

# Seong H Kim

## List of Publications by Year in descending order

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228  
papers

10,506  
citations

34493

54  
h-index

54771

88  
g-index

231  
all docs

231  
docs citations

231  
times ranked

10962  
citing authors

#	ARTICLE	IF	CITATIONS
1	Beyond the Average: Spatial and Temporal Fluctuations in Oxide Glass-Forming Systems. <i>Chemical Reviews</i> , 2023, 123, 1774-1840.	23.0	14
2	Effect of humidity on friction, wear, and plastic deformation during nanoscratch of soda lime silica glass. <i>Journal of the American Ceramic Society</i> , 2022, 105, 1367-1374.	1.9	4
3	Vibrational spectroscopy analysis of silica and silicate glass networks. <i>Journal of the American Ceramic Society</i> , 2022, 105, 2355-2384.	1.9	36
4	Environmental effects on superlubricity of hydrogenated diamond-like carbon: Understanding tribochemical kinetics in O <sub>2</sub> and H <sub>2</sub> O environments. <i>Applied Surface Science</i> , 2022, 580, 152299.	3.1	9
5	Indentation and abrasion in glass products: Lessons learned and yet to be learned. <i>International Journal of Applied Glass Science</i> , 2022, 13, 308-337.	1.0	15
6	Photothermal Atomic Force Microscopy Coupled with Infrared Spectroscopy (AFM-IR) Analysis of High Extinction Coefficient Materials: A Case Study with Silica and Silicate Glasses. <i>Analytical Chemistry</i> , 2022, 94, 5231-5239.	3.2	8
7	Reactive molecular dynamics simulations of thermal and shear-driven oligomerization. <i>Applied Surface Science</i> , 2022, 591, 153209.	3.1	11
8	Factors governing wear of soda lime silicate glass: Insights from comparison between nano- and macro-scale wear. <i>Tribology International</i> , 2022, 171, 107566.	3.0	8
9	Flexural stress effect on mechanical and mechanochemical properties of soda lime silicate glass surface. <i>Journal of the American Ceramic Society</i> , 2022, 105, 2847-2857.	1.9	5
10	Impact of aqueous solution pH on network structure of corrosion-induced surface layers of boroaluminosilicate glass. <i>Journal of the American Ceramic Society</i> , 2022, 105, 6581-6592.	1.9	2
11	Long-term interactive corrosion between International Simple Glass and stainless steel. <i>Npj Materials Degradation</i> , 2022, 6, .	2.6	0
12	Shear-induced unidirectional deposition of bacterial cellulose microfibrils using rising bubble stream cultivation. <i>Carbohydrate Polymers</i> , 2021, 255, 117328.	5.1	7
13	Friction of diamond-like carbon: Run-in behavior and environment effects on superlubricity. , 2021, , 275-288.		2
14	Water adsorption on silica and calcium-boroaluminosilicate glass surfaces—Thickness and hydrogen bonding of water layer. <i>Journal of the American Ceramic Society</i> , 2021, 104, 1568-1580.	1.9	21
15	Network structure in alteration layer of boroaluminosilicate glass formed by aqueous corrosion. <i>Journal of Non-Crystalline Solids</i> , 2021, 553, 120494.	1.5	12
16	Empirical relationship between interfacial shear stress and contact pressure in micro- and macro-scale friction. <i>Tribology International</i> , 2021, 155, 106780.	3.0	23
17	Origin of High Friction at Graphene Step Edges on Graphite. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 1895-1902.	4.0	16
18	Synergy between surface mechanochemistry and subsurface dissolution on wear of soda lime silica glass in basic solution. <i>Journal of the American Ceramic Society</i> , 2021, 104, 428-436.	1.9	17

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19	Effects of Al:Si and (Al+Na):Si ratios on the properties of the international simple glass, part I: Physical properties. <i>Journal of the American Ceramic Society</i> , 2021, 104, 167-182.	1.9	15
20	Effects of Al:Si and (Al+Na):Si ratios on the properties of the international simple glass, part II: Structure. <i>Journal of the American Ceramic Society</i> , 2021, 104, 183-207.	1.9	29
21	Relaxor Ferroelectric Polymers: Insight into High Electrical Energy Storage Properties from a Molecular Perspective. <i>Small Science</i> , 2021, 1, 2000061.	5.8	26
22	Subsurface structural change of silica upon nanoscale physical contact: Chemical plasticity beyond topographic elasticity. <i>Acta Materialia</i> , 2021, 208, 116694.	3.8	31
23	Chemical durability of borosilicate pharmaceutical glasses: Mixed alkaline earth effect with varying [MgO]/[CaO] ratio. <i>Journal of the American Ceramic Society</i> , 2021, 104, 3973-3981.	1.9	8
24	Electric Field-Induced Polarization Responses of Noncentrosymmetric Crystalline Biopolymers in Different Frequency Regimes – A Case Study on Unidirectionally Aligned $\beta$ -Chitin Crystals. <i>Biomacromolecules</i> , 2021, 22, 1901-1909.	2.6	4
25	Effects of acid leaching treatment of soda lime silicate glass on crack initiation and fracture. <i>Journal of the American Ceramic Society</i> , 2021, 104, 4550-4558.	1.9	10
26	Oxidation-induced changes of mechanochemical reactions at GaAs/SiO <sub>2</sub> interface: The competitive roles of water adsorption, mechanical property, and oxidized structure. <i>Applied Surface Science</i> , 2021, 548, 149205.	3.1	12
27	Differences in indentation and wear behaviors between the two sides of thermally tempered soda lime silica glass. <i>Journal of the American Ceramic Society</i> , 2021, 104, 4718-4727.	1.9	15
28	Recent Advances in Corrosion Science Applicable To Disposal of High-Level Nuclear Waste. <i>Chemical Reviews</i> , 2021, 121, 12327-12383.	23.0	52
29	Phenotypic effects of changes in the FTV <sub>x</sub> K region of an Arabidopsis secondary wall cellulose synthase compared with results from analogous mutations in other isoforms. <i>Plant Direct</i> , 2021, 5, e335.	0.8	6
30	Superhydrophilic Polymer Brushes with High Durability and Anti-fogging Activity. <i>ACS Applied Polymer Materials</i> , 2021, 3, 5291-5301.	2.0	33
31	Estimating Internal Stress of an Alteration Layer Formed on Corroded Boroaluminosilicate Glass through Spectroscopic Ellipsometry Analysis. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 50470-50480.	4.0	2
32	Activation Volume in Shear-Driven Chemical Reactions. <i>Tribology Letters</i> , 2021, 69, 1.	1.2	27
33	Vanadium Oxidation States and Structural Role in Aluminoborosilicate Glasses: An Integrated Experimental and Molecular Dynamics Simulation Study. <i>Journal of Physical Chemistry B</i> , 2021, 125, 12365-12377.	1.2	8
34	Involvement of CesA4, CesA7-A/B and CesA8-A/B in secondary wall formation in <i>Populus trichocarpa</i> wood. <i>Tree Physiology</i> , 2020, 40, 73-89.	1.4	30
35	Correlation between crystalline cellulose structure and cellulose synthase complex shape: a spectroscopic study with unicellular freshwater alga <i>Micrasterias</i> . <i>Cellulose</i> , 2020, 27, 57-69.	2.4	11
36	Measuring nanoscale friction at graphene step edges. <i>Friction</i> , 2020, 8, 802-811.	3.4	11

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37	Topological understanding of the mixed alkaline earth effect in glass. <i>Journal of Non-Crystalline Solids</i> , 2020, 527, 119696.	1.5	21
38	Spectral changes in Si-O-Si stretching band of porous glass network upon ingress of water. <i>Journal of Non-Crystalline Solids</i> , 2020, 527, 119722.	1.5	30
39	Magnetic field effects on cellulose nanocrystal ordering in a non-aqueous solvent. <i>Cellulose</i> , 2020, 27, 7901-7910.	2.4	17
40	Reply to: How much does corrosion of nuclear waste matrices matter. <i>Nature Materials</i> , 2020, 19, 962-963.	13.3	7
41	Competitive Adsorption of Ionic Liquids Versus Friction Modifier and Anti-Wear Additive at Solid/Lubricant Interface Speciation with Vibrational Sum Frequency Generation Spectroscopy. <i>Lubricants</i> , 2020, 8, 98.	1.2	8
42	Mutations in the Pectin Methyltransferase QUASIMODO2 Influence Cellulose Biosynthesis and Wall Integrity in Arabidopsis. <i>Plant Cell</i> , 2020, 32, 3576-3597.	3.1	72
43	Distinguishing Mesoscale Polar Order (Unidirectional vs Bidirectional) of Cellulose Microfibrils in Plant Cell Walls Using Sum Frequency Generation Spectroscopy. <i>Journal of Physical Chemistry B</i> , 2020, 124, 8071-8081.	1.2	13
44	Insights into the mechanisms controlling the residual corrosion rate of borosilicate glasses. <i>Npj Materials Degradation</i> , 2020, 4, .	2.6	26
45	Structural Insight in the Interfacial Effect in Ferroelectric Polymer Nanocomposites. <i>Advanced Materials</i> , 2020, 32, e2005431.	11.1	84
46	Nanoasperity Adhesion of the Silicon Surface in Humid Air: The Roles of Surface Chemistry and Oxidized Layer Structures. <i>Langmuir</i> , 2020, 36, 5483-5491.	1.6	17
47	Competitive Adsorption of Lubricant Base Oil and Ionic Liquid Additives at Air/Liquid and Solid/Liquid Interfaces. <i>Langmuir</i> , 2020, 36, 7582-7592.	1.6	14
48	Interplay between solution chemistry and mechanical activation in friction-induced material removal of silicon surface in aqueous solution. <i>Tribology International</i> , 2020, 148, 106319.	3.0	21
49	Identifying Physical and Chemical Contributions to Friction: A Comparative Study of Chemically Inert and Active Graphene Step Edges. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 30007-30015.	4.0	6
50	Ultralow Boundary Lubrication Friction by Three-Way Synergistic Interactions among Ionic Liquid, Friction Modifier, and Dispersant. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 17077-17090.	4.0	36
51	Anisotropic Optical and Frictional Properties of Langmuir-Blodgett Film Consisting of Uniaxially Aligned Rod-Shaped Cellulose Nanocrystals. <i>Advanced Materials Interfaces</i> , 2020, 7, 1902169.	1.9	12
52	Impact of Drying on Meso- and Nanoscale Structures of Citrus Fiber: A Study by SFG, ATR-IR, XRD, and DLS. <i>Industrial &amp; Engineering Chemistry Research</i> , 2020, 59, 2718-2724.	1.8	4
53	Hydrogen bonding interactions of H <sub>2</sub> O and SiOH on a boroaluminosilicate glass corroded in aqueous solution. <i>Npj Materials Degradation</i> , 2020, 4, .	2.6	64
54	Searching for correlations between vibrational spectral features and structural parameters of silicate glass network. <i>Journal of the American Ceramic Society</i> , 2020, 103, 3575-3589.	1.9	43

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55	Self-accelerated corrosion of nuclear waste forms at material interfaces. <i>Nature Materials</i> , 2020, 19, 310-316.	13.3	61
56	Atomistic understanding of surface wear process of sodium silicate glass in dry versus humid environments. <i>Journal of the American Ceramic Society</i> , 2020, 103, 3060-3069.	1.9	25
57	Friction-induced subsurface densification of glass at contact stress far below indentation damage threshold. <i>Acta Materialia</i> , 2020, 189, 166-173.	3.8	41
58	Near-field corrosion interactions between glass and corrosion resistant alloys. <i>Npj Materials Degradation</i> , 2020, 4, .	2.6	15
59	Conductance and Configuration of Molecular Gold-Water-Gold Junctions under Electric Fields. <i>Matter</i> , 2020, 3, 166-179.	5.0	21
60	Influence of acid leaching surface treatment on indentation cracking of soda lime silicate glass. <i>Journal of Non-Crystalline Solids</i> , 2020, 543, 120144.	1.5	21
61	From a cholesteric non-aqueous cellulose nanocrystal suspension to a highly ordered film. <i>MRS Advances</i> , 2020, 5, 3547-3554.	0.5	3
62	Effects of surface initial condition on aqueous corrosion of glass—A study with a model nuclear waste glass. <i>Journal of the American Ceramic Society</i> , 2019, 102, 1652-1664.	1.9	26
63	Statistical Mechanical Model of Topological Fluctuations and the Intermediate Phase in Binary Phosphate Glasses. <i>Journal of Physical Chemistry B</i> , 2019, 123, 7640-7648.	1.2	5
64	Mechanochemical Reactions of Adsorbates at Tribological Interfaces: Tribopolymerizations of Allyl Alcohol Coadsorbed with Water on Silicon Oxide. <i>Langmuir</i> , 2019, 35, 15451-15458.	1.6	13
65	Effects of tempering and heat strengthening on hardness, indentation fracture resistance, and wear of soda lime float glass. <i>International Journal of Applied Glass Science</i> , 2019, 10, 431-440.	1.0	18
66	Chemical and physical origins of friction on surfaces with atomic steps. <i>Science Advances</i> , 2019, 5, eaaw0513.	4.7	62
67	Atomic Force Microscopy (AFM) Analysis of an Object Larger and Sharper than the AFM Tip. <i>Microscopy and Microanalysis</i> , 2019, 25, 1106-1111.	0.2	13
68	Friction at single-layer graphene step edges due to chemical and topographic interactions. <i>Carbon</i> , 2019, 154, 67-73.	5.4	38
69	Effect of Atomic Corrugation on Adhesion and Friction: A Model Study with Graphene Step Edges. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 6455-6461.	2.1	15
70	Integrating Density Functional Theory Calculations with Vibrational and Nuclear Magnetic Resonance Spectroscopy. <i>ACS Symposium Series</i> , 2019, , 89-102.	0.5	0
71	Probing cellulose structures with vibrational spectroscopy. <i>Cellulose</i> , 2019, 26, 35-79.	2.4	132
72	Thickness and Structure of Adsorbed Water Layer and Effects on Adhesion and Friction at Nanoasperity Contact. <i>Colloids and Interfaces</i> , 2019, 3, 55.	0.9	54

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73	Compression-Induced Topographic Corrugation of Air/Surfactant/Water Interface: Effect of Nanoparticles Adsorbed beneath the Interface. <i>Journal of Physical Chemistry C</i> , 2019, 123, 25628-25634.	1.5	10
74	Effect of Ambient Chemistry on Friction at the Basal Plane of Graphite. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 40800-40807.	4.0	10
75	Effect of Gas Environment on Mechanochemical Reaction: A Model Study with Tribo-Polymerization of $\beta$ -Pinene in Inert, Oxidative, and Reductive Gases. <i>Tribology Letters</i> , 2019, 67, 1.	1.2	8
76	Temperature-Dependent Mechanochemical Wear of Silicon in Water: The Role of Si-OH Surface Groups. <i>Langmuir</i> , 2019, 35, 7735-7743.	1.6	26
77	Topological Control of Water Reactivity on Glass Surfaces: Evidence of a Chemically Stable Intermediate Phase. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 3955-3960.	2.1	5
78	Dissolution of silica component of glass network at early stage of corrosion in initially silica-saturated solution. <i>Journal of the American Ceramic Society</i> , 2019, 102, 6649-6657.	1.9	9
79	Surface Structure Dependence of Mechanochemical Etching: Scanning Probe-Based Nanolithography Study on Si(100), Si(110), and Si(111). <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 20583-20588.	4.0	30
80	Electrokinetic Phenomena Enhanced Lithium-Ion Transport in Leaky Film for Stable Lithium Metal Anodes. <i>Advanced Energy Materials</i> , 2019, 9, 1900704.	10.2	76
81	Polymer-inorganic solid electrolyte interphase for stable lithium metal batteries under lean electrolyte conditions. <i>Nature Materials</i> , 2019, 18, 384-389.	13.3	587
82	Characterization of the Lipid Structure and Fluidity of Lipid Membranes on Epitaxial Graphene and Their Correlation to Graphene Features. <i>Langmuir</i> , 2019, 35, 4726-4735.	1.6	5
83	Relative abundance of subsurface hydroxyl and molecular water species in silicate and aluminosilicate glasses. <i>Journal of Non-Crystalline Solids</i> , 2019, 510, 179-185.	1.5	19
84	Dependence of water adsorption on the surface structure of silicon wafers aged under different environmental conditions. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 26041-26048.	1.3	23
85	Hemicellulose-Cellulose Composites Reveal Differences in Cellulose Organization after Dilute Acid Pretreatment. <i>Biomacromolecules</i> , 2019, 20, 893-903.	2.6	21
86	Effects of ball milling on the structure of cotton cellulose. <i>Cellulose</i> , 2019, 26, 305-328.	2.4	253
87	Effect of water on topological constraints in silica glass. <i>Scripta Materialia</i> , 2019, 160, 48-52.	2.6	22
88	Differences in surface failure modes of soda lime silica glass under normal indentation versus tangential shear: A comparative study on Na <sup>+</sup> /K <sup>+</sup> ion exchange effects. <i>Journal of the American Ceramic Society</i> , 2019, 102, 1665-1676.	1.9	16
89	Tailoring the wettability of glass using a double-dielectric barrier discharge reactor. <i>Heliyon</i> , 2018, 4, e00522.	1.4	12
90	Nanomanufacturing of silicon surface with a single atomic layer precision via mechanochemical reactions. <i>Nature Communications</i> , 2018, 9, 1542.	5.8	124

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91	Chemical structure and mechanical properties of soda lime silica glass surfaces treated by thermal polishing in inert and reactive ambient gases. <i>Journal of the American Ceramic Society</i> , 2018, 101, 2951-2964.	1.9	17
92	Self-Formed Hybrid Interphase Layer on Lithium Metal for High-Performance Lithium-Sulfur Batteries. <i>ACS Nano</i> , 2018, 12, 1500-1507.	7.3	149
93	Surface Chemistry Dependence of Mechanochemical Reaction of Adsorbed Molecules: An Experimental Study on Tribopolymerization of $\pm$ -Pinene on Metal, Metal Oxide, and Carbon Surfaces. <i>Langmuir</i> , 2018, 34, 2432-2440.	1.6	32
94	Comparison and validation of Fourier transform infrared spectroscopic methods for monitoring secondary cell wall cellulose from cotton fibers. <i>Cellulose</i> , 2018, 25, 49-64.	2.4	27
95	Mechanochemical Association Reaction of Interfacial Molecules Driven by Shear. <i>Langmuir</i> , 2018, 34, 5971-5977.	1.6	46
96	A comparative review of the aqueous corrosion of glasses, crystalline ceramics, and metals. <i>Npj Materials Degradation</i> , 2018, 2, .	2.6	150
97	Water Adsorption on Hydrophilic and Hydrophobic Surfaces of Silicon. <i>Journal of Physical Chemistry C</i> , 2018, 122, 11385-11391.	1.5	118
98	Molecular Surface Science, Nanomaterials & Catalysis: Symposium in Honor of Gabor Somorjai at 80. <i>Topics in Catalysis</i> , 2018, 61, 711-713.	1.3	0
99	Inhomogeneity of Cellulose Microfibril Assembly in Plant Cell Walls Revealed with Sum Frequency Generation Microscopy. <i>Journal of Physical Chemistry B</i> , 2018, 122, 5006-5019.	1.2	23
100	Effect of heat treatment on the surface chemical structure of glass: Oxygen speciation from in situ XPS analysis. <i>Journal of the American Ceramic Society</i> , 2018, 101, 644-656.	1.9	28
101	Molecular dynamics study of correlations between $\langle \text{IR} \rangle$ peak position and bond parameters of silica and silicate glasses: Effects of temperature and stress. <i>Journal of the American Ceramic Society</i> , 2018, 101, 178-188.	1.9	41
102	Effect of glass composition on the hardness of surface layers on aluminosilicate glasses formed through reaction with strong acid. <i>Journal of the American Ceramic Society</i> , 2018, 101, 657-665.	1.9	22
103	Distinguishing Surface versus Bulk Hydroxyl Groups of Cellulose Nanocrystals Using Vibrational Sum Frequency Generation Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 70-75.	2.1	32
104	Tailoring and Characterization of the Liquid Crystalline Structure of Cellulose Nanocrystals for Opto-Electro-Mechanical Multifunctional Applications. , 2018, , .		0
105	Toward an understanding of the increase in enzymatic hydrolysis by mechanical refining. <i>Biotechnology for Biofuels</i> , 2018, 11, 289.	6.2	36
106	Review on Electromechanical Coupling Properties of Biomaterials. <i>ACS Applied Bio Materials</i> , 2018, 1, 936-953.	2.3	80
107	Dehydration-induced physical strains of cellulose microfibrils in plant cell walls. <i>Carbohydrate Polymers</i> , 2018, 197, 337-348.	5.1	34
108	Spectroscopic ellipsometry study of thickness and porosity of the alteration layer formed on international simple glass surface in aqueous corrosion conditions. <i>Npj Materials Degradation</i> , 2018, 2, .	2.6	44

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109	Probing Hydrogen-Bonding Interactions of Water Molecules Adsorbed on Silica, Sodium Calcium Silicate, and Calcium Aluminosilicate Glasses. <i>Journal of Physical Chemistry C</i> , 2018, 122, 17792-17801.	1.5	33
110	Complex refractive index of silica, silicate, borosilicate, and boroaluminosilicate glasses – Analysis of glass network vibration modes with specular-reflection IR spectroscopy. <i>Journal of Non-Crystalline Solids</i> , 2018, 494, 94-103.	1.5	34
111	Effect of Humidity on Friction and Wear – A Critical Review. <i>Lubricants</i> , 2018, 6, 74.	1.2	106
112	Statistical mechanics of topological fluctuations in glass-forming liquids. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2018, 510, 787-801.	1.2	14
113	Correlation between $\langle \text{IR} \rangle$ peak position and bond parameter of silica glass: Molecular dynamics study on fictive temperature (cooling rate) effect. <i>Journal of the American Ceramic Society</i> , 2018, 101, 5419-5427.	1.9	24
114	Enhanced tribological properties of barium boroaluminosilicate glass by thermal poling. <i>Wear</i> , 2017, 376-377, 337-342.	1.5	7
115	Effects of fictive temperature on the leaching of soda lime silica glass surfaces. <i>Journal of the American Ceramic Society</i> , 2017, 100, 1424-1431.	1.9	20
116	Mechanochemistry of Physisorbed Molecules at Tribological Interfaces: Molecular Structure Dependence of Tribochemical Polymerization. <i>Langmuir</i> , 2017, 33, 2717-2724.	1.6	32
117	Comparative physical and chemical analyses of cotton fibers from two near isogenic upland lines differing in fiber wall thickness. <i>Cellulose</i> , 2017, 24, 2385-2401.	2.4	31
118	Shear-Induced Structural Changes and Origin of Ultralow Friction of Hydrogenated Diamond-like Carbon (DLC) in Dry Environment. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 16704-16714.	4.0	127
119	Dependence of Sum Frequency Generation (SFG) Spectral Features on the Mesoscale Arrangement of SFG-Active Crystalline Domains Interspersed in SFG-Inactive Matrix: A Case Study with Cellulose in Uniaxially Aligned Control Samples and Alkali-Treated Secondary Cell Walls of Plants. <i>Journal of Physical Chemistry C</i> , 2017, 121, 10249-10257.	1.5	22
120	Vibrational sum frequency generation digital holography. <i>Applied Physics Letters</i> , 2017, 110, 251601.	1.5	4
121	Vibrational Sum Frequency Generation (SFG) Analysis of Ferroelectric Response of PVDF-Based Copolymer and Terpolymer. <i>Macromolecules</i> , 2017, 50, 2838-2844.	2.2	23
122	Mechanochemistry at Solid Surfaces: Polymerization of Adsorbed Molecules by Mechanical Shear at Tribological Interfaces. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 3142-3148.	4.0	99
123	Quantum Mechanical Calculations of Vibrational Sum-Frequency-Generation (SFG) Spectra of Cellulose: Dependence of the CH and OH Peak Intensity on the Polarity of Cellulose Chains within the SFG Coherence Domain. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 55-60.	2.1	28
124	Organosulfide-plasticized solid-electrolyte interphase layer enables stable lithium metal anodes for long-cycle lithium-sulfur batteries. <i>Nature Communications</i> , 2017, 8, 850.	5.8	240
125	Characterization of surface structures of dealkalized soda lime silica glass using X-ray photoelectron, specular reflection infrared, attenuated total reflection infrared and sum frequency generation spectroscopies. <i>Journal of Non-Crystalline Solids</i> , 2017, 474, 24-31.	1.5	40
126	What Governs Friction of Silicon Oxide in Humid Environment: Contact Area between Solids, Water Meniscus around the Contact, or Water Layer Structure?. <i>Langmuir</i> , 2017, 33, 9673-9679.	1.6	33



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127	Functional Specialization of Cellulose Synthase Isoforms in a Moss Shows Parallels with Seed Plants. <i>Plant Physiology</i> , 2017, 175, 210-222.	2.3	34
128	Experimental and Theoretical Study of Azimuth Angle and Polarization Dependences of Sum-Frequency-Generation Vibrational Spectral Features of Uniaxially Aligned Cellulose Crystals. <i>Journal of Physical Chemistry C</i> , 2017, 121, 18876-18886.	1.5	21
129	Friction and Tribochemical Wear Behaviors of Native Oxide Layer on Silicon at Nanoscale. <i>Tribology Letters</i> , 2017, 65, 1.	1.2	30
130	Effects of mechanical stretching on average orientation of cellulose and pectin in onion epidermis cell wall: A polarized FT-IR study. <i>Cellulose</i> , 2017, 24, 3145-3154.	2.4	25
131	Thermal Poling of Soda-Lime Silica Glass with Nonblocking Electrodes—Part 1: Effects of Sodium Ion Migration and Water Ingress on Glass Surface Structure. <i>Journal of the American Ceramic Society</i> , 2016, 99, 1221-1230.	1.9	55
132	Ionic Conductivity in Sodium-Alkaline Earth-Aluminosilicate Glasses. <i>Journal of the American Ceramic Society</i> , 2016, 99, 1239-1247.	1.9	22
133	Thermal Poling of Soda-Lime Silica Glass with Nonblocking Electrodes—Part 2: Effects on Mechanical and Mechanochemical Properties. <i>Journal of the American Ceramic Society</i> , 2016, 99, 1231-1238.	1.9	38
134	Analysis of Water and Hydroxyl Species in Soda Lime Glass Surfaces Using Attenuated Total Reflection (ATR)-IR Spectroscopy. <i>Journal of the American Ceramic Society</i> , 2016, 99, 128-134.	1.9	50
135	Tribochemical synthesis of nano-lubricant films from adsorbed molecules at sliding solid interface: Tribo-polymers from $\beta$ -pinene, pinane, and n-decane. <i>Surface Science</i> , 2016, 648, 352-359.	0.8	31
136	Tribochemistry of Carbon Films in Oxygen and Humid Environments: Oxidative Wear and Galvanic Corrosion. <i>Langmuir</i> , 2016, 32, 1996-2004.	1.6	39
137	Hydrothermal reactions of soda lime silica glass — Revealing subsurface damage and alteration of mechanical properties and chemical structure of glass surfaces. <i>Journal of Non-Crystalline Solids</i> , 2016, 452, 93-101.	1.5	56
138	Elemental areal density calculation and oxygen speciation for flat glass surfaces using x-ray photoelectron spectroscopy. <i>Journal of Non-Crystalline Solids</i> , 2016, 450, 185-193.	1.5	29
139	Silane Treatment of Diamond-Like Carbon: Improvement of Hydrophobicity, Oleophobicity, and Humidity Tolerance of Friction. <i>Tribology Letters</i> , 2016, 63, 1.	1.2	2
140	Absence of Sum Frequency Generation in Support of Orthorhombic Symmetry of $\beta$ -Chitin. <i>Macromolecules</i> , 2016, 49, 7025-7031.	2.2	49
141	Cellulose synthase complexes act in a concerted fashion to synthesize highly aggregated cellulose in secondary cell walls of plants. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 11348-11353.	3.3	86
142	Vibrational Sum Frequency Generation Spectroscopy Study of Hydrous Species in Soda Lime Silica Float Glass. <i>Langmuir</i> , 2016, 32, 6035-6045.	1.6	29
143	Effects of Water on Tribochemical Wear of Silicon Oxide Interface: Molecular Dynamics (MD) Study with Reactive Force Field (ReaxFF). <i>Langmuir</i> , 2016, 32, 1018-1026.	1.6	80
144	Effects of contact pressure, counter-surface and humidity on wear of soda-lime-silica glass at nanoscale. <i>Tribology International</i> , 2016, 94, 675-681.	3.0	48

#	ARTICLE	IF	CITATIONS
145	Rheological modifiers for petroleum coke“water slurry. <i>Fuel Processing Technology</i> , 2016, 144, 290-298.	3.7	15
146	Boundary lubrication effect of organic residue left on surface after evaporation of organic cleaning solvent. <i>Wear</i> , 2016, 350-351, 21-26.	1.5	36
147	Multimodal Broadband Vibrational Sum Frequency Generation (MM-BB-V-SFG) Spectrometer and Microscope. <i>Journal of Physical Chemistry B</i> , 2016, 120, 102-116.	1.2	47
148	Progressive structural changes of Avicel, bleached softwood and bacterial cellulose during enzymatic hydrolysis. <i>Scientific Reports</i> , 2015, 5, 15102.	1.6	64
149	Humidity Dependence of Tribochemical Wear of Monocrystalline Silicon. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 14785-14792.	4.0	80
150	Origin of Ultra-Low Friction of Boric Acid: Role of Vapor Adsorption. <i>Tribology Letters</i> , 2015, 58, 1.	1.2	18
151	Vapors in the ambient“A complication in tribological studies or an engineering solution of tribological problems?. <i>Friction</i> , 2015, 3, 85-114.	3.4	25
152	Hydrogen-Bonding Network and OH Stretch Vibration of Cellulose: Comparison of Computational Modeling with Polarized IR and SFG Spectra. <i>Journal of Physical Chemistry B</i> , 2015, 119, 15138-15149.	1.2	152
153	<i>In vitro</i> synthesis of cellulose microfibrils by a membrane protein from protoplasts of the non-vascular plant <i>Physcomitrella patens</i> . <i>Biochemical Journal</i> , 2015, 470, 195-205.	1.7	13
154	Does cellulose II exist in native alga cell walls? Cellulose structure of <i>Derbesia</i> cell walls studied with SFG, IR and XRD. <i>Cellulose</i> , 2015, 22, 3531-3540.	2.4	11
155	Surface Structure of Hydrogenated Diamond-like Carbon: Origin of Run-In Behavior Prior to Superlubricious Interfacial Shear. <i>Langmuir</i> , 2015, 31, 1711-1721.	1.6	61
156	Comprehensive analysis of cellulose content, crystallinity, and lateral packing in <i>Gossypium hirsutum</i> and <i>Gossypium barbadense</i> cotton fibers using sum frequency generation, infrared and Raman spectroscopy, and X-ray diffraction. <i>Cellulose</i> , 2015, 22, 971-989.	2.4	51
157	Effects of Delignification on Crystalline Cellulose in Lignocellulose Biomass Characterized by Vibrational Sum Frequency Generation Spectroscopy and X-ray Diffraction. <i>Bioenergy Research</i> , 2015, 8, 1750-1758.	2.2	33
158	Cellulose produced by <i>Gluconacetobacter xylinus</i> strains ATCC 53524 and ATCC 23768: Pellicle formation, post-synthesis aggregation and fiber density. <i>Carbohydrate Polymers</i> , 2015, 133, 270-276.	5.1	58
159	Effects of humidity and counter-surface on tribochemical wear of soda-lime-silica glass. <i>Wear</i> , 2015, 342-343, 100-106.	1.5	47
160	Correlations of Apparent Cellulose Crystallinity Determined by XRD, NMR, IR, Raman, and SFG Methods. <i>Advances in Polymer Science</i> , 2015, , 115-131.	0.4	27
161	Atomic force microscopy based nanoindentation study of onion abaxial epidermis walls in aqueous environment. <i>Journal of Applied Physics</i> , 2015, 117, .	1.1	47
162	Specular reflectance (SR) and attenuated total reflectance (ATR) infrared (IR) spectroscopy of transparent flat glass surfaces: A case study for soda lime float glass. <i>Journal of Non-Crystalline Solids</i> , 2015, 428, 189-196.	1.5	63

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163	Tribology of Si/SiO <sub>2</sub> in Humid Air: Transition from Severe Chemical Wear to Wearless Behavior at Nanoscale. <i>Langmuir</i> , 2015, 31, 149-156.	1.6	64
164	Cellulose polymorphs and physical properties of cotton fabrics processed with commercial textile mills for mercerization and liquid ammonia treatments. <i>Textile Research Journal</i> , 2014, 84, 1692-1699.	1.1	71
165	Effects of Vapor Environment and Counter-Surface Chemistry on Tribochemical Wear of Silicon Wafers. <i>Tribology Letters</i> , 2014, 53, 365-372.	1.2	15
166	Cellulose microfibril orientation in onion ( <i>Allium cepa</i> L.) epidermis studied by atomic force microscopy (AFM) and vibrational sum frequency generation (SFG) spectroscopy. <i>Cellulose</i> , 2014, 21, 1075-1086.	2.4	68
167	Effects of Gas or Vapor Adsorption on Adhesion, Friction, and Wear of Solid Interfaces. <i>Langmuir</i> , 2014, 30, 2977-2992.	1.6	45
168	Synthesis of polymeric lubricating films directly at the sliding interface via mechanochemical reactions of allyl alcohols adsorbed from the vapor phase. <i>RSC Advances</i> , 2014, 4, 26081-26086.	1.7	16
169	The <i>jiaoyao1</i> Mutant Is an Allele of <i>korrigan1</i> That Abolishes Endoglucanase Activity and Affects the Organization of Both Cellulose Microfibrils and Microtubules in <i>Arabidopsis</i> . <i>Plant Cell</i> , 2014, 26, 2601-2616.	3.1	63
170	Lubrication by Physisorbed Molecules in Equilibrium with Vapor at Ambient Condition: Effects of Molecular Structure and Substrate Chemistry. <i>Langmuir</i> , 2014, 30, 6469-6478.	1.6	35
171	Effects of Plant Cell Wall Matrix Polysaccharides on Bacterial Cellulose Structure Studied with Vibrational Sum Frequency Generation Spectroscopy and X-ray Diffraction. <i>Biomacromolecules</i> , 2014, 15, 2718-2724.	2.6	39
172	Characterization of Starch Polymorphic Structures Using Vibrational Sum Frequency Generation Spectroscopy. <i>Journal of Physical Chemistry B</i> , 2014, 118, 1775-1783.	1.2	85
173	Probing crystal structure and mesoscale assembly of cellulose microfibrils in plant cell walls, tunicate tests, and bacterial films using vibrational Sum Frequency Generation (SFG) spectroscopy. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 10844.	1.3	82
174	Environmental effects on initiation and propagation of surface defects on silicate glasses: scratch and fracture toughness study. <i>Applied Physics A: Materials Science and Processing</i> , 2014, 116, 519-528.	1.1	51
175	Vibrational sum-frequency-generation (SFG) spectroscopy study of the structural assembly of cellulose microfibrils in reaction woods. <i>Cellulose</i> , 2014, 21, 2219-2231.	2.4	30
176	Humidity Effects on In Situ Vapor Phase Lubrication with n-Pentanol. <i>Tribology Letters</i> , 2014, 55, 177-186.	1.2	10
177	Effect of mechanical disruption on the effectiveness of three reactors used for dilute acid pretreatment of corn stover Part 1: chemical and physical substrate analysis. <i>Biotechnology for Biofuels</i> , 2014, 7, 57.	6.2	39
178	Mechanochemical Wear of Soda Lime Silica Glass in Humid Environments. <i>Journal of the American Ceramic Society</i> , 2014, 97, 2061-2068.	1.9	67
179	Running-in process of Si-SiO <sub>x</sub> /SiO <sub>2</sub> pair at nanoscale—Sharp drops in friction and wear rate during initial cycles. <i>Friction</i> , 2013, 1, 81-91.	3.4	50
180	Fundamental Understanding of Environmental Effects on Adhesion and Friction: Alcohol and Water Adsorption Cases. <i>Tribology Letters</i> , 2013, 50, 157-168.	1.2	8

#	ARTICLE	IF	CITATIONS
181	Effects of Nanoscale Surface Texture and Lubricant Molecular Structure on Boundary Lubrication in Liquid. <i>Langmuir</i> , 2013, 29, 13419-13426.	1.6	35
182	Perturbation of <i>Brachypodium distachyon</i> CELLULOSE SYNTHASE A4 or 7 results in abnormal cell walls. <i>BMC Plant Biology</i> , 2013, 13, 131.	1.6	81
183	Cellulose polymorphism study with sum-frequency-generation (SFG) vibration spectroscopy: identification of exocyclic CH <sub>2</sub> OH conformation and chain orientation. <i>Cellulose</i> , 2013, 20, 991-1000.	2.4	76
184	Characterization of crystalline cellulose in biomass: Basic principles, applications, and limitations of XRD, NMR, IR, Raman, and SFG. <i>Korean Journal of Chemical Engineering</i> , 2013, 30, 2127-2141.	1.2	154
185	Sum-Frequency-Generation Vibration Spectroscopy and Density Functional Theory Calculations with Dispersion Corrections (DFT-D2) for Cellulose I <sub>1</sub> and I <sub>2</sub> . <i>Journal of Physical Chemistry B</i> , 2013, 117, 6681-6692.	1.2	90
186	Hydronium Ions in Soda- Lime Silicate Glass Surfaces. <i>Journal of the American Ceramic Society</i> , 2013, 96, 458-463.	1.9	60
187	Vibrational sum frequency generation (SFG) spectroscopic study of crystalline cellulose in biomass. , 2013, , .		6
188	Monitoring Meso-Scale Ordering of Cellulose in Intact Plant Cell Walls Using Sum Frequency Generation Spectroscopy. <i>Plant Physiology</i> , 2013, 163, 907-913.	2.3	49
189	Humidity Effects on Friction and Wear Between Dissimilar Metals. <i>Tribology Letters</i> , 2012, 48, 305-313.	1.2	26
190	Role of Tribochemistry in Nanowear of Single-Crystalline Silicon. <i>ACS Applied Materials &amp; Interfaces</i> , 2012, 4, 1585-1593.	4.0	93
191	Water Adsorption Isotherms on CH <sub>3</sub> -, OH-, and COOH-Terminated Organic Surfaces at Ambient Conditions Measured with PM-RAIRS. <i>Langmuir</i> , 2012, 28, 15263-15269.	1.6	30
192	Quantification of crystalline cellulose in lignocellulosic biomass using sum frequency generation (SFG) vibration spectroscopy and comparison with other analytical methods. <i>Carbohydrate Polymers</i> , 2012, 89, 802-809.	5.1	69
193	Coadsorption of <i>n</i> -Propanol and Water on SiO <sub>2</sub> : Study of Thickness, Composition, and Structure of Binary Adsorbate Layer Using Attenuated Total Reflection Infrared (ATR-IR) and Sum Frequency Generation (SFG) Vibration Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2012, 116, 9909-9916.	1.5	35
194	Maskless Fabrication of Nanowells Using Chemically Reactive Colloids. <i>Nano Letters</i> , 2011, 11, 672-676.	4.5	18
195	Selective Detection of Crystalline Cellulose in Plant Cell Walls with Sum-Frequency-Generation (SFG) Vibration Spectroscopy. <i>Biomacromolecules</i> , 2011, 12, 2434-2439.	2.6	98
196	Understanding Run-In Behavior of Diamond-Like Carbon Friction and Preventing Diamond-Like Carbon Wear in Humid Air. <i>Langmuir</i> , 2011, 27, 12702-12708.	1.6	82
197	Improved Substrate Protection and Self-Healing of Boundary Lubrication Film Consisting of Polydimethylsiloxane with Cationic Side Groups. <i>Tribology Letters</i> , 2011, 41, 33-40.	1.2	12
198	Is Ultra-Low Friction Needed to Prevent Wear of Diamond-Like Carbon (DLC)? An Alcohol Vapor Lubrication Study for Stainless Steel/DLC Interface. <i>Tribology Letters</i> , 2011, 42, 285-291.	1.2	32

#	ARTICLE	IF	CITATIONS
199	Effects of Nanoscale Surface Texturing on Self-Healing of Boundary Lubricant Film via Lateral Flow. Tribology Letters, 2011, 44, 287-292.	1.2	12
200	Quantification of oxygenated species on a diamond-like carbon (DLC) surface. Applied Surface Science, 2011, 257, 7633-7638.	3.1	42
201	Effects of gas adsorption isotherm and liquid contact angle on capillary force for sphere-on-flat and cone-on-flat geometries. Journal of Colloid and Interface Science, 2010, 352, 549-557.	5.0	39
202	Preface to the Molecular Surface Chemistry and Its Applications Special Issue. Langmuir, 2010, 26, 16187-16189.	1.6	0
203	Tribochemical Polymerization of Adsorbed <i>n</i> -Pentanol on SiO <sub>2</sub> during Rubbing: When Does It Occur and Is It Responsible for Effective Vapor Phase Lubrication?. Langmuir, 2010, 26, 16299-16304.	1.6	29
204	Corrected direct force balance method for atomic force microscopy lateral force calibration. Review of Scientific Instruments, 2009, 80, 066101.	0.6	16
205	Analyzing Periodic Signals in Rotating Pin-on-Disc Tribotest Measurements Using Discrete Fourier Transform Algorithm. Tribology Letters, 2009, 35, 141-147.	1.2	7
206	Scanning Atmospheric Plasma Processes for Surface Decontamination and Superhydrophobic Deposition. ACS Symposium Series, 2009, , 323-336.	0.5	1
207	Effects of Surface Chemistry on Structure and Thermodynamics of Water Layers at Solid-Vapor Interfaces. Journal of Physical Chemistry C, 2009, 113, 2128-2133.	1.5	83
208	Adsorption Isotherm and Orientation of Alcohols on Hydrophilic SiO <sub>2</sub> under Ambient Conditions. Journal of Physical Chemistry C, 2009, 113, 10632-10641.	1.5	49
209	Experimental and Density Functional Theory Study of the Tribochemical Wear Behavior of SiO <sub>2</sub> in Humid and Alcohol Vapor Environments. Langmuir, 2009, 25, 13052-13061.	1.6	89
210	In-situ Vapor-Phase Lubrication of MEMS. Tribology Letters, 2008, 29, 67-74.	1.2	105
211	Fabrication of electrically-conducting nonwoven porous mats of polystyrene-polypyrrole core-shell nanofibers via electrospinning and vapor phase polymerization. Journal of Materials Chemistry, 2008, 18, 5155.	6.7	49
212	Average molecular orientations in the adsorbed water layers on silicon oxide in ambient conditions. Physical Chemistry Chemical Physics, 2008, 10, 4981.	1.3	58
213	Fabrication of Superhydrophobic Surfaces. Journal of Adhesion Science and Technology, 2008, 22, 235-250.	1.4	83
214	Macro- to Nanoscale Wear Prevention via Molecular Adsorption. Langmuir, 2008, 24, 155-159.	1.6	97
215	Enzyme-Nanofiber Composites for Biocatalysis Applications. ACS Symposium Series, 2008, , 254-262.	0.5	2
216	Sustainable Biocatalytic Nanofibers: Synthesis, Characterization, and Applications of Enzyme-Coated Polymeric Nanofibers. ACS Symposium Series, 2008, , 129-143.	0.5	0

#	ARTICLE	IF	CITATIONS
217	Decomposition Reaction of Organophosphorus Nerve Agents on Solid Surfaces with Atmospheric Radio Frequency Plasma Generated Gaseous Species. <i>Langmuir</i> , 2007, 23, 8074-8078.	1.6	47
218	Nanotribology and MEMS. <i>Nano Today</i> , 2007, 2, 22-29.	6.2	329
219	Deposition of stable hydrophobic coatings with in-line CH <sub>4</sub> atmospheric rf plasma. <i>Journal of Materials Chemistry</i> , 2006, 16, 977.	6.7	65
220	Effects of adsorbed water layer structure on adhesion force of silicon oxide nanoasperity contact in humid ambient. <i>Journal of Chemical Physics</i> , 2006, 124, 174712.	1.2	205
221	Plasma Surface Functionalization of Poly[bis(2,2,2-trifluoroethoxy)phosphazene]. <i>Materials Research Society Symposia Proceedings</i> , 2006, 951, 41.	0.1	0
222	Surface science of single-site heterogeneous olefin polymerization catalysts. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 15289-15294.	3.3	57
223	Fabrication of Electrically Conducting Polypyrrole-Poly(ethylene oxide) Composite Nanofibers. <i>Macromolecular Rapid Communications</i> , 2005, 26, 1599-1603.	2.0	77
224	Back Cover: <i>Macromol. Rapid Commun.</i> 20/2005. <i>Macromolecular Rapid Communications</i> , 2005, 26, 1668-1668.	2.0	0
225	Direct fabrication of enzyme-carrying polymer nanofibers by electrospinning. <i>Journal of Materials Chemistry</i> , 2005, 15, 3241.	6.7	111
226	Superhydrophobic CF <sub>x</sub> Coating via In-Line Atmospheric RF Plasma of He~CF <sub>4</sub> ~H <sub>2</sub> . <i>Langmuir</i> , 2005, 21, 12213-12217.	1.6	123
227	Evolution of the Adsorbed Water Layer Structure on Silicon Oxide at Room Temperature. <i>Journal of Physical Chemistry B</i> , 2005, 109, 16760-16763.	1.2	614
228	Inverse Relationship between Thickness and Wear of Fluorinated Graphene: "Thinner Is Better". <i>Nano Letters</i> , 0, , .	4.5	10