Ivan V Vlassiouk

List of Publications by Year
in descending order

91 papers	9,212 citations	53794 45 h-index	46799 89 g-index
93 all docs	93 docs citations	93 times ranked	11448 citing authors

#	Article	IF	Citations
1	Deconstructing proton transport through atomically thin monolayer CVD graphene membranes. Journal of Materials Chemistry A, 2022, 10, 19797-19810.	10.3	14
2	Discovery of Grapheneâ€Water Membrane Structure: Toward Highâ€Quality Graphene Process. Advanced Science, 2022, 9, .	11.2	6
3	Unique role of dimeric carbon precursors in graphene growth by chemical vapor deposition. Carbon Trends, 2021, 5, 100093.	3.0	2
4	Symmetry Effects in Photoinduced Electron Transfer in Chlorinâ€Quinone Dyads: Adiabatic Suppression in the Marcus Inverted Region. Chemistry - A European Journal, 2020, 26, 17120-17127.	3.3	4
5	Nanoscale Mapping of the Double Layer Potential at the Grapheneâ€“Electrolyte Interface. Nano Letters, 2020, 20, 1336-1344.	9.1	25
6	Exclusively Proton Conductive Membranes Based on Reduced Graphene Oxide Polymer Composites. ACS Nano, 2019, 13, 13136-13143.	14.6	19
7	Ionic Conductance through Graphene: Assessing Its Applicability as a Proton Selective Membrane. ACS Nano, 2019, 13, 12109-12119.	14.6	28
8	Noncontact tip-enhanced Raman spectroscopy for nanomaterials and biomedical applications. Nanoscale Advances, 2019, 1, 3392-3399.	4.6	7
9	Corrosion Behavior of Zincâ€“Nickel and Graphene Layered Structures on Steel Substrates. Advanced Engineering Materials, 2019, 21, 1800949.	3.5	2
10	Multi-purposed Ar gas cluster ion beam processing for graphene engineering. Carbon, 2018, 131, 142-148.	10.3	18
11	Evolutionary selection growth of two-dimensional materials on polycrystalline substrates. Nature Materials, 2018, 17, 318-322.	27.5	204
12	In Aqua Electrochemistry Probed by XPEEM: Experimental Setup, Examples, and Challenges. Topics in Catalysis, 2018, 61, 2195-2206.	2.8	14
13	Graphene milling dynamics during helium ion beam irradiation. Carbon, 2018, 138, 277-282.	10.3	18
14	Solid-State Ionic Diodes Demonstrated in Conical Nanopores. Journal of Physical Chemistry C, 2017, 121, 6170-6176.	3.1	36
15	Graphene Microcapsule Arrays for Combinatorial Electron Microscopy and Spectroscopy in Liquids. ACS Applied Materials & Interfaces, 2017, 9, 26492-26502.	8.0	29
16	Effect of polymer residues on the electrical properties of large-area grapheneâ€“hexagonal boron nitride planar heterostructures. Nanotechnology, 2017, 28, 285601.	2.6	7
17	Ion transport in gel and gelâ€“liquid systems for LiClO₄-doped PMMA at the meso- and nanoscales. Nanoscale, 2017, 9, 16232-16243.	5.6	18
18	Interfacial Electrochemistry in Liquids Probed with Photoemission Electron Microscopy. Journal of the American Chemical Society, 2017, 139, 18138-18141.	13.7	28

#	Article	IF	Citations
19	Anisotropic Etching of Hexagonal Boron Nitride and Graphene: Question of Edge Terminations. Nano Letters, 2017, 17, 7306-7314.	9.1	54
20	Hidden Area and Mechanical Nonlinearities in Freestanding Graphene. Physical Review Letters, 2017, 118, 266101.	7.8	67
21	A scalable graphene-based membrane. Nature Nanotechnology, 2017, 12, 1022-1023.	31.5	15
22	Multi-Modal Processing of Graphene Towards Precisely Controlled Fabrication of a Nanoelectronic Device Using the Helium Ion Microscope and the TOF SIMS. Microscopy and Microanalysis, 2017, 23, 1720-1721.	0.4	0
23	Direction Dependence of Resistive-Pulse Amplitude in Conically Shaped Mesopores. Analytical Chemistry, 2016, 88, 4917-4925.	6.5	42
24	Polarization of Gold in Nanopores Leads to Ion Current Rectification. Journal of Physical Chemistry Letters, 2016, 7, 4152-4158.	4.6	38
25	Toward clean suspended CVD graphene. RSC Advances, 2016, 6, 83954-83962.	3.6	22
26	Atomistic-Scale Simulations of Defect Formation in Graphene under Noble Gas Ion Irradiation. ACS Nano, 2016, 10, 8376-8384.	14.6	113
27	Graphene engineering by neon ion beams. Nanotechnology, 2016, 27, 125302.	2.6	21
28	Role of Particle Focusing in Resistive-Pulse Technique: Direction-Dependent Velocity in Micropores. ACS Nano, 2016, 10, 3509-3517.	14.6	21
29	Simple and Versatile Detection of Viruses Using Anodized Alumina Membranes. ACS Sensors, 2016, 1, 488-492.	7.8	20
30	Synthesis of Hexagonal Boron Nitride Monolayer: Control of Nucleation and Crystal Morphology. Chemistry of Materials, 2015, 27, 8041-8047.	6.7	202
31	Van der Waals Epitaxial Growth of Two-Dimensional Single-Crystalline GaSe Domains on Graphene. ACS Nano, 2015, 9, 8078-8088.	14.6	103
32	Maskless Lithography and in situ Visualization of Conductivity of Graphene using Helium Ion Microscopy. Scientific Reports, 2015, 5, 11952.	3.3	38
33	Strong and Electrically Conductive Graphene-Based Composite Fibers and Laminates. ACS Applied Materials & Interfaces, 2015, 7, 10702-10709.	8.0	63
34	Aqueous proton transfer across single-layer graphene. Nature Communications, 2015, 6, 6539.	12.8	214
35	Water desalination using nanoporous single-layer graphene. Nature Nanotechnology, 2015, 10, 459-464.	31.5	1,372
36	Anomalous Mobility of Highly Charged Particles in Pores. Analytical Chemistry, 2015, 87, 8517-8523.	6.5	33

#	Article	IF	Citations
37	Rectification of nanopores in aprotic solvents â€“ transport properties of nanopores with surface dipoles. Nanoscale, 2015, 7, 19080-19091.	5.6	40
38	The effect of intrinsic crumpling on the mechanics of free-standing graphene. Nature Communications, 2015, 6, 8789.	12.8	219
39	Nano-immunoassay with improved performance for detection of cancer biomarkers. Nanomedicine: Nanotechnology, Biology, and Medicine, 2015, 11, 167-173.	3.3	38
40	Near field microwave microscopy for nanoscale characterization, imaging and patterning of graphene. , 2014, , .		3
41	Velocity Profiles in Pores with Undulating Opening Diameter and Their Importance for Resistive-Pulse Experiments. Analytical Chemistry, 2014, 86, 10445-10453.	6.5	18
42	Direct observation of resistive heating at graphene wrinkles and grain boundaries. Applied Physics Letters, 2014, 105, .	3.3	47
43	Chemical vapor deposition of graphene on large-domain ultra-flat copper. Carbon, 2014, 69, 188-193.	10.3	49
44	Electrochemical Control of Ion Transport through a Mesoporous Carbon Membrane. Langmuir, 2014, 30, 3606-3611.	3.5	21
45	Charged Particles Modulate Local Ionic Concentrations and Cause Formation of Positive Peaks in Resistive-Pulse-Based Detection. Journal of Physical Chemistry C, 2014, 118, 2391-2398.	3.1	72
46	Dual harmonic Kelvin probe force microscopy at the grapheneâ€“liquid interface. Applied Physics Letters, 2014, 104, .	3.3	50
47	Photoelectron spectroscopy of wet and gaseous samples through graphene membranes. Nanoscale, 2014, 6, 14394-14403.	5.6	78
48	Interactions of Organic Solvents at Graphene/Î±-Al₂O₃ and Graphene Oxide/Î±-Al₂O₃ Interfaces Studied by Sum Frequency Generation. Journal of Physical Chemistry C, 2014, 118, 17745-17755.	3.1	13
49	Interaction of Magnesium Ions with Pristine Single-Layer and Defected Graphene/Water Interfaces Studied by Second Harmonic Generation. Journal of Physical Chemistry B, 2014, 118, 7739-7749.	2.6	18
50	Rectification of Ion Current in Nanopores Depends on the Type of Monovalent Cations: Experiments and Modeling. Journal of Physical Chemistry C, 2014, 118, 9809-9819.	3.1	77
51	Spatially Resolved Mapping of Electrical Conductivity across Individual Domain (Grain) Boundaries in Graphene. ACS Nano, 2013, 7, 7956-7966.	14.6	124
52	Graphene Nucleation Density on Copper: Fundamental Role of Background Pressure. Journal of Physical Chemistry C, 2013, 117, 18919-18926.	3.1	179
53	Open loop Kelvin probe force microscopy with single and multi-frequency excitation. Nanotechnology, 2013, 24, 475702.	2.6	63
54	Surface modification of graphene nanopores for protein translocation. Nanotechnology, 2013, 24, 495102.	2.6	44

#	Article	IF	Citations
55	Low-energy electron reflectivity of graphene on copper and other substrates. Physical Review B, 2013, 87, .	3.2	43
56	Surface-Induced Orientation Control of CuPc Molecules for the Epitaxial Growth of Highly Ordered Organic Crystals on Graphene. Journal of the American Chemical Society, 2013, 135, 3680-3687.	13.7	125
57	Free Energy Relationships in the Electrical Double Layer over Single-Layer Graphene. Journal of the American Chemical Society, 2013, 135, 979-981.	13.7	28
58	Particle Deformation and Concentration Polarization in Electroosmotic Transport of Hydrogels through Pores. ACS Nano, 2013, 7, 3720-3728.	14.6	49
59	Large scale atmospheric pressure chemical vapor deposition of graphene. Carbon, 2013, 54, 58-67.	10.3	241
60	Low-energy electron reflectivity from graphene. Physical Review B, 2013, 87, .	3.2	83
61	Near-field microwave scanning probe imaging of conductivity inhomogeneities in CVD graphene. Nanotechnology, 2012, 23, 385706.	2.6	51
62	Noise Properties of Rectifying Nanopores. Journal of Physical Chemistry C, 2011, 115, 8775-8783.	3.1	33
63	Electrical and thermal conductivity of low temperature CVD graphene: the effect of disorder. Nanotechnology, 2011, 22, 275716.	2.6	132
64	Voltage-Gated Hydrophobic Nanopores. ACS Nano, 2011, 5, 7453-7461.	14.6	105
65	Role of Hydrogen in Chemical Vapor Deposition Growth of Large Single-Crystal Graphene. ACS Nano, 2011, 5, 6069-6076.	14.6	792
66	Comparison of bipolar and unipolar ionic diodes. Nanotechnology, 2010, 21, 265301.	2.6	68
67	Water Confinement in Hydrophobic Nanopores. Pressure-Induced Wetting and Drying. ACS Nano, 2010, 4, 5069-5075.	14.6	63
68	Precipitation-Induced Voltage-Dependent Ion Current Fluctuations in Conical Nanopores. Journal of Physical Chemistry C, 2010, 114, 8126-8134.	3.1	36
69	Nonequilibrium<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>1</mml:mn><mml:mo>/</mml:mo><mml:mi>f</mml:mi></mml:math>Noise in Rectifying Nanopores. Physical Review Letters, 2009, 103, 248104.	7.8	58
70	Versatile ultrathin nanoporous silicon nitride membranes. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21039-21044.	7.1	146
71	Control of ionic transport through gated single conical nanopores. Analytical and Bioanalytical Chemistry, 2009, 394, 413-419.	3.7	153
72	Biosensing with Nanofluidic Diodes. Journal of the American Chemical Society, 2009, 131, 8211-8220.	13.7	360

#	Article	IF	Citations
73	Tuning Transport Properties of Nanofluidic Devices with Local Charge Inversion. Journal of the American Chemical Society, 2009, 131, 5194-5202.	13.7	246
74	Nanofluidic Bipolar Transistors. Advanced Materials, 2008, 20, 293-297.	21.0	250
75	Nanoprecipitation-assisted ion current oscillations. Nature Nanotechnology, 2008, 3, 51-57.	31.5	152
76	Nanofluidic Ionic Diodes. Comparison of Analytical and Numerical Solutions. ACS Nano, 2008, 2, 1589-1602.	14.6	221
77	Ionic Selectivity of Single Nanochannels. Nano Letters, 2008, 8, 1978-1985.	9.1	387
78	Nanofluidic Diode. Nano Letters, 2007, 7, 552-556.	9.1	562
79	Electrical Conductance of Hydrophobic Membranes or What Happens below the Surface. Langmuir, 2007, 23, 7784-7792.	3.5	17
80	Control of Nanopore Wetting by a Photochromic Spiropyran: A Light-Controlled Valve and Electrical Switch. Nano Letters, 2006, 6, 1013-1017.	9.1	233
81	Hydrothermally shrunk alumina nanopores and their application to DNA sensing. Analyst, The, 2006, 131, 1248.	3.5	49
82	Stability of silane modifiers on alumina nanoporous membranes. Journal of Membrane Science, 2006, 281, 587-591.	8.2	51
83	Application of anodized aluminum in fluorescence detection of biological species. Analytical and Bioanalytical Chemistry, 2006, 385, 954-958.	3.7	46
84	Sensing DNA Hybridization via Ionic Conductance through a Nanoporous Electrode. Langmuir, 2005, 21, 4776-4778.	3.5	128
85	â€œDirectâ€•Detection and Separation of DNA Using Nanoporous Alumina Filters. Langmuir, 2004, 20, 9913-9915.	3.5	119
86	Characterization of the Giant Transient Dipole Generated by Photoinduced Electron Transfer in a Caroteneâ^'Porphyrinâ^'Fullerene Molecular Triad. Journal of Physical Chemistry A, 2003, 107, 7567-7573.	2.5	48
87	Electric Polarization of Dilute Polar Solutions:Â Revised Treatment for Arbitrary Shaped Molecules. Journal of Physical Chemistry A, 2003, 107, 7561-7566.	2.5	5
88	Long-lived photoinduced charge transfer state of synthetically affable porphyrin-fullerene dyads. Journal of Porphyrins and Phthalocyanines, 2003, 07, 651-666.	0.8	13
89	Radical Induced Impeding of Charge Recombination. Journal of Physical Chemistry B, 2002, 106, 8657-8666.	2.6	16
90	Unusual Role of Oxygen in Electron-Transfer Processes. Journal of the American Chemical Society, 2002, 124, 4212-4213.	13.7	18

#	Article	IF	Citations
91	Biosensing with Nanopores. , 0, , 457-490.		0