Tomonari Wakabayashi

List of Publications by Year
in descending order

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108 papers	3,978 citations	147801 31 h-index	123424 61 g-index
118 all docs	118 docs citations	118 times ranked	2259 citing authors

#	Article	IF	Citations
1	NMR characterization of isomers of C78, C82 and C84 fullerenes. Nature, 1992, 357, 142-145.	27.8	519
2	Isolation and identification of fullerene family: C76, C78, C82, C84, C90 and C96. Chemical Physics Letters, 1992, 188, 177-180.	2.6	250
3	Isolation and characterization of the metallofullerene LaC82. Chemical Physics Letters, 1993, 216, 67-71.	2.6	226
4	Binding Motif of Terminal Alkynes on Gold Clusters. Journal of the American Chemical Society, 2013, 135, 9450-9457.	13.7	179
5	A model for the C60 and C70 growth mechanism. Chemical Physics Letters, 1992, 190, 465-468.	2.6	167
6	Raman and surface-enhanced Raman scattering of a series of size-separated polyynes. Carbon, 2006, 44, 3168-3176.	10.3	133
7	Single-wall carbon nanotubes encaging linear chain C10H2 polyyne molecules inside. Chemical Physics Letters, 2006, 428, 356-360.	2.6	132
8	Influence of Cumulenic Chains on the Vibrational and Electronic Properties ofspâ^'sp2Amorphous Carbon. Physical Review Letters, 2007, 98, 216103.	7.8	117
9	Infrared spectroscopic study of rovibrational states of methane trapped in parahydrogen crystal. Journal of Chemical Physics, 1997, 107, 7707-7716.	3.0	110
10	High resolution infrared absorption spectra of methane molecules isolated in solid parahydrogen matrices. Journal of Chemical Physics, 1999, 111, 4191-4198.	3.0	101
11	Structures of Carbon Soot Prepared by Laser Ablation. The Journal of Physical Chemistry, 1996, 100, 5839-5843.	2.9	91
12	Selective synthesis of organogold magic clusters Au54(Cî€,CPh)26. Chemical Communications, 2012, 48, 6085.	4.1	91
13	[16.16.16](1,3,5)Cyclophanetetracosayne (C60H6):Â A Precursor to C60Fullerene. Journal of the American Chemical Society, 1998, 120, 4544-4545.	13.7	88
14	Raman Spectroscopy of Size-Selected Linear Polyyne Molecules C2nH2(n= 4â^'6) Encapsulated in Single-Wall Carbon Nanotubes. Journal of Physical Chemistry C, 2007, 111, 5178-5183.	3.1	83
15	[2 + 2] Cycloreversion of [4.3.2]Propella-1,3,11-trienes:Â An Approach to Cyclo[n]carbons from Propellane-Annelated Dehydro[n]annulenes. Journal of the American Chemical Society, 2000, 122, 1762-1775.	13.7	67
16	Generation of Cyclocarbons with 4n Carbon Atoms(C12, C16, and C20) by[2+ 2] Cycloreversion of Propellane-Annelated Dehydroannulenes. Angewandte Chemie International Edition in English, 1996, 35, 1800-1802.	4.4	57
17	Pressure-Controlled Selective Isomer Formation of Fullerene C78. The Journal of Physical Chemistry, 1994, 98, 3090-3091.	2.9	56
18	A New Entry into Cyclo[n]carbons:Â [2 + 2] Cycloreversion of Propellane-Annelated Dehydroannulenes. Journal of the American Chemical Society, 1996, 118, 2758-2759.	13.7	56

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19	Polyyne cyclization to form carbon cages: [16.16.16](1,3,5)cyclophanetetracosayne derivatives C60H6 and C60Cl6 as precursors to C60 fullerene. Tetrahedron, 2001, 57, 3629-3636.	1.9	53
20	Resonance Raman spectra of polyyne molecules C10H2 and C12H2 in solution. Chemical Physics Letters, 2007, 433, 296-300.	2.6	48
21	Infrared Spectroscopic Studies on Photolysis of Ethyl Iodide in Solid Parahydrogen. Journal of Physical Chemistry A, 1997, 101, 522-527.	2.5	45
22	A selective isomer growth of fullerenes. Chemical Physics Letters, 1993, 201, 470-474.	2.6	44
23	Towards the selective formation of specific isomers of fullerenes: T - and p -dependence in the yield of various isomers of fullerenes C 60 Â–C 84. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1997, 40, 414-417.	1.0	44
24	Flashing Carbon on Cold Surfaces. Journal of Physical Chemistry B, 2004, 108, 3686-3690.	2.6	44
25	Photoelectron spectroscopy of Cnâ¯ produced from laser ablated dehydroannulene derivatives having carbon ring size of n=12, 16, 18, 20, and 24. Journal of Chemical Physics, 1997, 107, 4783-4787.	3.0	43
26	Higher Fullerenes: Structure and Properties. Materials Research Society Symposia Proceedings, 1994, 359, 3.	0.1	40
27	High-Resolution Infrared Absorption Spectroscopy of C60Molecules and Clusters in Parahydrogen Solidsâ€. Journal of Physical Chemistry A, 2000, 104, 3733-3742.	2.5	40
28	Synthesis of polyyne molecules from hexane by irradiation of intense femtosecond laser pulses. Carbon, 2010, 48, 1673-1676.	10.3	39
29	Neutrino spectroscopy with atoms and molecules. Progress of Theoretical and Experimental Physics, 2012, 2012, .	6.6	37
30	Trends in Large Fullerenes: Are They Balls or Tubes. , 1996, , 139-147.		37
31	Tunneling chemical reactions in solid parahydrogen: A case of CD3+H2â†'CD3H+H at 5 K. Journal of Chemical Physics, 1998, 108, 7334-7338.	3.0	36
32	[12.12]Paracyclophanedodecaynes C36H8 and C36Cl8: The Smallest Paracyclophynes and Their Transformation into the Carbon Cluster Ion C36â¯ This work was supported in part by Grants-in-Aid for Scientific Research from the Ministry of Education,Science,Sports and Culture of Japan. Y.T. is grateful to Shin-Etsu Chemical Co. for the generous gift of an organosilicon reagent.. Angewandte Chemie - International Edition, 2001, 40, 4072.	13.8	33
33	Formation and stability of small metallocarbon clusters: what is the specificity for the formation of stable metallofullerenes?. International Journal of Mass Spectrometry and Ion Processes, 1994, 138, 297-306.	1.8	29
34	High-resolution laser spectroscopy of methane clusters trapped in solid parahydrogen. Journal of Chemical Physics, 1997, 107, 7717-7720.	3.0	29
35	Infrared spectroscopic study of rovibrational states of perdeuterated methane (CD4) trapped in parahydrogen crystal. Journal of Chemical Physics, 1999, 110, 5728-5733.	3.0	29
36	Generation and Characterization of Highly Strained Dibenzotetrakisdehydro[12]annulene. Journal of the American Chemical Society, 2003, 125, 5614-5615.	13.7	29

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37	Cleavage of a P=P Double Bond Mediated by Nâ€Heterocyclic Carbenes. Angewandte Chemie - International Edition, 2017, 56, 5765-5769.	13.8	29
38	Isotope scrambling in the formation of cyanopolyynes by laser ablation of carbon particles in liquid acetonitrile. Carbon, 2012, 50, 47-56.	10.3	27
39	Infrared Spectroscopic Studies of Carbon Clusters Trapped in Solid Parahydrogen. The Journal of Physical Chemistry, 1996, 100, 12135-12137.	2.9	26
40	Pyridine analogue of macrocyclic polyyne C58H4N2 as a precursor to diazafullerene C58N2. Chemical Communications, 1999, , 1625-1626.	4.1	26
41	Photoinduced reactions of methyl radical in solid parahydrogen. Journal of Chemical Physics, 1998, 109, 6346-6350.	3.0	25
42	Laser induced emission spectra of polyyne molecules C2nH2 (n=5â€“8). Chemical Physics Letters, 2007, 446, 65-70.	2.6	25
43	Polyyne formation by ns and fs laser induced breakdown in hydrocarbon gas flow. Carbon, 2017, 115, 169-174.	10.3	25
44	Synthesis of hydrogen- and methyl-capped long-chain polyynes by intense ultrashort laser pulse irradiation of toluene. Carbon, 2017, 118, 680-685.	10.3	23
45	C2-LOSS FRAGMENTATION OF HIGHER FULLERENES AND METALLOFULLERENES. Surface Review and Letters, 1996, 03, 793-798.	1.1	22
46	Mass spectroscopic studies of laser ablated carbon clusters as studied by photoionization with 10.5 eV photons under high vacuum. Journal of Chemical Physics, 1999, 111, 6260-6263.	3.0	21
47	Generation and Characterization of Highly Strained Dibenzotetrakisdehydro[12]- and Dibenzopentakisdehydro[14]annulenes. Journal of Organic Chemistry, 2005, 70, 1853-1864.	3.2	21
48	Size-Selective Formation of C78 Fullerene from a Three-Dimensional Polyyne Precursor. Chemistry - A European Journal, 2005, 11, 1603-1609.	3.3	19
49	Polyyne formation by graphite laser ablation in argon and propane mixed gases. Carbon, 2015, 94, 124-128.	10.3	19
50	Computational study on the luminescence quantum yields of terbium complexes with 2,2â€²-bipyridine derivative ligands. Physical Chemistry Chemical Physics, 2018, 20, 3328-3333.	2.8	19
51	Raman spectral features of longer polyynes HC2 nH (${sf n=4}$ â€“8) in SWNTs. European Physical Journal D, 2009, 52, 79-82.	1.3	18
52	Ring-stacking consideration on higher fullerene growth. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1993, 26, 258-260.	1.0	17
53	ESR detection of non-equivalent scandium trimer. Chemical Physics Letters, 1994, 229, 512-516.	2.6	17
54	Coagulation of linear carbon molecules into nanoparticles: a molecular dynamics study. Chemical Physics Letters, 2004, 388, 436-440.	2.6	17

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55	UV and IR absorption spectra of C3 embedded in solid para-hydrogen. Chemical Physics, 2004, 300, 69-77.	1.9	15
56	A mass spectroscopic study of laser vaporized graphite in H2 and D2 gases: the stability of C2nH2 (n=2â€“5) and C10. Chemical Physics Letters, 2004, 386, 279-285.	2.6	15
57	Changes in the Electronic Transitions of Polyethylene Glycol upon the Formation of a Coordinate Bond with Li⁺, Studied by ATR Far-Ultraviolet Spectroscopy. Journal of Physical Chemistry A, 2019, 123, 10746-10756.	2.5	15
58	A hypothetical growth mechanism of carbon five- and six-membered ring networks. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1993, 19, 14-17.	3.5	14
59	Preferential formation of C10â¯ upon tandem irradiation of graphite with IR and UV laser pulses. Journal of Chemical Physics, 1997, 107, 1152-1155.	3.0	14
60	Higher fullerenes; separation and molecular structures. Synthetic Metals, 1993, 56, 3208-3213.	3.9	13
61	Photoionization/fragmentation of endohedral fullerenes. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1997, 40, 410-413.	1.0	13
62	HPLC analysis for fullerenes up to C96 and the use of the laser furnace technique to study fullerene formation process. European Physical Journal D, 1999, 9, 355-358.	1.3	13
63	Surface-enhanced Raman scattering of size-selected polyynes (C8H2) adsorbed on silver colloidal nanoparticles. Chemical Physics Letters, 2011, 503, 118-123.	2.6	13
64	Carbon-Rich Compounds: Acetylene-Based Carbon Allotropes. , 2005, , 387-426.		12
65	Photoinduced Reaction of Hydrogen-End-Capped Polyynes with Iodine Molecules. Journal of Physical Chemistry B, 2011, 115, 8439-8445.	2.6	11
66	Spectroscopic characterization of a series of polyyneâ€“iodine molecular complexes H(CC)nH(I6) of n=5â€“9. Chemical Physics Letters, 2012, 541, 54-59.	2.6	11
67	Stability of Metallofullerene $f LaC_{82}$ on UV Light Irradiation. Japanese Journal of Applied Physics, 1994, 33, L1265-L1267.	1.5	10
68	Tunable-narrow-linewidth continuous-wave mid-infrared light generation by difference-frequency mixing. Journal of the Optical Society of America B: Optical Physics, 1996, 13, 1706.	2.1	10
69	Bildung von Cyclo[n]kohlenstoffen mit 4n Kohlenstoffatomen (C₁₂,) Tj ETQq1 1 0.784314 rgBT /Overlock 1 Dehydroannulenen. Angewandte Chemie, 1996, 108, 1924-1926.	2.0	10
70	Laser induced fluorescence spectra of the Dâ€‰1â¯u+â†'Bâ€²â€‰1âg+ and Câ€‰1Îgâ†'Aâ€‰1âu systems of C2 in solid Ne. Journa of Chemical Physics, 2002, 116, 5996-6001.	3.0	10
71	Preferential formation of neutral C10 upon laser vaporized graphite in He gas as studied by photoionization mass spectroscopy with 10.5 eV photons. Journal of Chemical Physics, 2003, 118, 5390-5394.	3.0	10
72	Matrix isolation spectroscopy and spectral simulations of isotopically substituted C60 molecules. Journal of Chemical Physics, 2019, 151, 234301.	3.0	10

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73	Elucidation of the electronic states in polyethylene glycol by attenuated Total reflectance spectroscopy in the far-ultraviolet region. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2018, 197, 170-175.	3.9	9
74	Infrared Spectroscopic Study on Photolysis of Ethyl Iodide in Solid Parahydrogen:Â Perdeuterated Iodide Systemâ€. Journal of Physical Chemistry A, 2001, 105, 3077-3086.	2.5	8
75	Observation of new near infrared emission band systems of small bismuth clusters in solid neon matrix. European Physical Journal D, 2013, 67, 1.	1.3	8
76	Simultaneous Measurements of Superradiance at Multiple Wavelength from Helium Excited States: II. Analysis. Journal of the Physical Society of Japan, 2016, 85, 034301.	1.6	8
77	Determining the Coordination Number of Li+ and Glyme or Poly(ethylene glycol) in Solution Using Attenuated Total Reflectance-Far Ultraviolet Spectroscopy. Analytical Sciences, 2020, 36, 91-93.	1.6	8
78	Size selection and focusing of neutral carbon clusters. Chemical Physics Letters, 1991, 182, 12-16.	2.6	7
79	Approaches to Size-selective Formation of Fullerenes by Cyclization of Highly Reactive Polyyne Chains. Chemistry Letters, 2005, 34, 1574-1579.	1.3	7
80	Phosphorescence excitation mapping and vibrational spectroscopy of HC9N and HC11N cyanopolyynes in organic solvents. Journal of Molecular Structure, 2020, 1214, 128201.	3.6	7
81	Vibronic bands in the HOMO-LUMO excitation of linear polyyne molecules. Journal of Physics: Conference Series, 2013, 428, 012004.	0.4	6
82	Low temperature in situ Raman spectroscopy of an electro-generated arylbis(arylthio)sulfonium ion. Chemical Communications, 2015, 51, 13106-13109.	4.1	6
83	Efficient polyyne formation by ns and fs laser-induced breakdown in ethylene and acetylene gas flow. Carbon, 2019, 152, 372-375.	10.3	6
84	Theoretical study of lanthanideâ€based in vivo luminescent probes for detecting hydrogen peroxide. Journal of Computational Chemistry, 2019, 40, 500-506.	3.3	6
85	Generation of infrared radiation by stimulated Raman scattering in para-hydrogen crystal at 5 K. Optics Letters, 2003, 28, 37.	3.3	5
86	Photoinduced reaction of methylpolyynes H(Câ‰¡C)nCH3 (nÂ=Â5-7) and polyyne H(Câ‰¡C)5H with I2 molecules. European Physical Journal D, 2012, 66, 1.	1.3	5
87	Stability, structures and a hypothetical growth mechanism of carbon 5/6 network. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1993, 26, 69-73.	1.0	4
88	Production of Ba Metastable State via Superradiance. Journal of the Physical Society of Japan, 2014, 83, 044301.	1.6	4
89	Interaction of Carbon Linear Chains with Silver Island Film Studied by Surface-Enhanced Raman Scattering. Journal of Nanoelectronics and Optoelectronics, 2009, 4, 220-223.	0.5	4
90	Laser induced dissociation of linear C[sub 6] and reorientation of trapping sites in solid neon. AIP Conference Proceedings, 2001, , .	0.4	3

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91	Anticorrelated formation of fullerenes and polyynes upon laser ablation of graphite under various concentrations of hydrogen sources. Chemical Physics Letters, 2015, 642, 35-38.	2.6	3
92	Generation and reactions of thiirenium ions by the Cation Pool method. Arkivoc, 2018, 2018, 97-113.	0.5	3
93	FULLERENE C60: A POSSIBLE MOLECULAR QUANTUM COMPUTER. , 2009, , .		2
94	Coherence decay measurement of v = 2 vibrons in solid parahydrogen. Journal of Chemical Physics, 2013, 138, 024507.	3.0	2
95	Low-Lying Electronic States in Bismuth Trimer Bi₃ As Revealed by Laser-Induced NIR Emission Spectroscopy in Solid Ne. Journal of Physical Chemistry A, 2015, 119, 2644-2650.	2.5	2
96	Carbon Chain Molecules in Cryogenic Matrices. , 2005, , 1-14.		2
97	Structure and Stability of Large Carbon Clusters. Springer Series in Cluster Physics, 1999, , 379-388.	0.3	2
98	High resolution laser spectroscopy of solid parahydrogen at liquid helium temperatures. European Physical Journal D, 1996, 46, 529-530.	0.4	1
99	Generation of polyyne and methylpolyyne molecules from toluene by intense femtosecond laser pulse irradiation. Journal of Physics: Conference Series, 2015, 635, 112125.	0.4	1
100	Time-of-Flight Mass Spectroscopy of Carbon Clusters and Hydrocarbons Produced by Laser Ablation of Graphite under H2 and He Buffer Gas-Formation and Stability of C10 and C2nH2 (n=2-5)-. Journal of the Mass Spectrometry Society of Japan, 2005, 53, 203-210.	0.1	1
101	Phosphorescence of Hydrogen-Capped Linear Polyyne Molecules C8H2, C10H2 and C12H2 in Solid Hexane Matrices at 20 K. Photochem, 2022, 2, 181-201.	2.2	1
102	Two dimensional detection of size selected and focused neutral carbon clusters using image intensified charge coupled device (ICCD) system. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1993, 26, 317-319.	1.0	0
103	[12.12]Paracyclophanedodecaynes C36H8 and C36Cl8: The Smallest Paracyclophynes and Their Transformation into the Carbon Cluster Ion C36â¯. Angewandte Chemie - International Edition, 2002, 41, 16-16.	13.8	0
104	Bi2Ne: Weakly bound cluster of diatomic bismuth with neon. Low Temperature Physics, 2019, 45, 689-696.	0.6	0
105	Polyynes (C2nH2, n=2â€“5) and Other Products from Laser-Ablated Graphite. , 2005, , 181-196.		0
106	Cyclic Polyynes. , 2005, , 99-126.		0
107	Photoionization/fragmentation of endohedral fullerenes. , 1997, , 410-413.		0
108	Spectroscopic study on polyynes and their composite materials. Tanso, 2022, 2022, 18-29.	0.1	0