Nathaniel L Rosi

List of Publications by Year
in descending order

116	36,069	16411 64	19136 118
papers	citations	h-index	g-index

123	123	123	29016
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Systematic Design of Pore Size and Functionality in Isoreticular MOFs and Their Application in Methane Storage. Science, 2002, 295, 469-472.	6.0	7,254
2	Hydrogen Storage in Microporous Metal-Organic Frameworks. Science, 2003, 300, 1127-1129.	6.0	4,435
3	Nanostructures in Biodiagnostics. Chemical Reviews, 2005, 105, 1547-1562.	23.0	4,434
4	Rod Packings and Metalâ"Organic Frameworks Constructed from Rod-Shaped Secondary Building Units. Journal of the American Chemical Society, 2005, 127, 1504-1518.	6.6	2,186
5	Oligonucleotide-Modified Gold Nanoparticles for Intracellular Gene Regulation. Science, 2006, 312, 1027-1030.	6.0	1,838
6	Cation-Triggered Drug Release from a Porous Zincâ"Adeninate Metalâ"Organic Framework. Journal of the American Chemical Society, 2009, 131, 8376-8377.	6.6	966
7	High and Selective CO₂ Uptake in a Cobalt Adeninate Metalâ"Organic Framework Exhibiting Pyrimidine- and Amino-Decorated Pores. Journal of the American Chemical Society, 2010, 132, 38-39.	6.6	889
8	Zinc-Adeninate Metalâ"Organic Framework for Aqueous Encapsulation and Sensitization of Near-infrared and Visible Emitting Lanthanide Cations. Journal of the American Chemical Society, 2011, 133, 1220-1223.	6.6	589
9	Tuning MOF CO₂ Adsorption Properties via Cation Exchange. Journal of the American Chemical Society, 2010, 132, 5578-5579.	6.6	548
10	Chiral Structure of Thiolate-Protected 28-Gold-Atom Nanocluster Determined by X-ray Crystallography. Journal of the American Chemical Society, 2013, 135, 10011-10013.	6.6	530
11	Total Structure and Electronic Properties of the Gold Nanocrystal Au₃₆(SR)₂₄. Angewandte Chemie - International Edition, 2012, 51, 13114-13118.	7.2	519
12	Oligonucleotide Loading Determines Cellular Uptake of DNA-Modified Gold Nanoparticles. Nano Letters, 2007, 7, 3818-3821.	4.5	517
13	Near-Infrared Luminescent Lanthanide MOF Barcodes. Journal of the American Chemical Society, 2009, 131, 18069-18071.	6.6	448
14	Peptideâ€Based Methods for the Preparation of Nanostructured Inorganic Materials. Angewandte Chemie - International Edition, 2010, 49, 1924-1942.	7.2	428
15	Metalâ€"biomolecule frameworks (MBioFs). Chemical Communications, 2011, 47, 7287.	2.2	371
16	Metal-adeninate vertices for the construction of an exceptionally porous metal-organic framework. Nature Communications, 2012, 3, 604.	5.8	356
17	A New Peptide-Based Method for the Design and Synthesis of Nanoparticle Superstructures: Construction of Highly Ordered Gold Nanoparticle Double Helices. Journal of the American Chemical Society, 2008, 130, 13555-13557.	6.6	340
18	Asymmetric Functionalization of Gold Nanoparticles with Oligonucleotides. Journal of the American Chemical Society, 2006, 128, 9286-9287.	6.6	326

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19	Nonsuperatomic [Au₂₃(SC₆H₁₁)₁₆]^{â^'} Nanocluster Featuring Bipyramidal Au₁₅ Kernel and Trimeric Au₃(SR)₄ Motif. Journal of the American Chemical Society, 2013, 135, 18264-18267.	6.6	321
20	Stepwise Ligand Exchange for the Preparation of a Family of Mesoporous MOFs. Journal of the American Chemical Society, 2013, 135, 11688-11691.	6.6	310
21	Infinite Secondary Building Units and Forbidden Catenation in Metal-Organic Frameworks The National Science Foundation support to M.O'K. (DMR- 9804817) and O.M.Y. (DMR-9980469) is gratefully acknowledged.. Angewandte Chemie - International Edition, 2002, 41, 284.	7.2	293
22	Goldâ€"Thiolate Ring as a Protecting Motif in the Au₂₀(SR)₁₆ Nanocluster and Implications. Journal of the American Chemical Society, 2014, 136, 11922-11925.	6.6	287
23	Fabrication of MMMs with improved gas separation properties using externally-functionalized MOF particles. Journal of Materials Chemistry A, 2015, 3, 5014-5022.	5.2	283
24	Advances in the chemistry of metalâ€"organic frameworks. CrystEngComm, 2002, 4, 401-404.	1.3	271
25	Design and Preparation of a Coreâ€"Shell Metalâ€"Organic Framework for Selective CO₂ Capture. Journal of the American Chemical Society, 2013, 135, 9984-9987.	6.6	271
26	Lanthanide near infrared imaging in living cells with Yb ³⁺ nano metal organic frameworks. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17199-17204.	3.3	248
27	Isomerism in Au₂₈(SR)₂₀ Nanocluster and Stable Structures. Journal of the American Chemical Society, 2016, 138, 1482-1485.	6.6	246
28	Crystal structure and electronic properties of a thiolate-protected Au24 nanocluster. Nanoscale, 2014, 6, 6458.	2.8	237
29	Crystal Structure of Barrel-Shaped Chiral Au₁₃₀(p-MBT)₅₀ Nanocluster. Journal of the American Chemical Society, 2015, 137, 10076-10079.	6.6	232
30	Tailorable Plasmonic Circular Dichroism Properties of Helical Nanoparticle Superstructures. Nano Letters, 2013, 13, 3256-3261.	4.5	221
31	Gold tetrahedra coil up: KekulÃ©-like and double helical superstructures. Science Advances, 2015, 1, e1500425.	4.7	216
32	Structure Determination of [Au₁₈(SR)₁₄]. Angewandte Chemie - International Edition, 2015, 54, 3140-3144.	7.2	213
33	Total Structure and Optical Properties of a Phosphine/Thiolate-Protected Au₂₄ Nanocluster. Journal of the American Chemical Society, 2012, 134, 20286-20289.	6.6	201
34	Systematic modulation and enhancement of CO2â€‰:â€‰N2 selectivity and water stability in an isoreticular series of bio-MOF-11 analogues. Chemical Science, 2013, 4, 1746.	3.7	182
35	Tailoring the Electronic and Catalytic Properties of Au₂₅ Nanoclusters via Ligand Engineering. ACS Nano, 2016, 10, 7998-8005.	7.3	175
36	Tri-icosahedral Gold Nanocluster [Au₃₇(PPh₃)₁₀(SC₂H₄Ph)₁₀X₂]⁺ Linear Assembly of Icosahedral Building Blocks. ACS Nano, 2015, 9, 8530-8536.	7.3	167

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37	Controlling the Atomic Structure of Au₃₀ Nanoclusters by a Ligandâ€Based Strategy. Angewandte Chemie - International Edition, 2016, 55, 6694-6697.	7.2	164
38	Tailoring the Structure of 58-Electron Gold Nanoclusters: Au₁₀₃S₂(S-Nap)₄₁ and Its Implications. Journal of the American Chemical Society, 2017, 139, 9994-10001.	6.6	159
39	Synthesis, Structure, Assembly, and Modulation of the CO₂ Adsorption Properties of a Zinc-Adeninate Macrocycle. Journal of the American Chemical Society, 2009, 131, 8401-8403.	6.6	156
40	Silicon Nanoparticles with Surface Nitrogen: 90% Quantum Yield with Narrow Luminescence Bandwidth and the Ligand Structure Based Energy Law. ACS Nano, 2016, 10, 8385-8393.	7.3	154
41	Control of Nanoparticle Assembly by Using DNA-Modified Diatom Templates. Angewandte Chemie - International Edition, 2004, 43, 5500-5503.	7.2	153
42	Luminescence â€œTurn-Onâ€•Detection of Gossypol Using Ln³⁺-Based Metalâ€“Organic Frameworks and Ln³⁺ Salts. Journal of the American Chemical Society, 2020, 142, 2897-2904.	6.6	151
43	Atomic Structure of Self-Assembled Monolayer of Thiolates on a Tetragonal Au₉₂ Nanocrystal. Journal of the American Chemical Society, 2016, 138, 8710-8713.	6.6	150
44	Observation of Bodyâ€Centered Cubic Gold Nanocluster. Angewandte Chemie - International Edition, 2015, 54, 9826-9829.	7.2	147
45	Peptide-Directed Assembly of Single-Helical Gold Nanoparticle Superstructures Exhibiting Intense Chiroptical Activity. Journal of the American Chemical Society, 2016, 138, 13655-13663.	6.6	141
46	Near-infrared emitting ytterbium metalâ€“organic frameworks with tunable excitation properties. Chemical Communications, 2009, , 4506.	2.2	135
47	Strain-Promoted â€œClickâ€•Modification of a Mesoporous Metalâ€“Organic Framework. Journal of the American Chemical Society, 2012, 134, 18886-18888.	6.6	125
48	Preparation of Unique 1-D Nanoparticle Superstructures and Tailoring their Structural Features. Journal of the American Chemical Society, 2010, 132, 6902-6903.	6.6	124
49	Molecular â€œsurgeryâ€•on a 23-gold-atom nanoparticle. Science Advances, 2017, 3, e1603193.	4.7	121
50	Establishing Porosity Gradients within Metalâ€“Organic Frameworks Using Partial Postsynthetic Ligand Exchange. Journal of the American Chemical Society, 2016, 138, 12045-12048.	6.6	112
51	Rare Earth pcu Metalâ€“Organic Framework Platform Based on RE₄(Î¼₃-OH)₄(COO)₆²⁺ Clusters: Rational Design, Directed Synthesis, and Deliberate Tuning of Excitation Wavelengths. Journal of the American Chemical Society, 2017, 139, 9333-9340.	6.6	102
52	Cyclopentanethiolato-Protected Au₃₆(SC₅H₉)₂₄ Nanocluster: Crystal Structure and Implications for the Steric and Electronic Effects of Ligand. Journal of Physical Chemistry A, 2014, 118, 8264-8269.	1.1	101
53	Alumina-supported cobaltâ€“adeninate MOF membranes for CO₂/CH₄ separation. Journal of Materials Chemistry A, 2014, 2, 1239-1241.	5.2	96
54	Orthogonal Ternary Functionalization of a Mesoporous Metalâ€“Organic Framework via Sequential Postsynthetic Ligand Exchange. Journal of the American Chemical Society, 2015, 137, 10508-10511.	6.6	96

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55	Designing Open Metal Sites in Metalâ€“Organic Frameworks for Paraffin/Olefin Separations. Journal of the American Chemical Society, 2019, 141, 13003-13007.	6.6	93
56	Multivariate Stratified Metalâ€“Organic Frameworks: Diversification Using Domain Building Blocks. Journal of the American Chemical Society, 2019, 141, 2161-2168.	6.6	91
57	Expeditious Synthesis and Assembly of Sub-100 nm Hollow Spherical Gold Nanoparticle Superstructures. Journal of the American Chemical Society, 2010, 132, 14033-14035.	6.6	88
58	Reconstructing the Surface of Gold Nanoclusters by Cadmium Doping. Journal of the American Chemical Society, 2017, 139, 17779-17782.	6.6	84
59	Total Structure Determination of Au₁₆(S-Adm)₁₂ and Cd₁Au₁₄(StBu)₁₂ and Implications for the Structure of Au₁₅(SR)₁₃. Journal of the American Chemical Society, 2018, 140, 10988-10994.	6.6	81
60	Programmable Topology in New Families of Heterobimetallic Metalâ€“Organic Frameworks. Journal of the American Chemical Society, 2018, 140, 6194-6198.	6.6	78
61	Shuttling single metal atom into and out of a metal nanoparticle. Nature Communications, 2017, 8, 848.	5.8	77
62	Modulating the hierarchicalÂfibrous assembly of Au nanoparticles with atomic precision. Nature Communications, 2018, 9, 3871.	5.8	77
63	Locked Nucleic Acidâ€“Nanoparticle Conjugates. ChemBioChem, 2007, 8, 1230-1232.	1.3	76
64	Construction of Chiral, Helical Nanoparticle Superstructures: Progress and Prospects. Advanced Materials, 2020, 32, e1905975.	11.1	69
65	A Correlated Series of Au/Ag Nanoclusters Revealing the Evolutionary Patterns of Asymmetric Ag Doping. Journal of the American Chemical Society, 2018, 140, 14235-14243.	6.6	63
66	Systematic Adjustment of Pitch and Particle Dimensions within a Family of Chiral Plasmonic Gold Nanoparticle Single Helices. Journal of the American Chemical Society, 2017, 139, 15043-15048.	6.6	62
67	Breast Cancer Targeting of a Drug Delivery System through Postsynthetic Modification of Curcumin@N₃-bio-MOF-100 via Click Chemistry. Inorganic Chemistry, 2021, 60, 11739-11744.	1.9	57
68	Peptideâ€Directed Synthesis and Assembly of Hollow Spherical CoPt Nanoparticle Superstructures. Angewandte Chemie - International Edition, 2013, 52, 3993-3995.	7.2	56
69	Structure Determination of [Au₁₈(SR)₁₄]. Angewandte Chemie, 2015, 127, 3183-3187.	1.6	56
70	Near infrared excitation and emission in rare earth MOFs via encapsulation of organic dyes. Chemical Science, 2018, 9, 8099-8102.	3.7	53
71	Ship-in-a-Bottle Preparation of Long Wavelength Molecular Antennae in Lanthanide Metalâ€“Organic Frameworks for Biological Imaging. Journal of the American Chemical Society, 2020, 142, 8776-8781.	6.6	50
72	Optically and Chemically Encoded Nanoparticle Materials for DNA and Protein Detection. MRS Bulletin, 2005, 30, 376-380.	1.7	46

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73	Screening and evaluating aminated cationic functional moieties for potential CO2 capture applications using an anionic MOF scaffold. Chemical Communications, 2013, 49, 11385.	2.2	46
74	Oxidation-Induced Transformation of Eight-Electron Gold Nanoclusters: [Au₂₃(SR)₁₆]^{â^'} to [Au₂₈(SR)₂₀]⁰. Journal of Physical Chemistry Letters, 2017, 8, 866-870.	2.1	45
75	Controlling Ag-doping in [Ag_xAu_{25â^'x}(SC₆H₁₁)₁₈]^{â^'}nanoclusters: cryogenic optical, electronic and electrocatalytic properties. Nanoscale, 2017, 9, 19183-19190.	2.8	43
76	Preparation of 1-D nanoparticle superstructures with tailorable thicknesses using gold-binding peptide conjugates. Chemical Communications, 2011, 47, 185-187.	2.2	40
77	Sizeâ€Controlled Peptideâ€Directed Synthesis of Hollow Spherical Gold Nanoparticle Superstructures. Small, 2011, 7, 1939-1942.	5.2	40
78	Controlling the Atomic Structure of Au₃₀ Nanoclusters by a Ligandâ€Based Strategy. Angewandte Chemie, 2016, 128, 6806-6809.	1.6	38
79	Atom-by-Atom Evolution of the Same Ligand-Protected Au₂₁, Au₂₂, Au₂₂Cd₁, and Au₂₄ Nanocluster Series. Journal of the American Chemical Society, 2020, 142, 20426-20433.	6.6	36
80	Adjusting the Metrics of 1-D Helical Gold Nanoparticle Superstructures Using Multivalent Peptide Conjugates. Langmuir, 2015, 31, 9492-9501.	1.6	34
81	Growth of ZIF-8 on molecularly ordered 2-methylimidazole/single-walled carbon nanotubes to form highly porous, electrically conductive composites. Chemical Science, 2019, 10, 737-742.	3.7	34
82	Design, Synthesis, and Characterization of Metalâ€“Organic Frameworks for Enhanced Sorption of Chemical Warfare Agent Simulants. Journal of Physical Chemistry C, 2019, 123, 19748-19758.	1.5	33
83	Au_{130â^'x}Ag_x Nanoclusters with Nonâ€Metallicity: A Drum of Silverâ€Rich Sites Enclosed in a Marksâ€Decahedral Cage of Goldâ€Rich Sites. Angewandte Chemie - International Edition, 2019, 58, 18798-18802.	7.2	32
84	Single-ligand exchange on an Auâ€“Cu bimetal nanocluster and mechanism. Nanoscale, 2018, 10, 12093-12099.	2.8	30
85	Peptide Conjugates for Directing the Morphology and Assembly of 1D Nanoparticle Superstructures. Chemistry - A European Journal, 2014, 20, 941-945.	1.7	29
86	Tuning the Structure and Chiroptical Properties of Gold Nanoparticle Single Helices via Peptide Sequence Variation. Journal of the American Chemical Society, 2019, 141, 15710-15716.	6.6	29
87	Hollow spherical gold nanoparticle superstructures with tunable diameters and visible to near-infrared extinction. Nanoscale, 2014, 6, 12328-12332.	2.8	27
88	Mixed Matrix Membranes from a Microporous Polymer Blend and Nanosized Metalâ€“Organic Frameworks with Exceptional CO₂/N₂ Separation Performance. , 2020, 2, 821-828.		27
89	Modeling of Diffusion of Acetone in UiO-66. Journal of Physical Chemistry C, 2020, 124, 28469-28478.	1.5	23
90	Doping Effect on the Magnetism of Thiolate-Capped 25-Atom Alloy Nanoclusters. Chemistry of Materials, 2020, 32, 9238-9244.	3.2	22

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91	Postsynthetic Modification of Metalâ€“Organic Frameworks. Inorganic Chemistry, 2021, 60, 11703-11705.	1.9	22
92	Polyphosphazene polymer development for mixed matrix membranes using SIFSIX-Cu-2i as performance enhancement filler particles. Journal of Membrane Science, 2017, 535, 103-112.	4.1	19
93	All-Atom Molecular Dynamics Simulations of Peptide Amphiphile Assemblies That Spontaneously Form Twisted and Helical Ribbon Structures. Journal of Physical Chemistry Letters, 2017, 8, 2170-2174.	2.1	18
94	H₂/CO₂ separations in multicomponent metal-adeninate MOFs with multiple chemically distinct pore environments. Chemical Science, 2020, 11, 12807-12815.	3.7	18
95	Nanostructures in biodefense and molecular diagnostics. Expert Review of Molecular Diagnostics, 2004, 4, 749-751.	1.5	17
96	Interplay between Intrinsic Thermal Stability and Expansion Properties of Functionalized UiO-67 Metalâ€“Organic Frameworks. Chemistry of Materials, 2021, 33, 910-920.	3.2	17
97	Size Discrimination of Carbohydrates via Conductive Carbon Nanotube@Metal Organic Framework Composites. Journal of the American Chemical Society, 2021, 143, 8022-8033.	6.6	16
98	Au_{130â^’x}Ag_x Nanoclusters with Nonâ€Metallicity: A Drum of Silverâ€Rich Sites Enclosed in a Marksâ€Decahedral Cage of Goldâ€Rich Sites. Angewandte Chemie, 2019, 131, 18974-18978.	1.6	15
99	Leveraging Peptide Sequence Modification to Promote Assembly of Chiral Helical Gold Nanoparticle Superstructures. Biochemistry, 2021, 60, 1044-1049.	1.2	14
100	Effect of countercation on the water stability of an anionic metalâ€“organic framework. CrystEngComm, 2017, 19, 5417-5421.	1.3	13
101	Fundamental Insights into the Reactivity and Utilization of Open Metal Sites in Cu(I)-MFU-4l. Organometallics, 2019, 38, 3453-3459.	1.1	12
102	Ligand Exchange for Controlling the Surface Chemistry and Properties of Nanoparticle Superstructures. ChemNanoMat, 2017, 3, 745-749.	1.5	11
103	Deliberate Introduction of Particle Anisotropy in Helical Gold Nanoparticle Superstructures. Particle and Particle Systems Characterization, 2019, 36, 1800504.	1.2	9
104	Heteroatom Tracing Reveals the 30-Atom Auâ€“Ag Bimetallic Nanocluster as a Dimeric Structure. Journal of Physical Chemistry Letters, 2020, 11, 7307-7312.	2.1	9
105	Tuning the Lewis acidity of metalâ€“organic frameworks for enhanced catalysis. Dalton Transactions, 2021, 50, 3116-3120.	1.6	9
106	Metalâ€“Organic Frameworks on Palladium Nanoparticleâ€“Functionalized Carbon Nanotubes for Monitoring Hydrogen Storage. ACS Applied Nano Materials, 2022, 5, 13779-13786.	2.4	9
107	Loading and triggered release of cargo from hollow spherical gold nanoparticle superstructures. RSC Advances, 2015, 5, 76291-76295.	1.7	8
108	Ternary gradient metalâ€“organic frameworks. Faraday Discussions, 2017, 201, 163-174.	1.6	8

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109	Triblock peptideâ€“oligonucleotide chimeras (POCs): programmable biomolecules for the assembly of morphologically tunable and responsive hybrid materials. Chemical Communications, 2017, 53, 12221-12224.	2.2	8
110	One Approach for Two: Toward the Creation of Near-Infrared Imaging Agents and Rapid Screening of Lanthanide(III) Ion Sensitizers Using Polystyrene Nanobeads. ACS Applied Bio Materials, 2019, 2, 1667-1675.	2.3	8
111	Heterogeneous Growth of UiO-66-NH₂ on Oxidized Single-Walled Carbon Nanotubes to Form â€œBeads-on-a-Stringâ€•Composites. ACS Applied Materials & Interfaces, 2021, 13, 15482-15489.	4.0	7
112	Gold Superstructures: Size-Controlled Peptide-Directed Synthesis of Hollow Spherical Gold Nanoparticle Superstructures (Small 14/2011). Small, 2011, 7, 1938-1938.	5.2	6
113	Identifying UiOâ€67 Metalâ€Organic Framework Defects and Binding Sites through Ammonia Adsorption. ChemSusChem, 2022, 15, .	3.6	6
114	The Emergence of Compositional Complexity and Anisotropy in Metal-Organic Frameworks. Chemical Research in Chinese Universities, 2021, 37, 187-188.	1.3	3
115	MOFs Constructed from Biomolecular Building Blocks. , 2021, , 291-320.		2
116	Peptide-based Methods for the Assembly of Plasmonic Nanostructures. , 2022, , 93-126.		0