

Robert L Whetten

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7103677/publications.pdf>

Version: 2024-02-01

90
papers

15,345
citations

61857

43
h-index

49773

87
g-index

91
all docs

91
docs citations

91
times ranked

9338
citing authors

#	ARTICLE	IF	CITATIONS
1	Isolation of the Au ₁₄₅ (SR) ₆₀ X compound (R = <i>n</i> -butyl, <i>n</i> -pentyl; X) Tj ETQq1 1 0.784314 rgB / icosahedral Au ₁₄₄ (SR) ₆₀ compound. <i>Nanoscale</i> , 2021, 13, 15394-15402.	2.8	3
2	Optical properties of $\{\text{Ag}\}_{29}\{\text{BDT}\}_{12}\{\text{TPP}\}_{4}$ in the VIS and UV and influence of ligand modeling based on real-time electron dynamics. <i>Theoretical Chemistry Accounts</i> , 2021, 140, 1.	0.5	1
3	Crucial Role of Conjugation in Monolayer-Protected Metal Clusters with Aromatic Ligands: Insights from the Archetypal Au ₁₄₄ L ₆₀ Cluster Compounds. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 9262-9268.	2.1	7
4	Robustness of the chiral-icosahedral golden shell I-Au ₆₀ in multi-shell structures. <i>Journal of Chemical Physics</i> , 2021, 155, 204307.	1.2	1
5	The Missing Link: Au ₁₉₁ (SPh-tBu) ₆₆ Janus Nanoparticle with Molecular and Bulk-Metal-like Properties. <i>Journal of the American Chemical Society</i> , 2020, 142, 15799-15814.	6.6	48
6	Robustness of Superatoms and Their Potential as Building Blocks of Materials: Al ₁₃ ⁺ vs B(CN) ₄ ⁺ . <i>Journal of Physical Chemistry C</i> , 2020, 124, 6435-6440.	1.5	7
7	Structural Analysis of Ligand-Protected Smaller Metallic Nanocrystals by Atomic Pair Distribution Function under Precession Electron Diffraction. <i>Journal of Physical Chemistry C</i> , 2019, 123, 19894-19902.	1.5	19
8	Toward Smaller Aqueous-Phase Plasmonic Gold Nanoparticles: High-Stability Thiolate-Protected ~ 14.5 nm Cores. <i>Langmuir</i> , 2019, 35, 10610-10617.	1.6	13
9	New Evidence of the Bidentate Binding Mode in 3-MBA Protected Gold Clusters: Analysis of Aqueous 13 \pm 18 kDa Gold-Thiolate Clusters by HPLC-ESI-MS Reveals Special Compositions Au _n (3-MBA) _p , (<i>n</i> = 48 \pm 67), Tj ETQq1 1 0.784314		
10	Binding of multiple SO ₂ molecules to small gold cluster anions (Au _N ⁻ , Au _N OH ⁻ , <i>N</i> = 1 \pm 8). <i>International Journal of Quantum Chemistry</i> , 2019, 119, e25987.	1.0	4
11	Protein-Like Large Gold Clusters Based on the γ -Aminothiolate DMAET: Precision Thermal and Reaction Control Leading to Selective Formation of Cationic Gold Clusters in the Critical Size Range, <i>n</i> = 130 \pm 144 Gold Atoms. <i>Journal of Physical Chemistry C</i> , 2019, 123, 14871-14879.	1.5	9
12	Base Side of Noble Metal Clusters: Efficient Route to Captamino-Gold, Au _{<i>n</i>} (\hat{S} (CH ₂) ₂) ₂ N(CH ₃) ₂) _{<i>p</i>} , <i>n</i> = 25 \pm 144. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 3307-3311.		7
13	Activating a Silver Lipoate Nanocluster with a Penicillin Backbone Induces a Synergistic Effect against <i>S. aureus</i> Biofilm. <i>ACS Omega</i> , 2019, 4, 21914-21920.	1.6	6
14	Chiral-Icosahedral (<i>I</i>) Symmetry in Ubiquitous Metallic Cluster Compounds (145A,60X): Structure and Bonding Principles. <i>Accounts of Chemical Research</i> , 2019, 52, 34-43.	7.6	62
15	Tetrahedral (<i>T</i>) Closed-Shell Cluster of 29 Silver Atoms & 12 Lipoate Ligands, [Ag ₂₉ (R \hat{L}) ₁₂] ^(3\pm) : Antibacterial and Antifungal Activity. <i>ACS Applied Nano Materials</i> , 2018, 1, 1595-1602.	2.4	28
16	Liquid Chromatography Separation and Mass Spectrometry Detection of Silver-Lipoate Ag ₂₉ (LA) ₁₂ Nanoclusters: Evidence of Isomerism in the Solution Phase. <i>Analytical Chemistry</i> , 2018, 90, 2010-2017.	3.2	29
17	Gold Nanocluster Prospecting via Capillary Liquid Chromatography-Mass Spectrometry: Discovery of Three Quantized Gold Clusters in a Product Mixture of ~ 2 nm Gold Nanoparticles. <i>Industrial & Engineering Chemistry Research</i> , 2018, 57, 5378-5384.	1.8	7
18	Atomically precise Au ₁₄₄ (SR) ₆₀ nanoclusters (R = Et, Pr) are capped by 12 distinct ligand types of 5-fold equivalence and display gigantic diastereotopic effects. <i>Chemical Science</i> , 2018, 9, 8796-8805.	3.7	30

#	ARTICLE	IF	CITATIONS
19	Identifying Electronic Modes by Fourier Transform from $\hat{\tau}$ -Kick Time-Evolution TDDFT Calculations. <i>Journal of Chemical Theory and Computation</i> , 2018, 14, 6417-6426.	2.3	19
20	Synthesis, Mass Spectrometry, and Atomic Structural Analysis of Au ₂₀₀₀ (SR) ₂₉₀ Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2018, 122, 26733-26738.	1.5	20
21	Isolation of a 300 kDa, Au ₁₄₀₀ Gold Compound, the Standard 3.6 nm Capstone to a Series of Plasmonic Nanocrystals Protected by Aliphatic-like Thiolates. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 6825-6832.	2.1	18
22	Chiral symmetry breaking yields the I-Au ₆₀ perfect golden shell of singular rigidity. <i>Nature Communications</i> , 2018, 9, 3352.	5.8	18
23	In Search of the Quantum-Electronic Origin of Color Change: Elucidation of the Subtle Effects of Alloying with Copper on \sim 1.8 nm Gold Nanoclusters. <i>Journal of Physical Chemistry C</i> , 2017, 121, 5753-5760.	1.5	11
24	Ultraviolet Photodissociation of Selected Gold Clusters: Ultraefficient Unstapling and Ligand Stripping of Au ₂₅ (pMBA) ₁₈ and Au ₃₆ (pMBA) ₂₄ . <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 1283-1289.	2.1	29
25	Triethylamine Solution for the Intractability of Aqueous Gold ⁺ Thiolate Cluster Anions: How Ion Pairing Enhances ESI-MS and HPLC of Au _n (pMBA) _p . <i>Journal of Physical Chemistry C</i> , 2017, 121, 10851-10857.	1.5	22
26	Is the largest aqueous gold cluster a superatom complex? Electronic structure & optical response of the structurally determined Au ₁₄₆ (pMBA) ₅₇ . <i>Nanoscale</i> , 2017, 9, 18629-18634.	2.8	9
27	MicroED Structure of Au ₁₄₆ (p-MBA) ₅₇ at Subatomic Resolution Reveals a Twinned FCC Cluster. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 5523-5530.	2.1	100
28	Fast Scanning Electron Diffraction and Electron Holography as Methods to Acquire Structural Information on Au ₁₀₂ (p-MBA) ₄₄ Nanoclusters. <i>Microscopy and Microanalysis</i> , 2016, 22, 528-529.	0.2	1
29	Capillary Liquid Chromatography Mass Spectrometry Analysis of Intact Monolayer-Protected Gold Clusters in Complex Mixtures. <i>Analytical Chemistry</i> , 2016, 88, 5631-5636.	3.2	23
30	Fully Cationized Gold Clusters: Synthesis of Au ₂₅ (SR ⁺) ₁₈ . <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 3718-3722.	2.1	38
31	Selection and Identification of Molecular Gold Clusters at the Nano(gram) Scale: Reversed Phase HPLC ⁺ ESI ⁺ MS of a Mixture of Au-Peth MPCs. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 3199-3205.	2.1	23
32	Hidden Components in Aqueous Au_{144} -Fractionated by PAGE: High-Resolution Orbitrap ESI-MS Identifies the Gold-102 and Higher All-Aromatic Au _p MBA Cluster Compounds. <i>Journal of Physical Chemistry B</i> , 2016, 120, 6430-6438.	1.2	34
33	Analytical Characterization of Size-Dependent Properties of Larger Aqueous Gold Nanoclusters. <i>Journal of Physical Chemistry C</i> , 2016, 120, 8950-8958.	1.5	33
34	Electrum, the Gold ⁺ Silver Alloy, from the Bulk Scale to the Nanoscale: Synthesis, Properties, and Segregation Rules. <i>ACS Nano</i> , 2016, 10, 188-198.	7.3	163
35	Reversible Size Control of Silver Nanoclusters via Ligand-Exchange. <i>Chemistry of Materials</i> , 2015, 27, 4289-4297.	3.2	106
36	Aspheric Solute Ions Modulate Gold Nanoparticle Interactions in an Aqueous Solution: An Optimal Way To Reversibly Concentrate Functionalized Nanoparticles. <i>Journal of Physical Chemistry B</i> , 2015, 119, 15502-15508.	1.2	8

#	ARTICLE	IF	CITATIONS
37	Geometric Quantification of Chirality in Ligand-Protected Metal Clusters. <i>Journal of Physical Chemistry C</i> , 2015, 119, 28666-28678.	1.5	74
38	Optical Spectra of the Special Au ₁₄₄ Gold-Cluster Compounds: Sensitivity to Structure and Symmetry. <i>Journal of Physical Chemistry C</i> , 2015, 119, 11250-11259.	1.5	37
39	ESI-MS Identification of Abundant Copper-Gold Clusters Exhibiting High Plasmonic Character. <i>Journal of Physical Chemistry C</i> , 2015, 119, 10935-10942.	1.5	25
40	Ligand-modulated interactions between charged monolayer-protected Au ₁₄₄ (SR) ₆₀ gold nanoparticles in physiological saline. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 3680-3688.	1.3	17
41	A Unified Framework for Understanding the Structure and Modifications of Atomically Precise Monolayer Protected Gold Clusters. <i>Journal of Physical Chemistry C</i> , 2015, 119, 27768-27785.	1.5	53
42	Synthesis and Structural Characterization of Ferromagnetic Au/Co Nanoparticles. <i>Materials Research Society Symposia Proceedings</i> , 2014, 1708, 43.	0.1	2
43	Collision-Induced Dissociation of Monolayer Protected Clusters Au ₁₄₄ and Au ₁₃₀ in an Electrospray Time-of-Flight Mass Spectrometer. <i>Journal of Physical Chemistry A</i> , 2014, 118, 10679-10687.	1.1	27
44	Interaction between functionalized gold nanoparticles in physiological saline. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 3909.	1.3	18
45	Structural order in ultrathin films of the monolayer protected clusters based upon 4 nm gold nanocrystals: an experimental and theoretical study. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 18098-18104.	1.3	8
46	Optical response of quantum-sized Ag and Au clusters – cage vs. compact structures and the remarkable insensitivity to compression. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 12495-12502.	1.3	17
47	Information on quantum states pervades the visible spectrum of the ubiquitous Au ₁₄₄ (SR) ₆₀ gold nanocluster. <i>Nature Communications</i> , 2014, 5, 3785.	5.8	127
48	Au ₆₇ (SR) ₃₅ Nanomolecules: Characteristic Size-Specific Optical, Electrochemical, Structural Properties and First-Principles Theoretical Analysis. <i>Journal of Physical Chemistry A</i> , 2013, 117, 504-517.	1.1	140
49	Ultrastable silver nanoparticles. <i>Nature</i> , 2013, 501, 399-402.	13.7	1,023
50	Ligand Effects on the Structure and the Electronic Optical Properties of Anionic Au ₂₅ (SR) ₁₈ Clusters. <i>Journal of Physical Chemistry C</i> , 2013, 117, 20867-20875.	1.5	145
51	Structure of the Thiolated Au ₁₃₀ Cluster. <i>Journal of Physical Chemistry A</i> , 2013, 117, 10470-10476.	1.1	64
52	Structure & bonding of the gold-subhalide cluster I-Au ₁₄₄ Cl ₆₀ [z]. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 19191.	1.3	41
53	STEM Electron Diffraction and High-Resolution Images Used in the Determination of the Crystal Structure of the Au ₁₄₄ (SR) ₆₀ Cluster. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 975-981.	2.1	122
54	Vibrational Normal Modes of Small Thiolate-Protected Gold Clusters. <i>Journal of Physical Chemistry C</i> , 2013, 117, 12191-12198.	1.5	59

#	ARTICLE	IF	CITATIONS
55	Structure and composition of Au/Co magneto-plasmonic nanoparticles. MRS Communications, 2013, 3, 177-183.	0.8	25
56	The Superstable 25 kDa Monolayer Protected Silver Nanoparticle: Measurements and Interpretation as an Icosahedral Ag ₁₅₂ (SCH ₂ CH ₂ Ph) ₆₀ Cluster. Nano Letters, 2012, 12, 5861-5866.	4.5	121
57	Ligand symmetry-equivalence on thiolate protected gold nanoclusters determined by NMR spectroscopy. Nanoscale, 2012, 4, 4099.	2.8	72
58	A 58-electron superatom-complex model for the magic phosphine-protected gold clusters (Schmid-gold, Nanogold®) of 1.4-nm dimension. Chemical Science, 2011, 2, 1583.	3.7	44
59	The Al ₅₀ Cp* ₁₂ Cluster - A 138-Electron Closed Shell (L = 6) Superatom. European Journal of Inorganic Chemistry, 2011, 2011, 2649-2652.	1.0	41
60	Structure and Bonding in the Ubiquitous Icosahedral Metallic Gold Cluster Au ₁₄₄ (SR) ₆₀ . Journal of Physical Chemistry C, 2009, 113, 5035-5038.	1.5	393
61	Gold ⁺ Thiolate Complexes Form a Unique <i>c</i> (4 Å ⁻²) Structure on Au(111). Journal of Physical Chemistry C, 2008, 112, 15940-15942.	1.5	125
62	On the Structure of Thiolate-Protected Au ₂₅ . Journal of the American Chemical Society, 2008, 130, 3756-3757.	6.6	682
63	A unified view of ligand-protected gold clusters as superatom complexes. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 9157-9162.	3.3	1,472
64	Nano-Golden Order. Science, 2007, 318, 407-408.	6.0	174
65	The colours of nanometric gold. European Physical Journal D, 2007, 43, 91-95.	0.6	117
66	Adsorption of carbon monoxide on smaller gold-cluster anions in an atmospheric-pressure flow-reactor: temperature and humidity dependence. Physical Chemistry Chemical Physics, 2005, 7, 930.	1.3	22
67	Efficient Low-Temperature Oxidation of Carbon-Cluster Anions by SO ₂ . Journal of Physical Chemistry A, 2005, 109, 6218-6222.	1.1	5
68	Oxygen Adsorption on Hydrated Gold Cluster Anions: Experiment and Theory. Journal of the American Chemical Society, 2003, 125, 8408-8414.	6.6	100
69	Coadsorption of CO and O ₂ on Selected Gold Clusters: Evidence for Efficient Room-Temperature CO ₂ Generation. Journal of the American Chemical Society, 2002, 124, 7499-7505.	6.6	444
70	Visible to Infrared Luminescence from a 28-Atom Gold Cluster. Journal of Physical Chemistry B, 2002, 106, 3410-3415.	1.2	538
71	Properties of a Ubiquitous 29 kDa Au:SR Cluster Compound. Journal of Physical Chemistry B, 2001, 105, 8785-8796.	1.2	208
72	Carbon Monoxide Adsorption on Selected Gold Clusters: Highly Size-Dependent Activity and Saturation Compositions. Journal of Physical Chemistry B, 2000, 104, 10964-10968.	1.2	136

#	ARTICLE	IF	CITATIONS
73	Near-Infrared Luminescence from Small Gold Nanocrystals. <i>Journal of Physical Chemistry B</i> , 2000, 104, 6983-6986.	1.2	269
74	Giant Gold-Glutathione Cluster Compounds: Intense Optical Activity in Metal-Based Transitions. <i>Journal of Physical Chemistry B</i> , 2000, 104, 2630-2641.	1.2	699
75	Crystal Structures of Molecular Gold Nanocrystal Arrays. <i>Accounts of Chemical Research</i> , 1999, 32, 397-406.	7.6	570
76	Controlled Etching of Au:SR Cluster Compounds. <i>Journal of Physical Chemistry B</i> , 1999, 103, 9394-9396.	1.2	237
77	The Monolayer Thickness Dependence of Quantized Double-Layer Capacitances of Monolayer-Protected Gold Clusters. <i>Analytical Chemistry</i> , 1999, 71, 3703-3711.	3.2	224
78	Greengold, a giant cluster compound of unusual electronic structure. , 1999, , 647-651.		3
79	Isolation and Selected Properties of a 10.4 kDa Gold:Glutathione Cluster Compound. <i>Journal of Physical Chemistry B</i> , 1998, 102, 10643-10646.	1.2	650
80	Gold Nanoelectrodes of Varied Size: Transition to Molecule-Like Charging. <i>Science</i> , 1998, 280, 2098-2101.	6.0	1,018
81	Giant gold-cluster compounds' gaps in optical and charging spectra, and an electronic origin of abundance anomalies. , 1998, , .		0
82	28 kDa Alkanethiolate-Protected Au Clusters Give Analogous Solution Electrochemistry and STM Coulomb Staircases. <i>Journal of the American Chemical Society</i> , 1997, 119, 9279-9280.	6.6	300
83	Isolation of Smaller Nanocrystal Au Molecules: Robust Quantum Effects in Optical Spectra. <i>Journal of Physical Chemistry B</i> , 1997, 101, 7885-7891.	1.2	570
84	Optical Absorption Spectra of Nanocrystal Gold Molecules. <i>Journal of Physical Chemistry B</i> , 1997, 101, 3706-3712.	1.2	1,277
85	Three-Dimensional Hexagonal Close-Packed Superlattices of Passivated Ag Nanocrystals. <i>Microscopy and Microanalysis</i> , 1997, 3, 431-432.	0.2	0
86	Structural evolution of larger gold clusters. <i>Zeitschrift für Physik D-Atoms Molecules and Clusters</i> , 1997, 40, 503-508.	1.0	140
87	Three-dimensional hexagonal close-packed superlattice of passivated Ag nanocrystals. <i>Advanced Materials</i> , 1997, 9, 817-822.	11.1	181
88	Reversible Manipulations of Room Temperature Mechanical and Quantum Transport Properties in Nanowire Junctions. <i>Physical Review Letters</i> , 1996, 77, 1362-1365.	2.9	219
89	Nanocrystal gold molecules. <i>Advanced Materials</i> , 1996, 8, 428-433.	11.1	1,179
90	Nanocrystal Gold Molecules. , 1996, , 475-490.		8