

# Sakae Toyoda

## List of Publications by Year in descending order

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99  
papers

4,429  
citations

94433

37  
h-index

114465

63  
g-index

106  
all docs

106  
docs citations

106  
times ranked

3062  
citing authors

#	ARTICLE	IF	CITATIONS
1	Determination of Nitrogen Isotopomers of Nitrous Oxide on a Modified Isotope Ratio Mass Spectrometer. <i>Analytical Chemistry</i> , 1999, 71, 4711-4718.	6.5	314
2	Constraining the atmospheric N <sub>2</sub> O budget from intramolecular site preference in N <sub>2</sub> O isotopomers. <i>Nature</i> , 2000, 405, 330-334.	27.8	301
3	Fractionation of N <sub>2</sub> O isotopomers during production by denitrifier. <i>Soil Biology and Biochemistry</i> , 2005, 37, 1535-1545.	8.8	246
4	N <sub>2</sub> O production, a widespread trait in fungi. <i>Scientific Reports</i> , 2015, 5, 9697.	3.3	190
5	Microbiology of nitrogen cycle in animal manure compost. <i>Microbial Biotechnology</i> , 2011, 4, 700-709.	4.2	133
6	Source of Nitrous Oxide Emissions during the Cow Manure Composting Process as Revealed by Isotopomer Analysis of and <i>amoA</i> Abundance in Betaproteobacterial Ammonia-Oxidizing Bacteria. <i>Applied and Environmental Microbiology</i> , 2010, 76, 1555-1562.	3.1	126
7	Isotopocule analysis of biologically produced nitrous oxide in various environments. <i>Mass Spectrometry Reviews</i> , 2017, 36, 135-160.	5.4	126
8	Characterization and production and consumption processes of N <sub>2</sub> O emitted from temperate agricultural soils determined via isotopomer ratio analysis. <i>Global Biogeochemical Cycles</i> , 2011, 25, n/a-n/a.	4.9	123
9	Nitrogen and oxygen isotopomeric constraints on the origins and sea-to-air flux of N <sub>2</sub> O in the oligotrophic subtropical North Pacific gyre. <i>Global Biogeochemical Cycles</i> , 2002, 16, 12-1-12-10.	4.9	116
10	Role of nitrification and denitrification on the nitrous oxide cycle in the eastern tropical North Pacific and Gulf of California. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	110
11	Source identification of nitrous oxide emission pathways from a single-stage nitrification-anammox granular reactor. <i>Water Research</i> , 2016, 102, 147-157.	11.3	106
12	Production mechanism and global budget of N <sub>2</sub> O inferred from its isotopomers in the western North Pacific. <i>Geophysical Research Letters</i> , 2002, 29, 7-1.	4.0	98
13	Biogeochemistry of nitrous oxide in groundwater in a forested ecosystem elucidated by nitrous oxide isotopomer measurements. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 3115-3133.	3.9	92
14	Interlaboratory assessment of nitrous oxide isotopomer analysis by isotope ratio mass spectrometry and laser spectroscopy: current status and perspectives. <i>Rapid Communications in Mass Spectrometry</i> , 2014, 28, 1995-2007.	1.5	89
15	Isotopomer Analysis of Production and Consumption Mechanisms of N <sub>2</sub> O and CH <sub>4</sub> in an Advanced Wastewater Treatment System. <i>Environmental Science &amp; Technology</i> , 2011, 45, 917-922.	10.0	77
16	Application of mercury porosimetry to coal. <i>Fuel</i> , 1972, 51, 199-201.	6.4	74
17	An X-ray diffraction study of phenol-formaldehyde resin carbons. <i>Carbon</i> , 1968, 6, 359-363.	10.3	73
18	Diurnal fluxes and the isotopomer ratios of N <sub>2</sub> O in a temperate grassland following urine amendment. <i>Rapid Communications in Mass Spectrometry</i> , 2001, 15, 1263-1269.	1.5	73

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19	Dual isotope and isotopomer ratios of N <sub>2</sub> O emitted from a temperate grassland soil after fertiliser application. <i>Rapid Communications in Mass Spectrometry</i> , 2003, 17, 2550-2556.	1.5	73
20	Site selective real-time measurements of atmospheric N <sub>2</sub> O isotopomers by laser spectroscopy. <i>Atmospheric Measurement Techniques</i> , 2012, 5, 1601-1609.	3.1	72
21	Relative Contribution of <i>nirK</i> and <i>nirS</i> Bacterial Denitrifiers as Well as Fungal Denitrifiers to Nitrous Oxide Production from Dairy Manure Compost. <i>Environmental Science &amp; Technology</i> , 2017, 51, 14083-14091.	10.0	68
22	What can we learn from N <sub>2</sub> O isotope data? – Analytics, processes and modelling. <i>Rapid Communications in Mass Spectrometry</i> , 2020, 34, e8858.	1.5	67
23	Isotopomer analysis of nitrous oxide accumulated in soil cultivated with tea ( <i>Camellia sinensis</i> ) in Shizuoka, central Japan. <i>Soil Biology and Biochemistry</i> , 2014, 77, 276-291.	8.8	65
24	Source identification of nitrous oxide on autotrophic partial nitrification in a granular sludge reactor. <i>Water Research</i> , 2013, 47, 7078-7086.	11.3	62
25	Micropore structure of coal. <i>Fuel</i> , 1971, 50, 187-200.	6.4	55
26	A liquid nitrogen-free preconcentration unit for measurements of ambient N <sub>2</sub> O isotopomers by QCLAS. <i>Atmospheric Measurement Techniques</i> , 2010, 3, 609-618.	3.1	55
27	Isotopomeric analysis of N <sub>2</sub> O dissolved in a river in the Tokyo metropolitan area. <i>Rapid Communications in Mass Spectrometry</i> , 2009, 23, 809-821.	1.5	53
28	Identification of key nitrous oxide production pathways in aerobic partial nitrifying granules. <i>Environmental Microbiology</i> , 2014, 16, 3168-3180.	3.8	49
29	Fractionation of N <sub>2</sub> O isotopomers in the stratosphere. <i>Journal of Geophysical Research</i> , 2001, 106, 7515-7522.	3.3	48
30	Measurement of isotopomer signatures of N <sub>2</sub> O in groundwater. <i>Journal of Geophysical Research</i> , 2005, 110, n/a-n/a.	3.3	45
31	Ultraviolet absorption cross sections of carbonyl sulfide isotopologues OC <sup>32</sup> S, OC <sup>33</sup> S, OC <sup>34</sup> S and O <sup>13</sup> CS: isotopic fractionation in photolysis and atmospheric implications. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 10209-10209.	4.9	45
32	Mitigation of greenhouse gas emission from the cattle manure composting process by use of a bulking agent. <i>Soil Science and Plant Nutrition</i> , 2013, 59, 96-106.	1.9	45
33	Isotopomer analysis of production, consumption and soil-to-atmosphere emission processes of N <sub>2</sub> O at the beginning of paddy field irrigation. <i>Soil Biology and Biochemistry</i> , 2014, 70, 66-78.	8.8	45
34	Extending records of the isotopic composition of atmospheric N <sub>2</sub> O back to 1800 A.D. from air trapped in snow at the South Pole and the Greenland Ice Sheet Project II ice core. <i>Global Biogeochemical Cycles</i> , 2002, 16, 76-1-76-10.	4.9	42
35	Contributions of denitrification and mixing on the distribution of nitrous oxide in the North Pacific. <i>Geophysical Research Letters</i> , 2005, 32, n/a-n/a.	4.0	41
36	The <sup>15</sup> N natural abundance of the N lost from an N-saturated subtropical forest in southern China. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	39

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37	Isotopomeric characterization of nitrous oxide produced by reaction of enzymes extracted from nitrifying and denitrifying bacteria. <i>Biogeosciences</i> , 2014, 11, 2679-2689.	3.3	39
38	Fine structure of carbonized coals. <i>Carbon</i> , 1970, 8, 565-571.	10.3	38
39	Interaction of epidermal growth factor with specific binding sites of enterocytes isolated from rat small intestine during development. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 1986, 886, 295-301.	4.1	38
40	Decadal time series of tropospheric abundance of N <sub>2</sub> O isotopomers and isotopologues in the Northern Hemisphere obtained by the long-term observation at Hateruma Island, Japan. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 3369-3381.	3.3	38
41	Temporal and latitudinal distributions of stratospheric N <sub>2</sub> O isotopomers. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	35
42	Response of N <sub>2</sub> O production rate to ocean acidification in the western North Pacific. <i>Nature Climate Change</i> , 2019, 9, 954-958.	18.8	31
43	Change in pore structure of active carbon with heat-treatment. <i>Carbon</i> , 1972, 10, 13-18.	10.3	30
44	Detailed investigation on 800 TeV jet interaction. <i>Il Nuovo Cimento A</i> , 1982, 69, 295-338.	0.2	28
45	Isotopic analysis of N <sub>2</sub> O produced in a conventional wastewater treatment system operated under different aeration conditions. <i>Rapid Communications in Mass Spectrometry</i> , 2014, 28, 1883-1892.	1.5	28
46	The seasonal variations of atmospheric <sup>134</sup> Cs and <sup>137</sup> Cs activity and possible host particles for their resuspension in the contaminated areas of Tsushima and Yamakiya, Fukushima, Japan. <i>Progress in Earth and Planetary Science</i> , 2018, 5, .	3.0	28
47	Denitrifiers in the surface zone are primarily responsible for the nitrous oxide emission of dairy manure compost. <i>Journal of Hazardous Materials</i> , 2013, 248-249, 329-336.	12.4	27
48	Nitrogen isotope ratios of nitrate and N* anomalies in the subtropical South Pacific. <i>Geochemistry, Geophysics, Geosystems</i> , 2015, 16, 1439-1448.	2.5	27
49	Determination of the Sulfur Isotope Ratio in Carbonyl Sulfide Using Gas Chromatography/Isotope Ratio Mass Spectrometry on Fragment Ions <sup>32</sup> S <sup>+</sup> , <sup>33</sup> S <sup>+</sup> , and <sup>34</sup> S <sup>+</sup> . <i>Analytical Chemistry</i> , 2015, 87, 477-484.	6.5	27
50	Distribution of nitrous oxide dissolved in water masses in the eastern subtropical North Pacific and its origin inferred from isotopomer analysis. <i>Journal of Oceanography</i> , 2013, 69, 147-157.	1.7	26
51	Differential N <sub>2</sub> O dynamics in two oxygen-deficient lake basins revealed by stable isotope and isotopomer distributions. <i>Limnology and Oceanography</i> , 2016, 61, 1735-1749.	3.1	26
52	Biogeochemistry of nitrous oxide in Lake Kizaki, Japan, elucidated by nitrous oxide isotopomer analysis. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	25
53	Isotopomeric characterization of N <sub>2</sub> O produced, consumed, and emitted by automobiles. <i>Rapid Communications in Mass Spectrometry</i> , 2008, 22, 603-612.	1.5	24
54	Isotopomer and isotopologue signatures of N <sub>2</sub> O produced in alpine ecosystems on the Qinghai-Tibetan Plateau. <i>Rapid Communications in Mass Spectrometry</i> , 2013, 27, 1517-1526.	1.5	24

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55	Physiological factors controlling release of enterokinase from rat enterocytes. <i>Digestive Diseases and Sciences</i> , 1985, 30, 1174-1180.	2.3	21
56	Preliminary assessment of stable nitrogen and oxygen isotopic composition of USGS51 and USGS52 nitrous oxide reference gases and perspectives on calibration needs. <i>Rapid Communications in Mass Spectrometry</i> , 2018, 32, 1207-1214.	1.5	21
57	Contribution of atmospheric nitrate to stream water nitrate in Japanese coniferous forests revealed by the oxygen isotope ratio of nitrate. <i>Rapid Communications in Mass Spectrometry</i> , 2010, 24, 1281-1286.	1.5	20
58	Variations of stratospheric trace gases measured using a balloon-borne cryogenic sampler. <i>Advances in Space Research</i> , 2002, 30, 1349-1357.	2.6	19
59	N <sub>2</sub> O production by denitrification in an urban river: evidence from isotopes, functional genes, and dissolved organic matter. <i>Limnology</i> , 2018, 19, 115-126.	1.5	19
60	Ionic strength and pH dependence of binding constants of Am(III)- and Eu(III)-humates. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 1994, 186, 129-141.	1.5	18
61	Use of a size-resolved 1-D resuspension scheme to evaluate resuspended radioactive material associated with mineral dust particles from the ground surface. <i>Journal of Environmental Radioactivity</i> , 2017, 166, 436-448.	1.7	18
62	Reassessment of the NH <sub>4</sub> <sup>+</sup> NO <sub>3</sub> <sup>-</sup> thermal decomposition technique for calibration of the N <sub>2</sub> O isotopic composition. <i>Rapid Communications in Mass Spectrometry</i> , 2016, 30, 2487-2496.	1.5	17
63	Temperature control on wastewater and downstream nitrous oxide emissions in an urbanized river system. <i>Water Research</i> , 2020, 187, 116417.	11.3	17
64	Origin and fluxes of nitrous oxide along a latitudinal transect in western North Pacific: Controls and regional significance. <i>Global Biogeochemical Cycles</i> , 2015, 29, 1014-1027.	4.9	15
65	Identifying the origin of nitrous oxide dissolved in deep ocean by concentration and isotopic analyses. <i>Scientific Reports</i> , 2019, 9, 7790.	3.3	15
66	Electron spin resonance of heattreated phenol-formaldehyde resins. <i>Carbon</i> , 1970, 8, 473-477.	10.3	14
67	Sulfur Isotopic Fractionation of Carbonyl Sulfide during Degradation by Soil Bacteria. <i>Environmental Science &amp; Technology</i> , 2016, 50, 3537-3544.	10.0	14
68	Insight into nitrous oxide production processes in the western North Pacific based on a marine ecosystem isotopomer model. <i>Journal of Oceanography</i> , 2016, 72, 491-508.	1.7	13
69	Measurements of stable carbon isotopic composition of ethane and propane over the western North Pacific and eastern Indian Ocean: A useful indicator of atmospheric transport process. <i>Journal of Atmospheric Chemistry</i> , 2007, 56, 293-314.	3.2	12
70	Age and gravitational separation of the stratospheric air over Indonesia. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 1819-1833.	4.9	12
71	Spatial distribution of dissolved methane and its source in the western Arctic Ocean. <i>Journal of Oceanography</i> , 2018, 74, 305-317.	1.7	12
72	Distribution and Production Mechanisms of N <sub>2</sub> O in the Western Arctic Ocean. <i>Global Biogeochemical Cycles</i> , 2021, 35, e2020GB006881.	4.9	11

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73	Precise isotope abundance ratio measurement of nitrous oxide using diode lasers. <i>Sensors and Actuators B: Chemical</i> , 2003, 90, 250-255.	7.8	10
74	Development of automated preparation system for isotopocule analysis of N <sub>2</sub> O in various air samples. <i>Atmospheric Measurement Techniques</i> , 2016, 9, 2093-2101.	3.1	10
75	Coordinated Upper-Troposphere-to-Stratosphere Balloon Experiment in Biak. <i>Bulletin of the American Meteorological Society</i> , 2018, 99, 1213-1230.	3.3	10
76	Revisiting the involvement of ammonia oxidizers and denitrifiers in nitrous oxide emission from cropland soils. <i>Environmental Pollution</i> , 2021, 287, 117494.	7.5	10
77	Spatial variation of nitrogen cycling in a subtropical stratified impoundment in southwest China, elucidated by nitrous oxide isotopomer and nitrate isotopes. <i>Inland Waters</i> , 2018, 8, 186-195.	2.2	8
78	Stratospheric Incursion as a Source of Enhancement of the Isotopic Ratios of Atmospheric N <sub>2</sub> O at Western Pacific. <i>Earth and Space Science</i> , 2020, 7, e2020EA001102.	2.6	8
79	Cryogen-Free Automated Gas Chromatograph System for Monitoring of Halocarbons in the Atmosphere at Background Concentration Levels.. <i>Analytical Sciences</i> , 1998, 14, 917-923.	1.6	7
80	Neoadjuvant therapy and bladder substitute for invasive bladder cancer: 20 years experience at Tohoku University. <i>International Journal of Urology</i> , 1999, 6, 68-74.	1.0	7
81	First investigation and absolute calibration of clumped isotopes in N <sub>2</sub> O by mid-infrared laser spectroscopy. <i>Rapid Communications in Mass Spectrometry</i> , 2020, 34, e8836.	1.5	7
82	Vertical distributions of N <sub>2</sub> O isotopocules in the equatorial stratosphere. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 833-844.	4.9	6
83	Biochar amendment suppresses N <sub>2</sub> O emissions but has no impact on <sup>15</sup> N site preference in an anaerobic soil. <i>Rapid Communications in Mass Spectrometry</i> , 2019, 33, 165-175.	1.5	6
84	Characterization of hydrocarbons in aerosols and investigation of biogenic sources as a carrier of radiocesium isotopes. <i>Geochemical Journal</i> , 2018, 52, 163-172.	1.0	6
85	Nitrogen Sources for Phytoplankton in the Eastern Indian Ocean Determined From <sup>15</sup> N of Chlorophyll <i>a</i> and Divinylchlorophyll <i>a</i> . <i>Geochemistry, Geophysics, Geosystems</i> , 2022, 23, .	2.5	6
86	X-ray study on static and thermal vibrational displacements of carbon atoms in petroleum coke. <i>Carbon</i> , 1972, 10, 553-560.	10.3	5
87	Anisotropy of g-value in a graphitized carbon film. <i>Carbon</i> , 1972, 10, 646-647.	10.3	5
88	Online triple oxygen isotope analysis of nitrous oxide using decomposition by microwave discharge. <i>Rapid Communications in Mass Spectrometry</i> , 2013, 27, 2391-2398.	1.5	5
89	Isotopically enriched ammonium shows high nitrogen transformation in the pile top zone of dairy manure compost. <i>Biogeosciences</i> , 2016, 13, 1341-1349.	3.3	5
90	Vertical Profiles and Temporal Variations of Greenhouse Gases in the Stratosphere over Syowa Station, Antarctica. <i>Scientific Online Letters on the Atmosphere</i> , 2017, 13, 224-229.	1.4	5

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91	Gravitational separation of the stratospheric air over Syowa, Antarctica and its connection with meteorological fields. <i>Atmospheric Science Letters</i> , 2018, 19, e857.	1.9	5
92	Isotopocule characterization of N <sub>2</sub> O dynamics during simulated wastewater treatment under oxic and anoxic conditions. <i>Geochemical Journal</i> , 2016, 50, 105-121.	1.0	5
93	Isotopically characterised N <sub>2</sub> O reference materials for use as community standards. <i>Rapid Communications in Mass Spectrometry</i> , 2022, 36, e9296.	1.5	5
94	Rainwater, soil water, and soil nitrate effects on oxygen isotope ratios of nitrous oxide produced in a green tea ( <i>Camellia sinensis</i> ) field in Japan. <i>Rapid Communications in Mass Spectrometry</i> , 2015, 29, 891-900.	1.5	3
95	Monitoring of Atmospheric Concentration of Chlorodifluoromethane (HCFC-22) by Automated GC/O <sub>2</sub> -doped-ECD. <i>Chemistry Letters</i> , 1997, 26, 95-96.	1.3	2
96	A consideration for densities measured with methanol and with helium for carbonized coals. <i>Carbon</i> , 1973, 11, 66-68.	10.3	1
97	Nitrogen Aspects of the Free-Air CO <sub>2</sub> Enrichment (FACE) Study for Paddy Rice Ecosystems. , 2020, , 331-340.		1
98	Clumped isotope signatures of nitrous oxide formed by bacterial denitrification. <i>Geochimica Et Cosmochimica Acta</i> , 2022, 328, 120-129.	3.9	1
99	7. Electron spin resonance of carbon films prepared from graphite oxide. <i>Carbon</i> , 1973, 11, 670.	10.3	0