Robert Knowles

List of Publications by Year
in descending order

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52 papers	7,002 citations	94269 37 h-index	174990 52 g-index
63 all docs	63 docs citations	63 times ranked	4945 citing authors

#	Article	IF	Citations
1	Attractive noncovalent interactions in asymmetric catalysis: Links between enzymes and small molecule catalysts. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20678-20685.	3.3	650
2	Catalytic alkylation of remote Câ€“H bonds enabled by proton-coupled electron transfer. Nature, 2016, 539, 268-271.	13.7	623
3	Synthetic Applications of Proton-Coupled Electron Transfer. Accounts of Chemical Research, 2016, 49, 1546-1556.	7.6	566
4	Enantioselective Photoredox Catalysis Enabled by Proton-Coupled Electron Transfer: Development of an Asymmetric Aza-Pinacol Cyclization. Journal of the American Chemical Society, 2013, 135, 17735-17738.	6.6	392
5	Enantioselective Thiourea-Catalyzed Cationic Polycyclizations. Journal of the American Chemical Society, 2010, 132, 5030-5032.	6.6	297
6	Catalytic Ring-Opening of Cyclic Alcohols Enabled by PCET Activation of Strong Oâ€“H Bonds. Journal of the American Chemical Society, 2016, 138, 10794-10797.	6.6	287
7	Catalytic intermolecular hydroaminations of unactivated olefins with secondary alkyl amines. Science, 2017, 355, 727-730.	6.0	282
8	Catalytic Ketyl-Olefin Cyclizations Enabled by Proton-Coupled Electron Transfer. Journal of the American Chemical Society, 2013, 135, 10022-10025.	6.6	275
9	Catalytic Alkene Carboaminations Enabled by Oxidative Proton-Coupled Electron Transfer. Journal of the American Chemical Society, 2015, 137, 9226-9229.	6.6	258
10	Catalytic Olefin Hydroamidation Enabled by Proton-Coupled Electron Transfer. Journal of the American Chemical Society, 2015, 137, 13492-13495.	6.6	249
11	Catalytic Olefin Hydroamination with Aminium Radical Cations: A Photoredox Method for Direct Câ€“N Bond Formation. Journal of the American Chemical Society, 2014, 136, 12217-12220.	6.6	217
12	Photochemical and Electrochemical Applications of Proton-Coupled Electron Transfer in Organic Synthesis. Chemical Reviews, 2022, 122, 2017-2291.	23.0	211
13	Light - driven deracemization enabled by excited - state electron transfer. Science, 2019, 366, 364-369.	6.0	188
14	Enantioselective Synthesis of Pyrroloindolines via Noncovalent Stabilization of Indole Radical Cations and Applications to the Synthesis of Alkaloid Natural Products. Journal of the American Chemical Society, 2018, 140, 3394-3402.	6.6	185
15	A Redox Strategy for Light-Driven, Out-of-Equilibrium Isomerizations and Application to Catalytic Câ€“C Bond Cleavage Reactions. Journal of the American Chemical Society, 2019, 141, 1457-1462.	6.6	167
16	Intermolecular Anti-Markovnikov Hydroamination of Unactivated Alkenes with Sulfonamides Enabled by Proton-Coupled Electron Transfer. Journal of the American Chemical Society, 2018, 140, 741-747.	6.6	149
17	Concerning the Mechanism of the FeCl₃-Catalyzed Î±-Oxyamination of Aldehydes: Evidence for a Non-SOMO Activation Pathway. Journal of the American Chemical Society, 2010, 132, 10012-10014.	6.6	142
18	Catalytic generation of alkoxy radicals from unfunctionalized alcohols. Chemical Science, 2020, 11, 11124-11141.	3.7	116

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19	Proton-Coupled Electron Transfer in Organic Synthesis: Fundamentals, Applications, and Opportunities. Topics in Current Chemistry, 2016, 374, 30.	3.0	114
20	Discovery and mechanistic study of a photocatalytic indoline dehydrogenation for the synthesis of elbasvir. Chemical Science, 2016, 7, 2066-2073.	3.7	103
21	Catalytic Câ€“N Bond-Forming Reactions Enabled by Proton-Coupled Electron Transfer Activation of Amide Nâ€“H Bonds. ACS Catalysis, 2016, 6, 2894-2903.	5.5	100
22	Câ€“H Alkylation via Multisite-Proton-Coupled Electron Transfer of an Aliphatic Câ€“H Bond. Journal of the American Chemical Society, 2019, 141, 13253-13260.	6.6	100
23	Photocatalytic Generation of Aminium Radical Cations for Câ€“N Bond Formation. ACS Catalysis, 2020, 10, 11712-11738.	5.5	93
24	Bond-Weakening Catalysis: Conjugate Aminations Enabled by the Soft Homolysis of Strong Nâ€“H Bonds. Journal of the American Chemical Society, 2015, 137, 6440-6443.	6.6	92
25	Enantioselective Hydroamination of Alkenes with Sulfonamides Enabled by Proton-Coupled Electron Transfer. Journal of the American Chemical Society, 2020, 142, 5974-5979.	6.6	91
26	Catalytic Ring Expansions of Cyclic Alcohols Enabled by Proton-Coupled Electron Transfer. Journal of the American Chemical Society, 2019, 141, 8752-8757.	6.6	85
27	Light-Driven Depolymerization of Native Lignin Enabled by Proton-Coupled Electron Transfer. ACS Catalysis, 2020, 10, 800-805.	5.5	82
28	Anti-Markovnikov Hydroamination of Unactivated Alkenes with Primary Alkyl Amines. Journal of the American Chemical Society, 2019, 141, 16590-16594.	6.6	81
29	Catalytic Carbocation Generation Enabled by the Mesolytic Cleavage of Alkoxyamine Radical Cations. Angewandte Chemie - International Edition, 2016, 55, 9969-9973.	7.2	78
30	Proton-Coupled Electron Transfer in Organic Synthesis: Novel Homolytic Bond Activations and Catalytic Asymmetric Reactions with Free Radicals. Synlett, 2014, 25, 2819-2826.	1.0	71
31	PCET-Enabled Olefin Hydroamidation Reactions with N-Alkyl Amides. ACS Catalysis, 2019, 9, 4502-4507.	5.5	64
32	Catalytic Hydroetherification of Unactivated Alkenes Enabled by Protonâ€Coupled Electron Transfer. Angewandte Chemie - International Edition, 2020, 59, 11845-11849.	7.2	56
33	Depolymerization of Hydroxylated Polymers via Light-Driven Câ€“C Bond Cleavage. Journal of the American Chemical Society, 2021, 143, 12268-12277.	6.6	56
34	Rateâ€“Driving Force Relationships in the Multisite Proton-Coupled Electron Transfer Activation of Ketones. Journal of the American Chemical Society, 2019, 141, 2721-2730.	6.6	54
35	Decarboxylative Intramolecular Arene Alkylation Using N-(Acyloxy)phthalimides, an Organic Photocatalyst, and Visible Light. Journal of Organic Chemistry, 2019, 84, 8360-8379.	1.7	49
36	Expeditious synthesis of aromatic-free piperidinium-functionalized polyethylene as alkaline anion exchange membranes. Chemical Science, 2021, 12, 3898-3910.	3.7	47

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37	Nâ€“H Bond Formation in a Manganese(V) Nitride Yields Ammonia by Light-Driven Proton-Coupled Electron Transfer. Journal of the American Chemical Society, 2019, 141, 4795-4799.	6.6	43
38	Intermolecular Crossed [2 + 2] Cycloaddition Promoted by Visible-Light Triplet Photosensitization: Expedient Access to Polysubstituted 2-Oxaspiro[3.3]heptanes. Journal of the American Chemical Society, 2021, 143, 4055-4063.	6.6	39
39	Contra-Thermodynamic Positional Isomerization of Olefins. Journal of the American Chemical Society, 2022, 144, 137-144.	6.6	34
40	1,3â€Alkyl Transposition in Allylic Alcohols Enabled by Protonâ€Coupled Electron Transfer. Angewandte Chemie - International Edition, 2021, 60, 20190-20195.	7.2	29
41	Mechanistic Investigation and Optimization of Photoredox Anti-Markovnikov Hydroamination. Journal of the American Chemical Society, 2021, 143, 10232-10242.	6.6	28
42	Ion-pair reorganization regulates reactivity in photoredox catalysts. Nature Chemistry, 2022, 14, 746-753.	6.6	28
43	Understanding Chemoselectivity in Proton-Coupled Electron Transfer: A Kinetic Study of Amide and Thiol Activation. Journal of the American Chemical Society, 2019, 141, 16574-16578.	6.6	26
44	Applications and Prospects for Tripletâ€“Triplet Annihilation Photon Upconversion. Chimia, 2018, 72, 501.	0.3	20
45	PCET-Based Ligand Limits Charge Recombination with an Ir(III) Photoredox Catalyst. Journal of the American Chemical Society, 2021, 143, 13034-13043.	6.6	20
46	Catalytic Carbocation Generation Enabled by the Mesolytic Cleavage of Alkoxyamine Radical Cations. Angewandte Chemie, 2016, 128, 10123-10127.	1.6	17
47	Evaluation of excited state bond weakening for ammonia synthesis from a manganese nitride: stepwise proton coupled electron transfer is preferred over hydrogen atom transfer. Chemical Communications, 2019, 55, 5595-5598.	2.2	16
48	Catalytic Hydroetherification of Unactivated Alkenes Enabled by Protonâ€Coupled Electron Transfer. Angewandte Chemie, 2020, 132, 11943-11947.	1.6	15
49	Proton-Coupled Electron Transfer in Organic Synthesis: Fundamentals, Applications, and Opportunities. Topics in Current Chemistry Collections, 2016, , 145-203.	0.2	7
50	1,3â€Alkyl Transposition in Allylic Alcohols Enabled by Protonâ€Coupled Electron Transfer. Angewandte Chemie, 2021, 133, 20352-20357.	1.6	3
51	Reaching Your Full (Over)Potential: A Novel Approach to Electrocatalytic Oxygen Reduction. ACS Central Science, 2015, 1, 224-225.	5.3	2
52	Ir(III)-Naphthoquinone complex as a platform for photocatalytic activity. Journal of Photochemistry and Photobiology, 2022, 9, 100098.	1.1	2