Gregory Holland

List of Publications by Year
in descending order

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83 papers	2,803 citations	117625 34 h-index	189892 50 g-index
88 all docs	88 docs citations	88 times ranked	3163 citing authors

#	Article	IF	Citations
1	Determining Secondary Structure in Spider Dragline Silk by Carbonâ"Carbon Correlation Solid-State NMR Spectroscopy. Journal of the American Chemical Society, 2008, 130, 9871-9877.	13.7	147
2	Quantitative Correlation between the Protein Primary Sequences and Secondary Structures in Spider Dragline Silks. Biomacromolecules, 2010, 11, 192-200.	5.4	107
3	WISE NMR Characterization of Nanoscale Heterogeneity and Mobility in SupercontractedNephila clavipesSpider Dragline Silk. Journal of the American Chemical Society, 2004, 126, 5867-5872.	13.7	104
4	Solid-state NMR evidence for elastin-like Î²-turn structure in spider dragline silk. Chemical Communications, 2010, 46, 6714.	4.1	95
5	Solid-State Structural Characterization of a Rigid Framework of Lacunary Heteropolyniobates. Inorganic Chemistry, 2006, 45, 1043-1052.	4.0	92
6	NMR Characterization of Phosphonic Acid Capped SnO2Nanoparticles. Chemistry of Materials, 2007, 19, 2519-2526.	6.7	92
7	Solid-State NMR Investigation of Major and Minor Ampullate Spider Silk in the Native and Hydrated States. Biomacromolecules, 2008, 9, 651-657.	5.4	92
8	Silk structure studied with nuclear magnetic resonance. Progress in Nuclear Magnetic Resonance Spectroscopy, 2013, 69, 23-68.	7.5	88
9	Abundant ammonia in primitive asteroids and the case for a possible exobiology. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 4303-4306.	7.1	85
10	Quantifying the fraction of glycine and alanine in Î²-sheet and helical conformations in spider dragline silk using solid-state NMR. Chemical Communications, 2008, , 5568.	4.1	70
11	Inducing Î²-Sheets Formation in Synthetic Spider Silk Fibers by Aqueous Post-Spin Stretching. Biomacromolecules, 2011, 12, 2375-2381.	5.4	69
12	Characterizing the Secondary Protein Structure of Black Widow Dragline Silk Using Solid-State NMR and X-ray Diffraction. Biomacromolecules, 2013, 14, 3472-3483.	5.4	69
13	Î²-Sheet Nanocrystalline Domains Formed from Phosphorylated Serine-Rich Motifs in Caddisfly Larval Silk: A Solid State NMR and XRD Study. Biomacromolecules, 2013, 14, 1140-1148.	5.4	69
14	Combining flagelliform and dragline spider silk motifs to produce tunable synthetic biopolymer fibers. Biopolymers, 2012, 97, 418-431.	2.4	67
15	NMR Characterization of Ligand Binding and Exchange Dynamics in Triphenylphosphine-Capped Gold Nanoparticles. Journal of Physical Chemistry C, 2009, 113, 16387-16393.	3.1	65
16	Solid-State NMR Comparison of Various Spidersâ€™ Dragline Silk Fiber. Biomacromolecules, 2010, 11, 2039-2043.	5.4	65
17	Elucidating silk structure using solid-state NMR. Soft Matter, 2013, 9, 11440.	2.7	65
18	Direct Evidence of Chelated Geometry of Catechol on TiO₂ by a Combined Solid-State NMR and DFT Study. Journal of Physical Chemistry C, 2016, 120, 23625-23630.	3.1	55

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19	Experimental Methods for Characterizing the Secondary Structure and Thermal Properties of Silk Proteins. Macromolecular Rapid Communications, 2019, 40, e1800390.	3.9	55
20	Probing lipidâ€“cholesterol interactions in DOPC/eSM/Chol and DOPC/DPPC/Chol model lipid rafts with DSC and 13C solid-state NMR. Biochimica Et Biophysica Acta - Biomembranes, 2013, 1828, 1889-1898.	2.6	52
21	Investigating Lysine Adsorption on Fumed Silica Nanoparticles. Journal of Physical Chemistry C, 2014, 118, 25792-25801.	3.1	52
22	Distinguishing Individual Lipid Headgroup Mobility and Phase Transitions in Raft-Forming Lipid Mixtures with 31P MAS NMR. Biophysical Journal, 2006, 90, 4248-4260.	0.5	47
23	Reproducing Natural Spider Silksâ€™ Copolymer Behavior in Synthetic Silk Mimics. Biomacromolecules, 2012, 13, 3938-3948.	5.4	46
24	Hierarchical spidroin micellar nanoparticles as the fundamental precursors of spider silks. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 11507-11512.	7.1	46
25	Proton-detected heteronuclear single quantum correlation NMR spectroscopy in rigid solids with ultra-fast MAS. Journal of Magnetic Resonance, 2010, 202, 64-71.	2.1	44
26	NMR Determination of the Diffusion Mechanisms in Triethylamine-Based Protic Ionic Liquids. Journal of Physical Chemistry Letters, 2011, 2, 1077-1081.	4.6	43
27	Solid-State NMR Characterization of Mixed Phosphonic Acid Ligand Binding and Organization on Silica Nanoparticles. Langmuir, 2016, 32, 3253-3261.	3.5	43
28	Thermal and Structural Properties of Silk Biomaterials Plasticized by Glycerol. Biomacromolecules, 2016, 17, 3911-3921.	5.4	40
29	High resolution magic angle spinning NMR investigation of silk protein structure within major ampullate glands of orb weaving spiders. Soft Matter, 2012, 8, 1947-1954.	2.7	37
30	Alanine Adsorption and Thermal Condensation at the Interface of Fumed Silica Nanoparticles: A Solid-State NMR Investigation. Journal of Physical Chemistry C, 2015, 119, 25663-25672.	3.1	37
31	Polyanionic Gallium Hydrides from AlB2-Type Precursors AeGaE (Ae = Ca, Sr, Ba; E = Si, Ge, Sn). Journal of the American Chemical Society, 2008, 130, 12139-12147.	13.7	36
32	Structure and Dynamics of Aromatic Residues in Spider Silk: 2D Carbon Correlation NMR of Dragline Fibers. Biomacromolecules, 2010, 11, 168-174.	5.4	36
33	Ultrahydrous stishovite from high-pressure hydrothermal treatment of SiO₂. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 20918-20922.	7.1	36
34	Processing of meteoritic organic materials as a possible analog of early molecular evolution in planetary environments. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 15614-15619.	7.1	34
35	Reversible Assembly of Î²-Sheet Nanocrystals within Caddisfly Silk. Biomacromolecules, 2014, 15, 1269-1275.	5.4	34
36	Cyclohexane Rings Reduce Membrane Permeability to Small Ions in Archaeaâ€Inspired Tetraether Lipids. Angewandte Chemie - International Edition, 2016, 55, 1890-1893.	13.8	31

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37	Magnetic alignment of aqueous CTAB in nematic and hexagonal liquid crystalline phases investigated by spin-1 NMR. Physical Chemistry Chemical Physics, 2006, 8, 2635.	2.8	29
38	Secondary Structure Adopted by the Gly-Gly-X Repetitive Regions of Dragline Spider Silk. International Journal of Molecular Sciences, 2016, 17, 2023.	4.1	29
39	Multi-dimensional 1Hâ€“13C HETCOR and FSLG-HETCOR NMR study of sphingomyelin bilayers containing cholesterol in the gel and liquid crystalline states. Journal of Magnetic Resonance, 2006, 181, 316-326.	2.1	28
40	Highly Efficient Fumed Silica Nanoparticles for Peptide Bond Formation: Converting Alanine to Alanine Anhydride. ACS Applied Materials & Interfaces, 2017, 9, 17653-17661.	8.0	28
41	Extended Charge Carrier Lifetimes in Hierarchical Donorâ€“Acceptor Supramolecular Polymer Films. Journal of Physical Chemistry C, 2015, 119, 19584-19589.	3.1	25
42	Exploring the backbone dynamics of native spider silk proteins in Black Widow silk glands with solution-state NMR spectroscopy. Polymer, 2014, 55, 3879-3885.	3.8	23
43	Molecular Dynamics of Spider Dragline Silk Fiber Investigated by ²H MAS NMR. Biomacromolecules, 2015, 16, 852-859.	5.4	23
44	Location and orientation of adsorbed molecules in zeolites from solid-state REAPDOR NMR. Physical Chemistry Chemical Physics, 2005, 7, 1739.	2.8	20
45	Elucidating proline dynamics in spider dragline silk fibre using²Hâ€“¹³C HETCOR MAS NMR. Chemical Communications, 2014, 50, 4856-4859.	4.1	20
46	Structural characterization of nanofiber silk produced by embiopterans (webspinners). RSC Advances, 2014, 4, 41301-41313.	3.6	20
47	Distribution effects on 1H double-quantum MAS NMR spectra. Journal of Magnetic Resonance, 2004, 167, 161-167.	2.1	17
48	Mechanically induced pyrogallol[4]arene hexamer assembly in the solid state extends the scope of molecular encapsulation. Chemical Science, 2017, 8, 7737-7745.	7.4	17
49	Investigating Hydrogen-Bonded Phosphonic Acids with Proton Ultrafast MAS NMR and DFT Calculations. Journal of Physical Chemistry C, 2012, 116, 18824-18830.	3.1	16
50	7Li NMR Studies of Electrochemically Lithiated V2O5Xerogels. Chemistry of Materials, 2002, 14, 3875-3881.	6.7	15
51	Determining hydrogen-bond interactions in spider silk with 1Hâ€“13C HETCOR fast MAS solid-state NMR and DFT proton chemical shift calculations. Chemical Communications, 2013, 49, 6680.	4.1	15
52	Probing the Impact of Acidification on Spider Silk Assembly Kinetics. Biomacromolecules, 2015, 16, 2072-2079.	5.4	15
53	Effect of Headgroups on Smallâ€Ion Permeability across Archaeaâ€Inspired Tetraether Lipid Membranes. Chemistry - A European Journal, 2016, 22, 8074-8077.	3.3	15
54	1Hâ€“13C INEPT MAS NMR correlation experiments with 1Hâ€“1H mediated magnetization exchange to probe organization in lipid biomembranes. Journal of Magnetic Resonance, 2006, 180, 210-221.	2.1	14

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55	Vibrational properties of the gallium monohydrides SrGaGeH, BaGaSiH, BaGaGeH, and BaGaSnH. Journal of Solid State Chemistry, 2009, 182, 2068-2073.	2.9	14
56	2Hâ€“13C HETCOR MAS NMR for indirect detection of 2H quadrupole patterns and spinâ€“lattice relaxation rates. Journal of Magnetic Resonance, 2013, 226, 1-12.	2.1	14
57	Hydrationâ€Induced Î²â€Sheet Crosslinking of Î±â€Helicalâ€Rich Spider Preyâ€Wrapping Silk. Advanced Functional Materials, 2021, 31, 2007161.	14.9	14
58	Structural and Dynamic Properties of BaInGeH: A Rare Solid-State Indium Hydride. Inorganic Chemistry, 2009, 48, 5602-5604.	4.0	13
59	Spider prey-wrapping silk is an Î±-helical coiled-coil/Î²-sheet hybrid nanofiber. Chemical Communications, 2018, 54, 10746-10749.	4.1	13
60	Unique Backbone-Water Interaction Detected in Sphingomyelin Bilayers with 1H/31P and 1H/13C HETCOR MAS NMR Spectroscopy. Biophysical Journal, 2008, 95, 1189-1198.	0.5	12
61	Hybrid Lipids Inspired by Extremophiles and Eukaryotes Afford Serumâ€Stable Membranes with Low Leakage. Chemistry - A European Journal, 2017, 23, 6757-6762.	3.3	12
62	Probing the binding modes and dynamics of histidine on fumed silica surfaces by solid-state NMR. Physical Chemistry Chemical Physics, 2020, 22, 20349-20361.	2.8	12
63	Probing the Nature of Charge Transfer at Nanoâ€“Bio Interfaces: Peptides on Metal Oxide Nanoparticles. Journal of Physical Chemistry Letters, 2014, 5, 3555-3559.	4.6	11
64	Thiol-Triggered Release of Intraliposomal Content from Liposomes Made of Extremophile-Inspired Tetraether Lipids. Bioconjugate Chemistry, 2017, 28, 2041-2045.	3.6	11
65	Selective One-Dimensional ¹³Câ€“¹³C Spin-Diffusion Solid-State Nuclear Magnetic Resonance Methods to Probe Spatial Arrangements in Biopolymers Including Plant Cell Walls, Peptides, and Spider Silk. Journal of Physical Chemistry B, 2020, 124, 9870-9883.	2.6	11
66	Amino acid analysis of spider dragline silk using 1H NMR. Analytical Biochemistry, 2013, 440, 150-157.	2.4	9
67	Probing site-specific 13C/15N-isotope enrichment of spider silk with liquid-state NMR spectroscopy. Analytical and Bioanalytical Chemistry, 2013, 405, 3997-4008.	3.7	8
68	Lysine-Capped Silica Nanoparticles: A Solid-State NMR Spectroscopy Study. MRS Advances, 2016, 1, 2261-2266.	0.9	7
69	Entropic effects enable life at extreme temperatures. Science Advances, 2019, 5, eaaw4783.	10.3	7
70	Investigating the Atomic and Mesoscale Interactions that Facilitate Spider Silk Protein Pre-Assembly. Biomacromolecules, 2021, 22, 3377-3385.	5.4	6
71	Cyclohexane Rings Reduce Membrane Permeability to Small Ions in Archaeaâ€Inspired Tetraether Lipids. Angewandte Chemie, 2016, 128, 1922-1925.	2.0	5
72	Investigating the interaction of Grammostola rosea venom peptides and model lipid bilayers with solid-state NMR and electron microscopy techniques. Biochimica Et Biophysica Acta - Biomembranes, 2019, 1861, 151-160.	2.6	3

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73	Fusion of Bipolar Tetraether Lipid Membranes Without Enhanced Leakage of Small Molecules. Scientific Reports, 2019, 9, 19359.	3.3	3
74	Structural Characterization of Caddisfly Silk with Solid-State NMR and X-Ray Diffraction. Biophysical Journal, 2014, 106, 227a.	0.5	1
75	Structure and Properties in Synthetic MSUM and the Corresponding Biomaterial. MRS Advances, 2016, 1, 2551-2556.	0.9	1
76	2H NMR reveals liquid state-like dynamics of arene guests inside hexameric pyrogallol[4]arene capsules in the solid state. Organic Chemistry Frontiers, 2019, 6, 1361-1366.	4.5	1
77	The impact of metal doping on fumed silica structure and amino acid thermal condensation catalytic properties. Journal of Materials Science, 2021, 56, 16916-16927.	3.7	1
78	Location and Orientation of Adsorbed Molecules in Zeolites from Solid-State REAPDOR NMR. ChemInform, 2005, 36, no.	0.0	0
79	Are Spider Silk Proteins a New Class of Intrinsically Disordered Proteins?. Biophysical Journal, 2014, 106, 686a.	0.5	0
80	NMR Characterization of Spider Venom Neurotoxin Structure and Interactions with Lipid Bilayers. Biophysical Journal, 2014, 106, 294a.	0.5	0
81	Hierarchical Spidroin Micellar Nanoparticles as the Precursors of Spider Silks. Microscopy and Microanalysis, 2019, 25, 1346-1347.	0.4	0
82	Aciniform Spider Silk: Hydrationâ€Induced Î²â€Sheet Crosslinking of Î±â€Helicalâ€Rich Spider Preyâ€Wrapping Silk (Adv. Funct. Mater. 13/2021). Advanced Functional Materials, 2021, 31, 2170090.	14.9	0
83	Assembly and Thermal-Induced Polymerization of Histidine on Fumed Silica Surfaces. ACS Earth and Space Chemistry, 2022, 6, 1552-1562.	2.7	0