Mostafa Bedewy

List of Publications by Year in descending order

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Version: 2024-02-01

50 papers	1,182 citations	430442 18 h-index	377514 34 g-index
51 all docs	51 docs citations	51 times ranked	1117 citing authors

#	Article	IF	Citations
1	Collective Mechanism for the Evolution and Self-Termination of Vertically Aligned Carbon Nanotube Growth. Journal of Physical Chemistry C, 2009, 113, 20576-20582.	1.5	205
2	Population Growth Dynamics of Carbon Nanotubes. ACS Nano, 2011, 5, 8974-8989.	7.3	151
3	Statistical Analysis of Variation in Laboratory Growth of Carbon Nanotube Forests and Recommendations for Improved Consistency. ACS Nano, 2013, 7, 3565-3580.	7.3	54
4	Mechanical coupling limits the density and quality of self-organized carbon nanotube growth. Nanoscale, 2013, 5, 2928.	2.8	52
5	Diameter-dependent kinetics of activation and deactivation in carbon nanotube population growth. Carbon, 2012, 50, 5106-5116.	5.4	51
6	Scaling the Stiffness, Strength, and Toughness of Ceramicâ€Coated Nanotube Foams into the Structural Regime. Advanced Functional Materials, 2014, 24, 5728-5735.	7.8	49
7	Fluence-Dependent Morphological Transitions in Laser-Induced Graphene Electrodes on Polyimide Substrates for Flexible Devices. ACS Applied Nano Materials, 2021, 4, 2973-2986.	2.4	49
8	Measurement of the Dewetting, Nucleation, and Deactivation Kinetics of Carbon Nanotube Population Growth by Environmental Transmission Electron Microscopy. Chemistry of Materials, 2016, 28, 3804-3813.	3.2	41
9	Measuring the lengthening kinetics of aligned nanostructures by spatiotemporal correlation of height and orientation. Nanoscale, 2010, 2, 896.	2.8	38
10	High-Speed in Situ X-ray Scattering of Carbon Nanotube Film Nucleation and Self-Organization. ACS Nano, 2012, 6, 5091-5101.	7.3	38
11	Real-Time Imaging of Self-Organization and Mechanical Competition in Carbon Nanotube Forest Growth. ACS Nano, 2016, 10, 11496-11504.	7.3	34
12	Local Relative Density Modulates Failure and Strength in Vertically Aligned Carbon Nanotubes. ACS Nano, 2013, 7, 8593-8604.	7.3	33
13	Modular assembly of a protein nanotriangle using orthogonally interacting coiled coils. Scientific Reports, 2017, 7, 10577.	1.6	31
14	Carbon-assisted catalyst pretreatment enables straightforward synthesis of high-density carbon nanotube forests. Carbon, 2019, 153, 196-205.	5.4	31
15	Synergetic Chemical Coupling Controls the Uniformity of Carbon Nanotube Microstructure Growth. ACS Nano, 2014, 8, 5799-5812.	7.3	23
16	Highly Consistent Atmospheric Pressure Synthesis of Carbon Nanotube Forests by Mitigation of Moisture Transients. Journal of Physical Chemistry C, 2016, 120, 11277-11287.	1.5	23
17	Multidirectional Hierarchical Nanocomposites Made by Carbon Nanotube Growth within Layer-by-Layer-Assembled Films. Chemistry of Materials, 2011, 23, 1023-1031.	3.2	21
18	Laser direct write of heteroatom-doped graphene on molecularly controlled polyimides for electrochemical biosensors with nanomolar sensitivity. Carbon, 2022, 188, 209-219.	5.4	20

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19	Photoconductive Hybrid Films via Directional Selfâ€Assembly of C₆₀ on Aligned Carbon Nanotubes. Advanced Functional Materials, 2012, 22, 577-584.	7.8	17
20	Growth of primary motor neurons on horizontally aligned carbon nanotube thin films and striped patterns. Journal of Neural Engineering, 2014, 11, 036013.	1.8	17
21	Laser-Induced fluorinated graphene for superhydrophobic surfaces with anisotropic wetting and switchable adhesion. Applied Surface Science, 2022, 574, 151339.	3.1	17
22	Decoupling Catalyst Dewetting, Gas Decomposition, and Surface Reactions in Carbon Nanotube Forest Growth Reveals Dependence of Density on Nucleation Temperature. Journal of Physical Chemistry C, 2019, 123, 28726-28738.	1.5	16
23	Measurement of carbon nanotube microstructure relative density by optical attenuation and observation of size-dependent variations. Physical Chemistry Chemical Physics, 2013, 15, 11511.	1.3	15
24	Decoupled Control of Carbon Nanotube Forest Density and Diameter by Continuousâ€Feed Convective Assembly of Catalyst Particles. Small, 2013, 9, 2564-2575.	5.2	13
25	Strain relaxation and resonance of carbon nanotube forests under electrostatic loading. Carbon, 2016, 96, 250-258.	5.4	13
26	Data-driven understanding of collective carbon nanotube growth by in situ characterization and nanoscale metrology. Journal of Materials Research, 2017, 32, 153-165.	1.2	13
27	Promoting Helix-Rich Structure in Silk Fibroin Films through Molecular Interactions with Carbon Nanotubes and Selective Heating for Transparent Biodegradable Devices. ACS Applied Nano Materials, 2018, 1, 5441-5450.	2.4	13
28	Complications of Head Immobilization Devices in Children: Contact Mechanics, and Analysis of a Single Institutional Experience. Neurosurgery, 2018, 82, 678-685.	0.6	10
29	High-Speed Production of Crystalline Semiconducting Polymer Line Arrays by Meniscus Oscillation Self-Assembly. ACS Nano, 2020, 14, 17254-17261.	7.3	10
30	Morphology-dependent load transfer governs the strength and failure mechanism of carbon nanotube yarns. Extreme Mechanics Letters, 2016, 9, 55-65.	2.0	9
31	Data Analytics Enables Significant Improvement of Robustness in Chemical Vapor Deposition of Carbon Nanotubes Based on Vacuum Baking. Industrial & Engineering Chemistry Research, 2019, 58, 11999-12009.	1.8	9
32	Electrostatic capacitance and Faraday cage behavior of carbon nanotube forests. Applied Physics Letters, 2015, 106, .	1.5	8
33	In Situ Mechanochemical Modulation of Carbon Nanotube Forest Growth. Chemistry of Materials, 2019, 31, 407-418.	3.2	8
34	Quasi-Exact-Constraint Design of Wind Turbine Gearing. , 2010, , .		7
35	Machine Learning for Revealing Spatial Dependence among Nanoparticles: Understanding Catalyst Film Dewetting via Gibbs Point Process Models. Journal of Physical Chemistry C, 2020, 124, 27479-27494.	1.5	7
36	Multizone Rapid Thermal Processing to Overcome Challenges in Carbon Nanotube Manufacturing by Chemical Vapor Deposition. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2019, 141, .	1.3	6

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37	Manufacturability and Viability of Different C-Gear Types: A Comparative Study. , 2012, , .		6
38	Boosting Catalytic Lifetime in Chemical Vapor Deposition of Carbon Nanotubes by Rapid Thermal Pretreatment of Alumina-Supported Metal Nanocatalysts. Chemistry of Materials, 2021, 33, 6277-6289.	3.2	5
39	Tailoring Surface Hydrophobicity of Commercial Polyimide by Laser-Induced Nanocarbon Texturing. Journal of Micro and Nano-Manufacturing, 2020, 8, .	0.8	4
40	Sequential Self-Folding of Shape Memory Polymer Sheets by Laser Rastering Toward Origami-Based Manufacturing. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2021, 143, .	1.3	3
41	In Situ Measurement of Carbon Nanotube Growth Kinetics in a Rapid Thermal Chemical Vapor Deposition Reactor With Multizone Infrared Heating. Journal of Micro and Nano-Manufacturing, 2020, 8, .	0.8	3
42	Current-Dependent Dynamics of Bidirectional Self-Folding for Multi-Layer Polymers Using Local Resistive Heating. Journal of Engineering Materials and Technology, Transactions of the ASME, 2021, 143, .	0.8	2
43	Reducing Variability in Chemical Vapor Deposition of Carbon Nanotubes Based on Gas Purification and Sample Support Redesign. Journal of Micro and Nano-Manufacturing, 2021, 9, .	0.8	2
44	Four degree of freedom liquid dispenser for direct write capillary self-assembly with sub-nanoliter precision. Review of Scientific Instruments, 2012, 83, 015104.	0.6	1
45	Fast Imaging of Carbon Nanotube Carpet Growth by Environmental TEM. Microscopy and Microanalysis, 2015, 21, 2327-2328.	0.2	1
46	Precision control of nanoparticle monolayer assembly: Optimizing rate and crystal quality. , 2017, , .		1
47	DIRECT-WRITE SELF-ASSEMBLY OF 3D COLLOIDAL MICROSTRUCTURES. , 2012, , .		1
48	Understanding Stochasticity in Carbon Nanotube Manufacturing. , 2019, , 31-64.		0
49	Silk-Based Materials and Composites: Fabrication and Biomedical Applications. , 2021, , 35-57.		0
50	Coiled-Coil Protein Origami Nanostructure Modeling for Improved Characterization and Prediction. Molecular Systems Design and Engineering, 0, , .	1.7	0