Jeff Yarger

List of Publications by Citations

135 papers	5,246 citations	42 h-index	68 g-index
144 ext. papers	5,788 ext. citations	6.9 avg, IF	5.57 L-index

#	Paper	IF	Citations
135	C36, a new carbon solid. *Nature*, **1998**, 393, 771-774	50.4	378
134	Vitrification of a monatomic metallic liquid. *Nature*, **2007**, 448, 787-90	50.4	178
133	Raman spectroscopy of C-S-H, tobermorite, and jennite. *Advanced Cement Based Materials*, **1997**, 5, 93-99		172
132	Al Coordination Changes in High-Pressure Aluminosilicate Liquids. *Science*, **1995**, 270, 1964-1967	33.3	172
131	Silicon and Oxygen Self-Diffusivities in Silicate Liquids Measured to 15 Gigapascals and 2800 Kelvin. *Science*, **1997**, 276, 1245-1248	33.3	165
130	Formation and structure of a dense octahedral glass. *Physical Review Letters*, **2004**, 93, 115502	7.4	143
129	Structural and topological changes in silica glass at pressure. *Physical Review B*, **2010**, 81,	3.3	135
128	Uncovering the structure□function relationship in spider silk. *Nature Reviews Materials*, **2018**, 3,	73.3	127
127	Determining secondary structure in spider dragline silk by carbon-carbon correlation solid-state NMR spectroscopy. *Journal of the American Chemical Society*, **2008**, 130, 9871-7	16.4	125
126	Non-invasive determination of the complete elastic moduli of spider silks. *Nature Materials*, **2013**, 12, 262-7	27	112
125	Correlation between structure and physical properties of chalcogenide glasses in the AsxSe1□ system. *Physical Review B*, **2010**, 82,	3.3	102
124	WISE NMR characterization of nanoscale heterogeneity and mobility in supercontracted Nephila clavipes spider dragline silk. *Journal of the American Chemical Society*, **2004**, 126, 5867-72	16.4	98
123	Quantitative Correlation between the protein primary sequences and secondary structures in spider dragline silks. *Biomacromolecules*, **2010**, 11, 192-200	6.9	97
122	Intermediate range order in vitreous silica from a partial structure factor analysis. *Physical Review B* , **2008**, 78,	3.3	92
121	Brillouin imaging. *Applied Physics Letters*, **2005**, 87, 061903	3.4	85
120	Solid-state NMR investigation of major and minor ampullate spider silk in the native and hydrated states. *Biomacromolecules*, **2008**, 9, 651-7	6.9	83
119	NMR Characterization of Phosphonic Acid Capped SnO2Nanoparticles. *Chemistry of Materials*, **2007**, 19, 2519-2526	9.6	82

118	Solid-state NMR evidence for elastin-like beta-turn structure in spider dragline silk. *Chemical Communications*, **2010**, 46, 6714-6	5.8	80
117	X-ray diffraction study of nanocrystalline and amorphous structure within major and minor ampullate dragline spider silks. *Soft Matter*, **2012**, 8, 6713-6722	3.6	77
116	Intermediate-range order in permanently densified GeO2 glass. *Physical Review Letters*, **2003**, 90, 115502	7.4	77
115	Silk structure studied with nuclear magnetic resonance. *Progress in Nuclear Magnetic Resonance Spectroscopy*, **2013**, 69, 23-68	10.4	73
114	NMR study of InP quantum dots: Surface structure and size effects. *Journal of Chemical Physics*, **1999**, 110, 8861-8864	3.9	70
113	Structural Comparison of Various Silkworm Silks: An Insight into the Structure-Property Relationship. *Biomacromolecules*, **2018**, 19, 906-917	6.9	68
112	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, 4303-6	11.5	68
111	Bimodal phase percolation model for the structure of Ge-Se glasses and the existence of the intermediate phase. *Physical Review B*, **2009**, 80,	3.3	64
110	Topological changes in glassy GeSe2 at pressures up to 9.3GPa determined by high-energy x-ray and neutron diffraction measurements. *Physical Review B*, **2006**, 74,	3.3	62
109	Quantifying the fraction of glycine and alanine in beta-sheet and helical conformations in spider dragline silk using solid-state NMR. *Chemical Communications*, **2008**, 5568-70	5.8	61
108	Inducing β-sheets formation in synthetic spider silk fibers by aqueous post-spin stretching. *Biomacromolecules*, **2011**, 12, 2375-81	6.9	60
107	NMR Characterization of Ligand Binding and Exchange Dynamics in Triphenylphosphine-Capped Gold Nanoparticles. *Journal of Physical Chemistry C*, **2009**, 113, 16387-16393	3.8	59
106	Combining flagelliform and dragline spider silk motifs to produce tunable synthetic biopolymer fibers. *Biopolymers*, **2012**, 97, 418-31	2.2	57
105	Elucidating silk structure using solid-state NMR. *Soft Matter*, **2013**, 9, 11440	3.6	57
104	β-Sheet nanocrystalline domains formed from phosphorylated serine-rich motifs in caddisfly larval silk: a solid state NMR and XRD study. *Biomacromolecules*, **2013**, 14, 1140-8	6.9	57
103	Mechanical and physical properties of recombinant spider silk films using organic and aqueous solvents. *Biomacromolecules*, **2014**, 15, 3158-70	6.9	54
102	Characterizing the secondary protein structure of black widow dragline silk using solid-state NMR and X-ray diffraction. *Biomacromolecules*, **2013**, 14, 3472-83	6.9	54
101	Solid-state NMR comparison of various spiders' dragline silk fiber. *Biomacromolecules*, **2010**, 11, 2039-43	6.9	54

100	Thermal decomposition of ammonia borane at high pressures. *Journal of Chemical Physics*, **2009**, 131, 104506	3.9	52
99	Nephila clavipes Flagelliform silk-like GGX motifs contribute to extensibility and spacer motifs contribute to strength in synthetic spider silk fibers. *Biomacromolecules*, **2013**, 14, 1751-60	6.9	51
98	Pressure-induced crystallization of amorphous red phosphorus. *Solid State Communications*, **2012**, 152, 390-394	1.6	50
97	NMR Characterization of Ionicity and Transport Properties for a Series of Diethylmethylamine Based Protic Ionic Liquids. *Journal of Physical Chemistry B*, **2016**, 120, 4279-85	3.4	49
96	Conserved C-terminal domain of spider tubuliform spidroin 1 contributes to extensibility in synthetic fibers. *Biomacromolecules*, **2012**, 13, 304-12	6.9	48
95	Chemistry. Polymorphism in liquids. *Science*, **2004**, 306, 820-1	33.3	48
94	Effects of different post-spin stretching conditions on the mechanical properties of synthetic spider silk fibers. *Journal of the Mechanical Behavior of Biomedical Materials*, **2014**, 29, 225-34	4.1	44
93	Intermediate range chemical ordering in amorphous and liquid water, Si, and Ge. *Physical Review B*, **2005**, 72,	3.3	41
92	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	3.8	41
91	Reproducing natural spider silksRcopolymer behavior in synthetic silk mimics. *Biomacromolecules*, **2012**, 13, 3938-48	6.9	40
90	Proton-detected heteronuclear single quantum correlation NMR spectroscopy in rigid solids with ultra-fast MAS. *Journal of Magnetic Resonance*, **2010**, 202, 64-71	3	40
89	Structural characterization and aging of glassy pharmaceuticals made using acoustic levitation. *Journal of Pharmaceutical Sciences*, **2013**, 102, 1290-300	3.9	38
88	Low field magnetic resonance images of polarized noble gases obtained with a dc superconducting quantum interference device. *Applied Physics Letters*, **1998**, 72, 1908-1910	3.4	38
87	New High-Pressure Phase and Pressure-Induced Amorphization of Ca(OH)2: Grain Size Effect. *Journal of Solid State Chemistry*, **1996**, 126, 300-307	3.3	37
86	NMR Determination of the Diffusion Mechanisms in Triethylamine-Based Protic Ionic Liquids. *Journal of Physical Chemistry Letters*, **2011**, 2, 1077-1081	6.4	36
85	High-pressure behavior of As2O3: Amorphous-amorphous and crystalline-amorphous transitions. *Physical Review B*, **2008**, 77,	3.3	36
84	Structure and dynamics of aromatic residues in spider silk: 2D carbon correlation NMR of dragline fibers. *Biomacromolecules*, **2010**, 11, 168-74	6.9	32
83	Scalar and anisotropic J interactions in undoped InP: A triple-resonance NMR study. *Physical Review B*, **1998**, 58, 8627-8633	3.3	32

82	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	3.6	31
81	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	11.5	30
80	A perforated diamond anvil cell for high-energy x-ray diffraction of liquids and amorphous solids at high pressure. *Review of Scientific Instruments*, **2010**, 81, 035110	1.7	29
79	Characterizing gold nanoparticles by NMR spectroscopy. *Magnetic Resonance in Chemistry*, **2018**, 56, 1074-1082	2.1	28
78	Reversible assembly of β-sheet nanocrystals within caddisfly silk. *Biomacromolecules*, **2014**, 15, 1269-75	6.9	27
77	Type I Clathrates as Novel Silicon Anodes: An Electrochemical and Structural Investigation. *Advanced Science*, **2015**, 2, 1500057	13.6	27
76	High-pressure Brillouin scattering of amorphous BeH2. *Journal of Chemical Physics*, **2006**, 124, 14502	3.9	25
75	Structural Changes in Vitreous GeSe4 under Pressure. *Journal of Physical Chemistry C*, **2012**, 116, 2212-2218	3.7	24
74	Electron spin density distribution in the polymer phase of CsC60: assignment of the NMR spectrum. *Physical Review Letters*, **2000**, 84, 717-20	7.4	23
73	Molecular dynamics of spider dragline silk fiber investigated by 2H MAS NMR. *Biomacromolecules*, **2015**, 16, 852-9	6.9	22
72	Structural quantum isotope effects in amorphous beryllium hydride. *Journal of Chemical Physics*, **2003**, 119, 12499-12502	3.9	22
71	Secondary Structure Adopted by the Gly-Gly-X Repetitive Regions of Dragline Spider Silk. *International Journal of Molecular Sciences*, **2016**, 17,	6.3	22
70	On the Use of a Protic Ionic Liquid with a Novel Cation To Study Anion Basicity. *Chemistry - A European Journal*, **2016**, 22, 13312-9	4.8	22
69	Surface and Wetting Properties of Embiopteran (Webspinner) Nanofiber Silk. *Langmuir*, **2016**, 32, 4681-74		21
68	High pressure x-ray diffraction measurements on Mg2SiO4 glass. *Journal of Non-Crystalline Solids*, **2011**, 357, 2632-2636	3.9	20
67	Early stages of glacial clustering in supercooled triphenyl phosphite. *Physical Review B*, **2001**, 64,	3.3	20
66	Highly Efficient Fumed Silica Nanoparticles for Peptide Bond Formation: Converting Alanine to Alanine Anhydride. *ACS Applied Materials & Interfaces*, **2017**, 9, 17653-17661	9.5	20
65	Gold nanoparticle-doped silk film as biocompatible SERS substrate. *RSC Advances*, **2015**, 5, 1937-1942	3.7	19

64	Exploring the backbone dynamics of native spider silk proteins in Black Widow silk glands with solution-state NMR spectroscopy. *Polymer*, **2014**, 55, 3879-3885	3.9	19
63	A flexible all-inorganic fuel cell membrane with conductivity above Nafion, and durable operation at 150□C. *Journal of Power Sources*, **2016**, 303, 142-149	8.9	18
62	Structural characterization of nanofiber silk produced by embiopterans (webspinners). *RSC Advances*, **2014**, 4, 41301-41313	3.7	18
61	The Local Structure of Triphenyl Phosphite Studied Using Spallation Neutron and High-Energy X-ray Diffraction. *Journal of Physical Chemistry B*, **2004**, 108, 20076-20082	3.4	18
60	High-Pressure 1H and 13C Nuclear Magnetic Resonance in a Diamond Anvil Cell. *Journal of Magnetic Resonance Series A*, **1995**, 114, 255-257		18
59	Elucidating proline dynamics in spider dragline silk fibre using 2H-13C HETCOR MAS NMR. *Chemical Communications*, **2014**, 50, 4856-9	5.8	16
58	Structural hysteresis in dragline spider silks induced by supercontraction: An x-ray fiber micro-diffraction study. *RSC Advances*, **2015**, 5, 1462-1473	3.7	16
57	Total x-ray scattering of spider dragline silk. *Physical Review Letters*, **2012**, 108, 178102	7.4	16
56	Rapid Soft Tissue Approximation and Repair Using Laser-Activated Silk Nanosealants. *Advanced Functional Materials*, **2018**, 28, 1802874	15.6	16
55	Microscale Mechanism of Age Dependent Wetting Properties of Prickly Pear Cacti (Opuntia). *Langmuir*, **2016**, 32, 9335-41	4	15
54	Solid-State NMR Study of Ion-Exchange Processes in V[sub 2]O[sub 5] Xerogel, Polyaniline/V[sub 2]O[sub 5], and Sulfonated Polyaniline/V[sub 2]O[sub 5] Nanocomposites. *Journal of the Electrochemical Society*, **2003**, 150, A1718	3.9	15
53	A New Version of the Lithium Ion Conducting Plastic Crystal Solid Electrolyte. *Advanced Energy Materials*, **2018**, 8, 1801324	21.8	15
52	Investigating Hydrogen-Bonded Phosphonic Acids with Proton Ultrafast MAS NMR and DFT Calculations. *Journal of Physical Chemistry C*, **2012**, 116, 18824-18830	3.8	14
51	Characterizing Pressure-Induced Coordination Changes in CaAl2O4 Glass Using 27Al NMR. *Journal of Physical Chemistry C*, **2012**, 116, 2068-2073	3.8	14
50	7Li NMR Studies of Electrochemically Lithiated V2O5 Xerogels. *Chemistry of Materials*, **2002**, 14, 3875-3881	9.6	14
49	Determining hydrogen-bond interactions in spider silk with 1H-13C HETCOR fast MAS solid-state NMR and DFT proton chemical shift calculations. *Chemical Communications*, **2013**, 49, 6680-2	5.8	13
48	Vibrational dynamics of amorphous beryllium hydride and lithium beryllium hydrides. *Journal of Chemical Physics*, **2008**, 128, 134512	3.9	13
47	Orientational correlations in the glacial state of triphenyl phosphite. *Journal of Physical Chemistry B* , **2006**, 110, 9747-50	3.4	13

46	A neutron-X-ray, NMR and calorimetric study of glassy Probucol synthesized using containerless techniques. *Chemical Physics*, **2013**, 424, 89-92	2.3	12
45	The structure of densified As2O3 glasses. *Journal of Non-Crystalline Solids*, **2007**, 353, 1755-1758	3.9	12
44	High pressure angle-dispersive Brillouin spectroscopy: A technique for determining acoustic velocities and attenuations in liquids and solids. *Review of Scientific Instruments*, **2002**, 73, 1235-1241	1.7	12
43	Protein secondary structure of Green Lynx spider dragline silk investigated by solid-state NMR and X-ray diffraction. *International Journal of Biological Macromolecules*, **2015**, 81, 171-9	7.9	11
42	Colorimetric Dual Sensors of Metal Ions Based on 1,2,3-Triazole-4,5-Dicarboxylic Acid-Functionalized Gold Nanoparticles. *Journal of Physical Chemistry C*, **2019**, 123, 20459-20467	3.8	11
41	Analysis of high-energy x-ray diffraction data at high pressure: the case of vitreous AsO at 32 GPa. *Journal of Physics Condensed Matter*, **2007**, 19, 415103	1.8	11
40	The structure of permanently densified CaAl2O4 glass. *Journal of Physics and Chemistry of Solids*, **2006**, 67, 2106-2110	3.9	11
39	X-ray Intermolecular Structure Factor(XISF): separation of intra- and intermolecular interactions from total X-ray scattering data. *Journal of Applied Crystallography*, **2015**, 48, 950-952	3.8	10
38	Adsorption and release of surfactant into and from multifunctional zwitterionic poly(NIPAm-co-DMAPMA-co-AAc) microgel particles. *Journal of Colloid and Interface Science*, **2015**, 449, 332-40	9.3	10
37	Probing the Nature of Charge Transfer at Nano-Bio Interfaces: Peptides on Metal Oxide Nanoparticles. *Journal of Physical Chemistry Letters*, **2014**, 5, 3555-9	6.4	10
36	2H-13C HETCOR MAS NMR for indirect detection of 2H quadrupole patterns and spin-lattice relaxation rates. *Journal of Magnetic Resonance*, **2013**, 226, 1-12	3	10
35	Water soluble gold-polyaniline nanocomposite: A substrate for surface enhanced Raman scattering and catalyst for dye degradation. *Arabian Journal of Chemistry*, **2020**, 13, 4009-4018	5.9	10
34	Determining the equation of state of amorphous solids at high pressure using optical microscopy. *Review of Scientific Instruments*, **2012**, 83, 033702	1.7	9
33	Polyamorphic Transitions in Network-Forming Liquids and Glasses. *ACS Symposium Series*, **1997**, 214-223	0.4	9
32	Synthesis, Crystal Structure, NMR Studies, and Thermal Stability of Mixed Iron-Indium Phosphates with Quasi-One-Dimensional Frameworks. *Inorganic Chemistry*, **1999**, 38, 6032-6038	5.1	9
31	Characterizing mixed phosphonic acid ligand capping on CdSe/ZnS quantum dots using ligand exchange and NMR spectroscopy. *Magnetic Resonance in Chemistry*, **2016**, 54, 234-8	2.1	9
30	A SAXS-WAXS study of the endothermic transitions in amorphous or supercooled liquid itraconazole. *Thermochimica Acta*, **2016**, 644, 1-5	2.9	9
29	Proton Transfer and Ionicity: An N NMR Study of Pyridine Base Protonation. *Journal of Physical Chemistry B*, **2019**, 123, 1815-1821	3.4	8

28	Probing site-specific 13C/15N-isotope enrichment of spider silk with liquid-state NMR spectroscopy. *Analytical and Bioanalytical Chemistry*, **2013**, 405, 3997-4008	4.4	8
27	Amino acid analysis of spider dragline silk using □H NMR. *Analytical Biochemistry*, **2013**, 440, 150-7	3.1	8
26	NMR Titration Used to Observe Specific Proton Dissociation in Polyprotic Tripeptides: An Undergraduate Biochemistry Lab. *Journal of Chemical Education*, **1997**, 74, 243	2.4	7
25	Extended range X-ray pair distribution functions. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2020**, 955, 163318	1.2	7
24	Using containerless methods to develop amorphous pharmaceuticals. *Biochimica Et Biophysica Acta - General Subjects*, **2017**, 1861, 3686-3692	4	6
23	Enhanced electrochemical performance of LiFe0.4Mn0.6(PO4)1□(BO3)x as cathode material for lithium ion batteries. *Journal of Electroanalytical Chemistry*, **2015**, 756, 56-60	4.1	6
22	Understanding iridium oxide nanoparticle surface sites by their interaction with catechol. *Physical Chemistry Chemical Physics*, **2017**, 19, 16151-16158	3.6	6
21	Hydrogen mobility in the lightest reversible metal hydride, LiBeH. *Scientific Reports*, **2017**, 7, 16244	4.9	6
20	Studies on TMPD:TCNB; a donor-acceptor with room temperature paramagnetism and n-pi interaction. *Molecules*, **2004**, 9, 808-14	4.8	6
19	Measurement of conductivity and permittivity on samples sealed in nuclear magnetic resonance tubes. *Review of Scientific Instruments*, **2013**, 84, 073906	1.7	5
18	Lysine-Capped Silica Nanoparticles: A Solid-State NMR Spectroscopy Study. *MRS Advances*, **2016**, 1, 2261e2266	5	5
17	Synthesis, Postsynthetic Modifications, and Applications of the First Quinoxaline-Based Covalent Organic Framework. *ACS Applied Materials & Interfaces*, **2021**, 13, 37494-37499	9.5	5
16	Reorientation Times for Solid-State Electrolyte Solvents and Electrolytes from NMR Spin-Lattice Relaxation Studies. *Journal of Physical Chemistry Letters*, **2020**, 11, 3301-3304	6.4	3
15	Relation of Ionic Conductivity to Solvent Rotation Times in Dinitrile Plastic Crystal Solvents. *Journal of the Electrochemical Society*, **2020**, 167, 070553	3.9	3
14	Shear-induced rigidity in spider silk glands. *Applied Physics Letters*, **2012**, 101, 103701	3.4	3
13	On the structure of liquid antimony pentafluoride. *Journal of Molecular Liquids*, **2007**, 131-132, 239-245	6	3
12	Comment on "Microscopic structural evolution during the liquid-liquid transition in triphenyl phosphite" by R Kurita, Y Shinohara, Y Amemiya and H Tanaka J. Phys.: Condens. Matter 19 (2007) 152101. *Journal of Physics Condensed Matter*, **2007**, 19, 408001	1.8	3
11	Thermodynamic interference with bile acid demicelleization reduces systemic entry and injury during cholestasis. *Scientific Reports*, **2020**, 10, 8462	4.9	2

10	Silicon hydrogensulfates: solid acids with exceptional 25 °C conductivities and possible electrochemical device applications. *Journal of Materials Chemistry A*, **2017**, 5, 14092-14100	13	1
9	Chapter 18:NMR Characterization of Silk. *New Developments in NMR*, **2019**, 420-456	0.9	1
8	Hard x-ray methods for studying the structure of amorphous thin films and bulk glassy oxides. *Journal of Physics Condensed Matter*, **2021**, 33,	1.8	1
7	Structure and Properties in Synthetic MSUM and the Corresponding Biomaterial. *MRS Advances*, **2016**, 1, 2551-2556	0.7	0
6	Brillouin spectroscopy of relaxor ferroelectrics and metal hydrides. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2006**, 442, 519-522	5.3	0
5	Hierarchical Spidroin Micellar Nanoparticles as the Precursors of Spider Silks. *Microscopy and Microanalysis*, **2019**, 25, 1346-1347	0.5	
4	Reversible elastic deformation of functionalized sp2 carbon at pressures of up to 33 GPa. *Applied Physics Letters*, **2014**, 105, 141901	3.4	
3	Pressure-induced transformations in crystalline and vitreous. *Solid State Communications*, **2009**, 149, 1940-1943	1.6	
2	Diffusivity and Nuclear Spin Relaxation Measurements at High Pressure in Methanol. *Materials Research Society Symposia Proceedings*, **1997**, 499, 295		
1	Using Java to Animate the Vibrations of Molecules: Calculation and Visualization of Molecular Vibrations in (NSF)3. *The Chemical Educator*, **1996**, 1, 1-8		