Samuel E Butcher

List of Publications by Year
in descending order

67 papers	3,085 citations	147801 31 h-index	168389 53 g-index
70 all docs	70 docs citations	70 times ranked	2885 citing authors

#	Article	IF	Citations
1	Pseudoknots: RNA Structures with Diverse Functions. PLoS Biology, 2005, 3, e213.	5.6	281
2	The Molecular Interactions That Stabilize RNA Tertiary Structure: RNA Motifs, Patterns, and Networks. Accounts of Chemical Research, 2011, 44, 1302-1311.	15.6	276
3	RNA Helical Packing in Solution: NMR Structure of a 30kDa GAAA Tetraloopâ€“Receptor Complex. Journal of Molecular Biology, 2005, 351, 371-382.	4.2	142
4	Metal binding and base ionization in the U6 RNA intramolecular stem-loop structure. Nature Structural Biology, 2002, 9, 431-435.	9.7	135
5	Quantitative Analysis of the Isolated GAAA Tetraloop/Receptor Interaction in Solution:Â A Site-Directed Spin Labeling Studyâ€. Biochemistry, 2001, 40, 6929-6936.	2.5	125
6	U2â€“U6 RNA folding reveals a group II intron-like domain and a four-helix junction. Nature Structural and Molecular Biology, 2004, 11, 1237-1242.	8.2	123
7	Solution Structure and Thermodynamic Investigation of the HIV-1 Frameshift Inducing Element. Journal of Molecular Biology, 2005, 349, 1011-1023.	4.2	92
8	The life of U6 small nuclear RNA, from cradle to grave. Rna, 2018, 24, 437-460.	3.5	92
9	Identification of the SSB Binding Site on E. coli RecQ Reveals a Conserved Surface for Binding SSB's C Terminus. Journal of Molecular Biology, 2009, 386, 612-625.	4.2	84
10	Structure of the yeast U2/U6 snRNA complex. Rna, 2012, 18, 673-683.	3.5	78
11	Determination of Metal Ion Binding Sites within the Hairpin Ribozyme Domains by NMRâ€. Biochemistry, 2000, 39, 2174-2182.	2.5	74
12	Core structure of the U6 small nuclear ribonucleoprotein at 1.7-Ã… resolution. Nature Structural and Molecular Biology, 2014, 21, 544-551.	8.2	65
13	Dynamics in the U6 RNA Intramolecular Stemâˆ'Loop:Â A Base Flipping Conformational Changeâ€,â€¡. Biochemistry, 2004, 43, 13739-13747.	2.5	64
14	HIV-1 frameshift efficiency is primarily determined by the stability of base pairs positioned at the mRNA entrance channel of the ribosome. Nucleic Acids Research, 2013, 41, 1901-1913.	14.5	64
15	Dynamics and Metal Ion Binding in the U6 RNA Intramolecular Stemâ€“Loop as Analyzed by NMR. Journal of Molecular Biology, 2005, 353, 540-555.	4.2	62
16	Through-bond correlation of imino and aromatic resonances in 13C-,15N-labeled RNA via heteronuclear TOCSY. Journal of Biomolecular NMR, 1996, 7, 83-87.	2.8	59
17	Structural mechanisms of DNA binding and unwinding in bacterial RecQ helicases. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4292-4297.	7.1	58
18	Solution structure of the HIV-1 frameshift inducing stem-loop RNA. Nucleic Acids Research, 2003, 31, 4326-4331.	14.5	57

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19	Structure of the HIV-1 Frameshift Site RNA Bound to a Small Molecule Inhibitor of Viral Replication. ACS Chemical Biology, 2011, 6, 857-864.	3.4	55
20	Global Molecular Structure and Interfaces:â€‰ Refining an RNA:RNA Complex Structure Using Solution X-ray Scattering Data. Journal of the American Chemical Society, 2008, 130, 3292-3293.	13.7	54
21	Targeting frameshifting in the human immunodeficiency virus. Expert Opinion on Therapeutic Targets, 2012, 16, 249-258.	3.4	49
22	Characterization of the kinetic and thermodynamic landscape of RNA folding using a novel application of isothermal titration calorimetry. Nucleic Acids Research, 2012, 40, 2140-2151.	14.5	47
23	Integrative NMR for biomolecular research. Journal of Biomolecular NMR, 2016, 64, 307-332.	2.8	47
24	Guanidinoneomycin B Recognition of an HIVâ€1 RNA Helix. ChemBioChem, 2008, 9, 93-102.	2.6	46
25	Structural Analysis of Multi-Helical RNAs by NMRâ€“SAXS/WAXS: Application to the U4/U6 di-snRNA. Journal of Molecular Biology, 2016, 428, 777-789.	4.2	45
26	Rapid global structure determination of large RNA and RNA complexes using NMR and small-angle X-ray scattering. Methods, 2010, 52, 180-191.	3.8	44
27	DNA mimicry by a high-affinity anti-NF-ÎºB RNA aptamer. Nucleic Acids Research, 2008, 36, 1227-1236.	14.5	43
28	A novel occluded RNA recognition motif in Prp24 unwinds the U6 RNA internal stem loop. Nucleic Acids Research, 2011, 39, 7837-7847.	14.5	42
29	<i>N</i>-Methylation as a Strategy for Enhancing the Affinity and Selectivity of RNA-binding Peptides: Application to the HIV-1 Frameshift-Stimulating RNA. ACS Chemical Biology, 2016, 11, 88-94.	3.4	37
30	Structure and Interactions of the First Three RNA Recognition Motifs of Splicing Factor Prp24. Journal of Molecular Biology, 2007, 367, 1447-1458.	4.2	36
31	Selection and Characterization of Small Molecules That Bind the HIV-1 Frameshift Site RNA. ACS Chemical Biology, 2009, 4, 844-854.	3.4	35
32	Stability of HIV Frameshift Site RNA Correlates with Frameshift Efficiency and Decreased Virus Infectivity. Journal of Virology, 2016, 90, 6906-6917.	3.4	33
33	Structure of the U6 RNA intramolecular stem-loop harboring an SP-phosphorothioate modification. Rna, 2003, 9, 533-542.	3.5	31
34	Minimum-Energy Path for a U6 RNA Conformational Change Involving Protonation, Base-Pair Rearrangement and Base Flipping. Journal of Molecular Biology, 2009, 391, 894-905.	4.2	31
35	Structure and Dynamics of the HIV-1 Frameshift Element RNA. Biochemistry, 2014, 53, 4282-4291.	2.5	31
36	Structural Basis for a Lethal Mutation in U6 RNAâ€,â€¡. Biochemistry, 2003, 42, 1470-1477.	2.5	30

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37	Thermodynamics and Folding Pathway of Tetraloop Receptor-Mediated RNA Helical Packing. Journal of Molecular Biology, 2008, 384, 702-717.	4.2	28
38	A dynamic bulge in the U6 RNA internal stemâ€"loop functions in spliceosome assembly and activation. Rna, 2007, 13, 2252-2265.	3.5	25
39	Measuring the dynamic surface accessibility of RNA with the small paramagnetic molecule TEMPOL. Nucleic Acids Research, 2008, 36, e20-e20.	14.5	25
40	Nucleic Acid Structure Characterization by Small Angle Xâ€Ray Scattering (SAXS). Current Protocols in Nucleic Acid Chemistry, 2012, 51, Unit7.18.	0.5	24
41	Global shape mimicry of tRNA within a viral internal ribosome entry site mediates translational reading frame selection. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E6446-55.	7.1	24
42	Pathogenic TFG Mutations Underlying Hereditary Spastic Paraplegia Impair Secretory Protein Trafficking and Axon Fasciculation. Cell Reports, 2018, 24, 2248-2260.	6.4	24
43	Structure and functional implications of a complex containing a segment of U6 RNA bound by a domain of Prp24. Rna, 2010, 16, 792-804.	3.5	22
44	Structural requirements for protein-catalyzed annealing of U4 and U6 RNAs during di-snRNP assembly. Nucleic Acids Research, 2016, 44, 1398-1410.	14.5	22
45	Molecular basis for the distinct cellular functions of the Lsm1â€"7 and Lsm2â€"8 complexes. Rna, 2020, 26, 1400-1413.	3.5	22
46	The spliceosome as ribozyme hypothesis takes a second step. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12211-12212.	7.1	20
47	Usb1 controls U6 snRNP assembly through evolutionarily divergent cyclic phosphodiesterase activities. Nature Communications, 2017, 8, 497.	12.8	20
48	8. The Spliceosome and Its Metal Ions. Metal Ions in Life Sciences, 2011, 9, 235-251.	1.0	18
49	Architecture of the U6 snRNP reveals specific recognition of 3â€²-end processed U6 snRNA. Nature Communications, 2018, 9, 1749.	12.8	17
50	tRNA-mimicry in IRES-mediated translation and recoding. RNA Biology, 2016, 13, 1068-1074.	3.1	16
51	Structural and mechanistic basis for preferential deadenylation of U6 snRNA by Usb1. Nucleic Acids Research, 2018, 46, 11488-11501.	14.5	16
52	RNA-PAIRS: RNA probabilistic assignment of imino resonance shifts. Journal of Biomolecular NMR, 2012, 52, 289-302.	2.8	15
53	A multi-step model for facilitated unwinding of the yeast U4/U6 RNA duplex. Nucleic Acids Research, 2016, 44, 10912-10928.	14.5	14
54	Measuring the Kinetics of Molecular Association by Isothermal Titration Calorimetry. Methods in Enzymology, 2016, 567, 181-213.	1.0	10

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55	Spliceosome assembly in the absence of stable U4/U6 RNA pairing. Rna, 2015, 21, 923-934.	3.5	9
56	Conformational flexibility in the enterovirus RNA replication platform. Rna, 2019, 25, 376-387.	3.5	9
57	Expanded DNA and RNA Trinucleotide Repeats in Myotonic Dystrophy Type 1 Select Their Own Multitarget, Sequence-Selective Inhibitors. Biochemistry, 2020, 59, 3463-3472.	2.5	8
58	Resonance assignments for the two N-terminal RNA recognition motifs (RRM) of the S. cerevisiae Pre-mRNA Processing Protein Prp24. Journal of Biomolecular NMR, 2006, 36, 58-58.	2.8	5
59	Structure and conformational plasticity of the U6 small nuclear ribonucleoprotein core. Acta Crystallographica Section D: Structural Biology, 2017, 73, 1-8.	2.3	5
60	Perturbing HIV-1 Ribosomal Frameshifting Frequency Reveals a <i>cis</i> Preference for Gag-Pol Incorporation into Assembling Virions. Journal of Virology, 2022, 96, JVI0134921.	3.4	5
61	Dynamic Motions of the HIV-1 Frameshift Site RNA. Biophysical Journal, 2015, 108, 644-654.	0.5	4
62	Structure of an RNA helix with pyrimidine mismatches and cross-strand stacking. Acta Crystallographica Section F, Structural Biology Communications, 2019, 75, 652-656.	0.8	4
63	1H, 13C and 15N resonance assignments of a ribonucleoprotein complex consisting of Prp24-RRM2 bound to a fragment of U6 RNA. Biomolecular NMR Assignments, 2009, 3, 227-230.	0.8	3
64	Structural basis for the evolution of cyclic phosphodiesterase activity in the U6 snRNA exoribonuclease Usb1. Nucleic Acids Research, 2020, 48, 1423-1434.	14.5	1
65	8 The Spliceosome and Its Metal Ions. , 2015, , 235-252.		0
66	Investigating RNAs Involved in Translational Control by NMR and SAXS. , 2012, , 141-172.		0
67	RNA binding properties of the Lsm1â€“7 ring from Schizosaccharomyces pombe. FASEB Journal, 2019, 33, 460.12.	0.5	0