

Manfred Wilhelm

List of Publications by Year in descending order

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citing authors

#	ARTICLE	IF	CITATIONS
1	Poly(ethylene oxide)-Based Electrolytes for Solid-State Potassium Metal Batteries with a Prussian Blue Positive Electrode. ACS Applied Polymer Materials, 2022, 4, 2734-2746.	4.4	13
2	Ionogels as Polymer Electrolytes for Lithium-Metal Batteries: Comparison of Poly(ethylene glycol) Diacrylate and an Imidazolium-Based Ionic Liquid Crosslinker. ACS Applied Polymer Materials, 2022, 4, 2794-2805.	4.4	11
3	In Situ RheoNMR Correlation of Polymer Segmental Mobility with Mechanical Properties during Hydrogel Synthesis. Advanced Science, 2022, 9, e2104231.	11.2	8
4	Synthesis of Superabsorbent Poly(vinylamine) Core-Shell Particles Monitored by Time-Domain NMR. Macromolecules, 2022, 55, 349-358.	4.8	3
5	Nonlinear Schapery viscoelastic material model for thermoplastic polymers. Journal of Applied Polymer Science, 2022, 139, .	2.6	3
6	Sustainable Synthesis of Non-Isocyanate Polyurethanes Based on Renewable 2,3-Butanediol. Macromolecular Chemistry and Physics, 2022, 223, .	2.2	7
7	Charge Transport and Glassy Dynamics in Blends Based on 1-Butyl-3-vinylbenzylimidazolium Bis(trifluoromethanesulfonyl)imide Ionic Liquid and the Corresponding Polymer. Polymers, 2022, 14, 2423.	4.5	2
8	Effect of Side Chain Length in Polystyrene POM-POMs on Melt Rheology and Solid Mechanical Fatigue. Macromolecules, 2022, 55, 5485-5496.	4.8	12
9	Molecularly Defined Polyolefin Vitrimers from Catalytic Insertion Polymerization. Journal of the American Chemical Society, 2022, 144, 13226-13233.	13.7	17
10	Quantifying separation energy with a modified Capillary Break-up Extensional Rheometer (CaBER) to study polymer solutions. Soft Materials, 2021, 19, 199-212.	1.7	0
11	Fourier transform fatigue analysis of the stress in tension/tension of HDPE and PA6. Polymer Engineering and Science, 2021, 61, 993-1006.	3.1	3
12	Reversible and Stable Hemiaminal Hydrogels from Polyvinylamine and Highly Reactive and Selective Bis(<i>N</i> -acylpiperidone)s. ACS Macro Letters, 2021, 10, 389-394.	4.8	3
13	Mechano-Optical Characterization of Extrusion Flow Instabilities in Styrene-Butadiene Rubbers: Investigating the Influence of Molecular Properties and Die Geometry. Macromolecular Materials and Engineering, 2021, 306, 2000801.	3.6	9
14	Universal Strain-Life Curve Exponents for Thermoplastics and Elastomers under Tension-Tension and Torsion. Macromolecular Materials and Engineering, 2021, 306, 2100165.	3.6	5
15	Correlation between Macroscopic Elasticity and Chain Dynamics of Natural Rubber during Vulcanization as Determined by a Unique Rheo-NMR Combination. Macromolecules, 2021, 54, 6090-6100.	4.8	5
16	Styrene-Based Poly(ethylene oxide) Side-Chain Block Copolymers as Solid Polymer Electrolytes for High-Voltage Lithium-Metal Batteries. ACS Applied Materials & Interfaces, 2021, 13, 39257-39270.	8.0	34
17	Modeling the spatial characteristics of extrusion flow instabilities for styrene-butadiene rubbers: Investigating the influence of molecular weight distribution, molecular architecture, and temperature. Physics of Fluids, 2021, 33, .	4.0	7
18	One-Pot Synthesis of Alternating (Ultra-High Molecular Weight) Multiblock Copolymers via a Combination of Anionic Polymerization and Polycondensation. Macromolecular Rapid Communications, 2021, 42, 2100448.	3.9	5

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19	Nonlinear mechanical behavior of elastomers under tension/tension fatigue deformation as determined by Fourier transform. <i>Rheologica Acta</i> , 2021, 60, 787-801.	2.4	3
20	Advanced Block Copolymer Design for Polymer Electrolytes: Prospects of Microphase Separation. <i>Macromolecules</i> , 2021, 54, 11101-11112.	4.8	7
21	Gradient-Induced Mechanical Vibration of Neural Interfaces During MRI. <i>IEEE Transactions on Biomedical Engineering</i> , 2020, 67, 915-923.	4.2	5
22	Cumulative nonlinearity as a parameter to quantify mechanical fatigue. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2020, 43, 265-276.	3.4	9
23	Chondroinductive Alginate-Based Hydrogels Having Graphene Oxide for 3D Printed Scaffold Fabrication. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 4343-4357.	8.0	107
24	Optimizing the Power Production in an Osmotic Engine via Microfluidic Fabricated and Surface Crosslinked Hydrogels Utilizing Fresh and Salt Water. <i>Macromolecular Materials and Engineering</i> , 2020, 305, 2000174.	3.6	6
25	Desalination of Seawater Using Cationic Poly(acrylamide) Hydrogels and Mechanical Forces for Separation. <i>Macromolecular Materials and Engineering</i> , 2020, 305, 2000383.	3.6	14
26	Molecular origin of the foam structure in model linear and comb polystyrenes: I. Cell density. <i>Polymer</i> , 2020, 193, 122351.	3.8	3
27	Effect of Topology and Molecular Properties on the Rheology and Fatigue Behavior of Solid Polystyrene/Polyisoprene Di- and Triblock Copolymers. <i>Macromolecules</i> , 2020, 53, 5572-5587.	4.8	14
28	Small and Medium Amplitude Oscillatory Shear Rheology of Model Branched Polystyrene (PS) Melts. <i>Polymers</i> , 2020, 12, 365.	4.5	9
29	Molecular origin of the foam structure in model linear and comb polystyrenes: II. Volume expansion ratio. <i>Polymer</i> , 2020, 193, 122354.	3.8	5
30	A New Quantum Cascade IR Laser Online Detector: Chemical-Sensitive Size-Exclusion Chromatography Measurement at Unprecedented Low Levels. <i>Macromolecular Rapid Communications</i> , 2019, 40, e1900228.	3.9	9
31	Aging of natural rubber studied via Fourier-transform rheology and double quantum NMR to correlate local chain dynamics with macroscopic mechanical response. <i>Polymer</i> , 2019, 181, 121804.	3.8	17
32	Fatigue analysis of brittle polymers via Fourier transform of the stress. <i>Mechanics of Materials</i> , 2019, 137, 103100.	3.2	15
33	Structure of Superabsorbent Polyacrylate Hydrogels and Dynamics of Counterions by Nuclear Magnetic Resonance. <i>Macromolecular Chemistry and Physics</i> , 2019, 220, 1800525.	2.2	12
34	On-line SEC-MR-NMR hyphenation: optimization of sensitivity and selectivity on a 62 MHz benchtop NMR spectrometer. <i>Polymer Chemistry</i> , 2019, 10, 2230-2246.	3.9	28
35	Comb and Bottlebrush Polymers with Superior Rheological and Mechanical Properties. <i>Advanced Materials</i> , 2019, 31, e1806484.	21.0	117
36	Poly(sodium acrylate) hydrogels: synthesis of various network architectures, local molecular dynamics, salt partitioning, desalination and simulation. <i>Soft Matter</i> , 2019, 15, 9949-9964.	2.7	28

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37	Polymer Crystallization Studied by Hyphenated Rheology Techniques: Rheo-NMR, Rheo-SAXS, and Rheo-Microscopy. <i>Macromolecular Materials and Engineering</i> , 2019, 304, 1800586.	3.6	19
38	Comb Polymers with Triazole Linkages under Thermal and Mechanical Stress. <i>Macromolecules</i> , 2019, 52, 420-431.	4.8	2
39	Dynamics of Sodium Ions and Water in Swollen Superabsorbent Hydrogels as Studied by ²³ Na- and ¹ H-NMR. <i>Macromolecular Chemistry and Physics</i> , 2019, 220, 1800350.	2.2	13
40	Diblock Copolymers with Similar Glass Transition Temperatures in Both Blocks for Comparing Shear Orientation Processes with DPD Computer Simulations. <i>Macromolecular Chemistry and Physics</i> , 2018, 219, 1700559.	2.2	15
41	Medium Resolution ¹ H-NMR at 62 MHz as a New Chemically Sensitive Online Detector for Size-Exclusion Chromatography (SEC-NMR). <i>Macromolecular Rapid Communications</i> , 2018, 39, e1700766.	3.9	27
42	Influence of molecular properties on the mechanical fatigue of polystyrene (PS) analyzed via Wöhler curves and Fourier Transform rheology. <i>Polymer</i> , 2018, 138, 1-7.	3.8	22
43	Polymer crystallinity and crystallization kinetics via benchtop 1H NMR relaxometry: Revisited method, data analysis, and experiments on common polymers. <i>Polymer</i> , 2018, 145, 162-173.	3.8	25
44	Influence of molecular structure on the foamability of polypropylene: Linear and extensional rheological fingerprint. <i>Journal of Cellular Plastics</i> , 2018, 54, 515-543.	2.4	27
45	Topological Insight into Superabsorbent Hydrogel Network Structures: a ¹ H Double-Quantum NMR Study. <i>Macromolecular Chemistry and Physics</i> , 2018, 219, 1800100.	2.2	10
46	Stability of Diels-Alder photoadducts in macromolecules. <i>Polymer Chemistry</i> , 2018, 9, 3850-3854.	3.9	2
47	Transitions between Lamellar Orientations in Shear Flow. <i>Macromolecules</i> , 2018, 51, 4642-4659.	4.8	21
48	Fatigue behavior of polystyrene (PS) analyzed from the Fourier transform (FT) of stress response: First evidence of I2/I(N) and I3/I(N) as new fingerprints. <i>Polymer Testing</i> , 2017, 60, 343-350.	4.8	26
49	Linear and Extensional Rheology of Model Branched Polystyrenes: From Loosely Grafted Combs to Bottlebrushes. <i>Macromolecules</i> , 2017, 50, 5964-5977.	4.8	75
50	Low-field rheo-NMR: A novel combination of NMR relaxometry with high end shear rheology. <i>Journal of Rheology</i> , 2017, 61, 905-917.	2.6	27
51	Fourier-Transform Rheology of Unvulcanized, Carbon Black Filled Styrene Butadiene Rubber. <i>Macromolecular Materials and Engineering</i> , 2016, 301, 457-468.	3.6	24
52	Effect of Molecular Weight, Polydispersity, and Monomer of Linear Homopolymer Melts on the Intrinsic Mechanical Nonlinearity ³ Q ₀ (%) in MAOS. <i>Macromolecules</i> , 2016, 49, 3566-3579.	4.8	70
53	Polystyrene comb architectures as model systems for the optimized solution electrospinning of branched polymers. <i>Polymer</i> , 2016, 104, 240-250.	3.8	19
54	Hyphenated low-field NMR techniques: combining NMR with NIR, GPC/SEC and rheometry. <i>Magnetic Resonance in Chemistry</i> , 2016, 54, 494-501.	1.9	38

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55	A New High Sensitivity System to Detect Instabilities During the Extrusion of Polymer Melts. <i>Macromolecular Materials and Engineering</i> , 2015, 300, 1141-1152.	3.6	14
56	Development of a chemically sensitive online SEC detector based on FTIR spectroscopy. <i>Polymer Chemistry</i> , 2015, 6, 128-142.	3.9	19
57	ATRP-based polymers with modular ligation points under thermal and thermomechanical stress. <i>Polymer Chemistry</i> , 2015, 6, 2854-2868.	3.9	18
58	Molecular Dynamics of Polymer Composites Using Rheology and Combined RheoNMR on the Example of TiO ₂ -Filled Poly(n-Alkyl Methacrylates) and Trans-1,4-Polyisoprene. <i>Soft Materials</i> , 2014, 12, S4-S13.	1.7	8
59	High performance liquid chromatography with mid-infrared detection based on a broadly tunable quantum cascade laser. <i>Analyst</i> , 2014, 139, 2057.	3.5	24
60	Network Structure and Inhomogeneities of Model and Commercial Polyelectrolyte Hydrogels as Investigated by Low-Field Proton NMR Techniques. <i>Macromolecules</i> , 2014, 47, 4251-4265.	4.8	47
61	Investigation of the rheological behavior of industrial tubular and autoclave LDPEs under SAOS, LAOS, transient shear, and elongational flows compared with predictions from the MSF theory. <i>Journal of Rheology</i> , 2013, 57, 1693-1714.	2.6	34
62	RAFT-based Polystyrene and Polyacrylate Melts under Thermal and Mechanical Stress. <i>Macromolecules</i> , 2013, 46, 8079-8091.	4.8	29
63	Synthesis and Linear and Nonlinear Melt Rheology of Well-Defined Comb Architectures of PS and PpMS with a Low and Controlled Degree of Long-Chain Branching. <i>Macromolecules</i> , 2013, 46, 4978-4994.	4.8	109
64	Online Coupling of Size-Exclusion Chromatography and Low-Field ¹ H NMR Spectroscopy. <i>Macromolecular Chemistry and Physics</i> , 2012, 213, 1933-1943.	2.2	21
65	Online Coupling of Size-Exclusion Chromatography and IR Spectroscopy to Correlate Molecular Weight with Chemical Composition. <i>Macromolecular Rapid Communications</i> , 2012, 33, 1747-1752.	3.9	17
66	Analysis of medium amplitude oscillatory shear data of entangled linear and model comb polymers. <i>Journal of Rheology</i> , 2011, 55, 495-516.	2.6	110
67	Observation of New States of Liquid Crystal 8CB under Nonlinear Shear Conditions as Observed via a Novel and Unique Rheology/Small-Angle X-ray Scattering Combination. <i>Langmuir</i> , 2011, 27, 2880-2887.	3.5	46
68	A review of nonlinear oscillatory shear tests: Analysis and application of large amplitude oscillatory shear (LAOS). <i>Progress in Polymer Science</i> , 2011, 36, 1697-1753.	24.7	1,109
69	SEC-MR-NMR: Online Coupling of Size Exclusion Chromatography and Medium Resolution NMR Spectroscopy. <i>Macromolecular Rapid Communications</i> , 2011, 32, 665-670.	3.9	29
70	Anionic Synthesis and Rheological Characterization of Poly(<i>p</i> -methylstyrene) Model Comb Architectures with a Defined and Very Low Degree of Long Chain Branching. <i>Macromolecular Rapid Communications</i> , 2010, 31, 2140-2145.	3.9	36
71	Correlation between polyethylene topology and melt flow instabilities by determining in-situ pressure fluctuations and applying advanced data analysis. <i>Polymer</i> , 2010, 51, 522-534.	3.8	23
72	Detection and quantification of branching in polyacrylates by size-exclusion chromatography (SEC) and melt-state ¹³ C NMR spectroscopy. <i>Polymer</i> , 2009, 50, 2373-2383.	3.8	103

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73	Polymer motion as detected via dielectric spectra of 1,4-cis-polyisoprene under large amplitude oscillatory shear (LAOS). Journal of Non-Newtonian Fluid Mechanics, 2009, 160, 93-103.	2.4	21
74	Establishing a New Mechanical Nonlinear Coefficient $\langle i \rangle Q \langle i \rangle$ from FT-Rheology: First Investigation of Entangled Linear and Comb Polymer Model Systems. Macromolecules, 2009, 42, 411-422.	4.8	258
75	Kinetics of Shear Microphase Orientation and Reorientation in Lamellar Diblock and Triblock Copolymer Melts as Detected via FT-Rheology and 2D-SAXS. Macromolecular Chemistry and Physics, 2007, 208, 1719-1729.	2.2	31
76	Fourier-Transform Rheology. Macromolecular Materials and Engineering, 2002, 287, 83-105.	3.6	413
77	Increased torque transducer sensitivity via oversampling. Rheologica Acta, 2001, 40, 395-399.	2.4	73
78	High sensitivity Fourier-transform rheology. Rheologica Acta, 1999, 38, 349-356.	2.4	236