Tanveer Hussain

List of Publications by Year in descending order

104 papers	3,463 citations	101384 36 h-index	174990 52 g-index
105 all docs	105 docs citations	105 times ranked	2658 citing authors

#	Article	IF	Citations
1	Encapsulating Trogtalite CoSe₂ Nanobuds into BCN Nanotubes as High Storage Capacity Sodium Ion Battery Anodes. Advanced Energy Materials, 2019, 9, 1901778.	10.2	131
2	How to avoid dendrite formation in metal batteries: Innovative strategies for dendrite suppression. Nano Energy, 2021, 86, 106142.	8.2	116
3	Remarkable improvement in hydrogen storage capacities of two-dimensional carbon nitride (g-C3N4) nanosheets under selected transition metal doping. International Journal of Hydrogen Energy, 2020, 45, 3035-3045.	3.8	110
4	Elemental Substitution of Two-Dimensional Transition Metal Dichalcogenides (MoSe₂ and) Tj ETQq0 0 0 rgBT /Overlock 10	4.0	101
5	Enhancement in hydrogen storage capacities of light metal functionalized Boronâ€“Graphdiyne nanosheets. Carbon, 2019, 147, 199-205.	5.4	100
6	Potassium Poly(Heptazine Imide): Transition Metalâ€Free Solidâ€State Triplet Sensitizer in Cascade Energy Transfer and [3+2]â€cycloadditions. Angewandte Chemie - International Edition, 2020, 59, 15061-15068.	7.2	91
7	Blue phosphorene monolayers as potential nano sensors for volatile organic compounds under point defects. Applied Surface Science, 2019, 486, 52-57.	3.1	87
8	Defect and Substitution-Induced Silicene Sensor to Probe Toxic Gases. Journal of Physical Chemistry C, 2016, 120, 25256-25262.	1.5	81
9	Sensing of volatile organic compounds on two-dimensional nitrogenated holey graphene, graphdiyne, and their heterostructure. Carbon, 2020, 163, 213-223.	5.4	77
10	Computational Evaluation of Lithium-Functionalized Carbon Nitride (g-C₆N₈) Monolayer as an Efficient Hydrogen Storage Material. Journal of Physical Chemistry C, 2016, 120, 25180-25188.	1.5	76
11	Sensing Characteristics of Phosphorene Monolayers toward PH₃ and AsH₃ Gases upon the Introduction of Vacancy Defects. Journal of Physical Chemistry C, 2016, 120, 20428-20436.	1.5	71
12	Integration of CuO nanosheets to Zn-Ni-Co oxide nanowire arrays for energy storage applications. Chemical Engineering Journal, 2021, 413, 127570.	6.6	70
13	Reversible hydrogen storage properties of defect-engineered <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:mrow><mml:msub><mml:mrow><mml:mi mathvariant="bold">C</mml:mi></mml:mrow><mml:mrow><mml:mn mathvariant="bold">4</mml:mn></mml:mrow></mml:msub><mml:mi mathvariant="bold">N</mml:mi></mml:mrow></mml:math> nanosheets under ambient conditions.	5.4	69
14	Sodium-intercalated bulk graphdiyne as an anode material for rechargeable batteries. Journal of Power Sources, 2017, 343, 354-363.	4.0	66
15	Graphenylene Monolayers Doped with Alkali or Alkaline Earth Metals: Promising Materials for Clean Energy Storage. Journal of Physical Chemistry C, 2017, 121, 14393-14400.	1.5	65
16	Selective decoration of nitrogenated holey graphene (C2N) with titanium clusters for enhanced hydrogen storage application. International Journal of Hydrogen Energy, 2021, 46, 7371-7380.	3.8	63
17	Adsorption characteristics of DNA nucleobases, aromatic amino acids and heterocyclic molecules on silicene and germanene monolayers. Sensors and Actuators B: Chemical, 2018, 255, 2713-2720.	4.0	56
18	Strain induced lithium functionalized graphane as a high capacity hydrogen storage material. Applied Physics Letters, 2012, 101, .	1.5	55

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19	A manganese hexacyanoferrate framework with enlarged ion tunnels and twoâ€species redox reaction for aqueous Al-ion batteries. Nano Energy, 2021, 84, 105945.	8.2	54
20	Sensing propensity of a defected graphane sheet towards CO, H₂O and NO₂. Nanotechnology, 2014, 25, 325501.	1.3	53
21	Enriching physisorption of H₂S and NH₃ gases on a graphane sheet by doping with Li adatoms. Physical Chemistry Chemical Physics, 2014, 16, 8100-8105.	1.3	53
22	Defected and Functionalized Germanene-based Nanosensors under Sulfur Comprising Gas Exposure. ACS Sensors, 2018, 3, 867-874.	4.0	53
23	Turning indium oxide into high-performing electrode materials via cation substitution strategy: Preserving single crystalline cubic structure of 2D nanoflakes towards energy storage devices. Journal of Power Sources, 2020, 480, 228873.	4.0	53
24	Hydrogenated defective graphene as an anode material for sodium and calcium ion batteries: A density functional theory study. Carbon, 2018, 136, 73-84.	5.4	52
25	Ab initio study of lithium-doped graphane for hydrogen storage. Europhysics Letters, 2011, 96, 27013.	0.7	48
26	Metallized siligraphene nanosheets (SiC7) as high capacity hydrogen storage materials. Nano Research, 2018, 11, 3802-3813.	5.8	48
27	Metalâ€Functionalized Silicene for Efficient Hydrogen Storage. ChemPhysChem, 2013, 14, 3463-3466.	1.0	45
28	Functionalization of hydrogenated silicene with alkali and alkaline earth metals for efficient hydrogen storage. Physical Chemistry Chemical Physics, 2013, 15, 18900.	1.3	45
29	Binder-free trimetallic phosphate nanosheets as an electrode: Theoretical and experimental investigation. Journal of Power Sources, 2021, 513, 230556.	4.0	45
30	Hexagonal Boron Nitride (hâ€BN) Sheets Decorated with OLi, ONa, and Li₂F Molecules for Enhanced Energy Storage. ChemPhysChem, 2017, 18, 513-518.	1.0	41
31	N-, B-, P-, Al-, As-, and Ga-graphdiyne/graphyne lattices: first-principles investigation of mechanical, optical and electronic properties. Journal of Materials Chemistry C, 2019, 7, 3025-3036.	2.7	41
32	Functionalization of hydrogenated graphene by polylithiated species for efficient hydrogen storage. International Journal of Hydrogen Energy, 2014, 39, 2560-2566.	3.8	40
33	Tailoring the capability of carbon nitride (C₃N) nanosheets toward hydrogen storage upon light transition metal decoration. Nanotechnology, 2019, 30, 075404.	1.3	40
34	Density Functional Theory Studies of Si₂BN Nanosheets as Anode Materials for Magnesium-Ion Batteries. ACS Applied Nano Materials, 2020, 3, 9055-9063.	2.4	40
35	Reversible Hydrogen Uptake by BN and BC₃ Monolayers Functionalized with Small Fe Clusters: A Route to Effective Energy Storage. Journal of Physical Chemistry A, 2016, 120, 2009-2013.	1.1	39
36	Metal functionalized inorganic nano-sheets as promising materials for clean energy storage. Applied Surface Science, 2019, 471, 887-892.	3.1	39

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37	Theoretical realization of two-dimensional M3(C6X6)2 (M = Co, Cr, Cu, Fe, Mn, Ni, Pd, Rh and X = O, S,) Tj ETQq1 1 0.784314 rgBT /O	2.3	37
38	The adsorption and migration behavior of divalent metals (Mg, Ca, and Zn) on pristine and defective graphene. Carbon, 2020, 163, 276-287.	5.4	36
39	Improving Sensing of Sulfur-Containing Gas Molecules with ZnO Monolayers by Implanting Dopants and Defects. Journal of Physical Chemistry C, 2017, 121, 24365-24375.	1.5	35
40	Achieving ultrahigh carrier mobilities and opening the band gap in two-dimensional Si₂BN. Physical Chemistry Chemical Physics, 2018, 20, 21716-21723.	1.3	30
41	Hydrogen storage in polylithiated BC3 monolayer sheet. Solid State Communications, 2013, 170, 39-43.	0.9	29
42	Enhancement of energy storage capacity of Mg functionalized silicene and silicane under external strain. Applied Physics Letters, 2014, 105, .	1.5	29
43	Insights into the trapping mechanism of light metals on C2N-h2D: Utilisation as an anode material for metal ion batteries. Carbon, 2020, 160, 125-132.	5.4	29
44	Two-dimensional Janus monolayers of MoSSe as promising sensor towards selected adulterants compounds. Applied Surface Science, 2021, 542, 148590.	3.1	29
45	Two-Dimensional Bismuthene Nanosheets for Selective Detection of Toxic Gases. ACS Applied Nano Materials, 2022, 5, 2984-2993.	2.4	29
46	Highly sensitive and selective sensing properties of modified green phosphorene monolayers towards SF6 decomposition gases. Applied Surface Science, 2020, 512, 145641.	3.1	28
47	Functionalized Two-Dimensional Nanoporous Graphene as Efficient Global Anode Materials for Li-, Na-, K-, Mg-, and Ca-Ion Batteries. Journal of Physical Chemistry C, 2020, 124, 9734-9745.	1.5	28
48	Structural, electronic and thermodynamic properties of Al- and Si-doped Î±-, Î³-, and Î²-MgH2: Density functional andÂhybrid density functional calculations. International Journal of Hydrogen Energy, 2012, 37, 9112-9122.	3.8	27
49	Superior Anchoring of Sodium Polysulfides to the Polar C₂N 2D Material: A Potential Electrode Enhancer in Sodiumâ€“Sulfur Batteries. Langmuir, 2020, 36, 13104-13111.	1.6	27
50	Three-Dimensional Silicon Carbide from Siligraphene as a High Capacity Lithium Ion Battery Anode Material. Journal of Physical Chemistry C, 2019, 123, 27295-27304.	1.5	26
51	Sulfur encapsulation into yolk-shell Fe2N@nitrogen doped carbon for ambient-temperature sodium-sulfur battery cathode. Chemical Engineering Journal, 2022, 429, 132389.	6.6	26
52	Sensing Characteristics of a Grapheneâ€like Boron Carbide Monolayer towards Selected Toxic Gases. ChemPhysChem, 2015, 16, 3511-3517.	1.0	25
53	Complementing the adsorption energies of CO ₂ , H ₂ S and NO ₂ to h-BN sheets by doping with carbon. Europhysics Letters, 2015, 109, 57008.	0.7	24
54	Ammonia gas adsorption study on graphene oxide based sensing device under different humidity conditions. Materials Chemistry and Physics, 2020, 242, 122485.	2.0	24

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55	Stabilizing Interface pH by Nâ€Modified Graphdiyne for Dendriteâ€Free and Highâ€Rate Aqueous Znâ€Ion Batteries. Angewandte Chemie, 2022, 134, .	1.6	24
56	Computational Study on the Adsorption of Sodium and Calcium on Edge-Functionalized Graphene Nanoribbons. Journal of Physical Chemistry C, 2019, 123, 14895-14908.	1.5	23
57	Functionalized Boranes for Hydrogen Storage. ChemPhysChem, 2012, 13, 300-304.	1.0	22
58	Improvement in Hydrogen Desorption from Î²â€•and Î³â€MgH₂ upon Transitionâ€Metal Doping. ChemPhysChem, 2015, 16, 2557-2561.	1.0	22
59	Elucidating hydrogen storage properties of two-dimensional siligraphene (SiC₈) monolayers upon selected metal decoration. Sustainable Energy and Fuels, 2020, 4, 5578-5587.	2.5	22
60	High-capacity reversible hydrogen storage properties of metal-decorated nitrogenated holey graphenes. International Journal of Hydrogen Energy, 2022, 47, 10654-10664.	3.8	22
61	Exploring Janus MoSSe monolayer as a workable media for SOF6 decompositions sensing based on DFT calculations. Computational Materials Science, 2021, 186, 109976.	1.4	21
62	Investigating CO2 storage properties of C2N monolayer functionalized with small metal clusters. Journal of CO2 Utilization, 2020, 35, 1-13.	3.3	20
63	Empowering hydrogen storage properties of haeckelite monolayers via metal atom functionalization. Applied Surface Science, 2021, 556, 149709.	3.1	20
64	Two-dimensional Nitrogenated Holey Graphene (C2N) monolayer based glucose sensor for diabetes mellitus. Applied Surface Science, 2022, 573, 151579.	3.1	20
65	Modified KBBF-like Material for Energy Storage Applications: ZnNiBO₃(OH) with Enhanced Cycle Life. ACS Applied Materials & Interfaces, 2022, 14, 8025-8035.	4.0	20
66	Theoretical Investigation of Metallic Nanolayers For Charge-Storage Applications. ACS Applied Energy Materials, 2018, 1, 3428-3433.	2.5	19
67	Enhancing energy storage efficiency of lithiated carbon nitride (C7N6) monolayers under co-adsorption of H2 and CH4. International Journal of Hydrogen Energy, 2021, 46, 19988-19997.	3.8	19
68	Capacity enhancement of polylithiated functionalized boron nitride nanotubes: an efficient hydrogen storage medium. Physical Chemistry Chemical Physics, 2020, 22, 15675-15682.	1.3	18
69	Elucidating Synergistic Mechanisms of Adsorption and Electrocatalysis of Polysulfides on Double-Transition Metal MXenes for Naâ€“S Batteries. ACS Applied Materials & Interfaces, 2022, 14, 10298-10307.	4.0	18
70	Improved sensing characteristics of methane over ZnO nano sheets upon implanting defects and foreign atoms substitution. Nanotechnology, 2017, 28, 415502.	1.3	17
71	Sensitivity enhancement of stanene towards toxic SO2 and H2S. Applied Surface Science, 2019, 495, 143622.	3.1	17
72	Substituted 2D Janus WSSe monolayers as efficient nanosensor toward toxic gases. Journal of Applied Physics, 2021, 130, .	1.1	16

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73	Designing Square Two-Dimensional Gold and Platinum. Crystal Growth and Design, 2016, 16, 1746-1750.	1.4	15
74	Tunning Hydrogen Storage Properties of Carbon Eneâ€“Yne Nanosheets through Selected Foreign Metal Functionalization. Journal of Physical Chemistry C, 2020, 124, 16827-16837.	1.5	15
75	Efficient Sensing Properties of Aluminum Nitride Nanosheets toward Toxic Pollutants under Gated Electric Field. ACS Applied Electronic Materials, 2020, 2, 1645-1652.	2.0	15
76	Superior sensitivity of metal functionalized boron carbide (BC3) monolayer towards carbonaceous pollutants. Applied Surface Science, 2020, 512, 145637.	3.1	15
77	Antimonene Allotropes Î±- and Î²-Phases as Promising Anchoring Materials for Lithiumâ€“Sulfur Batteries. Energy & Fuels, 2021, 35, 9001-9009.	2.5	15
78	Efficient Adsorption Characteristics of Pristine and Silverâ€Đoped Graphene Oxide Towards Contaminants: A Potential Membrane Material for Water Purification?. ChemPhysChem, 2018, 19, 2250-2257.	1.0	14
79	Strain and doping effects on the energetics of hydrogen desorption from the MgH ₂ (001) surface. Europhysics Letters, 2013, 101, 27006.	0.7	13
80	Polylithiated (OLi2) functionalized graphane as a potential hydrogen storage material. Applied Physics Letters, 2012, 101, 243902.	1.5	11
81	Improvement in the hydrogen desorption from MgH2 upon transition metals doping: A hybrid density functional calculations. AIP Advances, 2013, 3, .	0.6	11
82	MoirÃ© patterns arising from bilayer graphone/graphene superlattice. Nano Research, 2020, 13, 1060-1064.	5.8	11
83	Mechanistic Understanding of the Interactions and Pseudocapacitance of Multiâ€Electron Redox Organic Molecules Sandwiched between MXene Layers. Advanced Electronic Materials, 2021, 7, 2001202.	2.6	10
84	Carbon Nitride Monolayers as Efficient Immobilizers toward Lithium Selenides: Potential Applications in Lithiumâ€“Selenium Batteries. ACS Applied Energy Materials, 2021, 4, 3891-3904.	2.5	10
85	The effect of Na addition on the first hydrogen absorption kinetics of cast hypoeutectic Mgâ€“La alloys. International Journal of Hydrogen Energy, 2021, 46, 27096-27106.	3.8	10
86	Improvement in the desorption of H2 from the MgH2 (110) surface by means of doping and mechanical strain. Computational Materials Science, 2014, 86, 165-169.	1.4	9
87	BC₃ Sheet Functionalized with Lithiumâ€Rich Species Emerging as a Reversible Hydrogen Storage Material. ChemPhysChem, 2015, 16, 634-639.	1.0	9
88	Density Functional Theory Study on Sensing and Dielectric Properties of Arsenic Trisulfide Nanosheets for Detecting Volatile Organic Compounds. ACS Applied Nano Materials, 2021, 4, 5444-5453.	2.4	9
89	Scavenging properties of yttrium nitride monolayer towards toxic sulfur gases. Applied Surface Science, 2021, 537, 147711.	3.1	8
90	Application of germanene monolayers as efficient anchoring material to immobilize lithium polysulfides in Li-S batteries. Applied Surface Science, 2021, 558, 149850.	3.1	8

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91	Boronâ€Rich Boron Nitride Nanotubes as Highly Selective Adsorbents for Selected Diatomic Air Pollutants: A DFT Study. Advanced Theory and Simulations, 2022, 5, .	1.3	8
92	Transition of wide-band gap semiconductor h-BN(BN)/P heterostructure via single-atom-embedding. Journal of Materials Chemistry C, 2020, 8, 9755-9762.	2.7	7
93	Designing two-dimensional dodecagonal boron nitride. CrystEngComm, 2022, 24, 471-474.	1.3	7
94	Influence of Sodium Iodide doped polypyrrole on green synthesized aluminum doped ZnO for the enhanced charge separation at the interface. Optical Materials, 2020, 99, 109568.	1.7	6
95	Improved Adsorption and Migration of Divalent Ions Over C4N Nanosheets: Potential Anode for Divalent Batteries. Surfaces and Interfaces, 2020, 21, 100758.	1.5	5
96	Rationalized atomic/clusters dispersion of Fe/Se/Al on interconnected N-doped carbon nanofibers for fast sodiation. Chemical Engineering Journal, 2021, 411, 128420.	6.6	5
97	Hexagonal Boron Nitride Sheet Decorated by Polylithiated Species for Efficient and Reversible Hydrogen Storage. Science of Advanced Materials, 2013, 5, 1960-1966.	0.1	5
98	Charge Storage Behaviour of Î±â€MoO₃ in Aqueous Electrolytes â€“ Effect of Charge Density of Electrolyte Cations. ChemElectroChem, 2022, 9, .	1.7	5
99	Tuning the electronic, magnetic, and sensing properties of a single atom embedded microporous C₃N₆ monolayer towards XO₂ (X = C, N, S) gases. New Journal of Chemistry, 2022, 46, 13752-13765.	1.4	5
100	Hole induced Jahn Teller distortion ensuing ferromagnetism in Mnâ€“MgO: bulk, surface and one dimensional structures. Journal of Physics Condensed Matter, 2014, 26, 265801.	0.7	3
101	Exploring the Full Potential of Functional Si₂BN Nanoribbons As Highly Reversible Anode Materials for Mg-Ion Battery. Energy & Fuels, 2021, 35, 12688-12699.	2.5	3
102	Conversion of CO₂ into Formic Acid on Transition Metal-Porphyrin-like Graphene: First Principles Calculations. ACS Omega, 2021, 6, 27045-27051.	1.6	3
103	Physisorption and Chemisorption of SF6 by Transition Metal-Porphyrin Structure Embedded on Graphene Surface with Different Hapticities. Journal of the Korean Physical Society, 2020, 76, 1001-1004.	0.3	1
104	Improvement in Hydrogen Desorption from Î²- and Î³-MgH2upon Transition-Metal Doping. ChemPhysChem, 2015, 16, 2481-2481.	1.0	0