

# Elizabeth M. Nolan

## List of Publications by Year in descending order

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82  
papers

8,053  
citations

94433

37  
h-index

62596

80  
g-index

84  
all docs

84  
docs citations

84  
times ranked

8314  
citing authors

#	ARTICLE	IF	CITATIONS
1	Tools and Tactics for the Optical Detection of Mercuric Ion. <i>Chemical Reviews</i> , 2008, 108, 3443-3480.	47.7	2,188
2	A Turn-On Fluorescent Sensor for the Selective Detection of Mercuric Ion in Aqueous Media. <i>Journal of the American Chemical Society</i> , 2003, 125, 14270-14271.	13.7	625
3	Small-Molecule Fluorescent Sensors for Investigating Zinc Metalloneurochemistry. <i>Accounts of Chemical Research</i> , 2009, 42, 193-203.	15.6	587
4	Turn-On and Ratiometric Mercury Sensing in Water with a Red-Emitting Probe. <i>Journal of the American Chemical Society</i> , 2007, 129, 5910-5918.	13.7	412
5	Beyond iron: non-classical biological functions of bacterial siderophores. <i>Dalton Transactions</i> , 2015, 44, 6320-6339.	3.3	332
6	QZ1 and QZ2: Rapid, Reversible Quinoline-Derivatized Fluoresceins for Sensing Biological Zn(II). <i>Journal of the American Chemical Society</i> , 2005, 127, 16812-16823.	13.7	251
7	Zinspy Sensors with Enhanced Dynamic Range for Imaging Neuronal Cell Zinc Uptake and Mobilization. <i>Journal of the American Chemical Society</i> , 2006, 128, 15517-15528.	13.7	232
8	Human calprotectin is an iron-sequestering host-defense protein. <i>Nature Chemical Biology</i> , 2015, 11, 765-771.	8.0	218
9	Selective Hg(II) Detection in Aqueous Solution with Thiol Derivatized Fluoresceins. <i>Inorganic Chemistry</i> , 2006, 45, 2742-2749.	4.0	162
10	Calcium Ion Gradients Modulate the Zinc Affinity and Antibacterial Activity of Human Calprotectin. <i>Journal of the American Chemical Society</i> , 2012, 134, 18089-18100.	13.7	146
11	Membrane anchoring stabilizes and favors secretion of New Delhi metallo- $\beta$ -lactamase. <i>Nature Chemical Biology</i> , 2016, 12, 516-522.	8.0	138
12	Transition Metal Sequestration by the Host-Defense Protein Calprotectin. <i>Annual Review of Biochemistry</i> , 2018, 87, 621-643.	11.1	138
13	Synthesis and Characterization of Zinc Sensors Based on a Monosubstituted Fluorescein Platform. <i>Inorganic Chemistry</i> , 2004, 43, 2624-2635.	4.0	132
14	Enterobactin-Mediated Delivery of $\beta$ -Lactam Antibiotics Enhances Antibacterial Activity against Pathogenic <i>Escherichia coli</i> . <i>Journal of the American Chemical Society</i> , 2014, 136, 9677-9691.	13.7	129
15	High-Affinity Manganese Coordination by Human Calprotectin Is Calcium-Dependent and Requires the Histidine-Rich Site Formed at the Dimer Interface. <i>Journal of the American Chemical Society</i> , 2013, 135, 775-787.	13.7	121
16	The Zinspy Family of Fluorescent Zinc Sensors: Syntheses and Spectroscopic Investigations. <i>Inorganic Chemistry</i> , 2004, 43, 8310-8317.	4.0	106
17	MS4, a seminaphthofluorescein-based chemosensor for the ratiometric detection of Hg(II). <i>Journal of Materials Chemistry</i> , 2005, 15, 2778.	6.7	103
18	Esterase-Catalyzed Siderophore Hydrolysis Activates an Enterobactin-Ciprofloxacin Conjugate and Confers Targeted Antibacterial Activity. <i>Journal of the American Chemical Society</i> , 2018, 140, 5193-5201.	13.7	101

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19	Nickel Sequestration by the Host-Defense Protein Human Calprotectin. <i>Journal of the American Chemical Society</i> , 2017, 139, 8828-8836.	13.7	99
20	Siderophore-Mediated Cargo Delivery to the Cytoplasm of <i>Escherichia coli</i> and <i>Pseudomonas aeruginosa</i> : Syntheses of Monofunctionalized Enterobactin Scaffolds and Evaluation of Enterobactinâ€‘Cargo Conjugate Uptake. <i>Journal of the American Chemical Society</i> , 2012, 134, 18388-18400.	13.7	92
21	Defensins, lectins, mucins, and secretory immunoglobulin A: microbe-binding biomolecules that contribute to mucosal immunity in the human gut. <i>Critical Reviews in Biochemistry and Molecular Biology</i> , 2017, 52, 45-56.	5.2	84
22	Visualizing Attack of <i>Escherichia coli</i> by the Antimicrobial Peptide Human Defensin 5. <i>Biochemistry</i> , 2015, 54, 1767-1777.	2.5	80
23	Molecular Basis for Self-Assembly of a Human Host-Defense Peptide That Entraps Bacterial Pathogens. <i>Journal of the American Chemical Society</i> , 2014, 136, 13267-13276.	13.7	79
24	Manganese and Microbial Pathogenesis: Sequestration by the Mammalian Immune System and Utilization by Microorganisms. <i>ACS Chemical Biology</i> , 2015, 10, 641-651.	3.4	78
25	Contributions of the S100A9 C-Terminal Tail to High-Affinity Mn(II) Chelation by the Host-Defense Protein Human Calprotectin. <i>Journal of the American Chemical Society</i> , 2013, 135, 17804-17817.	13.7	71
26	Targeting virulence: salmochelin modification tunes the antibacterial activity spectrum of $\beta$ -lactams for pathogen-selective killing of <i>Escherichia coli</i> . <i>Chemical Science</i> , 2015, 6, 4458-4471.	7.4	67
27	Midrange Affinity Fluorescent Zn(II) Sensors of the Zinpyr Family: Syntheses, Characterization, and Biological Imaging Applications. <i>Inorganic Chemistry</i> , 2006, 45, 9748-9757.	4.0	66
28	Manganese Binding Properties of Human Calprotectin under Conditions of High and Low Calcium: X-ray Crystallographic and Advanced Electron Paramagnetic Resonance Spectroscopic Analysis. <i>Journal of the American Chemical Society</i> , 2015, 137, 3004-3016.	13.7	65
29	The human innate immune protein calprotectin induces iron starvation responses in <i>Pseudomonas aeruginosa</i> . <i>Journal of Biological Chemistry</i> , 2019, 294, 3549-3562.	3.4	61
30	Human Defensin 5 Disulfide Array Mutants: Disulfide Bond Deletion Attenuates Antibacterial Activity against <i>Staphylococcus aureus</i> . <i>Biochemistry</i> , 2011, 50, 8005-8017.	2.5	57
31	Calcium ions tune the zinc-sequestering properties and antimicrobial activity of human S100A12. <i>Chemical Science</i> , 2016, 7, 1338-1348.	7.4	57
32	Human $\alpha$ -Defensin 6: A Small Peptide That Self-Assembles and Protects the Host by Entangling Microbes. <i>Accounts of Chemical Research</i> , 2017, 50, 960-967.	15.6	57
33	Siderophore-based immunization strategy to inhibit growth of enteric pathogens. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 13462-13467.	7.1	56
34	The Hexahistidine Motif of Host-Defense Protein Human Calprotectin Contributes to Zinc Withholding and Its Functional Versatility. <i>Journal of the American Chemical Society</i> , 2016, 138, 12243-12251.	13.7	47
35	Calcium-induced tetramerization and zinc chelation shield human calprotectin from degradation by host and bacterial extracellular proteases. <i>Chemical Science</i> , 2016, 7, 1962-1975.	7.4	44
36	Reduction of Human Defensin 5 Affords a High-Affinity Zinc-Chelating Peptide. <i>ACS Chemical Biology</i> , 2013, 8, 1907-1911.	3.4	41

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37	Evaluation of a reducible disulfide linker for siderophore-mediated delivery of antibiotics. <i>Journal of Biological Inorganic Chemistry</i> , 2018, 23, 1025-1036.	2.6	40
38	Disulfide cross-linking influences symbiotic activities of nodule peptide NCR247. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 10157-10162.	7.1	35
39	Chemical Synthesis of Staphyloferrin B Affords Insight into the Molecular Structure, Iron Chelation, and Biological Activity of a Polycarboxylate Siderophore Deployed by the Human Pathogen <i>Staphylococcus aureus</i> . <i>Journal of the American Chemical Society</i> , 2015, 137, 9117-9127.	13.7	33
40	Metal homeostasis in infectious disease: recent advances in bacterial metallophores and the human metal-withholding response. <i>Current Opinion in Chemical Biology</i> , 2017, 37, 10-18.	6.1	33
41	Evaluation of (acyloxy)alkyl ester linkers for antibiotic release from siderophore-antibiotic conjugates. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2015, 25, 4987-4991.	2.2	32
42	Proteolysis triggers self-assembly and unmasks innate immune function of a human $\alpha$ -defensin peptide. <i>Chemical Science</i> , 2016, 7, 1738-1752.	7.4	31
43	Heavy-Metal Trojan Horse: Enterobactin-Directed Delivery of Platinum(IV) Prodrugs to <i>Escherichia coli</i> . <i>Journal of the American Chemical Society</i> , 2022, 144, 12756-12768.	13.7	26
44	Human $\alpha$ -Defensin 6 Self-Assembly Prevents Adhesion and Suppresses Virulence Traits of <i>Candida albicans</i> . <i>Biochemistry</i> , 2017, 56, 1033-1041.	2.5	25
45	Biochemical and Functional Evaluation of the Intramolecular Disulfide Bonds in the Zinc-Chelating Antimicrobial Protein Human S100A7 (Psoriasin). <i>Biochemistry</i> , 2017, 56, 5726-5738.	2.5	25
46	Transition metals at the host-pathogen interface: how <i>Neisseria</i> exploit human metalloproteins for acquiring iron and zinc. <i>Essays in Biochemistry</i> , 2017, 61, 211-223.	4.7	24
47	Human calprotectin affects the redox speciation of iron. <i>Metallomics</i> , 2017, 9, 1086-1095.	2.4	23
48	Determination of the Molecular Structures of Ferric Enterobactin and Ferric Enantioenterobactin Using Racemic Crystallography. <i>Journal of the American Chemical Society</i> , 2017, 139, 15245-15250.	13.7	22
49	Magnetic circular dichroism studies of iron binding to human calprotectin. <i>Chemical Science</i> , 2017, 8, 1369-1377.	7.4	22
50	Bioinorganic Explorations of Zn(II) Sequestration by Human S100 Host-Defense Proteins. <i>Biochemistry</i> , 2018, 57, 1673-1680.	2.5	21
51	Oxidative Post-translational Modifications Accelerate Proteolytic Degradation of Calprotectin. <i>Journal of the American Chemical Society</i> , 2018, 140, 17444-17455.	13.7	20
52	Metal Sequestration and Antimicrobial Activity of Human Calprotectin Are pH-Dependent. <i>Biochemistry</i> , 2020, 59, 2468-2478.	2.5	20
53	A Method for Selective Depletion of Zn(II) Ions from Complex Biological Media and Evaluation of Cellular Consequences of Zn(II) Deficiency. <i>Journal of the American Chemical Society</i> , 2018, 140, 2413-2416.	13.7	19
54	Biochemical and Spectroscopic Observation of Mn(II) Sequestration from Bacterial Mn(II) Transport Machinery by Calprotectin. <i>Journal of the American Chemical Society</i> , 2018, 140, 110-113.	13.7	19

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55	Exploring Iron Withholding by the Innate Immune Protein Human Calprotectin. <i>Accounts of Chemical Research</i> , 2019, 52, 2301-2308.	15.6	18
56	Enterobactin- and salmochelin- $\beta$ -lactam conjugates induce cell morphologies consistent with inhibition of penicillin-binding proteins in uropathogenic <i>Escherichia coli</i> CFT073. <i>Chemical Science</i> , 2021, 12, 4041-4056.	7.4	18
57	Conjugation to Enterobactin and Salmochelin S4 Enhances the Antimicrobial Activity and Selectivity of $\beta$ -Lactam Antibiotics against Nontyphoidal <i>Salmonella</i> . <i>ACS Infectious Diseases</i> , 2021, 7, 1248-1259.	3.8	17
58	Harnessing Iron Acquisition Machinery to Target <i>Enterobacteriaceae</i> . <i>Journal of Infectious Diseases</i> , 2021, 223, S307-S313.	4.0	16
59	Heme protects <i>Pseudomonas aeruginosa</i> and <i>Staphylococcus aureus</i> from calprotectin-induced iron starvation. <i>Journal of Biological Chemistry</i> , 2021, 296, 100160.	3.4	16
60	Initial Biochemical and Functional Evaluation of Murine Calprotectin Reveals Ca(II)-Dependence and Its Ability to Chelate Multiple Nutrient Transition Metal Ions. <i>Biochemistry</i> , 2018, 57, 2846-2856.	2.5	15
61	Biophysical Examination of the Calcium-Modulated Nickel-Binding Properties of Human Calprotectin Reveals Conformational Change in the EF-Hand Domains and His <sup>3</sup> Asp Site. <i>Biochemistry</i> , 2018, 57, 4155-4164.	2.5	13
62	The Pneumococcal Iron Uptake Protein A (PiuA) Specifically Recognizes Tetradentate Fe(III)-bis- and Mono-Catechol Complexes. <i>Journal of Molecular Biology</i> , 2020, 432, 5390-5410.	4.2	13
63	Calcium Binding to the Innate Immune Protein Human Calprotectin Revealed by Integrated Mass Spectrometry. <i>Journal of the American Chemical Society</i> , 2020, 142, 13372-13383.	13.7	13
64	A Bacterial Mutant Library as a Tool to Study the Attack of a Defensin Peptide. <i>ChemBioChem</i> , 2014, 15, 2684-2688.	2.6	11
65	Murine Calprotectin Coordinates Mn(II) at a Hexahistidine Site with Ca(II)-Dependent Affinity. <i>Inorganic Chemistry</i> , 2019, 58, 13578-13590.	4.0	11
66	Impaired cholecystinin-induced gallbladder emptying incriminated in spontaneous black-pigment gallstone formation in germfree Swiss Webster mice. <i>American Journal of Physiology - Renal Physiology</i> , 2015, 308, G335-G349.	3.4	10
67	Calprotectin influences the aggregation of metal-free and metal-bound amyloid- $\beta$ by direct interaction. <i>Metallomics</i> , 2018, 10, 1116-1127.	2.4	10
68	The Human Innate Immune Protein Calprotectin Elicits a Multimetal Starvation Response in <i>Pseudomonas aeruginosa</i> . <i>Microbiology Spectrum</i> , 2021, 9, e0051921.	3.0	10
69	Avian MRP126 Restricts Microbial Growth through Ca(II)-Dependent Zn(II) Sequestration. <i>Biochemistry</i> , 2020, 59, 802-817.	2.5	9
70	Bacterial Responses to Iron Withholding by Calprotectin. <i>Biochemistry</i> , 2021, 60, 3337-3346.	2.5	9
71	A Noncanonical Role for Yersiniabactin in Bacterial Copper Acquisition. <i>Biochemistry</i> , 2017, 56, 6073-6074.	2.5	7
72	High-Field EPR Spectroscopic Characterization of Mn(II) Bound to the Bacterial Solute-Binding Proteins MntC and PsaA. <i>Journal of Physical Chemistry B</i> , 2019, 123, 4929-4934.	2.6	7

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73	Molecular Basis of Ca(II)-Induced Tetramerization and Transition-Metal Sequestration in Human Calprotectin. <i>Journal of the American Chemical Society</i> , 2021, 143, 18073-18090.	13.7	7
74	A metal shuttle keeps pathogens well fed. <i>Science</i> , 2016, 352, 1055-1056.	12.6	6
75	Design, solid-phase synthesis and evaluation of enterobactin analogs for iron delivery into the human pathogen <i>Campylobacter jejuni</i> . <i>Bioorganic and Medicinal Chemistry</i> , 2018, 26, 5314-5321.	3.0	5
76	Preparation and Iron Redox Speciation Study of the Fe(II)-Binding Antimicrobial Protein Calprotectin. <i>Methods in Molecular Biology</i> , 2019, 1929, 397-415.	0.9	5
77	Metal sequestration by S100 proteins in chemically diverse environments. <i>Trends in Microbiology</i> , 2022, 30, 654-664.	7.7	5
78	A Sensitive, Nonradioactive Assay for Zn(II) Uptake into Metazoan Cells. <i>Biochemistry</i> , 2018, 57, 6807-6815.	2.5	4
79	Zinc sequestration by human calprotectin facilitates manganese binding to the bacterial solute-binding proteins PsaA and MntC. <i>Metallomics</i> , 2022, 14, .	2.4	4
80	Preparation of the Oxidized and Reduced Forms of Psoriasin (S100A7). <i>Methods in Molecular Biology</i> , 2019, 1929, 379-395.	0.9	1
81	S100A12 promotes Mn(II) binding to pneumococcal PsaA and staphylococcal MntC by Zn(II) sequestration. <i>Journal of Inorganic Biochemistry</i> , 2022, , 111862.	3.5	1
82	Editorial overview: Bioinorganic chemistry: Recent advances in bioinorganic chemistry. <i>Current Opinion in Chemical Biology</i> , 2014, 19, vii-ix.	6.1	0