R L Hudson

List of Publications by Year
in descending order

70 papers	2,119 citations	236925 25 h-index	243625 44 g-index
70 all docs	70 docs citations	70 times ranked	1375 citing authors

#	Article	IF	Citations
1	Crystalline ices â€“ Densities and comparisons for planetary and interstellar applications. Icarus, 2022, 373, 114799.	2.5	9
2	Ammonia Ices Revisited: New IR Intensities and Optical Constants for Solid NH₃. Astrophysical Journal, 2022, 925, 156.	4.5	8
3	Infrared spectra and optical constants of astronomical ices: IV. Benzene and pyridine. Icarus, 2022, 377, 114899.	2.5	13
4	Infrared Spectral Intensities of Amine Ices, Precursors to Amino Acids. Astrobiology, 2022, 22, 452-461.	3.0	4
5	Infrared Spectra and Intensities of Amorphous and Crystalline Allene. ACS Earth and Space Chemistry, 2022, 6, 1163-1170.	2.7	1
6	Radiation-induced D/H Exchange Rate Constants in Aliphatics Embedded in Water Ice. Astrophysical Journal, 2022, 929, 176.	4.5	1
7	Benzene Vapor Pressures at Titan Temperatures: First Microbalance Results. Planetary Science Journal, 2022, 3, 120.	3.6	8
8	Infrared spectra of benzene ices: Reexamination and comparison of two recent papers and the literature. Icarus, 2022, 384, 115091.	2.5	2
9	A New Method for Measuring Infrared Band Strengths in H₂O Ices: First Results for OCS, H₂S, and SO₂. Astrophysical Journal Letters, 2022, 931, L4.	8.3	8
10	Infrared spectra and optical constants of astronomical ices: III. Propane, propylene, and propyne. Icarus, 2021, 354, 114033.	2.5	26
11	Hydroxylation of Apollo 17 Soil Sample 78421 by Solar Wind Protons. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006845.	3.6	10
12	Direct measurements of infrared intensities of HCN and H2OÂ+ÂHCN ices for laboratory and observational astrochemistry. Monthly Notices of the Royal Astronomical Society, 2021, 509, 3515-3522.	4.4	24
13	Radiolytic Destruction of Uracil in Interstellar and Solar System Ices. Astrobiology, 2021, , .	3.0	5
14	Laboratory Studies of Astronomical Ices: Reaction Chemistry and Spectroscopy. Accounts of Chemical Research, 2021, 54, 280-290.	15.6	15
15	Preparation, identification, and low-temperature infrared spectra of two elusive crystalline nitrile ices. Icarus, 2020, 338, 113548.	2.5	15
16	Testing Densities and Refractive Indices of Extraterrestrial Ice Components Using Molecular Structuresâ€"Organic Compounds and Molar Refractions. Astrophysical Journal, 2020, 891, 22.	4.5	20
17	Infrared band strengths and other properties of amorphous and crystalline dimethyl ether. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2020, 233, 118217.	3.9	6
18	Mid-infrared spectra of dipropargyl ether ices revisited. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2020, 233, 118206.	3.9	1

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19	Quantifying acetaldehyde in astronomical ices and laboratory analogues: IR spectra, intensities, 13C shifts, and radiation chemistry. Monthly Notices of the Royal Astronomical Society, 2020, 492, 283-293.	4.4	29
20	The Radiation Stability of Thymine in Solid H₂O. Astrobiology, 2020, 20, 956-963.	3.0	7
21	A Modified Algorithm and Open-source Computational Package for the Determination of Infrared Optical Constants Relevant to Astrophysics. Astrophysical Journal, 2020, 901, 52.	4.5	26
22	Propanal, an interstellar aldehyde â€“ first infrared band strengths and other properties of the amorphous and crystalline forms. Monthly Notices of the Royal Astronomical Society, 2020, 494, 4606-4615.	4.4	13
23	Solid-State Isomerization and Infrared Band Strengths of Two Conformational Isomers of Cyclopropanecarboxaldehyde, a Candidate Interstellar Molecule. ACS Earth and Space Chemistry, 2019, 3, 1182-1188.	2.7	6
24	Infrared intensities and molar refraction of amorphous dimethyl carbonate â€“ comparisons to four interstellar molecules. Physical Chemistry Chemical Physics, 2019, 21, 11284-11289.	2.8	10
25	Molecular identifications in experiments with astronomical ice analogues: new data, old strategies, and the N2Â+Âacetone system. Monthly Notices of the Royal Astronomical Society, 2019, 485, 861-871.	4.4	5
26	Infrared band strengths for amorphous and crystalline methyl propionate, a candidate interstellar molecule. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2019, 207, 216-221.	3.9	10
27	Propynal, an interstellar molecule with an exceptionally strong C $equiv$ C infrared band â€“ laboratory infrared data and applications. Monthly Notices of the Royal Astronomical Society, 2019, 482, 4009-4017.	4.4	16
28	Interstellar Ices and Radiation-induced Oxidations of Alcohols. Astrophysical Journal, 2018, 857, 89.	4.5	17
29	IR spectra and properties of solid acetone, an interstellar and cometary molecule. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2018, 193, 33-39.	3.9	37
30	Coloring Jupiter's clouds: Radiolysis of ammonium hydrosulfide (NH4SH). Icarus, 2018, 302, 418-425.	2.5	10
31	Radiation chemistry of solid acetone in the interstellar medium â€“ a new dimension to an old problem. Physical Chemistry Chemical Physics, 2018, 20, 5389-5398.	2.8	11
32	N₂ Chemistry in Interstellar and Planetary Ices: Radiation-driven Oxidation. Astrophysical Journal, 2018, 867, 160.	4.5	4
33	Infrared Spectra and Interstellar Sulfur: New Laboratory Results for H₂S and Four Malodorous Thiol Ices. Astrophysical Journal, 2018, 867, 138.	4.5	22
34	Laboratory Investigations into the Spectra and Origin of Propylene Oxide: A Chiral Interstellar Molecule. Astrophysical Journal, 2017, 835, 225.	4.5	24
35	Infrared spectra and band strengths of amorphous and crystalline N2O. Journal of Chemical Physics, 2017, 146, 024304.	3.0	49
36	An IR investigation of solid amorphous ethanol â€” Spectra, properties, and phase changes. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2017, 187, 82-86.	3.9	20

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37	WHAT IS EATING OZONE? THERMAL REACTIONS BETWEEN SO₂ AND O₃: IMPLICATIONS FOR ICY ENVIRONMENTS. Astrophysical Journal Letters, 2016, 833, L9.	8.3	11
38	Infrared spectra and band strengths of CH₃SH, an interstellar molecule. Physical Chemistry Chemical Physics, 2016, 18, 25756-25763.	2.8	29
39	The spectrum of Jupiter's Great Red Spot: The case for ammonium hydrosulfide (NH4SH). Icarus, 2016, 271, 265-268.	2.5	22
40	Descent without Modification? The Thermal Chemistry of H₂O₂ on Europa and Other Icy Worlds. Astrobiology, 2015, 15, 453-461.	3.0	10
41	Activation of weak IR fundamentals of two species of astrochemical interest in the T_d point group â€“ the importance of amorphous ices. Physical Chemistry Chemical Physics, 2015, 17, 12545-12552.	2.8	19
42	INFRARED SPECTRA AND OPTICAL CONSTANTS OF ELUSIVE AMORPHOUS METHANE. Astrophysical Journal Letters, 2015, 805, L20.	8.3	49
43	The radiation stability of glycine in solid CO2 â€“ In situ laboratory measurements with applications to Mars. Icarus, 2015, 252, 466-472.	2.5	13
44	FIRST INFRARED BAND STRENGTHS FOR AMORPHOUS CO ₂ , AN OVERLOOKED COMPONENT OF INTERSTELLAR ICES. Astrophysical Journal Letters, 2015, 808, L40.	8.3	48
45	Giant-planet chemistry: Ammonium hydrosulfide (NH4SH), its IR spectra and thermal and radiolytic stabilities. Icarus, 2015, 258, 181-191.	2.5	15
46	KETENE FORMATION IN INTERSTELLAR ICES: A LABORATORY STUDY. Astrophysical Journal, 2013, 773, 109.	4.5	42
47	Glycine's Radiolytic Destruction in Ices: First <i>in situ</i> Laboratory Measurements for Mars. Astrobiology, 2013, 13, 647-655.	3.0	34
48	Low-temperature thermal reactions between SO2 and H2O2 and their relevance to the jovian icy satellites. Icarus, 2013, 224, 257-259.	2.5	20
49	In situ measurements of the radiation stability of amino acids at 15â€“140 K. Icarus, 2012, 220, 647-659.	2.5	56
50	Thermal regeneration of sulfuric acid hydrates after irradiation. Icarus, 2012, 219, 561-566.	2.5	12
51	INFRARED SPECTRA AND OPTICAL CONSTANTS OF NITRILE ICES RELEVANT TO TITAN's ATMOSPHERE. Astrophysical Journal, Supplement Series, 2010, 191, 96-112.	7.7	82
52	Thermallyâ€induced chemistry and the Jovian icy satellites: A laboratory study of the formation of sulfur oxyanions. Geophysical Research Letters, 2010, 37, .	4.0	21
53	Amino Acids from Ion-Irradiated Nitrile-Containing Ices. Astrobiology, 2008, 8, 771-779.	3.0	77
54	Formation of Interstellar OCS: Radiation Chemistry and IR Spectra of Precursor Ices. Astrophysical Journal, 2008, 684, 1210-1220.	4.5	56

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55	The radiolysis of SO2 and H2S in water ice: Implications for the icy jovian satellites. Icarus, 2007, 189, 409-423.	2.5	88
56	Astrochemistry Examples in the Classroom. Journal of Chemical Education, 2006, 83, 1611.	2.3	18
57	Infrared Spectra and Radiation Stability of H2O2 Ices Relevant to Europa. Astrobiology, 2006, 6, 483-489.	3.0	18
58	Production of Complex Molecules in Astrophysical Ices. Proceedings of the International Astronomical Union, 2005, 1, 247.	0.0	12
59	IR characterization and radiation chemistry of glycolaldehyde and ethylene glycol ices. Advances in Space Research, 2005, 36, 184-189.	2.6	57
60	A quantitative study of proton irradiation and UV photolysis of benzene in interstellar environments. Astronomy and Astrophysics, 2005, 440, 391-402.	5.1	45
61	Solid-Phase Formation of Interstellar Vinyl Alcohol. Astrophysical Journal, 2003, 586, L107-L110.	4.5	33
62	The N3Radical as a Discriminator between Ionâ€irradiated And UVâ€photolyzed Astronomical Ices. Astrophysical Journal, 2002, 568, 1095-1099.	4.5	71
63	Radiation chemical alterations in solar system ices: An overview. Journal of Geophysical Research, 2001, 106, 33275-33284.	3.3	99
64	Energetic processing of laboratory ice analogs: UV photolysis versus ion bombardment. Journal of Geophysical Research, 2001, 106, 33381-33385.	3.3	90
65	The Formation of Cyanate Ion (OCNâˆ') in Interstellar Ice Analogs. Astrophysical Journal, 2001, 550, 1140-1150.	4.5	101
66	Mid- and far-infrared spectroscopic studies of the influence of temperature, ultraviolet photolysis and ion irradiation on cosmic-type ices. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2001, 57, 843-858.	3.9	123
67	IR Spectra of Irradiated Cometary Ice Analogues Containing Methanol: A New Assignment, a Reassignment, and a Nonassignment. Icarus, 2000, 145, 661-663.	2.5	91
68	Hydrocarbon Radiation Chemistry in Ices of Cometary Relevanceâ˜†. Icarus, 1997, 126, 233-235.	2.5	38
69	Far-IR spectral changes accompanying proton irradiation of solids of astrochemical interest. Radiation Physics and Chemistry, 1995, 45, 779-789.	2.8	56
70	Hydrogen atom abstraction by methyl radicals in methanol glasses at 15â€"100 K: evidence for a limiting rate constant below 40 K by quantum-mechanical tunneling. Chemical Physics Letters, 1977, 48, 193-196.	2.6	71