David W C Macmillan

List of Publications by Year
in descending order

87 papers	32,234 citations	18887 64 h-index	53065 89 g-index
97 all docs	97 docs citations	97 times ranked	15277 citing authors

#	Article	IF	Citations
1	Metallaphotoredox: The Merger of Photoredox and Transition Metal Catalysis. Chemical Reviews, 2022, 122, 1485-1542.	23.0	660
2	Selective Isomerization via Transient Thermodynamic Control: Dynamic Epimerization of <i>trans</i> to <i>cis</i> Diols. Journal of the American Chemical Society, 2022, 144, 93-98.	6.6	50
3	Nontraditional Fragment Couplings of Alcohols and Carboxylic Acids: C(<i>sp</i>³)â€“C(<i>sp</i>³) Cross-Coupling via Radical Sorting. Journal of the American Chemical Society, 2022, 144, 6185-6192.	6.6	80
4	Î¼Map-Red: Proximity Labeling by Red Light Photocatalysis. Journal of the American Chemical Society, 2022, 144, 6154-6162.	6.6	42
5	Decarboxylative Borylation and Cross-Coupling of (Hetero)aryl Acids Enabled by Copper Charge Transfer Catalysis. Journal of the American Chemical Society, 2022, 144, 6163-6172.	6.6	53
6	Bioinspired Supercharging of Photoredox Catalysis for Applications in Energy and Chemical Manufacturing. Accounts of Chemical Research, 2022, 55, 1423-1434.	7.6	18
7	Accelerating reaction generality and mechanistic insight through additive mapping. Science, 2022, 376, 532-539.	6.0	61
8	A Unified Approach to Decarboxylative Halogenation of (Hetero)aryl Carboxylic Acids. Journal of the American Chemical Society, 2022, 144, 8296-8305.	6.6	67
9	Deoxytrifluoromethylation of Alcohols. Journal of the American Chemical Society, 2022, 144, 11961-11968.	6.6	46
10	Site-selective tyrosine bioconjugation via photoredox catalysis for native-to-bioorthogonal protein transformation. Nature Chemistry, 2021, 13, 902-908.	6.6	74
11	Rapid Optimization of Photoredox Reactions for Continuous-Flow Systems Using Microscale Batch Technology. ACS Central Science, 2021, 7, 1126-1134.	5.3	52
12	Decatungstate-Catalyzed C(<i>sp</i>³)â€“H Sulfinylation: Rapid Access to Diverse Organosulfur Functionality. Journal of the American Chemical Society, 2021, 143, 9737-9743.	6.6	91
13	The Application of Pulse Radiolysis to the Study of Ni(I) Intermediates in Ni-Catalyzed Cross-Coupling Reactions. Journal of the American Chemical Society, 2021, 143, 9332-9337.	6.6	65
14	Synthesis of Enantiopure Unnatural Amino Acids by Metallaphotoredox Catalysis. Organic Process Research and Development, 2021, 25, 1966-1973.	1.3	30
15	A general N-alkylation platform via copper metallaphotoredox and silyl radical activation of alkyl halides. CheM, 2021, 7, 1827-1842.	5.8	57
16	Metallaphotoredox-enabled deoxygenative arylation of alcohols. Nature, 2021, 598, 451-456.	13.7	159
17	Reactive intermediates for interactome mapping. Chemical Society Reviews, 2021, 50, 2911-2926.	18.7	35
18	Metallaphotoredox aryl and alkyl radiomethylation for PET ligand discovery. Nature, 2021, 589, 542-547.	13.7	64

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19	A biomimetic S _H 2 cross-coupling mechanism for quaternary sp ³ -carbon formation. Science, 2021, 374, 1258-1263.	6.0	64
20	Decarboxylative Oxygenation via Photoredox Catalysis. Israel Journal of Chemistry, 2020, 60, 410-415.	1.0	29
21	Mechanistic Analysis of Metallaphotoredox Câ€“N Coupling: Photocatalysis Initiates and Perpetuates Ni(I)/Ni(III) Coupling Activity. Journal of the American Chemical Society, 2020, 142, 15830-15841.	6.6	162
22	HARC as an open-shell strategy to bypass oxidative addition in Ullmannâ€“Goldberg couplings. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 21058-21064.	3.3	36
23	Static to inducibly dynamic stereocontrol: The convergent use of racemic Î²-substituted ketones. Science, 2020, 369, 1113-1118.	6.0	79
24	Site-Selective Functionalization of Methionine Residues via Photoredox Catalysis. Journal of the American Chemical Society, 2020, 142, 21260-21266.	6.6	82
25	Metallaphotoredox Perfluoroalkylation of Organobromides. Journal of the American Chemical Society, 2020, 142, 19480-19486.	6.6	47
26	Cross-Electrophile Coupling of Unactivated Alkyl Chlorides. Journal of the American Chemical Society, 2020, 142, 11691-11697.	6.6	131
27	The merger of decatungstate and copper catalysis to enable aliphatic C(sp3)â€“H trifluoromethylation. Nature Chemistry, 2020, 12, 459-467.	6.6	226
28	Microenvironment mapping via Dexter energy transfer on immune cells. Science, 2020, 367, 1091-1097.	6.0	188
29	Copper-mediated synthesis of drug-like bicyclopentanes. Nature, 2020, 580, 220-226.	13.7	174
30	Transient Absorption Spectroscopy Offers Mechanistic Insights for an Iridium/Nickel-Catalyzed Câ€“O Coupling. Journal of the American Chemical Society, 2020, 142, 4555-4559.	6.6	110
31	A Metallaphotoredox Strategy for the Crossâ€Electrophile Coupling of Î±â€Chloro Carbonyls with Aryl Halides. Angewandte Chemie - International Edition, 2019, 58, 14584-14588.	7.2	76
32	A Metallaphotoredox Strategy for the Crossâ€Electrophile Coupling of Î±â€Chloro Carbonyls with Aryl Halides. Angewandte Chemie, 2019, 131, 14726-14730.	1.6	19
33	The Evolution of High-Throughput Experimentation in Pharmaceutical Development and Perspectives on the Future. Organic Process Research and Development, 2019, 23, 1213-1242.	1.3	279
34	Copper-Catalyzed Trifluoromethylation of Alkyl Bromides. Journal of the American Chemical Society, 2019, 141, 6853-6858.	6.6	114
35	Open-Shell Fluorination of Alkyl Bromides: Unexpected Selectivity in a Silyl Radical-Mediated Chain Process. Journal of the American Chemical Society, 2019, 141, 20031-20036.	6.6	63
36	Selective Hydrogen Atom Abstraction through Induced Bond Polarization: Direct Î±â€Arylation of Alcohols through Photoredox, HAT, and Nickel Catalysis. Angewandte Chemie - International Edition, 2018, 57, 5369-5373.	7.2	151

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37	Selective Hydrogen Atom Abstraction through Induced Bond Polarization: Direct Î±â€Arylation of Alcohols through Photoredox, HAT, and Nickel Catalysis. Angewandte Chemie, 2018, 130, 5467-5471.	1.6	42
38	Decarboxylative Hydroalkylation of Alkynes. Journal of the American Chemical Society, 2018, 140, 5701-5705.	6.6	127
39	Spin-Center Shift-Enabled Direct Enantioselective Î±-Benzylation of Aldehydes with Alcohols. Journal of the American Chemical Society, 2018, 140, 3322-3330.	6.6	129
40	Sulfonamidation of Aryl and Heteroaryl Halides through Photosensitized Nickel Catalysis. Angewandte Chemie, 2018, 130, 3546-3550.	1.6	48
41	Sulfonamidation of Aryl and Heteroaryl Halides through Photosensitized Nickel Catalysis. Angewandte Chemie - International Edition, 2018, 57, 3488-3492.	7.2	137
42	Metallaphotoredox-Catalyzed Cross-Electrophile C_{sp}³â€“C_{sp}³ Coupling of Aliphatic Bromides. Journal of the American Chemical Society, 2018, 140, 17433-17438.	6.6	139
43	A radical approach to the copper oxidative addition problem: Trifluoromethylation of bromoarenes. Science, 2018, 360, 1010-1014.	6.0	319
44	Metallaphotoredox Difluoromethylation of Aryl Bromides. Angewandte Chemie - International Edition, 2018, 57, 12543-12548.	7.2	136
45	Direct arylation of strong aliphatic Câ€“H bonds. Nature, 2018, 560, 70-75.	13.7	373
46	Metallaphotoredox Difluoromethylation of Aryl Bromides. Angewandte Chemie, 2018, 130, 12723-12728.	1.6	28
47	Decarboxylative Trifluoromethylation of Aliphatic Carboxylic Acids. Journal of the American Chemical Society, 2018, 140, 6522-6526.	6.6	147
48	Decarboxylative sp3 Câ€“N coupling via dual copper and photoredox catalysis. Nature, 2018, 559, 83-88.	13.7	303
49	Decarboxylative alkylation for site-selective bioconjugation of native proteins via oxidation potentials. Nature Chemistry, 2018, 10, 205-211.	6.6	272
50	Photosensitized, energy transfer-mediated organometallic catalysis through electronically excited nickel(II). Science, 2017, 355, 380-385.	6.0	398
51	A General Small-Scale Reactor To Enable Standardization and Acceleration of Photocatalytic Reactions. ACS Central Science, 2017, 3, 647-653.	5.3	195
52	Selective sp3 Câ€“H alkylation via polarity-match-based cross-coupling. Nature, 2017, 547, 79-83.	13.7	396
53	Catalyst-controlled oligomerization for the collective synthesis of polypyrroloindoline natural products. Nature Chemistry, 2017, 9, 1165-1169.	6.6	74
54	Direct Aldehyde Câ€“H Arylation and Alkylation via the Combination of Nickel, Hydrogen Atom Transfer, and Photoredox Catalysis. Journal of the American Chemical Society, 2017, 139, 11353-11356.	6.6	229

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55	Photoredox-catalyzed deuteration and tritiation of pharmaceutical compounds. Science, 2017, 358, 1182-1187.	6.0	394
56	Direct, enantioselective Î±-alkylation of aldehydes using simple olefins. Nature Chemistry, 2017, 9, 1073-1077.	6.6	153
57	The merger of transition metal and photocatalysis. Nature Reviews Chemistry, 2017, 1, .	13.8	1,591
58	Native functionality in triple catalytic cross-coupling: sp ³ Câ€“H bonds as latent nucleophiles. Science, 2016, 352, 1304-1308.	6.0	501
59	Alcohols as Latent Coupling Fragments for Metallaphotoredox Catalysis: sp³â€“sp² Cross-Coupling of Oxalates with Aryl Halides. Journal of the American Chemical Society, 2016, 138, 13862-13865.	6.6	196
60	Photoredox Catalysis in Organic Chemistry. Journal of Organic Chemistry, 2016, 81, 6898-6926.	1.7	2,156
61	Metallaphotoredox-catalysed sp3â€“sp3 cross-coupling of carboxylic acids with alkyl halides. Nature, 2016, 536, 322-325.	13.7	347
62	Silyl Radical Activation of Alkyl Halides in Metallaphotoredox Catalysis: A Unique Pathway for Cross-Electrophile Coupling. Journal of the American Chemical Society, 2016, 138, 8084-8087.	6.6	463
63	Aryl amination using ligand-free Ni(II) salts and photoredox catalysis. Science, 2016, 353, 279-283.	6.0	472
64	Enantioselective Decarboxylative Arylation of Î±-Amino Acids via the Merger of Photoredox and Nickel Catalysis. Journal of the American Chemical Society, 2016, 138, 1832-1835.	6.6	425
65	Merging Photoredox and Nickel Catalysis: The Direct Synthesis of Ketones by the Decarboxylative Arylation of Î±â€Oxo Acids. Angewandte Chemie - International Edition, 2015, 54, 7929-7933.	7.2	276
66	Enantioselective Î±â€Alkylation of Aldehydes by Photoredox Organocatalysis: Rapid Access to Pharmacophore Fragments from Î²â€Cyanoaldehydes. Angewandte Chemie - International Edition, 2015, 54, 9668-9672.	7.2	144
67	Merging Photoredox and Nickel Catalysis: Decarboxylative Cross-Coupling of Carboxylic Acids with Vinyl Halides. Journal of the American Chemical Society, 2015, 137, 624-627.	6.6	380
68	The direct arylation of allylic sp3 Câ€“H bonds via organic and photoredox catalysis. Nature, 2015, 519, 74-77.	13.7	429
69	Decarboxylative Fluorination of Aliphatic Carboxylic Acids via Photoredox Catalysis. Journal of the American Chemical Society, 2015, 137, 5654-5657.	6.6	320
70	Switching on elusive organometallic mechanisms with photoredox catalysis. Nature, 2015, 524, 330-334.	13.7	474
71	Oâ€“H hydrogen bonding promotes H-atom transfer from Î± Câ€“H bonds for C-alkylation of alcohols. Science, 2015, 349, 1532-1536.	6.0	414
72	Oxalates as Activating Groups for Alcohols in Visible Light Photoredox Catalysis: Formation of Quaternary Centers by Redox-Neutral Fragment Coupling. Journal of the American Chemical Society, 2015, 137, 11270-11273.	6.6	304

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73	Alcohols as alkylating agents in heteroarene Câ€“H functionalization. Nature, 2015, 525, 87-90.	13.7	581
74	Fragment Couplings via CO₂ Extrusionâ€“Recombination: Expansion of a Classic Bond-Forming Strategy via Metallaphotoredox. Journal of the American Chemical Society, 2015, 137, 11938-11941.	6.6	105
75	Decarboxylative Arylation of Î±-Amino Acids via Photoredox Catalysis: A One-Step Conversion of Biomass to Drug Pharmacophore. Journal of the American Chemical Society, 2014, 136, 5257-5260.	6.6	463
76	A General Strategy for Organocatalytic Activation of Câ€“H Bonds via Photoredox Catalysis: Direct Arylation of Benzylic Ethers. Journal of the American Chemical Society, 2014, 136, 626-629.	6.6	254
77	Amine Î±-heteroarylation via photoredox catalysis: a homolytic aromatic substitution pathway. Chemical Science, 2014, 5, 4173-4178.	3.7	156
78	Photoredox Î±-Vinylation of Î±-Amino Acids and <i>N</i>-Aryl Amines. Journal of the American Chemical Society, 2014, 136, 11602-11605.	6.6	374
79	Carboxylic Acids as A Traceless Activation Group for Conjugate Additions: A Three-Step Synthesis of (Â±)-Pregabalin. Journal of the American Chemical Society, 2014, 136, 10886-10889.	6.6	472
80	Merging photoredox with nickel catalysis: Coupling of Î±-carboxyl sp ³ -carbons with aryl halides. Science, 2014, 345, 437-440.	6.0	1,309
81	Visible Light Photoredox Catalysis with Transition Metal Complexes: Applications in Organic Synthesis. Chemical Reviews, 2013, 113, 5322-5363.	23.0	7,226
82	Photoredox Activation for the Direct Î²-Arylation of Ketones and Aldehydes. Science, 2013, 339, 1593-1596.	6.0	491
83	Discovery of an Î±-Amino Câ€“H Arylation Reaction Using the Strategy of Accelerated Serendipity. Science, 2011, 334, 1114-1117.	6.0	858
84	Enantioselective Î±-Benzylation of Aldehydes via Photoredox Organocatalysis. Journal of the American Chemical Society, 2010, 132, 13600-13603.	6.6	480
85	Merging Photoredox Catalysis with Organocatalysis: The Direct Asymmetric Alkylation of Aldehydes. Science, 2008, 322, 77-80.	6.0	2,023
86	Enantioselective Organocatalysis Using SOMO Activation. Science, 2007, 316, 582-585.	6.0	200
87	Enantioselective Organocatalytic Î±-Fluorination of Aldehydes. Journal of the American Chemical Society, 2005, 127, 8826-8828.	6.6	393