Shiv N Khanna

List of Publications by Year
in descending order

97 papers	5,333 citations	126907 33 h-index	82547 72 g-index
99 all docs	99 docs citations	99 times ranked	3665 citing authors

#	Article	IF	Citations
1	High-Spin Superatom Stabilized by Dual Subshell Filling. Journal of the American Chemical Society, 2022, 144, 5172-5179.	13.7	8
2	Interfacial magnetism in a fused superatomic cluster [Co₆Se₈(PEt₃)₅]₂. Nanoscale, 2021, 13, 15763-15769.	5.6	6
3	One-Dimensional Silver-Thiolate Cluster-Assembly: Effect of Argentophilic Interactions on Excited-State Dynamics. Journal of Physical Chemistry Letters, 2021, 12, 2154-2159.	4.6	10
4	The superatomic state beyond conventional magic numbers: Ligated metal chalcogenide superatoms. Journal of Chemical Physics, 2021, 155, 120901.	3.0	9
5	Creating Genetic Materials of Metal Clusters. , 2020, , 241-264.		1
6	Metal Clusters and Their Reactivity. , 2020, , .		9
7	Superatomic molecules with internal electric fields for light harvesting. Nanoscale, 2020, 12, 4736-4742.	5.6	15
8	Instrumentation for Cluster Science. , 2020, , 11-38.		0
9	Charge Transfer and the Harpoon Mechanism. , 2020, , 193-213.		0
10	Cooperative Active-Sites Mechanism. , 2020, , 81-95.		0
11	Metal Cluster Reacting with Oxygen. , 2020, , 39-56.		0
12	An Overview of Metal Clusters and Their Reactivity. , 2020, , 1-9.		0
13	Cluster Dissociation, Intracluster Reactivity and Effect of the Ligands. , 2020, , 175-191.		0
14	Al Valence Controls the Coordination and Stability of Cationic Aluminumâ€“Oxygen Clusters in Reactions of Aln+ with Oxygen. Journal of Physical Chemistry A, 2019, 123, 7463-7469.	2.5	7
15	Ligand Effect on the Electronic Structure of Cobalt Sulfide Clusters: A Combined Experimental and Theoretical Study. Journal of Physical Chemistry C, 2019, 123, 25121-25127.	3.1	13
16	Tuning the electronic properties of hexanuclear cobalt sulfide superatoms via ligand substitution. Chemical Science, 2019, 10, 1760-1766.	7.4	24
17	Multiple-Valence Aluminum and the Electronic and Geometric Structure of Al_nO_m Clusters. Journal of Physical Chemistry A, 2019, 123, 5114-5121.	2.5	7
18	The structure and stability of CrnTem (1â€‰â€‰nâ€‰â€‰6, 1â€‰â€‰mâ€‰â€‰8) clusters. Chemical Physics Letters, 2019, 720, 76-82.	2.6	1

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19	The effect of chalcogen and metal on the electronic properties and stability of metalâ€“chalcogenides clusters, TM6Xn(PH3)6 (TM = Mo, Cr, Re, Co, Ni; X = Se, Te; n = 8,5). European Physical Journal D, 2018, 72, 1.	1.3	5
20	Strong Effect of Organic Ligands on the Electronic Structure of Metal-Chalcogenide Clusters. Journal of Physical Chemistry A, 2018, 122, 6014-6020.	2.5	12
21	Preparation of gas phase naked silver cluster cations outside a mass spectrometer from ligand protected clusters in solution. Nanoscale, 2018, 10, 15714-15722.	5.6	13
22	Strong lowering of ionization energy of metallic clusters by organic ligands without changing shell filling. Nature Communications, 2018, 9, 2357.	12.8	34
23	Electronic and magnetic properties of Fe2Sin (1â€ˆâ‰‰â€¯nâ€ˆâ‰‰â€¯12)+/0/â^' clusters. Chemical Physics Letters, 2018, 706, 113-119.	2.6	11
24	Metal Chalcogenide Clusters with Closed Electronic Shells and the Electronic Properties of Alkalis and Halogens. Journal of the American Chemical Society, 2017, 139, 1871-1877.	13.7	51
25	Superatoms: Electronic and Geometric Effects on Reactivity. Accounts of Chemical Research, 2017, 50, 255-263.	15.6	203
26	Ionic versus metallic bonding in AlnNam and AlnMgm (m â‰‰ 3, n + m â‰‰ 15) clusters. Journal of Chemical Physics, 2017, 146, 224301.	3.0	17
27	Evolution of the Spin Magnetic Moments and Atomic Valence of Vanadium in VCu_x⁺, VAg_x⁺, and VAu_x⁺ Clusters (x = 3â€“14). Journal of Physical Chemistry A, 2017, 121, 2990-2999.	2.5	31
28	Effect of Embedding Platinum Clusters in Alumina on Sintering, Coking, and Activity. Journal of Physical Chemistry C, 2017, 121, 21527-21534.	3.1	9
29	CO ligands stabilize metal chalcogenide Co₆Se₈(CO)_n clusters via demagnetization. Physical Chemistry Chemical Physics, 2017, 19, 31940-31948.	2.8	11
30	Complete Ag₄M₂(DMSA)₄ (M = Ni, Pd, Pt, DMSA =) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 307 Td Characterization. Journal of Physical Chemistry A, 2017, 121, 5324-5331.	2.5	10
31	Transforming Ni₉Te₆ from Electron Donor to Acceptor via Ligand Exchange. Journal of Physical Chemistry A, 2016, 120, 6644-6649.	2.5	20
32	Reactivity of Metal Clusters. Chemical Reviews, 2016, 116, 14456-14492.	47.7	359
33	What determines if a ligand activates or passivates a superatom cluster?. Chemical Science, 2016, 7, 3067-3074.	7.4	67
34	A Systematic Framework and Nanoperiodic Concept for Unifying Nanoscience: Hard/Soft Nanoelements, Superatoms, Meta-Atoms, New Emerging Properties, Periodic Property Patterns, and Predictive Mendeleev-like Nanoperiodic Tables. Chemical Reviews, 2016, 116, 2705-2774.	47.7	195
35	Ni₉Te₆(PEt₃)₈C₆₀ Is a Superatomic Superalkali Superparamagnetic Cluster Assembled Material (S³-CAM). Journal of the American Chemical Society, 2016, 138, 1916-1921.	13.7	42
36	Making sense of the conflicting magic numbers in WSin clusters. Journal of Chemical Physics, 2015, 143, 074310.	3.0	13

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37	The Effects of Alkaline-Earth Counterions on the Architectures, Band-Gap Energies, and Proton Transfer of Triazole-Based Coordination Polymers. European Journal of Inorganic Chemistry, 2015, 2015, 2085-2091.	2.0	8
38	Geometry controls the stability of FeSi₁₄. Physical Chemistry Chemical Physics, 2015, 17, 15718-15724.	2.8	21
39	Electronic structure, stability, and oxidation of boron-magnesium clusters and cluster solids. Journal of Chemical Physics, 2015, 142, 054304.	3.0	17
40	Atom precise platinumâ€“thiol crowns. Nanoscale, 2015, 7, 19448-19452.	5.6	12
41	IN QUEST OF A SYSTEMATIC FRAMEWORK FOR UNIFYING AND DEFINING NANOSCIENCE. Modern Physics Letters B, 2014, 28, 1430002.	1.9	17
42	Stable magnetic order and charge induced rotation of magnetization in nano-clusters. Applied Physics Letters, 2014, 105, 152409.	3.3	2
43	On the enhancement of magnetic anisotropy in cobalt clusters via non-magnetic doping. Journal of Physics Condensed Matter, 2014, 26, 125303.	1.8	2
44	Nature of Valence Transition and Spin Moment in Ag_nV⁺ Clusters. Journal of the American Chemical Society, 2014, 136, 8229-8236.	13.7	53
45	Boron Substitution in Aluminum Cluster Anions: Magic Clusters and Reactivity with Oxygen. Journal of Physical Chemistry A, 2014, 118, 8485-8492.	2.5	24
46	Does the 18-Electron Rule Apply to CrSi₁₂?. Journal of Physical Chemistry Letters, 2014, 5, 3492-3496.	4.6	56
47	Reactivity of Silver Clusters Anions with Ethanethiol. Journal of Physical Chemistry A, 2014, 118, 8345-8350.	2.5	12
48	The Oblate Structure and Unexpected Resistance in Reactivity of Ag₁₅⁺ with O₂. Journal of Physics: Conference Series, 2013, 438, 012002.	0.4	12
49	Unusually large spin polarization and magnetoresistance in a FeMg8â€“FeMg8 superatomic dimer. Journal of Chemical Physics, 2013, 139, 064306.	3.0	4
50	Magnetic properties of Co2â^'xTMxC and Co3â^'xTMxC nanoparticles. Journal of Applied Physics, 2013, 114, 243909.	2.5	7
51	Electronic subshell splitting controls the atomic structure of charged and neutral silver clusters. New Journal of Chemistry, 2013, 37, 3928.	2.8	36
52	Synthesis and Structural Characterization of an Atom-Precise Bimetallic Nanocluster, Ag₄Ni₂(DMSA)₄. Journal of the American Chemical Society, 2013, 135, 26-29.	13.7	51
53	On the Existence of Designer Magnetic Superatoms. Journal of the American Chemical Society, 2013, 135, 4856-4861.	13.7	108
54	Controlling the Band Gap Energy of Cluster-Assembled Materials. Accounts of Chemical Research, 2013, 46, 2385-2395.	15.6	81

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55	Robust Magnetic Moments on Impurities in Metallic Clusters: Localized Magnetic States in Superatoms. Journal of Physical Chemistry A, 2013, 117, 4297-4303.	2.5	16
56	Probing the Magic Numbers of Aluminumâ€“Magnesium Cluster Anions and Their Reactivity toward Oxygen. Journal of the American Chemical Society, 2013, 135, 4307-4313.	13.7	88
57	Spin Accommodation and Reactivity of Silver Clusters with Oxygen: The Enhanced Stability of Ag₁₃^{â€“}. Journal of the American Chemical Society, 2012, 134, 18973-18978.	13.7	114
58	Ligand-Induced Active Sites: Reactivity of Iodine-Protected Aluminum Superatoms with Methanol. Journal of the American Chemical Society, 2012, 134, 20507-20512.	13.7	46
59	Synthesis, structure and band gap energy of covalently linked cluster-assembled materials. Dalton Transactions, 2012, 41, 12365.	3.3	33
60	Metallic and molecular orbital concepts in XMg8 clusters, X = Be-F. Journal of Chemical Physics, 2012, 136, 134311.	3.0	14
61	Palladium in the Gap: Cluster Assemblies with Band Edges Localized on Linkers. Journal of Physical Chemistry C, 2012, 116, 10207-10214.	3.1	9
62	Quantum spin transport through magnetic superatom dimer (Cs8V-Cs8V). Journal of Chemical Physics, 2012, 137, 164311.	3.0	5
63	Magnetism of electrons in atoms and superatoms. Journal of Applied Physics, 2012, 112, 064313.	2.5	17
64	Magnetic properties of Co2C and Co3C nanoparticles and their assemblies. Applied Physics Letters, 2012, 101, .	3.3	64
65	Edge-Induced Active Sites Enhance the Reactivity of Large Aluminum Cluster Anions with Alcohols. Journal of Physical Chemistry A, 2012, 116, 8085-8091.	2.5	41
66	Shell magnetism in transition metal doped calcium superatom. Chemical Physics Letters, 2012, 528, 39-43.	2.6	28
67	The Zintl ion [As7]2â^': an example of an electron-deficient Asx radical anion. Chemical Communications, 2011, 47, 3126.	4.1	18
68	[As₇M(CO)₃]^{3â€“} M = Cr, Mo, W: Bonding and Electronic Structure of Cluster Assemblies with Metal Carbonyls. Journal of Physical Chemistry C, 2011, 115, 23704-23710.	3.1	6
69	On the Ground State of Pd₁₃. Journal of the American Chemical Society, 2011, 133, 12192-12196.	13.7	74
70	Closed-shell to split-shell stability of isovalent clusters. Physical Review B, 2011, 84, .	3.2	7
71	Preparation of Elemental Cu and Ni Nanoparticles by the Polyol Method: An Experimental and Theoretical Approach. Journal of Physical Chemistry C, 2011, 115, 2656-2664.	3.1	217
72	Hundâ€™s rule in superatoms with transition metal impurities. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 10062-10066.	7.1	105

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73	Stability and electronic properties of isoelectronic heteroatomic analogs of. Chemical Physics Letters, 2011, 505, 92-95.	2.6	8
74	Cooperative effects in the oxidation of CO by palladium oxide cations. Journal of Chemical Physics, 2011, 135, 234303.	3.0	18
75	Controlling Band Gap Energies in Cluster-Assembled Ionic Solids through Internal Electric Fields. ACS Nano, 2010, 4, 5813-5818.	14.6	72
76	Resilient aromaticity in leadâ€“indium clusters. Chemical Physics Letters, 2010, 500, 196-201.	2.6	13
77	Crystal field effects on the reactivity of aluminum-copper cluster anions. Physical Review B, 2010, 81, .	3.2	59
78	Reactivity of Aluminum Cluster Anions with Water: Origins of Reactivity and Mechanisms for H₂ Release. Journal of Physical Chemistry A, 2010, 114, 6071-6081.	2.5	95
79	Anion Photoelectron Spectroscopy and First-Principles Study of Pb_xIn_y Clusters. Journal of Physical Chemistry C, 2010, 114, 20907-20916.	3.1	15
80	Effect of Electronic and Geometric Shell Closures on the Stability of Neutral and Anionic TiNa_n (n = 1â^'13) Clusters. Journal of Physical Chemistry C, 2010, 114, 10739-10744.	3.1	26
81	Cluster-Assembled Materials: Toward Nanomaterials with Precise Control over Properties. ACS Nano, 2010, 4, 235-240.	14.6	127
82	The applicability of three-dimensional aromaticity in BiSnnâ^' Zintl analogues. Journal of Chemical Physics, 2010, 133, 134302.	3.0	17
83	Combined Experimental and Theoretical Study of Al_nX (n= 1â^'6; X = As, Sb) Clusters: Evidence of Aromaticity and the Jellium Model. Journal of Physical Chemistry A, 2010, 114, 2045-2052.	2.5	23
84	Superatoms. Science and Technology of Atomic, Molecular, Condensed Matter and Biological Systems, 2010, 1, 365-381.	0.6	3
85	Designer magnetic superatoms. Nature Chemistry, 2009, 1, 310-315.	13.6	223
86	Helical and linear [K(As11)]2â^' chains: Role of solvent on the conformation of chains formed by Zintl anions. Chemical Physics Letters, 2009, 473, 305-311.	2.6	11
87	Highly efficient (Cs8V) superatom-based spin-polarizer. Applied Physics Letters, 2009, 95, .	3.3	26
88	Cluster-Assembled Materials. ACS Nano, 2009, 3, 244-255.	14.6	598
89	Complementary Active Sites Cause Size-Selective Reactivity of Aluminum Cluster Anions with Water. Science, 2009, 323, 492-495.	12.6	262
90	From SiO Molecules to Silicates in Circumstellar Space: Atomic Structures, Growth Patterns, and Optical Signatures of Si_nO_m Clusters. ACS Nano, 2008, 2, 1729-1737.	14.6	45

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91	Al_nBi Clusters: Transitions Between Aromatic and Jellium Stability. Journal of Physical Chemistry A, 2008, 112, 13316-13325.	2.5	29
92	Effect of Charge and Composition on the Structural Fluxionality and Stability of Nine Atom Tinâ^'Bismuth Zintl Analogues. Inorganic Chemistry, 2008, 47, 10953-10958.	4.0	22
93	Superatom Compounds, Clusters, and Assemblies:â€‰ Ultra Alkali Motifs and Architectures. Journal of the American Chemical Society, 2007, 129, 10189-10194.	13.7	186
94	Spin Accommodation and Reactivity of Aluminum Based Clusters with O₂. Journal of the American Chemical Society, 2007, 129, 16098-16101.	13.7	147
95	From Designer Clusters to Synthetic Crystalline Nanoassemblies. Nano Letters, 2007, 7, 2734-2741.	9.1	109
96	Reactions of AlnIx-with Methyl Iodide:â€‰ The Enhanced Stability of Al7I and the Chemical Significance of Active Centers. Journal of the American Chemical Society, 2005, 127, 16048-16053.	13.7	46
97	Formation of Al13I-: Evidence for the Superhalogen Character of Al13. Science, 2004, 304, 84-87.	12.6	515