John C Polanyi

List of Publications by Year in descending order

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66 papers	1,605 citations	304743 22 h-index	315739 38 g-index
69 all docs	69 docs citations	69 times ranked	1221 citing authors

#	Article	IF	Citations
1	Direct observation of knock-on reaction with umbrella inversion arising from zero-impact-parameter collision at a surface. Communications Chemistry, 2021, 4, .	4.5	5
2	Direct Observation of Knock-on in Surface Reactions at Zero Impact Parameter. Journal of the American Chemical Society, 2021, 143, 12644-12649.	13.7	1
3	Long-range migration of H-atoms from electron-induced dissociation of HS on Si(111). Journal of Physics Condensed Matter, 2021, 33, 474001.	1.8	1
4	Reversible 1D chain-reaction gives rise to an atomic-scale Newton's cradle. Chemical Communications, 2021, 57, 12647-12650.	4.1	1
5	Contrasting Efficiency of Electron-Induced Reaction at Cu(110) in Aliphatic and Aromatic Bromides. Journal of the American Chemical Society, 2020, 142, 9453-9459.	13.7	4
6	Electron Attachment Leads to Unidirectional In-Plane Molecular Rotation of Para-Chlorostyrene on Si(100). Journal of Physical Chemistry C, 2019, 123, 18425-18431.	3.1	2
7	Electron-induced molecular dissociation at a surface leads to reactive collisions at selected impact parameters. Faraday Discussions, 2019, 214, 89-103.	3.2	6
8	Approaching the forbidden fruit of reaction dynamics: Aiming reagent at selected impact parameters. Science Advances, 2018, 4, eaau2821.	10.3	13
9	Dynamics of adsorbate rotation in electron-induced reaction. Chemical Physics Letters, 2017, 683, 443-447.	2.6	1
10	Direct and Delayed Dynamics in Electron-Induced Surface Reaction. Journal of the American Chemical Society, 2017, 139, 17368-17375.	13.7	8
11	Bond selectivity in electron-induced reaction due to directed recoil on an anisotropic substrate. Nature Communications, 2016, 7, 13690.	12.8	14
12	Clocking Surface Reaction by In-Plane Product Rotation. Journal of the American Chemical Society, 2016, 138, 7377-7385.	13.7	8
13	Retention of chirality in electron-induced reactions. Chemical Communications, 2016, 52, 6115-6118.	4.1	0
14	Charge-Transfer in Silicon Governs the Pattern of Dissociative Attachment of Hydrogen Halides: HCl, HBr, and HI. Journal of Physical Chemistry C, 2016, 120, 22414-22420.	3.1	2
15	Dynamics of surface-migration: Electron-induced reaction of 1,2-dihaloethanes on Si(100). Surface Science, 2016, 652, 312-321.	1.9	8
16	Retention of Bond Direction in Surface Reaction: A Comparative Study of Variously Aligned p-Dihalobenzenes on Cu(110). Journal of Physical Chemistry C, 2015, 119, 26038-26045.	3.1	10
17	Repulsion-Induced Surface-Migration by Ballistics and Bounce. Journal of Physical Chemistry Letters, 2015, 6, 4093-4098.	4.6	8
18	Vibrational Excitation Induces Double Reaction. ACS Nano, 2014, 8, 12468-12475.	14.6	14

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19	Molecular Dynamics of the Electron-Induced Reaction of Diiodomethane on Cu(110). Journal of Physical Chemistry C, 2014, 118, 25525-25533.	3.1	12
20	How Adsorbate Alignment Leads to Selective Reaction. ACS Nano, 2014, 8, 8669-8675.	14.6	10
21	Catalyzed Surface-Aligned Reaction, H(ad)Â+ÂH2(ad)Â=ÂH2(g)Â+ÂH(ad) on Coinage Metals. Zeitschrift Fur Physikalische Chemie, 2013, , 130722000303001.	2.8	2
22	Charge Delocalization Induces Reaction in Molecular Chains at a Surface. Angewandte Chemie - International Edition, 2013, 52, 320-324.	13.8	23
23	Single-Electron Induces Double-Reaction by Charge Delocalization. Journal of the American Chemical Society, 2013, 135, 6220-6225.	13.7	41
24	Surface aligned reaction. Journal of Chemical Physics, 2012, 137, 091706.	3.0	19
25	Localized Reaction at a Smooth Metal Surface: p-Diiodobenzene at Cu(110). Journal of the American Chemical Society, 2012, 134, 9320-9326.	13.7	40
26	Effect of Alkyl Chain-Length on Dissociative Attachment: 1-Bromoalkanes on Si(100)-c(4Ã—2). Journal of Physical Chemistry C, 2012, 116, 10129-10137.	3.1	12
27	Adsorbate Alignment in Surface Halogenation: Standing Up is Better than Lying Down. Angewandte Chemie - International Edition, 2012, 51, 9061-9065.	13.8	6
28	Pulsed-dosing controls self-assembly: 1-Bromopentane on Si(1 1 1)-7 Ã— 7. Chemical Physics Letters, 2012, 527, 1-6.	2.6	5
29	Stereo-isomerism controls surface reactivity: 1-chloropentane-pairs on Si(100)-2Ã—1. Chemical Communications, 2011, 47, 12101.	4.1	7
30	Multiple Pathways of Dissociative Attachment: CH3Br on Si(100)-2Ã—1. Journal of the American Chemical Society, 2011, 133, 11534-11539.	13.7	17
31	Directed Long-Range Migratory Reaction of Benzene on Si(100). Journal of Physical Chemistry C, 2011, 115, 22409-22414.	3.1	9
32	Molecular Calipers Control Atomic Separation at a Metal Surface. Nano Letters, 2011, 11, 4113-4117.	9.1	18
33	Imprinting self-assembled patterns of lines at a semiconductor surface, using heat, light, or electrons. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 950-955.	7.1	26
34	Imprinting Atomic and Molecular Patterns. Frontiers of Nanoscience, 2011, , 79-120.	0.6	7
35	Facile Charge-Displacement at Silicon Gives Spaced-out Reaction. Journal of the American Chemical Society, 2011, 133, 16560-16565.	13.7	7
36	Directed long-range molecular migration energized by surface reaction. Nature Chemistry, 2011, 3, 400-408.	13.6	36

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37	Surface-mediated chain reaction through dissociative attachment. Nature Chemistry, 2011, 3, 85-89.	13.6	41
38	â€œEarlyâ€•and â€œLateâ€•Barriers in Dissociative Attachment: Steering Surface Reaction. Journal of Physical Chemistry Letters, 2010, 1, 2600-2605.	4.6	7
39	Cooperative molecular dynamics in surface reactions. Nature Chemistry, 2009, 1, 716-721.	13.6	42
40	Dipole-directed assembly of lines of 1,5-dichloropentane on silicon substrates by displacement of surface charge. Nature Nanotechnology, 2008, 3, 222-228.	31.5	57
41	Molecular Dynamics of Localized Reaction, Experiment and Theory: Methyl Bromide on Si(111)-7Ã—7. ACS Nano, 2008, 2, 699-706.	14.6	26
42	A Reversible Molecular Switch Based on Pattern-Change in Chlorobenzene and Toluene on a Si(111)â^'(7) Tj ETQq0 0 0 rgBT /Overlock 1	9.1	34
43	STM Study of the Conformation and Reaction of Long-Chain Haloalkanes at Si(111)-7â€‰Ã—â€‰7. Journal of Physical Chemistry B, 2006, 110, 8010-8018.	2.6	17
44	An STM study of the localized atomic reaction of 1,2- and 1,4-dibromoxylene with Si(111)-7Ã—7. Surface Science, 2005, 580, 39-50.	1.9	23
45	Theoretical study of benzene, toluene, and dibromobenzene at a Si(111)7Ã—7 surface. Israel Journal of Chemistry, 2005, 45, 111-126.	2.3	11
46	An STM study of the localized atomic reaction of 1,2- and 1,4-dibromobenzene at Si(111)-7Ã—7. Surface Science, 2004, 561, 11-24.	1.9	33
47	Parent- and daughter-mediated halogenation reactions modeled for 1,2- and 1,4-dibromobenzene at Si(111)-7Ã—7. Surface Science, 2004, 572, 162-178.	1.9	21
48	Imprinting Br-atoms at Si(111) from a SAM of CH3Br(ad), with pattern retention. Surface Science, 2004, 573, L363-L368.	1.9	28
49	Chemistry on a peg-board: the effect of adatomâ€“adatom separation on the reactivity of dihalobenzenes at Si(111)7Ã—7 surfaces. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2004, 362, 1185-1194.	3.4	15
50	Theoretical study of the induced attachment of benzene to Si(111) 7Ã—7. Surface Science, 2003, 544, 162-169.	1.9	22
51	Electron and photon irradiation of benzene and chlorobenzene on Si(111) 7Ã—7. Surface Science, 2003, 544, 147-161.	1.9	35
52	Electron-induced attachment of chlorinated benzenes to Si(100)2Ã—1. Surface Science, 2003, 547, 324-334.	1.9	26
53	Reaction of chlorinated benzenes with Si(100)2Ã—1: a theoretical study. Surface Science, 2003, 547, 335-348.	1.9	25
54	Photoinduced charge-transfer reaction at surfaces. II. HBrâ‹¯Nan/LiF(001)+hν(610â€Šnm)â†'Brâ^'Nan+/LiF(001)+H(g). Journal of Chemical Physics, 2003, 119, 9795-9803.	3.0	2

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55	Surface aligned photochemistry: Photodissociation of Cl2 and Cl2â‹¯Cl adsorbed on LiF(001). Journal of Chemical Physics, 2000, 112, 9569-9581.	3.0	13
56	Surface-aligned photochemistry: Photodissociation of H2S adsorbed on LiF(001) studied by Rydberg-atom time-of-flight spectroscopy. Journal of Chemical Physics, 2000, 113, 807-814.	3.0	8
57	Surface-aligned photochemistry: Photolysis of HCl adsorbed on LiF(001) studied by Rydberg-atom time-of-flight spectroscopy. Journal of Chemical Physics, 1999, 110, 598-605.	3.0	12
58	Potential energy surfaces of NaFH. Journal of Chemical Physics, 1998, 108, 5349-5377.	3.0	59
59	The photoabsorption spectrum of Naâ‹¯FH van der Waals molecule: Comparison of theory and experiment for a harpooning reaction studied by transition state spectroscopy. Journal of Chemical Physics, 1998, 108, 5378-5390.	3.0	45
60	Photochemistry of adsorbed molecules. XVI. Photolysis of HX (X=Cl, Br, I) adsorbed on LiF(001), by Rydberg-atom time-of-flight spectroscopy. Journal of Chemical Physics, 1997, 106, 3129-3134.	3.0	11
61	Direct Observation of the Transition State. Accounts of Chemical Research, 1995, 28, 119-132.	15.6	441
62	Photoinduced chargeâ€transfer dissociation in van der Waals complexes. II. Na2...ClCH3, Na2...(ClCH3)2, and Na...FPh. Journal of Chemical Physics, 1993, 98, 5431-5443.	3.0	42
63	Photoinduced chargeâ€transfer dissociation in van der Waals complexes: Na2â‹…â‹…â‹…(ClCH3)n. Journal of Chemical Physics, 1992, 96, 8628-8630.	3.0	28
64	Some Concepts in Reaction Dynamics(Nobel Lecture). Angewandte Chemie International Edition in English, 1987, 26, 952-971.	4.4	48
65	Armaments policies for the sixties. Survival, 1962, 4, 76-85.	0.9	0
66	Arms Control. International Journal, 1962, 17, 39-49.	0.7	0