Alexandr V Talyzin

List of Publications by Year
in descending order

95	3,578	126858	149623
papers	citations	33 h-index	56 g-index

98	98	98	4418
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Molecular Pillar Approach To Grow Vertical Covalent Organic Framework Nanosheets on Graphene: Hybrid Materials for Energy Storage. Angewandte Chemie - International Edition, 2018, 57, 1034-1038.	7.2	198
2	The structure of graphene oxide membranes in liquid water, ethanol and waterâ€“ethanol mixtures. Nanoscale, 2014, 6, 272-281.	2.8	180
3	Synthesis of Graphene Nanoribbons Encapsulated in Single-Walled Carbon Nanotubes. Nano Letters, 2011, 11, 4352-4356.	4.5	174
4	Effect of synthesis method on solvation and exfoliation of graphite oxide. Carbon, 2013, 52, 171-180.	5.4	148
5	Hydration of Bilayered Graphene Oxide. Nano Letters, 2014, 14, 3993-3998.	4.5	135
6	Colossal Pressureâ€Induced Lattice Expansion of Graphite Oxide in the Presence of Water. Angewandte Chemie - International Edition, 2008, 47, 8268-8271.	7.2	109
7	Hydrogenation, Purification, and Unzipping of Carbon Nanotubes by Reaction with Molecular Hydrogen: Road to Graphane Nanoribbons. ACS Nano, 2011, 5, 5132-5140.	7.3	106
8	Brodie vs Hummers graphite oxides for preparation of multi-layered materials. Carbon, 2017, 115, 430-440.	5.4	104
9	Structure of graphene oxide membranes in solvents and solutions. Nanoscale, 2015, 7, 15374-15384.	2.8	98
10	Hydrogen storage in bulk graphene-related materials. Microporous and Mesoporous Materials, 2015, 210, 46-51.	2.2	96
11	Optical Properties of Graphene Nanoribbons Encapsulated in Single-Walled Carbon Nanotubes. ACS Nano, 2013, 7, 6346-6353.	7.3	82
12	Hydrogen storage in high surface area graphene scaffolds. Chemical Communications, 2015, 51, 15280-15283.	2.2	79
13	Pressure-Induced Insertion of Liquid Alcohols into Graphite Oxide Structure. Journal of the American Chemical Society, 2009, 131, 18445-18449.	6.6	74
14	Graphene-based technologies for energy applications, challenges and perspectives. 2D Materials, 2015, 2, 030204.	2.0	74
15	Enormous Lattice Expansion of Hummers Graphite Oxide in Alcohols at Low Temperatures. ACS Nano, 2013, 7, 1395-1399.	7.3	66
16	Swelling properties of graphite oxides and graphene oxide multilayered materials. Nanoscale, 2020, 12, 21060-21093.	2.8	66
17	High-pressure phase ofNaBH4: Crystal structure from synchrotron powder diffraction data. Physical Review B, 2007, 76, .	1.1	62
18	Hydrogen adsorption in Pt catalyst/MOF-5 materials. Microporous and Mesoporous Materials, 2010, 135, 201-205.	2.2	62

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19	Hydrogen adsorption by perforated graphene. International Journal of Hydrogen Energy, 2015, 40, 6594-6599.	3.8	59
20	Phase Transitions in Graphite Oxide Solvates at Temperatures Near Ambient. Journal of Physical Chemistry Letters, 2012, 3, 812-817.	2.1	56
21	Selective Intercalation of Graphite Oxide by Methanol in Water/Methanol Mixtures. Journal of Physical Chemistry C, 2013, 117, 1963-1968.	1.5	51
22	Enhanced Sorption of Radionuclides by Defect-Rich Graphene Oxide. ACS Applied Materials & Interfaces, 2020, 12, 45122-45135.	4.0	50
23	Porous Graphene Oxide/Diboronic Acid Materials: Structure and Hydrogen Sorption. Journal of Physical Chemistry C, 2015, 119, 27179-27191.	1.5	49
24	Graphene-based lithium ion capacitor with high gravimetric energy and power densities. Journal of Power Sources, 2017, 363, 422-427.	4.0	49
25	Reaction of Hydrogen Gas with C60at Elevated Pressure and Temperature:Â Hydrogenation and Cage Fragmentationâ€. Journal of Physical Chemistry A, 2006, 110, 8528-8534.	1.1	48
26	Feasibility of H2H2â€“THFâ€“H2OH2O clathrate hydrates for hydrogen storage applications. International Journal of Hydrogen Energy, 2008, 33, 111-115.	3.8	44
27	Systematic evaluation of different types of graphene oxide in respect to variations in their in-plane modulus. Carbon, 2017, 114, 700-705.	5.4	44
28	Activated graphene as a material for supercapacitor electrodes: effects of surface area, pore size distribution and hydrophilicity. Physical Chemistry Chemical Physics, 2019, 21, 17901-17912.	1.3	43
29	A Molecular Pillar Approach To Grow Vertical Covalent Organic Framework Nanosheets on Graphene: Hybrid Materials for Energy Storage. Angewandte Chemie, 2018, 130, 1046-1050.	1.6	40
30	Swelling of graphene oxide membranes in alcohols: effects of molecule size and air ageing. Journal of Materials Chemistry A, 2019, 7, 11331-11337.	5.2	38
31	Composition of Hydrofullerene Mixtures Produced by C60 Reaction with Hydrogen Gas Revealed by High-Resolution Mass Spectrometry. Journal of Physical Chemistry B, 2005, 109, 12742-12747.	1.2	37
32	Nanocarbons by High-Temperature Decomposition of Graphite Oxide at Various Pressures. Journal of Physical Chemistry C, 2009, 113, 11279-11284.	1.5	37
33	New insights into the mechanism of graphene oxide and radionuclide interaction. Carbon, 2020, 158, 291-302.	5.4	37
34	Covalent Organic Framework (COFâ€1) under High Pressure. Angewandte Chemie - International Edition, 2020, 59, 1087-1092.	7.2	34
35	Delamination of graphite oxide in a liquid upon cooling. Nanoscale, 2015, 7, 12625-12630.	2.8	33
36	Synthesis of C59Hxand C58HxFullerenes Stabilized by Hydrogen. Journal of Physical Chemistry B, 2005, 109, 5403-5405.	1.2	32

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37	Graphene oxide hydration and solvation: an in situ neutron reflectivity study. Nanoscale, 2014, 6, 12151-12156.	2.8	32
38	Reaction of C60 with Hydrogen Gas: In Situ Monitoring and Pathways. Journal of Physical Chemistry C, 2011, 115, 11484-11492.	1.5	30
39	Aqueous Activated Graphene Dispersions for Deposition of High-Surface Area Supercapacitor Electrodes. Journal of Physical Chemistry Letters, 2020, 11, 3032-3038.	2.1	30
40	Hydrogenation of C₆₀in Peapods: Physical Chemistry in Nano Vessels. Journal of Physical Chemistry C, 2009, 113, 8583-8587.	1.5	29
41	Porous graphite oxide pillared with tetrapod-shaped molecules. Carbon, 2017, 120, 145-156.	5.4	29
42	Selective Synthesis of theC3vIsomer of C60H18. Organic Letters, 2005, 7, 5557-5560.	2.4	28
43	Coronene Encapsulation in Singleâ€Walled Carbon Nanotubes: Stacked Columns, Peapods, and Nanoribbons. ChemPhysChem, 2014, 15, 1660-1665.	1.0	28
44	Multilayered intercalation of 1-octanol into Brodie graphite oxide. Nanoscale, 2017, 9, 6929-6936.	2.8	27
45	Pressure-Induced Insertion of Liquid Acetone into the Graphite Oxide Structure. Journal of Physical Chemistry C, 2010, 114, 7004-7006.	1.5	26
46	Pressureâ€Induced Water Insertion in Synthetic Clays. Angewandte Chemie - International Edition, 2013, 52, 3891-3895.	7.2	23
47	Exactly matched pore size for the intercalation of electrolyte ions determined using the tunable swelling of graphite oxide in supercapacitor electrodes. Nanoscale, 2018, 10, 21386-21395.	2.8	23
48	Critical Role of Functional Groups Containing N, S, and O on Graphene Surface for Stable and Fast Charging Liâ€S Batteries. Small, 2021, 17, e2007242.	5.2	23
49	Defective graphene nanosheets for drinking water purification: Adsorption mechanism, performance, and recovery. FlatChem, 2021, 29, 100283.	2.8	23
50	Hydration of Graphite Oxide in Electrolyte and Non-Electrolyte Solutions. Journal of Physical Chemistry C, 2011, 115, 24611-24614.	1.5	22
51	Graphene decorated with metal nanoparticles: Hydrogen sorption and related artefacts. Microporous and Mesoporous Materials, 2017, 250, 27-34.	2.2	22
52	Swelling Pressures of Graphite Oxide and Graphene Oxide Membranes in Water and Ethanol. Advanced Materials Interfaces, 2021, 8, 2100552.	1.9	22
53	Hydrogen-Driven Cage Unzipping of C₆₀ into Nano-Graphenes. Journal of Physical Chemistry C, 2014, 118, 6504-6513.	1.5	21
54	Phase coexistence and hysteresis effects in the pressure-temperature phase diagram of NH<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>BH<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow /><mml:mrow><mml:mn>3</mml:mn></mml:mro	1.1	19

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55	Swelling of Thin Graphene Oxide Films Studied by in Situ Neutron Reflectivity. Journal of Physical Chemistry C, 2018, 122, 13106-13116.	1.5	19
56	Phase Transition C60â^'C60*4C6H6in Liquid Benzene. Journal of Physical Chemistry B, 1997, 101, 9679-9681.	1.2	18
57	Formation of palladium fullerides and their thermal decomposition into palladium nanoparticles. Carbon, 2007, 45, 2564-2569.	5.4	18
58	Properties of Graphite Oxide Powders and Membranes as Revealed by Electron Paramagnetic Resonance Spectroscopy. Journal of Physical Chemistry C, 2018, 122, 22750-22759.	1.5	18
59	Deposition and characterisation of NbxC60 films. Thin Solid Films, 2002, 405, 42-49.	0.8	17
60	High-Pressure Study of Mn(BH4)2 Reveals a Stable Polymorph with High Hydrogen Density. Chemistry of Materials, 2016, 28, 274-283.	3.2	17
61	Random interstratification in hydrated graphene oxide membranes and implications for seawater desalination. Nature Nanotechnology, 2022, 17, 131-133.	15.6	17
62	Synthesis and Structural Characterization of C₇₀H₃₈. Angewandte Chemie - International Edition, 2008, 47, 2796-2799.	7.2	16
63	Cation Size and Anion Anisotropy in Structural Chemistry of Metal Borohydrides. The Peculiar Pressure Evolution of RbBH₄. Inorganic Chemistry, 2010, 49, 5285-5292.	1.9	16
64	Comment to the â€œResponse to â€œHydrogen adsorption in Pt catalyst/MOF-5 materialsâ€â€•by Li et al.. Microporous and Mesoporous Materials, 2011, 139, 216-218.	2.2	16
65	Ball-milling-enhanced capacitive charge storage of activated graphene in aqueous, organic and ionic liquid electrolytes. Electrochimica Acta, 2021, 370, 137738.	2.6	16
66	High-pressure study of NaAlH4by Raman spectroscopy up to 17ÂGPa. High Pressure Research, 2006, 26, 165-173.	0.4	15
67	Solvation of graphite oxide in waterâ€“methanol binary polar solvents. Physica Status Solidi (B): Basic Research, 2012, 249, 2568-2571.	0.7	15
68	Stability and dye inclusion of graphene oxide/polyelectrolyte layer-by-layer self-assembled films in saline, acidic and basic aqueous solutions. Carbon, 2017, 111, 350-357.	5.4	15
69	Graphite oxide swelling in molten sugar alcohols and their aqueous solutions. Carbon, 2018, 140, 157-163.	5.4	15
70	Thermal Decomposition of C60H18. Journal of Physical Chemistry C, 2009, 113, 13133-13138.	1.5	14
71	Carboxyl groups do not play the major role in binding metal cations by graphene oxide. Physical Chemistry Chemical Physics, 2021, 23, 17430-17439.	1.3	14
72	Preparation and characterization of C60S16 and C70S48 thin films. Thin Solid Films, 1999, 350, 113-118.	0.8	13

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73	Evaluation of fluorine and sulfonic acid co-functionalized graphene oxide membranes under hydrogen proton exchange membrane fuel cell conditions. Sustainable Energy and Fuels, 2019, 3, 1790-1798.	2.5	13
74	Temperature dependence of C60 Raman spectra up to 840ÂK. Solid State Communications, 2006, 140, 178-181.	0.9	10
75	Intercalation of Dyes in Graphene Oxide Thin Films and Membranes. Journal of Physical Chemistry C, 2021, 125, 6877-6885.	1.5	10
76	Hydrogen adsorption in C60 at pressures up to 2000 atm. Chemical Physics Letters, 2004, 397, 77-81.	1.2	9
77	Synthesis of graphene nanoribbons inside boron nitride nanotubes. Physica Status Solidi (B): Basic Research, 2016, 253, 2377-2379.	0.7	9
78	Swollen Structures of Brodie Graphite Oxide as Solid Solvates. Journal of Physical Chemistry C, 2020, 124, 23410-23418.	1.5	9
79	Phase transitions in hydrogen storage compounds under pressure. Journal of Physics Condensed Matter, 2007, 19, 425201.	0.7	8
80	Hydrogenâ€Driven Collapse of C₆₀ Inside Singleâ€Walled Carbon Nanotubes. Angewandte Chemie - International Edition, 2012, 51, 4435-4439.	7.2	8
81	Gravimetric tank method to evaluate material-enhanced hydrogen storage by physisorbing materials. Physical Chemistry Chemical Physics, 2018, 20, 27983-27991.	1.3	7
82	Thermally reduced pillared GO with precisely defined slit pore size. RSC Advances, 2020, 10, 6831-6839.	1.7	7
83	Spray Deposition of Supercapacitor Electrodes using Environmentally Friendly Aqueous Activated Graphene and Activated Carbon Dispersions for Industrial Implementation. ChemElectroChem, 2021, 8, 1349-1361.	1.7	7
84	High Surface Area â€œ3D Graphene Oxideâ€•for Enhanced Sorption of Radionuclides. Advanced Materials Interfaces, 2022, 9, .	1.9	7
85	Fulleranes by Direct Reaction with Hydrogen Gas at Elevated Conditions. Carbon Materials, 2010, , 85-103.	0.2	5
86	Facile fabrication of graphene-based high-performance microsupercapacitors operating at a high temperature of 150 Â°C. Nanoscale Advances, 2021, 3, 4674-4679.	2.2	4
87	Effect of Catalysts on the Reaction of C₆₀with Hydrogen. Fullerenes Nanotubes and Carbon Nanostructures, 2012, 20, 319-323.	1.0	3
88	High-temperature transformations of coronene-based graphene nanoribbons encapsulated in SWNTs. Physica Status Solidi (B): Basic Research, 2015, 252, 2491-2495.	0.7	3
89	Comment on â€œNanohole-Structured and Palladium-Embedded 3D Porous Graphene for Ultrahigh Hydrogen Storage and CO Oxidation Multifunctionalitiesâ€• ACS Nano, 2016, 10, 9055-9056.	7.3	3
90	Covalent Organic Framework (COFâ€1) under High Pressure. Angewandte Chemie, 2020, 132, 1103-1108.	1.6	3

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91	High-temperature reactions of C60 with polycyclic aromatic hydrocarbons. Chemical Physics, 2010, 368, 49-57.	0.9	2
92	Acetylation of graphite oxide. Physical Chemistry Chemical Physics, 2020, 22, 21059-21067.	1.3	2
93	Pressure-induced phase transformations in tetragonal and rhombohedral C60 polymers. High Temperatures - High Pressures, 2003, 35/36, 47-53.	0.3	2
94	Complex Hydrides Studied by Raman Spectroscopy and Thermal Conductivity Measurements under High Pressure. Materials Research Society Symposia Proceedings, 2006, 971, 1.	0.1	1
95	Low Temperature Phase Diagram of NH3BH3. Materials Research Society Symposia Proceedings, 2011, 1309, 101.	0.1	0