Roman Boulatov

List of Publications by Year
in descending order

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78 papers	4,205 citations	117453 34 h-index	114278 63 g-index
92 all docs	92 docs citations	92 times ranked	3379 citing authors

#	Article	IF	Citations
1	Selective ortho-Câ€“H Activation in Arenes without Functional Groups. Journal of the American Chemical Society, 2022, 144, 11564-11568.	6.6	7
2	The molecular mechanism of constructive remodeling of a mechanically-loaded polymer. Nature Communications, 2022, 13, .	5.8	8
3	Selective cleavage of unactivated arene ring Câ€“C bonds by iridium: key roles of benzylic Câ€“H activation and metalâ€“metal cooperativity. Chemical Science, 2021, 12, 3568-3579.	3.7	9
4	Force-modulated reductive elimination from platinum(<scp>ii</scp>) diaryl complexes. Chemical Science, 2021, 12, 11130-11137.	3.7	11
5	Selective, radical-free activation of benzylic Câ€“H bonds in methylarenes. Chemical Communications, 2021, 57, 7894-7897.	2.2	3
6	The liberating force of ultrasound. Nature Chemistry, 2021, 13, 112-114.	6.6	10
7	The many flavours of mechanochemistry and its plausible conceptual underpinnings. Nature Reviews Chemistry, 2021, 5, 148-167.	13.8	176
8	A Polymer with Mechanochemically Active Hidden Length. Journal of the American Chemical Society, 2020, 142, 18687-18697.	6.6	46
9	A Mechanochemical Reaction Cascade for Controlling Loadâ€Strengthening of a Mechanochromic Polymer. Angewandte Chemie, 2020, 132, 22164-22169.	1.6	9
10	Mechanochemical Regulation of Oxidative Addition to a Palladium(0) Bisphosphine Complex. Journal of the American Chemical Society, 2020, 142, 17714-17720.	6.6	19
11	A Mechanochemical Reaction Cascade for Controlling Loadâ€Strengthening of a Mechanochromic Polymer. Angewandte Chemie - International Edition, 2020, 59, 21980-21985.	7.2	43
12	Organic Composite Crystal with Persistent Room-Temperature Luminescence Above 650Ânm by Combining Tripletâ€“Triplet Energy Transfer with Thermally Activated Delayed Fluorescence. CCS Chemistry, 2020, 2, 1391-1398.	4.6	60
13	Mechanochromism and optical remodeling of multi-network elastomers containing anthracene dimers. Chemical Science, 2019, 10, 8367-8373.	3.7	62
14	Ratiometric O₂ sensing based on selective self-sensitized photooxidation of donorâ€“acceptor fluorophores. Chemical Communications, 2019, 55, 7017-7020.	2.2	34
15	Applications of Photoswitches in the Storage of Solar Energy. ChemPhotoChem, 2019, 3, 268-283.	1.5	94
16	Reversible Insertion of Ir into Arene Ring Câ€“C Bonds with Improved Regioselectivity at a Higher Reaction Temperature. Journal of the American Chemical Society, 2019, 141, 6048-6053.	6.6	18
17	Polymer Mechanochemistry: A New Frontier for Physical Organic Chemistry. Advances in Physical Organic Chemistry, 2018, 52, 87-143.	0.5	9
18	A light-driven molecular machine based on stiff stilbene. Chemical Communications, 2018, 54, 7991-7994.	2.2	47

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19	Experimental Polymer Mechanochemistry and its Interpretational Frameworks. ChemPhysChem, 2017, 18, 1422-1450.	1.0	106
20	Experimental Polymer Mechanochemistry and its Interpretational Frameworks. ChemPhysChem, 2017, 18, 1418-1418.	1.0	8
21	Multi-modal mechanophores based on cinnamate dimers. Nature Communications, 2017, 8, 1147.	5.8	106
22	The Challenges and Opportunities of Contemporary Polymer Mechanochemistry. ChemPhysChem, 2017, 18, 1419-1421.	1.0	16
23	Experimentally realized mechanochemistry distinct from force-accelerated scission of loaded bonds. Science, 2017, 357, 299-303.	6.0	93
24	Mechanochromism and Mechanicalâ€Forceâ€Triggered Crossâ€Linking from a Single Reactive Moiety Incorporated into Polymer Chains. Angewandte Chemie, 2016, 128, 3092-3096.	1.6	35
25	Mechanochromism and Mechanicalâ€Forceâ€Triggered Crossâ€Linking from a Single Reactive Moiety Incorporated into Polymer Chains. Angewandte Chemie - International Edition, 2016, 55, 3040-3044.	7.2	202
26	Titelbild: Mechanochromism and Mechanicalâ€Forceâ€Triggered Crossâ€Linking from a Single Reactive Moiety Incorporated into Polymer Chains (Angew. Chem. 9/2016). Angewandte Chemie, 2016, 128, 2999-2999.	1.6	2
27	Mechanical gating of a mechanochemical reaction cascade. Nature Communications, 2016, 7, 13433.	5.8	107
28	Comment on T. Stauch, A. Dreuw, â€œStiff-stilbene photoswitch ruptures bonds not by pulling but by local heatingâ€, Phys. Chem. Chem. Phys., 2016,18, 15848. Physical Chemistry Chemical Physics, 2016, 18, 26990-26993.	1.3	9
29	Photomechanical Actuation of Ligand Geometry in Enantioselective Catalysis. Angewandte Chemie - International Edition, 2014, 53, 14508-14511.	7.2	84
30	Model studies of force-dependent kinetics of multi-barrier reactions. Nature Communications, 2013, 4, 2538.	5.8	55
31	Demonstrated leverage. Nature Chemistry, 2013, 5, 84-86.	6.6	31
32	Comparison of the predictive performance of the Bellâ€“Evans, Taylor-expansion and statistical-mechanics models of mechanochemistry. Chemical Communications, 2013, 49, 4187-4189.	2.2	39
33	Model Studies of the Kinetics of Ester Hydrolysis under Stretching Force. Angewandte Chemie - International Edition, 2013, 52, 6992-6995.	7.2	49
34	Forceâ€“Reactivity Property of a Single Monomer Is Sufficient To Predict the Micromechanical Behavior of Its Polymer. Journal of the American Chemical Society, 2012, 134, 7620-7623.	6.6	89
35	Quantumâ€Chemical Validation of the Local Assumption of Chemomechanics for a Unimolecular Reaction. ChemPhysChem, 2012, 13, 2277-2281.	1.0	49
36	Fundamentals of Molecular Photoactuation. , 2012, , 83-106.		6

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37	The Entropic and Enthalpic Contributions to Force-Dependent Dissociation Kinetics of the Pyrophosphate Bond. Journal of the American Chemical Society, 2011, 133, 20044-20047.	6.6	39
38	The physical chemistry of mechanoresponsive polymers. Journal of Materials Chemistry, 2011, 21, 8237.	6.7	109
39	Chemomechanics: chemical kinetics for multiscale phenomena. Chemical Society Reviews, 2011, 40, 2359.	18.7	121
40	Chemical solutions for the closed-cycle storage of solar energy. Energy and Environmental Science, 2011, 4, 4449.	15.6	242
41	Reaction dynamics in the formidable gap. Pure and Applied Chemistry, 2010, 83, 25-41.	0.9	33
42	Chemomechanics with molecular force probes. Pure and Applied Chemistry, 2010, 82, 931-951.	0.9	41
43	Strain-Dependent Acceleration of a Paradigmatic S_N2 Reaction Accurately Predicted by the Force Formalism. Journal of Physical Chemistry Letters, 2010, 1, 2820-2825.	2.1	40
44	Macrocyclic Disulfides for Studies of Sensitized Photolysis of the Sï£¿S Bond. Chemistry - A European Journal, 2009, 15, 5212-5214.	1.7	10
45	Kinetics of Thiol/Disulfide Exchange Correlate Weakly with the Restoring Force in the Disulfide Moiety. Angewandte Chemie - International Edition, 2009, 48, 7040-7043.	7.2	80
46	A molecular force probe. Nature Nanotechnology, 2009, 4, 302-306.	15.6	168
47	Method to Derive Restoring Forces of Strained Molecules from Kinetic Measurements. Journal of the American Chemical Society, 2009, 131, 1407-1409.	6.6	86
48	Simple dimer containing dissociatively stable mono-imidazole ligated ferrohemes. Chemical Communications, 2008, , 963.	2.2	8
49	Density Functional Theory Calculations of the Lowest Energy Quintet and Triplet States of Model Hemes:â€‰ Role of Functional, Basis Set, and Zero-Point Energy Corrections. Journal of Physical Chemistry A, 2008, 112, 3700-3711.	1.1	25
50	Simple Heme Dimers with Strongly Cooperative Ligand Binding. Angewandte Chemie - International Edition, 2007, 46, 8368-8370.	7.2	7
51	Billion-Year-Old Oxygen Cathode that Actually Works: Respiratory Oxygen Reduction and Its Biomimetic Analogs. , 2006, , 1-40.		14
52	Modeling the Anodic Half-Cell of a Low-Temperature Coal Fuel Cell. Angewandte Chemie - International Edition, 2005, 44, 5682-5686.	7.2	29
53	Functional Analogues of Cytochrome c Oxidase, Myoglobin, and Hemoglobin. ChemInform, 2004, 35, no.	0.1	1
54	Electrocatalytic Reduction of ROOH by Iron Porphyrins. Journal of the American Chemical Society, 2004, 126, 11166-11167.	6.6	11

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55	Functional Analogues of CytochromecOxidase, Myoglobin, and Hemoglobin. Chemical Reviews, 2004, 104, 561-588.	23.0	635
56	Understanding the reaction that powers this world: Biomimetic studies of respiratory O2 reduction by cytochrome oxidase.. Pure and Applied Chemistry, 2004, 76, 1293-1293.	0.9	0
57	Understanding the reaction that powers this world: Biomimetic studies of respiratory O2 reduction by cytochrome oxidase. Pure and Applied Chemistry, 2004, 76, 303-319.	0.9	23
58	Heterodinuclear Transition-Metal Complexes with Multiple Metalâ€"Metal Bonds.. ChemInform, 2003, 34, no.	0.1	0
59	Effect of Electron Availability on Selectivity of O2 Reduction by Synthetic Monometallic Fe Porphyrins. Inorganic Chemistry, 2003, 42, 4807-4809.	1.9	19
60	Nonideal Electrochemical Behavior of Biomimetic Iron Porphyrins:Â Interfacial Potential Distribution across Multilayer Films. Analytical Chemistry, 2003, 75, 494-502.	3.2	36
61	Functional and Structural Analogs of the Dioxygen Reduction Site in Terminal Oxidases. , 2003, , 1-49.		40
62	Electrochemical Metalloporphyrin-Catalyzed Reduction of Chlorite. Journal of the American Chemical Society, 2002, 124, 10670-10671.	6.6	27
63	High-Vacuum Pyrolysis of Zr(2,3,7,8,12,13,17,18-Octaethylporphyrin)(PhCâ‹®CPh) as a Route to Novel Zr Species:Â X-ray Structure of a Hetero-Triply Bridged Species, [(OEP)Zr(Î¼-Cl)]2(Î¼-O). Inorganic Chemistry, 2002, 41, 416-420.	1.9	4
64	Biomimetic Studies of Terminal Oxidases:â€‰ Trisimidazole Picket Metalloporphyrins. Inorganic Chemistry, 2002, 41, 2282-2291.	1.9	64
65	Functional Analogues of the Dioxygen Reduction Site in Cytochrome Oxidase:Â Mechanistic Aspects and Possible Effects of CuB. Journal of the American Chemical Society, 2002, 124, 11923-11935.	6.6	152
66	Electrocatalytic O2 Reduction by Synthetic Analogues of the Heme/Cu Site of Cytochrome Oxidase Incorporated in a Lipid Film. Angewandte Chemie - International Edition, 2002, 41, 3487-3489.	7.2	39
67	Heterodinuclear Transition-Metal Complexes with Multiple Metalâ€“Metal Bonds. Angewandte Chemie - International Edition, 2002, 41, 3948-3961.	7.2	81
68	Distal Cu Ion Protects Synthetic Heme/Cu Analogues of Cytochrome Oxidase against Inhibition by CO and Cyanide. Angewandte Chemie - International Edition, 2002, 41, 4139-4142.	7.2	16
69	Unexpected Reactivity of Rh(TPP)I(CO) toward an Alkoxide in CH2Cl2:Â Synthesis and Crystal Structure of Rh(TPP)(CH2Cl). Inorganic Chemistry, 2001, 40, 560-563.	1.9	34
70	Aromatic and Benzylic Cî—¸H Bond Activation in the System Bis(dicarbonylrhodium(I))-porphyrinateî—¸Hydrocarbon Solvent. Inorganic Chemistry, 2001, 40, 2461-2464.	1.9	23
71	Superimposed saddle and ruffled distortions of the porphyrin in iodo(pyridine-N)(5,10,15,20-tetraphenylporphyrinato-Î²4N)rhodium(III) toluene solvate. Acta Crystallographica Section C: Crystal Structure Communications, 2001, 57, 406-408.	0.4	4
72	The First Quadruple Bond Between Elements of Different Groups. Angewandte Chemie - International Edition, 2001, 40, 1271-1274.	7.2	11

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73	Fluorinated imidazoles as 19F probes for biomimetic studies of heme a3 â€" Cub site in cytochrome c oxidase. Journal of Fluorine Chemistry, 2000, 106, 189-197.	0.9	8
74	Functionalization of 1-methyl-1H-imidazole-5-carboxylic acid at the C-2 position: Efficient syntheses of 2-substituted t-butyl 1-methyl-1H-imidazole-5-carboxylates. Journal of Chemical Research, 2000, 2000, 230-231.	0.6	8
75	Synthesis and Reactivity of Porphyrinatorhodium(II)â^'Triethylphosphine Adducts:â€‰ The Role of PEt3 in Stabilizing a Formal Rh(II) State. Journal of the American Chemical Society, 2000, 122, 11812-11821.	6.6	40
76	Two Novel Lithiumâ^'15-Crown-5 Complexes:â€‰ An Extended LiCl Chain Stabilized by Crown Ether and a Dimeric Complex Stabilized by Hydrogen Bonding with Water. Inorganic Chemistry, 1999, 38, 4554-4558.	1.9	37
77	Metalloporphyrin Catalysts of Oxygen Reduction. , 0, , 637-693.		9
78	The contributions of model studies for fundamental understanding of polymer mechanochemistry. Synlett, 0, 0, .	1.0	5