Terry D Humphries

List of Publications by Year
in descending order

62 papers	2,489 citations	257450 24 h-index	197818 49 g-index
63 all docs	63 docs citations	63 times ranked	1869 citing authors

#	Article	IF	Citations
1	Materials for hydrogen-based energy storage â€“ past, recent progress and future outlook. Journal of Alloys and Compounds, 2020, 827, 153548.	5.5	518
2	Magnesium based materials for hydrogen based energy storage: Past, present and future. International Journal of Hydrogen Energy, 2019, 44, 7809-7859.	7.1	460
3	Future perspectives of thermal energy storage with metal hydrides. International Journal of Hydrogen Energy, 2019, 44, 7738-7745.	7.1	112
4	Metal hydrides for concentrating solarÂthermal power energy storage. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	95
5	Induced Fit Interanion Discrimination by Binding-Induced Excimer Formation. Journal of the American Chemical Society, 2008, 130, 4105-4113.	13.7	70
6	Dolomite: a low cost thermochemical energy storage material. Journal of Materials Chemistry A, 2019, 7, 1206-1215.	10.3	50
7	Reversible Hydrogenation Studies of NaBH₄ Milled with Ni-Containing Additives. Journal of Physical Chemistry C, 2013, 117, 6060-6065.	3.1	48
8	Structural Changes Observed during the Reversible Hydrogenation of Mg(BH₄)₂ with Ni-Based Additives. Journal of Physical Chemistry C, 2014, 118, 23376-23384.	3.1	47
9	Hydrogen cycling in Î³-Mg(BH₄)₂ with cobalt-based additives. Journal of Materials Chemistry A, 2015, 3, 6592-6602.	10.3	45
10	Recent advances in the 18-electron complex transition metal hydrides of Ni, Fe, Co and Ru. Coordination Chemistry Reviews, 2017, 342, 19-33.	18.8	43
11	Crystal structure and in situ decomposition of Eu(BH₄)₂ and Sm(BH₄)₂. Journal of Materials Chemistry A, 2015, 3, 691-698.	10.3	42
12	Thermal optimisation of metal hydride reactors for thermal energy storage applications. Sustainable Energy and Fuels, 2017, 1, 1820-1829.	4.9	42
13	Rare Earth Borohydridesâ€"Crystal Structures and Thermal Properties. Energies, 2017, 10, 2115.	3.1	40
14	Modular assembly of a preorganised, ditopic receptor for dicarboxylates. Chemical Communications, 2006, , 156-158.	4.1	35
15	Sodium-based hydrides for thermal energy applications. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	34
16	Fluoride substitution in sodium hydride for thermal energy storage applications. Journal of Materials Chemistry A, 2016, 4, 12170-12178.	10.3	33
17	Thermodynamics and performance of the Mgâ€“Hâ€“F system for thermochemical energy storage applications. Physical Chemistry Chemical Physics, 2018, 20, 2274-2283.	2.8	31
18	Synthesis of NaAlH4/Al composites and their applications in hydrogen storage. International Journal of Hydrogen Energy, 2018, 43, 17309-17317.	7.1	30

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19	A thermal energy storage prototype using sodium magnesium hydride. Sustainable Energy and Fuels, 2019, 3, 985-995.	4.9	29
20	Performance analysis of a high-temperature magnesium hydride reactor tank with a helical coil heat exchanger for thermal storage. International Journal of Hydrogen Energy, 2021, 46, 1038-1055.	7.1	29
21	Magnesium- and intermetallic alloys-based hydrides for energy storage: modelling, synthesis and properties. Progress in Energy, 2022, 4, 032007.	10.9	29
22	An experimental high temperature thermal battery coupled to a low temperature metal hydride for solar thermal energy storage. Sustainable Energy and Fuels, 2020, 4, 285-292.	4.9	28
23	NMR spectroscopic and thermodynamic studies of the etherate and the Î±, Î±â€², and Î³ phases of AlH3. International Journal of Hydrogen Energy, 2013, 38, 4577-4586.	7.1	27
24	The influence of LiH on the rehydrogenation behavior of halide free rare earth (RE) borohydrides (RE) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	2.8	26
25	Metallic and complex hydride-based electrochemical storage of energy. Progress in Energy, 2022, 4, 032001.	10.9	26
26	Chloride substitution induced by mechano-chemical reactions between NaBH 4 and transition metal chlorides. Journal of Alloys and Compounds, 2012, 530, 186-192.	5.5	24
27	Enhanced tunability of thermodynamic stability of complex hydrides by the incorporation of Hâ€“ anions. Applied Physics Letters, 2014, 104, .	3.3	24
28	Complex hydrides as thermal energy storage materials: characterisation and thermal decomposition of Na2Mg2NiH6. Journal of Materials Chemistry A, 2018, 6, 9099-9108.	10.3	24
29	Hydrogen storage in complex hydrides: past activities and new trends. Progress in Energy, 2022, 4, 032009.	10.9	23
30	A structural study of bis-(trimethylamine)alane, AlH3Â·2NMe3, by variable temperature X-ray crystallography and DFT calculations. Journal of Molecular Structure, 2009, 923, 13-18.	3.6	22
31	Temporal and spatial imaging of hydrogen storage materials: watching solvent and hydrogen desorption from aluminium hydride by transmission electron microscopy. Chemical Communications, 2008, , 4448.	4.1	21
32	Hydrated alkali-B₁₁H₁₄ salts as potential solid-state electrolytes. Journal of Materials Chemistry A, 2021, 9, 15027-15037.	10.3	21
33	Complex transition metal hydrides incorporating ionic hydrogen: Synthesis and characterization of Na2Mg2FeH8 and Na2Mg2RuH8. Journal of Alloys and Compounds, 2015, 645, S347-S352.	5.5	19
34	What is old is new again. Materials Today, 2015, 18, 414-415.	14.2	18
35	Novel synthesis of porous aluminium and its application in hydrogen storage. Journal of Alloys and Compounds, 2017, 702, 309-317.	5.5	18
36	High-temperature thermochemical energy storage using metal hydrides: Destabilisation of calcium hydride with silicon. Journal of Alloys and Compounds, 2021, 858, 158229.	5.5	18

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37	Hydrogen storage properties of eutectic metal borohydrides melt-infiltrated into porous Al scaffolds. Journal of Alloys and Compounds, 2019, 775, 474-480.	5.5	17
38	Exploring halide destabilised calcium hydride as a high-temperature thermal battery. Journal of Alloys and Compounds, 2020, 819, 153340.	5.5	17
39	Hydroxylated <i>closo</i>-Dodecaborates M₂B₁₂(OH)₁₂ (M = Li,) Tj ETQq1 1 0.784314 rgBT /O Physical Chemistry C, 2020, 124, 11340-11349.	3.1	17
40	Lewis base complexes of AlH3: structural determination of monomeric and polymeric adducts by X-ray crystallography and DFT calculations. Dalton Transactions, 2013, 42, 6953.	3.3	16
41	Regeneration of sodium alanate studied by powder in situ neutron and synchrotron X-ray diffraction. Journal of Materials Chemistry A, 2014, 2, 16594-16600.	10.3	16
42	Efficient Synthesis of an Aluminum Amidoborane Ammoniate. Energies, 2015, 8, 9107-9116.	3.1	16
43	Thermal properties of thermochemical heat storage materials. Physical Chemistry Chemical Physics, 2020, 22, 4617-4625.	2.8	16
44	Thermochemical energy storage system development utilising limestone. Chemical Engineering Journal Advances, 2021, 8, 100168.	5.2	14
45	Novel synthesis of porous Mg scaffold as a reactive containment vessel for LiBH₄. RSC Advances, 2017, 7, 36340-36350.	3.6	14
46	In situ high pressure NMR study of the direct synthesis of LiAlH4. Journal of Materials Chemistry A, 2013, 1, 2974.	10.3	13
47	Lewis base complexes of AlH3: prediction of preferred structure and stoichiometry. Dalton Transactions, 2013, 42, 6965.	3.3	13
48	Complex transition metal hydrides incorporating ionic hydrogen: thermal decomposition pathway of Na₂Mg₂FeH₈and Na₂Mg₂RuH₈. Physical Chemistry Chemical Physics, 2015, 17, 8276-8282.	2.8	13
49	Complex transition metal hydrides: linear correlation of countercation electronegativity versus Tâ€“D bond lengths. Chemical Communications, 2015, 51, 11248-11251.	4.1	11
50	In situ high pressure NMR study of the direct synthesis of NaAlH4. Physical Chemistry Chemical Physics, 2013, 15, 6179.	2.8	10
51	Thermochemical energy storage performance of zinc destabilized calcium hydride at high-temperatures. Physical Chemistry Chemical Physics, 2020, 22, 25780-25788.	2.8	10
52	An operational high temperature thermal energy storage system using magnesium iron hydride. International Journal of Hydrogen Energy, 2021, 46, 38755-38767.	7.1	10
53	Regeneration of LiAlH4 at sub-ambient temperatures studied by multinuclear NMR spectroscopy. Journal of Alloys and Compounds, 2017, 723, 1150-1154.	5.5	9
54	Electrochemical Synthesis of Highly Ordered Porous Al Scaffolds Melt-Infiltrated with LiBH₄for Hydrogen Storage. Journal of the Electrochemical Society, 2018, 165, D37-D42.	2.9	9

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55	Investigation of boiling heat transfer for improved performance of metal hydride thermal energy storage. International Journal of Hydrogen Energy, 2021, 46, 28200-28213.	7.1	9
56	Fluorine Substitution in Magnesium Hydride as a Tool for Thermodynamic Control. Journal of Physical Chemistry C, 2020, 124, 9109-9117.	3.1	8
57	Ammonium chlorideâ€"metal hydride based reaction cycle for vehicular applications. Journal of Materials Chemistry A, 2019, 7, 5031-5042.	10.3	7
58	Synthesis and characterisation of a porous Al scaffold sintered from NaAlH4. Journal of Materials Science, 2018, 53, 1076-1087.	3.7	6
59	A new strontium based reactive carbonate composite for thermochemical energy storage. Journal of Materials Chemistry A, 2021, 9, 20585-20594.	10.3	6
60	Simultaneous preparation of sodium borohydride and ammonia gas by ball milling. International Journal of Hydrogen Energy, 2022, 47, 25347-25356.	7.1	6
61	Thermodynamic destablization of SrH2 using Al for the next generation of high temperature thermal batteries. Journal of Alloys and Compounds, 2022, 894, 162404.	5.5	4
62	Physicochemical Characterization of a Naâ€"Hâ€"F Thermal Battery Material. Journal of Physical Chemistry C, 2020, 124, 5053-5060.	3.1	1