

Nathaniel L Rosi

List of Publications by Year in descending order

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116
papers

36,069
citations

15503

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123
times ranked

29016
citing authors

#	ARTICLE	IF	CITATIONS
1	Systematic Design of Pore Size and Functionality in Isoreticular MOFs and Their Application in Methane Storage. <i>Science</i> , 2002, 295, 469-472.	12.6	7,254
2	Hydrogen Storage in Microporous Metal-Organic Frameworks. <i>Science</i> , 2003, 300, 1127-1129.	12.6	4,435
3	Nanostructures in Biodiagnostics. <i>Chemical Reviews</i> , 2005, 105, 1547-1562.	47.7	4,434
4	Rod Packings and Metal-Organic Frameworks Constructed from Rod-Shaped Secondary Building Units. <i>Journal of the American Chemical Society</i> , 2005, 127, 1504-1518.	13.7	2,186
5	Oligonucleotide-Modified Gold Nanoparticles for Intracellular Gene Regulation. <i>Science</i> , 2006, 312, 1027-1030.	12.6	1,838
6	Cation-Triggered Drug Release from a Porous Zinc-Adeninate Metal-Organic Framework. <i>Journal of the American Chemical Society</i> , 2009, 131, 8376-8377.	13.7	966
7	High and Selective CO ₂ Uptake in a Cobalt Adeninate Metal-Organic Framework Exhibiting Pyrimidine- and Amino-Decorated Pores. <i>Journal of the American Chemical Society</i> , 2010, 132, 38-39.	13.7	889
8	Zinc-Adeninate Metal-Organic Framework for Aqueous Encapsulation and Sensitization of Near-infrared and Visible Emitting Lanthanide Cations. <i>Journal of the American Chemical Society</i> , 2011, 133, 1220-1223.	13.7	589
9	Tuning MOF CO ₂ Adsorption Properties via Cation Exchange. <i>Journal of the American Chemical Society</i> , 2010, 132, 5578-5579.	13.7	548
10	Chiral Structure of Thiolate-Protected 28-Gold-Atom Nanocluster Determined by X-ray Crystallography. <i>Journal of the American Chemical Society</i> , 2013, 135, 10011-10013.	13.7	530
11	Total Structure and Electronic Properties of the Gold Nanocrystal Au ₃₆ (SR) ₂₄ . <i>Angewandte Chemie - International Edition</i> , 2012, 51, 13114-13118.	13.8	519
12	Oligonucleotide Loading Determines Cellular Uptake of DNA-Modified Gold Nanoparticles. <i>Nano Letters</i> , 2007, 7, 3818-3821.	9.1	517
13	Near-Infrared Luminescent Lanthanide MOF Barcodes. <i>Journal of the American Chemical Society</i> , 2009, 131, 18069-18071.	13.7	448
14	Peptide-Based Methods for the Preparation of Nanostructured Inorganic Materials. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 1924-1942.	13.8	428
15	Metal-biomolecule frameworks (MBioFs). <i>Chemical Communications</i> , 2011, 47, 7287.	4.1	371
16	Metal-adeninate vertices for the construction of an exceptionally porous metal-organic framework. <i>Nature Communications</i> , 2012, 3, 604.	12.8	356
17	A New Peptide-Based Method for the Design and Synthesis of Nanoparticle Superstructures: Construction of Highly Ordered Gold Nanoparticle Double Helices. <i>Journal of the American Chemical Society</i> , 2008, 130, 13555-13557.	13.7	340
18	Asymmetric Functionalization of Gold Nanoparticles with Oligonucleotides. <i>Journal of the American Chemical Society</i> , 2006, 128, 9286-9287.	13.7	326

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19	Nonsuperatomic [Au ₂₃ (SC ₆ H ₁₁) ₁₆] ⁺ Nanocluster Featuring Bipyramidal Au ₁₅ Kernel and Trimeric Au ₃ (SR) ₄ Motif. Journal of the American Chemical Society, 2013, 135, 18264-18267.	13.7	321
20	Stepwise Ligand Exchange for the Preparation of a Family of Mesoporous MOFs. Journal of the American Chemical Society, 2013, 135, 11688-11691.	13.7	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.	13.8	293
22	Gold-Thiolate Ring as a Protecting Motif in the Au ₂₀ (SR) ₁₆ Nanocluster and Implications. Journal of the American Chemical Society, 2014, 136, 11922-11925.	13.7	287
23	Fabrication of MMMs with improved gas separation properties using externally-functionalized MOF particles. Journal of Materials Chemistry A, 2015, 3, 5014-5022.	10.3	283
24	Advances in the chemistry of metal-organic frameworks. CrystEngComm, 2002, 4, 401-404.	2.6	271
25	Design and Preparation of a Core-Shell Metal-Organic Framework for Selective CO ₂ Capture. Journal of the American Chemical Society, 2013, 135, 9984-9987.	13.7	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.	7.1	248
27	Isomerism in Au ₂₈ (SR) ₂₀ Nanocluster and Stable Structures. Journal of the American Chemical Society, 2016, 138, 1482-1485.	13.7	246
28	Crystal structure and electronic properties of a thiolate-protected Au ₂₄ nanocluster. Nanoscale, 2014, 6, 6458.	5.6	237
29	Crystal Structure of Barrel-Shaped Chiral Au ₁₃₀ (p-MBT) ₅₀ Nanocluster. Journal of the American Chemical Society, 2015, 137, 10076-10079.	13.7	232
30	Tailorable Plasmonic Circular Dichroism Properties of Helical Nanoparticle Superstructures. Nano Letters, 2013, 13, 3256-3261.	9.1	221
31	Gold tetrahedra coil up: Kekulé-like and double helical superstructures. Science Advances, 2015, 1, e1500425.	10.3	216
32	Structure Determination of [Au ₁₈ (SR) ₁₄]. Angewandte Chemie - International Edition, 2015, 54, 3140-3144.	13.8	213
33	Total Structure and Optical Properties of a Phosphine/Thiolate-Protected Au ₂₄ Nanocluster. Journal of the American Chemical Society, 2012, 134, 20286-20289.	13.7	201
34	Systematic modulation and enhancement of CO ₂ :N ₂ selectivity and water stability in an isorecticular series of bio-MOF-11 analogues. Chemical Science, 2013, 4, 1746.	7.4	182
35	Tailoring the Electronic and Catalytic Properties of Au ₂₅ Nanoclusters via Ligand Engineering. ACS Nano, 2016, 10, 7998-8005.	14.6	175
36	Tri-icosahedral Gold Nanocluster [Au ₃₇ (PPh ₃) ₃] ₁₀ (SC ₂ H ₄ Ph) ₁₀ X ₁₂] ⁺ Linear Assembly of Icosahedral Building Blocks. ACS Nano, 2015, 9, 8530-8536.	14.6	165

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37	Controlling the Atomic Structure of Au ₃₀ Nanoclusters by a Ligand-Based Strategy. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 6694-6697.	13.8	164
38	Tailoring the Structure of 58-Electron Gold Nanoclusters: Au ₁₀₃ S ₂ (S-Nap) ₄₁ and Its Implications. <i>Journal of the American Chemical Society</i> , 2017, 139, 9994-10001.	13.7	159
39	Synthesis, Structure, Assembly, and Modulation of the CO ₂ Adsorption Properties of a Zinc-Adeninate Macrocyclic. <i>Journal of the American Chemical Society</i> , 2009, 131, 8401-8403.	13.7	156
40	Silicon Nanoparticles with Surface Nitrogen: 90% Quantum Yield with Narrow Luminescence Bandwidth and the Ligand Structure Based Energy Law. <i>ACS Nano</i> , 2016, 10, 8385-8393.	14.6	154
41	Control of Nanoparticle Assembly by Using DNA-Modified Diatom Templates. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 5500-5503.	13.8	153
42	Luminescence Turn-On Detection of Gossypol Using Ln ³⁺ -Based Metal-Organic Frameworks and Ln ³⁺ Salts. <i>Journal of the American Chemical Society</i> , 2020, 142, 2897-2904.	13.7	151
43	Atomic Structure of Self-Assembled Monolayer of Thiolates on a Tetragonal Au ₉₂ Nanocrystal. <i>Journal of the American Chemical Society</i> , 2016, 138, 8710-8713.	13.7	150
44	Observation of Body-Centered Cubic Gold Nanocluster. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 9826-9829.	13.8	147
45	Peptide-Directed Assembly of Single-Helical Gold Nanoparticle Superstructures Exhibiting Intense Chiroptical Activity. <i>Journal of the American Chemical Society</i> , 2016, 138, 13655-13663.	13.7	141
46	Near-infrared emitting ytterbium metal-organic frameworks with tunable excitation properties. <i>Chemical Communications</i> , 2009, , 4506.	4.1	135
47	Strain-Promoted Click-Modification of a Mesoporous Metal-Organic Framework. <i>Journal of the American Chemical Society</i> , 2012, 134, 18886-18888.	13.7	125
48	Preparation of Unique 1-D Nanoparticle Superstructures and Tailoring their Structural Features. <i>Journal of the American Chemical Society</i> , 2010, 132, 6902-6903.	13.7	124
49	Molecular surgery on a 23-gold-atom nanoparticle. <i>Science Advances</i> , 2017, 3, e1603193.	10.3	121
50	Establishing Porosity Gradients within Metal-Organic Frameworks Using Partial Postsynthetic Ligand Exchange. <i>Journal of the American Chemical Society</i> , 2016, 138, 12045-12048.	13.7	112
51	Rare Earth pcu Metal-Organic Framework Platform Based on RE ₄ (1/4) ₃ -OH ₄ (COO) ₆ ²⁺ Clusters: Rational Design, Directed Synthesis, and Deliberate Tuning of Excitation Wavelengths. <i>Journal of the American Chemical Society</i> , 2017, 139, 9333-9340.	13.7	102
52	Cyclopentanethiolato-Protected Au ₃₆ (SC ₅ H ₉) ₂₄ Nanocluster: Crystal Structure and Implications for the Steric and Electronic Effects of Ligand. <i>Journal of Physical Chemistry A</i> , 2014, 118, 8264-8269.	2.5	101
53	Alumina-supported cobalt-adeninate MOF membranes for CO ₂ /CH ₄ separation. <i>Journal of Materials Chemistry A</i> , 2014, 2, 1239-1241.	10.3	96
54	Orthogonal Ternary Functionalization of a Mesoporous Metal-Organic Framework via Sequential Postsynthetic Ligand Exchange. <i>Journal of the American Chemical Society</i> , 2015, 137, 10508-10511.	13.7	96

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55	Designing Open Metal Sites in Metal-Organic Frameworks for Paraffin/Olefin Separations. <i>Journal of the American Chemical Society</i> , 2019, 141, 13003-13007.	13.7	93
56	Multivariate Stratified Metal-Organic Frameworks: Diversification Using Domain Building Blocks. <i>Journal of the American Chemical Society</i> , 2019, 141, 2161-2168.	13.7	91
57	Expeditious Synthesis and Assembly of Sub-100 nm Hollow Spherical Gold Nanoparticle Superstructures. <i>Journal of the American Chemical Society</i> , 2010, 132, 14033-14035.	13.7	88
58	Reconstructing the Surface of Gold Nanoclusters by Cadmium Doping. <i>Journal of the American Chemical Society</i> , 2017, 139, 17779-17782.	13.7	84
59	Total Structure Determination of Au ₁₆ (S-Adm) ₁₂ and Cd ₁ Au ₁₄ (S _{it} Bu) ₁₂ and Implications for the Structure of Au ₁₅ (SR) ₁₃ . <i>Journal of the American Chemical Society</i> , 2018, 140, 10988-10994.	13.7	81
60	Programmable Topology in New Families of Heterobimetallic Metal-Organic Frameworks. <i>Journal of the American Chemical Society</i> , 2018, 140, 6194-6198.	13.7	78
61	Shuttling single metal atom into and out of a metal nanoparticle. <i>Nature Communications</i> , 2017, 8, 848.	12.8	77
62	Modulating the hierarchical fibrous assembly of Au nanoparticles with atomic precision. <i>Nature Communications</i> , 2018, 9, 3871.	12.8	77
63	Locked Nucleic Acid Nanoparticle Conjugates. <i>ChemBioChem</i> , 2007, 8, 1230-1232.	2.6	76
64	Construction of Chiral, Helical Nanoparticle Superstructures: Progress and Prospects. <i>Advanced Materials</i> , 2020, 32, e1905975.	21.0	69
65	A Correlated Series of Au/Ag Nanoclusters Revealing the Evolutionary Patterns of Asymmetric Ag Doping. <i>Journal of the American Chemical Society</i> , 2018, 140, 14235-14243.	13.7	63
66	Systematic Adjustment of Pitch and Particle Dimensions within a Family of Chiral Plasmonic Gold Nanoparticle Single Helices. <i>Journal of the American Chemical Society</i> , 2017, 139, 15043-15048.	13.7	62
67	Breast Cancer Targeting of a Drug Delivery System through Postsynthetic Modification of Curcumin@N ₃ -bio-MOF-100 via Click Chemistry. <i>Inorganic Chemistry</i> , 2021, 60, 11739-11744.	4.0	57
68	Peptide-Directed Synthesis and Assembly of Hollow Spherical CoPt Nanoparticle Superstructures. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 3993-3995.	13.8	56
69	Structure Determination of [Au ₁₈ (SR) ₁₄]. <i>Angewandte Chemie</i> , 2015, 127, 3183-3187.	2.0	56
70	Near infrared excitation and emission in rare earth MOFs <i>via</i> encapsulation of organic dyes. <i>Chemical Science</i> , 2018, 9, 8099-8102.	7.4	53
71	Ship-in-a-Bottle Preparation of Long Wavelength Molecular Antennae in Lanthanide Metal-Organic Frameworks for Biological Imaging. <i>Journal of the American Chemical Society</i> , 2020, 142, 8776-8781.	13.7	50
72	Optically and Chemically Encoded Nanoparticle Materials for DNA and Protein Detection. <i>MRS Bulletin</i> , 2005, 30, 376-380.	3.5	46

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73	Screening and evaluating aminated cationic functional moieties for potential CO ₂ capture applications using an anionic MOF scaffold. <i>Chemical Communications</i> , 2013, 49, 11385.	4.1	46
74	Oxidation-Induced Transformation of Eight-Electron Gold Nanoclusters: [Au ₂₃ (SR) ₁₆] ⁺ to [Au ₂₈ (SR) ₂₀] ⁰ . <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 866-870.	4.6	45
75	Controlling Ag-doping in [Ag _x Au _{25-x} (SC ₆ H ₁₁) ₁₈] ⁺ nanoclusters: cryogenic optical, electronic and electrocatalytic properties. <i>Nanoscale</i> , 2017, 9, 19183-19190.		43
76	Preparation of 1-D nanoparticle superstructures with tailorable thicknesses using gold-binding peptide conjugates. <i>Chemical Communications</i> , 2011, 47, 185-187.	4.1	40
77	Size-Controlled Peptide-Directed Synthesis of Hollow Spherical Gold Nanoparticle Superstructures. <i>Small</i> , 2011, 7, 1939-1942.	10.0	40
78	Controlling the Atomic Structure of Au ₃₀ Nanoclusters by a Ligand-Based Strategy. <i>Angewandte Chemie</i> , 2016, 128, 6806-6809.	2.0	38
79	Atom-by-Atom Evolution of the Same Ligand-Protected Au ₂₁ , Au ₂₂ , Au ₂₂ Cd ₁ , and Au ₂₄ Nanocluster Series. <i>Journal of the American Chemical Society</i> , 2020, 142, 20426-20433.	13.7	36
80	Adjusting the Metrics of 1-D Helical Gold Nanoparticle Superstructures Using Multivalent Peptide Conjugates. <i>Langmuir</i> , 2015, 31, 9492-9501.	3.5	34
81	Growth of ZIF-8 on molecularly ordered 2-methylimidazole/single-walled carbon nanotubes to form highly porous, electrically conductive composites. <i>Chemical Science</i> , 2019, 10, 737-742.	7.4	34
82	Design, Synthesis, and Characterization of Metal-Organic Frameworks for Enhanced Sorption of Chemical Warfare Agent Simulants. <i>Journal of Physical Chemistry C</i> , 2019, 123, 19748-19758.	3.1	33
83	Au ₁₃₀ Ag _x Nanoclusters with Non-Metallicity: A Drum of Silver-Rich Sites Enclosed in a Marks-Decahedral Cage of Gold-Rich Sites. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 18798-18802.	13.8	32
84	Single-ligand exchange on an Au-Cu bimetal nanocluster and mechanism. <i>Nanoscale</i> , 2018, 10, 12093-12099.	5.6	30
85	Peptide Conjugates for Directing the Morphology and Assembly of 1D Nanoparticle Superstructures. <i>Chemistry - A European Journal</i> , 2014, 20, 941-945.	3.3	29
86	Tuning the Structure and Chiroptical Properties of Gold Nanoparticle Single Helices via Peptide Sequence Variation. <i>Journal of the American Chemical Society</i> , 2019, 141, 15710-15716.	13.7	29
87	Hollow spherical gold nanoparticle superstructures with tunable diameters and visible to near-infrared extinction. <i>Nanoscale</i> , 2014, 6, 12328-12332.	5.6	27
88	Mixed Matrix Membranes from a Microporous Polymer Blend and Nanosized Metal-Organic Frameworks with Exceptional CO ₂ /N ₂ Separation Performance. , 2020, 2, 821-828.		27
89	Modeling of Diffusion of Acetone in UiO-66. <i>Journal of Physical Chemistry C</i> , 2020, 124, 28469-28478.	3.1	23
90	Doping Effect on the Magnetism of Thiolate-Capped 25-Atom Alloy Nanoclusters. <i>Chemistry of Materials</i> , 2020, 32, 9238-9244.	6.7	22

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91	Postsynthetic Modification of Metal-Organic Frameworks. <i>Inorganic Chemistry</i> , 2021, 60, 11703-11705.	4.0	22
92	Polyphosphazene polymer development for mixed matrix membranes using SIFSIX-Cu-2i as performance enhancement filler particles. <i>Journal of Membrane Science</i> , 2017, 535, 103-112.	8.2	19
93	All-Atom Molecular Dynamics Simulations of Peptide Amphiphile Assemblies That Spontaneously Form Twisted and Helical Ribbon Structures. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 2170-2174.	4.6	18
94	H ₂ /CO ₂ separations in multicomponent metal-adeninate MOFs with multiple chemically distinct pore environments. <i>Chemical Science</i> , 2020, 11, 12807-12815.	7.4	18
95	Nanostructures in biodefense and molecular diagnostics. <i>Expert Review of Molecular Diagnostics</i> , 2004, 4, 749-751.	3.1	17
96	Interplay between Intrinsic Thermal Stability and Expansion Properties of Functionalized UiO-67 Metal-Organic Frameworks. <i>Chemistry of Materials</i> , 2021, 33, 910-920.	6.7	17
97	Size Discrimination of Carbohydrates via Conductive Carbon Nanotube@Metal Organic Framework Composites. <i>Journal of the American Chemical Society</i> , 2021, 143, 8022-8033.	13.7	16
98	Au ₁₃₀ Ag ₁₃₀ Nanoclusters with Non-Metallicity: A Drum of Silver-Rich Sites Enclosed in a Marks-Decahedral Cage of Gold-Rich Sites. <i>Angewandte Chemie</i> , 2019, 131, 18974-18978.	2.0	15
99	Leveraging Peptide Sequence Modification to Promote Assembly of Chiral Helical Gold Nanoparticle Superstructures. <i>Biochemistry</i> , 2021, 60, 1044-1049.	2.5	14
100	Effect of counteraction on the water stability of an anionic metal-organic framework. <i>CrystEngComm</i> , 2017, 19, 5417-5421.	2.6	13
101	Fundamental Insights into the Reactivity and Utilization of Open Metal Sites in Cu(I)-MFU-4l. <i>Organometallics</i> , 2019, 38, 3453-3459.	2.3	12
102	Ligand Exchange for Controlling the Surface Chemistry and Properties of Nanoparticle Superstructures. <i>ChemNanoMat</i> , 2017, 3, 745-749.	2.8	11
103	Deliberate Introduction of Particle Anisotropy in Helical Gold Nanoparticle Superstructures. <i>Particle and Particle Systems Characterization</i> , 2019, 36, 1800504.	2.3	9
104	Heteroatom Tracing Reveals the 30-Atom Au-Ag Bimetallic Nanocluster as a Dimeric Structure. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 7307-7312.	4.6	9
105	Tuning the Lewis acidity of metal-organic frameworks for enhanced catalysis. <i>Dalton Transactions</i> , 2021, 50, 3116-3120.	3.3	9
106	Metal-Organic Frameworks on Palladium Nanoparticle-Functionalized Carbon Nanotubes for Monitoring Hydrogen Storage. <i>ACS Applied Nano Materials</i> , 2022, 5, 13779-13786.	5.0	9
107	Loading and triggered release of cargo from hollow spherical gold nanoparticle superstructures. <i>RSC Advances</i> , 2015, 5, 76291-76295.	3.6	8
108	Ternary gradient metal-organic frameworks. <i>Faraday Discussions</i> , 2017, 201, 163-174.	3.2	8

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109	Triblock peptide-oligonucleotide chimeras (POCs): programmable biomolecules for the assembly of morphologically tunable and responsive hybrid materials. <i>Chemical Communications</i> , 2017, 53, 12221-12224.	4.1	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. <i>ACS Applied Bio Materials</i> , 2019, 2, 1667-1675.	4.6	8
111	Heterogeneous Growth of UiO-66-NH ₂ on Oxidized Single-Walled Carbon Nanotubes to Form "Beads-on-a-String" Composites. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 15482-15489.	8.0	7
112	Gold Superstructures: Size-Controlled Peptide-Directed Synthesis of Hollow Spherical Gold Nanoparticle Superstructures (<i>Small</i> 14/2011). <i>Small</i> , 2011, 7, 1938-1938.	10.0	6
113	Identifying UiO-67 Metal-Organic Framework Defects and Binding Sites through Ammonia Adsorption. <i>ChemSusChem</i> , 2022, 15, .	6.8	6
114	The Emergence of Compositional Complexity and Anisotropy in Metal-Organic Frameworks. <i>Chemical Research in Chinese Universities</i> , 2021, 37, 187-188.	2.6	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