Maria L Sushko

List of Publications by Year
in descending order

85 papers	8,258 citations	109137 35 h-index	58464 82 g-index
86 all docs	86 docs citations	86 times ranked	10250 citing authors

#	Article	IF	Citations
1	Particle-based hematite crystallization is invariant to initial particle morphology. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2112679119.	3.3	9
2	In situ anodic electrodeposition of two-dimensional conductive metal-organic framework@nickel foam for high-performance flexible supercapacitor. Journal of Power Sources, 2022, 526, 231163.	4.0	49
3	Visualizing the Nanoscale Oxygen and Cation Transport Mechanisms during the Early Stages of Oxidation of Feâ€“Crâ€“Ni Alloy Using In Situ Atom Probe Tomography. Advanced Materials Interfaces, 2022, 9, .	1.9	5
4	Self-similar mesocrystals form via interface-driven nucleation and assembly. Nature, 2021, 590, 416-422.	13.7	98
5	Boost of the Bio-memristor Performance for Artificial Electronic Synapses by Surface Reconstruction. ACS Applied Materials & Interfaces, 2021, 13, 39641-39651.	4.0	23
6	Enabling Natural Graphite in Highâ€Voltage Aqueous Graphite | | Zn Metal Dualâ€ion Batteries. Advanced Energy Materials, 2020, 10, 2001256.	10.2	43
7	Theoretical Insight into Thermodynamics of Particle-Based Crystallization. ACS Symposium Series, 2020, , 97-114.	0.5	3
8	Aqueous Dualâ€ion Batteries: Enabling Natural Graphite in Highâ€Voltage Aqueous Graphite | | Zn Metal Dualâ€ion Batteries (Adv. Energy Mater. 41/2020). Advanced Energy Materials, 2020, 10, 2070169.	10.2	1
9	Role of the Solventâ€“Surfactant Duality of Ionic Liquids in Directing Two-Dimensional Particle Assembly. Journal of Physical Chemistry C, 2020, 124, 24215-24222.	1.5	8
10	The formation and shape transformation mechanism of a triangular Au nanoplate revealed by liquid-cell TEM. Nanoscale, 2020, 12, 19592-19596.	2.8	10
11	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
12	Stabilizing Zinc Anode Reactions by Polyethylene Oxide Polymer in Mild Aqueous Electrolytes. Advanced Functional Materials, 2020, 30, 2003932.	7.8	210
13	Vacancy ordering during selective oxidation of Î²-NiAl. Materialia, 2020, 12, 100783.	1.3	6
14	Controlling Metalâ€“Organic Framework/ZnO Heterostructure Kinetics through Selective Ligand Binding to ZnO Surface Steps. Chemistry of Materials, 2020, 32, 6666-6675.	3.2	16
15	Connecting energetics to dynamics in particle growth by oriented attachment using real-time observations. Nature Communications, 2020, 11, 1045.	5.8	74
16	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
17	A New Pathway for the Formation of Co-aligned Hierarchical Mesocrystals. Microscopy and Microanalysis, 2020, 26, 1438-1439.	0.2	0
18	Silk Flexible Electronics: From Bombyx mori Silk Ag Nanoclusters Hybrid Materials to Mesoscopic Memristors and Synaptic Emulators. Advanced Functional Materials, 2019, 29, 1904777.	7.8	71

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19	Temperature Dependence of Self-Diffusion in Cr₂O₃ from First Principles. Journal of Physical Chemistry C, 2019, 123, 22139-22150.	1.5	12
20	Revisiting the Growth Mechanism of Hierarchical Semiconductor Nanostructures: The Role of Secondary Nucleation in Branch Formation. Journal of Physical Chemistry Letters, 2019, 10, 6827-6834.	2.1	20
21	Understanding the driving forces for crystal growth by oriented attachment through theory and simulations. Journal of Materials Research, 2019, 34, 2914-2927.	1.2	42
22	Understanding Anisotropic Growth of Au Penta-Twinned Nanorods by Liquid Cell Transmission Electron Microscopy. Journal of Physical Chemistry Letters, 2019, 10, 1443-1449.	2.1	14
23	Desulfurization Efficiency Preserved in a Heterometallic MOF: Synthesis and Thermodynamically Controlled Phase Transition. Advanced Science, 2019, 6, 1802056.	5.6	17
24	Early stage structural development of prototypical zeolitic imidazolate framework (ZIF) in solution. Nanoscale, 2018, 10, 4291-4300.	2.8	56
25	Lowâ€Defect and Lowâ€Porosity Hard Carbon with High Coulombic Efficiency and High Capacity for Practical Sodium Ion Battery Anode. Advanced Energy Materials, 2018, 8, 1703238.	10.2	414
26	In Situ Liquid Cell TEM Reveals Bridge-Induced Contact and Fusion of Au Nanocrystals in Aqueous Solution. Nano Letters, 2018, 18, 6551-6556.	4.5	68
27	First-Principles Investigation of Native Interstitial Diffusion in Cr₂O₃. Journal of Physical Chemistry C, 2018, 122, 12984-12993.	1.5	19
28	Non-flammable electrolytes with high salt-to-solvent ratios for Li-ion and Li-metal batteries. Nature Energy, 2018, 3, 674-681.	19.8	557
29	Role of Cr-rich carbide precipitates in the intergranular oxidation of Ni-Cr alloys. Scripta Materialia, 2018, 156, 51-54.	2.6	13
30	Near surface nucleation and particle mediated growth of colloidal Au nanocrystals. Nanoscale, 2018, 10, 11907-11912.	2.8	48
31	Vacancies and Vacancy-Mediated Self Diffusion in Cr₂O₃: A First-Principles Study. Journal of Physical Chemistry C, 2017, 121, 1817-1831.	1.5	24
32	Manipulating Adsorptionâ€“Insertion Mechanisms in Nanostructured Carbon Materials for Highâ€Efficiency Sodium Ion Storage. Advanced Energy Materials, 2017, 7, 1700403.	10.2	662
33	Direction-specific van der Waals attraction between rutile TiO ₂ nanocrystals. Science, 2017, 356, 434-437.	6.0	103
34	Stable Pt clusters anchored to monovacancies on graphene sheets. MRS Communications, 2017, 7, 891-895.	0.8	2
35	Direction-specific interaction forces underlying zinc oxide crystal growth by oriented attachment. Nature Communications, 2017, 8, 835.	5.8	80
36	Double Epitaxy as a Paradigm for Templated Growth of Highly Ordered Three-Dimensional Mesophase Crystals. ACS Nano, 2016, 10, 8670-8675.	7.3	2

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37	Zirconium-Based Metalâ€“Organic Framework for Removal of Perrhenate from Water. Inorganic Chemistry, 2016, 55, 8241-8243.	1.9	153
38	The origin of facet selectivity and alignment in anatase TiO₂nanoparticles in electrolyte solutions: implications for oriented attachment in metal oxides. Nanoscale, 2016, 8, 19714-19725.	2.8	45
39	Adsorption and diffusion of atomic oxygen and sulfur at pristine and doped Ni surfaces with implications for stress corrosion cracking. Corrosion Science, 2016, 113, 26-30.	3.0	14
40	The Role of Correlation and Solvation in Ion Interactions with B-DNA. Biophysical Journal, 2016, 110, 315-326.	0.2	33
41	Hard carbon nanoparticles as high-capacity, high-stability anodic materials for Na-ion batteries. Nano Energy, 2016, 19, 279-288.	8.2	341
42	Interface Promoted Reversible Mg Insertion in Nanostructured Tinâ€“Antimony Alloys. Advanced Materials, 2015, 27, 6598-6605.	11.1	88
43	Structural rearrangement and dispersion of functionalized graphene sheets in aqueous solutions. Colloids and Interface Science Communications, 2015, 8, 1-5.	2.0	20
44	The effect of surface topography on the micellisation of hexadecyltrimethylammonium chloride at the silicon-aqueous interface. Journal of Physics Condensed Matter, 2015, 27, 054008.	0.7	1
45	Multiscale model of metal alloy oxidation at grain boundaries. Journal of Chemical Physics, 2015, 142, 214114.	1.2	10
46	Ab Initio Modeling of Bulk and Intragranular Diffusion in Ni Alloys. Journal of Physical Chemistry Letters, 2015, 6, 1618-1623.	2.1	26
47	Role of hydration forces in the properties of electrolyte solutions in the bulk and at interfaces. Materials Research Society Symposia Proceedings, 2015, 1753, 38.	0.1	2
48	Stress in titania nanoparticles: an atomistic study. Physical Chemistry Chemical Physics, 2014, 16, 9441-9447.	1.3	16
49	Ionic asymmetry and solvent excluded volume effects on spherical electric double layers: A density functional approach. Journal of Chemical Physics, 2014, 140, 204510.	1.2	33
50	Numerical Solution of 3D Poisson-Nernst-Planck Equations Coupled with Classical Density Functional Theory for Modeling Ion and Electron Transport in a Confined Environment. Communications in Computational Physics, 2014, 16, 1298-1322.	0.7	44
51	Mesoscale Phase-Field Modeling of Charge Transport in Nanocomposite Electrodes for Lithium-Ion Batteries. Journal of Physical Chemistry C, 2013, 117, 28-40.	1.5	18
52	Adhesion of Sodium Dodecyl Sulfate Surfactant Monolayers with TiO₂ (Rutile and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 14	1.6	9
53	Liâ€Ion Batteries: Oxygen Vacancies and Ordering of dâ€levels Control Voltage Suppression in Oxide Cathodes: the Case of Spinel LiNi_{0.5}Mn_{1.5}O_{4â€Î´} (Adv. Funct.) Tj ETQq1 1 0.784314 rgB		
54	Dendrite-Free Lithium Deposition via Self-Healing Electrostatic Shield Mechanism. Journal of the American Chemical Society, 2013, 135, 4450-4456.	6.6	1,736

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55	Oxygen Vacancies and Ordering of dâ€levels Control Voltage Suppression in Oxide Cathodes: the Case of Spinel LiNi_{0.5}Mn_{1.5}O_{4â€Î´}. Advanced Functional Materials, 2013, 23, 5530-5535.	7.8	69
56	An Efficient Implementation of Multiscale Simulation Software PNP-cDFT. Materials Research Society Symposia Proceedings, 2012, 1470, 1.	0.1	2
57	Sodium Ion Insertion in Hollow Carbon Nanowires for Battery Applications. Nano Letters, 2012, 12, 3783-3787.	4.5	1,552
58	Kinetic Monte Carlo Study of Ambipolar Lithium Ion and Electronâ€“Polaron Diffusion into Nanostructured TiO₂. Journal of Physical Chemistry Letters, 2012, 3, 2076-2081.	2.1	38
59	Highâ€Performance LiNi_{0.5}Mn_{1.5}O₄ Spinel Controlled by Mn³⁺ Concentration and Site Disorder. Advanced Materials, 2012, 24, 2109-2116.	11.1	434
60	Functionalized Graphene Sheets as Molecular Templates for Controlled Nucleation and Selfâ€Assembly of Metal Oxideâ€Graphene Nanocomposites. Advanced Materials, 2012, 24, 5136-5141.	11.1	92
61	Multiscale Simulations of Li Ion Conductivity in Solid Electrolyte. Journal of Physical Chemistry Letters, 2011, 2, 2352-2356.	2.1	19
62	Surfactant Two-Dimensional Self-Assembly under Confinement. Journal of Physical Chemistry B, 2011, 115, 4322-4328.	1.2	6
63	Structural Rearrangements in Self-Assembled Surfactant Layers at Surfaces. Journal of Physical Chemistry B, 2010, 114, 3847-3854.	1.2	9
64	QM/MM method for metalâ€“organic interfaces. Journal of Computational Chemistry, 2010, 31, 2955-2966.	1.5	9
65	Mechanism of Li⁺/Electron Conductivity in Rutile and Anatase TiO₂ Nanoparticles. Journal of Physical Chemistry C, 2010, 114, 20277-20283.	1.5	73
66	Size Effects on Li⁺/Electron Conductivity in TiO₂ Nanoparticles. Journal of Physical Chemistry Letters, 2010, 1, 1967-1972.	2.1	37
67	Rough and Fine Tuning of Metal Work Function via Chemisorbed Selfâ€Assembled Monolayers. Advanced Materials, 2009, 21, 1111-1114.	11.1	48
68	Nanomechanics of organic/inorganic interfaces: a theoretical insight. Faraday Discussions, 2009, 143, 63.	1.6	20
69	Intramolecular Dipole Coupling and Depolarization in Selfâ€Assembled Monolayers. Advanced Functional Materials, 2008, 18, 2228-2236.	7.8	57
70	Physics of Nanomechanical Biosensing on Cantilever Arrays. Advanced Materials, 2008, 20, 3848-3853.	11.1	53
71	Modeling of NCâ€AFM Imaging of Alkanethiols on the Au (111) Surface. Israel Journal of Chemistry, 2008, 48, 99-106.	1.0	1
72	Computational Techniques at the Organicâ€Inorganic Interface in Biomineralization. Chemical Reviews, 2008, 108, 4823-4854.	23.0	113

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73	Designing Molecular Architecture to Control Diffusion and Adsorption on Insulating Surfaces. Journal of Physical Chemistry C, 2008, 112, 4226-4231.	1.5	20
74	Dipoleâ^'Dipole Interactions and the Structure of Self-Assembled Monolayers. Journal of Physical Chemistry B, 2007, 111, 4019-4025.	1.2	36
75	DLVO theory for like-charged polyelectrolyte and surface interactions. Materials Science and Engineering C, 2007, 27, 1090-1095.	3.8	6
76	Simple Model for DNA Adsorption onto a Mica Surface in 1:1 and 2:1 Electrolyte Solutions. Langmuir, 2006, 22, 7678-7688.	1.6	51
77	Interaction of Organic Molecules with the TiO2(110) Surface:Â Ab Inito Calculations and Classical Force Fields. Journal of Physical Chemistry B, 2006, 110, 4853-4862.	1.2	50
78	Modelling of non-contact atomic force microscopy imaging of individual molecules on oxide surfaces. Nanotechnology, 2006, 17, 2062-2072.	1.3	18
79	Influence of Electrostatic Interactions on the History Dependent Rheology of Surfactant Hexagonal Phases. Molecular Crystals and Liquid Crystals, 2004, 409, 9-20.	0.4	0
80	History-dependent rheology of a surfactant hexagonal phase. Physical Review E, 2002, 65, 031501.	0.8	2
81	Static and dynamic light scattering study of strong intermolecular interactions in aqueous solutions of PVP/C60 complexes. Polymer, 2002, 43, 2769-2775.	1.8	31
82	Light scattering of aqueous solutions of fullerene-containing polymers. Journal of Molecular Liquids, 2001, 91, 59-63.	2.3	9
83	Investigations of concentrated aqueous solutions of salts of electrolytes using light scattering method. Journal of Molecular Liquids, 2001, 91, 75-79.	2.3	0
84	Light scattering in aqueous solutions of fullerene-containing polymers. Technical Physics, 2000, 45, 312-315.	0.2	3
85	Light scattering in water solutions of fullerene-containing polymers: Part 2. Effect of the molecular weight of the carrier polymer. Technical Physics Letters, 1999, 25, 778-779.	0.2	5