Arthur C Reber

List of Publications by Year
in descending order

101 papers	3,559 citations	136740 32 h-index	149479 56 g-index
104 all docs	104 docs citations	104 times ranked	2248 citing authors

#	Article	IF	Citations
1	Complementary Active Sites Cause Size-Selective Reactivity of Aluminum Cluster Anions with Water. Science, 2009, 323, 492-495.	6.0	262
2	Designer magnetic superatoms. Nature Chemistry, 2009, 1, 310-315.	6.6	223
3	Superatoms: Electronic and Geometric Effects on Reactivity. Accounts of Chemical Research, 2017, 50, 255-263.	7.6	203
4	Superatom Compounds, Clusters, and Assemblies:â€‰ Ultra Alkali Motifs and Architectures. Journal of the American Chemical Society, 2007, 129, 10189-10194.	6.6	186
5	Spin Accommodation and Reactivity of Aluminum Based Clusters with O₂. Journal of the American Chemical Society, 2007, 129, 16098-16101.	6.6	147
6	Cluster-Assembled Materials: Toward Nanomaterials with Precise Control over Properties. ACS Nano, 2010, 4, 235-240.	7.3	127
7	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.	6.6	114
8	From Designer Clusters to Synthetic Crystalline Nanoassemblies. Nano Letters, 2007, 7, 2734-2741.	4.5	109
9	Reactivity of Aluminum Cluster Anions with Water: Origins of Reactivity and Mechanisms for H₂ Release. Journal of Physical Chemistry A, 2010, 114, 6071-6081.	1.1	95
10	Probing the Magic Numbers of Aluminumâ€“Magnesium Cluster Anions and Their Reactivity toward Oxygen. Journal of the American Chemical Society, 2013, 135, 4307-4313.	6.6	88
11	Controlling the Band Gap Energy of Cluster-Assembled Materials. Accounts of Chemical Research, 2013, 46, 2385-2395.	7.6	81
12	Controlling Band Gap Energies in Cluster-Assembled Ionic Solids through Internal Electric Fields. ACS Nano, 2010, 4, 5813-5818.	7.3	72
13	What determines if a ligand activates or passivates a superatom cluster?. Chemical Science, 2016, 7, 3067-3074.	3.7	67
14	Al ₄ H ₇ ^{âˆ’} is a resilient building block for aluminum hydrogen cluster materials. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 14565-14569.	3.3	66
15	Crystal field effects on the reactivity of aluminum-copper cluster anions. Physical Review B, 2010, 81, .	1.1	59
16	Rings, towers, cages of ZnO. European Physical Journal D, 2007, 43, 221-224.	0.6	58
17	More than just a support: Graphene as a solid-state ligand for palladium-catalyzed cross-coupling reactions. Journal of Catalysis, 2018, 360, 20-26.	3.1	57
18	Does the 18-Electron Rule Apply to CrSi₁₂?. Journal of Physical Chemistry Letters, 2014, 5, 3492-3496.	2.1	56

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19	Initial and Final State Effects in the Ultraviolet and X-ray Photoelectron Spectroscopy (UPS and XPS) of Size-Selected Pd_{<i>n</i>} Clusters Supported on TiO₂(110). Journal of Physical Chemistry C, 2015, 119, 6033-6046.	1.5	56
20	Nature of Valence Transition and Spin Moment in Ag_{<i>n</i>}V⁺ Clusters. Journal of the American Chemical Society, 2014, 136, 8229-8236.	6.6	53
21	Synthesis and Structural Characterization of an Atom-Precise Bimetallic Nanocluster, Ag₄Ni₂(DMSA)₄. Journal of the American Chemical Society, 2013, 135, 26-29.	6.6	51
22	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.	6.6	51
23	Ligand-Induced Active Sites: Reactivity of Iodine-Protected Aluminum Superatoms with Methanol. Journal of the American Chemical Society, 2012, 134, 20507-20512.	6.6	46
24	A fundamental analysis of enhanced cross-coupling catalytic activity for palladium clusters on graphene supports. Nanoscale, 2016, 8, 19564-19572.	2.8	46
25	From SiO Molecules to Silicates in Circumstellar Space: Atomic Structures, Growth Patterns, and Optical Signatures of Si_{<i>n</i>}O_{<i>m</i>} Clusters. ACS Nano, 2008, 2, 1729-1737.	7.3	45
26	Cobalt doped rings and cages of ZnO clusters: Motifs for magnetic cluster-assembled materials. Chemical Physics Letters, 2006, 428, 376-380.	1.2	42
27	[Te2As2]2-:Â A Planar Motif with â€œConflictingâ€•Aromaticity. Journal of the American Chemical Society, 2008, 130, 782-783.	6.6	41
28	Edge-Induced Active Sites Enhance the Reactivity of Large Aluminum Cluster Anions with Alcohols. Journal of Physical Chemistry A, 2012, 116, 8085-8091.	1.1	41
29	Silicon Oxide Nanoparticles Reveal the Origin of Silicate Grains in Circumstellar Environments. Nano Letters, 2006, 6, 1190-1195.	4.5	38
30	Donor/Acceptor Concepts for Developing Efficient Suzuki Cross-Coupling Catalysts Using Graphene-Supported Ni, Cu, Fe, Pd, and Bimetallic Pd/Ni Clusters. Journal of Physical Chemistry C, 2018, 122, 25396-25403.	1.5	37
31	Electronic subshell splitting controls the atomic structure of charged and neutral silver clusters. New Journal of Chemistry, 2013, 37, 3928.	1.4	36
32	Strong lowering of ionization energy of metallic clusters by organic ligands without changing shell filling. Nature Communications, 2018, 9, 2357.	5.8	34
33	Synthesis, structure and band gap energy of covalently linked cluster-assembled materials. Dalton Transactions, 2012, 41, 12365.	1.6	33
34	Evolution of the Spin Magnetic Moments and Atomic Valence of Vanadium in VCu_{<i>x</i>}⁺, VAg_{<i>x</i>}⁺, and VAu_{<i>x</i>}⁺ Clusters (<i>x</i> = 3â€“14). Journal of Physical Chemistry A, 2017, 121, 2990-2999.	1.1	31
35	Analogous Reactivity of Pd⁺ and ZrO⁺: Comparing the Reactivity with Small Hydrocarbons. Journal of Physical Chemistry C, 2011, 115, 16797-16802.	1.5	27
36	Carbonyl Bond Cleavage by Complementary Active Sites. Journal of Physical Chemistry C, 2013, 117, 7445-7450.	1.5	25

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37	Boron Substitution in Aluminum Cluster Anions: Magic Clusters and Reactivity with Oxygen. Journal of Physical Chemistry A, 2014, 118, 8485-8492.	1.1	24
38	Effect of Charge and Composition on the Structural Fluxionality and Stability of Nine Atom Tinâˆ’Bismuth Zintl Analogues. Inorganic Chemistry, 2008, 47, 10953-10958.	1.9	22
39	Isolation and Structural Characterization of a Silverâ€“Platinum Nanocluster, Ag₄Pt₂(DMSA)₄. Journal of Physical Chemistry A, 2014, 118, 8314-8319.	1.1	22
40	Transforming Redox Properties of Clusters Using Phosphine Ligands. Journal of Physical Chemistry C, 2019, 123, 8983-8989.	1.5	22
41	Geometry controls the stability of FeSi₁₄. Physical Chemistry Chemical Physics, 2015, 17, 15718-15724.	1.3	21
42	The New Agâ€“S Cluster [Ag₅₀S₁₃(S^tBu)₂₀][CF₃COO]₄ with a Unique hcp Ag₁₄ Kernel and Ag₃₆ Keplerian-Shell-Based Structural Architecture and Its Photoresponsivity. Nano Letters, 2022, 22, 3721-3727.	4.5	21
43	Transforming Ni₉Te₆ from Electron Donor to Acceptor via Ligand Exchange. Journal of Physical Chemistry A, 2016, 120, 6644-6649.	1.1	20
44	Symmetry and magnetism in Ni9Te6 clusters ligated by CO or phosphine ligands. Journal of Chemical Physics, 2017, 146, 024302.	1.2	20
45	Co6Se8(PEt3)6 superatoms as tunable chemical dopants for two-dimensional semiconductors. Npj Computational Materials, 2018, 4, .	3.5	20
46	Production of equal sized atomic clusters by a hot wire. Journal of Aerosol Science, 2009, 40, 423-430.	1.8	19
47	The Zintl ion [As7]2âˆ’: an example of an electron-deficient Asx radical anion. Chemical Communications, 2011, 47, 3126.	2.2	18
48	Cooperative effects in the oxidation of CO by palladium oxide cations. Journal of Chemical Physics, 2011, 135, 234303.	1.2	18
49	The applicability of three-dimensional aromaticity in BiSnnâˆ’ Zintl analogues. Journal of Chemical Physics, 2010, 133, 134302.	1.2	17
50	Electronic structure, stability, and oxidation of boron-magnesium clusters and cluster solids. Journal of Chemical Physics, 2015, 142, 054304.	1.2	17
51	Ionic versus metallic bonding in AlnNam and AlnMgm (m â‰ 3, n + m â‰ 15) clusters. Journal of Chemical Physics, 2017, 146, 224301.	1.2	17
52	Ligand accommodation causes the anti-centrosymmetric structure of Au₁₃Cu₄ clusters with near-infrared emission. Nanoscale, 2020, 12, 14801-14807.	2.8	17
53	On the stability of an unsupported mercuryâ€“mercury bond linking group 15 Zintl clusters. Dalton Transactions, 2012, 41, 5454.	1.6	16
54	Structure investigation of CoxO y + (x=3â€“6, y=3â€“8) clusters by IR vibrational spectroscopy and DFT calculations. European Physical Journal D, 2014, 68, 1.	0.6	16

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55	Effect of N- and P-Type Doping on the Oxygen-Binding Energy and Oxygen Spillover of Supported Palladium Clusters. Journal of Physical Chemistry C, 2014, 118, 20306-20313.	1.5	16
56	Effect of O₂ and CO Exposure on the Photoelectron Spectroscopy of Size-Selected Pd_{<i>n</i>} Clusters Supported on TiO₂(110). Journal of Physical Chemistry C, 2016, 120, 2126-2138.	1.5	15
57	Superatomic molecules with internal electric fields for light harvesting. Nanoscale, 2020, 12, 4736-4742.	2.8	15
58	Metallic and molecular orbital concepts in XMg8 clusters, X = Be-F. Journal of Chemical Physics, 2012, 136, 134311.	1.2	14
59	Making sense of the conflicting magic numbers in WSin clusters. Journal of Chemical Physics, 2015, 143, 074310.	1.2	13
60	Preparation of gas phase naked silver cluster cations outside a mass spectrometer from ligand protected clusters in solution. Nanoscale, 2018, 10, 15714-15722.	2.8	13
61	The Oblate Structure and Unexpected Resistance in Reactivity of Ag₁₅⁺ with O₂. Journal of Physics: Conference Series, 2013, 438, 012002.	0.3	12
62	Reactivity of Silver Clusters Anions with Ethanethiol. Journal of Physical Chemistry A, 2014, 118, 8345-8350.	1.1	12
63	Atom precise platinumâ€"thiol crowns. Nanoscale, 2015, 7, 19448-19452.	2.8	12
64	Formation of Al ⁺ (C ₆ H ₆) ₁₃ : The Origin of Magic Number in Metalâ€"Benzene Clusters Determined by the Nature of the Core. CCS Chemistry, 2019, 1, 571-581.	4.6	12
65	Two-photon above-threshold ionization of magnesium. Physical Review A, 2002, 65, .	1.0	11
66	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.	1.2	11
67	Gas phase analogs of stable sodium-tin Zintl ions: Anion photoelectron spectroscopy and electronic structure. Journal of Chemical Physics, 2011, 134, 224307.	1.2	11
68	The effect of sulfur covalent bonding on the electronic shells of silver clusters. Journal of Chemical Physics, 2013, 139, 164317.	1.2	11
69	CO ligands stabilize metal chalcogenide Co₆Se₈(CO)_n clusters <i>via</i> demagnetization. Physical Chemistry Chemical Physics, 2017, 19, 31940-31948.	1.3	11
70	Intercalation without altercation. Nature Chemistry, 2017, 9, 1151-1152.	6.6	11
71	Electronic and magnetic properties of Fe2Sin (1â€¯â‰¤â€¯nâ€¯â‰¤â€¯12)+/0/â^’ clusters. Chemical Physics Letters, 2018, 706, 113-119.	1.2	11
72	Three-photon above-threshold ionization of magnesium. Physical Review A, 2003, 68, .	1.0	10

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73	Conceptual Basis for Understanding Câ€“C Bond Activation in Ethane by Second Row Transition Metal Carbides. Journal of Physical Chemistry A, 2015, 119, 12855-12861.	1.1	10
74	Complete Ag₄M₂(DMSA)₄ (M = Ni, Pd, Pt, DMSA =) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 707 T Characterization. Journal of Physical Chemistry A, 2017, 121, 5324-5331.	1.1	10
75	The effect of substituted benzene dicarboxylic acid linkers on the optical band gap energy and magnetic coupling in manganese trimer metal organic frameworks. Journal of Materials Chemistry C, 2017, 5, 539-548.	2.7	10
76	Laser synthesized nanoparticle alloys of metals with bulk miscibility gaps. Progress in Natural Science: Materials International, 2018, 28, 456-463.	1.8	10
77	One-Dimensional Silver-Thiolate Cluster-Assembly: Effect of Argentophilic Interactions on Excited-State Dynamics. Journal of Physical Chemistry Letters, 2021, 12, 2154-2159.	2.1	10
78	Thermodynamic stability of polyacrylamide and poly(N,N-dimethyl acrylamide). Polymers for Advanced Technologies, 2007, 18, 978-985.	1.6	9
79	Palladium in the Gap: Cluster Assemblies with Band Edges Localized on Linkers. Journal of Physical Chemistry C, 2012, 116, 10207-10214.	1.5	9
80	Effect of Embedding Platinum Clusters in Alumina on Sintering, Coking, and Activity. Journal of Physical Chemistry C, 2017, 121, 21527-21534.	1.5	9
81	The superatomic state beyond conventional magic numbers: Ligated metal chalcogenide superatoms. Journal of Chemical Physics, 2021, 155, 120901.	1.2	9
82	Stability and electronic properties of isoelectronic heteroatomic analogs of. Chemical Physics Letters, 2011, 505, 92-95.	1.2	8
83	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.	1.0	8
84	Effect of location and filling of d-states on methane activation in single site Fe-based catalysts. Chemical Physics Letters, 2016, 660, 48-54.	1.2	8
85	A ligand-induced homojunction between aluminum-based superatomic clusters. Nanoscale, 2020, 12, 12046-12056.	2.8	8
86	High-Spin Superatom Stabilized by Dual Subshell Filling. Journal of the American Chemical Society, 2022, 144, 5172-5179.	6.6	8
87	Closed-shell to split-shell stability of isovalent clusters. Physical Review B, 2011, 84, .	1.1	7
88	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.	1.1	7
89	Multiple-Valence Aluminum and the Electronic and Geometric Structure of Al_{<i>n</i>}O_{<i>m</i>} Clusters. Journal of Physical Chemistry A, 2019, 123, 5114-5121.	1.1	7
90	[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.	1.5	6

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91	The effect of cluster size on the optical band gap energy of Zn-based metalâ€“organic frameworks. Dalton Transactions, 2015, 44, 13464-13468.	1.6	6
92	Interfacial magnetism in a fused superatomic cluster [Co₆Se₈(PEt₃)₅]₂. Nanoscale, 2021, 13, 15763-15769.	2.8	6
93	A Magnetic Superatomic Dimer with an Intense Internal Electric Dipole Moment. Journal of Physical Chemistry A, 2021, 125, 816-824.	1.1	6
94	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.	0.6	5
95	Stabilization of Catalytic Surfaces through Coreâ€“Shell Structures: Agâ€“Ir/Al₂O₃ Case Study. ACS Catalysis, 2020, 10, 13352-13363.	5.5	4
96	Superatoms. Science and Technology of Atomic, Molecular, Condensed Matter and Biological Systems, 2010, 1, 365-381.	0.6	3
97	Visualization of electron correlation in autoionizing states above the 3p threshold in magnesium. Physical Chemistry Chemical Physics, 2005, 7, 3276.	1.3	1
98	Electronâˆ'Atom Superelastic Scattering in Magnesium at Millielectron Volt Energies. Journal of Physical Chemistry A, 2007, 111, 12487-12494.	1.1	1
99	Grain Formation Modulated by Molecular Hydrogen Evaporation in the Interstellar Medium. Journal of Physical Chemistry A, 2010, 114, 1277-1280.	1.1	1
100	The structure and stability of CrnTem (1â€‰â‰¤â€‰nâ€‰â‰¤â€‰6, 1â€‰â‰¤â€‰mâ€‰â‰¤â€‰8) clusters. Chemical Physics Letters, 2019, 720, 76-82.	1.2	1
101	Electron transport properties of PAl12-based cluster complexes. Nanoscale Advances, 0, , .	2.2	1