

Mathieu Bauchy

List of Publications by Citations

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237
papers

5,155
citations

41
h-index

60
g-index

250
ext. papers

6,425
ext. citations

4.9
avg, IF

6.5
L-index

#	Paper	IF	Citations
237	Combinatorial molecular optimization of cement hydrates. <i>Nature Communications</i> , 2014 , 5, 4960	17.4	260
236	Effect of Calcined Hard Kaolin Dosage on the Strength Development of CPB of Fine Tailings with Sulphide. <i>Advances in Materials Science and Engineering</i> , 2017 , 2017, 1-7	1.5	156
235	Mesoscale texture of cement hydrates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 2029-34	11.5	143
234	Fracture toughness of calcium silicate hydrate from molecular dynamics simulations. <i>Journal of Non-Crystalline Solids</i> , 2015 , 419, 58-64	3.9	112
233	Atomic scale foundation of temperature-dependent bonding constraints in network glasses and liquids. <i>Journal of Non-Crystalline Solids</i> , 2011 , 357, 2530-2537	3.9	110
232	Experimental investigation on the relationship between pore characteristics and unconfined compressive strength of cemented paste backfill. <i>Construction and Building Materials</i> , 2018 , 179, 254-264	6.7	102
231	Structural, vibrational, and elastic properties of a calcium aluminosilicate glass from molecular dynamics simulations: the role of the potential. <i>Journal of Chemical Physics</i> , 2014 , 141, 024507	3.9	101
230	Anomalous composition-dependent dynamics of nanoconfined water in the interlayer of disordered calcium-silicates. <i>Journal of Chemical Physics</i> , 2014 , 140, 054515	3.9	96
229	Rigidity transition in materials: hardness is driven by weak atomic constraints. <i>Physical Review Letters</i> , 2015 , 114, 125502	7.4	86
228	Viscosity and viscosity anomalies of model silicates and magmas: A numerical investigation. <i>Chemical Geology</i> , 2013 , 346, 47-56	4.2	83
227	Cooling rate effects in sodium silicate glasses: Bridging the gap between molecular dynamics simulations and experiments. <i>Journal of Chemical Physics</i> , 2017 , 147, 074501	3.9	83
226	Revisiting silica with ReaxFF: Towards improved predictions of glass structure and properties via reactive molecular dynamics. <i>Journal of Non-Crystalline Solids</i> , 2016 , 443, 148-154	3.9	79
225	Order and disorder in calcium-silicate-hydrate. <i>Journal of Chemical Physics</i> , 2014 , 140, 214503	3.9	78
224	Discovery of Ultra-Crack-Resistant Oxide Glasses with Adaptive Networks. <i>Chemistry of Materials</i> , 2017 , 29, 5865-5876	9.6	77
223	A new transferable interatomic potential for molecular dynamics simulations of borosilicate glasses. <i>Journal of Non-Crystalline Solids</i> , 2018 , 498, 294-304	3.9	76
222	Nanoscale Structure of Cement: Viewpoint of Rigidity Theory. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 12485-12493	3.8	70
221	Angular rigidity in tetrahedral network glasses with changing composition. <i>Physical Review B</i> , 2011 , 84,	3.3	68

220	A dissolution-precipitation mechanism is at the origin of concrete creep in moist environments. <i>Journal of Chemical Physics</i> , 2016 , 145, 054701	3.9	66
219	Direct Carbonation of Ca(OH) ₂ Using Liquid and Supercritical CO ₂ : Implications for Carbon-Neutral Cementation. <i>Industrial & Engineering Chemistry Research</i> , 2015 , 54, 8908-8918	3.9	65
218	Numerical study on the pipe flow characteristics of the cemented paste backfill slurry considering hydration effects. <i>Powder Technology</i> , 2019 , 343, 454-464	5.2	65
217	Structure, topology, rings, and vibrational and electronic properties of GexSe _{1-x} glasses across the rigidity transition: A numerical study. <i>Physical Review B</i> , 2013 , 88,	3.3	64
216	Predicting the dissolution kinetics of silicate glasses using machine learning. <i>Journal of Non-Crystalline Solids</i> , 2018 , 487, 37-45	3.9	63
215	Fracture toughness anomalies: Viewpoint of topological constraint theory. <i>Acta Materialia</i> , 2016 , 121, 234-239	8.4	62
214	An experimental study on the early-age hydration kinetics of cemented paste backfill. <i>Construction and Building Materials</i> , 2019 , 212, 283-294	6.7	61
213	Topological Control on Silicates' Dissolution Kinetics. <i>Langmuir</i> , 2016 , 32, 4434-9	4	61
212	Compositional thresholds and anomalies in connection with stiffness transitions in network glasses. <i>Physical Review Letters</i> , 2013 , 110, 165501	7.4	55
211	From pockets to channels: Density-controlled diffusion in sodium silicates. <i>Physical Review B</i> , 2011 , 83,	3.3	54
210	Structural origin of high crack resistance in sodium aluminoborate glasses. <i>Journal of Non-Crystalline Solids</i> , 2017 , 460, 54-65	3.9	53
209	Structural, vibrational, and thermal properties of densified silicates: insights from molecular dynamics. <i>Journal of Chemical Physics</i> , 2012 , 137, 044510	3.9	53
208	Predicting the Young's Modulus of Silicate Glasses using High-Throughput Molecular Dynamics Simulations and Machine Learning. <i>Scientific Reports</i> , 2019 , 9, 8739	4.9	49
207	Deciphering the atomic genome of glasses by topological constraint theory and molecular dynamics: A review. <i>Computational Materials Science</i> , 2019 , 159, 95-102	3.2	49
206	Anomalies of the first sharp diffraction peak in network glasses: Evidence for correlations with dynamic and rigidity properties. <i>Physica Status Solidi (B): Basic Research</i> , 2013 , 250, 976-982	1.3	48
205	Transport anomalies and adaptative pressure-dependent topological constraints in tetrahedral liquids: evidence for a reversibility window analogue. <i>Physical Review Letters</i> , 2013 , 110, 095501	7.4	47
204	Densified network glasses and liquids with thermodynamically reversible and structurally adaptive behaviour. <i>Nature Communications</i> , 2015 , 6, 6398	17.4	46
203	Intrinsic Nano-Ductility of Glasses: The Critical Role of Composition. <i>Frontiers in Materials</i> , 2015 , 2,	4	46

202	The filler effect: The influence of filler content and type on the hydration rate of tricalcium silicate. <i>Journal of the American Ceramic Society</i> , 2017 , 100, 3316-3328	3.8	45
201	Stretched Exponential Relaxation of Glasses at Low Temperature. <i>Physical Review Letters</i> , 2015 , 115, 165901	7.4	45
200	Topological Control on the Structural Relaxation of Atomic Networks under Stress. <i>Physical Review Letters</i> , 2017 , 119, 035502	7.4	44
199	Unique effects of thermal and pressure histories on glass hardness: Structural and topological origin. <i>Journal of Chemical Physics</i> , 2015 , 143, 164505	3.9	43
198	Correlating the Network Topology of Oxide Glasses with their Chemical Durability. <i>Journal of Physical Chemistry B</i> , 2017 , 121, 1139-1147	3.4	41
197	Thermometer Effect: Origin of the Mixed Alkali Effect in Glass Relaxation. <i>Physical Review Letters</i> , 2017 , 119, 095501	7.4	41
196	Direct Experimental Evidence for Differing Reactivity Alterations of Minerals following Irradiation: The Case of Calcite and Quartz. <i>Scientific Reports</i> , 2016 , 6, 20155	4.9	40
195	Irradiation-induced topological transition in SiO ₂ : Structural signature of networks' rigidity. <i>Journal of Non-Crystalline Solids</i> , 2017 , 463, 25-30	3.9	39
194	Reactive Molecular Dynamics Simulations of Sodium Silicate Glasses ¶ Toward an Improved Understanding of the Structure. <i>International Journal of Applied Glass Science</i> , 2017 , 8, 276-284	1.8	36
193	Nanoductility in silicate glasses is driven by topological heterogeneity. <i>Physical Review B</i> , 2016 , 93,	3.3	35
192	Topological controls on the dissolution kinetics of glassy aluminosilicates. <i>Journal of the American Ceramic Society</i> , 2017 , 100, 5521-5527	3.8	34
191	Nature of radiation-induced defects in quartz. <i>Journal of Chemical Physics</i> , 2015 , 143, 024505	3.9	34
190	Confined Water in Layered Silicates: The Origin of Anomalous Thermal Expansion Behavior in Calcium-Silicate-Hydrates. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 35621-35627	9.5	34
189	The influence of filler type and surface area on the hydration rates of calcium aluminate cement. <i>Construction and Building Materials</i> , 2015 , 96, 657-665	6.7	33
188	Predicting the dissolution kinetics of silicate glasses by topology-informed machine learning. <i>Npj Materials Degradation</i> , 2019 , 3,	5.7	32
187	Strength and hydration products of cemented paste backfill from sulphide-rich tailings using reactive MgO-activated slag as a binder. <i>Construction and Building Materials</i> , 2019 , 203, 111-119	6.7	32
186	New insights into the sol-gel condensation of silica by reactive molecular dynamics simulations. <i>Journal of Chemical Physics</i> , 2018 , 148, 234504	3.9	31
185	Predicting Young's modulus of oxide glasses with sparse datasets using machine learning. <i>Journal of Non-Crystalline Solids</i> , 2019 , 524, 119643	3.9	31

184	Fracture toughness of a metal-organic framework glass. <i>Nature Communications</i> , 2020 , 11, 2593	17.4	31
183	Structure of As ₂ Se ₃ and AsSe network glasses: Evidence for coordination defects and homopolar bonding. <i>Journal of Non-Crystalline Solids</i> , 2013 , 377, 34-38	3.9	30
182	Revealing the Effect of Irradiation on Cement Hydrates: Evidence of a Topological Self-Organization. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 32377-32385	9.5	30
181	Irradiation- vs. vitrification-induced disordering: The case of α -quartz and glassy silica. <i>Journal of Chemical Physics</i> , 2017 , 146, 204502	3.9	29
180	Effects of Irradiation on Albite's Chemical Durability. <i>Journal of Physical Chemistry A</i> , 2017 , 121, 7835-7845	8.5	28
179	An improved basis for characterizing the suitability of fly ash as a cement replacement agent. <i>Journal of the American Ceramic Society</i> , 2017 , 100, 4785-4800	3.8	27
178	Structural, dynamic, electronic, and vibrational properties of flexible, intermediate, and stressed rigid As-Se glasses and liquids from first principles molecular dynamics. <i>Journal of Chemical Physics</i> , 2014 , 141, 194506	3.9	27
177	The hydrophilic-to-hydrophobic transition in glassy silica is driven by the atomic topology of its surface. <i>Journal of Chemical Physics</i> , 2018 , 148, 074503	3.9	26
176	Ion exchange strengthening and thermal expansion of glasses: Common origin and critical role of network connectivity. <i>Journal of Non-Crystalline Solids</i> , 2017 , 455, 70-74	3.9	25
175	Hardness of silicate glasses: Atomic-scale origin of the mixed modifier effect. <i>Journal of Non-Crystalline Solids</i> , 2018 , 489, 16-21	3.9	25
174	Cycling through the glass transition: Evidence for reversibility windows and dynamic anomalies. <i>Physical Review B</i> , 2015 , 92,	3.3	25
173	The influences of soft and stiff inclusions on the mechanical properties of cementitious composites. <i>Cement and Concrete Composites</i> , 2016 , 71, 153-165	8.6	25
172	Breaking the Limit of Micro-Ductility in Oxide Glasses. <i>Advanced Science</i> , 2019 , 6, 1901281	13.6	24
171	Dissolution Kinetics of Hot Compressed Oxide Glasses. <i>Journal of Physical Chemistry B</i> , 2017 , 121, 9063-9072	9.4	24
170	Electronic Origin of Doping-Induced Enhancements of Reactivity: Case Study of Tricalcium Silicate. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 25991-25999	3.8	24
169	Direct observation of pitting corrosion evolutions on carbon steel surfaces at the nano-to-micro-scales. <i>Scientific Reports</i> , 2018 , 8, 7990	4.9	24
168	Prediction of the Young's modulus of silicate glasses by topological constraint theory. <i>Journal of Non-Crystalline Solids</i> , 2019 , 514, 15-19	3.9	23
167	Enthalpy Landscape Dictates the Irradiation-Induced Disordering of Quartz \square <i>Physical Review X</i> , 2017 , 7,	9.1	23

166	Misfit Stresses Caused by Atomic Size Mismatch: The Origin of Doping-Induced Destabilization of Dicalcium Silicate. <i>Crystal Growth and Design</i> , 2016 , 16, 3124-3132	3.5	23
165	Effect of temperature on time-dependent rheological and compressive strength of fresh cemented paste backfill containing flocculants. <i>Construction and Building Materials</i> , 2021 , 267, 121038	6.7	23
164	Nanoengineering of concrete via topological constraint theory. <i>MRS Bulletin</i> , 2017 , 42, 50-54	3.2	22
163	Modifier field strength effects on densification behavior and mechanical properties of alkali aluminoborate glasses. <i>Physical Review Materials</i> , 2017 , 1,	3.2	22
162	A numerical analysis of the stress distribution in backfilled stopes considering nonplanar interfaces between the backfill and rock walls. <i>International Journal of Geotechnical Engineering</i> , 2016 , 10, 271-282	1.5	22
161	New insights into the indentation size effect in silicate glasses. <i>Journal of Non-Crystalline Solids</i> , 2019 , 521, 119494	3.9	21
160	Deep learning aided rational design of oxide glasses. <i>Materials Horizons</i> , 2020 , 7, 1819-1827	14.4	21
159	Percolative heterogeneous topological constraints and fragility in glass-forming liquids. <i>Europhysics Letters</i> , 2013 , 104, 56002	1.6	21
158	Effects of polydispersity and disorder on the mechanical properties of hydrated silicate gels. <i>Journal of the Mechanics and Physics of Solids</i> , 2019 , 122, 555-565	5	21
157	Numerical Analysis of Stress Distribution in Backfilled Stopes Considering Interfaces between the Backfill and Rock Walls. <i>International Journal of Geomechanics</i> , 2017 , 17, 06016014	3.1	20
156	Irradiation-driven amorphous-to-glassy transition in quartz: The crucial role of the medium-range order in crystallization. <i>Physical Review Materials</i> , 2017 , 1,	3.2	20
155	Machine learning for glass science and engineering: A review. <i>Journal of Non-Crystalline Solids: X</i> , 2019 , 4, 100036	2.5	19
154	Sub-critical crack growth in silicate glasses: Role of network topology. <i>Applied Physics Letters</i> , 2015 , 107, 141901	3.4	19
153	Stability analyses of vertically exposed cemented backfill: A revisit to Mitchell's physical model tests. <i>International Journal of Mining Science and Technology</i> , 2016 , 26, 1135-1144	7.1	19
152	Crucial effect of angular flexibility on the fracture toughness and nano-ductility of aluminosilicate glasses. <i>Journal of Non-Crystalline Solids</i> , 2016 , 454, 46-51	3.9	18
151	Topological optimization of cementitious binders: Advances and challenges. <i>Cement and Concrete Composites</i> , 2019 , 101, 5-14	8.6	18
150	Fragility and configurational heat capacity of calcium aluminosilicate glass-forming liquids. <i>Journal of Non-Crystalline Solids</i> , 2017 , 461, 24-34	3.9	17
149	The Influence of Water Activity on the Hydration Rate of Tricalcium Silicate. <i>Journal of the American Ceramic Society</i> , 2016 , 99, 2481-2492	3.8	17

148	Structural dependence of chemical durability in modified aluminoborate glasses. <i>Journal of the American Ceramic Society</i> , 2019 , 102, 1157-1168	3.8	17
147	Revisiting the Dependence of Poisson's Ratio on Liquid Fragility and Atomic Packing Density in Oxide Glasses. <i>Materials</i> , 2019 , 12,	3.5	17
146	The role of the network-modifier's field-strength in the chemical durability of aluminoborate glasses. <i>Journal of Non-Crystalline Solids</i> , 2019 , 505, 279-285	3.9	17
145	Machine learning for glass science and engineering: A review. <i>Journal of Non-Crystalline Solids</i> , 2021 , 557, 119419	3.9	17
144	Structural Compromise between High Hardness and Crack Resistance in Aluminoborate Glasses. <i>Journal of Physical Chemistry B</i> , 2018 , 122, 6287-6295	3.4	17
143	Density-stiffness scaling in minerals upon disordering: Irradiation vs. vitrification. <i>Acta Materialia</i> , 2019 , 166, 611-617	8.4	16
142	Atomic picture of structural relaxation in silicate glasses. <i>Applied Physics Letters</i> , 2019 , 114, 233703	3.4	16
141	Atomistic origin of the passivation effect in hydrated silicate glasses. <i>Npj Materials Degradation</i> , 2019 , 3,	5.7	16
140	New insights into the mechanism governing the elasticity of calcium silicate hydrate gels exposed to high temperature: A molecular dynamics study. <i>Cement and Concrete Research</i> , 2021 , 141, 106333	10.3	16
139	Cooling rate effects on the structure of 45S5 bioglass: Insights from experiments and simulations. <i>Journal of Non-Crystalline Solids</i> , 2020 , 534, 119952	3.9	15
138	Can a simple topological-constraints-based model predict the initial dissolution rate of borosilicate and aluminosilicate glasses?. <i>Npj Materials Degradation</i> , 2020 , 4,	5.7	15
137	Rate controls on silicate dissolution in cementitious environments. <i>RILEM Technical Letters</i> , 2020 , 2, 67-73		15
136	Analytical and experimental investigation of the relationship between spread and yield stress in the mini-cone test for cemented tailings backfill. <i>Construction and Building Materials</i> , 2020 , 260, 119770	6.7	14
135	Revealing hidden medium-range order in amorphous materials using topological data analysis. <i>Science Advances</i> , 2020 , 6,	14.3	14
134	Topological Origin of the Network Dilation Anomaly in Ion-Exchanged Glasses. <i>Physical Review Applied</i> , 2017 , 8,	4.3	13
133	Glass Fracture Upon Ballistic Impact: New Insights From Peridynamics Simulations. <i>Frontiers in Materials</i> , 2019 , 6,	4	12
132	Linking Melt Dynamics With Topological Phases and Molecular Structure of Sodium Phosphate Glasses From Calorimetry, Raman Scattering, and Infrared Reflectance. <i>Frontiers in Materials</i> , 2019 , 6,	4	12
131	Topological Phases of Chalcogenide Glasses Encoded in the Melt Dynamics. <i>Physica Status Solidi (B): Basic Research</i> , 2018 , 255, 1800027	1.3	12

130	Topological Origins of the Mixed Alkali Effect in Glass. <i>Journal of Physical Chemistry B</i> , 2019 , 123, 7482-7489	4.9	12
129	Evidence for a Correlation of Melt Fragility Index With Topological Phases of Multicomponent Glasses. <i>Frontiers in Materials</i> , 2019 , 6,	4	12
128	Study on hydration reaction and structure evolution of cemented paste backfill in early-age based on resistivity and hydration heat. <i>Construction and Building Materials</i> , 2021 , 272, 121827	6.7	12
127	Required strength estimation of a cemented backfill with the front wall exposed and back wall pressured. <i>International Journal of Mining and Mineral Engineering</i> , 2018 , 9, 1	0.7	12
126	Steel corrosion inhibition by calcium nitrate in halide-enriched completion fluid environments. <i>Npj Materials Degradation</i> , 2018 , 2,	5.7	12
125	Monovalent Ion Exchange Kinetics of Hydrated Calcium-Alumino Layered Double Hydroxides. <i>Industrial & Engineering Chemistry Research</i> , 2017 , 56, 63-74	3.9	11
124	Modifier clustering and avoidance principle in borosilicate glasses: A molecular dynamics study. <i>Journal of Chemical Physics</i> , 2019 , 150, 044502	3.9	11
123	Long-term creep deformations in colloidal calcium-silicate-hydrate gels by accelerated aging simulations. <i>Journal of Colloid and Interface Science</i> , 2019 , 542, 339-346	9.3	11
122	Role of Electrochemical Surface Potential and Irradiation on Garnet-Type Almandine Dissolution Kinetics. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 17268-17277	3.8	11
121	An Investigation of the Uniaxial Compressive Strength of a Cemented Hydraulic Backfill Made of Alluvial Sand. <i>Minerals (Basel, Switzerland)</i> , 2017 , 7, 4	2.4	11
120	Effect of nanoscale phase separation on the fracture behavior of glasses: Toward tough, yet transparent glasses. <i>Physical Review Materials</i> , 2018 , 2,	3.2	11
119	Effects of Thermal and Pressure Histories on the Chemical Strengthening of Sodium Aluminosilicate Glass. <i>Frontiers in Materials</i> , 2016 , 3,	4	11
118	Glass relaxation and hysteresis of the glass transition by molecular dynamics simulations. <i>Physical Review B</i> , 2018 , 98,	3.3	11
117	Effect of irradiation on silicate aggregates density and stiffness. <i>Journal of Nuclear Materials</i> , 2018 , 512, 126-136	3.3	11
116	Balance between accuracy and simplicity in empirical forcefields for glass modeling: Insights from machine learning. <i>Journal of Non-Crystalline Solids</i> , 2019 , 515, 133-142	3.9	10
115	Revisiting the Makishima-Mackenzie model for predicting the young's modulus of oxide glasses. <i>Acta Materialia</i> , 2020 , 195, 252-262	8.4	10
114	New insights into the structure of sodium silicate glasses by force-enhanced atomic refinement. <i>Journal of Non-Crystalline Solids</i> , 2020 , 536, 120006	3.9	10
113	The effect of irradiation on the atomic structure and chemical durability of calcite and dolomite. <i>Npj Materials Degradation</i> , 2019 , 3,	5.7	10

112	Intermediate Phase in Calcium Silicate Hydrates: Mechanical, Structural, Rigidity, and Stress Signatures. <i>Frontiers in Materials</i> , 2019 , 6,	4	9
111	Parameterization of empirical forcefields for glassy silica using machine learning. <i>MRS Communications</i> , 2019 , 9, 593-599	2.7	9
110	Study on the Strength Development of Cemented Backfill Body from Lead-Zinc Mine Tailings with Sulphide. <i>Advances in Materials Science and Engineering</i> , 2018 , 2018, 1-8	1.5	9
109	Structure and dynamics of liquid AsSe ₄ from ab initio molecular dynamics simulation. <i>Journal of Non-Crystalline Solids</i> , 2013 , 377, 39-42	3.9	9
108	Chemical composition of calcium-silicate-hydrate gels: Competition between kinetics and thermodynamics. <i>Physical Review Materials</i> , 2019 , 3,	3.2	9
107	Polymorphism and Its Implications on Structure-Property Correlation in Calcium-Silicate-Hydrates 2015 , 99-108		9
106	Bond Switching in Densified Oxide Glass Enables Record-High Fracture Toughness. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 17753-17765	9.5	9
105	Machine Learning Enables Rapid Screening of Reactive Fly Ashes Based on Their Network Topology. <i>ACS Sustainable Chemistry and Engineering</i> , 2021 , 9, 2639-2650	8.3	9
104	Experimental method to quantify the ring size distribution in silicate glasses and simulation validation thereof. <i>Science Advances</i> , 2021 , 7,	14.3	9
103	Quantifying the internal stress in over-constrained glasses by molecular dynamics simulations. <i>Journal of Non-Crystalline Solids: X</i> , 2019 , 1, 100013	2.5	8
102	Fracture Toughness of Silicate Glasses: Insights from Molecular Dynamics Simulations. <i>Materials Research Society Symposia Proceedings</i> , 2015 , 1757, 47		8
101	Vertical scanning interferometry: A new method to quantify re-/de-mineralization dynamics of dental enamel. <i>Dental Materials</i> , 2016 , 32, e251-e261	5.7	8
100	Topological controls on aluminosilicate glass dissolution: Complexities induced in hyperalkaline aqueous environments. <i>Journal of the American Ceramic Society</i> , 2020 , 103, 6198-6207	3.8	8
99	Predicting the early-stage creep dynamics of gels from their static structure by machine learning. <i>Acta Materialia</i> , 2021 , 210, 116817	8.4	8
98	zeo19: A thermodynamic database for assessing zeolite stability during the corrosion of nuclear waste immobilization glasses. <i>Npj Materials Degradation</i> , 2020 , 4,	5.7	7
97	Molecular Dynamics Simulation of the Precipitation of Calcium Silicate Hydrate Nanostructures under Two-Dimensional Confinement by TiO ₂ : Implications for Advanced Concretes. <i>ACS Applied Nano Materials</i> , 2020 , 3, 2176-2184	5.6	7
96	Calcium nitrate: A chemical admixture to inhibit aggregate dissolution and mitigate expansion caused by alkali-silica reaction. <i>Cement and Concrete Composites</i> , 2020 , 110, 103592	8.6	7
95	Creep of Bulk C-S-H: Insights from Molecular Dynamics Simulations 2015 ,		7

94	Combining high hardness and crack resistance in mixed network glasses through high-temperature densification. <i>Physical Review Materials</i> , 2018 , 2,	3.2	7
93	Boron anomaly in the thermal conductivity of lithium borate glasses. <i>Physical Review Materials</i> , 2019 , 3,	3.2	7
92	Is cement a glassy material? 2014 , 169-176		7
91	Structural evolution of fused silica below the glass-transition temperature revealed by in-situ neutron total scattering. <i>Journal of Non-Crystalline Solids</i> , 2020 , 528, 119760	3.9	7
90	An Experimental Study on the Microstructures of Cemented Paste Backfill during Its Developing Process. <i>Advances in Civil Engineering</i> , 2018 , 2018, 1-10	1.3	7
89	The energy landscape governs ductility in disordered materials. <i>Materials Horizons</i> , 2021 , 8, 1242-1252	14.4	7
88	Structural percolation controls the precipitation kinetics of colloidal calcium silicate hydrate gels. <i>Journal Physics D: Applied Physics</i> , 2019 , 52, 315301	3	6
87	Anomalous variations in the viscous activation energy of suspensions induced by fractal structuring. <i>Journal of Colloid and Interface Science</i> , 2018 , 530, 603-609	9.3	6
86	Evidence for Anomalous Dynamic Heterogeneities in Isostatic Supercooled Liquids. <i>Physical Review Letters</i> , 2017 , 118, 145502	7.4	6
85	Applying Tools from Glass Science to Study Calcium-Silicate- Hydrates 2013 ,		6
84	Exploring the landscape of Buckingham potentials for silica by machine learning: Soft vs hard interatomic forcefields. <i>Journal of Chemical Physics</i> , 2020 , 152, 051101	3.9	6
83	Isothermal Stimulation of Mineral Dissolution Processes by Acoustic Perturbation. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 28665-28673	3.8	6
82	Sodium Silicate Gel Effect on Cemented Tailing Backfill That Contains Lead-Zinc Smelting Slag at Early Ages. <i>Advances in Materials Science and Engineering</i> , 2018 , 2018, 1-6	1.5	6
81	Permanent Densification of Calcium Aluminophosphate Glasses. <i>Frontiers in Materials</i> , 2019 , 6,	4	5
80	Alkali Activation of Copper and Nickel Slag Composite Cementitious Materials. <i>Materials</i> , 2020 , 13,	3.5	5
79	On the equivalence of vapor-deposited and melt-quenched glasses. <i>Journal of Chemical Physics</i> , 2020 , 152, 164504	3.9	5
78	Competitive effects of modifier charge and size on mechanical and chemical resistance of aluminoborate glasses. <i>Journal of Non-Crystalline Solids</i> , 2018 , 499, 264-271	3.9	5
77	Preparation of Cementitious Material Using Smelting Slag and Tailings and the Solidification and Leaching of Pb ²⁺ . <i>Advances in Materials Science and Engineering</i> , 2015 , 2015, 1-7	1.5	5

76	Predicting Fracture Propensity in Amorphous Alumina from Its Static Structure Using Machine Learning. <i>ACS Nano</i> , 2021 ,	16.7	5
75	Precipitation of calcium-alumino-silicate-hydrate gels: The role of the internal stress. <i>Journal of Chemical Physics</i> , 2020 , 153, 014501	3.9	5
74	Effect of Gypsum Addition on the Mechanical and Microstructural Performance of Sulphide-Rich Cemented Paste Backfill. <i>Minerals (Basel, Switzerland)</i> , 2021 , 11, 283	2.4	5
73	Effects of high temperature on the mechanical behavior of calcium silicate hydrate under uniaxial tension and compression. <i>International Journal of Damage Mechanics</i> , 105678952199187	3	5
72	Artificial intelligence and machine learning in glass science and technology: 21 challenges for the 21st century. <i>International Journal of Applied Glass Science</i> , 2021 , 12, 277-292	1.8	5
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