

# Hirofumi Tanaka

## List of Publications by Year in descending order

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103  
papers

1,869  
citations

218662

26  
h-index

315719

38  
g-index

106  
all docs

106  
docs citations

106  
times ranked

2442  
citing authors

#	ARTICLE	IF	CITATIONS
1	A molecular neuromorphic network device consisting of single-walled carbon nanotubes complexed with polyoxometalate. <i>Nature Communications</i> , 2018, 9, 2693.	12.8	100
2	Porphyrim Molecular Nanodevices Wired Using Single-Walled Carbon Nanotubes. <i>Advanced Materials</i> , 2006, 18, 1411-1415.	21.0	74
3	Photocurrent and Electronic Activities of Oriented-His-Tagged Photosynthetic Light-Harvesting/Reaction Center Core Complexes Assembled onto a Gold Electrode. <i>Biomacromolecules</i> , 2012, 13, 432-438.	5.4	71
4	Proton-induced switching of the single molecule magnetic properties of a porphyrin based TbIII double-decker complex. <i>Chemical Communications</i> , 2012, 48, 7796.	4.1	70
5	Fabrication of nanoscale gaps using a combination of self-assembled molecular and electron beam lithographic techniques. <i>Applied Physics Letters</i> , 2006, 88, 223111.	3.3	60
6	Entropy-Controlled 2D Supramolecular Structures of $\text{Ni}^{2+}$ -Bis( <i>n</i> -alkyl)naphthalenediimides on a HOPG Surface. <i>ACS Nano</i> , 2012, 6, 3876-3887.	14.6	58
7	Molecular Junctions Composed of Oligothiophene Dithiol-Bridged Gold Nanoparticles Exhibiting Photoresponsive Properties. <i>Chemistry - A European Journal</i> , 2006, 12, 607-619.	3.3	53
8	In-Materio Reservoir Computing in a Sulfonated Polyaniline Network. <i>Advanced Materials</i> , 2021, 33, e2102688.	21.0	53
9	Hybrid Approaches to Nanolithography: Photolithographic Structures with Precise, Controllable Nanometer-Scale Spacings Created by Molecular Rulers. <i>Advanced Materials</i> , 2006, 18, 1020-1022.	21.0	43
10	Volatile/Nonvolatile Dual-Functional Atom Transistor. <i>Applied Physics Express</i> , 2011, 4, 015204.	2.4	42
11	Synthesis of Dendron-Protected Porphyrin Wires and Preparation of a One-Dimensional Assembly of Gold Nanoparticles Chemically Linked to the $\pi$ -Conjugated Wires. <i>Langmuir</i> , 2007, 23, 6365-6371.	3.5	38
12	Effects of Metal-Ion Complexation for the Self-Assembled Nanocomposite Films Composed of Gold Nanoparticles and 3,8-Bis(terthiophenyl)phenanthroline-Based Dithiols Bridging 1 $\mu\text{m}$ Gap Gold Electrodes: Morphology, Temperature Dependent Electronic Conduction, and Photoresponse. <i>Journal of Physical Chemistry C</i> , 2008, 112, 11513-11526.	3.1	37
13	Syntheses, Crystal Structures, and Spectral Properties of a Series of 3,8-Bisphenyl-1,10-phenanthroline Derivatives: Precursors of 3,8-Bis(4-mercaptophenyl)-1,10-phenanthroline and Its Ruthenium(II) Complex for Preparing Nanocomposite Junctions with Gold Nanoparticles between 1 $\mu\text{m}$ Gap Gold Electrodes. <i>Inorganic Chemistry</i> , 2008, 47, 468-480.	4.0	36
14	Recent progress on fabrication of memristor and transistor-based neuromorphic devices for high signal processing speed with low power consumption. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 03EA06.	1.5	36
15	Exploiting intermolecular interactions and self-assembly for ultrahigh resolution nanolithography. <i>Journal of Vacuum Science &amp; Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2002, 20, 2739.	1.6	35
16	Visible Fluorescence Induced by the Metal Semiconductor Transition in Composites of Carbon Nanotubes with Noble Metal Nanoparticles. <i>Physical Review Letters</i> , 2007, 99, 167404.	7.8	34
17	Photoassisted Formation of an Atomic Switch. <i>Small</i> , 2010, 6, 1745-1748.	10.0	33
18	Novel charge transport in DNA-templated nanowires. <i>Journal of Materials Chemistry</i> , 2012, 22, 13691.	6.7	33

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19	I-V characteristics of single electron tunneling from symmetric and asymmetric double-barrier tunneling junctions. <i>Applied Physics Letters</i> , 2007, 90, 223112.	3.3	32
20	Fabrication of piezoresistive based pressure sensor via purified and functionalized CNTs/PDMS nanocomposite: Toward development of haptic sensors. <i>Sensors and Actuators A: Physical</i> , 2017, 266, 158-165.	4.1	31
21	Advances in nanolithography using molecular rulers. <i>Journal of Vacuum Science &amp; Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2003, 21, 3116.	1.6	30
22	Electron crystallography study of tempered iron-nitrogen martensite and structure refinement of precipitated $\epsilon$ -Fe <sub>16</sub> N <sub>2</sub> . <i>Acta Materialia</i> , 1997, 45, 1401-1410.	7.9	29
23	Vectorial Crystal Growth of Oriented Vertically Aligned Carbon Nanotubes Using Statistical Analysis. <i>Crystal Growth and Design</i> , 2015, 15, 3457-3463.	3.0	29
24	Synthesis and self-assembly of novel porphyrin molecular wires. <i>Thin Solid Films</i> , 2006, 499, 23-28.	1.8	28
25	Thin films of spin-crossover coordination polymers with large thermal hysteresis loops prepared by nanoparticle spin coating. <i>Chemical Communications</i> , 2014, 50, 10074-10077.	4.1	28
26	Switching of Single-Molecule Magnetic Properties of Tb <sup>III</sup> -Porphyrin Double-Decker Complexes and Observation of Their Supramolecular Structures on a Carbon Surface. <i>Chemistry - A European Journal</i> , 2014, 20, 11362-11369.	3.3	28
27	Vertical Alignment of Single-Walled Carbon Nanotube Films Formed by Electrophoretic Deposition. <i>Langmuir</i> , 2008, 24, 12936-12942.	3.5	27
28	Position-Selected Molecular Ruler. <i>Japanese Journal of Applied Physics</i> , 2004, 43, L950-L953.	1.5	25
29	Size-dependent single electron tunneling effect in Au nanoparticles. <i>Surface Science</i> , 2007, 601, 3907-3911.	1.9	25
30	Spectral, Structural, and Computational Studies of a New Family of Ruthenium(II) Complexes Containing Substituted 1,10-Phenanthroline Ligands and in situ Electropolymerization of a Phenanthroline Ruthenium(II) Complex Bridging Nanogap Gold Electrodes. <i>European Journal of Inorganic Chemistry</i> , 2009, 2009, 1321-1330.	2.0	25
31	Properties of Thiol End-Capped and Iodine-Doped Sexithiophene Disulfide Semiconducting Polymers Bridging Nanogap Gold Electrodes. <i>Advanced Materials</i> , 2010, 22, 2753-2758.	21.0	24
32	Volatile and nonvolatile selective switching of a photo-assisted initialized atomic switch. <i>Nanotechnology</i> , 2013, 24, 384006.	2.6	24
33	Emergence of In-Materio Intelligence from an Incidental Structure of a Single-Walled Carbon Nanotube-Porphyrin Polyoxometalate Random Network. <i>Advanced Intelligent Systems</i> , 2022, 4, .	6.1	22
34	Electronic band structure and magnetism of Fe <sub>16</sub> N <sub>2</sub> calculated by the FLAPW method. <i>Physical Review B</i> , 2000, 62, 15042-15046.	3.2	21
35	A photo-responsive molecular wire composed of a porphyrin polymer and a fullerene derivative. <i>Journal of Materials Chemistry</i> , 2009, 19, 8307.	6.7	21
36	Method for Controlling Electrical Properties of Single-Layer Graphene Nanoribbons via Adsorbed Planar Molecular Nanoparticles. <i>Scientific Reports</i> , 2015, 5, 12341.	3.3	21

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37	Preparation of organic nanoscrews from simple porphyrin derivatives. <i>Chemical Communications</i> , 2009, , 7411.	4.1	20
38	Rectification direction inversion in a phosphododecamolybdic acid/single-walled carbon nanotube junction. <i>Journal of Materials Chemistry C</i> , 2013, 1, 1137-1143.	5.5	20
39	Refinement of conditions of point-contact current imaging atomic force microscopy for molecular-scale conduction measurements. <i>Nanotechnology</i> , 2007, 18, 095501.	2.6	19
40	Controllable synthesis of MoS <sub>2</sub> /graphene low-dimensional nanocomposites and their electrical properties. <i>Applied Surface Science</i> , 2020, 504, 144193.	6.1	19
41	Multi-Curve Fitting Analysis of Temperature-Dependent I-V Curves of Poly-Hexathienylphenanthroline-Bridged Nanogap Electrodes. <i>Japanese Journal of Applied Physics</i> , 2004, 43, L634-L636.	1.5	18
42	Preparation of Very Reactive Thiol-Protected Gold Nanoparticles: Revisiting the Brust-Schiffrin Method. <i>Journal of Nanoscience and Nanotechnology</i> , 2006, 6, 708-712.	0.9	18
43	Development of haptic based piezoresistive artificial fingertip: Toward efficient tactile sensing systems for humanoids. <i>Materials Science and Engineering C</i> , 2017, 77, 1098-1103.	7.3	18
44	Facile preparation of hybrid thin films composed of spin-crossover nanoparticles and carbon nanotubes for electrical memory devices. <i>Dalton Transactions</i> , 2019, 48, 7074-7079.	3.3	17
45	Effect of Protonation on the Single-molecule-magnet Behavior of a Mixed (Phthalocyaninato)(porphyrinato)terbium Double-decker Complex. <i>Chemistry Letters</i> , 2015, 44, 668-670.	1.3	15
46	Electronic Properties of a Single-Walled Carbon Nanotube/150mer-Porphyrin System Measured by Point-Contact Current Imaging Atomic Force Microscopy. <i>Journal of Nanoscience and Nanotechnology</i> , 2006, 6, 1644-1648.	0.9	14
47	Possible High Efficiency Platform for Biosensors Based on Optimum Physical Chemistry of Carbon Nanotubes. <i>Chemical Vapor Deposition</i> , 2015, 21, 263-266.	1.3	14
48	Silicon nanodisk array with a fin field-effect transistor for time-domain weighted sum calculation toward massively parallel spiking neural networks. <i>Applied Physics Express</i> , 2016, 9, 034201.	2.4	14
49	In-materio reservoir working at low frequencies in a Ag <sub>2</sub> S-island network. <i>Nanoscale</i> , 2022, 14, 7634-7640.	5.6	14
50	Synthesis of very narrow multilayer graphene nanoribbon with turbostratic stacking. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	13
51	Performance of Ag <sup>+</sup> Ag <sub>2</sub> S core-shell nanoparticle-based random network reservoir computing device. <i>Japanese Journal of Applied Physics</i> , 2021, 60, SCCF02.	1.5	13
52	Scanning tunneling microscopy investigation of vanadyl and cobalt(II) octaethylporphyrin self-assembled monolayer arrays on graphite. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2008, 313-314, 230-233.	4.7	12
53	Advanced Photoassisted Atomic Switches Produced Using ITO Nanowire Electrodes and Molten Photoconductive Organic Semiconductors. <i>Advanced Materials</i> , 2013, 25, 5893-5897.	21.0	11
54	Room temperature demonstration of in-materio reservoir computing for optimizing Boolean function with single-walled carbon nanotube/porphyrin-polyoxometalate composite. <i>Applied Physics Express</i> , 2021, 14, 105003.	2.4	11

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55	Temperature-Dependent Current–Voltage and Photoresponsive Properties for Semiconducting Nanodevices Fabricated from an Oligothiazole Dithiol and Gold Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2013, 117, 25325-25333.	3.1	9
56	Sequential Phase Transition during Fabricating $\text{I}^2\text{-Ag}_2\text{S}$ Film on Ag Electrode by Wet Chemical Process. <i>E-Journal of Surface Science and Nanotechnology</i> , 2014, 12, 185-188.	0.4	9
57	Control of the neuromorphic learning behavior based on the aggregation of thiol-protected $\text{Ag-Ag}_2\text{S}$ core–shell nanoparticles. <i>Japanese Journal of Applied Physics</i> , 2020, 59, 015001.	1.5	9
58	In-materio computing in random networks of carbon nanotubes complexed with chemically dynamic molecules: a review. <i>Neuromorphic Computing and Engineering</i> , 2022, 2, 022002.	5.9	9
59	Synthesis of end-functionalized $\text{I}^{\text{E}}$ -conjugated porphyrin oligomers. <i>Tetrahedron</i> , 2006, 62, 4749-4755.	1.9	8
60	Tuning the electrical property of a single layer graphene nanoribbon by adsorption of planar molecular nanoparticles. <i>Nanotechnology</i> , 2017, 28, 175704.	2.6	8
61	Development of Frequency Based Taste Receptors Using Bioinspired Glucose Nanobiosensor. <i>Scientific Reports</i> , 2017, 7, 1623.	3.3	8
62	Diameter dependence of longitudinal unzipping of single-walled carbon nanotube to obtain graphene nanoribbon. <i>Japanese Journal of Applied Physics</i> , 2017, 56, 06GG12.	1.5	8
63	Self-assembly and ring-opening metathesis polymerization of cyclic conjugated molecules on highly ordered pyrolytic graphite. <i>Chemical Communications</i> , 2018, 54, 5546-5549.	4.1	8
64	Enhancement of glucose oxide electron-transfer mechanism in glucose biosensor via optimum physical chemistry of functionalized carbon nanotubes. <i>Reviews in Chemical Engineering</i> , 2017, 33, 201-215.	4.4	7
65	Energy gap opening by crossing drop cast single-layer graphene nanoribbons. <i>Nanotechnology</i> , 2018, 29, 315705.	2.6	7
66	Morphology and Electric Properties of Nonathioephene/Au Nano-Composite Thin Films Formed Between 1 $\mu\text{m}$ Gapped Electrodes. <i>Molecular Crystals and Liquid Crystals</i> , 2006, 455, 305-309.	0.9	6
67	Photo-response behavior of Au nano-particle/porphyrin polymer composite device with nano-gapped electrodes. <i>Journal of Materials Science: Materials in Electronics</i> , 2007, 18, 939-942.	2.2	6
68	Spike-based time-domain weighted-sum calculation using nanodevices for low power operation. , 2016, , ,		6
69	Electric property measurement of free-standing $\text{SrTiO}_3$ nanoparticles assembled by dielectrophoresis. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 06HE07.	1.5	6
70	Surface Self-Assembly of $\text{I}^{\text{E}}$ -Substituted Porphyrin Double-Decker Complexes Exhibiting Slow Magnetic Relaxation. <i>E-Journal of Surface Science and Nanotechnology</i> , 2014, 12, 124-128.	0.4	6
71	Preparation of Long Conjugated Porphyrin Polymers with Gold Nanoparticles at Both Ends as Electronic and/or Photonic Molecular Wires. <i>Chemistry Letters</i> , 2009, 38, 542-543.	1.3	5
72	Toward sub-20 nm hybrid nanofabrication by combining the molecular ruler method and electron beam lithography. <i>Nanotechnology</i> , 2010, 21, 495304.	2.6	5

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73	Influence of nanoparticle size to the electrical properties of naphthalenediimide on single-walled carbon nanotube wiring. <i>Nanotechnology</i> , 2012, 23, 215701.	2.6	5
74	Three site molecular orbital controlled single-molecule rectifiers based on perpendicularly linked porphyrin-imide dyads. <i>Nanoscale</i> , 2019, 11, 22724-22729.	5.6	5
75	Simple Preparation Method for Supramolecular Porphyrin Arrays on Mica Using Air-Water Interface. <i>Japanese Journal of Applied Physics</i> , 2006, 45, 2324-2327.	1.5	4
76	A new utilization of organic molecules for nanofabrication using the molecular ruler method. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2008, 313-314, 369-372.	4.7	4
77	Fabrication of Nanogap Electrodes by the Molecular Lithography Technique. <i>Japanese Journal of Applied Physics</i> , 2011, 50, 035204.	1.5	4
78	Correlation of Critical Parameters on Carbon Nanotubes Crystallinity in Chemical Vapor Deposition by Using Renewable Bioresource. <i>Journal of Nanoscience and Nanotechnology</i> , 2016, 16, 8263-8268.	0.9	4
79	Coadsorption of Tb <sup>III</sup> -Porphyrin Double-decker Single-molecule Magnets in a Porous Molecular Network: Toward Controlled Alignment of Single-molecule Magnets on a Carbon Surface. <i>Chemistry Letters</i> , 2016, 45, 286-288.	1.3	4
80	Frequency dependence dielectrophoresis technique for bridging graphene nanoribbons. <i>Applied Physics Express</i> , 2020, 13, 101004.	2.4	4
81	Observation of Cu Spin Fluctuations in High-Tc Cuprate Superconductor Nanoparticles Investigated by Muon Spin Relaxation. <i>Nanomaterials</i> , 2021, 11, 3450.	4.1	4
82	Theoretical study of electronic band structures and magnetic property of Fe <sub>16</sub> N <sub>2</sub> based on FLAPW calculations. <i>Journal of Magnetism and Magnetic Materials</i> , 1998, 177-181, 1468-1469.	2.3	3
83	Effects of radical initiators, polymerization inhibitors, and other agents on the sonochemical unzipping of double-walled carbon nanotubes. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 03ED01.	1.5	3
84	Crossover point of the field effect transistor and interconnect applications in turbostratic multilayer graphene nanoribbon channel. <i>Scientific Reports</i> , 2021, 11, 10206.	3.3	3
85	FABRICATION OF PERIODIC STANDING ROD ARRAYS BY THE SHADOW CONE METHOD. <i>International Journal of Nanoscience</i> , 2006, 05, 815-819.	0.7	2
86	Temperature-dependent I-V characteristics for the nanocomposite semiconducting films composed of a thiol end-capped dinuclear macrocyclic complex and Au-NPs bridging 1 ¼m gap gold electrodes. <i>Dalton Transactions</i> , 2012, 41, 14309.	3.3	2
87	Switching of Single-Molecule Magnetic Properties of Tb <sup>III</sup> -Porphyrin Double-Decker Complexes and Observation of Their Supramolecular Structures on a Carbon Surface. <i>Chemistry - A European Journal</i> , 2014, 20, 11237-11237.	3.3	2
88	Growth of Free-Standing La <sub>2</sub> SrCuO <sub>4</sub> Nanoparticles. <i>Materials Science Forum</i> , 2019, 966, 357-362.	0.3	2
89	Wirelessly powered dielectrophoresis of metal oxide particles using spark-gap Tesla coil. <i>Electrophoresis</i> , 2020, 41, 2159-2165.	2.4	2
90	Variable Range Hopping Resistivity in La <sub>2</sub> SrCuO <sub>4</sub> Nanoparticles Evaluated by Four Point Probe Method. <i>Key Engineering Materials</i> , 0, 860, 142-147.		

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91	Electron Diffraction and Microscopy Study and Band Structure Calculation of Ferromagnetic Iron-Nitride .ALPHA."-Fe16N2.. Journal of the Magnetics Society of Japan, 1999, 23, 858-862.	0.4	2
92	Fabrication of Nanogap Electrodes by the Molecular Lithography Technique. Japanese Journal of Applied Physics, 2011, 50, 035204.	1.5	2
93	A Method for the Fabrication of Sculptured Thin Films of Periodic Arrays of Standing Nanorods. Journal of Nanoscience and Nanotechnology, 2006, 6, 3799-3802.	0.9	1
94	Large Rectification Effect Achieved by a Combination of Carbon Nanotube Junction and Moleculeâ€“Carbon Nanotube Interface. Applied Physics Express, 2012, 5, 115102.	2.4	1
95	Nanoscale diodes composed of single-walled carbon nanotube and physically adsorbed organic molecule nanoparticles. , 2012, , .		1
96	Influence of Atmosphere on Photo-Assisted Atomic Switch Operations. Key Engineering Materials, 2013, 596, 116-120.	0.4	1
97	Progress on nanoparticle-based carbon nanotube complex: fabrication and potential application. Reviews in Inorganic Chemistry, 2016, 36, .	4.1	1
98	Emergence of Inâ€“Materio Intelligence from an Incidental Structure of a Singleâ€“Walled Carbon Nanotubeâ€“Porphyrin Polyoxometalate Random Network. Advanced Intelligent Systems, 2022, 4, 2270014.	6.1	1
99	Functionality emergence of single molecule electronics. , 2015, , .		0
100	Sequential experimental strategies of longitudinal unzipping of SWNTs: Selective width of single layer graphene nanoribbon. , 2017, , .		0
101	Effect of Synthesis Procedure on the Size of Ag/Ag2S Core-Shell Nanoparticles for Memristive Brain-Like Devices. , 2019, , .		0
102	Super-Precise Nanolithography Using Multilayer of Self-Assembled Monolayers. Hyomen Kagaku, 2004, 25, 650-655.	0.0	0
103	Title is missing!. Journal of the Vacuum Society of Japan, 2008, 51, 428-432.	0.3	0