaction Pathways by Light-Matter Coupling. <i>Annual Review of Physical Chemistry</i> , <b>2021</b> , 72, 423-443	15.7	13
112	Synergistic Photochemistry of Alcohols Catalyzed by Plasmonic Nanoparticles and a Metal Complex. <i>ACS Energy Letters</i> , <b>2021</b> , 6, 1980-1989	20.1	3
111	A rich catalog of C-C bonded species formed in CO reduction on a plasmonic photocatalyst. <i>Nature Communications</i> , <b>2021</b> , 12, 2612	17.4	23
110	Plasmonic Catalysis, Photoredox Chemistry, and Photosynthesis <b>2021</b> , 137-164		
109	Motion of Defects in Ion-Conducting Nanowires. <i>Nano Letters</i> , <b>2021</b> , 21, 556-561	11.5	1
108	Roadmap on quantum nanotechnologies. <i>Nanotechnology</i> , <b>2021</b> , 32, 162003	3.4	12
107	Stochastic Noise in Single-Nanoparticle Catalysis. <i>Journal of Physical Chemistry C</i> , <b>2021</b> , 125, 17734-17743	3.8	1
106	Room-temperature catalyst-free methane chlorination. <i>Cell Reports Physical Science</i> , <b>2021</b> , 2, 100545	6.1	1
105	Crystal Symmetry, Strain, and Facet-Dependent Nature of Topological Surface States in Mercury Selenide. <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 10344-10352	3.8	1
104	Using plasmonically generated carriers as redox equivalents. <i>MRS Bulletin</i> , <b>2020</b> , 45, 43-48	3.2	21
103	The Chemical Potential of Plasmonic Excitations. <i>Angewandte Chemie - International Edition</i> , <b>2020</b> , 59, 2085-2088	16.4	31
102	The Chemical Potential of Plasmonic Excitations. <i>Angewandte Chemie</i> , <b>2020</b> , 132, 2101-2104	3.6	8
101	Isotope Effects in Plasmonic Photosynthesis. <i>Angewandte Chemie - International Edition</i> , <b>2020</b> , 59, 22480-22483	16.4	24
100	Light-Induced Voltages in Catalysis by Plasmonic Nanostructures. <i>Accounts of Chemical Research</i> , <b>2020</b> , 53, 1773-1781	24.3	26
99	Nanoscale optical imaging in chemistry. <i>Chemical Society Reviews</i> , <b>2020</b> ,	58.5	24
98	Ammonia Oxidation Enhanced by Photopotential Generated by Plasmonic Excitation of a Bimetallic Electrocatalyst. <i>Angewandte Chemie - International Edition</i> , <b>2020</b> , 59, 18430-18434	16.4	15
97	Comment on "Thermal effects - an alternative mechanism for plasmon-assisted photocatalysis" by Y. Dubi, I. W. Un and Y. Sivan, , 2020, , 5017. <i>Chemical Science</i> , <b>2020</b> , 11, 9022-9023	9.4	10

96	Ammonia Oxidation Enhanced by Photopotential Generated by Plasmonic Excitation of a Bimetallic Electrocatalyst. <i>Angewandte Chemie</i> , <b>2020</b> , 132, 18588-18592	3.6	5
95	Isotope Effects in Plasmonic Photosynthesis. <i>Angewandte Chemie</i> , <b>2020</b> , 132, 22666-22669	3.6	2
94	Ab Initio Investigation of Cooperativity in Ion Exchange. <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 25615-25620	3.8	2
93	Selective Branching of Plasmonic Photosynthesis into Hydrocarbon Production and Hydrogen Generation. <i>ACS Energy Letters</i> , <b>2019</b> , 4, 2295-2300	20.1	33
92	One-Dimensional Cuprous Selenide Nanostructures with Switchable Plasmonic and Super-ionic Phase Attributes. <i>Angewandte Chemie</i> , <b>2019</b> , 131, 8498	3.6	2
91	One-Dimensional Cuprous Selenide Nanostructures with Switchable Plasmonic and Super-ionic Phase Attributes. <i>Angewandte Chemie - International Edition</i> , <b>2019</b> , 58, 8410-8415	16.4	5
90	Synergy between Plasmonic and Electrocatalytic Activation of Methanol Oxidation on Palladium-Silver Alloy Nanotubes. <i>Angewandte Chemie</i> , <b>2019</b> , 131, 8886-8890	3.6	24
89	Plasmonic photosynthesis of C-C hydrocarbons from carbon dioxide assisted by an ionic liquid. <i>Nature Communications</i> , <b>2019</b> , 10, 2022	17.4	86
88	Synergy between Plasmonic and Electrocatalytic Activation of Methanol Oxidation on Palladium-Silver Alloy Nanotubes. <i>Angewandte Chemie - International Edition</i> , <b>2019</b> , 58, 8794-8798	16.4	66
87	In-situ electron microscopy mapping of an order-disorder transition in a superionic conductor. <i>Nature Communications</i> , <b>2019</b> , 10, 1505	17.4	13
86	Room-temperature superionic-phase nanocrystals synthesized with a twinned lattice. <i>Nature Communications</i> , <b>2019</b> , 10, 3285	17.4	5
85	Revealing the Thermodynamic Properties of Elementary Chemical Reactions at the Single-Molecule Level. <i>Journal of Physical Chemistry B</i> , <b>2019</b> , 123, 6253-6259	3.4	4
84	Taking the Heat Off of Plasmonic Chemistry. <i>Journal of Physical Chemistry C</i> , <b>2019</b> , 123, 24347-24351	3.8	73
83	Mechanistic Understanding of Plasmon-Enhanced Electrochemistry. <i>Journal of Physical Chemistry C</i> , <b>2019</b> , 123, 29360-29369	3.8	32
82	Unconventional Long-Range Cation Ordering in Copper Selenide Nanocrystals. <i>Chemistry of Materials</i> , <b>2019</b> , 31, 68-72	9.6	7
81	Strain Stabilization of Superionicity in Copper and Lithium Selenides. <i>Journal of Physical Chemistry Letters</i> , <b>2018</b> , 9, 1200-1205	6.4	10
80	Structural Dynamics of the Oxygen-Evolving Complex of Photosystem II in Water-Splitting Action. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 5853-5859	16.4	16
79	Plasmonic Control of Multi-Electron Transfer and C-C Coupling in Visible-Light-Driven CO Reduction on Au Nanoparticles. <i>Nano Letters</i> , <b>2018</b> , 18, 2189-2194	11.5	238

78	STM Imaging of Localized Surface Plasmons on Individual Gold Nanoislands. <i>Journal of Physical Chemistry Letters</i> , <b>2018</b> , 9, 1970-1976	6.4	8
77	Plasmon-Enhanced Multicarrier Photocatalysis. <i>Nano Letters</i> , <b>2018</b> , 18, 4370-4376	11.5	46
76	Lithiation of Copper Selenide Nanocrystals. <i>Angewandte Chemie</i> , <b>2018</b> , 130, 9459-9463	3.6	1
75	In Situ formation of catalytically active graphene in ethylene photo-epoxidation. <i>Nature Communications</i> , <b>2018</b> , 9, 3056	17.4	30
74	Physical models for energy-converting nanofluids. <i>Physics Today</i> , <b>2018</b> , 71, 10-11	0.9	2
73	Harvesting multiple electron-hole pairs generated through plasmonic excitation of Au nanoparticles. <i>Nature Chemistry</i> , <b>2018</b> , 10, 763-769	17.6	175
72	Watching Visible Light-Driven CO Reduction on a Plasmonic Nanoparticle Catalyst. <i>ACS Nano</i> , <b>2018</b> , 12, 8330-8340	16.7	104
71	Lithiation of Copper Selenide Nanocrystals. <i>Angewandte Chemie - International Edition</i> , <b>2018</b> , 57, 9315-9319	16.4	6
70	Mechanism of sulfidation of small zinc oxide nanoparticles.. <i>RSC Advances</i> , <b>2018</b> , 8, 34476-34482	3.7	14
69	Liquid-like cationic sub-lattice in copper selenide clusters. <i>Nature Communications</i> , <b>2017</b> , 8, 14514	17.4	49
68	The Nature of Plasmonically Assisted Hot-Electron Transfer in a Donor-Bridge-Acceptor Complex. <i>ACS Catalysis</i> , <b>2017</b> , 7, 4360-4365	13.1	35
67	Galvanic reactions at the single-nanoparticle level: tuning between mechanistic extremes. <i>Journal of Materials Chemistry A</i> , <b>2017</b> , 5, 11940-11948	13	13
66	Opportunities and Challenges of Solar-Energy-Driven Carbon Dioxide to Fuel Conversion with Plasmonic Catalysts. <i>ACS Energy Letters</i> , <b>2017</b> , 2, 2058-2070	20.1	124
65	Spectral Heterogeneity of Hybrid Lead Halide Perovskites Demystified by Spatially Resolved Emission. <i>Journal of Physical Chemistry C</i> , <b>2017</b> , 121, 19392-19400	3.8	8
64	A Non-Natural Wurtzite Polymorph of HgSe: A Potential 3D Topological Insulator. <i>Chemistry of Materials</i> , <b>2017</b> , 29, 6356-6366	9.6	11
63	In Situ Single-Nanoparticle Spectroscopy Study of Bimetallic Nanostructure Formation. <i>Angewandte Chemie</i> , <b>2016</b> , 128, 10133-10137	3.6	5
62	In Situ Single-Nanoparticle Spectroscopy Study of Bimetallic Nanostructure Formation. <i>Angewandte Chemie - International Edition</i> , <b>2016</b> , 55, 9979-83	16.4	35
61	Ultrashort, Angstrom-Scale Decay of Surface-Enhanced Raman Scattering at Hot Spots. <i>Journal of Physical Chemistry C</i> , <b>2016</b> , 120, 24973-24981	3.8	13

60	Ion Exchange Transformation of Magic-Sized Clusters. <i>Chemistry of Materials</i> , <b>2016</b> , 28, 8391-8398	9.6	19
59	Synthesis of Monodisperse Palladium Nanoclusters Using Metal-Organic Frameworks as Sacrificial Templates. <i>ChemNanoMat</i> , <b>2016</b> , 2, 810-815	3.5	15
58	Polarization-Dependent Surface-Enhanced Raman Scattering Activity of Anisotropic Plasmonic Nanorattles. <i>Journal of Physical Chemistry C</i> , <b>2016</b> , 120, 16899-16906	3.8	14
57	Activation Energies of Plasmonic Catalysts. <i>Nano Letters</i> , <b>2016</b> , 16, 3399-407	11.5	143
56	The Ligand Shell as an Energy Barrier in Surface Reactions on Transition Metal Nanoparticles. <i>Journal of the American Chemical Society</i> , <b>2016</b> , 138, 6765-73	16.4	53
55	Kinetics of self-assembled monolayer formation on individual nanoparticles. <i>Physical Chemistry Chemical Physics</i> , <b>2016</b> , 18, 23990-7	3.6	16
54	Luminescence blinking of a reacting quantum dot. <i>Nano Letters</i> , <b>2015</b> , 15, 2504-9	11.5	28
53	One-to-One Correlation between Structure and Optical Response in a Heterogeneous Distribution of Plasmonic Constructs. <i>Journal of Physical Chemistry C</i> , <b>2015</b> , 119, 24086-24094	3.8	12
52	Catalytic activation of a solid oxide in electronic contact with gold nanoparticles. <i>Angewandte Chemie - International Edition</i> , <b>2015</b> , 54, 992-7	16.4	8
51	Catalytic Activation of a Solid Oxide in Electronic Contact With Gold Nanoparticles. <i>Angewandte Chemie</i> , <b>2015</b> , 127, 1006-1011	3.6	2
50	Regioselective plasmonic coupling in metamolecular analogs of benzene derivatives. <i>Nano Letters</i> , <b>2015</b> , 15, 542-8	11.5	14
49	Plasmon resonances for solar energy harvesting: A mechanistic outlook. <i>Nano Today</i> , <b>2015</b> , 10, 67-80	17.9	151
48	Plasmon Resonances of Semiconductor Nanocrystals: Physical Principles and New Opportunities. <i>Journal of Physical Chemistry Letters</i> , <b>2014</b> , 5, 976-85	6.4	222
47	Identification of a critical intermediate in galvanic exchange reactions by single-nanoparticle-resolved kinetics. <i>Angewandte Chemie - International Edition</i> , <b>2014</b> , 53, 2867-72	16.4	59
46	Plasmon-in-a-Box: On the Physical Nature of Few-Carrier Plasmon Resonances. <i>Journal of Physical Chemistry Letters</i> , <b>2014</b> , 5, 3112-9	6.4	44
45	Unified Theoretical Framework for Realizing Diverse Regimes of Strong Coupling between Plasmons and Electronic Transitions. <i>Journal of Physical Chemistry C</i> , <b>2014</b> , 118, 2710-2717	3.8	40
44	Single-nanocrystal reaction trajectories reveal sharp cooperative transitions. <i>Nano Letters</i> , <b>2014</b> , 14, 987-92	11.5	45
43	Identification of a Critical Intermediate in Galvanic Exchange Reactions by Single-Nanoparticle-Resolved Kinetics. <i>Angewandte Chemie</i> , <b>2014</b> , 126, 2911-2916	3.6	10

42	Plasmons in Photocharged ZnO Nanocrystals Revealing the Nature of Charge Dynamics. <i>Journal of Physical Chemistry Letters</i> , <b>2013</b> , 4, 3024-3030	6.4	61
41	Doped nanocrystals as plasmonic probes of redox chemistry. <i>Angewandte Chemie - International Edition</i> , <b>2013</b> , 52, 13671-5	16.4	103
40	Co-operativity in a nanocrystalline solid-state transition. <i>Nature Communications</i> , <b>2013</b> , 4, 2933	17.4	51
39	Cation exchange on the nanoscale: an emerging technique for new material synthesis, device fabrication, and chemical sensing. <i>Chemical Society Reviews</i> , <b>2013</b> , 42, 89-96	58.5	388
38	Size Dependence of the Plasmonic Near-Field Measured via Single-Nanoparticle Photoimaging. <i>Journal of Physical Chemistry C</i> , <b>2013</b> , 117, 10669-10676	3.8	51
37	Controlling localized surface plasmon resonances in GeTe nanoparticles using an amorphous-to-crystalline phase transition. <i>Physical Review Letters</i> , <b>2013</b> , 111, 037401	7.4	41
36	Doped Nanocrystals as Plasmonic Probes of Redox Chemistry. <i>Angewandte Chemie</i> , <b>2013</b> , 125, 13916-13920	13.4	13
35	Highly luminescent nanocrystals from removal of impurity atoms residual from ion-exchange synthesis. <i>Angewandte Chemie - International Edition</i> , <b>2012</b> , 51, 2387-90	16.4	60
34	Near-field manipulation of spectroscopic selection rules on the nanoscale. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 8016-9	11.5	82
33	A regenerable oxide-based H <sub>2</sub> S adsorbent with nanofibrous morphology. <i>Nature Nanotechnology</i> , <b>2012</b> , 7, 810-5	28.7	40
32	Plasmonics with Doped Quantum Dots. <i>Israel Journal of Chemistry</i> , <b>2012</b> , 52, 983-991	3.4	50
31	Probing redox photocatalysis of trapped electrons and holes on single Sb-doped titania nanorod surfaces. <i>Journal of the American Chemical Society</i> , <b>2012</b> , 134, 3946-9	16.4	55
30	Highly Luminescent Nanocrystals From Removal of Impurity Atoms Residual From Ion-Exchange Synthesis. <i>Angewandte Chemie</i> , <b>2012</b> , 124, 2437-2440	3.6	10
29	The impact of the competence quorum sensing system on <i>Streptococcus pneumoniae</i> biofilms varies depending on the experimental model. <i>BMC Microbiology</i> , <b>2011</b> , 11, 75	4.5	49
28	Spatially indirect emission in a luminescent nanocrystal molecule. <i>Nano Letters</i> , <b>2011</b> , 11, 2358-62	11.5	55
27	Size Dependence of a Temperature-Induced Solid-Solid Phase Transition in Copper(I) Sulfide. <i>Journal of Physical Chemistry Letters</i> , <b>2011</b> , 2, 2402-2406	6.4	102
26	Localized surface plasmon resonances arising from free carriers in doped quantum dots. <i>Nature Materials</i> , <b>2011</b> , 10, 361-6	27	1283
25	Plasmonic Spheroidal Metal Nanoshells Showing Larger Tunability and Stronger Near Fields Than Their Spherical Counterparts: An Effect of Enhanced Plasmon Coupling. <i>Journal of Physical Chemistry Letters</i> , <b>2011</b> , 2, 374-378	6.4	19

24	Off-Resonant Optical Excitation of Gold Nanorods: Nanoscale Imprint of Polarization Surface Charge Distribution. <i>Journal of Physical Chemistry Letters</i> , <b>2011</b> , 2, 7-11	6.4	20
23	Nanoheterostructure cation exchange: anionic framework conservation. <i>Journal of the American Chemical Society</i> , <b>2010</b> , 132, 9997-9	16.4	236
22	Quantitative analysis of localized surface plasmons based on molecular probing. <i>ACS Nano</i> , <b>2010</b> , 4, 4579-86	16.6	68
21	Coupling of optical resonances in a compositionally asymmetric plasmonic nanoparticle dimer. <i>Nano Letters</i> , <b>2010</b> , 10, 2655-60	11.5	305
20	Plasmonic coupling in noble metal nanostructures. <i>Chemical Physics Letters</i> , <b>2010</b> , 487, 153-164	2.5	688
19	Surface plasmon resonance enhanced magneto-optics (SuPREMO): Faraday rotation enhancement in gold-coated iron oxide nanocrystals. <i>Nano Letters</i> , <b>2009</b> , 9, 1644-50	11.5	236
18	Surface Plasmon Coupling and Its Universal Size Scaling in Metal Nanostructures of Complex Geometry: Elongated Particle Pairs and Nanosphere Trimers. <i>Journal of Physical Chemistry C</i> , <b>2008</b> , 112, 4954-4960	3.8	178
17	Noble metals on the nanoscale: optical and photothermal properties and some applications in imaging, sensing, biology, and medicine. <i>Accounts of Chemical Research</i> , <b>2008</b> , 41, 1578-86	24.3	3252
16	Plasmonic photothermal therapy (PPTT) using gold nanoparticles. <i>Lasers in Medical Science</i> , <b>2008</b> , 23, 217-28	3.1	1648
15	Noble metal nanoparticle pairs: effect of medium for enhanced nanosensing. <i>Nano Letters</i> , <b>2008</b> , 8, 4347-52	11.5	233
14	The effect of plasmon field on the coherent lattice phonon oscillation in electron-beam fabricated gold nanoparticle pairs. <i>Nano Letters</i> , <b>2007</b> , 7, 3227-34	11.5	123
13	Gold nanoparticles: interesting optical properties and recent applications in cancer diagnostics and therapy. <i>Nanomedicine</i> , <b>2007</b> , 2, 681-93	5.6	1046
12	Universal scaling of plasmon coupling in metal nanostructures: extension from particle pairs to nanoshells. <i>Nano Letters</i> , <b>2007</b> , 7, 2854-8	11.5	261
11	Au nanoparticles target cancer. <i>Nano Today</i> , <b>2007</b> , 2, 18-29	17.9	881
10	Surface Plasmon Resonance Sensitivity of Metal Nanostructures: Physical Basis and Universal Scaling in Metal Nanoshells. <i>Journal of Physical Chemistry C</i> , <b>2007</b> , 111, 17451-17454	3.8	157
9	On the Universal Scaling Behavior of the Distance Decay of Plasmon Coupling in Metal Nanoparticle Pairs: A Plasmon Ruler Equation. <i>Nano Letters</i> , <b>2007</b> , 7, 2080-2088	11.5	1240
8	Review of Some Interesting Surface Plasmon Resonance-enhanced Properties of Noble Metal Nanoparticles and Their Applications to Biosystems. <i>Plasmonics</i> , <b>2007</b> , 2, 107-118	2.4	973
7	Ultrafast cooling of photoexcited electrons in gold nanoparticle-thiolated DNA conjugates involves the dissociation of the gold-thiol bond. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 2426-33	16.4	185

6	Ultrafast electron relaxation dynamics in coupled metal nanoparticles in aggregates. <i>Journal of Physical Chemistry B</i> , <b>2006</b> , 110, 136-42	3.4	104
5	Determination of the minimum temperature required for selective photothermal destruction of cancer cells with the use of immunotargeted gold nanoparticles. <i>Photochemistry and Photobiology</i> , <b>2006</b> , 82, 412-7	3.6	324
4	Plasmon coupling in nanorod assemblies: optical absorption, discrete dipole approximation simulation, and exciton-coupling model. <i>Journal of Physical Chemistry B</i> , <b>2006</b> , 110, 18243-53	3.4	685
3	Calculated absorption and scattering properties of gold nanoparticles of different size, shape, and composition: applications in biological imaging and biomedicine. <i>Journal of Physical Chemistry B</i> , <b>2006</b> , 110, 7238-48	3.4	3334
2	A DFT-Based Study of the Low-Energy Electronic Structures and Properties of Small Gold Clusters. <i>Structural Chemistry</i> , <b>2005</b> , 16, 421-426	1.8	64
1	Photoinduced Electron and Energy Transfer Pathways and Photocatalytic Mechanisms in Hybrid Plasmonic Photocatalysis. <i>Advanced Optical Materials</i> , 2101128	8.1	6