JoAnne Stubbe

List of Publications by Citations

213 papers	13,028 citations	61 h-index	105 g-index
222 ext. papers	13,994 ext. citations	11.3 avg, IF	6.47 L-index

#	Paper	IF	Citations
213	Protein Radicals in Enzyme Catalysis. *Chemical Reviews*, **1998**, 98, 705-762	68.1	1278
212	Radical initiation in the class I ribonucleotide reductase: long-range proton-coupled electron transfer?. *Chemical Reviews*, **2003**, 103, 2167-201	68.1	707
211	Proton-coupled electron transfer: the mechanistic underpinning for radical transport and catalysis in biology. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2006**, 361, 1351-64	5.8	238
210	Reconsideration of X, the Diiron Intermediate Formed during Cofactor Assembly in E. coli Ribonucleotide Reductase. *Journal of the American Chemical Society*, **1996**, 118, 7551-7557	16.4	234
209	Cytosolic monothiol glutaredoxins function in intracellular iron sensing and trafficking via their bound iron-sulfur cluster. *Cell Metabolism*, **2010**, 12, 373-385	24.6	224
208	Bleomycins: A Structural Model for Specificity, Binding, and Double Strand Cleavage. *Accounts of Chemical Research*, **1996**, 29, 322-330	24.3	207
207	Reversible, long-range radical transfer in E. coli class Ia ribonucleotide reductase. *Accounts of Chemical Research*, **2013**, 46, 2524-35	24.3	188
206	An ENDOR study of the tyrosyl free radical in ribonucleotide reductase from Escherichia coli. *Journal of the American Chemical Society*, **1989**, 111, 8076-8083	16.4	177
205	PHA synthase activity controls the molecular weight and polydispersity of polyhydroxybutyrate in vivo. *Nature Biotechnology*, **1997**, 15, 63-7	44.5	172
204	EXAFS Characterization of the Intermediate X Generated During the Assembly of the Escherichia coli Ribonucleotide Reductase R2 Diferric Tyrosyl Radical Cofactor. *Journal of the American Chemical Society*, **1998**, 120, 849-860	16.4	171
203	Mechanism of Assembly of the Tyrosyl Radical-Diiron(III) Cofactor of E. coli Ribonucleotide Reductase. 2. Kinetics of The Excess Fe2+ Reaction by Optical, EPR, and Moessbauer Spectroscopies. *Journal of the American Chemical Society*, **1994**, 116, 8015-8023	16.4	169
202	The crystal structure of class II ribonucleotide reductase reveals how an allosterically regulated monomer mimics a dimer. *Nature Structural Biology*, **2002**, 9, 293-300		164
201	Ribonucleotide reductases: radical enzymes with suicidal tendencies. *Chemistry and Biology*, **1995**, 2, 793-801		163
200	Class I ribonucleotide reductases: metallocofactor assembly and repair in vitro and in vivo. *Annual Review of Biochemistry*, **2011**, 80, 733-67	29.1	155
199	Mechanism of Assembly of the Tyrosyl Radical-Diiron(III) Cofactorof E. coli Ribonucleotide Reductase. 3. Kinetics of the Limiting Fe2+ Reaction by Optical, EPR, and Moessbauer Spectroscopies. *Journal of the American Chemical Society*, **1994**, 116, 8024-8032	16.4	142
198	Harnessing free radicals: formation and function of the tyrosyl radical in ribonucleotide reductase. *Trends in Biochemical Sciences*, **1998**, 23, 438-43	10.3	138
197	The Ralstonia eutropha PhaR protein couples synthesis of the PhaP phasin to the presence of polyhydroxybutyrate in cells and promotes polyhydroxybutyrate production. *Journal of Bacteriology*, **2002**, 184, 59-66	3.5	127

196	Polyhydroxyalkanoate (PHA) hemeostasis: the role of PHA synthase. *Natural Product Reports*, **2003**, 20, 445-57	15.1	124
195	Nontemplate-dependent polymerization processes: polyhydroxyalkanoate synthases as a paradigm. *Annual Review of Biochemistry*, **2005**, 74, 433-80	29.1	123
194	Subcellular localization of yeast ribonucleotide reductase regulated by the DNA replication and damage checkpoint pathways. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 6628-33	11.5	121
193	Class I and III polyhydroxyalkanoate synthases from Ralstonia eutropha and Allochromatium vinosum: characterization and substrate specificity studies. *Archives of Biochemistry and Biophysics*, **2001**, 394, 87-98	4.1	121
192	Site-specific insertion of 3-aminotyrosine into subunit alpha2 of E. coli ribonucleotide reductase: direct evidence for involvement of Y730 and Y731 in radical propagation. *Journal of the American Chemical Society*, **2007**, 129, 15060-71	16.4	117
191	Mono-, di-, tri-, and tetra-substituted fluorotyrosines: new probes for enzymes that use tyrosyl radicals in catalysis. *Journal of the American Chemical Society*, **2006**, 128, 1569-79	16.4	115
190	New insight into the role of the PhaP phasin of Ralstonia eutropha in promoting synthesis of polyhydroxybutyrate. *Journal of Bacteriology*, **2001**, 183, 2394-7	3.5	115
189	Structural basis for activation of class Ib ribonucleotide reductase. *Science*, **2010**, 329, 1526-30	33.3	114
188	High-frequency (139.5 GHz) EPR spectroscopy of the tyrosyl radical in Escherichia coli ribonucleotide reductase. *Journal of the American Chemical Society*, **1993**, 115, 6420-6421	16.4	114
187	Pre-steady-state and steady-state kinetic analysis of E. coli class I ribonucleotide reductase. *Biochemistry*, **2003**, 42, 10071-83	3.2	112
186	The Core Structure of X Generated in the Assembly of the Diiron Cluster of Ribonucleotide Reductase:□17O2and H217O ENDOR. *Journal of the American Chemical Society*, **1998**, 120, 12910-12919	16.4	111
185	Di-iron-tyrosyl radical ribonucleotide reductases. *Current Opinion in Chemical Biology*, **2003**, 7, 183-8	9.7	108
184	An active dimanganese(III)-tyrosyl radical cofactor in Escherichia coli class Ib ribonucleotide reductase. *Biochemistry*, **2010**, 49, 1297-309	3.2	107
183	Identification of the Protonated Oxygenic Ligands of Ribonucleotide Reductase Intermediate X by Q-Band1,2H CW and Pulsed ENDOR. *Journal of the American Chemical Society*, **1997**, 119, 9816-9824	16.4	107
182	Studies of Co□Bleomycin A2 Green: Its Detailed Structural Characterization by NMR and Molecular Modeling and Its Sequence-Specific Interaction with DNA Oligonucleotides. *Journal of the American Chemical Society*, **1996**, 118, 1268-1280	16.4	105
181	pH Rate profiles of FnY356-R2s (n = 2, 3, 4) in Escherichia coli ribonucleotide reductase: evidence that Y356 is a redox-active amino acid along the radical propagation pathway. *Journal of the American Chemical Society*, **2006**, 128, 1562-8	16.4	102
180	Coenzyme B12-dependent ribonucleotide reductase: evidence for the participation of five cysteine residues in ribonucleotide reduction. *Biochemistry*, **1994**, 33, 12676-85	3.2	102
179	Lipases provide a new mechanistic model for polyhydroxybutyrate (PHB) synthases: characterization of the functional residues in Chromatium vinosum PHB synthase. *Biochemistry*, **2000**, 39, 3927-36	3.2	97

178	Metallation and mismetallation of iron and manganese proteins in vitro and in vivo: the class I ribonucleotide reductases as a case study. *Metallomics*, **2012**, 4, 1020-36	4.5	96
177	Rapid Freeze□Quench ENDOR of the Radical X Intermediate of Escherichia coli Ribonucleotide Reductase Using 17O2, H217O, and 2H2O. *Journal of the American Chemical Society*, **1996**, 118, 281-282	16.4	95
176	Kinetic studies of polyhydroxybutyrate granule formation in Wautersia eutropha H16 by transmission electron microscopy. *Journal of Bacteriology*, **2005**, 187, 3814-24	3.5	94
175	EPR distance measurements support a model for long-range radical initiation in E. coli ribonucleotide reductase. *Journal of the American Chemical Society*, **2005**, 127, 15014-5	16.4	93
174	Ralstonia eutropha H16 encodes two and possibly three intracellular Poly[D-(-)-3-hydroxybutyrate] depolymerase genes. *Journal of Bacteriology*, **2003**, 185, 3788-94	3.5	92
173	Mechanistic studies on bleomycin-mediated DNA damage: multiple binding modes can result in double-stranded DNA cleavage. *Nucleic Acids Research*, **2008**, 36, 3781-90	20.1	89
172	Enhanced subunit interactions with gemcitabine-5'-diphosphate inhibit ribonucleotide reductases. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 14324-9	11.5	87
171	PHA synthase from chromatium vinosum: cysteine 149 is involved in covalent catalysis. *Biochemistry* , **1999**, 38, 826-37	3.2	87
170	N5-carboxyaminoimidazole ribonucleotide: evidence for a new intermediate and two new enzymatic activities in the de novo purine biosynthetic pathway of Escherichia coli. *Biochemistry*, **1994**, 33, 2269-78	3.2	84
169	Incorporation of fluorotyrosines into ribonucleotide reductase using an evolved, polyspecific aminoacyl-tRNA synthetase. *Journal of the American Chemical Society*, **2011**, 133, 15942-5	16.4	81
168	Site-specific replacement of Y356 with 3,4-dihydroxyphenylalanine in the beta2 subunit of E. coli ribonucleotide reductase. *Journal of the American Chemical Society*, **2006**, 128, 2522-3	16.4	81
167	Mechanistic studies on class I polyhydroxybutyrate (PHB) synthase from Ralstonia eutropha: class I and III synthases share a similar catalytic mechanism. *Biochemistry*, **2001**, 40, 1011-9	3.2	81
166	Ribonucleotide reductases: the link between an RNA and a DNA world?. *Current Opinion in Structural Biology*, **2000**, 10, 731-6	8.1	80
165	Mechanism of assembly of the dimanganese-tyrosyl radical cofactor of class Ib ribonucleotide reductase: enzymatic generation of superoxide is required for tyrosine oxidation via a Mn(III)Mn(IV) intermediate. *Journal of the American Chemical Society*, **2013**, 135, 4027-39	16.4	78
164	EPR Investigations of the Inactivation of E. coli Ribonucleotide Reductase with 2'-Azido-2'-deoxyuridine 5'-Diphosphate: Evidence for the Involvement of the Thiyl Radical of C225-R1. *Journal of the American Chemical Society*, **1995**, 117, 8908-8916	16.4	78
163	Structural interconversions modulate activity of Escherichia coli ribonucleotide reductase. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 21046-51	11.5	77
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158	Isotope effects on the cleavage of DNA by bleomycin: mechanism and modulation. *Biochemistry*, **1993**, 32, 2601-9	3.2	70
157	Site-specific incorporation of 3-nitrotyrosine as a probe of pKa perturbation of redox-active tyrosines in ribonucleotide reductase. *Journal of the American Chemical Society*, **2010**, 132, 8385-97	16.4	69
156	Modular evolution of the purine biosynthetic pathway. *Current Opinion in Chemical Biology*, **2000**, 4, 567-72	9.7	69
155	Detection of a new substrate-derived radical during inactivation of ribonucleotide reductase from Escherichia coli by gemcitabine 5'-diphosphate. *Biochemistry*, **1998**, 37, 6419-26	3.2	63
154	Escherichia coli class Ib ribonucleotide reductase contains a dimanganese(III)-tyrosyl radical cofactor in vivo. *Biochemistry*, **2011**, 50, 1672-81	3.2	61
153	X-ray crystal structure of aminoimidazole ribonucleotide synthetase (PurM), from the Escherichia coli purine biosynthetic pathway at 2.5 A resolution. *Structure*, **1999**, 7, 1155-66	5.2	61
152	Use of rapid kinetics methods to study the assembly of the diferric-tyrosyl radical cofactor of E. coli ribonucleotide reductase. *Methods in Enzymology*, **1995**, 258, 278-303	1.7	61
151	Solution structure of Co(III)-bleomycin-OOH bound to a phosphoglycolate lesion containing oligonucleotide: implications for bleomycin-induced double-strand DNA cleavage. *Biochemistry*, **2001**, 40, 5894-905	3.2	60
150	PELDOR spectroscopy with DOPA-beta2 and NH2Y-alpha2s: distance measurements between residues involved in the radical propagation pathway of E. coli ribonucleotide reductase. *Journal of the American Chemical Society*, **2007**, 129, 15748-9	16.4	59
149	Inactivation of ribonucleotide reductase by (E)-2'-fluoromethylene-2'-deoxycytidine 5'-diphosphate: a paradigm for nucleotide mechanism-based inhibitors. *Biochemistry*, **1996**, 35, 8381-91	3.2	59
148	Growth and localization of polyhydroxybutyrate granules in Ralstonia eutropha. *Journal of Bacteriology*, **2012**, 194, 1092-9	3.5	58
147	2,3-difluorotyrosine at position 356 of ribonucleotide reductase R2: a probe of long-range proton-coupled electron transfer. *Journal of the American Chemical Society*, **2003**, 125, 10506-7	16.4	58
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145	Radicals with a controlled lifestyle. *Chemical Communications*, **2003**, 2511-3	5.8	57
144	Hydrogen bond network between amino acid radical intermediates on the proton-coupled electron transfer pathway of E. coli R2 ribonucleotide reductase. *Journal of the American Chemical Society*, **2015**, 137, 289-98	16.4	56
143	Kinetics of radical intermediate formation and deoxynucleotide production in 3-aminotyrosine-substituted Escherichia coli ribonucleotide reductases. *Journal of the American Chemical Society*, **2011**, 133, 9430-40	16.4	56

142	Structure of the Catalytic Domain of the Class I Polyhydroxybutyrate Synthase from Cupriavidus necator. *Journal of Biological Chemistry*, **2016**, 291, 25264-25277	5.4	55
141	Tangled up in knots: structures of inactivated forms of E. coli class Ia ribonucleotide reductase. *Structure*, **2012**, 20, 1374-83	5.2	55
140	Mechanistic studies of semicarbazone triapine targeting human ribonucleotide reductase in vitro and in mammalian cells: tyrosyl radical quenching not involving reactive oxygen species. *Journal of Biological Chemistry*, **2012**, 287, 35768-35778	5.4	55
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138	Analysis of transient polyhydroxybutyrate production in Wautersia eutropha H16 by quantitative Western analysis and transmission electron microscopy. *Journal of Bacteriology*, **2005**, 187, 3825-32	3.5	55
137	Circular Dichroism and Magnetic Circular Dichroism Studies of the Fully Reduced Binuclear Non-Heme Iron Active Site in the Escherichia coli R2 Subunit of Ribonucleoside Diphosphate Reductase. *Journal of the American Chemical Society*, **1995**, 117, 12664-12678	16.4	55
136	Equilibration of tyrosyl radicals (Y356•Y731•Y730•) in the radical propagation pathway of the Escherichia coli class Ia ribonucleotide reductase. *Journal of the American Chemical Society*, **2011**, 133, 18420-32	16.4	54
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134	Site-specific incorporation of fluorotyrosines into the R2 subunit of E. coli ribonucleotide reductase by expressed protein ligation. *Nature Protocols*, **2007**, 2, 1225-35	18.8	53
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129	Ribonucleotide Reductases: Structure, Chemistry, and Metabolism Suggest New Therapeutic Targets. *Annual Review of Biochemistry*, **2020**, 89, 45-75	29.1	50
128	Structure of the nucleotide radical formed during reaction of CDP/TTP with the E441Q-alpha2beta2 of E. coli ribonucleotide reductase. *Journal of the American Chemical Society*, **2009**, 131, 200-11	16.4	50
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124	X-ray crystal structure of glycinamide ribonucleotide synthetase from Escherichia coli. *Biochemistry*, **1998**, 37, 15647-62	3.2	49
123	YfaE, a ferredoxin involved in diferric-tyrosyl radical maintenance in Escherichia coli ribonucleotide reductase. *Biochemistry*, **2007**, 46, 11577-88	3.2	48
122	High-frequency (140-GHz) time domain EPR and ENDOR spectroscopy: the tyrosyl radical-diiron cofactor in ribonucleotide reductase from yeast. *Journal of the American Chemical Society*, **2001**, 123, 3569-76	16.4	48
121	Photo-ribonucleotide reductase 2 by selective cysteine labeling with a radical phototrigger. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 39-43	11.5	47
120	Turning on ribonucleotide reductase by light-initiated amino acid radical generation. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 6882-7	11.5	47
119	A Systematic Evaluation of the Bleomycin A2l-Threonine Side Chain: Its Role in Preorganization of a Compact Conformation Implicated in Sequence-Selective DNA Cleavage. *Journal of the American Chemical Society*, **1998**, 120, 9139-9148	16.4	47
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110	Function of the diiron cluster of Escherichia coli class Ia ribonucleotide reductase in proton-coupled electron transfer. *Journal of the American Chemical Society*, **2013**, 135, 8585-93	16.4	43
109	Photoactive peptides for light-initiated tyrosyl radical generation and transport into ribonucleotide reductase. *Journal of the American Chemical Society*, **2007**, 129, 8500-9	16.4	41
108	Crystal structure of Escherichia coli PurE, an unusual mutase in the purine biosynthetic pathway. *Structure*, **1999**, 7, 1395-406	5.2	41
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104	Conserved electron donor complex Dre2-Tah18 is required for ribonucleotide reductase metallocofactor assembly and DNA synthesis. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, E1695-704	11.5	38
103	Deciphering radical transport in the large subunit of class I ribonucleotide reductase. *Journal of the American Chemical Society*, **2012**, 134, 1172-80	16.4	38
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97	Allosteric Inhibition of Human Ribonucleotide Reductase by dATP Entails the Stabilization of a Hexamer. *Biochemistry*, **2016**, 55, 373-81	3.2	37
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89	Choosing the right metal: case studies of class I ribonucleotide reductases. *Journal of Biological Chemistry*, **2014**, 289, 28104-11	5.4	33

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