

# Hirofumi Tanaka

## List of Publications by Citations

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96  
papers

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33  
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106  
ext. papers

1,697  
ext. citations

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4.29  
L-index

#	Paper	IF	Citations
96	Porphyrin Molecular Nanodevices Wired Using Single-Walled Carbon Nanotubes. <i>Advanced Materials</i> , <b>2006</b> , 18, 1411-1415	24	67
95	Photocurrent and electronic activities of oriented-His-tagged photosynthetic light-harvesting/reaction center core complexes assembled onto a gold electrode. <i>Biomacromolecules</i> , <b>2012</b> , 13, 432-8	6.9	63
94	A molecular neuromorphic network device consisting of single-walled carbon nanotubes complexed with polyoxometalate. <i>Nature Communications</i> , <b>2018</b> , 9, 2693	17.4	56
93	Proton-induced switching of the single molecule magnetic properties of a porphyrin based Tb(III) double-decker complex. <i>Chemical Communications</i> , <b>2012</b> , 48, 7796-8	5.8	56
92	Fabrication of nanoscale gaps using a combination of self-assembled molecular and electron beam lithographic techniques. <i>Applied Physics Letters</i> , <b>2006</b> , 88, 223111	3.4	56
91	Entropy-controlled 2D supramolecular structures of N,N'-bis(n-alkyl)naphthalenediimides on a HOPG surface. <i>ACS Nano</i> , <b>2012</b> , 6, 3876-87	16.7	52
90	Molecular junctions composed of oligothiophene dithiol-bridged gold nanoparticles exhibiting photoresponsive properties. <i>Chemistry - A European Journal</i> , <b>2005</b> , 12, 607-19	4.8	51
89	Hybrid Approaches to Nanolithography: Photolithographic Structures with Precise, Controllable Nanometer-Scale Spacings Created by Molecular Rulers. <i>Advanced Materials</i> , <b>2006</b> , 18, 1020-1022	24	41
88	Volatile/Nonvolatile Dual-Functional Atom Transistor. <i>Applied Physics Express</i> , <b>2011</b> , 4, 015204	2.4	39
87	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 $\mu$ m Gap Gold Electrodes: Morphology, Temperature Dependent Electronic Conduction, and Photoresponse. <i>Journal of Physical Chemistry C</i> , <b>2008</b> , 112, 11513-11526	3.8	37
86	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> , <b>2007</b> , 23, 6365-71	4	37
85	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 $\mu$ m gap gold electrodes. <i>Inorganic Chemistry</i> , <b>2008</b> , 47, 468-80	5.1	36
84	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> , <b>2002</b> , 20, 2739		34
83	Photoassisted formation of an atomic switch. <i>Small</i> , <b>2010</b> , 6, 1745-8	11	30
82	I-V characteristics of single electron tunneling from symmetric and asymmetric double-barrier tunneling junctions. <i>Applied Physics Letters</i> , <b>2007</b> , 90, 223112	3.4	30
81	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> , <b>2003</b> , 21, 3116		30
80	Novel charge transport in DNA-templated nanowires. <i>Journal of Materials Chemistry</i> , <b>2012</b> , 22, 13691		27

79	Vertical alignment of single-walled carbon nanotube films formed by electrophoretic deposition. <i>Langmuir</i> , <b>2008</b> , 24, 12936-42	4	27
78	Visible fluorescence induced by the metal semiconductor transition in composites of carbon nanotubes with noble metal nanoparticles. <i>Physical Review Letters</i> , <b>2007</b> , 99, 167404	7.4	27
77	Electron crystallography study of tempered iron-nitrogen martensite and structure refinement of precipitated $\gamma$ -Fe <sub>16</sub> N <sub>2</sub> . <i>Acta Materialia</i> , <b>1997</b> , 45, 1401-1410	8.4	26
76	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> , <b>2009</b> , 2009, 1321-1330	2.3	25
75	Synthesis and self-assembly of novel porphyrin molecular wires. <i>Thin Solid Films</i> , <b>2006</b> , 499, 23-28	2.2	25
74	Position-Selected Molecular Ruler. <i>Japanese Journal of Applied Physics</i> , <b>2004</b> , 43, L950-L953	1.4	25
73	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> , <b>2018</b> , 57, 03EA06	1.4	24
72	Properties of thiol end-capped and iodine-doped sexithiophene disulfide semiconducting polymers bridging nanogap gold electrodes. <i>Advanced Materials</i> , <b>2010</b> , 22, 2753-8	24	24
71	Vectorial Crystal Growth of Oriented Vertically Aligned Carbon Nanotubes Using Statistical Analysis. <i>Crystal Growth and Design</i> , <b>2015</b> , 15, 3457-3463	3.5	23
70	Size-dependent single electron tunneling effect in Au nanoparticles. <i>Surface Science</i> , <b>2007</b> , 601, 3907-3918	1.8	23
69	Thin films of spin-crossover coordination polymers with large thermal hysteresis loops prepared by nanoparticle spin coating. <i>Chemical Communications</i> , <b>2014</b> , 50, 10074-7	5.8	21
68	Switching of single-molecule magnetic properties of Tb(III)-porphyrin double-decker complexes and observation of their supramolecular structures on a carbon surface. <i>Chemistry - A European Journal</i> , <b>2014</b> , 20, 11362-9	4.8	21
67	Volatile and nonvolatile selective switching of a photo-assisted initialized atomic switch. <i>Nanotechnology</i> , <b>2013</b> , 24, 384006	3.4	20
66	Preparation of organic nanoscrews from simple porphyrin derivatives. <i>Chemical Communications</i> , <b>2009</b> , 7411-3	5.8	20
65	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> , <b>2017</b> , 266, 158-165	3.9	19
64	Method for Controlling Electrical Properties of Single-Layer Graphene Nanoribbons via Adsorbed Planar Molecular Nanoparticles. <i>Scientific Reports</i> , <b>2015</b> , 5, 12341	4.9	19
63	A photo-responsive molecular wire composed of a porphyrin polymer and a fullerene derivative. <i>Journal of Materials Chemistry</i> , <b>2009</b> , 19, 8307		19
62	Electronic band structure and magnetism of Fe <sub>16</sub> N <sub>2</sub> calculated by the FLAPW method. <i>Physical Review B</i> , <b>2000</b> , 62, 15042-15046	3.3	19

61	Multi-Curve Fitting Analysis of Temperature-Dependent I-V Curves of Poly-Hexathienylphenanthroline-Bridged Nanogap Electrodes. <i>Japanese Journal of Applied Physics</i> , <b>2004</b> , 43, L634-L636	1.4	17
60	Development of haptic based piezoresistive artificial fingertip: Toward efficient tactile sensing systems for humanoids. <i>Materials Science and Engineering C</i> , <b>2017</b> , 77, 1098-1103	8.3	15
59	Rectification direction inversion in a phosphododecamolybdic acid/single-walled carbon nanotube junction. <i>Journal of Materials Chemistry C</i> , <b>2013</b> , 1, 1137-1143	7.1	14
58	Refinement of conditions of point-contact current imaging atomic force microscopy for molecular-scale conduction measurements. <i>Nanotechnology</i> , <b>2007</b> , 18, 095501	3.4	14
57	Synthesis of very narrow multilayer graphene nanoribbon with turbostratic stacking. <i>Applied Physics Letters</i> , <b>2017</b> , 110, 201901	3.4	13
56	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> , <b>2006</b> , 6, 1644-8	1.3	13
55	Preparation of very reactive thiol-protected gold nanoparticles: revisiting the Brust-Schiffrin method. <i>Journal of Nanoscience and Nanotechnology</i> , <b>2006</b> , 6, 708-12	1.3	13
54	Facile preparation of hybrid thin films composed of spin-crossover nanoparticles and carbon nanotubes for electrical memory devices. <i>Dalton Transactions</i> , <b>2019</b> , 48, 7074-7079	4.3	12
53	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> , <b>2016</b> , 9, 034201	2.4	12
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> , <b>2008</b> , 313-314, 230-233	5.1	12
51	Possible High Efficiency Platform for Biosensors Based on Optimum Physical Chemistry of Carbon Nanotubes. <i>Chemical Vapor Deposition</i> , <b>2015</b> , 21, 263-266		11
50	In-Materio Reservoir Computing in a Sulfonated Polyaniline Network. <i>Advanced Materials</i> , <b>2021</b> , 33, e2102688	2.6	11
49	Effect of Protonation on the Single-molecule-magnet Behavior of a Mixed (Phthalocyaninato)(porphyrinato)terbium Double-decker Complex. <i>Chemistry Letters</i> , <b>2015</b> , 44, 668-670	1.7	10
48	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> , <b>2013</b> , 117, 25325-25333	3.8	9
47	Advanced photoassisted atomic switches produced using ITO nanowire electrodes and molten photoconductive organic semiconductors. <i>Advanced Materials</i> , <b>2013</b> , 25, 5893-7	2.4	9
46	Sequential Phase Transition during Fabricating Ag <sub>2</sub> S Film on Ag Electrode by Wet Chemical Process. <i>E-Journal of Surface Science and Nanotechnology</i> , <b>2014</b> , 12, 185-188	0.7	9
45	Self-assembly and ring-opening metathesis polymerization of cyclic conjugated molecules on highly ordered pyrolytic graphite. <i>Chemical Communications</i> , <b>2018</b> , 54, 5546-5549	5.8	8
44	Synthesis of end-functionalized conjugated porphyrin oligomers. <i>Tetrahedron</i> , <b>2006</b> , 62, 4749-4755	2.4	8

43	Development of Frequency Based Taste Receptors Using Bioinspired Glucose Nanobiosensor. <i>Scientific Reports</i> , <b>2017</b> , 7, 1623	4.9	7
42	Tuning the electrical property of a single layer graphene nanoribbon by adsorption of planar molecular nanoparticles. <i>Nanotechnology</i> , <b>2017</b> , 28, 175704	3.4	6
41	Energy gap opening by crossing drop cast single-layer graphene nanoribbons. <i>Nanotechnology</i> , <b>2018</b> , 29, 315705	3.4	6
40	Enhancement of glucose oxide electron-transfer mechanism in glucose biosensor via optimum physical chemistry of functionalized carbon nanotubes. <i>Reviews in Chemical Engineering</i> , <b>2017</b> , 33,	5	6
39	Diameter dependence of longitudinal unzipping of single-walled carbon nanotube to obtain graphene nanoribbon. <i>Japanese Journal of Applied Physics</i> , <b>2017</b> , 56, 06GG12	1.4	6
38	Photo-response behavior of Au nano-particle/porphyrin polymer composite device with nano-gapped electrodes. <i>Journal of Materials Science: Materials in Electronics</i> , <b>2007</b> , 18, 939-942	2.1	6
37	Morphology and Electric Properties of Nonathiophene/Au Nano-Composite Thin Films Formed Between 1 $\mu$ m Gapped Electrodes. <i>Molecular Crystals and Liquid Crystals</i> , <b>2006</b> , 455, 305-309	0.5	6
36	Spike-based time-domain weighted-sum calculation using nanodevices for low power operation <b>2016</b> ,		6
35	Controllable synthesis of MoS <sub>2</sub> /graphene low-dimensional nanocomposites and their electrical properties. <i>Applied Surface Science</i> , <b>2020</b> , 504, 144193	6.7	6
34	Electric property measurement of free-standing SrTiO <sub>3</sub> nanoparticles assembled by dielectrophoresis. <i>Japanese Journal of Applied Physics</i> , <b>2018</b> , 57, 06HE07	1.4	6
33	Toward sub-20nm hybrid nanofabrication by combining the molecular ruler method and electron beam lithography. <i>Nanotechnology</i> , <b>2010</b> , 21, 495304	3.4	5
32	Influence of nanoparticle size to the electrical properties of naphthalenediimide on single-walled carbon nanotube wiring. <i>Nanotechnology</i> , <b>2012</b> , 23, 215701	3.4	4
31	Fabrication of Nanogap Electrodes by the Molecular Lithography Technique. <i>Japanese Journal of Applied Physics</i> , <b>2011</b> , 50, 035204	1.4	4
30	Preparation of Long Conjugated Porphyrin Polymers with Gold Nanoparticles at Both Ends as Electronic and/or Photonic Molecular Wires. <i>Chemistry Letters</i> , <b>2009</b> , 38, 542-543	1.7	4
29	A new utilization of organic molecules for nanofabrication using the molecular ruler method. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , <b>2008</b> , 313-314, 369-372	5.1	4
28	Simple Preparation Method for Supramolecular Porphyrin Arrays on Mica Using Air/Water Interface. <i>Japanese Journal of Applied Physics</i> , <b>2006</b> , 45, 2324-2327	1.4	4
27	Surface Self-Assembly of Trans-Substituted Porphyrin Double-Decker Complexes Exhibiting Slow Magnetic Relaxation. <i>E-Journal of Surface Science and Nanotechnology</i> , <b>2014</b> , 12, 124-128	0.7	4
26	Coadsorption of Tb(III)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> , <b>2016</b> , 45, 286-288	1.7	3

25	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> , <b>1998</b> , 177-181, 1468-1469	2.8	3
24	Control of the neuromorphic learning behavior based on the aggregation of thiol-protected Ag-Ag <sub>2</sub> S core-shell nanoparticles. <i>Japanese Journal of Applied Physics</i> , <b>2020</b> , 59, 015001	1.4	3
23	Ag <sub>2</sub> Se Nanowire Network as an Effective In-Materio Reservoir Computing Device		3
22	Three site molecular orbital controlled single-molecule rectifiers based on perpendicularly linked porphyrin-imide dyads. <i>Nanoscale</i> , <b>2019</b> , 11, 22724-22729	7.7	3
21	Variable Range Hopping Resistivity in La <sub>2-x</sub> Sr <sub>x</sub> CuO <sub>4</sub> Nanoparticles Evaluated by Four Point Probe Method. <i>Key Engineering Materials</i> , <b>2020</b> , 860, 142-147	0.4	2
20	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> , <b>2018</b> , 57, 03ED01	1.4	2
19	Switching of Single-Molecule Magnetic Properties of TbIII Porphyrin Double-Decker Complexes and Observation of Their Supramolecular Structures on a Carbon Surface. <i>Chemistry - A European Journal</i> , <b>2014</b> , 20, 11237-11237	4.8	2
18	Temperature-dependent I-V characteristics for the nanocomposite semiconducting films composed of a thiol end-capped dinuclear macrocyclic complex and Au-NPs bridging 1 nm gap gold electrodes. <i>Dalton Transactions</i> , <b>2012</b> , 41, 14309-15	4.3	2
17	FABRICATION OF PERIODIC STANDING ROD ARRAYS BY THE SHADOW CONE METHOD. <i>International Journal of Nanoscience</i> , <b>2006</b> , 05, 815-819	0.6	2
16	Electron Diffraction and Microscopy Study and Band Structure Calculation of Ferromagnetic Iron-Nitride .ALPHA.-Fe <sub>16</sub> N <sub>2</sub> . <i>Journal of the Magnetism Society of Japan</i> , <b>1999</b> , 23, 858-862		2
15	Fabrication of Nanogap Electrodes by the Molecular Lithography Technique. <i>Japanese Journal of Applied Physics</i> , <b>2011</b> , 50, 035204	1.4	2
14	Wirelessly powered dielectrophoresis of metal oxide particles using spark-gap Tesla coil. <i>Electrophoresis</i> , <b>2020</b> , 41, 2159	3.6	2
13	Crossover point of the field effect transistor and interconnect applications in turbostratic multilayer graphene nanoribbon channel. <i>Scientific Reports</i> , <b>2021</b> , 11, 10206	4.9	2
12	Correlation of Critical Parameters on Carbon Nanotubes Crystallinity in Chemical Vapor Deposition by Using Renewable Bioresource. <i>Journal of Nanoscience and Nanotechnology</i> , <b>2016</b> , 16, 8263-8268	1.3	2
11	Growth of Free-Standing La <sub>2-x</sub> Sr <sub>x</sub> CuO <sub>4</sub> Nanoparticles. <i>Materials Science Forum</i> , <b>2019</b> , 966, 357-362	0.4	2
10	Performance of Ag-Ag <sub>2</sub> S core-shell nanoparticle-based random network reservoir computing device. <i>Japanese Journal of Applied Physics</i> , <b>2021</b> , 60, SCCF02	1.4	2
9	Influence of Atmosphere on Photo-Assisted Atomic Switch Operations. <i>Key Engineering Materials</i> , <b>2013</b> , 596, 116-120	0.4	1
8	A method for the fabrication of sculptured thin films of periodic arrays of standing nanorods. <i>Journal of Nanoscience and Nanotechnology</i> , <b>2006</b> , 6, 3799-802	1.3	1

7	Frequency dependence dielectrophoresis technique for bridging graphene nanoribbons. <i>Applied Physics Express</i> , <b>2020</b> , 13, 101004	2.4	1
6	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> , <b>2021</b> , 14, 105003	2.4	1
5	Observation of Cu Spin Fluctuations in High- Cuprate Superconductor Nanoparticles Investigated by Muon Spin Relaxation.. <i>Nanomaterials</i> , <b>2021</b> , 11,	5.4	1
4	Emergence of In-Materio Intelligence from an Incidental Structure of a Single-Walled Carbon NanotubePorphyrin Polyoxometalate Random Network. <i>Advanced Intelligent Systems</i> ,2100145	6	0
3	Emergence of In-Materio Intelligence from an Incidental Structure of a Single-Walled Carbon NanotubePorphyrin Polyoxometalate Random Network. <i>Advanced Intelligent Systems</i> , <b>2022</b> , 4, 2270014 <sup>6</sup>	6	0
2	Super-Precise Nanolithography Using Multilayer of Self-Assembled Monolayers. <i>Hyomen Kagaku</i> , <b>2004</b> , 25, 650-655		
1	???. <i>Journal of the Vacuum Society of Japan</i> , <b>2008</b> , 51, 428-432		