E Charles H Sykes

List of Publications by Year in Descending Order

125 papers	6,453 citations	38 h-index	78 g-index
131 ext. papers	7,745 ext. citations	9.5 avg, IF	6.21 L-index

#	Paper	IF	Citations
125	Tuning the Product Selectivity of Single-Atom Alloys by Active Site Modification. *Surface Science*, **2021**, 717, 121990	1.8	0
124	Periodic Trends in Adsorption Energies around Single-Atom Alloy Active Sites. *Journal of Physical Chemistry Letters*, **2021**, 12, 10060-10067	6.4	5
123	Comparison of 2D crystals formed by dissociative adsorption of fluorinated and nonfluorinated alkyl iodides on Cu(111). *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2021**, 39, 063211	2.9	
122	Directing reaction pathways via in situ control of active site geometries in PdAu single-atom alloy catalysts. *Nature Communications*, **2021**, 12, 1549	17.4	32
121	Visualizing and Understanding Ordered Surface Phases during the Ullmann Coupling Reaction. *Journal of Physical Chemistry C*, **2021**, 125, 7675-7685	3.8	0
120	Mechanistic insights into carbon-carbon coupling on NiAu and PdAu single-atom alloys. *Journal of Chemical Physics*, **2021**, 154, 204701	3.9	3
119	First-principles design of a single-atom alloy propane dehydrogenation catalyst. *Science*, **2021**, 372, 1444-1447	33.5	62
118	Developing single-site Pt catalysts for the preferential oxidation of CO: A surface science and first principles-guided approach. *Applied Catalysis B: Environmental*, **2021**, 284, 119716	21.8	6
117	Microscopic insights into long-range 1D ordering in a dense semi-disordered molecular overlayer. *Chemical Communications*, **2021**, 57, 5937-5940	5.8	1
116	Enantioselective Effects in the Electrical Excitation of Amine Single-Molecule Rotors. *Journal of Physical Chemistry C*, **2021**, 125, 3584-3589	3.8	1
115	Mechanistic and Electronic Insights into a Working NiAu Single-Atom Alloy Ethanol Dehydrogenation Catalyst.. *Journal of the American Chemical Society*, **2021**, 143, 21567-21579	16.4	5
114	High-loading single Pt atom sites [Pt-O(OH)] catalyze the CO PROX reaction with high activity and selectivity at mild conditions. *Science Advances*, **2020**, 6, eaba3809	14.3	35
113	Templated Growth of a Homochiral Thin Film Oxide. *ACS Nano*, **2020**, 14, 4682-4688	16.7	2
112	Accelerated Cu2O Reduction by Single Pt Atoms at the Metal-Oxide Interface. *ACS Catalysis*, **2020**, 10, 4215-4226	13.1	19
111	Dynamic Restructuring Induced Oxygen Activation on AgCu Near-Surface Alloys. *Journal of Physical Chemistry Letters*, **2020**, 11, 5844-5848	6.4	5
110	Single-Atom Alloy Catalysis. *Chemical Reviews*, **2020**, 120, 12044-12088	68.1	227
109	Evidence for biological effects in the radiosensitization of leukemia cell lines by PEGylated gold nanoparticles. *Journal of Nanoparticle Research*, **2020**, 22, 1	2.3	2

108	Opportunities in the Synthesis and Design of Radioactive Thin Films and Nanoparticles. *Journal of Physical Chemistry Letters*, **2020**, 11, 4017-4028	6.4	1
107	Visualizing the origin of rotational entropy effects in coadsorbed systems. *Physical Review Research* , **2020**, 2,	3.9	2
106	Low-cost spectrum analyzer for trouble shooting noise sources in scanning probe microscopy. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2020**, 38, 061202	2.9	0
105	Surface facet dependence of competing alloying mechanisms. *Journal of Chemical Physics*, **2020**, 153, 244702	3.9	6
104	Guidelines to Achieving High Selectivity for the Hydrogenation of α,β-Unsaturated Aldehydes with Bimetallic and Dilute Alloy Catalysts: A Review. *Chemical Reviews*, **2020**, 120, 12834-12872	68.1	47
103	Recent advances in single-atom catalysts and single-atom alloys: opportunities for exploring the uncharted phase space in-between. *Current Opinion in Chemical Engineering*, **2020**, 29, 67-73	5.4	14
102	Facilitating hydrogen atom migration via a dense phase on palladium islands to a surrounding silver surface. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 22657-22664	11.5	16
101	Controlling Hydrocarbon (De)Hydrogenation Pathways with Bifunctional PtCu Single-Atom Alloys. *Journal of Physical Chemistry Letters*, **2020**, 11, 8751-8757	6.4	12
100	Combining STM, RAIRS and TPD to Decipher the Dispersion and Interactions Between Active Sites in RhCu Single-Atom Alloys. *ChemCatChem*, **2020**, 12, 488-493	5.2	16
99	Controlling Molecular Switching via Chemical Functionality: Ethyl vs Methoxy Rotors. *Journal of Physical Chemistry C*, **2019**, 123, 23738-23746	3.8	5
98	Catalytic sites are finally in sight. *Nature Materials*, **2019**, 18, 663-664	27	5
97	Understanding Enantioselective Interactions by Pulling Apart Molecular Rotor Complexes. *ACS Nano*, **2019**, 13, 5939-5946	16.7	4
96	Carbon Monoxide Mediated Hydrogen Release from PtCu Single-Atom Alloys: The Punctured Molecular Cork Effect. *Journal of Physical Chemistry C*, **2019**, 123, 10419-10428	3.8	13
95	Integrated Catalysis-Surface Science-Theory Approach to Understand Selectivity in the Hydrogenation of 1-Hexyne to 1-Hexene on PdAu Single-Atom Alloy Catalysts. *ACS Catalysis*, **2019**, 9, 8757-8765	13.1	34
94	Atomic-Scale Surface Structure and CO Tolerance of NiCu Single-Atom Alloys. *Journal of Physical Chemistry C*, **2019**, 123, 28142-28147	3.8	16
93	Elucidating the composition of PtAg surface alloys with atomic-scale imaging and spectroscopy. *Journal of Chemical Physics*, **2019**, 151, 164705	3.9	10
92	Efficient and selective carbon-carbon coupling on coke-resistant PdAu single-atom alloys. *Chemical Communications*, **2019**, 55, 15085-15088	5.8	13
91	Surface-Templated Assembly of Molecular Methanol on the Thin Film Cu_2O/Cu(111) Surface Oxide. *Journal of Physical Chemistry C*, **2019**, 123, 2911-2921	3.8	7

90	Single-Atom Alloys as a Reductionist Approach to the Rational Design of Heterogeneous Catalysts. *Accounts of Chemical Research*, **2019**, 52, 237-247	24.3	192
89	An atomic-scale view of single-site Pt catalysis for low-temperature CO oxidation. *Nature Catalysis*, **2018**, 1, 192-198	36.5	209
88	Elucidating the Stability and Reactivity of Surface Intermediates on Single-Atom Alloy Catalysts. *ACS Catalysis*, **2018**, 8, 5038-5050	13.1	95
87	Pt/Cu single-atom alloys as coke-resistant catalysts for efficient C-H activation. *Nature Chemistry*, **2018**, 10, 325-332	17.6	308
86	Carbon Monoxide Poisoning Resistance and Structural Stability of Single Atom Alloys. *Topics in Catalysis*, **2018**, 61, 428-438	2.3	75
85	Dry Dehydrogenation of Ethanol on Pt□u Single Atom Alloys. *Topics in Catalysis*, **2018**, 61, 328-335	2.3	34
84	Chirality at two-dimensional surfaces: A perspective from small molecule alcohol assembly on Au(111). *Journal of Chemical Physics*, **2018**, 149, 034703	3.9	8
83	The effect of single pd atoms on the energetics of recombinative O2 desorption from Au(111). *Surface Science*, **2018**, 677, 296-300	1.8	16
82	Water activation by single Pt atoms supported on a Cu2O thin film. *Journal of Catalysis*, **2018**, 364, 166-173	7.3	15
81	Anhydrous Methanol and Ethanol Dehydrogenation at Cu(111) Step Edges. *Journal of Physical Chemistry C*, **2018**, 122, 21952-21962	3.8	12
80	Lonely Atoms with Special Gifts: Breaking Linear Scaling Relationships in Heterogeneous Catalysis with Single-Atom Alloys. *Journal of Physical Chemistry Letters*, **2018**, 9, 5636-5646	6.4	127
79	A Reverse Science Fair that Connects High School Students with University Researchers. *Journal of Chemical Education*, **2017**, 94, 171-176	2.4	7
78	Graphene-like Boron-Carbon-Nitrogen Monolayers. *ACS Nano*, **2017**, 11, 2486-2493	16.7	110
77	Water-Ice Analogues of Polycyclic Aromatic Hydrocarbons: Water Nanoclusters on Cu(111). *Journal of the American Chemical Society*, **2017**, 139, 6403-6410	16.4	25
76	Selective Formic Acid Dehydrogenation on Pt-Cu Single-Atom Alloys. *ACS Catalysis*, **2017**, 7, 413-420	13.1	108
75	Controlling selectivity in the Ullmann reaction on Cu(111). *Chemical Communications*, **2017**, 53, 7816-7819	6.8	16
74	Surface Structure Dependence of the Dry Dehydrogenation of Alcohols on Cu(111) and Cu(110). *Journal of Physical Chemistry C*, **2017**, 121, 12800-12806	3.8	25
73	Palladium□old single atom alloy catalysts for liquid phase selective hydrogenation of 1-hexyne. *Catalysis Science and Technology*, **2017**, 7, 4276-4284	5.5	77

72	Correlated rotational switching in two-dimensional self-assembled molecular rotor arrays. *Nature Communications*, **2017**, 8, 16057	17.4	16
71	Towards the directional transport of molecules on surfaces. *Tetrahedron*, **2017**, 73, 4858-4863	2.4	3
70	Characterizing the geometric and electronic structure of defects in the "29" copper surface oxide. *Journal of Chemical Physics*, **2017**, 147, 224706	3.9	7
69	Squeezing and stretching Pd thin films: A high-resolution STM study of Pd/Au(111) and Pd/Cu(111) bimetallics. *Surface Science*, **2016**, 646, 1-4	1.8	8
68	Influence of step faceting on the enantiospecific decomposition of aspartic acid on chiral Cu surfaces vicinal to Cu{111}. *Chemical Communications*, **2016**, 52, 11263-11266	5.8	11
67	Chiral nanoscale pores created during the surface explosion of tartaric acid on Cu(111). *Chemical Communications*, **2016**, 52, 14282-14285	5.8	9
66	Preparation, Structure, and Surface Chemistry of Ni□Au Single Atom Alloys. *Journal of Physical Chemistry C*, **2016**, 120, 13574-13580	3.8	60
65	Controlling Hydrogen Activation, Spillover, and Desorption with Pd-Au Single-Atom Alloys. *Journal of Physical Chemistry Letters*, **2016**, 7, 480-5	6.4	129
64	Charge-Transfer-Induced Magic Cluster Formation of Azaborine Heterocycles on Noble Metal Surfaces. *Journal of Physical Chemistry C*, **2016**, 120, 6020-6030	3.8	23
63	Atomic-Scale Picture of the Composition, Decay, and Oxidation of Two-Dimensional Radioactive Films. *ACS Nano*, **2016**, 10, 2152-8	16.7	5
62	Water co-catalyzed selective dehydrogenation of methanol to formaldehyde and hydrogen. *Surface Science*, **2016**, 650, 121-129	1.8	60
61	The interplay of covalency, hydrogen bonding, and dispersion leads to a long range chiral network: The example of 2-butanol. *Journal of Chemical Physics*, **2016**, 144, 094703	3.9	17
60	Tackling CO Poisoning with Single-Atom Alloy Catalysts. *Journal of the American Chemical Society*, **2016**, 138, 6396-9	16.4	272
59	Structurally Accurate Model for the □29□ Structure of CuxO/Cu(111): A DFT and STM Study. *Journal of Physical Chemistry C*, **2016**, 120, 10879-10886	3.8	31
58	CO Adsorption on the □29□ CuxO/Cu(111) Surface: An Integrated DFT, STM, and TPD Study. *Journal of Physical Chemistry C*, **2016**, 120, 25387-25394	3.8	15
57	Enhancement of low-energy electron emission in 2D radioactive films. *Nature Materials*, **2015**, 14, 904-7	27	25
56	Effect of BN/CC Isosterism on the Thermodynamics of Surface and Bulk Binding: 1,2-Dihydro-1,2-azaborine vs Benzene. *Journal of Physical Chemistry C*, **2015**, 119, 14624-14631	3.8	11
55	Microscopic View of the Active Sites for Selective Dehydrogenation of Formic Acid on Cu(111). *ACS Catalysis*, **2015**, 5, 7371-7378	13.1	32

54	Selective hydrogenation of 1,3-butadiene on platinum-copper alloys at the single-atom limit. *Nature Communications*, **2015**, 6, 8550	17.4	369
53	H2 Activation and Spillover on Catalytically Relevant PtCu Single Atom Alloys. *Journal of Physical Chemistry C*, **2015**, 119, 24351-24357	3.8	103
52	Impact of branching on the supramolecular assembly of thioethers on Au(111). *Journal of Chemical Physics*, **2015**, 142, 101915	3.9	9
51	Ullmann coupling mediated assembly of an electrically driven altitudinal molecular rotor. *Physical Chemistry Chemical Physics*, **2015**, 17, 31931-7	3.6	9
50	Atomic Scale Surface Structure of Pt/Cu(111) Surface Alloys. *Journal of Physical Chemistry C*, **2014**, 118, 3015-3022	3.8	78
49	Hydrogen Dissociation, Spillover, and Desorption from Cu-Supported Co Nanoparticles. *Journal of Physical Chemistry Letters*, **2014**, 5, 3380-5	6.4	24
48	Atomic-scale insight into the formation, mobility and reaction of Ullmann coupling intermediates. *Chemical Communications*, **2014**, 50, 1006-8	5.8	50
47	Significant quantum effects in hydrogen activation. *ACS Nano*, **2014**, 8, 4827-35	16.7	35
46	Structure and energetics of hydrogen-bonded networks of methanol on close packed transition metal surfaces. *Journal of Chemical Physics*, **2014**, 141, 014701	3.9	24
45	Controlling a spillover pathway with the molecular cork effect. *Nature Materials*, **2013**, 12, 523-8	27	88
44	Molecular-scale perspective of water-catalyzed methanol dehydrogenation to formaldehyde. *ACS Nano*, **2013**, 7, 6181-7	16.7	60
43	Visualization of compression and spillover in a coadsorbed system: syngas on cobalt nanoparticles. *ACS Nano*, **2013**, 7, 4384-92	16.7	22
42	Single atom alloy surface analogs in Pd0.18Cu15 nanoparticles for selective hydrogenation reactions. *Physical Chemistry Chemical Physics*, **2013**, 15, 12187-96	3.6	211
41	A Window on Surface Explosions: Tartaric Acid on Cu(110). *Journal of Physical Chemistry C*, **2013**, 117, 7577-7588	3.8	36
40	Long Range Chiral Imprinting of Cu(110) by Tartaric Acid. *Journal of Physical Chemistry C*, **2013**, 117, 22290-22297	3.8	31
39	Enantiospecific Kinetics in Surface Adsorption: Propylene Oxide on Pt(111) Surfaces. *Journal of Physical Chemistry C*, **2013**, 117, 18588-18594	3.8	16
38	An Atomic Scale View of Methanol Reactivity at the Cu(1 1 1)/CuOx Interface. *ChemCatChem*, **2013**, 5, 2684-2690	5.2	11
37	Isolated metal atom geometries as a strategy for selective heterogeneous hydrogenations. *Science*, **2012**, 335, 1209-12	33.3	931

36	Hydrogen-bonded assembly of methanol on Cu(111). *Physical Chemistry Chemical Physics*, **2012**, 14, 11846-52	3.6	26
35	Rediscovering cobalt's surface chemistry. *Physical Chemistry Chemical Physics*, **2012**, 14, 7215-24	3.6	19
34	Magic Electret Clusters of 4-Fluorostyrene on Metal Surfaces. *Journal of Physical Chemistry Letters*, **2012**, 3, 2069-2075	6.4	20
33	Quantum tunneling enabled self-assembly of hydrogen atoms on Cu(111). *ACS Nano*, **2012**, 6, 10115-21	16.7	37
32	Dissociative Hydrogen Adsorption on Close-Packed Cobalt Nanoparticle Surfaces. *Journal of Physical Chemistry C*, **2012**, 116, 25868-25873	3.8	30
31	Ein elektrisches Nanoauto mit Vierradantrieb. *Angewandte Chemie*, **2012**, 124, 4351-4352	3.6	2
30	Electric nanocar equipped with four-wheel drive gets taken for its first spin. *Angewandte Chemie - International Edition*, **2012**, 51, 4277-8	16.4	9
29	Effect of head-group chemistry on surface-mediated molecular self-assembly. *Chemistry - A European Journal*, **2012**, 18, 7169-78	4.8	22
28	Chirality and Rotation of Asymmetric Surface-Bound Thioethers *Journal of Physical Chemistry C*, **2011**, 115, 897-901	3.8	27
27	Visualization of hydrogen bonding and associated chirality in methanol hexamers. *Physical Review Letters*, **2011**, 107, 256101	7.4	41
26	Experimental demonstration of a single-molecule electric motor. *Nature Nanotechnology*, **2011**, 6, 625-9	28.7	208
25	An Atomic-Scale View of Palladium Alloys and their Ability to Dissociate Molecular Hydrogen. *ChemCatChem*, **2011**, 3, 607-614	5.2	69
24	Asymmetric Thioethers as Building Blocks for Chiral Monolayers. *Topics in Catalysis*, **2011**, 54, 1357-1367	2.3	15
23	Spontaneous transmission of chirality through multiple length scales. *Chemistry - A European Journal*, **2011**, 17, 7205-12	4.8	18
22	Hydrogen-Bonded Networks in Surface-Bound Methanol. *Journal of Physical Chemistry C*, **2011**, 115, 9157-9163	3.8	28
21	Regular scanning tunneling microscope tips can be intrinsically chiral. *Physical Review Letters*, **2011**, 106, 010801	7.4	22
20	Atomic-scale geometry and electronic structure of catalytically important pd/au alloys. *ACS Nano*, **2010**, 4, 1637-45	16.7	76
19	Time-resolved studies of individual molecular rotors. *Journal of Physics Condensed Matter*, **2010**, 22, 264006	2.2	27

18	Understanding the Rotational Mechanism of a Single Molecule: STM and DFT Investigations of Dimethyl Sulfide Molecular Rotors on Au(111). *Journal of Physical Chemistry C*, **2010**, 114, 3152-3155	3.8	21
17	Adsorption Site Distributions on Cu(111), Cu(221), and Cu(643) as Determined by Xe Adsorption. *Journal of Physical Chemistry C*, **2010**, 114, 18566-18575	3.8	7
16	Adsorption, Assembly, and Dynamics of Dibutyl Sulfide on Au{111}. *Journal of Physical Chemistry C*, **2010**, 114, 14583-14589	3.8	34
15	Dynamics of molecular adsorption and rotation on nonequilibrium sites. *Langmuir*, **2010**, 26, 15350-5	4	10
14	Scanning Tunneling Microscopy and Single Molecule Conductance. *ACS Symposium Series*, **2010**, 123-133	0.4	
13	Mode-selective electrical excitation of a molecular rotor. *Chemistry - A European Journal*, **2009**, 15, 9678-88	4.8	32
12	Atomic-Scale Imaging and Electronic Structure Determination of Catalytic Sites on Pd/Cu Near Surface Alloys. *Journal of Physical Chemistry C*, **2009**, 113, 7246-7250	3.8	72
11	Engineering Dislocation Networks for the Directed Assembly of Two-Dimensional Rotor Arrays. *Journal of Physical Chemistry C*, **2009**, 113, 5895-5898	3.8	21
10	Identifying reactive intermediates in the Ullmann coupling reaction by scanning tunneling microscopy and spectroscopy. *Journal of Physical Chemistry A*, **2009**, 113, 13167-72	2.8	54
9	Hydrogen dissociation and spillover on individual isolated palladium atoms. *Physical Review Letters*, **2009**, 103, 246102	7.4	174
8	Importance of Kinetics in Surface Alloying: A Comparison of the Diffusion Pathways of Pd and Ag Atoms on Cu(111). *Journal of Physical Chemistry C*, **2009**, 113, 12863-12869	3.8	39
7	A quantitative single-molecule study of thioether molecular rotors. *ACS Nano*, **2008**, 2, 2385-91	16.7	90
6	The Real Structure of Naturally Chiral Cu{643}. *Journal of Physical Chemistry C*, **2008**, 112, 11086-11089	3.8	45
5	Substrate-mediated intermolecular interactions: a quantitative single molecule analysis. *Journal of the American Chemical Society*, **2005**, 127, 7255-60	16.4	47
4	Observation and manipulation of subsurface hydride in Pd[111] and its effect on surface chemical, physical, and electronic properties. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 17907-11	11.5	59
3	Substrate-mediated interactions and intermolecular forces between molecules adsorbed on surfaces. *Accounts of Chemical Research*, **2003**, 36, 945-53	24.3	91
2	A Comparative Scanning Tunneling Microscopy Study of Physisorbed Linear Quadrupolar Molecules: C2N2 and CS2 on Au{111} at 4 K *Journal of Physical Chemistry A*, **2003**, 107, 8124-8129	2.8	15
1	Mechanistic insights into the oxidation of catalytically relevant AgCu near-surface alloy interfaces. *Aggregate*,e133	22.9	0