Donna G Blackmond

List of Publications by Year
in descending order

121 papers	12,020 citations	26610 56 h-index	26591 107 g-index
132 all docs	132 docs citations	132 times ranked	9042 citing authors

#	Article	IF	Citations
1	Ru-Catalyzed Enantioselective Hydrogenation of 2-Pyridyl-Substituted Alkenes and Substrate-Mediated H/D Exchange. ACS Catalysis, 2022, 12, 1150-1160.	5.5	8
2	Excellence in Industrial Organic Synthesis 2021. Organic Process Research and Development, 2022, 26, 479-479.	1.3	0
3	Excellence in Industrial Organic Synthesis 2021. Journal of Organic Chemistry, 2022, 87, 1879-1879.	1.7	0
4	Kinetic Rationalization of Nonlinear Effects in Asymmetric Catalytic Cascade Reactions under Curtinâ€"Hammett Conditions. ACS Catalysis, 2022, 12, 5776-5785.	5.5	11
5	Cobalt-electrocatalytic HAT for functionalization of unsaturated Câ€"C bonds. Nature, 2022, 605, 687-695.	13.7	65
6	Mechanistic Studies of Pd(II)-Catalyzed <i>E</i>/<i>Z</i> Isomerization of Unactivated Alkenes: Evidence for a Monometallic Nucleopalladation Pathway. ACS Catalysis, 2021, 11, 4239-4246.	5.5	25
7	Mechanistic Insight into the Origin of Stereoselectivity in the Ribose-Mediated Strecker Synthesis of Alanine. Journal of the American Chemical Society, 2021, 143, 7852-7858.	6.6	15
8	Chiral lipid bilayers are enantioselectively permeable. Nature Chemistry, 2021, 13, 786-791.	6.6	29
9	Electrochemical Nozakiâ€"Hiyamaâ€"Kishi Coupling: Scope, Applications, and Mechanism. Journal of the American Chemical Society, 2021, 143, 9478-9488.	6.6	78
10	Electrochemical borylation of carboxylic acids. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	37
11	Probing Catalyst Speciation in Pd-MPAAM-Catalyzed Enantioselective C(sp³)â€"H Arylation: Catalyst Improvement via Destabilization of Off-Cycle Species. ACS Catalysis, 2021, 11, 11040-11048.	5.5	9
12	A P(V) platform for oligonucleotide synthesis. Science, 2021, 373, 1265-1270.	6.0	38
13	Prebiotic access to enantioenriched glyceraldehyde mediated by peptides. Chemical Science, 2021, 12, 6350-6354.	3.7	8
14	In Situ Kinetic Studies of Rh(II)-Catalyzed Asymmetric Cyclopropanation with Low Catalyst Loadings. ACS Catalysis, 2020, 10, 1161-1170.	5.5	38
15	Autocatalytic Models for the Origin of Biological Homochirality. Chemical Reviews, 2020, 120, 4831-4847.	23.0	109
16	Insights into the Role of Transient Chiral Mediators and Pyridone Ligands in Asymmetric Pd-Catalyzed Câ€"H Functionalization. Journal of Organic Chemistry, 2020, 85, 13674-13679.	1.7	21
17	Temperature-Scanning Reaction Protocol Offers Insights into Activation Parameters in the Buchwaldâ€"Hartwig Pd-Catalyzed Amination of Aryl Halides. ACS Catalysis, 2020, 10, 8926-8932.	5.5	10
18	Isotopically Directed Symmetry Breaking and Enantioenrichment in Attrition-Enhanced Deracemization. Journal of the American Chemical Society, 2020, 142, 3873-3879.	6.6	17

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19	Hindered dialkyl ether synthesis with electrogenerated carbocations. Nature, 2019, 573, 398-402.	13.7	240
20	Utilizing Native Directing Groups: Mechanistic Understanding of a Direct Arylation Leads to Formation of Tetracyclic Heterocycles via Tandem Intermolecular, Intramolecular Câ€"H Activation. Journal of Organic Chemistry, 2019, 84, 7961-7970.	1.7	9
21	Kinetic Analysis of Catalytic Organic Reactions Using a Temperature Scanning Protocol. ChemCatChem, 2019, 11, 3808-3813.	1.8	8
22	The Origin of Biological Homochirality. Cold Spring Harbor Perspectives in Biology, 2019, 11, a032540.	2.3	88
23	Highly Modular Synthesis of 1,2-Diketones via Multicomponent Coupling Reactions of Isocyanides as CO Equivalents. ACS Catalysis, 2019, 9, 4508-4515.	5.5	36
24	Energy threshold for chiral symmetry breaking in molecular self-replication. Nature Chemistry, 2019, 11, 957-962.	6.6	50
25	A General Protocol for Addressing Speciation of the Active Catalyst Applied to Ligand-Accelerated Enantioselective C(sp³)â€"H Bond Arylation. ACS Catalysis, 2018, 8, 1528-1531.	5.5	27
26	Cu-Catalyzed Decarboxylative Borylation. ACS Catalysis, 2018, 8, 9537-9542.	5.5	126
27	In-Situ Monitoring of Enantiomeric Excess During a Catalytic Kinetic Resolution. ACS Catalysis, 2018, 8, 5977-5982.	5.5	10
28	Kinetically guided radical-based synthesis of C(sp ³)â^'C(sp ³) linkages on DNA. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E6404-E6410.	3.3	124
29	Rationalization of Asymmetric Amplification via Autocatalysis Triggered by Isotopically Chiral Molecules. ACS Central Science, 2018, 4, 776-780.	5.3	29
30	Potassium <i>tert</i>-Butoxide-Catalyzed Dehydrogenative Câ€"H Silylation of Heteroaromatics: A Combined Experimental and Computational Mechanistic Study. Journal of the American Chemical Society, 2017, 139, 6867-6879.	6.6	160
31	A Role for Pd(IV) in Catalytic Enantioselective Câ€"H Functionalization with Monoprotected Amino Acid Ligands under Mild Conditions. Journal of the American Chemical Society, 2017, 139, 9238-9245.	6.6	48
32	Chiral Sugars Drive Enantioenrichment in Prebiotic Amino Acid Synthesis. ACS Central Science, 2017, 3, 322-328.	5.3	42
33	Preparation of the HIV Attachment Inhibitor BMS-663068. Part 7. Development of a Regioselective Ullmannâ€"Goldbergâ€"Buchwald Reaction. Organic Process Research and Development, 2017, 21, 1156-1165.	1.3	11
34	Dynamic Ligand Exchange as a Mechanistic Probe in Pd-Catalyzed Enantioselective Câ€"H Functionalization Reactions Using Monoprotected Amino Acid Ligands. Journal of the American Chemical Society, 2017, 139, 18500-18503.	6.6	18
35	Cavitands as Reaction Vessels and Blocking Groups for Selective Reactions in Water. Angewandte Chemie, 2016, 128, 8430-8433.	1.6	16
36	Cavitands as Reaction Vessels and Blocking Groups for Selective Reactions in Water. Angewandte Chemie - International Edition, 2016, 55, 8290-8293.	7.2	55

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37	Meteoritic Amino Acids: Diversity in Compositions Reflects Parent Body Histories. ACS Central Science, 2016, 2, 370-379.	5.3	126
38	Water-soluble cavitands promote hydrolyses of long-chain diesters. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9199-9203.	3.3	35
39	Mineral-Induced Enantioenrichment of Tartaric Acid. Synlett, 2016, 28, 89-92.	1.0	1
40	The Future of Prebiotic Chemistry. ACS Central Science, 2016, 2, 775-777.	5.3	18
41	Explaining Anomalies in Enamine Catalysis: â€œDownstream Speciesâ€•as a New Paradigm for Stereocontrol. Accounts of Chemical Research, 2016, 49, 214-222.	7.6	75
42	<i>In situ</i> FTIR spectroscopic monitoring of electrochemically controlled organic reactions in a recycle reactor. Reaction Chemistry and Engineering, 2016, 1, 90-95.	1.9	7
43	Dispersion in Compartmentalized Flow Systems: Influence of Flow Patterns on Reactivity. Organic Process Research and Development, 2016, 20, 465-473.	1.3	20
44	Necessary conditions for the emergence of homochirality <i>via</i> autocatalytic self-replication. Journal of Chemical Physics, 2016, 145, 074111.	1.2	29
45	Mechanistic Rationalization of Unusual Sigmoidal Kinetic Profiles in the Machettiâ€“De Sarlo Cycloaddition Reaction. Journal of the American Chemical Society, 2015, 137, 2386-2391.	6.6	29
46	Mono-Oxidation of Bidentate Bis-phosphines in Catalyst Activation: Kinetic and Mechanistic Studies of a Pd/Xantphos-Catalyzed Câ€“H Functionalization. Journal of the American Chemical Society, 2015, 137, 13272-13281.	6.6	94
47	Mechanistic Insights into Two-Phase Radical Câ€“H Arylations. ACS Central Science, 2015, 1, 456-462.	5.3	29
48	Kinetic Profiling of Catalytic Organic Reactions as a Mechanistic Tool. Journal of the American Chemical Society, 2015, 137, 10852-10866.	6.6	260
49	Chirality. , 2015, , 1-5.		0
50	Chirality. , 2015, , 445-448.		0
51	Chirality. , 2014, , 1-6.		0
52	The role of reversibility in the enantioselective conjugate addition of Î±,Î±-disubstituted aldehydes to nitro-olefins catalyzed by primary amine thioureas. Catalysis Science and Technology, 2014, 4, 3505-3509.	2.1	6
53	Radical Cï£¿H Functionalization of Heteroarenes under Electrochemical Control. Angewandte Chemie - International Edition, 2014, 53, 11868-11871.	7.2	280
54	Experimental and Theoretical Study of the Emergence of Single Chirality in Attrition-Enhanced Deracemization. Crystal Growth and Design, 2014, 14, 928-937.	1.4	29

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55	Rationalization of an Unusual Solventâ€Induced Inversion of Enantiomeric Excess in Organocatalytic Selenylation of Aldehydes. Angewandte Chemie - International Edition, 2014, 53, 8700-8704.	7.2	35
56	Radical-Based Regioselective Câ€“H Functionalization of Electron-Deficient Heteroarenes: Scope, Tunability, and Predictability. Journal of the American Chemical Society, 2013, 135, 12122-12134.	6.6	287
57	In situ kinetic studies of the trifluoromethylation of caffeine with Zn(SO2CF3)2. Tetrahedron, 2013, 69, 5604-5608.	1.0	19
58	Curtinâ€“Hammett Paradigm for Stereocontrol in Organocatalysis by Diarylprolinol Ether Catalysts. Journal of the American Chemical Society, 2012, 134, 6741-6750.	6.6	139
59	Observation of a Transient Intermediate in Soaiâ€™s Asymmetric Autocatalysis: Insights from ¹Hâ€...NMR Turnover in Real Time. Angewandte Chemie - International Edition, 2012, 51, 9539-9542.	7.2	85
60	Kinetic correlation between aldehyde/enamine stereoisomers in reactions between aldehydes with Î±-stereocenters and chiral pyrrolidine-based catalysts. Chemical Science, 2012, 3, 1273.	3.7	45
61	Mechanistic Rationalization of Unusual Kinetics in Pd-Catalyzed Câ€“H Olefination. Journal of the American Chemical Society, 2012, 134, 4600-4606.	6.6	169
62	Chemical and Physical Models for the Emergence of Biological Homochirality. Topics in Current Chemistry, 2012, 333, 83-108.	4.0	26
63	On the Origin of Single Chirality of Amino Acids and Sugars in Biogenesis. Accounts of Chemical Research, 2012, 45, 2045-2054.	7.6	163
64	A New Reagent for Direct Difluoromethylation. Journal of the American Chemical Society, 2012, 134, 1494-1497.	6.6	538
65	Pasteurâ€™s Tweezers Revisited: On the Mechanism of Attrition-Enhanced Deracemization and Resolution of Chiral Conglomerate Solids. Journal of the American Chemical Society, 2012, 134, 12629-12636.	6.6	130
66	Enamine Carboxylates as Stereodetermining Intermediates in Prolinate Catalysis. Organic Letters, 2011, 13, 5644-5647.	2.4	53
67	Mechanistic Rationalization of Organocatalyzed Conjugate Addition of Linear Aldehydes to Nitro-olefins. Journal of the American Chemical Society, 2011, 133, 8822-8825.	6.6	145
68	Kinetic Profiling of Prolinate-Catalyzed Î±-Amination of Aldehydes. Organic Letters, 2011, 13, 4300-4303.	2.4	32
69	A route to enantiopure RNA precursors from nearly racemic starting materials. Nature Chemistry, 2011, 3, 704-706.	6.6	97
70	Innate C-H trifluoromethylation of heterocycles. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14411-14415.	3.3	667
71	The origin of biological homochirality. Philosophical Transactions of the Royal Society B: Biological Sciences, 2011, 366, 2878-2884.	1.8	83
72	Reservoir catalysis: Rationalization of anomalous reaction orders in Pd-catalyzed amination of aryl halides. Inorganica Chimica Acta, 2011, 369, 292-295.	1.2	16

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73	Origin of Homochirality. ACS Symposium Series, 2010, , 133-145.	0.5	6
74	Solutionâ€Phase Racemization in the Presence of an Enantiopure Solid Phase. Chemistry - A European Journal, 2010, 16, 4932-4937.	1.7	19
75	The Flowâ€™s the Thingâ€¦ï¸Or Is It? Assessing the Merits of Homogeneous Reactions in Flask and Flow. Angewandte Chemie - International Edition, 2010, 49, 2478-2485.	7.2	175
76	Kinetic aspects of non-linear effects in asymmetric synthesis, catalysis, and autocatalysis. Tetrahedron: Asymmetry, 2010, 21, 1630-1634.	1.8	32
77	The Origin of Biological Homochirality. Cold Spring Harbor Perspectives in Biology, 2010, 2, a002147-a002147.	2.3	270
78	Unusual Reversal of Enantioselectivity in the Proline-Mediated Î±-Amination of Aldehydes Induced by Tertiary Amine Additives. Journal of the American Chemical Society, 2010, 132, 7598-7599.	6.6	103
79	Unusual Inverse Temperature Dependence on Reaction Rate in the Asymmetric Autocatalytic Alkylation of Pyrimidyl Aldehydes. Journal of the American Chemical Society, 2010, 132, 15104-15107.	6.6	80
80	Challenging the concept of â€œrecyclingâ€•as a mechanism for the evolution of homochirality in chemical reactions. Chirality, 2009, 21, 359-362.	1.3	20
81	The Double Solubility Rule Holds for Racemizing Enantiomers. Chemistry - A European Journal, 2009, 15, 3065-3068.	1.7	8
82	An Examination of the Role of Autocatalytic Cycles in the Chemistry of Proposed Primordial Reactions. Angewandte Chemie - International Edition, 2009, 48, 386-390.	7.2	76
83	â€œIf Pigs Could Flyâ€•Chemistry: A Tutorial on the Principle of Microscopic Reversibility. Angewandte Chemie - International Edition, 2009, 48, 2648-2654.	7.2	136
84	Kinetic and mechanistic studies of proline-mediated direct intermolecular aldol reactions. Bioorganic and Medicinal Chemistry Letters, 2009, 19, 3934-3937.	1.0	73
85	Response to â€œComment on â€˜A Re-Examination of Reversibility in Reaction Models for the Spontaneous Emergence of Homochiralityâ€™â€• Journal of Physical Chemistry B, 2008, 112, 9553-9555.	1.2	10
86	Emergence of a Single Solid Chiral State from a Nearly Racemic Amino Acid Derivative. Journal of the American Chemical Society, 2008, 130, 1158-1159.	6.6	424
87	Evolution of Solid Phase Homochirality for a Proteinogenic Amino Acid. Journal of the American Chemical Society, 2008, 130, 15274-15275.	6.6	252
88	Re-Examination of Reversibility in Reaction Models for the Spontaneous Emergence of Homochirality. Journal of Physical Chemistry B, 2008, 112, 5098-5104.	1.2	62
89	Spoilt for choice: assessing phase behavior models for the evolution of homochirality. Chemical Communications, 2007, , 3990.	2.2	84
90	Clarification of the Role of Water in Proline-Mediated Aldol Reactions. Journal of the American Chemical Society, 2007, 129, 15100-15101.	6.6	251

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91	Emergence of Solution-Phase Homochirality via Crystal Engineering of Amino Acids. Journal of the American Chemical Society, 2007, 129, 7657-7660.	6.6	86
92	â€œChiral Amnesiaâ€•as a Driving Force for Solid-Phase Homochirality. Chemistry - A European Journal, 2007, 13, 3290-3295.	1.7	90
93	Water in Organocatalytic Processes: Debunking the Myths. Angewandte Chemie - International Edition, 2007, 46, 3798-3800.	7.2	369
94	Investigating the evolution of biomolecular homochirality. AICHE Journal, 2007, 53, 2-8.	1.8	26
95	A mechanistic rationalization of unusual kinetic behavior in proline-mediated Câ€“O and Câ€“N bond-forming reactions. Chemical Communications, 2006, , 4291-4293.	2.2	37
96	Investigations of Pd-Catalyzed ArX Coupling Reactions Informed by Reaction Progress Kinetic Analysis. Journal of Organic Chemistry, 2006, 71, 4711-4722.	1.7	170
97	Reevaluation of the Mechanism of the Amination of Aryl Halides Catalyzed by BINAP-Ligated Palladium Complexes. Journal of the American Chemical Society, 2006, 128, 3584-3591.	6.6	264
98	Mechanistic Implications of Pseudo Zero Order Kinetics in Kinetic Resolutions. Journal of the American Chemical Society, 2006, 128, 7450-7451.	6.6	30
99	Thermodynamic control of asymmetric amplification in amino acid catalysis. Nature, 2006, 441, 621-623.	13.7	370
100	Mechanistic study of the Soai autocatalytic reaction informed by kinetic analysis. Tetrahedron: Asymmetry, 2006, 17, 584-589.	1.8	56
101	Rationalization and Prediction of Solution Enantiomeric Excess in Ternary Phase Systems. Angewandte Chemie - International Edition, 2006, 45, 7985-7989.	7.2	136
102	Comprehensive Kinetic Screening of Palladium Catalysts for Heck Reactions. Synlett, 2006, 2006, 3135-3139.	1.0	17
103	Reaction Progress Kinetic Analysis: A Powerful Methodology for Mechanistic Studies of Complex Catalytic Reactions. Angewandte Chemie - International Edition, 2005, 44, 4302-4320.	7.2	559
104	Asymmetric Catalysis Special Feature Part II: Asymmetric autocatalysis and its implications for the origin of homochirality. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 5732-5736.	3.3	298
105	Physical and Chemical Rationalization for Asymmetric Amplification in Autocatalytic Reactions. Angewandte Chemie - International Edition, 2004, 43, 2099-2103.	7.2	42
106	In Situ Catalyst Improvement in the Proline-Mediated Î±-Amination of Aldehydes. Journal of the American Chemical Society, 2004, 126, 11770-11771.	6.6	109
107	Mechanistic Investigation Leads to a Synthetic Improvement in the Hydrolytic Kinetic Resolution of Terminal Epoxides. Journal of the American Chemical Society, 2004, 126, 1360-1362.	6.6	370
108	Kinetic Evidence for a Tetrameric Transition State in the Asymmetric Autocatalytic Alkylation of Pyrimidyl Aldehydes. Journal of the American Chemical Society, 2003, 125, 8978-8979.	6.6	98

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109	Mechanistic Insights into the Pd(BINAP)-Catalyzed Amination of Aryl Bromides:Â Kinetic Studies under Synthetically Relevant Conditions. Journal of the American Chemical Society, 2002, 124, 14104-14114.	6.6	145
110	Requiem for the Reaction Rate Equation?. Catalysis Letters, 2002, 83, 133-136.	1.4	3
111	Kinetic Resolution Using Enantioimpure Catalysts:â€‰ Mechanistic Considerations of Complex Rate Laws. Journal of the American Chemical Society, 2001, 123, 545-553.	6.6	59
112	Origins of Asymmetric Amplification in Autocatalytic Alkylzinc Additions. Journal of the American Chemical Society, 2001, 123, 10103-10104.	6.6	230
113	Kinetic Studies of Heck Coupling Reactions Using Palladacycle Catalysts: Experimental and Kinetic Modeling of the Role of Dimer Species. Journal of the American Chemical Society, 2001, 123, 1848-1855.	6.6	199
114	Observation of Unusual Kinetics in Heck Reactions of Aryl Halides:Â The Role of Non-Steady-State Catalyst Concentration. Journal of the American Chemical Society, 2001, 123, 4621-4622.	6.6	90
115	Enantioselective hydrogenation of olefins with phosphinooxazoline-iridium catalysts. , 2000, 12, 442-449.		109
116	Kinetic Investigations of Product Inhibition in the Amino Alcohol-Catalyzed Asymmetric Alkylation of Benzaldehyde with Diethylzinc. Organic Letters, 2000, 2, 2511-2513.	2.4	59
117	Kinetic Aspects of Nonlinear Effects in Asymmetric Catalysis. Accounts of Chemical Research, 2000, 33, 402-411.	7.6	227
118	Kinetic Implications of Nonlinear Effects in Asymmetric Synthesis. Journal of the American Chemical Society, 1998, 120, 13349-13353.	6.6	44
119	Mathematical Models of Nonlinear Effects in Asymmetric Catalysis:â€‰ New Insights Based on the Role of Reaction Rate. Journal of the American Chemical Society, 1997, 119, 12934-12939.	6.6	61
120	Calorimetric Investigation of an Exothermic Reaction: kinetic and Heat Flow Modeling. Industrial & Engineering Chemistry Research, 1994, 33, 814-820.	1.8	25
121	Kinetic and Thermodynamic Considerations in the Rh-Catalyzed Enantioselective Hydrogenation of 2-Pyridyl-Substituted Alkenes. ACS Catalysis, 0, , 5961-5969.	5.5	2