Kensei Kobayashi

List of Publications by Year
in descending order

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123	2,259	257450	276875
papers	citations	24 h-index	41 g-index

131	131	131	1815
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Prebiotic synthesis from CO atmospheres: Implications for the origins of life. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 14628-14631.	7.1	144
2	Amino acid formation in gas mixtures by high energy particle irradiation. Origins of Life and Evolution of Biospheres, 1998, 28, 155-165.	1.9	105
3	Asymmetric synthesis of amino acid precursors in interstellar complex organics by circularly polarized light. Earth and Planetary Science Letters, 2007, 254, 106-114.	4.4	103
4	Abundance ofZetaproteobacteriawithin crustal fluids in backâ€arc hydrothermal fields of the Southern Mariana Trough. Environmental Microbiology, 2009, 11, 3210-3222.	3.8	93
5	Biogeography and Biodiversity in Sulfide Structures of Active and Inactive Vents at Deep-Sea Hydrothermal Fields of the Southern Mariana Trough. Applied and Environmental Microbiology, 2010, 76, 2968-2979.	3.1	88
6	Reaction of Amino Acids in a Supercritical Water-Flow Reactor Simulating Submarine Hydrothermal Systems. Bulletin of the Chemical Society of Japan, 2003, 76, 1171-1178.	3.2	69
7	One-pot synthesis of amino acid precursors with insoluble organic matter in planetesimals with aqueous activity. Science Advances, 2017, 3, e1602093.	10.3	69
8	Abiotic synthesis of amino acids and imidazole by proton irradiation of simulated primitive earth atmospheres. Origins of Life and Evolution of Biospheres, 1990, 20, 99-109.	1.9	68
9	Irradiation of Single-Walled Carbon Nanotubes with High-Energy Protons. Nano Letters, 2002, 2, 789-791.	9.1	64
10	Chapter 8 An experimental approach to chemical evolution in submarine hydrothermal systems. Origins of Life and Evolution of Biospheres, 1992, 22, 147-159.	1.9	63
11	Formation of Organic Compounds in Simulated Interstellar Media with High Energy Particles. Bulletin of the Chemical Society of Japan, 1997, 70, 1021-1026.	3.2	55
12	Chirality Emergence in Thin Solid Films of Amino Acids by Polarized Light from Synchrotron Radiation and Free Electron Laser. International Journal of Molecular Sciences, 2009, 10, 3044-3064.	4.1	44
13	The Possible Interplanetary Transfer of Microbes: Assessing the Viability of Deinococcus spp. Under the ISS Environmental Conditions for Performing Exposure Experiments of Microbes in the Tanpopo Mission. Origins of Life and Evolution of Biospheres, 2013, 43, 411-428.	1.9	42
14	Formation of bioorganic compounds in simulated planetary atmospheres by high energy particles or photons. Advances in Space Research, 2001, 27, 207-215.	2.6	41
15	Nanoscale infrared imaging analysis of carbonaceous chondrites to understand organic-mineral interactions during aqueous alteration. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 753-758.	7.1	37
16	Abiotic synthesis of high-molecular-weight organics from an inorganic gas mixture of carbon monoxide, ammonia, and water by 3 MeV proton irradiation. Applied Physics Letters, 2004, 84, 1410-1412.	3.3	35
17	Trace elements in chemical evolution, I. Origins of Life and Evolution of Biospheres, 1985, 16, 41-55.	1.9	34
18	Amino acids in water samples from deep sea hydrothermal vents at Suiyo Seamount, Izu-Bonin Arc, Pacific Ocean. Organic Geochemistry, 2004, 35, 1121-1128.	1.8	34

#	Article	IF	Citations
19	Abiotic synthesis of amino acids by x-ray irradiation of simple inorganic gases. Applied Physics Letters, 1999, 74, 877-879.	3.3	32
20	Foldability of barnase mutants obtained by permutation of modules or secondary structure units 1 1Edited by A. R. Fersht. Journal of Molecular Biology, 1999, 286, 1581-1596.	4.2	31
21	Characterization of complex organic compounds formed in simulated planetary atmospheres by the action of high energy particles. Advances in Space Research, 1999, 24, 461-464.	2.6	26
22	Experimental verification of photostability for free- and bound-amino acids exposed to Î³-rays and UV irradiation. Earth, Planets and Space, 2004, 56, 669-674.	2.5	25
23	A novel organic-rich meteoritic clast from the outer solar system. Scientific Reports, 2019, 9, 3169.	3.3	25
24	Amino acids in the 308Â°C deep-sea hydrothermal system of the Suiyo Seamount, Izu-Bonin Arc, Pacific Ocean. Earth and Planetary Science Letters, 2004, 219, 147-153.	4.4	24
25	Origin of Terrestrial Bioorganic Homochirality and Symmetry Breaking in the Universe. Symmetry, 2019, 11, 919.	2.2	23
26	Stability of Amino Acids in Simulated Hydrothermal Vent Environments. Chemistry Letters, 1997, 26, 1053-1054.	1.3	22
27	Photo-alteration of hydantoins against UV light and its relevance to prebiotic chemistry. Advances in Space Research, 2013, 51, 2235-2240.	2.6	22
28	Cytosine and Uracil Synthesis by Quenching with High-Temperature Plasma. Journal of the American Chemical Society, 1999, 121, 8144-8145.	13.7	21
29	Formation of Amino Acids from Possible Interstellar Media by Î³-rays and UV Irradiation. Chemistry Letters, 2002, 31, 986-987.	1.3	21
30	Abiotic synthesis of guanine with high-temperature plasma. Origins of Life and Evolution of Biospheres, 2000, 30, 557-566.	1.9	20
31	Pyrolysis of High-Molecular-Weight Complex Organics Synthesized from a Simulated Interstellar Gas Mixture Irradiated with 3 MeV Proton Beam. Bulletin of the Chemical Society of Japan, 2004, 77, 779-783.	3.2	20
32	Laboratory Studies of Methane and Its Relationship to Prebiotic Chemistry. Astrobiology, 2017, 17, 786-812.	3.0	20
33	Amino acid synthesis from an amorphous substance composed of carbon, nitrogen, and oxygen. Applied Physics Letters, 1998, 72, 990-992.	3.3	19
34	Trace elements in chemical evolution. Origins of Life and Evolution of Biospheres, 1985, 16, 57-67.	1.9	18
35	ANALYSIS OF PRODUCTS SYNTHESIZED FROM SIMULATED PRIMITIVE PLANETARY ATMOSPHERES. Analytical Sciences, 1991, 7, 921-924.	1.6	18
36	Abiotic Synthesis of Uracil from Carbon Monoxide, Nitrogen and Water by Proton Irradiation. Chemistry Letters, 1997, 26, 903-904.	1.3	18

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37	Possible cometary organic compounds as sources of planetary biospheres. Advances in Space Research, 2004, 33, 1277-1281.	2.6	18
38	Photochemical abiotic synthesis of amino-acid precursors from simulated planetary atmospheres by vacuum ultraviolet light. Journal of Applied Physics, 2005, 98, 024907.	2.5	18
39	Molecular evolution during hydrothermal reactions from formaldehyde and ammonia simulating aqueous alteration in meteorite parent bodies. Icarus, 2020, 347, 113827.	2.5	18
40	Biological origin for amino acids in a deep subterranean hydrothermal vent, Toyoha mine, Hokkaido, Japan. Organic Geochemistry, 2003, 34, 1491-1496.	1.8	17
41	Phosphatase and microbial activity with biochemical indicators in semi-permafrost active layer sediments over the past 10,000 years. Applied Geochemistry, 2006, 21, 48-57.	3.0	17
42	Identification of alkaline phosphatase in sea water. Journal of Inorganic Biochemistry, 1983, 18, 41-47.	3.5	16
43	ANALYSIS OF PRODUCTS SYNTHESIZED FROM SIMULATED PRIMITIVE PLANETARY ATMOSPHERES. Analytical Sciences, 1991, 7, 925-928.	1.6	15
44	Suitable Pretreatment Method for the Determination of Amino Acids and Their D/L Ratios in Soil Samples.. Bunseki Kagaku, 2003, 52, 35-40.	0.2	15
45	Vertical distribution of amino acids and chiral ratios in deep sea hydrothermal sub-vents of the Suiyo Seamount, Izu-Bonin Arc, Pacific Ocean. Organic Geochemistry, 2004, 35, 1105-1120.	1.8	15
46	Evidence of sub-vent biosphere: enzymatic activities in 308 Â°C deep-sea hydrothermal systems at Suiyo seamount, Izuâ€“Bonin Arc, Western Pacific Ocean. Earth and Planetary Science Letters, 2005, 229, 193-203.	4.4	15
47	Determination of Trace Metals Forming Large Molecular Complexes in Natural Waters as Estimated by Ultrafiltration/Liquid Chromatography/Atomic Spectroscopy. Bulletin of the Chemical Society of Japan, 1990, 63, 554-558.	3.2	14
48	Pyrolysis of complex organics following high-energy proton irradiationof a simple inorganic gas mixture. Applied Physics Letters, 2004, 85, 1633-1635.	3.3	14
49	DFT study of HCN and N?C?C?N reactions with hydrogen species. International Journal of Quantum Chemistry, 2004, 99, 91-101.	2.0	14
50	Distribution of amino acid and its stereochemistry related with biological activities in Rikubetsu, Hokkaido, Japan. Geochemical Journal, 2004, 38, 153-161.	1.0	14
51	Large Enantiomeric Excesses of L-Form Amino Acids in Deep-sea Hydrothermal Sub-vent of 156 Â°C Fluids at the Suiyo Seamount, Izuâ€“Bonin Arc, Pacific Ocean. Chemistry Letters, 2003, 32, 970-971.	1.3	13
52	Formation of interstellar vinyl alcohol via simple radical processes: Theoretical study. International Journal of Quantum Chemistry, 2004, 97, 713-718.	2.0	13
53	Synthesis of amino acid precursors from simulated interstellar media by highâ€energy particles or photons. Electronics and Communications in Japan, 2008, 91, 15-21.	0.5	13
54	Studies on Dissolved Metalloenzymes in Lake Water. I. Identification of Alkaline Phosphatase. Bulletin of the Chemical Society of Japan, 1982, 55, 3459-3463.	3.2	12

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55	Amino Acid Precursors from Carbon Monoxide in Simulated Interstellar Dust Ice Mantle by UV Irradiation at 10 K. Chemistry Letters, 2003, 32, 612-613.	1.3	12
56	Primordial organic matter in the xenolithic clast in the Zag H chondrite: Possible relation to D/P asteroids. Geochimica Et Cosmochimica Acta, 2020, 271, 61-77.	3.9	12
57	Japan Astrobiology Mars Project (JAMP): Search for Microbes on The Mars Surface with Special Interest in Methane-Oxidizing Bacteria. Uchu Seibutsu Kagaku, 2010, 24, 67-82.	0.3	12
58	Abiotic Synthesis of Amino Acids by Proton Irradiation of a Mixture of Carbon Monoxide, Nitrogen, and Water. Chemistry Letters, 1989, 18, 1527-1530.	1.3	11
59	Synthesis of amino acids in Earth orbit: Proposal. Advances in Space Research, 1999, 23, 401-404.	2.6	11
60	Tanpopo: Astrobiology Exposure and Micrometeoroid Capture Experiments. Transactions of the Japan Society for Aeronautical and Space Sciences Space Technology Japan, 2009, 7, Tk_49-Tk_55.	0.2	11
61	Tanpopo: Astrobiology Exposure and Micrometeoroid Capture Experimentsâ€" Proposed Experiments at the Exposure Facility of ISS-JEM. Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan, 2014, 12, Tk_49-Tk_55.	0.2	11
62	Formation of amino acids, peptide-like polymers, and microspheres in superheated hydrothermal environments. Origins of Life and Evolution of Biospheres, 1989, 19, 540-541.	1.9	10
63	Survivability and Abiotic Reactions of Selected Amino Acids in Different Hydrothermal System Simulators. Origins of Life and Evolution of Biospheres, 2013, 43, 99-108.	1.9	10
64	Abiotic Formation of Bioorganic Compounds in Space. Preliminary Experiments on Ground and Future Exobiology Experiments in Space.. Uchu Seibutsu Kagaku, 1998, 12, 102-105.	0.3	10
65	Studies on Dissolved Metalloenzymes in Lake Water. III. Correlation between Dissolved Alkaline Phosphatase and Orthophosphate in Lake Water. Bulletin of the Chemical Society of Japan, 1987, 60, 925-931.	3.2	9
66	Permutation of modules or secondary structure units creates proteins with basal enzymatic properties. FEBS Letters, 1999, 453, 145-150.	2.8	9
67	Emergence of the inflection point on racemization rate constants for d- and l-amino acids in the early stages of terrestrial diagenesis. Organic Geochemistry, 2006, 37, 334-341.	1.8	9
68	Prebiotic Organic Microstructures. Origins of Life and Evolution of Biospheres, 2012, 42, 307-316.	1.9	9
69	Self-assembly of tholins in environments simulating Titan liquidospheres: implications for formation of primitive coacervates on Titan. International Journal of Astrobiology, 2013, 12, 282-291.	1.6	9
70	Design of a Silica-aerogel-based Cosmic Dust Collector for the Tanpopo Mission Aboard the International Space Station. Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan, 2014, 12, Pk_29-Pk_34.	0.2	9
71	STXM-XANES analyses of Murchison meteorite samples captured by aerogel after hypervelocity impacts: A potential implication of organic matter degradation for micrometeoroid collection experiments. Geochemical Journal, 2019, 53, 53-67.	1.0	9
72	Fluorescence imaging of microbe-containing particles shot from a two-stage Light-gas gun into an aerogel. Origins of Life and Evolution of Biospheres, 2014, 44, 43-60.	1.9	8

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73	The ABS (Autonomous Biological System): Spaceflight Results from a Bioregenerative Closed Life Support System. , 0, , .		7
74	Photostability of Isovaline and its Precursor 5-Ethyl-5-methylhydantoin Exposed to Simulated Space Radiations. International Journal of Molecular Sciences, 2012, 13, 1006-1017.	4.1	7
75	Characterization of Organic Aggregates Formed by Heating Products of Simulated Primitive Earth Atmosphere Experiments. Chemistry Letters, 2012, 41, 441-443.	1.3	7
76	The Use of Ascorbate as an Oxidation Inhibitor in Prebiotic Amino Acid Synthesis: A Cautionary Note. Origins of Life and Evolution of Biospheres, 2012, 42, 533-541.	1.9	7
77	Amino Acid Precursors from a Simulated Lower Atmosphere of Titan: Experiments of Cosmic Ray Energy Source with 13C- and 18O-Stable Isotope Probing Mass Spectrometry. Analytical Sciences, 2013, 29, 777-785.	1.6	7
78	Scientific Targets of Tanpopo: Astrobiology Exposure and Micrometeoroid Capture Experiments at the Japanese Experiment Module Exposed Facility of the International Space Station. Astrobiology, 2021, 21, 1451-1460.	3.0	7
79	New Application of a Magneto-Plasma Dynamic Arc-Jet to Amino Acid Synthesis. Japanese Journal of Applied Physics, 1997, 36, 4481-4485.	1.5	6
80	Abiotic Synthesis of Bioorganic Compounds in Simulated Primitive Planetary Environments.. Nippon Kagaku Kaishi / Chemical Society of Japan - Chemistry and Industrial Chemistry Journal, 1997, 1997, 823-834.	0.1	6
81	Unimolecular Decomposition of N-Ethoxycarbonyl Heptafluorobutyl Ester Derivatives of Amino Acids upon Electron Ionization. Journal of the Mass Spectrometry Society of Japan, 2007, 55, 271-277.	0.1	6
82	Prebiotic Synthesis of Bioorganic Compounds by Simulation Experiments. , 2019, , 43-61.		6
83	Space Exposure of Amino Acids and Their Precursors during the Tanpopo Mission. Astrobiology, 2021, 21, 1479-1493.	3.0	6
84	DISSOLVED NITRATE REDUCTASE IN NATURAL WATER. Chemistry Letters, 1982, 11, 837-838.	1.3	5
85	Glucosamine and Galactosamine in Terrestrial Organic Matter and Their Correlation with Other Biochemical Indicators. Bulletin of the Chemical Society of Japan, 2004, 77, 729-732.	3.2	5
86	Stability of Amino Acids and Related Compounds in Simulated Submarine Hydrothermal Systems. Bulletin of the Chemical Society of Japan, 2012, 85, 624-630.	3.2	5
87	Role of amino acids in the formation of polycyclic aromatic amines during pyrolysis of tobacco. Journal of Analytical and Applied Pyrolysis, 2013, 104, 508-513.	5.5	5
88	Kinetics in thermal evolution of Raman spectra of chondritic organic matter to evaluate thermal history of their parent bodies. Meteoritics and Planetary Science, 2020, 55, .	1.6	5
89	CORRELATIONS BETWEEN DISSOLVED ALKALINE PHOSPHATASE AND ORTHOPHOSPHATE IN LAKE WATER. Chemistry Letters, 1984, 13, 565-568.	1.3	4
90	Continuous Monitoring of the Methane Concentration in the Atmosphere by IR Spectrometry with a 1.66-.MU.m Diode Laser.. Analytical Sciences, 2000, 16, 1211-1214.	1.6	4

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91	Evidence of the Hypsithermal Verified Using the Racemization Rate Constant of Amino Acids: An Estimation of Paleo-Ground Temperatures. Bulletin of the Chemical Society of Japan, 2004, 77, 1029-1030.	3.2	4
92	In Situ Ore Formation Experiment: Amino Acids and Amino Sugars Trapped in Artificial Chimneys on Deep-Sea Hydrothermal Systems at Suiyo Seamount, Izu-Bonin Arc, Pacific Ocean. Bulletin of the Chemical Society of Japan, 2005, 78, 638-651.	3.2	4
93	Nucleic acid bases in Titan tholins and possible genetic systems in the Titan liquidosphere. Life Sciences in Space Research, 2019, 20, 20-29.	2.3	4
94	Effects of minerals on metamorphism of organic matter during thermal processes in meteorite parent bodies. Icarus, 2021, 358, 114167.	2.5	4
95	Synthesis of Organic Matter in Aqueous Environments Simulating Small Bodies in the Solar System and the Effects of Minerals on Amino Acid Formation. Life, 2021, 11, 32.	2.4	4
96	Correlation coefficients between biomarkers and sub-surface microbial activities in terrestrial sediment over the past 10000 years. Bunseki Kagaku, 2004, 53, 167-172.	0.2	3
97	Characterization of Water-Extractable Amino Acids in the Sub-Surface of Semi-Permafrost Environments. Bulletin of the Chemical Society of Japan, 2005, 78, 1994-1999.	3.2	3
98	Alteration and Stability of Complex Macromolecular Amino Acid Precursors in Hydrothermal Environments. Origins of Life and Evolution of Biospheres, 2020, 50, 15-33.	1.9	3
99	Analysis of sugars in the products of spark discharge in simulated primitive atmospheres by GC/MS.. Bunseki Kagaku, 1989, 38, 608-612.	0.2	2
100	Formation of amino acid precursors with large molecular weight in dense clouds and their relevance to origins of bio-homochirality. Proceedings of the International Astronomical Union, 2008, 4, 465-472.	0.0	2
101	Prebiotic Organic Microstructures. Nature Precedings, 0, , .	0.1	2
102	Titan Tholins as Amino Acid Precursors and Their Solubility in Possible Titan Liquidospheres. Chemistry Letters, 2013, 42, 633-635.	1.3	2
103	Comparison of stepwise and single-step pyrolysis GC/MS for natural complex macromolecular organic matter. Analytical Sciences, 2022, 38, 113-121.	1.6	2
104	Development of Hydrothermal and Frictional Experimental Systems to Simulate Sub-seafloor Waterâ€“Rockâ€“Microbe Interactions. , 2015, , 71-85.		2
105	Analytical chemistry in the studies of chemical evolution.. Bunseki Kagaku, 1996, 45, 811-824.	0.2	1
106	Separation and detection limit of chiral amino acids in multiple components by analytical techniques. Bunseki Kagaku, 2004, 53, 1507-1514.	0.2	1
107	Fluctuation in proteinaceous labile organic matter verified with degradation rate constants of terrestrial biochemical indicators. Organic Geochemistry, 2006, 37, 1655-1663.	1.8	1
108	Synthesis of Amino Acid Precursors from Simulated Interstellar Media by High-Energy Particles or Photons. IEEJ Transactions on Electronics, Information and Systems, 2007, 127, 293-298.	0.2	1

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109	ã,¬ã,¹ã,¯ãƒãƒžãƒˆã,°ãƒ©ãƒ•ã,£ãƒ¼ï¼è³ªé‡åˆ†æžæ³•ã«ã,ˆã,‹å¡©ä¸ã®æ®‹ç•™è¾²è–¬ç‰©è³ªä¸€æ–—å†æž. Bunseki Kagaku, 2010, 59	0.2	2
110	Formation, Alteration and Delivery of Exogenous High Molecular Weight Organic Compounds: Objectives of the Tanpopo Mission from the Point of View of Chemical Evolution. Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan, 2012, 10, Tp_7-Tp_11.	0.2	1
111	å®‡å®™ã«ãŠã‘ã‚‹ç”Ÿå‘½å…¥å€™æŽ¢æŸ». Bunseki Kagaku, 2021, 70, 309-326.	0.2	1
112	Submarine Hydrothermal Vents as Possible Sites of the Origin of Life. , 2002, , 221-238.		1
113	Ecological Cultivation Ark (ECA) Project. Mutation and Evolution of Micro-organisms in Space.. Uchu Seibutsu Kagaku, 1998, 12, 112-114.	0.3	1
114	Production and Detection of Organic Compounds on Mars. , 1998, , 251-254.		1
115	Investigation of Powder Sample Fixing Method in XPS Analysis. Bunseki Kagaku, 2020, 69, 639-645.	0.2	1
116	Formation and stability of complex organic compounds in space environments. , 2004, 18, 179-80.		1
117	Analysis of proton irradiation products in simulated intersteller dusts by mass spectrometry.. Bunseki Kagaku, 1996, 45, 569-574.	0.2	0
118	Fluorescence microscope as a core instrument for extraterrestrial-life detection methods. , 2021, , .		0
119	Proton Irradiation. , 2014, , 1-1.		0
120	Production of Organic Compounds in Interstellar Space. , 1998, , 213-216.		0
121	Proton Irradiation. , 2015, , 2042-2042.		0
122	Effects of Sputtering on XPS Depth Profile Analysis of Zirconium-based Chemical Conversion Coatings. Bunseki Kagaku, 2020, 69, 559-565.	0.2	0
123	Detection of biosphere frontier by using phosphatase activity. , 2004, 18, 144-5.		0