Nathaniel L Rosi

List of Publications by Citations

116	31,710	59	123
papers	citations	h-index	g-index
123	33,875	12.1	7.3
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
116	Systematic design of pore size and functionality in isoreticular MOFs and their application in methane storage. *Science*, **2002**, 295, 469-72	33.3	6475
115	Nanostructures in biodiagnostics. *Chemical Reviews*, **2005**, 105, 1547-62	68.1	4122
114	Hydrogen storage in microporous metal-organic frameworks. *Science*, **2003**, 300, 1127-9	33.3	4026
113	Rod packings and metal-organic frameworks constructed from rod-shaped secondary building units. *Journal of the American Chemical Society*, **2005**, 127, 1504-18	16.4	1963
112	Oligonucleotide-modified gold nanoparticles for intracellular gene regulation. *Science*, **2006**, 312, 1027-30	33.3	1682
111	Cation-triggered drug release from a porous zinc-adeninate metal-organic framework. *Journal of the American Chemical Society*, **2009**, 131, 8376-7	16.4	868
110	High and selective CO2 uptake in a cobalt adeninate metal-organic framework exhibiting pyrimidine- and amino-decorated pores. *Journal of the American Chemical Society*, **2010**, 132, 38-9	16.4	823
109	Zinc-adeninate metal-organic framework for aqueous encapsulation and sensitization of near-infrared and visible emitting lanthanide cations. *Journal of the American Chemical Society*, **2011**, 133, 1220-3	16.4	536
108	Tuning MOF CO2 adsorption properties via cation exchange. *Journal of the American Chemical Society*, **2010**, 132, 5578-9	16.4	501
107	Chiral structure of thiolate-protected 28-gold-atom nanocluster determined by X-ray crystallography. *Journal of the American Chemical Society*, **2013**, 135, 10011-3	16.4	476
106	Total structure and electronic properties of the gold nanocrystal Au36(SR)24. *Angewandte Chemie - International Edition*, **2012**, 51, 13114-8	16.4	468
105	Oligonucleotide loading determines cellular uptake of DNA-modified gold nanoparticles. *Nano Letters*, **2007**, 7, 3818-21	11.5	467
104	Near-infrared luminescent lanthanide MOF barcodes. *Journal of the American Chemical Society*, **2009**, 131, 18069-71	16.4	410
103	Peptide-based methods for the preparation of nanostructured inorganic materials. *Angewandte Chemie - International Edition*, **2010**, 49, 1924-42	16.4	381
102	Metal-biomolecule frameworks (MBioFs). *Chemical Communications*, **2011**, 47, 7287-302	5.8	314
101	Metal-adeninate vertices for the construction of an exceptionally porous metal-organic framework. *Nature Communications*, **2012**, 3, 604	17.4	312
100	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, 13555-7	16.4	311

99	Asymmetric functionalization of gold nanoparticles with oligonucleotides. *Journal of the American Chemical Society*, **2006**, 128, 9286-7	16.4	292
98	Nonsuperatomic [Au23(SC6H11)16]- nanocluster featuring bipyramidal Au15 kernel and trimeric Au3(SR)4 motif. *Journal of the American Chemical Society*, **2013**, 135, 18264-7	16.4	277
97	Stepwise ligand exchange for the preparation of a family of mesoporous MOFs. *Journal of the American Chemical Society*, **2013**, 135, 11688-91	16.4	272
96	Infinite secondary building units and forbidden catenation in metal-organic frameworks. *Angewandte Chemie - International Edition*, **2002**, 41, 284-7	16.4	263
95	Gold-thiolate ring as a protecting motif in the Au20(SR)16 nanocluster and implications. *Journal of the American Chemical Society*, **2014**, 136, 11922-5	16.4	244
94	Advances in the chemistry of metal□organic frameworks. *CrystEngComm*, **2002**, 4, 401-404	3.3	239
93	Fabrication of MMMs with improved gas separation properties using externally-functionalized MOF particles. *Journal of Materials Chemistry A*, **2015**, 3, 5014-5022	13	228
92	Design and preparation of a core-shell metal-organic framework for selective CO2 capture. *Journal of the American Chemical Society*, **2013**, 135, 9984-7	16.4	220
91	Crystal Structure of Barrel-Shaped Chiral Au130(p-MBT)50 Nanocluster. *Journal of the American Chemical Society*, **2015**, 137, 10076-9	16.4	207
90	Lanthanide near infrared imaging in living cells with Yb3+ nano metal organic frameworks. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 17199-204	11.5	206
89	Crystal structure and electronic properties of a thiolate-protected Au24 nanocluster. *Nanoscale*, **2014**, 6, 6458-62	7.7	204
88	Isomerism in Au28(SR)20 Nanocluster and Stable Structures. *Journal of the American Chemical Society*, **2016**, 138, 1482-5	16.4	202
87	Tailorable plasmonic circular dichroism properties of helical nanoparticle superstructures. *Nano Letters*, **2013**, 13, 3256-61	11.5	185
86	Gold tetrahedra coil up: Kekul□like and double helical superstructures. *Science Advances*, **2015**, 1, e1500425	11.3	184
85	Structure determination of [Au18(SR)14]. *Angewandte Chemie - International Edition*, **2015**, 54, 3140-4	16.4	181
84	Total structure and optical properties of a phosphine/thiolate-protected Au24 nanocluster. *Journal of the American Chemical Society*, **2012**, 134, 20286-9	16.4	170
83	Systematic modulation and enhancement of CO2 : N2 selectivity and water stability in an isoreticular series of bio-MOF-11 analogues. *Chemical Science*, **2013**, 4, 1746	9.4	153
82	Synthesis, structure, assembly, and modulation of the CO2 adsorption properties of a zinc-adeninate macrocycle. *Journal of the American Chemical Society*, **2009**, 131, 8401-3	16.4	144

81	Controlling the Atomic Structure of Au30 Nanoclusters by a Ligand-Based Strategy. *Angewandte Chemie - International Edition*, **2016**, 55, 6694-7	16.4	139
80	Control of nanoparticle assembly by using DNA-modified diatom templates. *Angewandte Chemie - International Edition*, **2004**, 43, 5500-3	16.4	136
79	Tailoring the Electronic and Catalytic Properties of Au25 Nanoclusters via Ligand Engineering. *ACS Nano*, **2016**, 10, 7998-8005	16.7	134
78	Observation of Body-Centered Cubic Gold Nanocluster. *Angewandte Chemie - International Edition*, **2015**, 54, 9826-9	16.4	125
77	Near-infrared emitting ytterbium metal-organic frameworks with tunable excitation properties. *Chemical Communications*, **2009**, 4506-8	5.8	125
76	Tri-icosahedral Gold Nanocluster [Au37(PPh3)10(SC2H4Ph)10X2](+): Linear Assembly of Icosahedral Building Blocks. *ACS Nano*, **2015**, 9, 8530-6	16.7	124
75	Atomic Structure of Self-Assembled Monolayer of Thiolates on a Tetragonal Au92 Nanocrystal. *Journal of the American Chemical Society*, **2016**, 138, 8710-3	16.4	124
74	Tailoring the Structure of 58-Electron Gold Nanoclusters: AuS(S-Nap) and Its Implications. *Journal of the American Chemical Society*, **2017**, 139, 9994-10001	16.4	123
73	Silicon Nanoparticles with Surface Nitrogen: 90% Quantum Yield with Narrow Luminescence Bandwidth and the Ligand Structure Based Energy Law. *ACS Nano*, **2016**, 10, 8385-93	16.7	120
72	Total Structure and Electronic Properties of the Gold Nanocrystal Au36(SR)24. *Angewandte Chemie*, **2012**, 124, 13291-13295	3.6	114
71	Preparation of unique 1-D nanoparticle superstructures and tailoring their structural features. *Journal of the American Chemical Society*, **2010**, 132, 6902-3	16.4	113
70	Strain-promoted "click" modification of a mesoporous metal-organic framework. *Journal of the American Chemical Society*, **2012**, 134, 18886-8	16.4	110
69	Peptide-Directed Assembly of Single-Helical Gold Nanoparticle Superstructures Exhibiting Intense Chiroptical Activity. *Journal of the American Chemical Society*, **2016**, 138, 13655-13663	16.4	110
68	Molecular "surgery" on a 23-gold-atom nanoparticle. *Science Advances*, **2017**, 3, e1603193	14.3	96
67	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, 8264-9	2.8	89
66	Establishing Porosity Gradients within Metal-Organic Frameworks Using Partial Postsynthetic Ligand Exchange. *Journal of the American Chemical Society*, **2016**, 138, 12045-8	16.4	88
65	Expeditious synthesis and assembly of sub-100 nm hollow spherical gold nanoparticle superstructures. *Journal of the American Chemical Society*, **2010**, 132, 14033-5	16.4	81
64	Luminescence "Turn-On" Detection of Gossypol Using Ln-Based Metal-Organic Frameworks and Ln Salts. *Journal of the American Chemical Society*, **2020**, 142, 2897-2904	16.4	78

63	Orthogonal Ternary Functionalization of a Mesoporous Metal-Organic Framework via Sequential Postsynthetic Ligand Exchange. *Journal of the American Chemical Society*, **2015**, 137, 10508-11	16.4	77
62	Alumina-supported cobalt□adeninate MOF membranes for CO2/CH4 separation. *Journal of Materials Chemistry A*, **2014**, 2, 1239-1241	13	77
61	Rare Earth pcu Metal-Organic Framework Platform Based on RE(□OH)(COO) Clusters: Rational Design, Directed Synthesis, and Deliberate Tuning of Excitation Wavelengths. *Journal of the American Chemical Society*, **2017**, 139, 9333-9340	16.4	76
60	Locked nucleic acid-nanoparticle conjugates. *ChemBioChem*, **2007**, 8, 1230-2	3.8	72
59	Multivariate Stratified Metal-Organic Frameworks: Diversification Using Domain Building Blocks. *Journal of the American Chemical Society*, **2019**, 141, 2161-2168	16.4	64
58	Shuttling single metal atom into and out of a metal nanoparticle. *Nature Communications*, **2017**, 8, 848	17.4	60
57	Programmable Topology in New Families of Heterobimetallic Metal-Organic Frameworks. *Journal of the American Chemical Society*, **2018**, 140, 6194-6198	16.4	58
56	Reconstructing the Surface of Gold Nanoclusters by Cadmium Doping. *Journal of the American Chemical Society*, **2017**, 139, 17779-17782	16.4	57
55	Total Structure Determination of Au(S-Adm) and CdAu(S tBu) and Implications for the Structure of Au(SR). *Journal of the American Chemical Society*, **2018**, 140, 10988-10994	16.4	56
54	Structure Determination of [Au18(SR)14]. *Angewandte Chemie*, **2015**, 127, 3183-3187	3.6	53
53	Peptide-directed synthesis and assembly of hollow spherical CoPt nanoparticle superstructures. *Angewandte Chemie - International Edition*, **2013**, 52, 3993-5	16.4	52
52	Modulating the hierarchical fibrous assembly of Au nanoparticles with atomic precision. *Nature Communications*, **2018**, 9, 3871	17.4	48
51	Designing Open Metal Sites in Metal-Organic Frameworks for Paraffin/Olefin Separations. *Journal of the American Chemical Society*, **2019**, 141, 13003-13007	16.4	47
50	Optically and Chemically Encoded Nanoparticle Materials for DNA and Protein Detection. *MRS Bulletin*, **2005**, 30, 376-380	3.2	43
49	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	16.4	41
48	Screening and evaluating aminated cationic functional moieties for potential CO(2) capture applications using an anionic MOF scaffold. *Chemical Communications*, **2013**, 49, 11385-7	5.8	41
47	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	16.4	41
46	Construction of Chiral, Helical Nanoparticle Superstructures: Progress and Prospects. *Advanced Materials*, **2020**, 32, e1905975	24	40

45	Size-controlled peptide-directed synthesis of hollow spherical gold nanoparticle superstructures. *Small*, **2011**, 7, 1938-42	11	37
44	Preparation of 1-D nanoparticle superstructures with tailorable thicknesses using gold-binding peptide conjugates. *Chemical Communications*, **2011**, 47, 185-7	5.8	37
43	Oxidation-Induced Transformation of Eight-Electron Gold Nanoclusters: [Au(SR)] to [Au(SR)]. *Journal of Physical Chemistry Letters*, **2017**, 8, 866-870	6.4	36
42	Near infrared excitation and emission in rare earth MOFs encapsulation of organic dyes. *Chemical Science*, **2018**, 9, 8099-8102	9.4	36
41	Controlling the Atomic Structure of Au30 Nanoclusters by a Ligand-Based Strategy. *Angewandte Chemie*, **2016**, 128, 6806-6809	3.6	31
40	Observation of Body-Centered Cubic Gold Nanocluster. *Angewandte Chemie*, **2015**, 127, 9964-9967	3.6	30
39	Controlling Ag-doping in [AgAu(SCH)] nanoclusters: cryogenic optical, electronic and electrocatalytic properties. *Nanoscale*, **2017**, 9, 19183-19190	7.7	29
38	Adjusting the Metrics of 1-D Helical Gold Nanoparticle Superstructures Using Multivalent Peptide Conjugates. *Langmuir*, **2015**, 31, 9492-501	4	27
37	Peptide conjugates for directing the morphology and assembly of 1D nanoparticle superstructures. *Chemistry - A European Journal*, **2014**, 20, 941-5	4.8	25
36	Single-ligand exchange on an Au-Cu bimetal nanocluster and mechanism. *Nanoscale*, **2018**, 10, 12093-12099	7.7	25
35	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	9.4	24
34	Au Ag Nanoclusters with Non-Metallicity: A Drum of Silver-Rich Sites Enclosed in a Marks-Decahedral Cage of Gold-Rich Sites. *Angewandte Chemie - International Edition*, **2019**, 58, 18798-18802	16.4	22
33	Hollow spherical gold nanoparticle superstructures with tunable diameters and visible to near-infrared extinction. *Nanoscale*, **2014**, 6, 12328-32	7.7	22
32	Ship-in-a-Bottle Preparation of Long Wavelength Molecular Antennae in Lanthanide Metal-Organic Frameworks for Biological Imaging. *Journal of the American Chemical Society*, **2020**, 142, 8776-8781	16.4	22
31	Design, Synthesis, and Characterization of Metal□Organic Frameworks for Enhanced Sorption of Chemical Warfare Agent Simulants. *Journal of Physical Chemistry C*, **2019**, 123, 19748-19758	3.8	21
30	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	16.4	18
29	Atom-by-Atom Evolution of the Same Ligand-Protected Au, Au, AuCd, and Au Nanocluster Series. *Journal of the American Chemical Society*, **2020**,	16.4	17
28	Mixed Matrix Membranes from a Microporous Polymer Blend and Nanosized Metal□Organic Frameworks with Exceptional CO2/N2 Separation Performance **2020**, 2, 821-828		14

27	Sacrificial Biological Templates for the Formation of Nanostructured Metallic Microshells. *Angewandte Chemie*, **2005**, 117, 5192-5195	3.6	14
26	Polyphosphazene polymer development for mixed matrix membranes using SIFSIX-Cu-2i as performance enhancement filler particles. *Journal of Membrane Science*, **2017**, 535, 103-112	9.6	13
25	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	6.4	12
24	Au130Agx Nanoclusters with Non-Metallicity: A Drum of Silver-Rich Sites Enclosed in a Marks-Decahedral Cage of Gold-Rich Sites. *Angewandte Chemie*, **2019**, 131, 18974-18978	3.6	12
23	Doping Effect on the Magnetism of Thiolate-Capped 25-Atom Alloy Nanoclusters. *Chemistry of Materials*, **2020**, 32, 9238-9244	9.6	10
22	Modeling of Diffusion of Acetone in UiO-66. *Journal of Physical Chemistry C*, **2020**, 124, 28469-28478	3.8	10
21	Ligand Exchange for Controlling the Surface Chemistry and Properties of Nanoparticle Superstructures. *ChemNanoMat*, **2017**, 3, 745-749	3.5	9
20	H/CO separations in multicomponent metal-adeninate MOFs with multiple chemically distinct pore environments. *Chemical Science*, **2020**, 11, 12807-12815	9.4	9
19	Deliberate Introduction of Particle Anisotropy in Helical Gold Nanoparticle Superstructures. *Particle and Particle Systems Characterization*, **2019**, 36, 1800504	3.1	8
18	Loading and triggered release of cargo from hollow spherical gold nanoparticle superstructures. *RSC Advances*, **2015**, 5, 76291-76295	3.7	8
17	Effect of countercation on the water stability of an anionic metal organic framework. *CrystEngComm*, **2017**, 19, 5417-5421	3.3	8
16	Breast Cancer Targeting of a Drug Delivery System through Postsynthetic Modification of Curcumin@N-bio-MOF-100 via Click Chemistry. *Inorganic Chemistry*, **2021**, 60, 11739-11744	5.1	8
15	Peptide-Directed Synthesis and Assembly of Hollow Spherical CoPt Nanoparticle Superstructures. *Angewandte Chemie*, **2013**, 125, 4085-4087	3.6	7
14	Heteroatom Tracing Reveals the 30-Atom Au-Ag Bimetallic Nanocluster as a Dimeric Structure. *Journal of Physical Chemistry Letters*, **2020**, 11, 7307-7312	6.4	7
13	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	4.1	6
12	Fundamental Insights into the Reactivity and Utilization of Open Metal Sites in Cu(I)-MFU-4l. *Organometallics*, **2019**, 38, 3453-3459	3.8	6
11	Ternary gradient metal-organic frameworks. *Faraday Discussions*, **2017**, 201, 163-174	3.6	5
10	Triblock peptide-oligonucleotide chimeras (POCs): programmable biomolecules for the assembly of morphologically tunable and responsive hybrid materials. *Chemical Communications*, **2017**, 53, 12221-12224	5.8	5

9	Leveraging Peptide Sequence Modification to Promote Assembly of Chiral Helical Gold Nanoparticle Superstructures. *Biochemistry*, **2021**, 60, 1044-1049	3.2	5
8	Interplay between Intrinsic Thermal Stability and Expansion Properties of Functionalized UiO-67 Metal Organic Frameworks. *Chemistry of Materials*, **2021**, 33, 910-920	9.6	4
7	Gold Superstructures: Size-Controlled Peptide-Directed Synthesis of Hollow Spherical Gold Nanoparticle Superstructures (Small 14/2011). *Small*, **2011**, 7, 1938-1938	11	3
6	Heterogeneous Growth of UiO-66-NH on Oxidized Single-Walled Carbon Nanotubes to Form "Beads-on-a-String" Composites. *ACS Applied Materials & Interfaces*, **2021**, 13, 15482-15489	9.5	3
5	Tuning the Lewis acidity of metal-organic frameworks for enhanced catalysis. *Dalton Transactions*, **2021**, 50, 3116-3120	4.3	3
4	Size Discrimination of Carbohydrates via Conductive Carbon Nanotube@Metal Organic Framework Composites. *Journal of the American Chemical Society*, **2021**, 143, 8022-8033	16.4	2
3	The Emergence of Compositional Complexity and Anisotropy in Metal-Organic Frameworks. *Chemical Research in Chinese Universities*, **2021**, 37, 187-188	2.2	2
2	MOFs Constructed from Biomolecular Building Blocks **2021**, 291-320		1
1	Peptide-based Methods for the Assembly of Plasmonic Nanostructures **2022**, 93-126		