Han Gi Chae

List of Publications by Year
in descending order

81 papers	4,367 citations	109137 35 h-index	110170 64 g-index
84 all docs	84 docs citations	84 times ranked	4299 citing authors

#	Article	IF	Citations
1	Rigid-rod polymeric fibers. Journal of Applied Polymer Science, 2006, 100, 791-802.	1.3	300
2	Making Strong Fibers. Science, 2008, 319, 908-909.	6.0	262
3	A comparison of reinforcement efficiency of various types of carbon nanotubes in polyacrylonitrile fiber. Polymer, 2005, 46, 10925-10935.	1.8	238
4	3D printing of shape-conformable thermoelectric materials using all-inorganic Bi2Te3-based inks. Nature Energy, 2018, 3, 301-309.	19.8	237
5	Stabilization and carbonization of gel spun polyacrylonitrile/single wall carbon nanotube composite fibers. Polymer, 2007, 48, 3781-3789.	1.8	200
6	Oriented and exfoliated single wall carbon nanotubes in polyacrylonitrile. Polymer, 2006, 47, 3494-3504.	1.8	197
7	Single wall carbon nanotube templated oriented crystallization of poly(vinyl alcohol). Polymer, 2006, 47, 3705-3710.	1.8	195
8	High strength and high modulus carbon fibers. Carbon, 2015, 93, 81-87.	5.4	176
9	Carbon nanotube dispersion and exfoliation in polypropylene and structure and properties of the resulting composites. Polymer, 2008, 49, 1831-1840.	1.8	138
10	Carbon nanotube reinforced small diameter polyacrylonitrile based carbon fiber. Composites Science and Technology, 2009, 69, 406-413.	3.8	136
11	Graphene Nanoribbons as an Advanced Precursor for Making Carbon Fiber. ACS Nano, 2013, 7, 1628-1637.	7.3	117
12	Solid-state spun fibers and yarns from 1-mm long carbon nanotube forests synthesized by water-assisted chemical vapor deposition. Journal of Materials Science, 2008, 43, 4356-4362.	1.7	96
13	Interfacial Crystallization in Gelâ€Spun Poly(vinyl alcohol)/Singleâ€Wall Carbon Nanotube Composite Fibers. Macromolecular Chemistry and Physics, 2009, 210, 1799-1808.	1.1	95
14	Gel-spun carbon nanotubes/polyacrylonitrile composite fibers. Part I: Effect of carbon nanotubes on stabilization. Carbon, 2011, 49, 4466-4476.	5.4	90
15	High resolution transmission electron microscopy study on polyacrylonitrile/carbon nanotube based carbon fibers and the effect of structure development on the thermal and electrical conductivities. Carbon, 2015, 93, 502-514.	5.4	85
16	Sewing machine stitching of polyvinylidene fluoride fibers: programmable textile patterns for wearable triboelectric sensors. Journal of Materials Chemistry A, 2018, 6, 22879-22888.	5.2	80
17	The effects of plasma surface treatment on the mechanical properties of polycarbonate/carbon nanotube/carbon fiber composites. Composites Part B: Engineering, 2019, 160, 436-445.	5.9	75
18	Structure evolution mechanism of highly ordered graphite during carbonization of cellulose nanocrystals. Carbon, 2019, 150, 142-152.	5.4	69

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19	Gel-spun carbon nanotubes/polyacrylonitrile composite fibers. Part II: Stabilization reaction kinetics and effect of gas environment. Carbon, 2011, 49, 4477-4486.	5.4	66
20	Polyethylene Crystallization Nucleated by Carbon Nanotubes under Shear. ACS Applied Materials & Interfaces, 2012, 4, 326-330.	4.0	63
21	Gel-spun carbon nanotubes/polyacrylonitrile composite fibers. Part III: Effect of stabilization conditions on carbon fiber properties. Carbon, 2011, 49, 4487-4496.	5.4	59
22	Enhancement in mechanical properties of polyamide 66-carbon fiber composites containing graphene oxide-carbon nanotube hybrid nanofillers synthesized through in situ interfacial polymerization. Composites Part A: Applied Science and Manufacturing, 2020, 135, 105938.	3.8	58
23	Stress transfer in polyacrylonitrile/carbon nanotube composite fibers. Polymer, 2014, 55, 2734-2743.	1.8	56
24	Direct ink writing of three-dimensional thermoelectric microarchitectures. Nature Electronics, 2021, 4, 579-587.	13.1	56
25	Low-density and high-modulus carbon fibers from polyacrylonitrile with honeycomb structure. Carbon, 2015, 95, 710-714.	5.4	53
26	Polymer nanotube nanocomposites: Correlating intermolecular interaction to ultimate properties. Polymer, 2006, 47, 4734-4741.	1.8	52
27	High strength micron size carbon fibers from polyacrylonitrileâ€“carbon nanotube precursors. Carbon, 2014, 77, 442-453.	5.4	50
28	Effect of Interfacial Interaction on the Conformational Variation of Poly(vinylidene fluoride) (PVDF) Chains in PVDF/Graphene Oxide (GO) Nanocomposite Fibers and Corresponding Mechanical Properties. ACS Applied Materials & Interfaces, 2019, 11, 13665-13675.	4.0	49
29	Processing, structure, and properties of gel spun PAN and PAN/CNT fibers and gel spun PAN based carbon fibers. Polymer Engineering and Science, 2015, 55, 2603-2614.	1.5	48
30	Rheological design of 3D printable all-inorganic inks using BiSbTe-based thermoelectric materials. Journal of Rheology, 2019, 63, 291-304.	1.3	43
31	Composition-segmented BiSbTe thermoelectric generator fabricated by multimaterial 3D printing. Nano Energy, 2021, 81, 105638.	8.2	43
32	Cu2Se-based thermoelectric cellular architectures for efficient and durable power generation. Nature Communications, 2021, 12, 3550.	5.8	41
33	Effect of methyl substitution of the ethylene unit on the physical properties of poly(butylene) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf	2.4	38
34	Processing, Structure, and Properties of PAN/MWNT Composite Fibers. Macromolecular Materials and Engineering, 2010, 295, 742-749.	1.7	38
35	Structural changes during deformation in carbon nanotube-reinforced polyacrylonitrile fibers. Polymer, 2008, 49, 2133-2145.	1.8	36
36	Influence of hybrid graphene oxide-carbon nanotube as a nano-filler on the interfacial interaction in nylon composites prepared by in situ interfacial polymerization. Carbon, 2018, 140, 324-337.	5.4	36

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37	Structure and electrochemical properties of activated polyacrylonitrile based carbon fibers containing carbon nanotubes. Journal of Power Sources, 2008, 185, 676-684.	4.0	35
38	Octa-viologen substituted polyhedral oligomeric silsesquioxane exhibiting outstanding electrochromic performances. Chemical Engineering Journal, 2020, 393, 124690.	6.6	35
39	Polyvinylidene fluoride (PVDF)/cellulose nanocrystal (CNC) nanocomposite fiber and triboelectric textile sensors. Composites Part B: Engineering, 2021, 223, 109098.	5.9	34
40	Effect of molecular weight and branch structure on the crystallization and rheological properties of poly(butylene adipate). Polymer Engineering and Science, 2001, 41, 1133-1139.	1.5	32
41	Note: Thermal conductivity measurement of individual poly(ether ketone)/carbon nanotube fibers using a steady-state dc thermal bridge method. Review of Scientific Instruments, 2012, 83, 016103.	0.6	29
42	Radial microstructure development of polyacrylonitrile (PAN)-based carbon fibers. Carbon, 2022, 191, 515-524.	5.4	28
43	Observations on Solution Crystallization of Poly(vinyl alcohol) in the Presence of Singleâ€Wall Carbon Nanotubes. Macromolecular Rapid Communications, 2010, 31, 310-316.	2.0	27
44	Functional polymerâ€“polymer/carbon nanotube bi-component fibers. Polymer, 2013, 54, 6210-6217.	1.8	27
45	Temperature dependent tensile behavior of gel-spun polyacrylonitrile and polyacrylonitrile/carbon nanotube composite fibers. Polymer, 2013, 54, 4003-4009.	1.8	27
46	High surface area carbon from polyacrylonitrile for high-performance electrochemical capacitive energy storage. Journal of Materials Chemistry A, 2016, 4, 18294-18299.	5.2	27
47	Polyacrylonitrile solution homogeneity study by dynamic shear rheology and the effect on the carbon fiber tensile strength. Polymer Engineering and Science, 2016, 56, 361-370.	1.5	25
48	Dopingâ€Induced Viscoelasticity in PbTe Thermoelectric Inks for 3D Printing of Powerâ€Generating Tubes. Advanced Energy Materials, 2021, 11, 2100190.	10.2	25
49	Structure-dependent sodium ion storage mechanism of cellulose nanocrystal-based carbon anodes for highly efficient and stable batteries. Journal of Power Sources, 2020, 468, 228371.	4.0	24
50	Processing, structure and properties of poly(ether ketone) grafted few wall carbon nanotube composite fibers. Polymer, 2010, 51, 3940-3947.	1.8	21
51	Smallâ€angle Xâ€ray scattering investigation of carbon nanotubeâ€reinforced polyacrylonitrile fibers during deformation. Journal of Polymer Science, Part B: Polymer Physics, 2009, 47, 2394-2409.	2.4	20
52	Development of single filament testing procedure for polyacrylonitrile precursor and polyacrylonitrile-based carbon fibers. Journal of Composite Materials, 2015, 49, 2231-2240.	1.2	20
53	Polyacrylonitrile/carbon nanofiber nanocomposite fibers. Composites Science and Technology, 2013, 88, 134-141.	3.8	19
54	Physical Properties of Lyocell Fibers Spun from Isotropic Cellulose Dope in NMMO Monohydrate. Textile Reseach Journal, 2002, 72, 335-340.	1.1	17

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55	Pt Nanoparticle-Decorated Reduced Graphene Oxide Hydrogel for High-Performance Strain Sensor: Tailoring Piezoresistive Property by Controlled Microstructure of Hydrogel. ACS Applied Nano Materials, 2018, 1, 2836-2843.	2.4	17
56	The effect of cellulose nanocrystals (CNCs) on the microstructure of amorphous polyetherimide (PEI)-based nanocomposite fibers and its correlation with the mechanical properties. Composites Science and Technology, 2020, 200, 108452.	3.8	17
57	Preparation of low density hollow carbon fibers by bi-component gel-spinning method. Journal of Materials Science, 2015, 50, 3614-3621.	1.7	15
58	Synthesis of high quality 2D carbide MXene flakes using a highly purified MAX precursor for ink applications. Nanoscale Advances, 2021, 3, 517-527.	2.2	15
59	The properties of carbon fibers. , 2018, , 841-871.		13
60	Effect of dissolution pathways of polyacrylonitrile on the solution homogeneity: Thermodynamic- or kinetic-controlled dissolution. Polymer, 2020, 205, 122697.	1.8	13
61	Microstructural evolution of polyacrylonitrile fibers during industry-mimicking continuous stabilization. Carbon, 2022, 195, 165-173.	5.4	13
62	Carbon nanotube-enabled materials. , 2006, , 213-274.		12
63	Effect of carbon nanotubes on sintering behavior of alumina prepared by solâ€“gel method. Ceramics International, 2014, 40, 6579-6587.	2.3	12
64	Reinforcement efficiency of carbon nanotubes and their effect on crystal-crystal slip in poly(ether) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	3.8	12
65	Effect of highâ€shear mixing by twinâ€screw extruder on the dispersion and homogeneity of polyacrylonitrile/carbon nanotube composite solution. Polymer Composites, 2017, 38, 719-726.	2.3	11
66	Sponge Behaviors of Functionalized Few-Walled Carbon Nanotubes. Journal of Physical Chemistry C, 2010, 114, 14868-14875.	1.5	10
67	Preparation of High-Performance Polyethersulfone/Cellulose Nanocrystal Nanocomposite Fibers via Dry-Jet Wet Spinning. Macromolecular Research, 2021, 29, 33-39.	1.0	9
68	Probe diffusion of single-walled carbon nanotubes in semidilute solutions of polyacrylonitrile homo- and copolymers: Effects of topological constraints and polymer/Nanorod interactions. Polymer, 2012, 53, 5069-5077.	1.8	8
69	Defect structure evolution of polyacrylonitrile and single wall carbon nanotube nanocomposites: a molecular dynamics simulation approach. Scientific Reports, 2020, 10, 11816.	1.6	7
70	Multilayered Composites with Modulus Gradient for Enhanced Pressureâ€”Temperature Sensing Performance. Sensors, 2021, 21, 4752.	2.1	5
71	Mild acid-based surfactant-free solutions of single-walled carbon nanotubes: Highly viscous, less toxic, and humidity-insensitive solutions. Chemical Engineering Journal, 2022, 450, 137983.	6.6	5
72	Enhancement of the dimensional stability of poly(ethylene-2,6-naphthalene dicarboxylate) filament by multistep zone annealing spinning. Journal of Applied Polymer Science, 2002, 83, 916-922.	1.3	4

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73	Investigation of polyacrylonitrile solution inhomogeneity by dynamic light scattering. Polymer Engineering and Science, 2015, 55, 1403-1407.	1.5	4
74	Enthalpic effect of polyacrylonitrile on the concentrated solutions in dimethyl sulfoxide: Strong thixotropic behavior and formation of bound solvents. Journal of Polymer Science, Part B: Polymer Physics, 2019, 57, 1080-1089.	2.4	4
75	Pyro-polymerization of organic pigments for superior lithium storage. Carbon, 2022, 188, 187-196.	5.4	4
76	Longitudinal alignment effect of graphene oxide nanoribbon on properties of polyimide-based carbon fibers. Carbon, 2022, 198, 219-229.	5.4	4
77	Effect of processing conditions on the dispersion of carbon nanotubes in polyacrylonitrile solutions. Journal of Applied Polymer Science, 2015, 132, .	1.3	3
78	Correlation between inhomogeneity in polyacrylonitrile spinning dopes and carbon fiber tensile strength. Polymer Engineering and Science, 2019, 59, 478-482.	1.5	3
79	Preparation of sustainable fibers from isosorbide: Merits over bisphenol-A based polysulfone. Materials and Design, 2021, 198, 109284.	3.3	2
80	Solidâ€state NMR study of spin finish of thermally treated PAN and PAN/CNT precursor fibers. Journal of Applied Polymer Science, 2014, 131, .	1.3	1
81	Reply to commentary. Carbon, 2020, 160, 407-412.	5.4	0