George D Cody

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/9180866/publications.pdf

Version: 2024-02-01

121 papers	12,174 citations	28190 55 h-index	24915 109 g-index
122 all docs	122 docs citations	122 times ranked	9643 citing authors

#	Article	IF	Citations
1	Water solution mechanism in calcium aluminosilicate glasses and melts: insights from in and ex situ Raman and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msup><mml:mrow /><mml:mn>29</mml:mn></mml:msup><mml:mtext>Si</mml:mtext></mml:mrow></mml:math> NMR spectroscopy. Comptes Rendus - Geoscience, 2022, 354, 199-225.	0.4	4
2	Hydrogen isotopic exchange kinetics between organic matter and water: Implications for chemical evolution during meteorite parent body processing. Meteoritics and Planetary Science, 2021, 56, 440-454.	0.7	3
3	Optical Constants of a Solar System Organic Analog and the Allende Meteorite in the Near- and Mid-infrared (1.5â€“13 Î¼m). Planetary Science Journal, 2021, 2, 73.	1.5	0
4	Hydrogen isotope fractionation inside silicate melts and glasses studied by 1H and 2H MAS NMR spectroscopy â€“ Molecular insights into deuterium exchange at the melt-fluid interface. Geochimica Et Cosmochimica Acta, 2021, 309, 171-190.	1.6	3
5	Revisiting water speciation in hydrous alumino-silicate glasses: A discrepancy between solid-state 1H NMR and NIR spectroscopy in the determination of X-OH and H2O. Geochimica Et Cosmochimica Acta, 2020, 285, 150-174.	1.6	16
6	Nanoarchitecture through Strained Molecules: Cubane-Derived Scaffolds and the Smallest Carbon Nanothreads. Journal of the American Chemical Society, 2020, 142, 17944-17955.	6.6	32
7	Controlled Single-Crystalline Polymerization of C₁₀H₈·C₁₀F₈ under Pressure. Macromolecules, 2019, 52, 7557-7563.	2.2	33
8	Comparison of <scp>FTâ€IR</scp> spectra of bulk and acid insoluble organic matter in chondritic meteorites: An implication for missing carbon during demineralization. Meteoritics and Planetary Science, 2019, 54, 1632-1641.	0.7	12
9	What makes a planet habitable?. Science, 2019, 364, 434-435.	6.0	18
10	Pressureâ€Induced Dielsâ€“Alder Reactions in C₆H₆â€C₆F₆ Cocrystal towards Graphane Structure. Angewandte Chemie - International Edition, 2019, 58, 1468-1473.	7.2	36
11	Tetracyanomethane under Pressure: Extended CN Polymers from Precursors with Built-in sp³ Centers. Journal of Physical Chemistry A, 2018, 122, 2858-2863.	1.1	14
12	Experimental estimation of the bisulfite isomer quotient as a function of temperature: Implications for sulfur isotope fractionations in aqueous sulfite solutions. Geochimica Et Cosmochimica Acta, 2018, 220, 309-328.	1.6	14
13	Aspartate transformation at 200 Â°C with brucite [Mg(OH)2], NH3, and H2: Implications for prebiotic molecules in hydrothermal systems. Chemical Geology, 2017, 457, 162-172.	1.4	9
14	Characterization of carbonaceous matter in xenolithic clasts from the Sharps (H3.4) meteorite: Constraints on the origin and thermal processing. Geochimica Et Cosmochimica Acta, 2017, 196, 74-101.	1.6	14
15	Polymerization of Acetonitrile via a Hydrogen Transfer Reaction from CH₃ to CN under Extreme Conditions. Angewandte Chemie - International Edition, 2016, 55, 12040-12044.	7.2	26
16	Water and magmas: insights about the water solution mechanisms in alkali silicate melts from infrared, Raman, and 29Si solid-state NMR spectroscopies. Progress in Earth and Planetary Science, 2015, 2, .	1.1	35
17	Complex IR spectra of OH- groups in silicate glasses: Implications for the use of the 4500 cm-1 IR peak as a marker of OH- groups concentration. American Mineralogist, 2015, 100, 945-950.	0.9	23
18	Solubility and solution mechanisms of chlorine and fluorine in aluminosilicate melts at high pressure and high temperature. American Mineralogist, 2015, 100, 2272-2283.	0.9	40

#	Article	IF	Citations
19	Alkali influence on the water speciation and the environment of protons in silicate glasses revealed by 1H MAS NMR spectroscopy. American Mineralogist, 2015, 100, 466-473.	0.9	24
20	Very large differences in intramolecular D-H partitioning in hydrated silicate melts synthesized at upper mantle pressures and temperatures. American Mineralogist, 2015, 100, 1182-1189.	0.9	17
21	Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the Curiosity rover investigations at Gale crater, Mars. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4245-4250.	3.3	172
22	A kinetic study of the formation of organic solids from formaldehyde: Implications for the origin of extraterrestrial organic solids in primitive Solar System objects. Icarus, 2015, 248, 412-423.	1.1	35
23	A kinetic pressure effect on the experimental abiotic reduction of aqueous CO2 to methane from 1 to 3.5 kbar at 300 Â°C. Geochimica Et Cosmochimica Acta, 2015, 151, 34-48.	1.6	14
24	Benzene-derived carbon nanothreads. Nature Materials, 2015, 14, 43-47.	13.3	250
25	Hydrogen enhances the stability of glutamic acid in hydrothermal environments. Chemical Geology, 2014, 386, 184-189.	1.4	8
26	Diamond xenolith and matrix organic matter in the Sutter's Mill meteorite measured by Câ€‹scp›XANES‹/scp›. Meteoritics and Planetary Science, 2014, 49, 2095-2103.	0.7	9
27	Experimental formation of geomacromolecules from microbial lipids. Organic Geochemistry, 2014, 67, 35-40.	0.9	12
28	Effects of Metabolism and Physiology on the Production of Okenone and Bacteriochlorophyll‹i›a‹/i›in Purple Sulfur Bacteria. Geomicrobiology Journal, 2014, 31, 128-137.	1.0	10
29	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	6.0	323
30	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	6.0	687
31	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	6.0	508
32	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	6.0	475
33	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	6.0	246
34	Raman Spectroscopy, X-ray Diffraction, and Hydrogenation Thermochemistry of N,N,N,N-Tetramethylcyclotriborazane under Pressure. Journal of Physical Chemistry C, 2014, 118, 9871-9879.	1.5	1
35	High Pressure Equilibria of Dimethylamine Borane, Dihydridobis(dimethylamine)boron(III) Tetrahydridoborate(III), and Hydrogen. Journal of Physical Chemistry C, 2014, 118, 7280-7287.	1.5	9
36	The effects of temperature, pH and redox state on the stability of glutamic acid in hydrothermal fluids. Geochimica Et Cosmochimica Acta, 2014, 135, 66-86.	1.6	19

#	Article	IF	Citations
37	Synthesis of Î²-Mg2C3: A Monoclinic High-Pressure Polymorph of Magnesium Sesquicarbide. Inorganic Chemistry, 2014, 53, 7020-7027.	1.9	40
38	Coordinated Electron and X-ray Microscopy of Cometary Organic Matter Collected by the NASA Stardust Mission.. Microscopy and Microanalysis, 2014, 20, 1694-1695.	0.2	1
39	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	6.0	327
40	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	6.0	280
41	Synthesis of Mg₂C: A Magnesium Methanide. Angewandte Chemie - International Edition, 2013, 52, 8930-8933.	7.2	45
42	Tracing H isotope effects in the dynamic metabolic network using multi-nuclear (1H, 2H and 13C) solid state NMR and GCâ€“MS. Organic Geochemistry, 2013, 57, 84-94.	0.9	5
43	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	6.0	327
44	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	6.0	367
45	Isotope Ratios of H, C, and O in CO ₂ and H ₂ O of the Martian Atmosphere. Science, 2013, 341, 260-263.	6.0	241
46	Molecular preservation and bulk isotopic signals of ancient rice from the Neolithic Tianluoshan site, lower Yangtze River valley, China. Organic Geochemistry, 2013, 63, 85-93.	0.9	7
47	Isotopic and chemical variation of organic nanoglobules in primitive meteorites. Meteoritics and Planetary Science, 2013, 48, 904-928.	0.7	78
48	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	6.0	326
49	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	6.0	134
50	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	6.0	215
51	Low Upper Limit to Methane Abundance on Mars. Science, 2013, 342, 355-357.	6.0	103
52	EXPLORING THE POTENTIAL FORMATION OF ORGANIC SOLIDS IN CHONDRITES AND COMETS THROUGH POLYMERIZATION OF INTERSTELLAR FORMALDEHYDE. Astrophysical Journal, 2013, 771, 19.	1.6	91
53	Effect of Network Polymerization on the Pressure-Induced Structural Changes in Sodium Aluminosilicate Glasses and Melts: ²⁷Al and ¹⁷O Solid-State NMR Study. Journal of Physical Chemistry C, 2012, 116, 2183-2191.	1.5	47
54	Speciation of <scp>l</scp>-DOPA on Nanorutile as a Function of pH and Surface Coverage Using Surface-Enhanced Raman Spectroscopy (SERS). Langmuir, 2012, 28, 17322-17330.	1.6	32

#	Article	IF	Citations
55	Kinetics of H2â€“O2â€“H2O redox equilibria and formation of metastable H2O2 under low temperature hydrothermal conditions. Geochimica Et Cosmochimica Acta, 2011, 75, 1594-1607.	1.6	41
56	Compositional diversity in insoluble organic matter in type 1, 2 and 3 chondrites as detected by infrared spectroscopy. Geochimica Et Cosmochimica Acta, 2011, 75, 3530-3541.	1.6	82
57	Solubility and solution mechanisms of Câ€“Oâ€“H volatiles in silicate melt with variable redox conditions and melt composition at upper mantle temperatures and pressures. Geochimica Et Cosmochimica Acta, 2011, 75, 6183-6199.	1.6	63
58	Correlated microanalysis of cometary organic grains returned by Stardust. Meteoritics and Planetary Science, 2011, 46, 1376-1396.	0.7	53
59	Origin and Evolution of Prebiotic Organic Matter As Inferred from the Tagish Lake Meteorite. Science, 2011, 332, 1304-1307.	6.0	189
60	Preservation of Martian Organic and Environmental Records: Final Report of the Mars Biosignature Working Group. Astrobiology, 2011, 11, 157-181.	1.5	255
61	Evidence of magnetic isotope effects during thermochemical sulfate reduction. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 17635-17638.	3.3	85
62	Establishing a molecular relationship between chondritic and cometary organic solids. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 19171-19176.	3.3	181
63	Characterization of Extracellular Polymeric Substances from Acidophilic Microbial Biofilms. Applied and Environmental Microbiology, 2010, 76, 2916-2922.	1.4	239
64	Ancient graphite in the Eoarchean quartzâ€“pyroxene rocks from Akilia in southern West Greenland I: Petrographic and spectroscopic characterization. Geochimica Et Cosmochimica Acta, 2010, 74, 5862-5883.	1.6	55
65	Assessment and control of organic and other contaminants associated with the Stardust sample return from comet 81P/Wild 2. Meteoritics and Planetary Science, 2010, 45, 406-433.	0.7	55
66	A molecular and isotopic study of the macromolecular organic matter of the ungrouped C2 WIS 91600 and its relationship to Tagish Lake and PCA 91008. Meteoritics and Planetary Science, 2010, 45, 1446-1460.	0.7	44
67	Soft X-ray induced chemical modification of polysaccharides in vascular plant cell walls. Journal of Electron Spectroscopy and Related Phenomena, 2009, 170, 57-64.	0.8	48
68	Ultra-primitive interplanetary dust particles from the comet 26P/Griggâ€“Skjellerup dust stream collection. Earth and Planetary Science Letters, 2009, 288, 44-57.	1.8	187
69	Solution behavior of reduced COH volatiles in silicate melts at high pressure and temperature. Geochimica Et Cosmochimica Acta, 2009, 73, 1696-1710.	1.6	74
70	Re-evaluating boron speciation in biogenic calcite and aragonite using 11B MAS NMR. Geochimica Et Cosmochimica Acta, 2009, 73, 1890-1900.	1.6	113
71	Characterization of permineralized kerogen from an Eocene fossil fern. Organic Geochemistry, 2009, 40, 353-364.	0.9	35
72	Rapid incorporation of lipids into macromolecules during experimental decay of invertebrates: Initiation of geopolymer formation. Organic Geochemistry, 2009, 40, 589-594.	0.9	37

#	Article	IF	Citations
73	Diagenesis of plant biopolymers: Decay and macromolecular preservation of Metasequoia. Organic Geochemistry, 2009, 40, 802-809.	0.9	25
74	In SituDiamond-Anvil Cell Observations of Methanogenesis at High Pressures and Temperatures. Energy & Fuels, 2009, 23, 5571-5579.	2.5	30
75	Carbon K-edge XANES spectromicroscopy of natural graphite. Carbon, 2008, 46, 1424-1434.	5.4	72
76	Quantitative organic and lightâ€element analysis of comet 81P/Wild 2 particles using Câ€; Nâ€; and Oâ€Î¼â€XANES. Meteoritics and Planetary Science, 2008, 43, 353-365.	0.7	137
77	Oxygen-17 Nuclear Magnetic Resonance Study of the Structure of Mixed Cation Calciumâ^'Sodium Silicate Glasses at High Pressure: Implications for Molecular Link to Element Partitioning between Silicate Liquids and Crystals. Journal of Physical Chemistry B, 2008, 112, 11756-11761.	1.2	19
78	The insoluble carbonaceous material of CM chondrites: A possible source of discrete organic compounds under hydrothermal conditions. Meteoritics and Planetary Science, 2007, 42, 37-48.	0.7	87
79	Devonian landscape heterogeneity recorded by a giant fungus. Geology, 2007, 35, 399.	2.0	76
80	Comet 81P/Wild 2 Under a Microscope. Science, 2006, 314, 1711-1716.	6.0	848
81	Organics Captured from Comet 81P/Wild 2 by the Stardust Spacecraft. Science, 2006, 314, 1720-1724.	6.0	519
82	The effect of Na/Si on the structure of sodium silicate and aluminosilicate glasses quenched from melts at high pressure: A multi-nuclear (Al-27, Na-23, O-17) 1D and 2D solid-state NMR study. Chemical Geology, 2006, 229, 162-172.	1.4	58
83	Chemical composition of the graphitic black carbon fraction in riverine and marine sediments at sub-micron scales using carbon X-ray spectromicroscopy. Geochimica Et Cosmochimica Acta, 2006, 70, 1483-1494.	1.6	77
84	Dual speciation of nitrogen in silicate melts at high pressure and temperature: An experimental study. Geochimica Et Cosmochimica Acta, 2006, 70, 2902-2918.	1.6	75
85	Hydrogen bonding and dynamics of methanol by high-pressure diamond-anvil cell NMR. Journal of Chemical Physics, 2005, 122, 244509.	1.2	32
86	Structure ofB2O3Glass at High Pressure: AB11Solid-State NMR Study. Physical Review Letters, 2005, 94, 165507.	2.9	87
87	Structure and the extent of disorder in quaternary (Ca-Mg and Ca-Na) aluminosilicate glasses and melts. American Mineralogist, 2005, 90, 1393-1401.	0.9	57
88	NMR studies of chemical structural variation of insoluble organic matter from different carbonaceous chondrite groups. Geochimica Et Cosmochimica Acta, 2005, 69, 1085-1097.	1.6	260
89	Structure vs. composition: A solid-state 1H and 29Si NMR study of quenched glasses along the Na2O-SiO2-H2O join. Geochimica Et Cosmochimica Acta, 2005, 69, 2373-2384.	1.6	73
90	Molecular and compound-specific hydrogen isotope analyses of insoluble organic matter from different carbonaceous chondrite groups. Geochimica Et Cosmochimica Acta, 2005, 69, 3711-3721.	1.6	43

#	Article	IF	Citations
91	Solution mechanisms of H2O in depolymerized peralkaline melts. Geochimica Et Cosmochimica Acta, 2005, 69, 5557-5566.	1.6	55
92	Evolution of xylem lignification and hydrogel transport regulation. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 17555-17558.	3.3	167
93	Examining marine particulate organic matter at sub-micron scales using scanning transmission X-ray microscopy and carbon X-ray absorption near edge structure spectroscopy. Marine Chemistry, 2004, 92, 107-121.	0.9	76
94	Solubility mechanisms of fluorine in peralkaline and meta-aluminous silicate glasses and in melts to magmatic temperatures. Geochimica Et Cosmochimica Acta, 2004, 68, 2745-2769.	1.6	99
95	Nature of polymerization and properties of silicate melts and glasses at high pressure. Geochimica Et Cosmochimica Acta, 2004, 68, 4189-4200.	1.6	139
96	Solubility and solution mechanism of H2O in alkali silicate melts and glasses at high pressure and temperature. Geochimica Et Cosmochimica Acta, 2004, 68, 5113-5126.	1.6	37
97	TRANSITION METAL SULFIDES AND THE ORIGINS OF METABOLISM. Annual Review of Earth and Planetary Sciences, 2004, 32, 569-599.	4.6	146
98	The structural behavior of Al³⁺in peralkaline melts and glasses in the system Na₂O-Al₂O₃-SiO₂. American Mineralogist, 2003, 88, 1668-1678.	0.9	94
99	Microbial Activity at Gigapascal Pressures. Science, 2002, 295, 1514-1516.	6.0	203
100	High pressure and the origin of life. Journal of Physics Condensed Matter, 2002, 14, 11489-11494.	0.7	41
101	Organic chemical differentiation within fossil plant cell walls detected with X-ray spectromicroscopy. Geology, 2002, 30, 1039.	2.0	78
102	Silicate-phosphate interactions in silicate glasses and melts: I. A multinuclear (27 Al, 29 Si, 31 P) MAS NMR and ab initio chemical shielding (31 P) study of phosphorous speciation in silicate glasses. Geochimica Et Cosmochimica Acta, 2001, 65, 2395-2411.	1.6	90
103	Silicate-phosphate interactions in silicate glasses and melts: II. quantitative, high-temperature structure of P-bearing alkali aluminosilicate melts. Geochimica Et Cosmochimica Acta, 2001, 65, 2413-2431.	1.6	40
104	Characterization of Micro-Domain Structure of Solvent-Swollen Coal by Proton Spin Diffusion and Small Angle Neutron Scattering. Energy & Fuels, 2000, 14, 1245-1251.	2.5	9
105	Microheterogeneity of Solvent-Swollen Coal Probed by Proton Spin Diffusion. Energy & Fuels, 1999, 13, 1239-1245.	2.5	8
106	Abiotic nitrogen reduction on the early Earth. Nature, 1998, 395, 365-367.	13.7	216
107	Characterization of the Soluble and Insoluble Fractions of Upper Freeport Coal in NMP/CS2and Pyridine Using Small Angle Neutron Scattering. Energy & Fuels, 1997, 11, 495-501.	2.5	12
108	Modulus of Swollen Coal Gels. Energy & Fuels, 1997, 11, 1044-1047.	2.5	11

#	Article	IF	Citations
109	Inner-Shell Spectroscopy and Imaging of a Subbituminous Coal: In-Situ Analysis of Organic and Inorganic Microstructure Using C(1s)-, Ca(2p)-, and Cl(2s)-NEXAFS. Energy & Fuels, 1995, 9, 525-533.	2.5	77
110	C-NEXAFS Microanalysis and Scanning X-ray Microscopy of Microheterogeneities in a High-Volatile A Bituminous Coal. Energy & Fuels, 1995, 9, 75-83.	2.5	22
111	Imaging the microstructure of low rank coals. Fuel, 1994, 73, 199-203.	3.4	12
112	Selective chemical mapping of coal microheterogeneity by scanning transmission x-ray microscopy. Energy & Fuels, 1994, 8, 151-154.	2.5	41
113	In-Situ Analysis and Quantification of Swelling Kinetics in Glassy and Rubbery Networks Using 1H and 19F Magnetic Resonance Microscopies. Macromolecules, 1994, 27, 2607-2614.	2.2	19
114	Solution Structure of Coal Macromolecules in Pyridine: Small-Angle Neutron Scattering Analysis of Untreated and O-Methylated Coal Extracts. Energy & Fuels, 1994, 8, 1370-1378.	2.5	11
115	The dynamic nature of coal's macromolecular structure: viscoelastic analysis of solvent-swollen coals. Energy & Fuels, 1993, 7, 463-468.	2.5	12
116	Physical structural characterization of bituminous coals: stress-strain analysis in the pyridine-dilated state. Energy & Fuels, 1993, 7, 455-462.	2.5	34
117	Proton NMR imaging of pyridine transport in coal. Energy & Fuels, 1993, 7, 561-562.	2.5	16
118	A structural model for lignin-derived vitrinite from high-volatile bituminous coal (coalified wood). Energy & Fuels, 1992, 6, 813-820.	2.5	81
119	Direct imaging of coal pore space accessible to liquid metal. Energy & Fuels, 1991, 5, 776-781.	2.5	15
120	Correlation of optical birefringence with coal rank. Structural implications. Energy & Fuels, 1989, 3, 551-556.	2.5	12
121	Anisotropic solvent swelling of coals. Energy & Fuels, 1988, 2, 340-344.	2.5	73