Mark Bowden

List of Publications by Year
in descending order

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86 papers	3,195 citations	172386 29 h-index	161767 54 g-index
87 all docs	87 docs citations	87 times ranked	4338 citing authors

#	Article	IF	Citations
1	Calcium Amidotrihydroborate: A Hydrogen Storage Material. Angewandte Chemie - International Edition, 2007, 46, 8995-8997.	7.2	224
2	An improved X-ray diffraction method for cellulose crystallinity measurement. Carbohydrate Polymers, 2015, 123, 476-481.	5.1	205
3	The Effects of Chemical Additives on the Induction Phase in Solid-State Thermal Decomposition of Ammonia Borane. Chemistry of Materials, 2008, 20, 5332-5336.	3.2	188
4	Perovskite Srâ€Doped LaCrO₃ as a New pâ€Type Transparent Conducting Oxide. Advanced Materials, 2015, 27, 5191-5195.	11.1	160
5	Tuning Bifunctional Oxygen Electrocatalysts by Changing the Aâ€Site Rareâ€Earth Element in Perovskite Nickelates. Advanced Functional Materials, 2018, 28, 1803712.	7.8	122
6	Epitaxial growth, structure, and intermixing at the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi mathvariant="normal">LaAlO</mml:mi><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>/<m xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi mathvariant="normal">SrTiO</mml:mi><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>inte as the film stoichiometry is var. Physical Review B, 2011, 83, .	1.1	108
7	Complete Decomposition of Li₂CO₃ in Liâ€“O₂ Batteries Using Ir/B₄C Noncarbon-Based Oxygen Electrode. Nano Letters, 2017, 17, 1417-1424.	4.5	104
8	Size and Morphology Controlled Synthesis of Boehmite Nanoplates and Crystal Growth Mechanisms. Crystal Growth and Design, 2018, 18, 3596-3606.	1.4	82
9	Solid-state hydrogen rich boronâ€“nitrogen compounds for energy storage. Chemical Society Reviews, 2019, 48, 5350-5380.	18.7	82
10	Complex and liquid hydrides for energy storage. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	1.1	81
11	in Situ High-Pressure X-ray Diffraction Study. Environmental Science & Technology, 2013, 47, 174-181.	4.6	79
12	Boehmite and Gibbsite Nanoplates for the Synthesis of Advanced Alumina Products. ACS Applied Nano Materials, 2018, 1, 7115-7128.	2.4	79
13	Tuning the Electronic Structure of LaNiO₃ through Alloying with Strontium to Enhance Oxygen Evolution Activity. Advanced Science, 2019, 6, 1901073.	5.6	76
14	Hole-induced insulator-to-metal transition in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">L</mml:mi><mml:msub><mml:mi mathvariant="normal">a</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^’</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub><mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:msub><mml:mi mathvariant="normal">r</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:msub><mml:mi mathvariant="normal">Cr</mml:mi><mml:msub><mml:mi	1.1	74
15	Structure of Î´-Alumina: Toward the Atomic Level Understanding of Transition Alumina Phases. Journal of Physical Chemistry C, 2014, 118, 18051-18058.	1.5	72
16	Kinetic and thermodynamic investigation of hydrogen release from ethane 1,2-di-amineborane. Energy and Environmental Science, 2011, 4, 4187.	15.6	70
17	Reduction and Simultaneous Removal of ⁹⁹Tc and Cr by Fe(OH)₂(s) Mineral Transformation. Environmental Science & Technology, 2017, 51, 8635-8642.	4.6	68
18	Strain Effect on Oxygen Evolution Reaction Activity of Epitaxial NdNiO₃ Thin Films. ACS Applied Materials & Interfaces, 2019, 11, 12941-12947.	4.0	67

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19	Low viscosity alkanolguanidine and alkanolamidine liquids for CO₂capture. RSC Advances, 2013, 3, 566-572.	1.7	64
20	Structure and thermal decomposition of methylamine borane. Inorganica Chimica Acta, 2008, 361, 2147-2153.	1.2	59
21	High temperature transition aluminas in Î´-Al2O3/Î¸-Al2O3 stability range: Review. Journal of Catalysis, 2021, 393, 357-368.	3.1	55
22	Unraveling the Origin of Structural Disorder in High Temperature Transition Al₂O₃: Structure of Î¸-Al₂O₃. Chemistry of Materials, 2015, 27, 7042-7049.	3.2	51
23	Dynamic Lattice Oxygen Participation on Perovskite LaNiO₃ during Oxygen Evolution Reaction. Journal of Physical Chemistry C, 2020, 124, 15386-15390.	1.5	49
24	The diammoniate of diborane: crystal structure and hydrogen release. Chemical Communications, 2010, 46, 8564.	2.2	47
25	Trace Uranium Partitioning in a Multiphase Nano-FeOOH System. Environmental Science & Technology, 2017, 51, 4970-4977.	4.6	44
26	Control of hydrogen release and uptake in amine borane molecular complexes: thermodynamics of ammonia borane, ammonium borohydride, and the diammoniate of diborane. Faraday Discussions, 2011, 151, 157.	1.6	36
27	Enabling Ether-Based Electrolytes for Long Cycle Life of Lithium-Ion Batteries at High Charge Voltage. ACS Applied Materials & Interfaces, 2020, 12, 54893-54903.	4.0	35
28	In Situ ²⁷Al NMR Spectroscopy of Aluminate in Sodium Hydroxide Solutions above and below Saturation with Respect to Gibbsite. Inorganic Chemistry, 2018, 57, 11864-11873.	1.9	33
29	Hole-induced electronic and optical transitions in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">L</mml:mi><mml:msub><mml:mi mathvariant="normal">a</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^’</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:msub><mml:mi mathvariant="normal">r</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:msub><mml:mi>Fe</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:mi	0.9	33
30	Understanding the Electronic Structure Evolution of Epitaxial LaNi_{1â€“x}Fe_xO₃ Thin Films for Water Oxidation. Nano Letters, 2021, 21, 8324-8331.	4.5	31
31	Quantification of Highâ€Temperature Transition Al₂O₃ and Their Phase Transformations**. Angewandte Chemie - International Edition, 2020, 59, 21719-21727.	7.2	28
32	A Polymer-in-Salt Electrolyte with Enhanced Oxidative Stability for Lithium Metal Polymer Batteries. ACS Applied Materials & Interfaces, 2021, 13, 31583-31593.	4.0	28
33	Cost and potential of metalâ€“organic frameworks for hydrogen back-up power supply. Nature Energy, 2022, 7, 448-458.	19.8	28
34	Linking surface chemistry to photovoltage in Sr-substituted LaFeO₃ for water oxidation. Journal of Materials Chemistry A, 2018, 6, 22170-22178.	5.2	27
35	A sobering examination of the feasibility of aqueous aluminum batteries. Energy and Environmental Science, 2022, 15, 2460-2469.	15.6	27
36	Impacts of Organic Ligands on Forsterite Reactivity in Supercritical CO₂ Fluids. Environmental Science & Technology, 2015, 49, 4724-4734.	4.6	26

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37	Holeâ€Trappingâ€Induced Stabilization of Ni^{4â€‰+} in SrNiO₃/LaFeO₃ Superlattices. Advanced Materials, 2020, 32, e2005003.	11.1	26
38	Anomalously low activation energy of nanoconfined MgCO₃ precipitation. Chemical Communications, 2019, 55, 6835-6837.	2.2	25
39	Brownmillerite phase formation and evolution in epitaxial strontium ferrite heterostructures. Applied Physics Letters, 2019, 114, .	1.5	24
40	Electronic and Optical Properties of a Semiconducting Spinel (Fe₂CrO₄). Advanced Functional Materials, 2017, 27, 1605040.	7.8	23
41	Hydrogen storage in complex hydrides: past activities and new trends. Progress in Energy, 2022, 4, 032009.	4.6	23
42	Methods to stabilize and destabilize ammonium borohydride. Dalton Transactions, 2013, 42, 680-687.	1.6	22
43	Tunable Manipulation of Mineral Carbonation Kinetics in Nanoscale Water Films via Citrate Additives. Environmental Science & Technology, 2018, 52, 7138-7148.	4.6	22
44	Electronic Structure and Band Alignment of LaMnO₃/SrTiO₃ Polar/Nonpolar Heterojunctions. Advanced Materials Interfaces, 2019, 6, 1801428.	1.9	22
45	Enhanced 99Tc retention in glass waste form using Tc(IV)-incorporated Fe minerals. Journal of Nuclear Materials, 2017, 495, 455-462.	1.3	21
46	Nanoscale observations of Fe(<scp>ii</scp>)-induced ferrihydrite transformation. Environmental Science: Nano, 2020, 7, 2953-2967.	2.2	21
47	Surface Hydration and Hydroxyl Configurations of Gibbsite and Boehmite Nanoplates. Journal of Physical Chemistry C, 2020, 124, 5275-5285.	1.5	21
48	In Situ TEM and AFM Investigation of Morphological Controls during the Growth of Single Crystal BaWO₄. Crystal Growth and Design, 2018, 18, 1367-1375.	1.4	20
49	Investigating commercial cellulase performances toward specific biomass recalcitrance factors using reference substrates. Applied Microbiology and Biotechnology, 2014, 98, 4409-4420.	1.7	19
50	Emerging investigator series: ion diffusivities in nanoconfined interfacial water films contribute to mineral carbonation thresholds. Environmental Science: Nano, 2020, 7, 1068-1081.	2.2	19
51	Band alignment and electrocatalytic activity at the p-n La0.88Sr0.12FeO3/SrTiO3(001) heterojunction. Applied Physics Letters, 2018, 112, .	1.5	18
52	Thermal Conversion of Unsolvated Mg(B₃H₈)₂ to BH₄^{â€“} in the Presence of MgH₂. ACS Applied Energy Materials, 2021, 4, 3737-3747.	2.5	17
53	Structural Intergrowth in Î´-Al₂O₃. Journal of Physical Chemistry C, 2019, 123, 9454-9460.	1.5	14
54	Molecular Intermediate in the Directed Formation of a Zeolitic Metalâ€“Organic Framework. Journal of the American Chemical Society, 2020, 142, 17598-17606.	6.6	13

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55	Spontaneous phase segregation of Sr ₂ NiO ₃ and SrNi ₂ O ₃ during SrNiO ₃ heteroepitaxy. Science Advances, 2021, 7, .	4.7	12
56	Cr(VI) Effect on Tc-99 Removal from Hanford Low-Activity Waste Simulant by Ferrous Hydroxide. Environmental Science & Technology, 2018, 52, 11752-11759.	4.6	11
57	Kinetics and Mechanisms of ZnO to ZIFâ€8 Transformations in Supercritical CO 2 Revealed by Inâ€...Situ Xâ€ray Diffraction. ChemSusChem, 2020, 13, 2602-2612.	3.6	11
58	Role of peracetic acid on the disruption of lignin packing structure and its consequence on lignin depolymerisation. Green Chemistry, 2021, 23, 8468-8479.	4.6	11
59	Inference of principal species in caustic aluminate solutions through solid-state spectroscopic characterization. Dalton Transactions, 2020, 49, 5869-5880.	1.6	10
60	Effects of Glymes on the Distribution of Mg(B10H10) and Mg(B12H12) from the Thermolysis of Mg(BH4)2. Inorganics, 2021, 9, 41.	1.2	9
61	The onset of alloying in Cu-Ni powders under high-shear consolidation. Materials and Design, 2021, 211, 110151.	3.3	9
62	Heterolytic Scission of Hydrogen Within a Crystalline Frustrated Lewis Pair. Inorganic Chemistry, 2020, 59, 15295-15301.	1.9	8
63	Reversible Oxidation Quantified by Optical Properties in Epitaxial Fe2CrO4+Î´ Films on (001) MgAl2O4. ACS Omega, 2020, 5, 3240-3249.	1.6	7
64	Heterolysis of H2Across a Classical Lewis Pair, 2,6-Lutidineâ‹…BCl3: Synthesis, Characterization, and Mechanism. Chemistry - A European Journal, 2015, 21, 15713-15719.	1.7	6
65	Structural and reorientational dynamics of tetrahydroborate (BH₄^{â^’}) and tetrahydrofuran (THF) in a Mg(BH₄)₂Â·3THF adduct: neutron-scattering characterization. Physical Chemistry Chemical Physics, 2020, 22, 368-378.	1.3	6
66	Mg²⁺ Diffusion-Induced Structural and Property Evolution in Epitaxial Fe₃O₄ Thin Films. ACS Nano, 2020, 14, 14887-14894.	7.3	6
67	Analysis of Intermediates and Products from the Dehydrogenation of Mg(BH₄)₂. Journal of Physical Chemistry A, 2022, 126, 444-452.	1.1	6
68	A Review of Bismuth(III)-Based Materials for Remediation of Contaminated Sites. ACS Earth and Space Chemistry, 2022, 6, 883-908.	1.2	6
69	Microstructural evolution and precipitation in Î³-LiAlO2 during ion irradiation. Journal of Applied Physics, 2022, 131, .	1.1	6
70	Kinetics of Co-Mingled ⁹⁹Tc and Cr Removal during Mineral Transformation of Ferrous Hydroxide. ACS Earth and Space Chemistry, 2020, 4, 218-228.	1.2	5
71	Niche Partitioning of Microbial Communities at an Ancient Vitrified Hillfort: Implications for Vitrified Radioactive Waste Disposal. Geomicrobiology Journal, 2021, 38, 36-56.	1.0	5
72	Mg(BH₄)₂-Based Hybrid Metalâ€“Organic Borohydride System Exhibiting Enhanced Chemical Stability in Melt. ACS Applied Energy Materials, 2021, 4, 1704-1713.	2.5	5

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73	A Focused Ion Beam-Scanning Transmission Electron Microscopy with Energy-Dispersive X-ray Spectroscopy Study on Technetium Incorporation within Iron Oxides through Fe(OH)₂(s) Mineral Transformation. ACS Earth and Space Chemistry, 2021, 5, 525-534.	1.2	5
74	Simultaneous immobilization of aqueous co-contaminants using a bismuth layered material. Journal of Environmental Radioactivity, 2021, 237, 106711.	0.9	5
75	Cluster defects in gibbsite nanoplates grown at acidic to neutral pH. Nanoscale, 2021, 13, 17373-17385.	2.8	5
76	Theory-Guided Inelastic Neutron Scattering of Crystalline Alkaline Aluminate Salts Bearing Principal Motifs of Solution-State Species. Inorganic Chemistry, 2021, 60, 16223-16232.	1.9	4
77	Selective Interactions of Soil Organic Matter Compounds with Calcite and the Role of Aqueous Ca. ACS Earth and Space Chemistry, 0, , .	1.2	4
78	Spontaneous Lithiation of Binary Oxides during Epitaxial Growth on LiCoO₂. Nano Letters, 2022, 22, 5530-5537.	4.5	4
79	Laboratory study of the influence of scCO2 injection on metals migration, precipitation, and microbial growth. International Journal of Greenhouse Gas Control, 2016, 47, 71-85.	2.3	3
80	Quantification of Highâ€Temperature Transition Al₂O₃ and Their Phase Transformations**. Angewandte Chemie, 2020, 132, 21903-21911.	1.6	3
81	Metallic technetium sequestration in nickel core/shell microstructure during Fe(OH)2 transformation with Ni doping. Journal of Hazardous Materials, 2022, 425, 127779.	6.5	3
82	Waterâ€dispersible nanocolloids and higher temperatures promote the release of carbon from riparian soil. Vadose Zone Journal, 2020, 19, e20077.	1.3	2
83	Thermal stability and structural studies on the mixtures of Mg(BH₄)₂ and glymes. Dalton Transactions, 2022, 51, 7268-7273.	1.6	2
84	Incorporation of Ti in epitaxial Fe2TiO4 thin films. Journal of Physics Condensed Matter, 2021, 33, 314004.	0.7	1
85	In-situ Observation of Ordering Transformations in Î¸-Al₂O₃. Microscopy and Microanalysis, 2021, 27, 1956-1957.	0.2	1
86	The controlling role of atmosphere in dawsonite versus gibbsite precipitation from tetrahedral aluminate species. Dalton Transactions, 2021, 50, 13438-13446.	1.6	1