Takuya Hayashi

List of Publications by Year
in descending order

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119 papers	6,802 citations	76294 40 h-index	60583 81 g-index
121 all docs	121 docs citations	121 times ranked	10755 citing authors

#	Article	IF	Citations
1	Bulk Production of a New Form of sp² Carbon: Crystalline Graphene Nanoribbons. Nano Letters, 2008, 8, 2773-2778.	4.5	588
2	Nitrogen-doped graphene: beyond single substitution and enhanced molecular sensing. Scientific Reports, 2012, 2, 586.	1.6	563
3	Effect of defects on the intrinsic strength and stiffness of graphene. Nature Communications, 2014, 5, 3186.	5.8	560
4	Photosensor Device Based on Fewâ€Layered WS₂ Films. Advanced Functional Materials, 2013, 23, 5511-5517.	7.8	546
5	Effective NaCl and dye rejection of hybrid graphene oxide/graphene layered membranes. Nature Nanotechnology, 2017, 12, 1083-1088.	15.6	307
6	Raman Spectroscopy of Boron-Doped Single-Layer Graphene. ACS Nano, 2012, 6, 6293-6300.	7.3	245
7	Selective and Efficient Impregnation of Metal Nanoparticles on Cup-Stacked-Type Carbon Nanofibers. Nano Letters, 2003, 3, 723-726.	4.5	208
8	Rice Huskâ€Derived Graphene with Nanoâ€Sized Domains and Clean Edges. Small, 2014, 10, 2766-2770.	5.2	181
9	DJ-1 binds to mitochondrial complex I and maintains its activity. Biochemical and Biophysical Research Communications, 2009, 390, 667-672.	1.0	172
10	Scanning tunneling microscope study of boron-doped highly oriented pyrolytic graphite. Journal of Applied Physics, 2001, 90, 5670-5674.	1.1	159
11	Observation of magnetic edge state in graphene nanoribbons. Physical Review B, 2010, 81, .	1.1	132
12	Extremeâ€Performance Rubber Nanocomposites for Probing and Excavating Deep Oil Resources Using Multiâ€Walled Carbon Nanotubes. Advanced Functional Materials, 2008, 18, 3403-3409.	7.8	112
13	Smallest Freestanding Single-Walled Carbon Nanotube. Nano Letters, 2003, 3, 887-889.	4.5	101
14	High-performance multi-functional reverse osmosis membranes obtained by carbon nanotubeÂ·polyamide nanocomposite. Scientific Reports, 2015, 5, 13562.	1.6	101
15	In vivo immunological toxicity in mice of carbon nanotubes with impurities. Carbon, 2009, 47, 1365-1372.	5.4	98
16	Importance of open, heteroatom-decorated edges in chemically doped-graphene for supercapacitor applications. Journal of Materials Chemistry A, 2014, 2, 9532-9540.	5.2	91
17	Formation of Nitrogen-Doped Graphene Nanoribbons via Chemical Unzipping. ACS Nano, 2013, 7, 2192-2204.	7.3	80
18	Role of systemic T-cells and histopathological aspects after subcutaneous implantation of various carbon nanotubes in mice. Carbon, 2006, 44, 1079-1092.	5.4	78

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19	Large-scale production of carbon nanotubes and their applications. Pure and Applied Chemistry, 2006, 78, 1703-1713.	0.9	78
20	Nanotube Coalescence-Inducing Mode: A Novel Vibrational Mode in Carbon Systems. Small, 2006, 2, 1031-1036.	5.2	77
21	Coalescence of Double-Walled Carbon Nanotubes:â€‰ Formation of Novel Carbon Bicables. Nano Letters, 2004, 4, 1451-1454.	4.5	75
22	In Situ Raman Study on Single- and Double-Walled Carbon Nanotubes as a Function of Lithium Insertion. Small, 2006, 2, 667-676.	5.2	73
23	Atomic Nanotube Welders:â€‰ Boron Interstitials Triggering Connections in Double-Walled Carbon Nanotubes. Nano Letters, 2005, 5, 1099-1105.	4.5	72
24	Fabrication of Transparent, Tough, and Conductive Shapeâ€Memory Polyurethane Films by Incorporating a Small Amount of Highâ€Quality Graphene. Macromolecular Rapid Communications, 2012, 33, 628-634.	2.0	69
25	Selective Optical Property Modification of Double-Walled Carbon Nanotubes by Fluorination. ACS Nano, 2008, 2, 485-488.	7.3	64
26	Thrombogenicity and Blood Coagulation of a Microcatheter Prepared from Carbon Nanotubeâ˜Nylon-Based Composite. Nano Letters, 2005, 5, 101-105.	4.5	61
27	Progressive and invasive functionalization of carbon nanotube sidewalls by diluted nitric acid under supercritical conditions. Journal of Materials Chemistry, 2005, 15, 407.	6.7	61
28	Synthesis and Isolation of Molybdenum Atomic Wires. Nano Letters, 2008, 8, 237-240.	4.5	61
29	Enhanced electrical conductivities of N-doped carbon nanotubes by controlled heat treatment. Nanoscale, 2011, 3, 4359.	2.8	60
30	Robust, Conducting, and Transparent Polymer Composites Using Surfaceâ€Modified and Individualized Doubleâ€Walled Carbon Nanotubes. Advanced Materials, 2008, 20, 4509-4512.	11.1	58
31	Molecular Dynamics Study of Carbon Nanotubes/Polyamide Reverse Osmosis Membranes: Polymerization, Structure, and Hydration. ACS Applied Materials & Interfaces, 2015, 7, 24566-24575.	4.0	58
32	Sustainable and Versatile CuO/GNS Nanocatalyst for Highly Efficient Base Free Coupling Reactions. ACS Sustainable Chemistry and Engineering, 2015, 3, 2478-2488.	3.2	57
33	Clean Nanotube Unzipping by Abrupt Thermal Expansion of Molecular Nitrogen: Graphene Nanoribbons with Atomically Smooth Edges. ACS Nano, 2012, 6, 2261-2272.	7.3	54
34	Wave propagation of carbon nanotubes embedded in an elastic medium. Journal of Applied Physics, 2005, 97, 044307.	1.1	53
35	Efficient H2Adsorption by Nanopores of High-Purity Double-Walled Carbon Nanotubes. Journal of the American Chemical Society, 2006, 128, 12636-12637.	6.6	50
36	Mechanical Properties of Carbon Nanomaterials. ChemPhysChem, 2007, 8, 999-1004.	1.0	45

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37	Medical Application of Carbon-Nanotube-Filled Nanocomposites: The Microcatheter. Small, 2006, 2, 1406-1411.	5.2	44
38	A Review of Double-Walled and Triple-Walled Carbon Nanotube Synthesis and Applications. Applied Sciences (Switzerland), 2016, 6, 109.	1.3	44
39	Selective Tuning of the Electronic Properties of Coaxial Nanocables through Exohedral Doping. Nano Letters, 2007, 7, 2383-2388.	4.5	43
40	Properties of One-Dimensional Molybdenum Nanowires in a Confined Environment. Nano Letters, 2009, 9, 1487-1492.	4.5	43
41	Bright Photoluminescence from the Inner Tubes of â€œPeapodâ€â€Derived Doubleâ€Walled Carbon Nanotubes. Small, 2009, 5, 2678-2682.	5.2	38
42	New Insights in the Natural Organic Matter Fouling Mechanism of Polyamide and Nanocomposite Multiwalled Carbon Nanotubes-Polyamide Membranes. Environmental Science & Technology, 2019, 53, 6255-6263.	4.6	38
43	Nonlinear optical absorption and reflection of single wall carbon nanotube thin films by Z-scan technique. Applied Physics Letters, 2008, 92, .	1.5	37
44	Effect of boron doping on the electrical conductivity of metallicity-separated single walled carbon nanotubes. Nanoscale, 2018, 10, 12723-12733.	2.8	37
45	Antiorganic Fouling and Low-Protein Adhesion on Reverse-Osmosis Membranes Made of Carbon Nanotubes and Polyamide Nanocomposite. ACS Applied Materials & Interfaces, 2017, 9, 32192-32201.	4.0	36
46	A water-resilient carbon nanotube based strain sensor for monitoring structural integrity. Journal of Materials Chemistry A, 2019, 7, 19996-20005.	5.2	36
47	Carbon Nanofibers. , 2013, , 233-262.		36
48	Double-walled carbon nanotubes: synthesis, structural characterization, and application. Carbon Letters, 2014, 15, 77-88.	3.3	35
49	Strong and stable photoluminescence from the semiconducting inner tubes within double walled carbon nanotubes. Applied Physics Letters, 2009, 94, 083106.	1.5	34
50	Linear carbon chains inside multi-walled carbon nanotubes: Growth mechanism, thermal stability and electrical properties. Carbon, 2016, 107, 217-224.	5.4	33
51	Important roles of graphene edges in carbon-based energy storage devices. Journal of Energy Chemistry, 2013, 22, 183-194.	7.1	32
52	Optically and Biologically Active Mussel Proteinâ€Coated Doubleâ€Walled Carbon Nanotubes. Small, 2011, 7, 3292-3297.	5.2	31
53	Comparative study of herringbone and stacked-cup carbon nanofibers. Carbon, 2005, 43, 3005-3008.	5.4	30
54	Double-Wall Carbon Nanotubes Doped with Different Br2 Doping Levels: A Resonance Raman Study. Nano Letters, 2008, 8, 4168-4172.	4.5	28

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55	Chirality-Dependent Transport in Double-Walled Carbon Nanotube Assemblies: The Role of Inner Tubes. ACS Nano, 2011, 5, 7547-7554.	7.3	28
56	Loop formation in graphitic nanoribbon edges using furnace heating or Joule heating. Journal of Vacuum Science & Technology B, 2009, 27, 1996.	1.3	26
57	Freestanding, bendable thin film for supercapacitors using DNA-dispersed double walled carbon nanotubes. Applied Physics Letters, 2009, 95, .	1.5	26
58	Raman and Fluorescence Spectroscopic Studies of a DNA-Dispersed Double-Walled Carbon Nanotube Solution. ACS Nano, 2010, 4, 1060-1066.	7.3	25
59	Bulk Synthesis of Narrow Diameter and Highly Crystalline Tripleâ€Walled Carbon Nanotubes by Coalescing Fullerene Peapods. Advanced Materials, 2011, 23, 1761-1764.	11.1	25
60	Effective Antiscaling Performance of Reverse-Osmosis Membranes Made of Carbon Nanotubes and Polyamide Nanocomposites. ACS Omega, 2018, 3, 6047-6055.	1.6	25
61	Comparison of the Resonance Raman Behavior of Double-Walled Carbon Nanotubes Doped with Bromine or Iodine Vapors. Journal of Physical Chemistry C, 2009, 113, 3934-3938.	1.5	23
62	Multiple exciton generation induced enhancement of the photoresponse of pulsed-laser-ablation synthesized single-wall-carbon-nanotube/PbS-quantum-dots nanohybrids. Scientific Reports, 2016, 6, 20083.	1.6	23
63	Water Diffusion Mechanism in Carbon Nanotube and Polyamide Nanocomposite Reverse Osmosis Membranes: A Possible Percolation-Hopping Mechanism. Physical Review Applied, 2018, 9, .	1.5	23
64	Microwave plasma-induced graphene-sheet fibers from waste coffee grounds. Journal of Materials Chemistry A, 2015, 3, 14545-14549.	5.2	22
65	Mechanically Tough, Electrically Conductive Polyethylene Oxide Nanofiber Web Incorporating DNA-Wrapped Double-Walled Carbon Nanotubes. ACS Applied Materials & Interfaces, 2013, 5, 4150-4154.	4.0	20
66	Hybridized double-walled carbon nanotubes and activated carbon as free-standing electrode for flexible supercapacitor applications. Carbon Letters, 2020, 30, 527-534.	3.3	20
67	Behavior of the high frequency Raman modes of double-wall carbon nanotubes after doping with bromine or iodine vapors. Carbon, 2011, 49, 3585-3596.	5.4	19
68	Nanocomposite desalination membranes made of aromatic polyamide with cellulose nanofibers: synthesis, performance, and water diffusion study. Nanoscale, 2020, 12, 19628-19637.	2.8	19
69	Diameter-selective separation of double-walled carbon nanotubes. Applied Physics Letters, 2008, 93, 223107.	1.5	18
70	TEM image simulation study of small carbon nanotubes and carbon nanowire. Carbon, 2006, 44, 1130-1136.	5.4	17
71	Wave propagation in double-walled carbon nanotubes conveying fluid. Journal of Applied Physics, 2008, 103, .	1.1	17
72	Electrochemical role of oxygen containing functional groups on activated carbon electrode. RSC Advances, 2014, 4, 62678-62683.	1.7	17

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73	Defect-Assisted Heavily and Substitutionally Boron-Doped Thin Multiwalled Carbon Nanotubes Using High-Temperature Thermal Diffusion. Journal of Physical Chemistry C, 2014, 118, 4454-4459.	1.5	17
74	CO2 adsorption on crystalline graphitic nanostructures. Journal of CO2 Utilization, 2014, 5, 60-65.	3.3	17
75	Boron Atoms as Loop Accelerator and Surface Stabilizer in Plateletâ€Type Carbon Nanofibers. ChemPhysChem, 2010, 11, 2345-2348.	1.0	15
76	CdSe quantum dot-decorated double walled carbon nanotubes: The effect of chemical moieties. Applied Physics Letters, 2008, 93, 051901.	1.5	13
77	Controlled interlayer spacing of scrolled reduced graphene nanotubes by thermal annealing. RSC Advances, 2013, 3, 4161.	1.7	13
78	Oxidation and Thermal Stability of Linear Carbon Chains Contained in Thermally Treated Double-Walled Carbon Nanotubes. Small, 2007, 3, 788-792.	5.2	12
79	A reversible strain-induced electrical conductivity in cup-stacked carbon nanotubes. Nanoscale, 2013, 5, 10212.	2.8	12
80	High Performance and Chlorine Resistant Carbon Nanotube/Aromatic Polyamide Reverse Osmosis Nanocomposite Membrane. MRS Advances, 2016, 1, 1469-1476.	0.5	12
81	High-Quality Green-Emitting Nanodiamonds Fabricated by HPHT Sintering of Polycrystalline Shockwave Diamonds. Nanoscale Research Letters, 2020, 15, 209.	3.1	12
82	Hysteretic transfer characteristics of double-walled and single-walled carbon nanotube field-effect transistors. Applied Physics Letters, 2007, 91, 143118.	1.5	11
83	Covalent Attachment of Aromatic Diisocyanate to the Sidewalls of Single- and Double-Walled Carbon Nanotubes. European Journal of Inorganic Chemistry, 2010, 2010, 4305-4308.	1.0	11
84	Structure and basic properties of cup-stacked type carbon nanofiber. Molecular Crystals and Liquid Crystals, 2002, 387, 167-171.	0.4	9
85	Raman study on electrochemical lithium insertion into multiwalled carbon nanotubes. Journal of Raman Spectroscopy, 2008, 39, 1183-1188.	1.2	9
86	A simple route to short cup-stacked carbon nanotubes by sonication. Carbon, 2010, 48, 3643-3647.	5.4	9
87	Iron Particle Nanodrilling of Few Layer Graphene at Low Electron Beam Accelerating Voltages. Particle and Particle Systems Characterization, 2013, 30, 76-82.	1.2	9
88	Synthesis of outer tube-selectively nitrogen-doped double-walled carbon nanotubes by nitrogen plasma treatment. Nanoscale, 2018, 10, 15938-15942.	2.8	9
89	Sodium Chloride-Catalyzed Oxidation of Multiwalled Carbon Nanotubes for Environmental Benefit. Journal of Physical Chemistry B, 2006, 110, 12017-12021.	1.2	8
90	Controlled growth of one-dimensional clusters of molybdenum atoms using double-walled carbon nanotube templating. Applied Physics Letters, 2009, 94, .	1.5	8

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91	Outer Tube-Selectively Boron-Doped Double-Walled Carbon Nanotubes for Thermoelectric Applications. ACS Applied Nano Materials, 2020, 3, 3347-3354.	2.4	8
92	Singleâ€wall carbon nanotube interactions with copperâ€oxamato building block of moleculeâ€based magnets probed by resonance Raman spectroscopy. Journal of Raman Spectroscopy, 2012, 43, 1951-1956.	1.2	7
93	A selective way to create defects by the thermal treatment of fluorinated double walled carbon nanotubes. Chinese Journal of Catalysis, 2014, 35, 864-868.	6.9	7
94	Synthesis and characterization of graphene from rice husks. Tanso, 2016, 2016, 182-190.	0.1	7
95	Reply to â€œA Comment on â€˜NanoTeflons:â€‰ Structure and EELS Characterization of Fluorinated Carbon Nanotubes and Nanofibers'â€• Nano Letters, 2004, 4, 1001-1002.	4.5	6
96	Formation of off-centered double-walled carbon nanotubes exhibiting wide interlayer spacing from bi-cables. Chemical Physics Letters, 2006, 432, 240-244.	1.2	6
97	Transparent and Conductive Polyethylene Oxide Film by the Introduction of Individualized Singleâ€Walled Carbon Nanotubes. Macromolecular Rapid Communications, 2009, 30, 2084-2088.	2.0	6
98	Enhanced desalination performance in compacted carbon-based reverse osmosis membranes. Nanoscale Advances, 2020, 2, 3444-3451.	2.2	6
99	Fundamental Understanding of Nanoporous Carbons for Energy Application Potentials. Carbon Letters, 2009, 10, 177-180.	3.3	6
100	Microstructural change of cup-stacked carbon nanofiber by post-treatment. Molecular Crystals and Liquid Crystals, 2002, 387, 157-161.	0.4	5
101	Evaluation of the resiliency of carbon nanotubes in the bulk state. Carbon, 2004, 42, 2362-2366.	5.4	5
102	Determination of the stacking order of curved few-layered graphene systems. Nanoscale, 2012, 4, 6419.	2.8	5
103	Boron-assisted coalescence of parallel multi-walled carbon nanotubes. RSC Advances, 2013, 3, 26266.	1.7	5
104	Mild oxidation-production of subnanometer-sized nanowindows of single wall carbon nanohorn. Journal of Colloid and Interface Science, 2018, 529, 332-336.	5.0	5
105	Thermostable Natural Rubber with Cellular Structure Using Thin Multiwalled Carbon Nanotubes. ChemSusChem, 2011, 4, 931-934.	3.6	3
106	Characterization of Novel Carbon Materials Using EELS. Tanso, 1999, 1999, 320-323.	0.1	3
107	Synthesis of catalytic chemical vapor grown carbon fibers: carbon nanotube and carbon nanofiber. Tanso, 2010, 2010, 153-160.	0.1	3
108	Electric field assisted ion adsorption with nanoporous SWCNT electrodes. Adsorption, 2019, 25, 1035-1041.	1.4	2

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109	Flexible Transparent Conducting Films Composed of Photochemically Oxidized Thin Multi-Walled Carbon Nanotubes. Journal of Nanoscience and Nanotechnology, 2016, 16, 11980-11985.	0.9	2
110	Optical sensitivity of mussel protein-coated double-walled carbon nanotubes on the ironâ€"DOPA conjugation bond. RSC Advances, 2016, 6, 16308-16313.	1.7	1
111	Carbon Nanotubes and Other Carbon Materials. , 2008, , 691-706.		1
112	Hrtem observation of ball-milled lampshade carbon nanofiber. Molecular Crystals and Liquid Crystals, 2002, 387, 141-144.	0.4	0
113	Molybdenum-encapsulation modified the optical property of single walled carbon nanotubes. RSC Advances, 2014, 4, 54747-54751.	1.7	0
114	Structural Design and Functions of Carbon Materials by Alloying in Atomic and Molecular Scales. , 2003, , 41-55.		0
115	æ°—ç›¸æˆé•·ã‚«ãƒ¼ãƒœãƒ³ãƒŠãƒŽãƒ•ã‚¡ã‚¤ãƒãƒ¼ã®å¿œç"¨. Hyomen Kagaku, 2004, 25, 352-3[illegible]	0.0	0
116	Optical studies of inner tubes within double-walled carbon nanotubes. Tanso, 2009, 2009, 172-179.	0.1	0
117	Carbon Nanotubes: State-of-the-art Technology and Safety for Success. Carbon Letters, 2009, 10, 87-89.	3.3	0
118	Preparation and structure analysis of double wall-carbon nanotubes encapsulating gadolinium trichloride nanowires. Tanso, 2013, 2013, 279-283.	0.1	0
119	Carbon Nanotubes and Other Carbon Materials. , 2014, , 628-642.		0