Mathieu Bauchy

List of Publications by Year
in descending order

246 papers	7,651 citations	50276 46 h-index	82547 72 g-index
250 all docs	250 docs citations	250 times ranked	4080 citing authors

#	Article	IF	Citations
1	Beyond the Average: Spatial and Temporal Fluctuations in Oxide Glass-Forming Systems. Chemical Reviews, 2023, 123, 1774-1840.	47.7	14
2	Water leak control for the oil-producing wells using Downhole Water Sink Technology. Journal of Environmental Management, 2022, 301, 113834.	7.8	0
3	Revealing the structural role of MgO in aluminosilicate glasses. Acta Materialia, 2022, 222, 117417.	7.9	15
4	Stochastic Micromechanical Damage Model for Porous Materials under Uniaxial Tension. Journal of Materials in Civil Engineering, 2022, 34, .	2.9	1
5	Dissolution Amplification by Resonance and Cavitational Stimulation at Ultrasonic and Megasonic Frequencies. Journal of Physical Chemistry C, 2022, 126, 3432-3442.	3.1	5
6	Study on Backfill Acoustic Emission Characteristics and Source Location under Uniaxial Compressive. Advances in Civil Engineering, 2022, 2022, 1-9.	0.7	0
7	A Particle Size Distribution Model for Tailings in Mine Backfill. Metals, 2022, 12, 594.	2.3	5
8	Insights into the effect of high temperature on the shear behavior of the calcium silicate hydrate by reactive molecular dynamics simulations. International Journal of Damage Mechanics, 2022, 31, 1096-1112.	4.2	8
9	Experimental evidence of auxeticity in ion implanted single crystal calcite. Scientific Reports, 2022, 12, 6071.	3.3	1
10	Groundwater Risk Assessment of a Rock Cave Type Landfill with Nontraditional Solid Waste. Advances in Civil Engineering, 2022, 2022, 1-10.	0.7	0
11	Topology and Rigidity of Silicate Melts and Glasses. Reviews in Mineralogy and Geochemistry, 2022, 87, 163-191.	4.8	2
12	Challenges and opportunities in atomistic simulations of glasses: a review. Comptes Rendus - Geoscience, 2022, 354, 35-77.	1.2	7
13	Irradiation-induced toughening of calcium aluminoborosilicate glasses. Materials Today Communications, 2022, 31, 103649.	1.9	2
14	Choice of the Arch Yielding Support for the Preparatory Roadway Located near the Fault. Energies, 2022, 15, 3774.	3.1	20
15	Research on Calculation Method for Discharge Capacity of Draining Well in Tailing Ponds Based on â€œSimplification-Fittingâ€•Method. Energies, 2022, 15, 4194.	3.1	0
16	Resolving the Conflict between Strength and Toughness in Bioactive Silicaâ€"Polymer Hybrid Materials. ACS Nano, 2022, 16, 9748-9761.	14.6	7
17	Mechanical properties and acoustic emission response of cemented tailings backfill under variable angle shear. Construction and Building Materials, 2022, 343, 128114.	7.2	20
18	The Characteristics of Spiral Pipe Increasing Resistance and Reducing Pressure and the Amendment Equation of Stowing Gradient. Metals, 2022, 12, 1105.	2.3	2

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19	Ultrafast stiffening of concentrated thermoresponsive mineral suspensions. Materials and Design, 2022, 221, 110905.	7.0	2
20	Decoupling of indentation modulus and hardness in silicate glasses: Evidence of a shear- to densification-dominated transition. Journal of Non-Crystalline Solids, 2021, 553, 120518.	3.1	6
21	Effect of temperature on time-dependent rheological and compressive strength of fresh cemented paste backfill containing flocculants. Construction and Building Materials, 2021, 267, 121038.	7.2	41
22	Machine learning for glass science and engineering: A review. Journal of Non-Crystalline Solids, 2021, 557, 119419.	3.1	44
23	A new expansion material used for roof-contacted filling based on smelting slag. Scientific Reports, 2021, 11, 2607.	3.3	8
24	Machine Learning Enables Rapid Screening of Reactive Fly Ashes Based on Their Network Topology. ACS Sustainable Chemistry and Engineering, 2021, 9, 2639-2650.	6.7	24
25	Study on hydration reaction and structure evolution of cemented paste backfill in early-age based on resistivity and hydration heat. Construction and Building Materials, 2021, 272, 121827.	7.2	37
26	Rigidity theory of glass: Determining the onset temperature of topological constraints by molecular dynamics. Journal of Non-Crystalline Solids, 2021, 554, 120614.	3.1	5
27	Using machine learning to predict concreteâ€™s strength: learning from small datasets. Engineering Research Express, 2021, 3, 015022.	1.6	12
28	Artificial intelligence and machine learning in glass science and technology: 21 challenges for the 21st century. International Journal of Applied Glass Science, 2021, 12, 277-292.	2.0	28
29	Modeling the nanoindentation response of silicate glasses by peridynamic simulations. Journal of the American Ceramic Society, 2021, 104, 3531-3544.	3.8	10
30	Effect of Gypsum Addition on the Mechanical and Microstructural Performance of Sulphide-Rich Cemented Paste Backfill. Minerals (Basel, Switzerland), 2021, 11, 283.	2.0	11
31	New insights into the mechanism governing the elasticity of calcium silicate hydrate gels exposed to high temperature: A molecular dynamics study. Cement and Concrete Research, 2021, 141, 106333.	11.0	57
32	Predicting zeolitesâ€™ stability during the corrosion of nuclear waste immobilization glasses: Comparison with glass corrosion experiments. Journal of Nuclear Materials, 2021, 547, 152813.	2.7	3
33	Bond Switching in Densified Oxide Glass Enables Record-High Fracture Toughness. ACS Applied Materials & Interfaces, 2021, 13, 17753-17765.	8.0	31
34	Deconstructing water sorption isotherms in cement pastes by lattice density functional theory simulations. Journal of the American Ceramic Society, 2021, 104, 4226-4238.	3.8	11
35	Interatomic potential parameterization using particle swarm optimization: Case study of glassy silica. Journal of Chemical Physics, 2021, 154, 134505.	3.0	8
36	Analytical model of the network topology and rigidity of calcium aluminosilicate glasses. Journal of the American Ceramic Society, 2021, 104, 3947-3962.	3.8	14

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37	Topological origin of phase separation in hydrated gels. Journal of Colloid and Interface Science, 2021, 590, 199-209.	9.4	8
38	Predicting the early-stage creep dynamics of gels from their static structure by machine learning. Acta Materialia, 2021, 210, 116817.	7.9	21
39	Experimental Study on Initial Damage Point of Deep Granite under Step Cyclic Loading Method. Advances in Civil Engineering, 2021, 2021, 1-10.	0.7	0
40	Predicting the dissolution rate of borosilicate glasses using QSPR analysis based on molecular dynamics simulations. Journal of the American Ceramic Society, 2021, 104, 4445-4458.	3.8	18
41	Effect of irradiation on the atomic structure of borosilicate glasses. Journal of the American Ceramic Society, 2021, 104, 6194-6206.	3.8	6
42	Disorder-induced expansion of silicate minerals arises from the breakage of weak topological constraints. Journal of Non-Crystalline Solids, 2021, 564, 120846.	3.1	5
43	Experimental method to quantify the ring size distribution in silicate glasses and simulation validation thereof. Science Advances, 2021, 7, .	10.3	36
44	The Influence of the Instantaneous Collapse of Tailings Pond on Downstream Facilities. Advances in Civil Engineering, 2021, 2021, 1-15.	0.7	4
45	Controls on CO₂ Mineralization Using Natural and Industrial Alkaline Solids under Ambient Conditions. ACS Sustainable Chemistry and Engineering, 2021, 9, 10727-10739.	6.7	25
46	Toughening of soda-lime-silica glass by nanoscale phase separation: Molecular dynamics study. Physical Review Materials, 2021, 5, .	2.4	7
47	EBOD: An ensemble-based outlier detection algorithm for noisy datasets. Knowledge-Based Systems, 2021, 231, 107400.	7.1	13
48	Using recycled aggregate for seismically monitoring of embankment-subsoil model. Case Studies in Construction Materials, 2021, 15, e00605.	1.7	4
49	Revealing the medium-range structure of glassy silica using force-enhanced atomic refinement. Journal of Non-Crystalline Solids, 2021, 573, 121138.	3.1	7
50	New insights into the mechanisms of carbon dioxide mineralization by portlandite. AICHE Journal, 2021, 67, e17160.	3.6	14
51	The energy landscape governs ductility in disordered materials. Materials Horizons, 2021, 8, 1242-1252.	12.2	17
52	Stiffness Determination of Backfill-Rock Interface to Numerically Investigate Backfill Stress Distributions in Mine Stopes. Advances in Civil Engineering, 2021, 2021, 1-13.	0.7	0
53	The Effect of Curing under Applied Stress on the Mechanical Performance of Cement Paste Backfill. Minerals (Basel, Switzerland), 2021, 11, 1107.	2.0	9
54	Hybrid Failure of Cemented Paste Backfill. Minerals (Basel, Switzerland), 2021, 11, 1141.	2.0	5

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55	Shear Properties of Cemented Paste Backfill under Low Confining Stress. Advances in Civil Engineering, 2021, 2021, 1-11.	0.7	4
56	Predicting Fracture Propensity in Amorphous Alumina from Its Static Structure Using Machine Learning. ACS Nano, 2021, 15, 17705-17716.	14.6	20
57	Strength Model of Backfill-Rock Irregular Interface Based on Fractal Theory. Frontiers in Materials, 2021, 8, .	2.4	3
58	Finding defects in disorder: Strain-dependent structural fingerprint of plasticity in granular materials. Applied Physics Letters, 2021, 119, 241904.	3.3	2
59	Experimental Study on Factors Influencing the Strength Distribution of In Situ Cemented Tailings Backfill. Metals, 2021, 11, 2059.	2.3	8
60	Competitive effects of free volume, rigidity, and selfâ€adaptivity on indentation response of silicoaluminoborate glasses. Journal of the American Ceramic Society, 2020, 103, 944-954.	3.8	15
61	Structural evolution of fused silica below the glass-transition temperature revealed by in-situ neutron total scattering. Journal of Non-Crystalline Solids, 2020, 528, 119760.	3.1	15
62	Topological controls on aluminosilicate glass dissolution: Complexities induced in hyperalkaline aqueous environments. Journal of the American Ceramic Society, 2020, 103, 6198-6207.	3.8	12
63	Precipitation of calciumâ€“aluminoâ€“silicateâ€“hydrate gels: The role of the internal stress. Journal of Chemical Physics, 2020, 153, 014501.	3.0	12
64	Numerical Analysis of the Hydraulic and Mechanical Behavior of In Situ Cemented Paste Backfill. Geotechnical and Geological Engineering, 2020, 38, 4877-4887.	1.7	3
65	Bulk Metallic Glassesâ€™ Response to Oscillatory Stress Is Governed by the Topography of the Energy Landscape. Journal of Physical Chemistry B, 2020, 124, 11294-11298.	2.6	5
66	Atomic Dislocations and Bond Rupture Govern Dissolution Enhancement under Acoustic Stimulation. ACS Applied Materials & Interfaces, 2020, 12, 55399-55410.	8.0	6
67	Fineness Effect on Pozzolanic Activity of Cu-Ni Slag in Cemented Tailing Backfill. Advances in Materials Science and Engineering, 2020, 2020, 1-7.	1.8	2
68	Coupled Effect of Curing Temperature and Moisture on THM Behavior of Cemented Paste Backfill. Advances in Civil Engineering, 2020, 2020, 1-12.	0.7	2
69	Discussions on the Complete Strain Energy Characteristics of Deep Granite and Assessment of Rockburst Tendency. Shock and Vibration, 2020, 2020, 1-9.	0.6	2
70	Revealing hidden medium-range order in amorphous materials using topological data analysis. Science Advances, 2020, 6, .	10.3	41
71	Temperature-Induced Aggregation in Portlandite Suspensions. Langmuir, 2020, 36, 10811-10821.	3.5	7
72	Determination of Mixing and Conveying Parameters in a Phosphate Rock Filling System. Journal of Physics: Conference Series, 2020, 1626, 012179.	0.4	0

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73	Bauchy <i>etÂal.</i> Reply:. Physical Review Letters, 2020, 124, 199602.	7.8	0
74	Progress, Challenges, and Rewards in Probing Melt Dynamics, Configurational Entropy Change, and Topological Phases of Group Vâ€•and Group IVâ€Based Multicomponent Sulfide Glasses. Physica Status Solidi (B): Basic Research, 2020, 257, 2000116.	1.5	7
75	Revisiting the Makishimaâ€"Mackenzie model for predicting the young's modulus of oxide glasses. Acta Materialia, 2020, 195, 252-262.	7.9	28
76	Dynamic and stress signatures of the rigid intermediate phase in glass-forming liquids. Journal of Chemical Physics, 2020, 152, 221101.	3.0	5
77	Analytical and experimental investigation of the relationship between spread and yield stress in the mini-cone test for cemented tailings backfill. Construction and Building Materials, 2020, 260, 119770.	7.2	26
78	Alkali Activation of Copper and Nickel Slag Composite Cementitious Materials. Materials, 2020, 13, 1155.	2.9	11
79	New insights into the structure of sodium silicate glasses by force-enhanced atomic refinement. Journal of Non-Crystalline Solids, 2020, 536, 120006.	3.1	15
80	Dispersing nano- and micro-sized portlandite particulates via electrosteric exclusion at short screening lengths. Soft Matter, 2020, 16, 3425-3435.	2.7	6
81	How clay particulates affect flow cessation and the coiling stability of yield stress-matched cementing suspensions. Soft Matter, 2020, 16, 3929-3940.	2.7	2
82	Role of Internal Stress in the Early-Stage Nucleation of Amorphous Calcium Carbonate Gels. Applied Sciences (Switzerland), 2020, 10, 4359.	2.5	4
83	Mineral Dissolution under Electric Stimulation. Journal of Physical Chemistry C, 2020, 124, 16515-16523.	3.1	1
84	Cooling rate effects on the structure of 45S5 bioglass: Insights from experiments and simulations. Journal of Non-Crystalline Solids, 2020, 534, 119952.	3.1	31
85	zeo19: A thermodynamic database for assessing zeolite stability during the corrosion of nuclear waste immobilization glasses. Npj Materials Degradation, 2020, 4, .	5.8	14
86	Molecular Dynamics Simulation of the Precipitation of Calcium Silicate Hydrate Nanostructures under Two-Dimensional Confinement by TiO₂: Implications for Advanced Concretes. ACS Applied Nano Materials, 2020, 3, 2176-2184.	5.0	16
87	Calcium nitrate: A chemical admixture to inhibit aggregate dissolution and mitigate expansion caused by alkali-silica reaction. Cement and Concrete Composites, 2020, 110, 103592.	10.7	17
88	Can a simple topological-constraints-based model predict the initial dissolution rate of borosilicate and aluminosilicate glasses?. Npj Materials Degradation, 2020, 4, .	5.8	26
89	Mechanism of Alkali-Activated Copper-Nickel Slag Material. Advances in Civil Engineering, 2020, 2020, 1-10.	0.7	5
90	On the equivalence of vapor-deposited and melt-quenched glasses. Journal of Chemical Physics, 2020, 152, 164504.	3.0	7

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91	Deep learning aided rational design of oxide glasses. Materials Horizons, 2020, 7, 1819-1827.	12.2	54
92	Exploring the landscape of Buckingham potentials for silica by machine learning: Soft vs hard interatomic forcefields. Journal of Chemical Physics, 2020, 152, 051101.	3.0	14
93	Temperature-induced structural change through the glass transition of silicate glass by neutron diffraction. Physical Review B, 2020, 101, .	3.2	10
94	Fracture toughness of a metalâ€“organic framework glass. Nature Communications, 2020, 11, 2593.	12.8	76
95	Nanoscale Composition-Texture-Property Relation in Calcium-Silicate-Hydrates. , 2020, , 1761-1792.		3
96	Topological optimization of cementitious binders: Advances and challenges. Cement and Concrete Composites, 2019, 101, 5-14.	10.7	22
97	Structural dependence of chemical durability in modified aluminoborate glasses. Journal of the American Ceramic Society, 2019, 102, 1157-1168.	3.8	29
98	Breaking the Limit of Microâ€Ductility in Oxide Glasses. Advanced Science, 2019, 6, 1901281.	11.2	38
99	Revisiting the Dependence of Poissonâ€™s Ratio on Liquid Fragility and Atomic Packing Density in Oxide Glasses. Materials, 2019, 12, 2439.	2.9	30
100	Topological Origins of the Mixed Alkali Effect in Glass. Journal of Physical Chemistry B, 2019, 123, 7482-7489.	2.6	31
101	Predicting Young's modulus of oxide glasses with sparse datasets using machine learning. Journal of Non-Crystalline Solids, 2019, 524, 119643.	3.1	58
102	Intermediate Phase in Calciumâ€“Silicateâ€“Hydrates: Mechanical, Structural, Rigidity, and Stress Signatures. Frontiers in Materials, 2019, 6, .	2.4	12
103	Machine learning for glass science and engineering: A review. Journal of Non-Crystalline Solids: X, 2019, 4, 100036.	1.2	36
104	Predicting the dissolution kinetics of silicate glasses by topology-informed machine learning. Npj Materials Degradation, 2019, 3, .	5.8	59
105	Glass Fracture Upon Ballistic Impact: New Insights From Peridynamics Simulations. Frontiers in Materials, 2019, 6, .	2.4	17
106	Modifier clustering and avoidance principle in borosilicate glasses: A molecular dynamics study. Journal of Chemical Physics, 2019, 150, 044502.	3.0	16
107	Densityâ€“stiffness scaling in minerals upon disordering: Irradiation vs. vitrification. Acta Materialia, 2019, 166, 611-617.	7.9	23
108	Strength and hydration products of cemented paste backfill from sulphide-rich tailings using reactive MgO-activated slag as a binder. Construction and Building Materials, 2019, 203, 111-119.	7.2	53

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109	New insights into the indentation size effect in silicate glasses. Journal of Non-Crystalline Solids, 2019, 521, 119494.	3.1	31
110	Predicting the Youngâ€™s Modulus of Silicate Glasses using High-Throughput Molecular Dynamics Simulations and Machine Learning. Scientific Reports, 2019, 9, 8739.	3.3	86
111	Parameterization of empirical forcefields for glassy silica using machine learning. MRS Communications, 2019, 9, 593-599.	1.8	17
112	Atomic picture of structural relaxation in silicate glasses. Applied Physics Letters, 2019, 114, .	3.3	26
113	Structural percolation controls the precipitation kinetics of colloidal calciumâ€“silicateâ€“hydrate gels. Journal Physics D: Applied Physics, 2019, 52, 315301.	2.8	9
114	Balance between accuracy and simplicity in empirical forcefields for glass modeling: Insights from machine learning. Journal of Non-Crystalline Solids, 2019, 515, 133-142.	3.1	19
115	Quantifying the internal stress in over-constrained glasses by molecular dynamics simulations. Journal of Non-Crystalline Solids: X, 2019, 1, 100013.	1.2	9
116	Atomistic origin of the passivation effect in hydrated silicate glasses. Npj Materials Degradation, 2019, 3, .	5.8	25
117	Permanent Densification of Calcium Aluminophosphate Glasses. Frontiers in Materials, 2019, 6, .	2.4	10
118	Linking Melt Dynamics With Topological Phases and Molecular Structure of Sodium Phosphate Glasses From Calorimetry, Raman Scattering, and Infrared Reflectance. Frontiers in Materials, 2019, 6, .	2.4	17
119	Prediction of the Young's modulus of silicate glasses by topological constraint theory. Journal of Non-Crystalline Solids, 2019, 514, 15-19.	3.1	38
120	An experimental study on the early-age hydration kinetics of cemented paste backfill. Construction and Building Materials, 2019, 212, 283-294.	7.2	101
121	Long-term creep deformations in colloidal calciumâ€“silicateâ€“hydrate gels by accelerated aging simulations. Journal of Colloid and Interface Science, 2019, 542, 339-346.	9.4	19
122	Liquid fragility determination of oxide glassâ€formers using temperatureâ€modulated DSC. International Journal of Applied Glass Science, 2019, 10, 321-329.	2.0	5
123	The Rheological Property Study on the Slurry of Unclassified Tailings Cemented for an Iron Mine. IOP Conference Series: Earth and Environmental Science, 2019, 358, 032027.	0.3	0
124	Evidence for a Correlation of Melt Fragility Index With Topological Phases of Multicomponent Glasses. Frontiers in Materials, 2019, 6, .	2.4	21
125	The effect of irradiation on the atomic structure and chemical durability of calcite and dolomite. Npj Materials Degradation, 2019, 3, .	5.8	17
126	Deciphering the atomic genome of glasses by topological constraint theory and molecular dynamics: A review. Computational Materials Science, 2019, 159, 95-102.	3.0	77

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127	Numerical study on the pipe flow characteristics of the cemented paste backfill slurry considering hydration effects. Powder Technology, 2019, 343, 454-464.	4.2	89
128	The role of the network-modifier's field-strength in the chemical durability of aluminoborate glasses. Journal of Non-Crystalline Solids, 2019, 505, 279-285.	3.1	32
129	Effects of polydispersity and disorder on the mechanical properties of hydrated silicate gels. Journal of the Mechanics and Physics of Solids, 2019, 122, 555-565.	4.8	35
130	Chemical composition of calcium-silicate-hydrate gels: Competition between kinetics and thermodynamics. Physical Review Materials, 2019, 3, .	2.4	15
131	Boron anomaly in the thermal conductivity of lithium borate glasses. Physical Review Materials, 2019, 3, .	2.4	14
132	Topological Constraint Theory and Rigidity of Glasses. , 2019, , 13-1-13-20.		5
133	Predicting the dissolution kinetics of silicate glasses using machine learning. Journal of Non-Crystalline Solids, 2018, 487, 37-45.	3.1	100
134	The hydrophilic-to-hydrophobic transition in glassy silica is driven by the atomic topology of its surface. Journal of Chemical Physics, 2018, 148, 074503.	3.0	35
135	Topological Phases of Chalcogenide Glasses Encoded in the Melt Dynamics. Physica Status Solidi (B): Basic Research, 2018, 255, 1800027.	1.5	13
136	A new transferable interatomic potential for molecular dynamics simulations of borosilicate glasses. Journal of Non-Crystalline Solids, 2018, 498, 294-304.	3.1	121
137	Hardness of silicate glasses: Atomic-scale origin of the mixed modifier effect. Journal of Non-Crystalline Solids, 2018, 489, 16-21.	3.1	31
138	An Experimental Study on the Microstructures of Cemented Paste Backfill during Its Developing Process. Advances in Civil Engineering, 2018, 2018, 1-10.	0.7	8
139	Isothermal Stimulation of Mineral Dissolution Processes by Acoustic Perturbation. Journal of Physical Chemistry C, 2018, 122, 28665-28673.	3.1	10
140	Stability of Calciumâ€“Alumino Layered-Double-Hydroxide Nanocomposites in Aqueous Electrolytes. Industrial & Engineering Chemistry Research, 2018, 57, 13417-13426.	3.7	5
141	Glass relaxation and hysteresis of the glass transition by molecular dynamics simulations. Physical Review B, 2018, 98, .	3.2	20
142	Required strength estimation of a cemented backfill with the front wall exposed and back wall pressured. International Journal of Mining and Mineral Engineering, 2018, 9, 1.	0.3	20
143	Steel corrosion inhibition by calcium nitrate in halide-enriched completion fluid environments. Npj Materials Degradation, 2018, 2, .	5.8	17
144	Effect of irradiation on silicate aggregatesâ€™ density and stiffness. Journal of Nuclear Materials, 2018, 512, 126-136.	2.7	21

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145	Nanoscale Composition-Texture-Property-Relation in Calcium-Silicate-Hydrates. , 2018, , 1-32.		3
146	New insights into the atomic structure of amorphous TiO2 using tight-binding molecular dynamics. Journal of Chemical Physics, 2018, 149, 094501.	3.0	11
147	Direct observation of pitting corrosion evolutions on carbon steel surfaces at the nano-to-micro-scales. Scientific Reports, 2018, 8, 7990.	3.3	36
148	Structural Compromise between High Hardness and Crack Resistance in Aluminoborate Glasses. Journal of Physical Chemistry B, 2018, 122, 6287-6295.	2.6	32
149	Sodium Silicate Gel Effect on Cemented Tailing Backfill That Contains Lead-Zinc Smelting Slag at Early Ages. Advances in Materials Science and Engineering, 2018, 2018, 1-6.	1.8	7
150	Study on the Strength Development of Cemented Backfill Body from Lead-Zinc Mine Tailings with Sulphide. Advances in Materials Science and Engineering, 2018, 2018, 1-8.	1.8	14
151	New insights into the solâ€“gel condensation of silica by reactive molecular dynamics simulations. Journal of Chemical Physics, 2018, 148, 234504.	3.0	44
152	Competitive effects of modifier charge and size on mechanical and chemical resistance of aluminoborate glasses. Journal of Non-Crystalline Solids, 2018, 499, 264-271.	3.1	5
153	Anomalous variations in the viscous activation energy of suspensions induced by fractal structuring. Journal of Colloid and Interface Science, 2018, 530, 603-609.	9.4	9
154	Role of Electrochemical Surface Potential and Irradiation on Garnet-Type Almandineâ€™s Dissolution Kinetics. Journal of Physical Chemistry C, 2018, 122, 17268-17277.	3.1	15
155	Experimental investigation on the relationship between pore characteristics and unconfined compressive strength of cemented paste backfill. Construction and Building Materials, 2018, 179, 254-264.	7.2	166
156	Combining high hardness and crack resistance in mixed network glasses through high-temperature densification. Physical Review Materials, 2018, 2, .	2.4	8
157	Effect of nanoscale phase separation on the fracture behavior of glasses: Toward tough, yet transparent glasses. Physical Review Materials, 2018, 2, .	2.4	21
158	Required strength estimation of a cemented backfill with the front wall exposed and back wall pressured. International Journal of Mining and Mineral Engineering, 2018, 9, 1.	0.3	3
159	Numerical Analysis of Stress Distribution in Backfilled Stopes Considering Interfaces between the Backfill and Rock Walls. International Journal of Geomechanics, 2017, 17, .	2.7	34
160	Structural origin of high crack resistance in sodium aluminoborate glasses. Journal of Non-Crystalline Solids, 2017, 460, 54-65.	3.1	69
161	Correlating the Network Topology of Oxide Glasses with their Chemical Durability. Journal of Physical Chemistry B, 2017, 121, 1139-1147.	2.6	52
162	Fragility and configurational heat capacity of calcium aluminosilicate glass-forming liquids. Journal of Non-Crystalline Solids, 2017, 461, 24-34.	3.1	35

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163	Nanoengineering of concrete via topological constraint theory. MRS Bulletin, 2017, 42, 50-54.	3.5	27
164	The filler effect: The influence of filler content and type on the hydration rate of tricalcium silicate. Journal of the American Ceramic Society, 2017, 100, 3316-3328.	3.8	70
165	Discovery of Ultra-Crack-Resistant Oxide Glasses with Adaptive Networks. Chemistry of Materials, 2017, 29, 5865-5876.	6.7	113
166	Irradiation- vs. vitrification-induced disordering: The case of <i>?</i>-quartz and glassy silica. Journal of Chemical Physics, 2017, 146, 204502.	3.0	35
167	An improved basis for characterizing the suitability of fly ash as a cement replacement agent. Journal of the American Ceramic Society, 2017, 100, 4785-4800.	3.8	48
168	Irradiation-induced topological transition in SiO2: Structural signature of networks' rigidity. Journal of Non-Crystalline Solids, 2017, 463, 25-30.	3.1	43
169	Ion exchange strengthening and thermal expansion of glasses: Common origin and critical role of network connectivity. Journal of Non-Crystalline Solids, 2017, 455, 70-74.	3.1	36
170	Monovalent Ion Exchange Kinetics of Hydrated Calcium-Alumino Layered Double Hydroxides. Industrial & Engineering Chemistry Research, 2017, 56, 63-74.	3.7	18
171	Cooling rate effects in sodium silicate glasses: Bridging the gap between molecular dynamics simulations and experiments. Journal of Chemical Physics, 2017, 147, 074501.	3.0	107
172	Thermometer Effect: Origin of the Mixed Alkali Effect in Glass Relaxation. Physical Review Letters, 2017, 119, 095501.	7.8	47
173	Effects of Irradiation on Albiteâ€™s Chemical Durability. Journal of Physical Chemistry A, 2017, 121, 7835-7845.	2.5	37
174	Dissolution Kinetics of Hot Compressed Oxide Glasses. Journal of Physical Chemistry B, 2017, 121, 9063-9072.	2.6	33
175	Revealing the Effect of Irradiation on Cement Hydrates: Evidence of a Topological Self-Organization. ACS Applied Materials & Interfaces, 2017, 9, 32377-32385.	8.0	40
176	Topological Control on the Structural Relaxation of Atomic Networks under Stress. Physical Review Letters, 2017, 119, 035502.	7.8	51
177	Enthalpy Landscape Dictates the Irradiation-Induced Disordering of Quartz. Physical Review X, 2017, 7, .	8.9	27
178	Evidence for Anomalous Dynamic Heterogeneities in Isostatic Supercooled Liquids. Physical Review Letters, 2017, 118, 145502.	7.8	8
179	Topological controls on the dissolution kinetics of glassy aluminosilicates. Journal of the American Ceramic Society, 2017, 100, 5521-5527.	3.8	48
180	Topological Origin of the Network Dilation Anomaly in Ion-Exchanged Glasses. Physical Review Applied, 2017, 8, .	3.8	17

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