Michael Naguib

List of Publications by Year
in descending order

107 papers	41,212 citations	25034 57 h-index	23533 111 g-index
119 all docs	119 docs citations	119 times ranked	18131 citing authors

#	Article	IF	Citations
1	Twoâ€Ðimensional Nanocrystals Produced by Exfoliation of Ti₃AlC₂. Advanced Materials, 2011, 23, 4248-4253.	21.0	7,931
2	25th Anniversary Article: MXenes: A New Family of Twoâ€Ðimensional Materials. Advanced Materials, 2014, 26, 992-1005.	21.0	4,547
3	Two-Dimensional Transition Metal Carbides. ACS Nano, 2012, 6, 1322-1331.	14.6	3,453
4	Cation Intercalation and High Volumetric Capacitance of Two-Dimensional Titanium Carbide. Science, 2013, 341, 1502-1505.	12.6	3,329
5	Intercalation and delamination of layered carbides and carbonitrides. Nature Communications, 2013, 4, 1716.	12.8	2,095
6	New Two-Dimensional Niobium and Vanadium Carbides as Promising Materials for Li-Ion Batteries. Journal of the American Chemical Society, 2013, 135, 15966-15969.	13.7	1,609
7	X-ray photoelectron spectroscopy of select multi-layered transition metal carbides (MXenes). Applied Surface Science, 2016, 362, 406-417.	6.1	1,369
8	MXene: a promising transition metal carbide anode for lithium-ion batteries. Electrochemistry Communications, 2012, 16, 61-64.	4.7	1,252
9	Ti₃C₂ MXene as a High Capacity Electrode Material for Metal (Li, Na, K, Ca) Ion Batteries. ACS Applied Materials & Interfaces, 2014, 6, 11173-11179.	8.0	1,165
10	Role of Surface Structure on Li-Ion Energy Storage Capacity of Two-Dimensional Transition-Metal Carbides. Journal of the American Chemical Society, 2014, 136, 6385-6394.	13.7	1,164
11	Synthesis and Characterization of 2D Molybdenum Carbide (MXene). Advanced Functional Materials, 2016, 26, 3118-3127.	14.9	945
12	Prediction and Characterization of MXene Nanosheet Anodes for Non-Lithium-Ion Batteries. ACS Nano, 2014, 8, 9606-9615.	14.6	814
13	Large-scale delamination of multi-layers transition metal carbides and carbonitrides â€œMXenesâ€. Dalton Transactions, 2015, 44, 9353-9358.	3.3	662
14	One-step synthesis of nanocrystalline transition metal oxides on thin sheets of disordered graphitic carbon by oxidation of MXenes. Chemical Communications, 2014, 50, 7420-7423.	4.1	614
15	Synthesis of Two-Dimensional Materials by Selective Extraction. Accounts of Chemical Research, 2015, 48, 128-135.	15.6	590
16	Synthesis and characterization of two-dimensional Nb₄C₃ (MXene). Chemical Communications, 2014, 50, 9517-9520.	4.1	481
17	First principles study of two-dimensional early transition metal carbides. MRS Communications, 2012, 2, 133-137.	1.8	429
18	Ten Years of Progress in the Synthesis and Development of MXenes. Advanced Materials, 2021, 33, e2103393.	21.0	410

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19	Resolving the Structure of Ti₃C₂T_x MXenes through Multilevel Structural Modeling of the Atomic Pair Distribution Function. Chemistry of Materials, 2016, 28, 349-359.	6.7	374
20	Kinetics of aluminum extraction from Ti3AlC2 in hydrofluoric acid. Materials Chemistry and Physics, 2013, 139, 147-152.	4.0	348
21	A Non-Aqueous Asymmetric Cell with a Ti₂C-Based Two-Dimensional Negative Electrode. Journal of the Electrochemical Society, 2012, 159, A1368-A1373.	2.9	332
22	Oneâ€Step Synthesis of Nb₂O₅/C/Nb₂C (MXene) Composites and Their Use as Photocatalysts for Hydrogen Evolution. ChemSusChem, 2018, 11, 688-699.	6.8	315
23	Impact of air exposure and surface chemistry on Liâ€“Li₇La₃Zr₂O₁₂ interfacial resistance. Journal of Materials Chemistry A, 2017, 5, 13475-13487.	10.3	300
24	2D/2D heterojunction of Ti₃C₂/g-C₃N₄ nanosheets for enhanced photocatalytic hydrogen evolution. Nanoscale, 2019, 11, 8138-8149.	5.6	289
25	Titania Composites with 2â€‰D Transition Metal Carbides as Photocatalysts for Hydrogen Production under Visibleâ€Light Irradiation. ChemSusChem, 2016, 9, 1490-1497.	6.8	253
26	Twoâ€Dimensional Nbâ€Based M₄C₃ Solid Solutions (MXenes). Journal of the American Ceramic Society, 2016, 99, 660-666.	3.8	234
27	Understanding the MXene Pseudocapacitance. Journal of Physical Chemistry Letters, 2018, 9, 1223-1228.	4.6	231
28	Improved synthesis of Ti₃C₂T_x MXenes resulting in exceptional electrical conductivity, high synthesis yield, and enhanced capacitance. Nanoscale, 2021, 13, 3572-3580.	5.6	228
29	The effect of hydrazine intercalation on the structure and capacitance of 2D titanium carbide (MXene). Nanoscale, 2016, 8, 9128-9133.	5.6	225
30	Effect of Metal Ion Intercalation on the Structure of MXene and Water Dynamics on its Internal Surfaces. ACS Applied Materials & Interfaces, 2016, 8, 8859-8863.	8.0	225
31	Synthesis and Charge Storage Properties of Hierarchical Niobium Pentoxide/Carbon/Niobium Carbide (MXene) Hybrid Materials. Chemistry of Materials, 2016, 28, 3937-3943.	6.7	210
32	High mass loading, binder-free MXene anodes for high areal capacity Li-ion batteries. Electrochimica Acta, 2015, 163, 246-251.	5.2	204
33	A comparative study on the oxidation of two-dimensional Ti₃C₂MXene structures in different environments. Journal of Materials Chemistry A, 2018, 6, 12733-12743.	10.3	193
34	Multimodality of Structural, Electrical, and Gravimetric Responses of Intercalated MXenes to Water. ACS Nano, 2017, 11, 11118-11126.	14.6	183
35	Monolayer Ti₃C₂T_x as an Effective Co-catalyst for Enhanced Photocatalytic Hydrogen Production over TiO₂. ACS Applied Energy Materials, 2019, 2, 4640-4651.	5.1	177
36	Direct Measurement of Surface Termination Groups and Their Connectivity in the 2D MXene V₂CT_x Using NMR Spectroscopy. Journal of Physical Chemistry C, 2015, 119, 13713-13720.	3.1	169

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37	Controlling the actuation properties of MXene paper electrodes upon cation intercalation. Nano Energy, 2015, 17, 27-35.	16.0	166
38	Ti₃C₂T_x(MXene)â€“polyacrylamide nanocomposite films. RSC Advances, 2016, 6, 72069-72073.	3.6	162
39	Structure of Nanocrystalline<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Ti</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub><mml:mrow><mml:mi mathvariant="normal">C</mml:mi></mml:mrow><mml:mrow><mml:msub><mml:mrow><mml:mi>Using Atomic Pair Distribution Function. Physical Review Letters, 2014, 112, 125501.	7.8	161
40	First‐order Raman scattering of the MAX phases: Ti₂AlN, Ti₂AlC_{0.5}N_{0.5}, Ti₂AlC, (Ti_{0.5}V_{0.5})₂AlC, V₂AlC, Ti₃AlC₂, and Ti₃GeC₂. Journal of Raman Spectroscopy, 2012, 43, 168-172.	2.5	159
41	Electrochemical performance of MXenes as K-ion battery anodes. Chemical Communications, 2017, 53, 6883-6886.	4.1	157
42	High Dielectric Constant and Low Dielectric Loss via Poly(vinyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 547 Td (alcohol)/Ti₃C Materials & Interfaces, 2019, 11, 18599-18608.	8.0	157
43	Roomâ€Temperature Carbideâ€Derived Carbon Synthesis by Electrochemical Etching of MAX Phases. Angewandte Chemie - International Edition, 2014, 53, 4877-4880.	13.8	133
44	Enhanced and tunable surface plasmons in two-dimensional<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Ti</mml:mi><mml:mn>3</mml:mn></mml:m mathvariant="normal">C</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>stacks: Electronic structure versus boundary effects. Physical Review B, 2014, 89, .	3.2	122
45	Nanoscale Elastic Changes in 2D Ti₃C₂T_x (MXene) Pseudocapacitive Electrodes. Advanced Energy Materials, 2016, 6, 1502290.	19.5	117
46	New Solid Solution MAX Phases: (Ti_{0.5}, V_{0.5})₃AlC₂, (Nb_{0.5}, V_{0.5})₂AlC, (Nb_{0.5},) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 382 Td (V<sub>0	8.7	111
47	Twoâ€Dimensional Materials: 25th Anniversary Article: MXenes: A New Family of Twoâ€Dimensional Materials (Adv. Mater. 7/2014). Advanced Materials, 2014, 26, 982-982.	21.0	106
48	Tracking ion intercalation into layered Ti₃C₂ MXene films across length scales. Energy and Environmental Science, 2020, 13, 2549-2558.	30.8	100
49	Unraveling the Nanoscale Heterogeneity of Solid Electrolyte Interphase Using Tip-Enhanced Raman Spectroscopy. Joule, 2019, 3, 2001-2019.	24.0	99
50	Complexity of Intercalation in MXenes: Destabilization of Urea by Two-Dimensional Titanium Carbide. Journal of the American Chemical Society, 2018, 140, 10305-10314.	13.7	93
51	On the Topotactic Transformation of <scp><scp>Ti₂AlC</scp></scp> into a <scp><scp>Tiâ€“Câ€“Oâ€“F</scp></scp> Cubic Phase by Heating in Molten Lithium Fluoride in Air. Journal of the American Ceramic Society, 2011, 94, 4556-4561.	3.8	91
52	Ionic liquid-based synthesis of MXene. Chemical Communications, 2020, 56, 11082-11085.	4.1	87
53	Effect of Binder Architecture on the Performance of Silicon/Graphite Composite Anodes for Lithium Ion Batteries. ACS Applied Materials & Interfaces, 2018, 10, 3470-3478.	8.0	77
54	Multi-modal, ultrasensitive, wide-range humidity sensing with Ti₃C₂ film. Nanoscale, 2018, 10, 21689-21695.	5.6	74

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55	Computational Screening of MXene Electrodes for Pseudocapacitive Energy Storage. Journal of Physical Chemistry C, 2019, 123, 315-321.	3.1	69
56	Engineering the Interlayer Spacing by Preâ€intercalation for High Performance Supercapacitor MXene Electrodes in Room Temperature Ionic Liquid. Advanced Functional Materials, 2021, 31, 2104007.	14.9	64
57	Synthesis of Ti3C2Tz MXene from low-cost and environmentally friendly precursors. Materials Today Advances, 2021, 10, 100139.	5.2	64
58	Structure of a new bulk Ti5Al2C3 MAX phase produced by the topotactic transformation of Ti2AlC. Journal of the European Ceramic Society, 2012, 32, 3485-3491.	5.7	58
59	Electrochemical performance of two-dimensional Ti3C2-Mn3O4 nanocomposites and carbonized iron cations for hybrid supercapacitor electrodes. Electrochimica Acta, 2019, 301, 487-499.	5.2	57
60	Effect of Sheet Size and Atomic Structure on the Antibacterial Activity of Nb-MXene Nanosheets. ACS Applied Nano Materials, 2020, 3, 11372-11382.	5.0	56
61	Synergetic effects of K⁺and Mg²⁺ion intercalation on the electrochemical and actuation properties of the two-dimensional Ti₃C₂MXene. Faraday Discussions, 2017, 199, 393-403.	3.2	55
62	Pre-Sodiated Ti₃C₂T_x MXene Structure and Behavior as Electrode for Sodium-Ion Capacitors. ACS Nano, 2021, 15, 2994-3003.	14.6	54
63	Proton Redox and Transport in MXene-Confined Water. ACS Applied Materials & Interfaces, 2020, 12, 763-770.	8.0	53
64	Synthesis of a new nanocrystalline titanium aluminum fluoride phase by reaction of Ti2AlC with hydrofluoric acid. RSC Advances, 2011, 1, 1493.	3.6	49
65	Synthesis of new <scp>twoâ€dimensional</scp> titanium carbonitride <scp>Ti₂C₀</scp>_.<scp>₅N₀</scp>_{.5}T_x and its performance as an electrode material for <scp>sodiumâ€ion</scp> battery. InformaÄnÃ-MateriÃ¡ly, 2021, 3, 1422-1430.	17.3	49
66	Nb-based MXenes for efficient electrochemical sensing of small biomolecules in the anodic potential. Electrochemistry Communications, 2020, 119, 106811.	4.7	47
67	Limiting Internal Short-Circuit Damage by Electrode Partition for Impact-Tolerant Li-Ion Batteries. Joule, 2018, 2, 155-167.	24.0	45
68	Influence of metal ions intercalation on the vibrational dynamics of water confined between MXene layers. Physical Review Materials, 2017, 1, .	2.4	45
69	Calorimetric Determination of Thermodynamic Stability of MAX and MXene Phases. Journal of Physical Chemistry C, 2016, 120, 28131-28137.	3.1	41
70	Juggling Surface Charges of 2D Niobium Carbide MXenes for a Reactive Oxygen Species Scavenging and Effective Targeting of the Malignant Melanoma Cell Cycle into Programmed Cell Death. ACS Sustainable Chemistry and Engineering, 2020, 8, 7942-7951.	6.7	38
71	Tensile creep of Ti2AlC in air in the temperature range 1000â€“1150Â°C. Scripta Materialia, 2012, 66, 805-808.	5.2	37
72	Firstâ€order Raman scattering of the MAX phases Ta₄AlC₃, Nb₄AlC₃, Ti₄AlN₃, and Ta₂AlC. Journal of Raman Spectroscopy, 2012, 43, 954-958.	2.5	36

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73	Nature of Terminating Hydroxyl Groups and Intercalating Water in Ti₃C₂T_x MXenes: A Study by ¹H Solid-State NMR and DFT Calculations. Journal of Physical Chemistry C, 2020, 124, 13649-13655.	3.1	35
74	Multiscale and Multimodal Characterization of 2D Titanium Carbonitride MXene. Advanced Materials Interfaces, 2020, 7, 1902207.	3.7	35
75	Interfacial Reactions and Performance of Li₇La₃Zr₂O₁₂-Stabilized Liâ€“Sulfur Hybrid Cell. ACS Applied Materials & Interfaces, 2019, 11, 42042-42048.	8.0	34
76	Large interlayer spacing Nb₄C₃T_x (MXene) promotes the ultrasensitive electrochemical detection of Pb²⁺ on glassy carbon electrodes. RSC Advances, 2020, 10, 24697-24704.	3.6	34
77	Anodized Ti₃SiC₂ As an Anode Material for Li-ion Microbatteries. ACS Applied Materials & Interfaces, 2016, 8, 16670-16676.	8.0	32
78	Impact of Cation Intercalation on the Electronic Structure of Ti₃C₂T_x MXenes in Sulfuric Acid. ACS Applied Materials & Interfaces, 2020, 12, 15087-15094.	8.0	32
79	Calorimetric Study of Alkali Metal Ion (K⁺, Na⁺, Li⁺) Exchange in a Clay-Like MXene. Journal of Physical Chemistry C, 2017, 121, 15145-15153.	3.1	31
80	Structure and Dynamics of Aqueous Electrolytes Confined in 2D-TiO2/Ti3C2T2 MXene Heterostructures. ACS Applied Materials & Interfaces, 2020, 12, 58378-58389.	8.0	25
81	Bottom-up, scalable synthesis of anatase nanofilament-based two-dimensional titanium carbo-oxide flakes. Materials Today, 2022, 54, 8-17.	14.2	24
82	High Areal Capacity Si/LiCoO 2 Batteries from Electrospun Composite Fiber Mats. ChemSusChem, 2017, 10, 1823-1831.	6.8	22
83	Safer lithium-ion battery anode based on Ti3C2Tz MXene with thermal safety mechanistic elucidation. Chemical Engineering Journal, 2021, 419, 129387.	12.7	21
84	Evidence of molecular hydrogen trapped in two-dimensional layered titanium carbide-based MXene. Physical Review Materials, 2017, 1, .	2.4	21
85	Catalytic Activity of Tiâ€based MXenes for the Hydrogenation of Furfural. ChemCatChem, 2020, 12, 5733-5742.	3.7	20
86	Two-dimensional titanium carbonitride MXene as a highly efficient electrocatalyst for hydrogen evolution reaction. Materials Reports Energy, 2022, 2, 100075.	3.2	20
87	Transition Metal Carboâ€Chalcogenide â€œTMCC:â€•A New Family of 2D Materials. Advanced Materials, 2022, 34, e2200574.	21.0	18
88	Highâ€Temperature Neutron Diffraction, Raman Spectroscopy, and Firstâ€Principles Calculations of Ti₃SnC₂ and Ti₂SnC. Journal of the American Ceramic Society, 2016, 99, 2233-2242.	3.8	15
89	Multifunctional Pure MXene Fiber from Liquid Crystals of Only Water and MXene. ACS Central Science, 2020, 6, 344-346.	11.3	15
90	Plasma Synthesis of Spherical Crystalline and Amorphous Electrolyte Nanopowders for Solid-State Batteries. ACS Applied Materials & Interfaces, 2020, 12, 11570-11578.	8.0	15

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91	Comment on â€œ<scp><scp>Ti</scp></scp>₅<scp><scp>Al</scp></scp>₂<scp><scp>C</scp></scp>₃: A New Ternary Carbide Belonging to <scp>MAX</scp> Phases in the <scp><scp>Ti</scp></scp>â€“<scp><scp>Al</scp></scp>â€“<scp><scp>C</scp></scp> Systemâ€. Journal of the American Ceramic Society, 2012, 95, 3352-3354.	3.8	12
92	Spatially resolved X-ray absorption spectroscopy investigation of individual cation-intercalated multi-layered Ti3C2Tx MXene particles. Applied Surface Science, 2020, 530, 147157.	6.1	10
93	Theoretical Insights into MXene Termination and Surface Charge Regulation. Journal of Physical Chemistry C, 2021, 125, 21771-21779.	3.1	10
94	Layered Titanium Niobium Oxides Derived from Solid-Solution Tiâ€“Nb Carbides (MXene) as Anode Materials for Li-Ion Batteries. ACS Applied Energy Materials, 2022, 5, 8132-8142.	5.1	9
95	Photocatalytic WO₃ and TiO₂ Films on Brass. International Journal of Applied Ceramic Technology, 2013, 10, 26-32.	2.1	7
96	MXene Reinforced Thermosetting Composite for Lightning Strike Protection of Carbon Fiber Reinforced Polymer. Advanced Materials Interfaces, 2021, 8, 2100803.	3.7	7
97	Layered Nanoâ€Mosaic of Niobium Disulfide Heterostructures by Direct Sulfidation of Niobium Carbide MXenes for Hydrogen Evolution. Advanced Materials Interfaces, 2022, 9, .	3.7	6
98	In Situ TEM Investigation of Lithium Intercalation in Ti₃C₂T_X MXenes for Energy Storage Applications. Microscopy and Microanalysis, 2021, 27, 2736-2737.	0.4	5
99	Timeâ€Dependent Cation Selectivity of Titanium Carbide MXene in Aqueous Solution. Advanced Sustainable Systems, 2022, 6, .	5.3	4
100	Egyptian blue: from pigment to battery electrodes. RSC Advances, 2021, 11, 19885-19889.	3.6	3
101	Engineering the Interlayer Spacing by Preâ€Intercalation for High Performance Supercapacitor MXene Electrodes in Room Temperature Ionic Liquid (Adv. Funct. Mater. 33/2021). Advanced Functional Materials, 2021, 31, 2170246.	14.9	2
102	Chemical and Electrochemical Intercalation of Ions and Molecules into MXenes. , 2019, , 161-175.		2
103	Effect of Synthesis Methods on the Structure and Defects of Two-Dimensional MXenes. , 2019, , 111-123.		1
104	Anodized Ti 3 SiC 2 as a Potential Anode Material for Li-Ion Microbatteries. ECS Transactions, 2017, 77, 351-352.	0.5	0
105	Carbon-Based Air-Cathodes for Hydrogen Peroxide Production in Microbial Fuel Cells. ECS Meeting Abstracts, 2019, , .	0.0	0
106	Stacking faults in layered electrode materials: developments in structure solutions for diffraction data. Acta Crystallographica Section A: Foundations and Advances, 2019, 75, a246-a246.	0.1	0
107	Back Cover Image. InformaÄnÃ-MateriÃ¡ly, 2021, 3, .	17.3	0