Neal K Devaraj

List of Publications by Citations

94 papers	7,262 citations	40 h-index	85 g-index
111 ext. papers	8,283 ext. citations	12.4 avg, IF	6.6 L-index

#	Paper	IF	Citations
94	Tetrazine-based cycloadditions: application to pretargeted live cell imaging. *Bioconjugate Chemistry* , **2008**, 19, 2297-9	6.3	584
93	"Clicking" functionality onto electrode surfaces. *Langmuir*, **2004**, 20, 1051-3	4	443
92	A cytochrome C oxidase model catalyzes oxygen to water reduction under rate-limiting electron flux. *Science*, **2007**, 315, 1565-8	33.3	428
91	Biomedical applications of tetrazine cycloadditions. *Accounts of Chemical Research*, **2011**, 44, 816-27	24.3	375
90	Mixed azide-terminated monolayers: a platform for modifying electrode surfaces. *Langmuir*, **2006**, 22, 2457-64	4	329
89	Bioorthogonal turn-on probes for imaging small molecules inside living cells. *Angewandte Chemie - International Edition*, **2010**, 49, 2869-72	16.4	327
88	Fast and sensitive pretargeted labeling of cancer cells through a tetrazine/trans-cyclooctene cycloaddition. *Angewandte Chemie - International Edition*, **2009**, 48, 7013-6	16.4	319
87	Bioorthogonal chemistry amplifies nanoparticle binding and enhances the sensitivity of cell detection. *Nature Nanotechnology*, **2010**, 5, 660-5	28.7	288
86	Live-cell imaging of cyclopropene tags with fluorogenic tetrazine cycloadditions. *Angewandte Chemie - International Edition*, **2012**, 51, 7476-9	16.4	255
85	The Future of Bioorthogonal Chemistry. *ACS Central Science*, **2018**, 4, 952-959	16.8	234
84	18F labeled nanoparticles for in vivo PET-CT imaging. *Bioconjugate Chemistry*, **2009**, 20, 397-401	6.3	208
83	Chemoselective covalent coupling of oligonucleotide probes to self-assembled monolayers. *Journal of the American Chemical Society*, **2005**, 127, 8600-1	16.4	202
82	Development of a bioorthogonal and highly efficient conjugation method for quantum dots using tetrazine-norbornene cycloaddition. *Journal of the American Chemical Society*, **2010**, 132, 7838-9	16.4	183
81	Selective functionalization of independently addressed microelectrodes by electrochemical activation and deactivation of a coupling catalyst. *Journal of the American Chemical Society*, **2006**, 128, 1794-5	16.4	169
80	Metal-catalyzed one-pot synthesis of tetrazines directly from aliphatic nitriles and hydrazine. *Angewandte Chemie - International Edition*, **2012**, 51, 5222-5	16.4	163
79	Reactive polymer enables efficient in vivo bioorthogonal chemistry. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 4762-7	11.5	153
78	A Bioorthogonal Near-Infrared Fluorogenic Probe for mRNA Detection. *Journal of the American Chemical Society*, **2016**, 138, 11429-32	16.4	132

77	Reversing a model of Parkinson's disease with in situ converted nigral neurons. *Nature*, **2020**, 582, 550-556	56.4	131
76	In situ synthesis of alkenyl tetrazines for highly fluorogenic bioorthogonal live-cell imaging probes. *Angewandte Chemie - International Edition*, **2014**, 53, 5805-9	16.4	122
75	Rate of interfacial electron transfer through the 1,2,3-triazole linkage. *Journal of Physical Chemistry B*, **2006**, 110, 15955-62	3.4	115
74	Self-reproducing catalyst drives repeated phospholipid synthesis and membrane growth. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 8187-92	11.5	111
73	Advances in Tetrazine Bioorthogonal Chemistry Driven by the Synthesis of Novel Tetrazines and Dienophiles. *Accounts of Chemical Research*, **2018**, 51, 1249-1259	24.3	108
72	Bioorthogonal tetrazine-mediated transfer reactions facilitate reaction turnover in nucleic acid-templated detection of microRNA. *Journal of the American Chemical Society*, **2014**, 136, 17942-5	16.4	108
71	Fluorescent live-cell imaging of metabolically incorporated unnatural cyclopropene-mannosamine derivatives. *ChemBioChem*, **2013**, 14, 205-208	3.8	91
70	Communication and quorum sensing in non-living mimics of eukaryotic cells. *Nature Communications*, **2018**, 9, 5027	17.4	90
69	Membrane assembly driven by a biomimetic coupling reaction. *Journal of the American Chemical Society*, **2012**, 134, 751-3	16.4	88
68	Expanding room for tetrazine ligations in the in vivo chemistry toolbox. *Current Opinion in Chemical Biology*, **2013**, 17, 761-7	9.7	84
67	Synthesis and reactivity comparisons of 1-methyl-3-substituted cyclopropene mini-tags for tetrazine bioorthogonal reactions. *Chemistry - A European Journal*, **2014**, 20, 3365-75	4.8	82
66	Live-Cell Imaging of Cyclopropene Tags with Fluorogenic Tetrazine Cycloadditions. *Angewandte Chemie*, **2012**, 124, 7594-7597	3.6	82
65	Inverse Electron-Demand Diels-Alder Bioorthogonal Reactions. *Topics in Current Chemistry*, **2016**, 374, 3	7.2	74
64	Rapid oligonucleotide-templated fluorogenic tetrazine ligations. *Nucleic Acids Research*, **2013**, 41, e148	20.1	70
63	Tailoring the Shape and Size of Artificial Cells. *ACS Nano*, **2019**, 13, 7396-7401	16.7	64
62	Probing intracellular biomarkers and mediators of cell activation using nanosensors and bioorthogonal chemistry. *ACS Nano*, **2011**, 5, 3204-13	16.7	60
61	In Situ Synthesis of Alkenyl Tetrazines for Highly Fluorogenic Bioorthogonal Live-Cell Imaging Probes. *Angewandte Chemie*, **2014**, 126, 5915-5919	3.6	59
60	Site-Specific Covalent Labeling of RNA by Enzymatic Transglycosylation. *Journal of the American Chemical Society*, **2015**, 137, 12756-9	16.4	57

59	Syntheses of hemoprotein models that can be covalently attached onto electrode surfaces by click chemistry. *Journal of Organic Chemistry*, **2007**, 72, 2794-802	4.2	54
58	A minimal biochemical route towards de novo formation of synthetic phospholipid membranes. *Nature Communications*, **2019**, 10, 300	17.4	53
57	Metal-Catalyzed One-Pot Synthesis of Tetrazines Directly from Aliphatic Nitriles and Hydrazine. *Angewandte Chemie*, **2012**, 124, 5312-5315	3.6	52
56	In situ vesicle formation by native chemical ligation. *Angewandte Chemie - International Edition*, **2014**, 53, 14102-5	16.4	48
55	68Ga chelating bioorthogonal tetrazine polymers for the multistep labeling of cancer biomarkers. *Chemical Communications*, **2014**, 50, 5215-5217	5.8	42
54	SNAP-Tag-Reactive Lipid Anchors Enable Targeted and Spatiotemporally Controlled Localization of Proteins to Phospholipid Membranes. *Journal of the American Chemical Society*, **2015**, 137, 4884-7	16.4	37
53	Nonenzymatic biomimetic remodeling of phospholipids in synthetic liposomes. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 8589-94	11.5	36
52	Light-Activated Control of Translation by Enzymatic Covalent mRNA Labeling. *Angewandte Chemie - International Edition*, **2018**, 57, 2822-2826	16.4	31
51	Electrochemical Control of Rapid Bioorthogonal Tetrazine Ligations for Selective Functionalization of Microelectrodes. *Journal of the American Chemical Society*, **2015**, 137, 8876-9	16.4	30
50	vesicle formation and growth: an integrative approach to artificial cells. *Chemical Science*, **2017**, 8, 7912-7922	9.4	29
49	Towards self-assembled hybrid artificial cells: novel bottom-up approaches to functional synthetic membranes. *Chemistry - A European Journal*, **2015**, 21, 12564-70	4.8	29
48	Biomimetic Generation and Remodeling of Phospholipid Membranes by Dynamic Imine Chemistry. *Journal of the American Chemical Society*, **2018**, 140, 8388-8391	16.4	27
47	In Situ Reconstitution of the Adenosine A Receptor in Spontaneously Formed Synthetic Liposomes. *Journal of the American Chemical Society*, **2017**, 139, 3607-3610	16.4	26
46	Spontaneous Reconstitution of Functional Transmembrane Proteins During Bioorthogonal Phospholipid Membrane Synthesis. *Angewandte Chemie - International Edition*, **2015**, 54, 12738-42	16.4	22
45	Enzyme-free synthesis of natural phospholipids in water. *Nature Chemistry*, **2020**, 12, 1029-1034	17.6	22
44	Lipids: chemical tools for their synthesis, modification, and analysis. *Chemical Society Reviews*, **2020**, 49, 4602-4614	58.5	21
43	Traceless synthesis of ceramides in living cells reveals saturation-dependent apoptotic effects. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 7485-7490	11.5	19
42	Fluorescent turn-on probes for wash-free mRNA imaging covalent site-specific enzymatic labeling. *Chemical Science*, **2017**, 8, 7169-7173	9.4	17

41	Encapsulation of Living Cells within Giant Phospholipid Liposomes Formed by the Inverse-Emulsion Technique. *ChemBioChem*, **2016**, 17, 886-9	3.8	17
40	Highly Stable Artificial Cells from Galactopyranose-Derived Single-Chain Amphiphiles. *Journal of the American Chemical Society*, **2018**, 140, 17356-17360	16.4	16
39	Lipid sponge droplets as programmable synthetic organelles. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 18206-18215	11.5	15
38	Site-Specific Covalent Conjugation of Modified mRNA by tRNA Guanine Transglycosylase. *Molecular Pharmaceutics*, **2018**, 15, 737-742	5.6	13
37	Advancing Tetrazine Bioorthogonal Reactions through the Development of New Synthetic Tools. *Synlett*, **2012**, 23, 2147-2152	2.2	13
36	Continual reproduction of self-assembling oligotriazole peptide nanomaterials. *Nature Communications*, **2017**, 8, 730	17.4	11
35	Single-Chain □d-Glycopyranosylamides of Unsaturated Fatty Acids: Self-Assembly Properties and Applications to Artificial Cell Development. *Journal of Physical Chemistry B*, **2019**, 123, 3711-3720	3.4	11
34	Multiplexed Photoactivation of mRNA with Single-Cell Resolution. *ACS Chemical Biology*, **2020**, 15, 1773-1779	4.9	10
33	Designer Palmitoylation Motif-Based Self-Localizing Ligand for Sustained Control of Protein Localization in Living Cells and. *ACS Chemical Biology*, **2020**, 15, 837-843	4.9	10
32	In Situ Vesicle Formation by Native Chemical Ligation. *Angewandte Chemie*, **2014**, 126, 14326-14329	3.6	10
31	Synthesis of lipid membranes for artificial cells. *Nature Reviews Chemistry*,	34.6	10
30	In Situ Synthesis of Phospholipid Membranes. *Journal of Organic Chemistry*, **2017**, 82, 5997-6005	4.2	9
29	A Small Molecule Fluorogenic Probe for the Detection of Sphingosine in Living Cells. *Journal of the American Chemical Society*, **2020**, 142, 17887-17891	16.4	9
28	Light-Activated Control of Translation by Enzymatic Covalent mRNA Labeling. *Angewandte Chemie*, **2018**, 130, 2872-2876	3.6	8
27	Optimization of ClpXP activity and protein synthesis in an E. coli extract-based cell-free expression system. *Scientific Reports*, **2018**, 8, 3488	4.9	8
26	Approach control. Stereoelectronic origin of geometric constraints on N-to-S and N-to-O acyl shifts in peptides. *Chemical Science*, **2018**, 9, 1789-1794	9.4	8
25	Developing a Fluorescent Toolbox To Shed Light on the Mysteries of RNA. *Biochemistry*, **2017**, 56, 5185-5193	3.2	8
24	Membrane Mimetic Chemistry in Artificial Cells. *Journal of the American Chemical Society*, **2021**, 143, 8223-8231	16.4	8

23	In Situ Lipid Membrane Formation Triggered by Intramolecular Photoinduced Electron Transfer. *Langmuir*, **2018**, 34, 750-755	4	7
22	Amphiphile-Mediated Depalmitoylation of Proteins in Living Cells. *Journal of the American Chemical Society*, **2018**, 140, 17374-17378	16.4	7
21	Chemoenzymatic Generation of Phospholipid Membranes Mediated by Type I Fatty Acid Synthase. *Journal of the American Chemical Society*, **2021**, 143, 8533-8537	16.4	6
20	Spontaneous Phospholipid Membrane Formation by Histidine Ligation. *Synlett*, **2016**, 28, 108-112	2.2	6
19	Traceless native chemical ligation of lipid-modified peptide surfactants by mixed micelle formation. *Nature Communications*, **2020**, 11, 2793	17.4	5
18	Lipase mimetic cyclodextrins. *Chemical Science*, **2020**, 12, 1090-1094	9.4	5
17	Diels–Alder and Inverse Diels–Alder Reactions **2017**, 67-95		4
16	Probing the Role of Chirality in Phospholipid Membranes. *ChemBioChem*, **2021**, 22, 3148-3157	3.8	4
15	Inhibition of NRAS Signaling in Melanoma through Direct Depalmitoylation Using Amphiphilic Nucleophiles. *ACS Chemical Biology*, **2020**, 15, 2079-2086	4.9	3
14	Enzymatic RNA Biotinylation for Affinity Purification and Identification of RNA-Protein Interactions. *ACS Chemical Biology*, **2020**, 15, 2247-2258	4.9	3
13	Expression of Fatty Acyl-CoA Ligase Drives One-Pot Synthesis of Membrane-Bound Vesicles in a Cell-Free Transcription-Translation System. *Journal of the American Chemical Society*, **2021**, 143, 11235-11242	16.4	3
12	Spontaneous Reconstitution of Functional Transmembrane Proteins During Bioorthogonal Phospholipid Membrane Synthesis. *Angewandte Chemie*, **2015**, 127, 12929-12933	3.6	2
11	Controlling Protein Enrichment in Lipid Sponge Phase Droplets using SNAP-tag Bioconjugation.. *ChemBioChem*, **2021**,	3.8	2
10	Light-activated tetrazines enable live-cell spatiotemporal control of bioorthogonal reactions		2
9	Temperature-Dependent Reversible Morphological Transformations in -Oleoyl d-Galactopyranosylamine. *Journal of Physical Chemistry B*, **2020**, 124, 5426-5433	3.4	1
8	Lipid Sponge Droplets as Programmable Synthetic Organelles		1
7	Enzymatic covalent labeling of RNA with RNA transglycosylation at guanosine (RNA-TAG). *Methods in Enzymology*, **2020**, 641, 373-399	1.7	1
6	Synthetic probes and chemical tools in sphingolipid research. *Current Opinion in Chemical Biology*, **2021**, 65, 126-135	9.7	1

5	Engineering materials for artificial cells. *Current Opinion in Solid State and Materials Science*, **2022**, 26, 101004	12	1
4	Mining Proteomes Using Bioorthogonal Probes. *Cell Chemical Biology*, **2016**, 23, 751-753	8.2	
3	Enzymatic Site-Specific Labeling of RNA for Affinity Isolation of RNA-Protein Complexes. *FASEB Journal*, **2018**, 32, 790.2	0.9	
2	Laccase-Mediated Catalyzed Fluorescent Reporter Deposition for Live-Cell Imaging. *ChemBioChem*, **2020**, 21, 98-102	3.8	
1	Assembly of Transmembrane Proteins from Expressed and Synthetic Components in Giant Unilamellar Vesicles.. *ACS Chemical Biology*, **2022**, 17, 1015-1021	4.9	