

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 the Transition State. <i>Accounts of Chemical Research</i> , 1995, 28, 119-132.	15.6	441
2	Potential energy surfaces of NaFH. <i>Journal of Chemical Physics</i> , 1998, 108, 5349-5377.	3.0	59
3	Dipole-directed assembly of lines of 1,5-dichloropentane on silicon substrates by displacement of surface charge. <i>Nature Nanotechnology</i> , 2008, 3, 222-228.	31.5	57
4	Some Concepts in Reaction Dynamics (Nobel Lecture). <i>Angewandte Chemie International Edition in English</i> , 1987, 26, 952-971.	4.4	48
5	The photoabsorption spectrum of Na κ -FH van der Waals molecule: Comparison of theory and experiment for a harpooning reaction studied by transition state spectroscopy. <i>Journal of Chemical Physics</i> , 1998, 108, 5378-5390.	3.0	45
6	Photoinduced charge-transfer dissociation in van der Waals complexes. II. Na κ -ClCH ₃ , Na κ -(ClCH ₃) ₂ , and Na κ -FPh. <i>Journal of Chemical Physics</i> , 1993, 98, 5431-5443.	3.0	42
7	Cooperative molecular dynamics in surface reactions. <i>Nature Chemistry</i> , 2009, 1, 716-721.	13.6	42
8	Surface-mediated chain reaction through dissociative attachment. <i>Nature Chemistry</i> , 2011, 3, 85-89.	13.6	41
9	Single-Electron Induces Double-Reaction by Charge Delocalization. <i>Journal of the American Chemical Society</i> , 2013, 135, 6220-6225.	13.7	41
10	Localized Reaction at a Smooth Metal Surface: <i>p</i> -Diiodobenzene at Cu(110). <i>Journal of the American Chemical Society</i> , 2012, 134, 9320-9326.	13.7	40
11	Directed long-range molecular migration energized by surface reaction. <i>Nature Chemistry</i> , 2011, 3, 400-408.	13.6	36
12	Electron and photon irradiation of benzene and chlorobenzene on Si(111)-7 \times 7. <i>Surface Science</i> , 2003, 544, 147-161.	1.9	35
13	A Reversible Molecular Switch Based on Pattern-Change in Chlorobenzene and Toluene on a Si(111)-7 \times 7. <i>Journal of Physical Chemistry Letters</i> , 2011, 2, 1107-1111.	10.784314	34
14	An STM study of the localized atomic reaction of 1,2- and 1,4-dibromobenzene at Si(111)-7 \times 7. <i>Surface Science</i> , 2004, 561, 11-24.	1.9	33
15	Photoinduced charge-transfer dissociation in van der Waals complexes: Na κ -(ClCH ₃) _n . <i>Journal of Chemical Physics</i> , 1992, 96, 8628-8630.	3.0	28
16	Imprinting Br-atoms at Si(111) from a SAM of CH ₃ Br(ad), with pattern retention. <i>Surface Science</i> , 2004, 573, L363-L368.	1.9	28
17	Electron-induced attachment of chlorinated benzenes to Si(100)-2 \times 1. <i>Surface Science</i> , 2003, 547, 324-334.	1.9	26
18	Molecular Dynamics of Localized Reaction, Experiment and Theory: Methyl Bromide on Si(111)-7 \times 7. <i>ACS Nano</i> , 2008, 2, 699-706.	14.6	26

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19	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
20	Reaction of chlorinated benzenes with Si(100)2Å–1: a theoretical study. Surface Science, 2003, 547, 335-348.	1.9	25
21	An STM study of the localized atomic reaction of 1,2- and 1,4-dibromoxylene with Si(111)-7Å–7. Surface Science, 2005, 580, 39-50.	1.9	23
22	Charge Delocalization Induces Reaction in Molecular Chains at a Surface. Angewandte Chemie - International Edition, 2013, 52, 320-324.	13.8	23
23	Theoretical study of the induced attachment of benzene to Si(111) 7Å–7. Surface Science, 2003, 544, 162-169.	1.9	22
24	Parent- and daughter-mediated halogenation reactions modeled for 1,2- and 1,4-dibromobenzene at Si(111)-7Å–7. Surface Science, 2004, 572, 162-178.	1.9	21
25	Surface aligned reaction. Journal of Chemical Physics, 2012, 137, 091706.	3.0	19
26	Molecular Calipers Control Atomic Separation at a Metal Surface. Nano Letters, 2011, 11, 4113-4117.	9.1	18
27	STM Study of the Conformation and Reaction of Long-Chain Haloalkanes at Si(111)-7Å–7. Journal of Physical Chemistry B, 2006, 110, 8010-8018.	2.6	17
28	Multiple Pathways of Dissociative Attachment: CH3Br on Si(100)-2Å–1. Journal of the American Chemical Society, 2011, 133, 11534-11539.	13.7	17
29	Chemistry on a peg-board: the effect of adatom–adatom separation on the reactivity of dihalobenzenes at Si(111)7Å–7 surfaces. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2004, 362, 1185-1194.	3.4	15
30	Vibrational Excitation Induces Double Reaction. ACS Nano, 2014, 8, 12468-12475.	14.6	14
31	Bond selectivity in electron-induced reaction due to directed recoil on an anisotropic substrate. Nature Communications, 2016, 7, 13690.	12.8	14
32	Surface aligned photochemistry: Photodissociation of Cl2 and Cl2•Cl adsorbed on LiF(001). Journal of Chemical Physics, 2000, 112, 9569-9581.	3.0	13
33	Approaching the forbidden fruit of reaction dynamics: Aiming reagent at selected impact parameters. Science Advances, 2018, 4, eaau2821.	10.3	13
34	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
35	Effect of Alkyl Chain-Length on Dissociative Attachment: 1-Bromoalkanes on Si(100)-c(4Å–2). Journal of Physical Chemistry C, 2012, 116, 10129-10137.	3.1	12
36	Molecular Dynamics of the Electron-Induced Reaction of Diiodomethane on Cu(110). Journal of Physical Chemistry C, 2014, 118, 25525-25533.	3.1	12

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37	Photochemistry of adsorbed molecules. XVI. Photolysis of HX (X=Cl, Br, I) adsorbed on LiF(001), by Rydberg-atom time-of-flight spectroscopy. <i>Journal of Chemical Physics</i> , 1997, 106, 3129-3134.	3.0	11
38	Theoretical study of benzene, toluene, and dibromobenzene at a Si(111)7 \times 7 surface. <i>Israel Journal of Chemistry</i> , 2005, 45, 111-126.	2.3	11
39	How Adsorbate Alignment Leads to Selective Reaction. <i>ACS Nano</i> , 2014, 8, 8669-8675.	14.6	10
40	Retention of Bond Direction in Surface Reaction: A Comparative Study of Various Aligned p-Dihalobenzenes on Cu(110). <i>Journal of Physical Chemistry C</i> , 2015, 119, 26038-26045.	3.1	10
41	Directed Long-Range Migratory Reaction of Benzene on Si(100). <i>Journal of Physical Chemistry C</i> , 2011, 115, 22409-22414.	3.1	9
42	Surface-aligned photochemistry: Photodissociation of H ₂ S adsorbed on LiF(001) studied by Rydberg-atom time-of-flight spectroscopy. <i>Journal of Chemical Physics</i> , 2000, 113, 807-814.	3.0	8
43	Repulsion-Induced Surface-Migration by Ballistics and Bounce. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 4093-4098.	4.6	8
44	Clocking Surface Reaction by In-Plane Product Rotation. <i>Journal of the American Chemical Society</i> , 2016, 138, 7377-7385.	13.7	8
45	Dynamics of surface-migration: Electron-induced reaction of 1,2-dihaloethanes on Si(100). <i>Surface Science</i> , 2016, 652, 312-321.	1.9	8
46	Direct and Delayed Dynamics in Electron-Induced Surface Reaction. <i>Journal of the American Chemical Society</i> , 2017, 139, 17368-17375.	13.7	8
47	“Early” and “Late” Barriers in Dissociative Attachment: Steering Surface Reaction. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 2600-2605.	4.6	7
48	Stereo-isomerism controls surface reactivity: 1-chloropentane-pairs on Si(100)-2 \times 1. <i>Chemical Communications</i> , 2011, 47, 12101.	4.1	7
49	Imprinting Atomic and Molecular Patterns. <i>Frontiers of Nanoscience</i> , 2011, , 79-120.	0.6	7
50	Facile Charge-Displacement at Silicon Gives Spaced-out Reaction. <i>Journal of the American Chemical Society</i> , 2011, 133, 16560-16565.	13.7	7
51	Adsorbate Alignment in Surface Halogenation: Standing Up is Better than Lying Down. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 9061-9065.	13.8	6
52	Electron-induced molecular dissociation at a surface leads to reactive collisions at selected impact parameters. <i>Faraday Discussions</i> , 2019, 214, 89-103.	3.2	6
53	Pulsed-dosing controls self-assembly: 1-Bromopentane on Si(1 1 1)-7 \times 7. <i>Chemical Physics Letters</i> , 2012, 527, 1-6.	2.6	5
54	Direct observation of knock-on reaction with umbrella inversion arising from zero-impact-parameter collision at a surface. <i>Communications Chemistry</i> , 2021, 4, .	4.5	5

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55	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
56	Photoinduced charge-transfer reaction at surfaces. II. HBr ⁻ /Na ⁺ /LiF(001)+hv(610-650nm) → Br ⁻ /Na ⁺ /LiF(001)+H(g). Journal of Chemical Physics, 2003, 119, 9795-9803.	3.0	2
57	Catalyzed Surface-Aligned Reaction, H(ad) + H ₂ (ad) = H ₂ (g) + H(ad) on Coinage Metals. Zeitschrift Fur Physikalische Chemie, 2013, , 130722000303001.	2.8	2
58	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
59	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
60	Dynamics of adsorbate rotation in electron-induced reaction. Chemical Physics Letters, 2017, 683, 443-447.	2.6	1
61	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
62	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
63	Reversible 1D chain-reaction gives rise to an atomic-scale Newton's cradle. Chemical Communications, 2021, 57, 12647-12650.	4.1	1
64	Armaments policies for the sixties. Survival, 1962, 4, 76-85.	0.9	0
65	Arms Control. International Journal, 1962, 17, 39-49.	0.7	0
66	Retention of chirality in electron-induced reactions. Chemical Communications, 2016, 52, 6115-6118.	4.1	0