Michael A Mcdonough

List of Publications by Year
in descending order

122 papers	10,395 citations	44069 48 h-index	33894 99 g-index
131 all docs	131 docs citations	131 times ranked	11304 citing authors

#	Article	IF	Citations
1	The Obesity-Associated<i>FTO</i>Gene Encodes a 2-Oxoglutarate-Dependent Nucleic Acid Demethylase. Science, 2007, 318, 1469-1472.	12.6	1,305
2	The oncometabolite 2â€hydroxyglutarate inhibits histone lysine demethylases. EMBO Reports, 2011, 12, 463-469.	4.5	851
3	Structural studies on 2-oxoglutarate oxygenases and related double-stranded Î²-helix fold proteins. Journal of Inorganic Biochemistry, 2006, 100, 644-669.	3.5	390
4	Inhibition of 2-oxoglutarate dependent oxygenases. Chemical Society Reviews, 2011, 40, 4364.	38.1	336
5	Cellular oxygen sensing: Crystal structure of hypoxia-inducible factor prolyl hydroxylase (PHD2). Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 9814-9819.	7.1	310
6	Crystal structures of histone demethylase JMJD2A reveal basis for substrate specificity. Nature, 2007, 448, 87-91.	27.8	297
7	Regulation of Jumonji-domain-containing histone demethylases by hypoxia-inducible factor (HIF)-1Î±. Biochemical Journal, 2008, 416, 387-394.	3.7	278
8	Posttranslational hydroxylation of ankyrin repeats in IÂB proteins by the hypoxia-inducible factor (HIF) asparaginyl hydroxylase, factor inhibiting HIF (FIH). Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 14767-14772.	7.1	258
9	Structural studies on human 2-oxoglutarate dependent oxygenases. Current Opinion in Structural Biology, 2010, 20, 659-672.	5.7	238
10	Inhibitor Scaffolds for 2-Oxoglutarate-Dependent Histone Lysine Demethylases. Journal of Medicinal Chemistry, 2008, 51, 7053-7056.	6.4	221
11	The enzymes of Î²-lactam biosynthesis. Natural Product Reports, 2013, 30, 21-107.	10.3	208
12	Structural Basis for Binding of Hypoxia-Inducible Factor to the Oxygen-Sensing Prolyl Hydroxylases. Structure, 2009, 17, 981-989.	3.3	205
13	Structural basis of metallo-Î²-lactamase, serine-Î²-lactamase and penicillin-binding protein inhibition by cyclic boronates. Nature Communications, 2016, 7, 12406.	12.8	202
14	Structural and Mechanistic Studies on the Inhibition of the Hypoxia-inducible Transcription Factor Hydroxylases by Tricarboxylic Acid Cycle Intermediates. Journal of Biological Chemistry, 2007, 282, 3293-3301.	3.4	194
15	Asparaginyl Hydroxylation of the Notch Ankyrin Repeat Domain by Factor Inhibiting Hypoxia-inducible Factor. Journal of Biological Chemistry, 2007, 282, 24027-24038.	3.4	189
16	Role of the jelly-roll fold in substrate binding by 2-oxoglutarate oxygenases. Current Opinion in Structural Biology, 2012, 22, 691-700.	5.7	171
17	Structure of human RNA <i>N</i>6-methyladenine demethylase ALKBH5 provides insights into its mechanisms of nucleic acid recognition and demethylation. Nucleic Acids Research, 2014, 42, 4741-4754.	14.5	162
18	Clinical features and management of gamma-hydroxybutyrate (GHB) withdrawal: a review. Drug and Alcohol Dependence, 2004, 75, 3-9.	3.2	157

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19	Selective Inhibitors of the JMJD2 Histone Demethylases: Combined Nondenaturing Mass Spectrometric Screening and Crystallographic Approaches. Journal of Medicinal Chemistry, 2010, 53, 1810-1818.	6.4	146
20	5-Carboxy-8-hydroxyquinoline is a broad spectrum 2-oxoglutarate oxygenase inhibitor which causes iron translocation. Chemical Science, 2013, 4, 3110.	7.4	142
21	Structural Basis of Metallo-Î²-Lactamase Inhibition by Captopril Stereoisomers. Antimicrobial Agents and Chemotherapy, 2016, 60, 142-150.	3.2	134
22	Selective Inhibition of Factor Inhibiting Hypoxia-Inducible Factor. Journal of the American Chemical Society, 2005, 127, 7680-7681.	13.7	128
23	Structural Basis for Inhibition of the Fat Mass and Obesity Associated Protein (FTO). Journal of Medicinal Chemistry, 2013, 56, 3680-3688.	6.4	128
24	Plant Growth Regulator Daminozide Is a Selective Inhibitor of Human KDM2/7 Histone Demethylases. Journal of Medicinal Chemistry, 2012, 55, 6639-6643.	6.4	125
25	A 1.2-A snapshot of the final step of bacterial cell wall biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 1427-1431.	7.1	115
26	Hydroxylation of the eukaryotic ribosomal decoding center affects translational accuracy. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 4019-4024.	7.1	111
27	Rhodanine hydrolysis leads to potent thioenolate mediated metallo-Î²-lactamase inhibition. Nature Chemistry, 2014, 6, 1084-1090.	13.6	110
28	Selective Small Molecule Probes for the Hypoxia Inducible Factor (HIF) Prolyl Hydroxylases. ACS Chemical Biology, 2013, 8, 1488-1496.	3.4	105
29	Cyclic Boronates Inhibit All Classes of Î²-Lactamases. Antimicrobial Agents and Chemotherapy, 2017, 61, .	3.2	94
30	Ribosomal oxygenases are structurally conserved from prokaryotes to humans. Nature, 2014, 510, 422-426.	27.8	87
31	Crystal Structure of the 2-Oxoglutarate- and Fe(II)-Dependent Lysyl Hydroxylase JMJD6. Journal of Molecular Biology, 2010, 401, 211-222.	4.2	85
32	Structures of Two Kinetic Intermediates Reveal Species Specificity of Penicillin-binding Proteins. Journal of Molecular Biology, 2002, 322, 111-122.	4.2	83
33	Dynamic Combinatorial Chemistry Employing Boronic Acids/Boronate Esters Leads to Potent Oxygenase Inhibitors. Angewandte Chemie - International Edition, 2012, 51, 6672-6675.	13.8	82
34	Structure of Human Phytanoyl-CoA 2-Hydroxylase Identifies Molecular Mechanisms of Refsum Disease*. Journal of Biological Chemistry, 2005, 280, 41101-41110.	3.4	78
35	Structural and Mechanistic Studies on Î³-Butyrobetaine Hydroxylase. Chemistry and Biology, 2010, 17, 1316-1324.	6.0	78
36	Inhibition of Histone Demethylases by 4â€Carboxyâ€2,2â€²â€Bipyridyl Compounds. ChemMedChem, 2011, 6, 759-764.	3.2	76

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37	Kinetic Rationale for Selectivity toward N- and C-terminal Oxygen-dependent Degradation Domain Substrates Mediated by a Loop Region of Hypoxia-Inducible Factor Prolyl Hydroxylases. Journal of Biological Chemistry, 2008, 283, 3808-3815.	3.4	72
38	Disruption of dimerization and substrate phosphorylation inhibit factor inhibiting hypoxia-inducible factor (FIH) activity. Biochemical Journal, 2004, 383, 429-437.	3.7	71
39	Structural insights into how 5-hydroxymethylation influences transcription factor binding. Chemical Communications, 2014, 50, 1794-1796.	4.1	71
40	Factorâ€inhibiting hypoxiaâ€inducible factor (FIH) catalyses the postâ€translational hydroxylation of histidinyl residues within ankyrin repeat domains. FEBS Journal, 2011, 278, 1086-1097.	4.7	68
41	Linking of 2â€Oxoglutarate and Substrate Binding Sites Enables Potent and Highly Selective Inhibition of JmjC Histone Demethylases. Angewandte Chemie - International Edition, 2012, 51, 1631-1634.	13.8	64
42	Asparagine and Aspartate Hydroxylation of the Cytoskeletal Ankyrin Family Is Catalyzed by Factor-inhibiting Hypoxia-inducible Factor. Journal of Biological Chemistry, 2011, 286, 7648-7660.	3.4	63
43	NMR-filtered virtual screening leads to non-metal chelating metallo-Î²-lactamase inhibitors. Chemical Science, 2017, 8, 928-937.	7.4	63
44	Human oxygen sensing may have origins in prokaryotic elongation factor Tu prolyl-hydroxylation. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13331-13336.	7.1	60
45	Oxidation by 2-oxoglutarate oxygenases: non-haem iron systems in catalysis and signalling. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2005, 363, 807-828.	3.4	56
46	Autocatalysed oxidative modifications to 2â€oxoglutarate dependent oxygenases. FEBS Journal, 2012, 279, 1563-1575.	4.7	55
47	Studies on the Reaction of Nitric Oxide with the Hypoxia-Inducible Factor Prolyl Hydroxylase Domain 2 (EGLN1). Journal of Molecular Biology, 2011, 410, 268-279.	4.2	54
48	The methyltransferase METTL9 mediates pervasive 1-methylhistidine modification in mammalian proteomes. Nature Communications, 2021, 12, 891.	12.8	54
49	Identification of a pathogenic<i>FTO</i>mutation by next-generation sequencing in a newborn with growth retardation and developmental delay. Journal of Medical Genetics, 2016, 53, 200-207.	3.2	50
50	Asparagine Î²-hydroxylation stabilizes the ankyrin repeat domain fold. Molecular BioSystems, 2009, 5, 52-58.	2.9	49
51	Mutation analysis of HIF prolyl hydroxylases (PHD/EGLN) in individuals with features of phaeochromocytoma and renal cell carcinoma susceptibility. Endocrine-Related Cancer, 2010, 18, 73-83.	3.1	49
52	Dynamic Combinatorial Mass Spectrometry Leads to Inhibitors of a 2-Oxoglutarate-Dependent Nucleic Acid Demethylase. Journal of Medicinal Chemistry, 2012, 55, 2173-2184.	6.4	49
53	Crystal structure of human persulfide dioxygenase: structural basis of ethylmalonic encephalopathy. Human Molecular Genetics, 2015, 24, 2458-2469.	2.9	48
54	Crystal structure of penicillin G acylase from the bro1 mutant strain of <i>providencia rettgeri</i>. Protein Science, 1999, 8, 1971-1981.	7.6	46

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55	Evidence That Two Enzyme-derived Histidine Ligands Are Sufficient for Iron Binding and Catalysis by Factor Inhibiting HIF (FIH). Journal of Biological Chemistry, 2008, 283, 25971-25978.	3.4	46
56	Crystal structure of the 2-oxoglutarate- and Fe(II)-dependent lysyl hydroxylase JMJD6. Journal of Molecular Biology, 2010, 401, 211-22.	4.2	46
57	Structural and stereoelectronic insights into oxygenase-catalyzed formation of ethylene from 2-oxoglutarate. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 4667-4672.	7.1	45
58	Rhamnogalacturonan lyase reveals a unique three-domain modular structure for polysaccharide lyase family 4. FEBS Letters, 2004, 565, 188-194.	2.8	41
59	In Silico Fragment-Based Design Identifies Subfamily B1 Metallo-Î²-lactamase Inhibitors. Journal of Medicinal Chemistry, 2018, 61, 1255-1260.	6.4	40
60	Imitation of Î²-lactam binding enables broad-spectrum metallo-Î²-lactamase inhibitors. Nature Chemistry, 2022, 14, 15-24.	13.6	39
61	Comparison of Verona Integron-Borne Metallo-Î²-Lactamase (VIM) Variants Reveals Differences in Stability and Inhibition Profiles. Antimicrobial Agents and Chemotherapy, 2016, 60, 1377-1384.	3.2	38
62	Studying the active-site loop movement of the SÃ£o Paolo metallo-Î²-lactamase-1. Chemical Science, 2015, 6, 956-963.	7.4	36
63	Crystal structure of the PHF8 Jumonji domain, an <i>N</i>^{Îµ}â€methyl lysine demethylase. FEBS Letters, 2010, 584, 825-830.	2.8	35
64	Aspartate/asparagine-Î²-hydroxylase crystal structures reveal an unexpected epidermal growth factor-like domain substrate disulfide pattern. Nature Communications, 2019, 10, 4910.	12.8	34
65	Pharmacological Inhibition of FTO. PLoS ONE, 2015, 10, e0121829.	2.5	33
66	Structure of the Ribosomal Oxygenase OGFOD1 Provides Insights into the Regio- and Stereoselectivity of Prolyl Hydroxylases. Structure, 2015, 23, 639-652.	3.3	32
67	Factor inhibiting hypoxia-inducible factor (FIH) and other asparaginyl hydroxylases. Biochemical Society Transactions, 2004, 32, 943-945.	3.4	31
68	Structural and Mechanistic Studies on Carboxymethylproline Synthase (CarB), a Unique Member of the Crotonase Superfamily Catalyzing the First Step in Carbapenem Biosynthesis*. Journal of Biological Chemistry, 2005, 280, 34956-34965.	3.4	31
69	Structures of <i>Arabidopsis thaliana</i> oxygen-sensing plant cysteine oxidases 4 and 5 enable targeted manipulation of their activity. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 23140-23147.	7.1	31
70	The inhibition of factor inhibiting hypoxia-inducible factor (FIH) by Î²-oxocarboxylic acids. Chemical Communications, 2005, , 5438.	4.1	30
71	Substrate Selectivity Analyses of Factor Inhibiting Hypoxiaâ€Inducible Factor. Angewandte Chemie - International Edition, 2013, 52, 1700-1704.	13.8	30
72	Crystal structures of VIMâ€1 complexes explain active site heterogeneity in VIMâ€class metalloâ€Î²â€lactamases. FEBS Journal, 2019, 286, 169-183.	4.7	30

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73	Introduction to Structural Studies on 2-Oxoglutarate-Dependent Oxygenases and Related Enzymes. 2-Oxoglutarate-Dependent Oxygenases, 2015, , 59-94.	0.8	30
74	Crystallographic analyses of isoquinoline complexes reveal a new mode of metallo-Î²-lactamase inhibition. Chemical Communications, 2017, 53, 5806-5809.	4.1	29
75	Studies on the inhibition of AmpC and other Î²-lactamases by cyclic boronates. Biochimica Et Biophysica Acta - General Subjects, 2019, 1863, 742-748.	2.4	28
76	Mechanisms of substrate recognition and <i>N</i>6-methyladenosine demethylation revealed by crystal structures of ALKBH5â€“RNA complexes. Nucleic Acids Research, 2022, 50, 4148-4160.	14.5	26
77	Biochemical and structural investigations clarify the substrate selectivity of the 2-oxoglutarate oxygenase JMJD6. Journal of Biological Chemistry, 2019, 294, 11637-11652.	3.4	25
78	Structure of arylamine<i>N</i>-acetyltransferase from<i>Mycobacterium tuberculosis</i>determined by cross-seeding with the homologous protein from<i>M. marinum</i>: triumph over adversity. Acta Crystallographica Section D: Biological Crystallography, 2013, 69, 1433-1446.	2.5	24
79	Cationâ€“Ï€ Interactions Contribute to Substrate Recognition in Î³â€Butyrobetaine Hydroxylase Catalysis. Chemistry - A European Journal, 2016, 22, 1270-1276.	3.3	24
80	Binding of (5<i>S</i>)-Penicilloic Acid to Penicillin Binding Protein 3. ACS Chemical Biology, 2013, 8, 2112-2116.	3.4	23
81	Modulating carnitine levels by targeting its biosynthesis â€“ selective inhibition of Î³-butyrobetaine hydroxylase. Chemical Science, 2014, 5, 1765-1771.	7.4	23
82	MeLAD: an integrated resource for metalloenzyme-ligand associations. Bioinformatics, 2020, 36, 904-909.	4.1	23
83	X-ray free-electron laser studies reveal correlated motion during isopenicillin <i>N</i> synthase catalysis. Science Advances, 2021, 7, .	10.3	23
84	Structural and mechanistic studies on the peroxisomal oxygenase phytanoyl-CoA 2-hydroxylase (PhyH). Biochemical Society Transactions, 2007, 35, 870-875.	3.4	22
85	Structural basis for binding of cyclic 2-oxoglutarate analogues to factor-inhibiting hypoxia-inducible factor. Bioorganic and Medicinal Chemistry Letters, 2010, 20, 6125-6128.	2.2	22
86	Structural Basis of Prolyl Hydroxylase Domain Inhibition by Molidustat. ChemMedChem, 2021, 16, 2082-2088.	3.2	22
87	Rh(<scp>iii</scp>)-Catalyzed directed Câ€“H carbenoid coupling reveals aromatic bisphosphonates inhibiting metallo- and Serine-Î²-lactamases. Organic Chemistry Frontiers, 2018, 5, 1288-1292.	4.5	21
88	Structureâ€Activity Relationship and Crystallographic Studies on 4â€Hydroxypyrimidine HIF Prolyl Hydroxylase Domain Inhibitors. ChemMedChem, 2020, 15, 270-273.	3.2	21
89	Crystal structure of PHYHD1A, a 2OG oxygenase related to phytanoyl-CoA hydroxylase. Biochemical and Biophysical Research Communications, 2011, 408, 553-558.	2.1	20
90	Comparison of the substrate selectivity and biochemical properties of human and bacterial Î³-butyrobetaine hydroxylase. Organic and Biomolecular Chemistry, 2014, 12, 6354-6358.	2.8	20

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91	Use of ferrous iron by metallo-Î²-lactamases. Journal of Inorganic Biochemistry, 2016, 163, 185-193.	3.5	20
92	¹³C-Carbamylation as a mechanistic probe for the inhibition of class D Î²-lactamases by avibactam and halide ions. Organic and Biomolecular Chemistry, 2017, 15, 6024-6032.	2.8	19
93	Aspartate/asparagine-Î²-hydroxylase: a high-throughput mass spectrometric assay for discovery of small molecule inhibitors. Scientific Reports, 2020, 10, 8650.	3.3	18
94	Structure activity relationship studies on rhodanines and derived enethiol inhibitors of metallo-Î²-lactamases. Bioorganic and Medicinal Chemistry, 2018, 26, 2928-2936.	3.0	17
95	Inhibition of the Oxygen-Sensing Asparaginyl Hydroxylase Factor Inhibiting Hypoxia-Inducible Factor: A Potential Hypoxia Response Modulating Strategy. Journal of Medicinal Chemistry, 2021, 64, 7189-7209.	6.4	17
96	New Structural Insights into the Inhibition of Serine Proteases by Cyclic Peptides from Bacteria. Chemistry and Biology, 2003, 10, 898-900.	6.0	16
97	Crystallographic and mass spectrometric analyses of a tandem GNAT protein from the clavulanic acid biosynthesis pathway. Proteins: Structure, Function and Bioinformatics, 2010, 78, 1398-1407.	2.6	16
98	An LNA-amide modification that enhances the cell uptake and activity of phosphorothioate exon-skipping oligonucleotides. Nature Communications, 2022, 13, .	12.8	16
99	Self-hydroxylation of the splicing factor lysyl hydroxylase, JMJD6. MedChemComm, 2012, 3, 80-85.	3.4	15
100	An unusual mode of ironâ€"sulfur-cluster coordination in a teleost glutaredoxin. Biochemical and Biophysical Research Communications, 2013, 436, 491-496.	2.1	15
101	Broad Spectrum Î²-Lactamase Inhibition by a Thioether Substituted Bicyclic Boronate. ACS Infectious Diseases, 2020, 6, 1398-1404.	3.8	15
102	Faropenem reacts with serine and metallo-Î²-lactamases to give multiple products. European Journal of Medicinal Chemistry, 2021, 215, 113257.	5.5	14
103	Biosynthesis of histone messenger RNA employs a specific 3' end endonuclease. ELife, 2018, 7, .	6.0	14
104	Oxygenaseâ€Catalyzed Desymmetrization of <i>N</i>,<i>N</i>â€Dialkylâ€piperidineâ€4â€carboxylic Acids. Angewandte Chemie - International Edition, 2014, 53, 10925-10927.	13.8	13
105	Born to sense: biophysical analyses of the oxygen sensing prolyl hydroxylase from the simplest animal Trichoplax adhaerens. Hypoxia (Auckland, N Z), 2018, Volume 6, 57-71.	1.9	12
106	Anaerobic fixed-target serial crystallography. IUCrJ, 2020, 7, 901-912.	2.2	12
107	Biochemical and biophysical analyses of hypoxia sensing prolyl hydroxylases from Dictyostelium discoideum and Toxoplasma gondii. Journal of Biological Chemistry, 2020, 295, 16545-16561.	3.4	10
108	Human Oxygenase Variants Employing a Single Protein Fe^{II} Ligand Are Catalytically Active. Angewandte Chemie - International Edition, 2021, 60, 14657-14663.	13.8	10

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109	Structure-Based Design of Selective Fat Mass and Obesity Associated Protein (FTO) Inhibitors. Journal of Medicinal Chemistry, 2021, 64, 16609-16625.	6.4	9
110	OS-9. Molecular Cell, 2005, 17, 472-473.	9.7	8
111	Structural and mechanistic studies of theorf12gene product from the clavulanic acid biosynthesis pathway. Acta Crystallographica Section D: Biological Crystallography, 2013, 69, 1567-1579.	2.5	8
112	Development and application of ligand-based NMR screening assays for Î³-butyrobetaine hydroxylase. MedChemComm, 2016, 7, 873-880.	3.4	8
113	â€œTo Cross-Seed or Not To Cross-Seedâ€: A Pilot Study Using Metallo-Î²-lactamases. Crystal Growth and Design, 2017, 17, 913-924.	3.0	8
114	Studies on spiro[4.5]decanone prolyl hydroxylase domain inhibitors. MedChemComm, 2019, 10, 500-504.	3.4	8
115	Studies on the Reactions of Biapenem with VIM Metallo Î²-Lactamases and the Serine Î²-Lactamase KPC-2. Antibiotics, 2022, 11, 396.	3.7	8
116	A small-molecule probe for monitoring binding to prolyl hydroxylase domain 2 by fluorescence polarisation. Chemical Communications, 2020, 56, 14199-14202.	4.1	7
117	YcfDRM is a thermophilic oxygen-dependent ribosomal protein uL16 oxygenase. Extremophiles, 2018, 22, 553-562.	2.3	6
118	A human protein hydroxylase that accepts D-residues. Communications Chemistry, 2020, 3, .	4.5	6
119	Inhibition of JMJD6 by 2â€Oxoglutarate Mimics. ChemMedChem, 2022, 17, e202100398.	3.2	5
120	Crystallization and preliminary X-ray characterization of a thermostable pectate lyase fromThermotoga maritima. Acta Crystallographica Section D: Biological Crystallography, 2002, 58, 709-711.	2.5	4
121	Frontispiece: Cationâ€“Ï€ Interactions Contribute to Substrate Recognition in Î³â€Butyrobetaine Hydroxylase Catalysis. Chemistry - A European Journal, 2016, 22, .	3.3	0
122	Human Oxygenase Variants Employing a Single Protein Fe II Ligand Are Catalytically Active. Angewandte Chemie, 2021, 133, 14778-14784.	2.0	0