Ram Krishnamurthy

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Concurrent Prebiotic Formation of Nucleosideâ€Amidophosphates and Nucleosideâ€Triphosphates Potentiates Transition from Abiotic to Biotic Polymerization. Angewandte Chemie - International Edition, 2022, 61, .	7.2	5
2	Concurrent Prebiotic Formation of Nucleosideâ€Amidophosphates and Nucleosideâ€Triphosphates Potentiates Transition from Abiotic to Biotic Polymerization. Angewandte Chemie, 2022, 134, .	1.6	3
3	InnenrÃ¼cktitelbild: Concurrent Prebiotic Formation of Nucleosideâ€Amidophosphates and Nucleosideâ€Triphosphates Potentiates Transition from Abiotic to Biotic Polymerization (Angew. Chem.) Tj ETQq1 1 0 0.784314 rgBT /Ov	1.6	0
4	A Plausible Prebiotic Oneâ€Pot Synthesis of Orotate and Pyruvate Suggestive of Common Protometabolic Pathways. Angewandte Chemie - International Edition, 2022, , .	7.2	10
5	Cyanide as a primordial reductant enables a protometabolic reductive glyoxylate pathway. Nature Chemistry, 2022, 14, 170-178.	6.6	21
6	Synthesis and hydrolytic stability of cyclic phosphatidic acids: implications for synthetic- and proto-cell studies. Chemical Communications, 2022, 58, 6231-6234.	2.2	6
7	Noncovalent Helicene Structure between Nucleic Acids and Cyanuric Acid. Chemistry - A European Journal, 2021, 27, 4043-4052.	1.7	14
8	The Unexpected Baseâ€Pairing Behavior of Cyanuric Acid in RNA and Ribose versus Cyanuric Acid Induced Helicene Assembly of Nucleic Acids: Implications for the Preâ€RNA Paradigm. Chemistry - A European Journal, 2021, 27, 4033-4042.	1.7	11
9	Prebiotic Phosphorylation and Concomitant Oligomerization of Deoxynucleosides to form DNA. Angewandte Chemie - International Edition, 2021, 60, 10775-10783.	7.2	15
10	Prebiotic Phosphorylation and Concomitant Oligomerization of Deoxynucleosides to form DNA. Angewandte Chemie, 2021, 133, 10870-10878.	1.6	5
11	Prebiotically Plausible RNA Activation Compatible with Ribozymeâ€Catalyzed Ligation. Angewandte Chemie - International Edition, 2021, 60, 2952-2957.	7.2	11
12	PrÃbiotisch plausible RNAâ€Aktivierung kompatibel mit ribozymkatalysierter Ligation. Angewandte Chemie, 2021, 133, 2988-2993.	1.6	4
13	Frontispiece: The Unexpected Baseâ€Pairing Behavior of Cyanuric Acid in RNA and Ribose versus Cyanuric Acid Induced Helicene Assembly of Nucleic Acids: Implications for the Preâ€RNA Paradigm. Chemistry - A European Journal, 2021, 27, .	1.7	0
14	Transcriptional processing of an unnatural base pair by eukaryotic RNA polymerase II. Nature Chemical Biology, 2021, 17, 906-914.	3.9	16
15	Diamidophosphate (DAP) â€" A Plausible Prebiotic Phosphorylating Reagent with a Chem to BioChem Potential?. ChemBioChem, 2021, 22, 3001-3009.	1.3	11
16	Depsipeptide Nucleic Acids: Prebiotic Formation, Oligomerization, and Self-Assembly of a New Proto-Nucleic Acid Candidate. Journal of the American Chemical Society, 2021, 143, 13525-13537.	6.6	13
17	Separations of Carbohydrates with Noncovalent Shift Reagents by Frequency-Modulated Ion Mobility-Orbitrap Mass Spectrometry. Journal of the American Society for Mass Spectrometry, 2021, 32, 2472-2480.	1.2	7
18	Towards an Understanding of the Molecular Mechanisms of Variable Unnatural Baseâ€Pair Behavior: A Biophysical Analysis of dNaMâ€dTPT3. Chemistry - A European Journal, 2021, 27, 13991-13997.	1.7	0

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19	Cyclophospholipids Increase Protocellular Stability to Metal Ions. Small, 2020, 16, e1903381.	5.2	32
20	Chemistry of Abiotic Nucleotide Synthesis. Chemical Reviews, 2020, 120, 4766-4805.	23.0	123
21	A plausible metal-free ancestral analogue of the Krebs cycle composed entirely of Î±-ketoacids. Nature Chemistry, 2020, 12, 1016-1022.	6.6	72
22	A sensitive quantitative analysis of abiotically synthesized short homopeptides using ultraperformance liquid chromatography and time-of-flight mass spectrometry. Journal of Chromatography A, 2020, 1630, 461509.	1.8	3
23	Organic acid shift reagents for the discrimination of carbohydrate isobars by ion mobility-mass spectrometry. Analyst, The, 2020, 145, 8008-8015.	1.7	1
24	Mutually stabilizing interactions between proto-peptides and RNA. Nature Communications, 2020, 11, 3137.	5.8	61
25	Introduction: Chemical Evolution and the Origins of Life. Chemical Reviews, 2020, 120, 4613-4615.	23.0	23
26	Chemical Origins of Life: Its Engagement with Society. Trends in Chemistry, 2020, 2, 406-409.	4.4	1
27	Nanopore Sequencing of an Expanded Genetic Alphabet Reveals High-Fidelity Replication of a Predominantly Hydrophobic Unnatural Base Pair. Journal of the American Chemical Society, 2020, 142, 2110-2114.	6.6	19
28	New codons for efficient production of unnatural proteins in a semisynthetic organism. Nature Chemical Biology, 2020, 16, 570-576.	3.9	67
29	Selective incorporation of proteinaceous over nonproteinaceous cationic amino acids in model prebiotic oligomerization reactions. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16338-16346.	3.3	81
30	Synthesis of 2-Thioorotidine and Comparison of Its Unusual Instability with Its Canonical Pyrimidine Counterparts. Journal of Organic Chemistry, 2019, 84, 14427-14435.	1.7	0
31	Bis(dimethylamino)phosphorodiamidate: A Reagent for the Regioselective Cyclophosphorylation ofcis-Diols Enabling One-Step Access to High-Value Target Cyclophosphates. Organic Letters, 2019, 21, 7400-7404.	2.4	12
32	Prebiotic Phosphorylation of Uridine using Diamidophosphate in Aerosols. Scientific Reports, 2019, 9, 13527.	1.6	13
33	Geochemical Sources and Availability of Amidophosphates on the Early Earth. Angewandte Chemie, 2019, 131, 8235-8239.	1.6	23
34	Optimization of Replication, Transcription, and Translation in a Semi-Synthetic Organism. Journal of the American Chemical Society, 2019, 141, 10644-10653.	6.6	52
35	Geochemical Sources and Availability of Amidophosphates on the Early Earth. Angewandte Chemie - International Edition, 2019, 58, 8151-8155.	7.2	44
36	Prebiotic phosphorylation of 2-thiouridine provides either nucleotides or DNA building blocks via photoreduction. Nature Chemistry, 2019, 11, 457-462.	6.6	61

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37	Carbohydrate isomer resolution<i>via</i>multi-site derivatization cyclic ion mobility-mass spectrometry. Analyst, The, 2019, 144, 7220-7226.	1.7	21
38	The Oligomerization of Glucose Under Plausible Prebiotic Conditions. Origins of Life and Evolution of Biospheres, 2019, 49, 225-240.	0.8	4
39	The role of sugar-backbone heterogeneity and chimeras in the simultaneous emergence of RNA and DNA. Nature Chemistry, 2019, 11, 1009-1018.	6.6	71
40	A Search for Structural Alternatives of RNA. Journal of the Mexican Chemical Society, 2019, 53, .	0.2	1
41	Effect of temperature modulations on TEMPO-mediated regioselective oxidation of unprotected carbohydrates and nucleosides. Bioorganic and Medicinal Chemistry Letters, 2018, 28, 2759-2765.	1.0	2
42	Rapid resolution of carbohydrate isomers <i>via</i> multi-site derivatization ion mobility-mass spectrometry. Analyst, The, 2018, 143, 949-955.	1.7	22
43	Glycosylation of a model proto-RNA nucleobase with non-ribose sugars: implications for the prebiotic synthesis of nucleosides. Organic and Biomolecular Chemistry, 2018, 16, 1263-1271.	1.5	29
44	Linked cycles of oxidative decarboxylation of glyoxylate as protometabolic analogs of the citric acid cycle. Nature Communications, 2018, 9, 91.	5.8	89
45	Heterogeneous Pyrophosphateâ€Linked DNAâ€“Oligonucleotides: Aversion to DNA but Affinity for RNA. Chemistry - A European Journal, 2018, 24, 6837-6842.	1.7	12
46	Phosphorylation, oligomerization and self-assembly in water under potential prebiotic conditions. Nature Chemistry, 2018, 10, 212-217.	6.6	177
47	Frontispiece: Life's Biological Chemistry: A Destiny or Destination Starting from Prebiotic Chemistry?. Chemistry - A European Journal, 2018, 24, .	1.7	0
48	Experimentally investigating the origin of DNA/RNA on early Earth. Nature Communications, 2018, 9, 5175.	5.8	16
49	Base-Mediated Cascade Aldol Addition and Fragmentation Reactions of Dihydroxyfumaric Acid and Aromatic Aldehydes: Controlling Chemodivergence via Choice of Base, Solvent, and Substituents. Journal of Organic Chemistry, 2018, 83, 14219-14233.	1.7	6
50	Frontispiece: Chimeric XNA: An Unconventional Design for Orthogonal Informational Systems. Chemistry - A European Journal, 2018, 24, .	1.7	0
51	Life's Biological Chemistry: A Destiny or Destination Starting from Prebiotic Chemistry?. Chemistry - A European Journal, 2018, 24, 16708-16715.	1.7	46
52	Chimeric XNA: An Unconventional Design for Orthogonal Informational Systems. Chemistry - A European Journal, 2018, 24, 12811-12819.	1.7	9
53	Reaction of glycine with glyoxylate: Competing transaminations, aldol reactions, and decarboxylations. Journal of Physical Organic Chemistry, 2017, 30, e3709.	0.9	5
54	Anchimericâ€Assisted Spontaneous Hydrolysis of Cyanohydrins Under Ambient Conditions: Implications for Cyanideâ€Initiated Selective Transformations. Chemistry - A European Journal, 2017, 23, 8756-8765.	1.7	15

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55	Investigations towards the Synthesis of 5-Amino-l-lyxofuranosides and 4-Amino-lyxopyranosides and NMR Analysis. SynOpen, 2017, 01, 0029-0040.	0.8	1
56	Giving Rise to Life: Transition from Prebiotic Chemistry to Protobiology. Accounts of Chemical Research, 2017, 50, 455-459.	7.6	53
57	Surveying the sequence diversity of model prebiotic peptides by mass spectrometry. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E7652-E7659.	3.3	51
58	Orotidine-Containing RNA: Implications for the Hierarchical Selection (Systems Chemistry Emergence) of RNA. Chemistry - A European Journal, 2017, 23, 12668-12675.	1.7	9
59	Elongation of Model Prebiotic Proto-Peptides by Continuous Monomer Feeding. Macromolecules, 2017, 50, 9286-9294.	2.2	27
60	Nitrogenous Derivatives of Phosphorus and the Origins of Life: Plausible Prebiotic Phosphorylating Agents in Water. Life, 2017, 7, 32.	1.1	43
61	Nucleobase modification by an RNA enzyme. Nucleic Acids Research, 2017, 45, 1345-1354.	6.5	9
62	pHâ€controlled reaction divergence of decarboxylation versus fragmentation in reactions of dihydroxyfumarate with glyoxylate and formaldehyde: parallels to biological pathways. Journal of Physical Organic Chemistry, 2016, 29, 352-360.	0.9	5
63	Prebiotic Organic Chemistry and Chemical pre-Biology: Speaking to the Synthetic Organic Chemists. Synlett, 2016, 28, 1-11.	1.0	4
64	RNAâ€"DNA Chimeras in the Context of an RNA World Transition to an RNA/DNA World. Angewandte Chemie, 2016, 128, 13398-13403.	1.6	7
65	A Plausible Prebiotic Origin of Glyoxylate: Nonenzymatic Transamination Reactions of Glycine with Formaldehyde. Synlett, 2016, 28, 93-97.	1.0	6
66	RNAâ€"DNA Chimeras in the Context of an RNA World Transition to an RNA/DNA World. Angewandte Chemie - International Edition, 2016, 55, 13204-13209.	7.2	43
67	Mineral-Induced Enantioenrichment of Tartaric Acid. Synlett, 2016, 28, 89-92.	1.0	1
68	The Abiotic Oxidation of Organic Acids to Malonate. Synlett, 2016, 28, 98-102.	1.0	4
69	Spontaneous formation and base pairing of plausible prebiotic nucleotides in water. Nature Communications, 2016, 7, 11328.	5.8	112
70	Kinetics of prebiotic depsipeptide formation from the esterâ€"amide exchange reaction. Physical Chemistry Chemical Physics, 2016, 18, 28441-28450.	1.3	28
71	Small molecule-mediated duplex formation of nucleic acids with â€˜incompatibleâ€™ backbones. Chemical Communications, 2016, 52, 5436-5439.	2.2	6
72	Esterâ€Mediated Amide Bond Formation Driven by Wetâ€"Dry Cycles: A Possible Path to Polypeptides on the Prebiotic Earth. Angewandte Chemie - International Edition, 2015, 54, 9871-9875.	7.2	246

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73	Microwaveâ€Assisted Phosphitylation of DNA and RNA Nucleosides and Their Analogs. Current Protocols in Nucleic Acid Chemistry, 2015, 60, 2.19.1-2.19.20.	0.5	3
74	On the Emergence of RNA. Israel Journal of Chemistry, 2015, 55, 837-850.	1.0	59
75	Hydrogen-Bonding Complexes of 5-Azauracil and Uracil Derivatives in Organic Medium. Journal of Organic Chemistry, 2015, 80, 7066-7075.	1.7	7
76	Synthesis of orotidine by intramolecular nucleosidation. Chemical Communications, 2015, 51, 5618-5621.	2.2	10
77	Furanose. , 2015, , 903-904.		0
78	p-RNA. , 2015, , 2017-2021.		0
79	Synthesis of phosphoramidites of isoGNA, an isomer of glycerol nucleic acid. Beilstein Journal of Organic Chemistry, 2014, 10, 2131-2138.	1.3	5
80	RNA as an Emergent Entity: An Understanding Gained Through Studying its Nonfunctional Alternatives. Synlett, 2014, 25, 1511-1517.	1.0	15
81	Spontaneous Prebiotic Formation of a Î²-Ribofuranoside That Self-Assembles with a Complementary Heterocycle. Journal of the American Chemical Society, 2014, 136, 5640-5646.	6.6	82
82	Correction to â€œProduction of Tartrates by Cyanide-Mediated Dimerization of Glyoxylate: A Potential Abiotic Pathway to the Citric Acid Cycleâ€. Journal of the American Chemical Society, 2014, 136, 11846-11846.	6.6	1
83	Microwave-assisted preparation of nucleoside-phosphoramidites. Chemical Communications, 2014, 50, 7463-7465.	2.2	11
84	A Plausible Simultaneous Synthesis of Amino Acids and Simple Peptides on the Primordial Earth. Angewandte Chemie - International Edition, 2014, 53, 8132-8136.	7.2	82
85	Production of Tartrates by Cyanide-Mediated Dimerization of Glyoxylate: A Potential Abiotic Pathway to the Citric Acid Cycle. Journal of the American Chemical Society, 2013, 135, 13440-13445.	6.6	39
86	The Origin of RNA and â€œMy Grandfatherâ€™s Axeâ€. Chemistry and Biology, 2013, 20, 466-474.	6.2	172
87	Chemical Etiology of Nucleic Acid Structure: The Pentulofuranosyl Oligonucleotide Systems: The (1â€²â†’3â€²)â€Î²â€‹<scp>L</scp>â€Ribulo, (4â€²â†’3â€²)â€Î±â€‹<scp>L</scp>â€Xylulo, and (1â€²â†’3â€²)â€Î±â€‹<scp>L</scp>â€Xylu A European Journal, 2013, 19, 15336-15345.	[illegible]	9
88	Baseâ€Pairing Properties of a Structural Isomer of Glycerol Nucleic Acid. Angewandte Chemie - International Edition, 2013, 52, 5840-5844.	7.2	40
89	Role of p<i>K</i>_a of Nucleobases in the Origins of Chemical Evolution. Accounts of Chemical Research, 2012, 45, 2035-2044.	7.6	100
90	Exploratory Experiments on the Chemistry of the â€œGlyoxylate Scenarioâ€: Formation of Ketosugars from Dihydroxyfumarate. Journal of the American Chemical Society, 2012, 134, 3577-3589.	6.6	61

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91	A Unified Mechanism for Abiotic Adenine and Purine Synthesis in Formamide. Angewandte Chemie - International Edition, 2012, 51, 5134-5137.	7.2	68
92	Mapping the Landscape of Potentially Primordial Informational Oligomers: (3â€²â†’2â€²)â€‹<scp>D</scp>â€Phosphoglyceric Acid Linked Acyclic Oligonucleotides Tagged with 2,4â€Disubstituted 5â€Aminopyrimidines as Recognition Elements. Chemistry - an Asian Journal, 2011, 6, 1252-1262.	1.7	12
93	Diastereoselective Selfâ€Condensation of Dihydroxyfumaric Acid in Water: Potential Route to Sugars. Angewandte Chemie - International Edition, 2011, 50, 8127-8130.	7.2	13
94	An expedient synthesis of l-ribulose and derivatives. Carbohydrate Research, 2011, 346, 703-707.	1.1	8
95	Furanose. , 2011, , 619-619.		0
96	p-RNA. , 2011, , 1339-1341.		0
97	Mapping the Landscape of Potentially Primordial Informational Oligomers: Oligoâ€dipeptides Tagged with Orotic Acid Derivatives as Recognition Elements. Angewandte Chemie - International Edition, 2009, 48, 8124-8128.	7.2	20
98	The Structure of a TNAâˆ'TNA Complex in Solution: NMR Study of the Octamer Duplex Derived from Î±-(<scp>l</scp>)-Threofuranosyl-(3â€²-2â€²)-CGAATTCG. Journal of the American Chemical Society, 2008, 130, 15105-15115.	6.6	61
99	Mapping the Landscape of Potentially Primordial Informational Oligomers: Oligodipeptides and Oligodipeptoids Tagged with Triazines as Recognition Elements. Angewandte Chemie - International Edition, 2007, 46, 2470-2477.	7.2	90
100	Cover Picture: Mapping the Landscape of Potentially Primordial Informational Oligomers: Oligodipeptides and Oligodipeptoids Tagged with Triazines as Recognition Elements / Mapping the Landscape of Potentially Primordial Informational Oligomers: Oligodipeptides Tagged with 2,4-Disubstituted 5-Aminopyrimidines as Recognition Elements (Angew. Chem. Int. Ed. 14/2007). Angewandte Chemie - International Edition, 2007, 46, 2333-2333.	7.2	0
101	Mapping the Landscape of Potentially Primordial Informational Oligomers: Oligodipeptides Tagged with 2,4-Disubstituted 5-Aminopyrimidines as Recognition Elements. Angewandte Chemie - International Edition, 2007, 46, 2478-2484.	7.2	80
102	Tautomerism in 5,8-Diaza-7,9-dicarbaguanine (â€˜Alloguanineâ€™). Helvetica Chimica Acta, 2005, 88, 1960-1968.	1.0	6
103	Mannich-Type C-Nucleosidations with 7-Carba-purines and 4-Aminopyrimidines. Synlett, 2005, 2005, 0744-0750.	1.0	0
104	Base-Pairing Systems Related to TNA Containing Phosphoramidate Linkages: Synthesis of Building Blocks and Pairing Properties. Chemistry and Biodiversity, 2004, 1, 939-979.	1.0	13
105	Mannich-Type C-Nucleosidations in the 5,8-Diaza-7,9-dicarba-purine Family1. Organic Letters, 2004, 6, 3691-3694.	2.4	11
106	Pentopyranosyl Oligonucleotide Systems. Communication No.â€…13. Helvetica Chimica Acta, 2003, 86, 1259-1308.	1.0	19
107	Pentopyranosyl Oligonucleotide Systems. 9th Communication. Helvetica Chimica Acta, 2003, 86, 4270-4363.	1.0	50
108	Why Does TNA Cross-Pair More Strongly with RNA Than with DNA? An Answer From X-ray Analysis. Angewandte Chemie - International Edition, 2003, 42, 5893-5895.	7.2	63

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109	C-Nucleosidations with 2,6-Diamino-5,8-diaza-7,9-dicarba-purine1. Organic Letters, 2003, 5, 2071-2074.	2.4	13
110	2,6-Diamino-5,8-diaza-7,9-dicarba-purine1. Organic Letters, 2003, 5, 2067-2070.	2.4	21
111	Crystal Structure of a B-Form DNA Duplex Containing (l)-Î±-Threofuranosyl (3â€˜â†’2â€˜) Nucleosides:Â A Four-Carbon Sugar Is Easily Accommodated into the Backbone of DNA. Journal of the American Chemical Society, 2002, 124, 13716-13721.	6.6	63
112	Base-Pairing Systems Related to TNA:â€‰ Î±-Threofuranosyl Oligonucleotides Containing Phosphoramidate Linkages1. Organic Letters, 2002, 4, 1279-1282.	2.4	38
113	2,6-Diaminopurine in TNA:â€‰ Effect on Duplex Stabilities and on the Efficiency of Template-Controlled Ligations1. Organic Letters, 2002, 4, 1283-1286.	2.4	63
114	Pentopyranosyl Oligonucleotide Systems, Communication No.12,		

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127	Chemical Etiology of Nucleic Acid Structure: Comparing Pentopyranosyl-(2'â†'4') Oligonucleotides with RNA. Science, 1999, 283, 699-703.	6.0	113
128	Promiscuous Watsonâ^'Crick Cross-Pairing within the Family of Pentopyranosyl (4â€˜â†'2â€˜) Oligonucleotides1. Organic Letters, 1999, 1, 1527-1530.	2.4	24
129	l-Î±-Lyxopyranosyl (4â€˜â†'3â€˜) Oligonucleotides:â€‰ A Base-Pairing System Containing a Shortened Backbone1. Organic Letters, 1999, 1, 1531-1534.	2.4	22
130	Formation of Sugar Phosphates under Potentially Natural Conditions. Mineralogical Magazine, 1998, 62A, 815-815.	0.6	0
131	Pyranosyl-RNA: Base Pairing between Homochiral Oligonucleotide Strands of Opposite Sense of Chirality. Angewandte Chemie International Edition in English, 1996, 35, 1537-1541.	4.4	57
132	Pyranosyl-RNA (â€˜p-RNAâ€™): Base-pairing selectivity and potential to replicate. Preliminary communication. Helvetica Chimica Acta, 1995, 78, 1621-1635.	1.0	116
133	Bis(tri-n-butylstannyl)benzopinacolate: Preparation and use as a mediator of intermolecular free radical reactions. Tetrahedron Letters, 1993, 34, 7819-7822.	0.7	24
134	Investigation of a model for 1,2-asymmetric induction in reactions of .alpha.-carbalkoxy radicals: a stereochemical comparison of reactions of .alpha.-carbalkoxy radicals and ester enolates. Journal of Organic Chemistry, 1992, 57, 4457-4470.	1.7	87
135	Synthesis of 6H-dibenzo[b,d]pyran-6-ones via dienone-phenol rearrangements of spiro[2,5-cyclohexadiene-1,1â€²(3â€²H)-isobenzofuran]-3â€²-ones. Tetrahedron, 1992, 48, 8179-8188.	1.0	26
136	Stereoselective Free Radical Reactions at C(20) of Steroid Side Chains. Synlett, 1991, 1991, 412-414.	1.0	27
137	Free-radical cyclizations: application to the total synthesis of dl-pleurotin and dl-dihydropleurotin acid. Journal of the American Chemical Society, 1989, 111, 7507-7519.	6.6	82
138	A Plausible Prebiotic Oneâ€Pot Synthesis of Orotate and Pyruvate Suggestive of Common Protometabolic Pathways. Angewandte Chemie, 0, , .	1.6	2
139	Frontiers in Prebiotic Chemistry and Early Earth Environments. Origins of Life and Evolution of Biospheres, 0, , .	0.8	1