

Wilfred T Tysoe

List of Publications by Year in descending order

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129
papers

2,807
citations

172457

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223800

46
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132
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132
docs citations

132
times ranked

1811
citing authors

#	ARTICLE	IF	CITATIONS
1	Enantioselective Chemisorption on a Chirally Modified Surface in Ultrahigh Vacuum: Adsorption of Propylene Oxide on 2-Butoxide-Covered Palladium(111). <i>Journal of the American Chemical Society</i> , 2002, 124, 8984-8989.	13.7	105
2	On the Commonality Between Theoretical Models for Fluid and Solid Friction, Wear and Tribochemistry. <i>Tribology Letters</i> , 2015, 59, 1.	2.6	99
3	Low temperature catalytic chemistry of the Pd(111) surface: benzene and ethylene from acetylene. <i>Journal of the Chemical Society Chemical Communications</i> , 1983, , 623.	2.0	90
4	Formation and characterization of Au/Pd surface alloys on Pd(111). <i>Surface Science</i> , 2007, 601, 1898-1908.	1.9	88
5	Surface Chemistry for Enantioselective Catalysis. <i>Catalysis Letters</i> , 2015, 145, 220-232.	2.6	86
6	Discovery of a tilted form of benzene chemisorbed on Pd(111): As NEXAFS and photoemission investigation. <i>Surface Science</i> , 1990, 232, 259-265.	1.9	85
7	Vinyl Acetate Formation by the Reaction of Ethylene with Acetate Species on Oxygen-Covered Pd(111). <i>Journal of the American Chemical Society</i> , 2004, 126, 15384-15385.	13.7	71
8	Surface Chemistry and Extreme-Pressure Lubricant Properties of Dimethyl Disulfide. <i>Journal of Physical Chemistry B</i> , 1998, 102, 1703-1709.	2.6	67
9	Shear-Induced Mechanochemistry: Pushing Molecules Around. <i>Journal of Physical Chemistry C</i> , 2015, 119, 7115-7123.	3.1	65
10	Determination of the bonding and orientation of ethylene on palladium(111) by near-edge x-ray absorption fine structure and photoelectron spectroscopy. <i>The Journal of Physical Chemistry</i> , 1990, 94, 4236-4239.	2.9	64
11	Elucidation of the Reaction Mechanism for the Palladium-Catalyzed Synthesis of Vinyl Acetate. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 4572-4574.	13.8	63
12	On Stress-Induced Tribochemical Reaction Rates. <i>Tribology Letters</i> , 2017, 65, 1.	2.6	62
13	Coverage Effects on the Palladium-Catalyzed Synthesis of Vinyl Acetate: Comparison between Theory and Experiment. <i>Journal of the American Chemical Society</i> , 2010, 132, 2202-2207.	13.7	59
14	A Comparative Investigation of Aryl Isocyanides Chemisorbed to Palladium and Gold: An ATR-IR Spectroscopic Study. <i>Langmuir</i> , 2004, 20, 1732-1738.	3.5	58
15	Wigner-Crystal and Density-Functional-Theory Analysis of the Distribution of Gold and Palladium Atoms on $\text{Pd}(111)$. <i>Physical Review B</i> , 2008, 77, 115407.	3.2	52
16	Surface segregation of gold for Au/Pd(111) alloys measured by low-energy electron diffraction and low-energy ion scattering. <i>Surface Science</i> , 2008, 602, 1084-1091.	1.9	47
17	Low-Temperature, Shear-Induced Tribofilm Formation from Dimethyl Disulfide on Copper. <i>ACS Applied Materials & Interfaces</i> , 2011, 3, 795-800.	8.0	45
18	Reaction of Tributyl Phosphite with Oxidized Iron: Surface and Tribological Chemistry. <i>Langmuir</i> , 2004, 20, 7557-7568.	3.5	44

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19	One-dimensional supramolecular surface structures: 1,4-diisocyanobenzene on Au(111) surfaces. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 11624.	2.8	44
20	Hydrocarbon conversion on palladium catalysts. <i>Journal of Molecular Catalysis A</i> , 2005, 228, 35-45.	4.8	42
21	Structure and decomposition pathways of vinyl acetate on Pd(111). <i>Surface Science</i> , 2005, 598, 263-275.	1.9	39
22	Ethylene Decomposition at Undercoordinated Sites on Cu(410). <i>Journal of the American Chemical Society</i> , 2008, 130, 12552-12553.	13.7	37
23	Shear-Induced Surface-to-Bulk Transport at Room Temperature in a Sliding Metal-Metal Interface. <i>Tribology Letters</i> , 2011, 41, 257-261.	2.6	37
24	The Surface Chemistry of Dimethyl Disulfide on Copper. <i>Langmuir</i> , 2010, 26, 16375-16380.	3.5	36
25	Creation of Low-Coordination Gold Sites on Au(111) Surface by 1,4-phenylene Diisocyanide Adsorption. <i>Topics in Catalysis</i> , 2011, 54, 20-25.	2.8	36
26	Enantioselective Chemisorption on Model Chirally Modified Surfaces: 2-Butanol on \pm -(1-Naphthyl)ethylamine/Pd(111). <i>Journal of Physical Chemistry C</i> , 2009, 113, 13877-13885.	3.1	34
27	Carbon Monoxide Oxidation over Au/Pd(100) Model Alloy Catalysts. <i>Journal of Physical Chemistry C</i> , 2010, 114, 16909-16916.	3.1	33
28	Enhanced hydrogenation activity and diastereomeric interactions of methyl pyruvate co-adsorbed with R-1-(1-naphthyl)ethylamine on Pd(111). <i>Nature Communications</i> , 2016, 7, 12380.	12.8	33
29	Enantioselective Chemisorption of Propylene Oxide on a 2-Butanol Modified Pd(111) Surface: The Role of Hydrogen-Bonding Interactions. <i>Journal of the American Chemical Society</i> , 2007, 129, 15240-15249.	13.7	32
30	Measuring and modelling mechanochemical reaction kinetics. <i>Chemical Communications</i> , 2020, 56, 7730-7733.	4.1	31
31	Mechanistic Insights in the Catalytic Synthesis of Vinyl Acetate on Palladium and Gold/Palladium Alloy Surfaces. <i>Topics in Catalysis</i> , 2013, 56, 1314-1332.	2.8	29
32	Adsorption of carbon monoxide Au/Pd(100) alloys in ultrahigh vacuum: Identification of adsorption sites. <i>Surface Science</i> , 2010, 604, 136-143.	1.9	28
33	Structure and Distribution of \pm -(1-Naphthyl)-ethylamine on Pd(111). <i>Journal of Physical Chemistry C</i> , 2011, 115, 16488-16494.	3.1	28
34	Disentangling ensemble, electronic and coverage effects on alloy catalysts: Vinyl acetate synthesis on Au/Pd(111). <i>Journal of Catalysis</i> , 2014, 312, 37-45.	6.2	28
35	In Situ Measurements of Boundary Film Formation Pathways and Kinetics: Dimethyl and Diethyl Disulfide on Copper. <i>Tribology Letters</i> , 2016, 62, 1.	2.6	27
36	Kinetic Monte Carlo theory of sliding friction. <i>Physical Review B</i> , 2009, 80, .	3.2	26

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37	Formation of Chiral Self-Assembled Structures of Amino Acids on Transition-Metal Surfaces: Alanine on Pd(111). <i>Journal of Physical Chemistry C</i> , 2014, 118, 6856-6865.	3.1	26
38	Linking gold nanoparticles with conductive 1,4-phenylene diisocyanide-gold oligomers. <i>Chemical Communications</i> , 2013, 49, 1422.	4.1	25
39	The Kinetics of Shear-Induced Boundary Film Formation from Dimethyl Disulfide on Copper. <i>Tribology Letters</i> , 2013, 49, 39-46.	2.6	25
40	Modeling Mechanochemical Reaction Mechanisms. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 26531-26538.	8.0	25
41	Characterization of the Tribological Behavior of the Textured Steel Surfaces Fabricated by Photolithographic Etching. <i>Tribology Letters</i> , 2018, 66, 1.	2.6	25
42	Probing enantioselective chemisorption in ultrahigh vacuum. <i>Journal of Molecular Catalysis A</i> , 2004, 216, 215-221.	4.8	24
43	Enantioselective Chemisorption and Reactions on Model Chirally Modified Surfaces: 2-Butanol on $\langle 111 \rangle$ -Proline Templated Pd(111) Surfaces. <i>Journal of Physical Chemistry C</i> , 2008, 112, 6145-6150.	3.1	24
44	Monte Carlo Simulations for Tomlinson Sliding Models for Non-Sinusoidal Periodic Potentials. <i>Tribology Letters</i> , 2010, 39, 177-180.	2.6	24
45	Structure of Methyl Pyruvate and \pm -(1-Naphthyl)ethylamine on Pd(111). <i>Journal of Physical Chemistry C</i> , 2011, 115, 8790-8797.	3.1	24
46	Shear-induced boundary film formation from dialkyl sulfides on copper. <i>Wear</i> , 2012, 274-275, 183-187.	3.1	23
47	Development of a ReaxFF Force Field for Cu/S/C/H and Reactive MD Simulations of Methyl Thiolate Decomposition on Cu (100). <i>Journal of Physical Chemistry B</i> , 2018, 122, 888-896.	2.6	22
48	Ethene Adsorption and Decomposition on the Cu(410) Surface. <i>Journal of Physical Chemistry C</i> , 2009, 113, 20881-20889.	3.1	20
49	Self-Assembled Oligomeric Structures from 1,4-Benzenedithiol on Au(111) and the Formation of Conductive Linkers between Gold Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2015, 119, 23042-23051.	3.1	20
50	Mechanism of the Accelerated Water Formation Reaction under Interfacial Confinement. <i>ACS Catalysis</i> , 2020, 10, 6119-6128.	11.2	20
51	The structure and reactivity of 2-butanol on Pd(111). <i>Surface Science</i> , 2008, 602, 2264-2270.	1.9	18
52	Shear and thermal effects in boundary film formation during sliding. <i>RSC Advances</i> , 2014, 4, 24059-24066.	3.6	18
53	The adsorption of acetic acid on clean and oxygen-covered Au/Pd(100) alloy surfaces. <i>Surface Science</i> , 2012, 606, 1934-1941.	1.9	17
54	Understanding and Controlling the 1,4-Phenylene Diisocyanide-gold Oligomer Formation Pathways. <i>Journal of Physical Chemistry C</i> , 2014, 118, 20899-20907.	3.1	17

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55	Determination of Adsorbate Structures from 1,4-Phenylene Diisocyanide on Gold. <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 3577-3581.	4.6	17
56	Inducing High-Energy-Barrier Tribochemical Reaction Pathways; Acetic Acid Decomposition on Copper. <i>Tribology Letters</i> , 2021, 69, 1.	2.6	17
57	Structure and Decomposition Pathways of Vinyl Acetate on Clean and Oxygen-Covered Pd(100). <i>Journal of Physical Chemistry C</i> , 2009, 113, 971-978.	3.1	16
58	Identification of Adsorption Ensembles on Bimetallic Alloys. <i>Journal of Physical Chemistry C</i> , 2010, 114, 1875-1880.	3.1	16
59	On the Pressure Dependence of Shear Strengths in Sliding, Boundary-Layer Friction. <i>Tribology Letters</i> , 2011, 44, 67-73.	2.6	15
60	Identifying Molecular Species on Surfaces by Scanning Tunneling Microscopy: Methyl Pyruvate on Pd(111). <i>Journal of Physical Chemistry C</i> , 2013, 117, 4505-4514.	3.1	15
61	Palladium-Catalyzed Acetylene Cyclotrimerization: From Ultrahigh Vacuum to High-Pressure Catalysis. <i>Israel Journal of Chemistry</i> , 1998, 38, 313-320.	2.3	14
62	A New Method for Performing Polarization Modulation Infrared Reflection-Adsorption Spectroscopy of Surfaces. <i>Applied Spectroscopy</i> , 2009, 63, 369-372.	2.2	14
63	Kinetic Parameters for the Elementary Steps in the Palladium-Catalyzed Synthesis of Vinyl Acetate. <i>Catalysis Letters</i> , 2010, 138, 135-142.	2.6	14
64	Reaction Between Ethylene and Acetate Species on Clean and Oxygen-Covered Pd(100): Implications for the Vinyl Acetate Monomer Formation Pathway. <i>Catalysis Letters</i> , 2011, 141, 266-270.	2.6	14
65	Relating Molecular Structure to Tribological Chemistry: Borate Esters on Copper. <i>Tribology Letters</i> , 2013, 49, 21-29.	2.6	14
66	Influence of Potential Shape on Constant-Force Atomic-Scale Sliding Friction Models. <i>Tribology Letters</i> , 2015, 60, 1.	2.6	14
67	Structure and Reaction Pathways of Methyl Pyruvate on Pd(111). <i>Journal of Physical Chemistry C</i> , 2009, 113, 15298-15306.	3.1	13
68	Surface chemistry at the solid-solid interface: mechanically induced reaction pathways of C ₈ carboxylic acid monolayers on copper. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 17803-17812.	2.8	13
69	Formation of Induced-Fit Chiral Templates by Amino Acid-Functionalized Pd(111) Surfaces. <i>Journal of Physical Chemistry C</i> , 2015, 119, 3556-3563.	3.1	12
70	The adsorption and reaction of 2-butanol on clean and oxygen-covered Pd(100). <i>Surface Science</i> , 2010, 604, 1377-1387.	1.9	11
71	The surface chemistry of diethyl disulfide on copper. <i>Surface Science</i> , 2011, 605, 606-611.	1.9	11
72	Structure and decomposition pathways of D-(+)-tartaric acid on Pd(111). <i>Surface Science</i> , 2014, 629, 132-138.	1.9	11

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73	Temperature Dependences in the Tomlinson/Prandtl Model for Atomic Sliding Friction. <i>Tribology Letters</i> , 2014, 55, 363-369.	2.6	11
74	Insights into the Mechanism of the Mechanochemical Formation of Metastable Phases. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 6785-6794.	8.0	11
75	Probing reaction pathways on model catalyst surfaces: Vinyl acetate synthesis and olefin metathesis. <i>Journal of Molecular Catalysis A</i> , 2008, 281, 14-23.	4.8	10
76	Reactivity and Selectivity in the Au/Pd(111) Alloy-Catalyzed Vinyl Acetate Synthesis. <i>Catalysis Letters</i> , 2013, 143, 756-762.	2.6	10
77	Chemisorptive enantioselectivity of chiral epoxides on tartaric-acid modified Pd(111): three-point bonding. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 5450-5458.	2.8	10
78	Effect of Coverage on Catalytic Selectivity and Activity on Metallic and Alloy Catalysts; Vinyl Acetate Monomer Synthesis. <i>Topics in Catalysis</i> , 2018, 61, 722-735.	2.8	10
79	Surface and Tribological Chemistry of Water and Carbon Dioxide on Copper Surfaces. <i>Tribology Letters</i> , 2008, 31, 167-176.	2.6	9
80	Structural Changes in Self-Catalyzed Adsorption of Carbon Monoxide on 1,4-Phenylene Diisocyanide Modified Au(111). <i>Journal of Physical Chemistry C</i> , 2015, 119, 18317-18325.	3.1	9
81	Influence of the terminal group on the thermal decomposition reactions of carboxylic acids on copper: nature of the carbonaceous film. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 17663-17671.	2.8	9
82	Structure and reaction pathways of methyl lactate on Pd(111). <i>Surface Science</i> , 2009, 603, 2714-2720.	1.9	8
83	Structure of the Au/Pd(100) Alloy Surface. <i>Journal of Physical Chemistry C</i> , 2012, 116, 4692-4697.	3.1	8
84	The adsorption and reaction of vinyl acetate on Au/Pd(100) alloy surfaces. <i>Surface Science</i> , 2012, 606, 1113-1119.	1.9	8
85	The adsorption of ethylene on Au/Pd(100) alloy surfaces. <i>Surface Science</i> , 2016, 646, 65-71.	1.9	8
86	Combining IR Spectroscopy and Monte Carlo Simulations to Identify CO Adsorption Sites on Bimetallic Alloys. <i>Journal of Physical Chemistry C</i> , 2019, 123, 8406-8420.	3.1	8
87	Structure and reaction pathways of octanoic acid on copper. <i>Surface Science</i> , 2021, 711, 121875.	1.9	8
88	Adsorption and reaction pathways of 7-octenoic acid on copper. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 5834-5844.	2.8	8
89	Infrared spectroscopic measurements of the structure of organic thin films; furfural on Pd(111) and Au(111) surfaces. <i>CrystEngComm</i> , 2021, 23, 4534-4548.	2.6	8
90	Prandtl's Tomlinson-Type Models for Coupled Molecular Sliding Friction: Chain-Length Dependence of Friction of Self-assembled Monolayers. <i>Tribology Letters</i> , 2022, 70, 1.	2.6	8

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91	Formation and Decomposition of C3 Metallacycles from Ethylene and Methylene on MoAl Alloy Thin Films. <i>Journal of the American Chemical Society</i> , 2006, 128, 7091-7096.	13.7	7
92	Stabilization of Carboxylate Surface Species on Pd(111). <i>Adsorption Science and Technology</i> , 2011, 29, 603-611.	3.2	7
93	Surface Chemistry of Isopropoxy Tetramethyl Dioxaborolane on Cu(111). <i>Langmuir</i> , 2012, 28, 6322-6327.	3.5	7
94	The desorption and reaction of 1-alkenes and 1-alkynes on Cu(111) and copper foils. <i>Surface Science</i> , 2013, 616, 143-148.	1.9	7
95	Surface chemistry and structures of 1,4-phenylene diisocyanide on gold films from solution. <i>Surface Science</i> , 2016, 649, 56-59.	1.9	7
96	Kinetics of low-temperature CO oxidation on Au(111). <i>Surface Science</i> , 2016, 648, 236-241.	1.9	7
97	Tribochemical Mechanisms of Trimethyl and Triethyl Phosphite on Oxidized Iron in Ultrahigh Vacuum. <i>Tribology Letters</i> , 2019, 67, 1.	2.6	7
98	Surface structure of 1,4-benzenedithiol on Au(111). <i>Surface Science</i> , 2020, 702, 121717.	1.9	7
99	Influence of the Nature and Orientation of the Terminal Group on the Tribochemical Reaction Rates of Carboxylic Acid Monolayers on Copper. <i>Tribology Letters</i> , 2022, 70, 1.	2.6	7
100	Adsorption and reaction pathways of a chiral probe molecule, S-glycidol on a Pd(111) surface. <i>Catalysis Science and Technology</i> , 2015, 5, 738-742.	4.1	6
101	Local and Extended Structures of d -Tartaric Acid on Pd(111). <i>Journal of Physical Chemistry C</i> , 2016, 120, 2309-2319.	3.1	6
102	Chemical self-assembly strategies for designing molecular electronic circuits. <i>Chemical Communications</i> , 2019, 55, 13872-13875.	4.1	6
103	Adsorption and Oligomerization of 1,3-Phenylene Diisocyanide on Au(111). <i>Journal of Physical Chemistry C</i> , 2016, 120, 9270-9275.	3.1	5
104	Easy alloying on flat carbides. <i>Nature Catalysis</i> , 2018, 1, 316-317.	34.4	5
105	Anisotropy of Shear-Induced Mechanochemical Reaction Rates of Surface Adsorbates; Implications for Theoretical Models. <i>Journal of Physical Chemistry C</i> , 2022, 126, 11585-11593.	3.1	5
106	On the film thickness dependence of shear strengths in sliding, boundary-layer friction. <i>Wear</i> , 2012, 274-275, 281-285.	3.1	4
107	Tribological Properties of 1-Alkenes on Copper Foils: Effect of Low-Coordination Surface Sites. <i>Tribology Letters</i> , 2013, 51, 357-363.	2.6	4
108	Pressure dependence of the interfacial structure of potassium chloride films on iron. <i>Thin Solid Films</i> , 2015, 593, 150-157.	1.8	4

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109	Prandtl–Tomlinson-Type Models for Molecular Sliding Friction. <i>Tribology Letters</i> , 2021, 69, 1.	2.6	4
110	Adsorption, Assembly, and Oligomerization of Aspartic Acid on Pd(111). <i>Journal of Physical Chemistry C</i> , 2017, 121, 13239-13248.	3.1	3
111	Kinetics and Mechanism of Vinyl Acetate Monomer Synthesis on Pd(100) Model Catalysts. <i>Catalysis Letters</i> , 2017, 147, 1941-1954.	2.6	3
112	Vinyl Acetate Formation on Au/Pd(100) Alloy Surfaces. <i>Catalysis Letters</i> , 2018, 148, 79-89.	2.6	3
113	Spontaneous self-assembly of conductive molecular linkages between gold nanoelectrodes from aryl diisocyanides. <i>Applied Physics A: Materials Science and Processing</i> , 2018, 124, 1.	2.3	3
114	Chemical Self-Assembly Strategies for Designing Molecular Electronic Circuits: Demonstration of Concept. <i>Journal of Physical Chemistry C</i> , 2019, 123, 10398-10405.	3.1	3
115	Binding of Oxygen on Single-Atom Sites on Au/Pd(100) Alloys with High Gold Coverages. <i>Journal of Physical Chemistry C</i> , 2021, 125, 9715-9729.	3.1	3
116	Reflection absorption infrared spectroscopy of the surface chemistry of furfural on Pd(111). <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2022, 40, .	2.1	3
117	Adsorption Structure and Reactivity of a Putative Asymmetric Molecular Conductor; 4-Isocyanophenyl Disulfide on Au(111). <i>Journal of Physical Chemistry C</i> , 2022, 126, 6601-6611.	3.1	3
118	Pressure Dependence of the Shear Strengths of the Tungsten Carbide–Potassium Chloride Interface. <i>Tribology Letters</i> , 2013, 50, 105-113.	2.6	2
119	Identification of the Shear Plane During Sliding of Solid Boundary Films: Potassium Chloride Films on Iron. <i>Tribology Letters</i> , 2016, 62, 1.	2.6	2
120	Catalysis fundamentals. <i>Nano Today</i> , 2007, 2, 53.	11.9	1
121	Adsorption and Structure of Chiral Epoxides on Pd(111): Propylene Oxide and Glycidol. <i>Journal of Physical Chemistry C</i> , 2018, 122, 1215-1222.	3.1	1
122	The structure of alanine anionic-zwitterionic dimers on Pd(111); formation of salt bridges. <i>Surface Science</i> , 2019, 679, 79-85.	1.9	1
123	Surface Chemistry at the Solid–Solid Interface; Selectivity and Activity in Mechanochemical Reactions on Surfaces. <i>Chemistry Methods</i> , 2021, 1, 340-349.	3.8	1
124	Hydrocarbon Conversion on Palladium Catalysts. <i>ChemInform</i> , 2005, 36, no.	0.0	0
125	An Infrared Spectroscopic and Temperature-Programmed Desorption Study of 1,1-Difluoroethylene on Clean and Hydrogen-Covered Pd(111). <i>Adsorption Science and Technology</i> , 2011, 29, 595-602.	3.2	0
126	The reactivity, selectivity and structure of 2-butanol on clean and oxygen-covered Au/Pd(100) alloys. <i>Surface Science</i> , 2020, 694, 121556.	1.9	0

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127	Adsorption and Reaction of Trimethyl and Triethyl Phosphite on Fe ₃ O ₄ by Density Functional Theory. Tribology Letters, 2020, 68, 1.	2.6	0
128	Catalytic Chemistry of Hydrocarbon Conversion Reactions on Metallic Single Crystals. , 2010, , 1-28.		0
129	In-Situ Measurement of Tribochemical Processes in Ultrahigh Vacuum. Microtechnology and MEMS, 2018, , 129-158.	0.2	0