

Vadym N Mochalin

List of Publications by Citations

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78
papers

16,495
citations

40
h-index

84
g-index

84
ext. papers

19,061
ext. citations

9.9
avg, IF

7.08
L-index

#	Paper	IF	Citations
78	25th anniversary article: MXenes: a new family of two-dimensional materials. <i>Advanced Materials</i> , 2014 , 26, 992-1005	24	3141
77	Ultrahigh-power micrometre-sized supercapacitors based on onion-like carbon. <i>Nature Nanotechnology</i> , 2010 , 5, 651-4	28.7	2188
76	The properties and applications of nanodiamonds. <i>Nature Nanotechnology</i> , 2011 , 7, 11-23	28.7	1955
75	Intercalation and delamination of layered carbides and carbonitrides. <i>Nature Communications</i> , 2013 , 4, 1716	17.4	1504
74	Role of surface structure on Li-ion energy storage capacity of two-dimensional transition-metal carbides. <i>Journal of the American Chemical Society</i> , 2014 , 136, 6385-94	16.4	864
73	Control of sp ² /sp ³ carbon ratio and surface chemistry of nanodiamond powders by selective oxidation in air. <i>Journal of the American Chemical Society</i> , 2006 , 128, 11635-42	16.4	697
72	Boron nitride colloidal solutions, ultralight aerogels and freestanding membranes through one-step exfoliation and functionalization. <i>Nature Communications</i> , 2015 , 6, 8849	17.4	486
71	Dispersions of Two-Dimensional Titanium Carbide MXene in Organic Solvents. <i>Chemistry of Materials</i> , 2017 , 29, 1632-1640	9.6	421
70	Dye adsorption and decomposition on two-dimensional titanium carbide in aqueous media. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 14334-14338	13	419
69	Wet chemistry route to hydrophobic blue fluorescent nanodiamond. <i>Journal of the American Chemical Society</i> , 2009 , 131, 4594-5	16.4	350
68	Fluorescent PLLA-nanodiamond composites for bone tissue engineering. <i>Biomaterials</i> , 2011 , 32, 87-94	15.6	306
67	Review: carbon onions for electrochemical energy storage. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 3172-3196	13	271
66	Nanodiamond-polymer composite fibers and coatings. <i>ACS Nano</i> , 2009 , 3, 363-9	16.7	251
65	Covalent incorporation of aminated nanodiamond into an epoxy polymer network. <i>ACS Nano</i> , 2011 , 5, 7494-502	16.7	221
64	Saturable Absorption in 2D Ti C MXene Thin Films for Passive Photonic Diodes. <i>Advanced Materials</i> , 2018 , 30, 1705714	24	213
63	Contribution of Functional Groups to the Raman Spectrum of Nanodiamond Powders. <i>Chemistry of Materials</i> , 2009 , 21, 273-279	9.6	212
62	Metallic MXenes: A new family of materials for flexible triboelectric nanogenerators. <i>Nano Energy</i> , 2018 , 44, 103-110	17.1	178

61	Biomedical applications of nanodiamond (Review). <i>Nanotechnology</i> , 2017 , 28, 252001	3.4	173
60	Mechanical properties and biomineralization of multifunctional nanodiamond-PLLA composites for bone tissue engineering. <i>Biomaterials</i> , 2012 , 33, 5067-75	15.6	166
59	Nanodiamond/polymer composites. <i>Diamond and Related Materials</i> , 2015 , 58, 161-171	3.5	154
58	Hydrolysis of 2D Transition-Metal Carbides (MXenes) in Colloidal Solutions. <i>Inorganic Chemistry</i> , 2019 , 58, 1958-1966	5.1	147
57	Molecular dynamic study of the mechanical properties of two-dimensional titanium carbides Ti _(n+1) C _(n) (MXenes). <i>Nanotechnology</i> , 2015 , 26, 265705	3.4	144
56	Environment-Sensitive Photoresponse of Spontaneously Partially Oxidized TiC MXene Thin Films. <i>ACS Nano</i> , 2018 , 12, 6109-6116	16.7	132
55	Deaggregation of nanodiamond powders using salt- and sugar-assisted milling. <i>ACS Applied Materials & Interfaces</i> , 2010 , 2, 3289-94	9.5	132
54	Adsorption of drugs on nanodiamond: toward development of a drug delivery platform. <i>Molecular Pharmaceutics</i> , 2013 , 10, 3728-35	5.6	130
53	Carbon nanoscrolls produced from acceptor-type graphite intercalation compounds. <i>Carbon</i> , 2007 , 45, 2797-2800	10.4	127
52	Alkylammonium Cation Intercalation into Ti ₃ C ₂ (MXene): Effects on Properties and Ion-Exchange Capacity Estimation. <i>Chemistry of Materials</i> , 2017 , 29, 1099-1106	9.6	126
51	Iridium dihydroxybipyridine complexes show that ligand deprotonation dramatically speeds rates of catalytic water oxidation. <i>Inorganic Chemistry</i> , 2013 , 52, 9175-83	5.1	126
50	Noncatalytic synthesis of carbon nanotubes, graphene and graphite on SiC. <i>Carbon</i> , 2008 , 46, 841-849	10.4	107
49	Tuning Endothelial Permeability with Functionalized Nanodiamonds. <i>ACS Nano</i> , 2016 , 10, 1170-81	16.7	101
48	Two-Dimensional Materials: 25th Anniversary Article: MXenes: A New Family of Two-Dimensional Materials (Adv. Mater. 7/2014). <i>Advanced Materials</i> , 2014 , 26, 982-982	24	85
47	Bending rigidity of two-dimensional titanium carbide (MXene) nanoribbons: A molecular dynamics study. <i>Computational Materials Science</i> , 2018 , 143, 418-424	3.2	74
46	Effect of Surface Chemistry on the Fluorescence of Detonation Nanodiamonds. <i>ACS Nano</i> , 2017 , 11, 10924-10934	16.7	73
45	The adsorption of tetracycline and vancomycin onto nanodiamond with controlled release. <i>Journal of Colloid and Interface Science</i> , 2016 , 468, 253-261	9.3	64
44	Unleashing the potential of Ti ₂ CT _x MXene as a pulse modulator for mid-infrared fiber lasers. <i>2D Materials</i> , 2019 , 6, 045038	5.9	54

43	Electrical conductivity of thermally hydrogenated nanodiamond powders. <i>Journal of Applied Physics</i> , 2013 , 113, 214307	2.5	50
42	Maximizing Young's modulus of aminated nanodiamond-epoxy composites measured in compression. <i>Polymer</i> , 2012 , 53, 5965-5971	3.9	47
41	Salt-Assisted Ultrasonic Deaggregation of Nanodiamond. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 25461-8	9.5	47
40	Adhesion of two-dimensional titanium carbides (MXenes) and graphene to silicon. <i>Nature Communications</i> , 2019 , 10, 3014	17.4	44
39	Dynamical Control over Terahertz Electromagnetic Interference Shielding with 2D TiCT MXene by Ultrafast Optical Pulses. <i>Nano Letters</i> , 2020 , 20, 636-643	11.5	43
38	Layer-by-Layer Oxidation for Decreasing the Size of Detonation Nanodiamond. <i>Chemistry of Materials</i> , 2014 , 26, 3479-3484	9.6	37
37	Thermochemistry of nanodiamond terminated by oxygen containing functional groups. <i>Carbon</i> , 2014 , 80, 544-550	10.4	36
36	Equilibrium and non-equilibrium free carrier dynamics in 2D Ti ₃ C ₂ T _x MXenes: THz spectroscopy study. <i>2D Materials</i> , 2018 , 5, 035043	5.9	32
35	Understanding Chemistry of Two-Dimensional Transition Metal Carbides and Carbonitrides (MXenes) with Gas Analysis. <i>ACS Nano</i> , 2020 , 14, 10251-10257	16.7	29
34	Manufacturing nanosized fenofibrate by salt assisted milling. <i>Pharmaceutical Research</i> , 2009 , 26, 1365-70.	7.5	29
33	Ti ₂ CT _x MXene-based all-optical modulator. <i>Information Materials</i> , 2020 , 2, 601-609	23.1	28
32	Multifrequency imaging in the intermittent contact mode of atomic force microscopy: beyond phase imaging. <i>Small</i> , 2012 , 8, 1264-9	11	21
31	Adsorption behavior and reduction of copper (II) acetate on the surface of detonation nanodiamond with well defined surface chemistry. <i>Carbon</i> , 2016 , 109, 98-105	10.4	20
30	Effect of Nanodiamond Surface Chemistry on Adsorption and Release of Tiopronin. <i>Diamond and Related Materials</i> , 2019 , 100,	3.5	17
29	Separation and liquid chromatography using a single carbon nanotube. <i>Scientific Reports</i> , 2012 , 2, 510	4.9	17
28	Magnetically responsive paclitaxel-loaded biodegradable nanoparticles for treatment of vascular disease: preparation, characterization and in vitro evaluation of anti-proliferative potential. <i>Current Drug Delivery</i> , 2010 , 7, 263-73	3.2	16
27	Adsorption of proteins in channels of carbon nanotubes: Effect of surface chemistry. <i>Materials Express</i> , 2013 , 3, 1-10	1.3	15
26	Graphene-Based Materials for the Fast Removal of Cytokines from Blood Plasma.. <i>ACS Applied Bio Materials</i> , 2018 , 1, 436-443	4.1	14

25	Solid-phase synthesis, characterization, and cellular activities of collagen-model nanodiamond-peptide conjugates. <i>Biopolymers</i> , 2015 , 104, 186-95	2.2	14
24	Theoretical study of stability of graphite intercalation compounds with Brüsted acids. <i>Carbon</i> , 2003 , 41, 2757-2760	10.4	14
23	Achieving superlubricity with 2D transition metal carbides (MXenes) and MXene/graphene coatings. <i>Materials Today Advances</i> , 2021 , 9, 100133	7.4	13
22	Adhesion Between MXenes and Other 2D Materials. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 4682-4691	9.5	12
21	Detonation synthesis of silicon carbide nanoparticles. <i>Ceramics International</i> , 2020 , 46, 6951-6954	5.1	10
20	Rapid Adsorption of Proinflammatory Cytokines by Graphene Nanoplatelets and Their Composites for Extracorporeal Detoxification. <i>Journal of Nanomaterials</i> , 2018 , 2018, 1-8	3.2	10
19	Thermal stability of two-dimensional titanium carbides $Ti_{n+1}C_n$ (MXenes) from classical molecular dynamics simulations. <i>MRS Communications</i> , 2019 , 9, 203-208	2.7	9
18	Sonication-assisted hydrolysis of ozone oxidized detonation nanodiamond. <i>Diamond and Related Materials</i> , 2020 , 103, 107705	3.5	9
17	High Temperature Functionalization and Surface Modification of Nanodiamond Powders. <i>Materials Research Society Symposia Proceedings</i> , 2007 , 1039, 1		9
16	Advances in Surface Chemistry of Nanodiamond and Nanodiamond Polymer Composites 2012 , 421-456		7
15	Explosive Fragmentation of Luminescent Diamond Particles. <i>Carbon</i> , 2020 , 164, 442-450	10.4	6
14	Low Temperature Plasma Reforming of Hydrocarbon Fuels Into Hydrogen and Carbon Suboxide for Energy Generation Without CO_2 Emission. <i>IEEE Transactions on Plasma Science</i> , 2012 , 40, 1362-1370	1.3	6
13	Recent progress in nanodiamonds: Synthesis, properties and their potential applications 2018 , 2, 1-23		6
12	Fluorescence and Physico-Chemical Properties of Hydrogenated Detonation Nanodiamonds. <i>Journal of Carbon Research</i> , 2020 , 6, 7	3.3	5
11	New floating photocatalysts based on expanded graphite and anatase. <i>Russian Journal of Applied Chemistry</i> , 2007 , 80, 754-756	0.8	5
10	Using graphite intercalation compounds for producing exfoliated graphite/amorphous carbon/ IO_2 composites. <i>Journal of Physics and Chemistry of Solids</i> , 2006 , 67, 1205-1207	3.9	5
9	Effect of defects on graphitization of SiC. <i>Journal of Materials Research</i> , 2013 , 28, 952-957	2.5	4
8	Nanodiamonds in composites: polymer chemistry and tribology 2017 , 365-390		3

7	Detonation synthesis of alpha-variant silicon carbide 2018 ,		3
6	In Situ Tensile Testing of Nanometer-Thick Two-Dimensional Transition-Metal Carbide Films: Implications for MXenes Acting as Nanoscale Reinforcement Agents. <i>ACS Applied Nano Materials</i> , 2021 , 4, 5058-5067	5.6	2
5	Ultrasmall Nanodiamonds: Perspectives and Questions. <i>ACS Nano</i> ,	16.7	2
4	PLLA-Nanodiamond Composites and Their Application in Bone Tissue Engineering 2010 ,		1
3	In-situ SEM compression of accordion-like multilayer MXenes. <i>Extreme Mechanics Letters</i> , 2020 , 41, 101054	5.4	1
2	Terahertz Spectroscopy of 2D Materials 2018 ,		1
1	A new method for production of composites consisting of expanded graphite and amorphous carbon. <i>Russian Journal of Applied Chemistry</i> , 2007 , 80, 726-729	0.8	