Lorenz Faust

List of Publications by Year
in descending order

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93	3,367	236612	149479
papers	citations	25 h-index	56 g-index

94	94	94	3060
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A review of nonlinear oscillatory shear tests: Analysis and application of large amplitude oscillatory shear (LAOS). Progress in Polymer Science, 2011, 36, 1697-1753.	11.8	1,109
2	Establishing a New Mechanical Nonlinear Coefficient Q from FT-Rheology: First Investigation of Entangled Linear and Comb Polymer Model Systems. Macromolecules, 2009, 42, 411-422.	2.2	258
3	Comb and Bottlebrush Polymers with Superior Rheological and Mechanical Properties. Advanced Materials, 2019, 31, e1806484.	11.1	117
4	Analysis of medium amplitude oscillatory shear data of entangled linear and model comb polymers. Journal of Rheology, 2011, 55, 495-516.	1.3	110
5	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. Macromolecules, 2013, 46, 4978-4994.	2.2	109
6	Chondroinductive Alginate-Based Hydrogels Having Graphene Oxide for 3D Printed Scaffold Fabrication. ACS Applied Materials & Interfaces, 2020, 12, 4343-4357.	4.0	107
7	Increased torque transducer sensitivity via oversampling. Rheologica Acta, 2001, 40, 395-399.	1.1	73
8	Effect of Molecular Weight, Polydispersity, and Monomer of Linear Homopolymer Melts on the Intrinsic Mechanical Nonlinearity ³Q₀(Ï‰) in MAOS. Macromolecules, 2016, 49, 3566-3579.	2.2	70
9	A rheological criterion to determine the percolation threshold in polymer nano-composites. Rheologica Acta, 2014, 53, 869-882.	1.1	63
10	From self-assembly of electrospun nanofibers to 3D cm thick hierarchical foams. Soft Matter, 2013, 9, 3164.	1.2	62
11	A Novel Approach for the Desalination of Seawater by Means of Reusable Poly(acrylic acid) Hydrogels and Mechanical Force. Macromolecular Rapid Communications, 2010, 31, 1337-1342.	2.0	55
12	Network Structure and Inhomogeneities of Model and Commercial Polyelectrolyte Hydrogels as Investigated by Low-Field Proton NMR Techniques. Macromolecules, 2014, 47, 4251-4265.	2.2	47
13	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. Langmuir, 2011, 27, 2880-2887.	1.6	46
14	Diffusion in Polymer Solutions: Molecular Weight Distribution by PFGâ€NMR and Relation to SEC. Macromolecular Chemistry and Physics, 2017, 218, 1600440.	1.1	46
15	Interlaboratory study on rheological properties of cement pastes and reference substances: comparability of measurements performed with different rheometers and measurement geometries. Materials and Structures/Materiaux Et Constructions, 2020, 53, 1.	1.3	43
16	Osmotic Engine: Translating Osmotic Pressure into Macroscopic Mechanical Force via Poly(Acrylic) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	5.6	41
17	Hyphenated lowâ€field NMR techniques: combining NMR with NIR, GPC/SEC and rheometry. Magnetic Resonance in Chemistry, 2016, 54, 494-501.	1.1	38
18	Anionic Synthesis and Rheological Characterization of Poly(pâ€methylstyrene) Model Comb Architectures with a Defined and Very Low Degree of Long Chain Branching. Macromolecular Rapid Communications, 2010, 31, 2140-2145.	2.0	36

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19	Numerical simulation results of the nonlinear coefficient Q from FT-Rheology using a single mode pom-pom model. Journal of Rheology, 2013, 57, 1-25.	1.3	36
20	Intrinsic nonlinearity from LAOStrainâ€"experiments on various strain- and stress-controlled rheometers: a quantitative comparison. Rheologica Acta, 2014, 53, 621-634.	1.1	36
21	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.	4.0	34
22	Linear and Nonlinear Rheology Combined with Dielectric Spectroscopy of Hybrid Polymer Nanocomposites for Semiconductive Applications. Nanomaterials, 2017, 7, 23.	1.9	31
23	On-line SEC-MR-NMR hyphenation: optimization of sensitivity and selectivity on a 62 MHz benchtop NMR spectrometer. Polymer Chemistry, 2019, 10, 2230-2246.	1.9	28
24	Poly(sodium acrylate) hydrogels: synthesis of various network architectures, local molecular dynamics, salt partitioning, desalination and simulation. Soft Matter, 2019, 15, 9949-9964.	1.2	28
25	Low-field rheo-NMR: A novel combination of NMR relaxometry with high end shear rheology. Journal of Rheology, 2017, 61, 905-917.	1.3	27
26	Medium Resolution ¹Hâ€NMR at 62 MHz as a New Chemically Sensitive Online Detector for Sizeâ€Exclusion Chromatography (SECâ€"NMR). Macromolecular Rapid Communications, 2018, 39, e1700766.	2.0	27
27	Influence of molecular structure on the foamability of polypropylene: Linear and extensional rheological fingerprint. Journal of Cellular Plastics, 2018, 54, 515-543.	1.2	27
28	Energy Consumption for the Desalination of Salt Water Using Polyelectrolyte Hydrogels as the Separation Agent. Macromolecular Chemistry and Physics, 2017, 218, 1700237.	1.1	25
29	Polymer crystallinity and crystallization kinetics via benchtop 1H NMR relaxometry: Revisited method, data analysis, and experiments on common polymers. Polymer, 2018, 145, 162-173.	1.8	25
30	High performance liquid chromatography with mid-infrared detection based on a broadly tunable quantum cascade laser. Analyst, The, 2014, 139, 2057.	1.7	24
31	Correlation between polyethylene topology and melt flow instabilities by determining in-situ pressure fluctuations and applying advanced data analysis. Polymer, 2010, 51, 522-534.	1.8	23
32	Transitions between Lamellar Orientations in Shear Flow. Macromolecules, 2018, 51, 4642-4659.	2.2	21
33	Acyclic Triene Metathesis Polymerization of Plukenetia Conophora Oil: Branched Polymers by Direct Polymerization of Renewable Resources. Macromolecular Chemistry and Physics, 2012, 213, 87-96.	1.1	20
34	In situ Pressure Fluctuations of Polymer Melt Flow Instabilities: Experimental Evidence about their Origin and Dynamics. Macromolecular Rapid Communications, 2009, 30, 1799-1804.	2.0	19
35	Development of a chemically sensitive online SEC detector based on FTIR spectroscopy. Polymer Chemistry, 2015, 6, 128-142.	1.9	19
36	Polystyrene comb architectures as model systems for the optimized solution electrospinning of branched polymers. Polymer, 2016, 104, 240-250.	1.8	19

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37	Polymer Crystallization Studied by Hyphenated Rheology Techniques: Rheoâ€NMR, Rheoâ€SAXS, and Rheoâ€Microscopy. Macromolecular Materials and Engineering, 2019, 304, 1800586.	1.7	19
38	Divergence of the third harmonic stress response to oscillatory strain approaching the glass transition. Soft Matter, 2016, 12, 8825-8832.	1.2	18
39	Online Coupling of Sizeâ€Exclusion Chromatography and IR Spectroscopy to Correlate Molecular Weight with Chemical Composition. Macromolecular Rapid Communications, 2012, 33, 1747-1752.	2.0	17
40	Molecularly Defined Polyolefin Vitrimers from Catalytic Insertion Polymerization. Journal of the American Chemical Society, 2022, 144, 13226-13233.	6.6	17
41	A Combined <scp>NMR</scp> Relaxometry and Surface Instability Detection System for Polymer Melt Extrusion. Macromolecular Materials and Engineering, 2013, 298, 1124-1132.	1.7	16
42	A New High Sensitivity System to Detect Instabilities During the Extrusion of Polymer Melts. Macromolecular Materials and Engineering, 2015, 300, 1141-1152.	1.7	14
43	Desalination of Seawater Using Cationic Poly(acrylamide) Hydrogels and Mechanical Forces for Separation. Macromolecular Materials and Engineering, 2020, 305, 2000383.	1.7	14
44	Effect of Topology and Molecular Properties on the Rheology and Fatigue Behavior of Solid Polystyrene/Polyisoprene Di- and Triblock Copolymers. Macromolecules, 2020, 53, 5572-5587.	2.2	14
45	Application of design of experiments, response surface methodology and partial least squares regression on nanocomposites synthesis. Polymer Bulletin, 2014, 71, 1961-1982.	1.7	13
46	First normal stress difference and in-situ spectral dynamics in a high sensitivity extrusion die for capillary rheometry via the Ê½hole effectâ€™. Polymer, 2016, 104, 193-203.	1.8	13
47	Dynamics of Sodium Ions and Water in Swollen Superabsorbent Hydrogels as Studied by ²³Naâ€and ¹Hâ€NMR. Macromolecular Chemistry and Physics, 2019, 220, 1800350.	1.1	13
48	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.	2.0	13
49	Polystyrene Solutions: Characterization of Molecular Motional Modes by Spectrally Resolved Lowâ€and Highâ€Field NMR Relaxation. Macromolecular Chemistry and Physics, 2012, 213, 1833-1840.	1.1	12
50	Structure of Superabsorbent Polyacrylate Hydrogels and Dynamics of Counterions by Nuclear Magnetic Resonance. Macromolecular Chemistry and Physics, 2019, 220, 1800525.	1.1	12
51	Fourier-transform rheology of unvulcanized styrene butadiene rubber filled with increasingly silanized silica. Soft Materials, 2019, 17, 269-282.	0.8	12
52	Rheological and mechanical properties of cellulose/LDPE composites using sustainable and fully renewable compatibilisers. Journal of Applied Polymer Science, 2020, 137, 48744.	1.3	12
53	Effect of Side Chain Length in Polystyrene POMâ€“POMs on Melt Rheology and Solid Mechanical Fatigue. Macromolecules, 2022, 55, 5485-5496.	2.2	12
54	Inverse Vulcanization of Norbornenylsilanes: Soluble Polymers with Controllable Molecular Properties via Siloxane Bonds. Angewandte Chemie - International Edition, 2022, 61, .	7.2	11

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55	Ionogels as Polymer Electrolytes for Lithiumâ€“Metal Batteries: Comparison of Poly(ethylene glycol) Diacrylate and an Imidazolium-Based Ionic Liquid Crosslinker. ACS Applied Polymer Materials, 2022, 4, 2794-2805.	2.0	11
56	A Chemometric Approach to Assess the Rheological Properties of Durum Wheat Dough by Indirect FTIR Measurements. Food and Bioprocess Technology, 2022, 15, 1040-1054.	2.6	11
57	Fatigue life prediction via the timeâ€dependent evolution of linear and nonlinear mechanical parameters determined via Fourier transform of the stress. Journal of Applied Polymer Science, 2018, 135, 46634.	1.3	10
58	Topological Insight into Superabsorbent Hydrogel Network Structures: a ¹H Doubleâ€Quantum NMR Study. Macromolecular Chemistry and Physics, 2018, 219, 1800100.	1.1	10
59	Rheo-IR: A combined setup for correlating chemical changes via FTIR spectroscopy and rheological properties in a strain-controlled rheometer. Journal of Rheology, 2021, 65, 681-693.	1.3	10
60	Online Detection of Functional Groups in SEC via Quantum Cascade Laser IR Spectroscopy. Macromolecular Rapid Communications, 2018, 39, 1700307.	2.0	9
61	A New Quantum Cascade IRâ€Laser Online Detector: Chemicalâ€Sensitive Sizeâ€Exclusion Chromatography Measurement at Unprecedented Low Levels. Macromolecular Rapid Communications, 2019, 40, e1900228.	2.0	9
62	Cumulative nonlinearity as a parameter to quantify mechanical fatigue. Fatigue and Fracture of Engineering Materials and Structures, 2020, 43, 265-276.	1.7	9
63	Small and Medium Amplitude Oscillatory Shear Rheology of Model Branched Polystyrene (PS) Melts. Polymers, 2020, 12, 365.	2.0	9
64	Mechanoâ€Optical Characterization of Extrusion Flow Instabilities in Styreneâ€Butadiene Rubbers: Investigating the Influence of Molecular Properties and Die Geometry. Macromolecular Materials and Engineering, 2021, 306, 2000801.	1.7	9
65	Molecular Dynamics of Polymer Composites Using Rheology and Combined RheoNMR on the Example of TiO₂-Filled Poly(n-Alkyl Methacrylates) and Trans-1,4-Polyisoprene. Soft Materials, 2014, 12, S4-S13.	0.8	8
66	In Situ RheoNMR Correlation of Polymer Segmental Mobility with Mechanical Properties during Hydrogel Synthesis. Advanced Science, 2022, 9, e2104231.	5.6	8
67	Analysis of the Local Mobility of RAFT Mediated Poly(acrylic acid) Networks via Low Field ¹Hâ€NMR Techniques for Investigation of the Network Topology. Macromolecular Chemistry and Physics, 2020, 221, 1900387.	1.1	7
68	Dual-faced borax mediated synthesis of self-healable hydrogels merging dynamic covalent bonding and micellization. Polymer Chemistry, 2021, 12, 361-369.	1.9	7
69	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, .	1.6	7
70	Advanced Block Copolymer Design for Polymer Electrolytes: Prospects of Microphase Separation. Macromolecules, 2021, 54, 11101-11112.	2.2	7
71	Sustainable Synthesis of Nonâ€Isocyanate Polyurethanes Based on Renewable 2,3â€Butanediol. Macromolecular Chemistry and Physics, 2022, 223, .	1.1	7
72	Investigation of Polymerâ€Filler Interactions in TiO₂â€Filled Poly(nâ€alkyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 67 851-858.	1.1	6

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73	Selfâ€Assembled Acrylic ABA Triblock Copolymer Hydrogels with Various Block Compositions: Water Absorbency, Rheology, and SAXS. Macromolecular Chemistry and Physics, 2019, 220, 1900093.	1.1	6
74	Optimizing the Power Production in an Osmotic Engine via Microfluidic Fabricated and Surface Crosslinked Hydrogels Utilizing Fresh and Salt Water. Macromolecular Materials and Engineering, 2020, 305, 2000174.	1.7	6
75	Universal Strainâ€Life Curve Exponents for Thermoplastics and Elastomers under Tensionâ€Tension and Torsion. Macromolecular Materials and Engineering, 2021, 306, 2100165.	1.7	5
76	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.	2.2	5
77	Oneâ€Pot Synthesis of Alternating (Ultraâ€High Molecular Weight) Multiblock Copolymers via a Combination of Anionic Polymerization and Polycondensation. Macromolecular Rapid Communications, 2021, 42, 2100448.	2.0	5
78	1 H PFGâ€NMR Diffusion Study on a Sequenceâ€Defined Macromolecule: Confirming Monodispersity. Macromolecular Chemistry and Physics, 2019, 220, 1900155.	1.1	4
79	Effect of Polymer Structure and Incorporation of Nanoparticles on the Behavior of Syndiotactic Polypropylenes. Macromolecular Chemistry and Physics, 2013, 214, 2567-2578.	1.1	3
80	Investigation of the Porosity of Poly(sodium methacrylate) Hydrogels by 1 Hâ€NMR T 2 â€Relaxation and Inverse Sizeâ€Exclusion Chromatography. Macromolecular Chemistry and Physics, 2021, 222, 2000300.	1.1	3
81	Fourier transform fatigue analysis of the stress in tension/tension of HDPE and PA6. Polymer Engineering and Science, 2021, 61, 993-1006.	1.5	3
82	Reversible and Stable Hemiaminal Hydrogels from Polyvinylamine and Highly Reactive and Selective Bis(N-acylpiperidone)s. ACS Macro Letters, 2021, 10, 389-394.	2.3	3
83	Nonlinear mechanical behavior of elastomers under tension/tension fatigue deformation as determined by Fourier transform. Rheologica Acta, 2021, 60, 787-801.	1.1	3
84	Synthesis of Superabsorbent Poly(vinylamine) Coreâ€“Shell Particles Monitored by Time-Domain NMR. Macromolecules, 2022, 55, 349-358.	2.2	3
85	Nonlinear Schapery viscoelastic material model for thermoplastic polymers. Journal of Applied Polymer Science, 2022, 139, .	1.3	3
86	Establishing on a New Nonlinear Q Parameter from FT-Rheology First Investigation on Monodisperse Polymer Melts. AIP Conference Proceedings, 2008, , .	0.3	2
87	Nested dipolar Halbach arrays for the determination of magnetorheological properties at variable magnetic field. Rheologica Acta, 2011, 50, 441-459.	1.1	2
88	The intrinsic mechanical nonlinearity 3Q0(ï‰) of linear homopolymer melts. AIP Conference Proceedings, 2017, , .	0.3	2
89	Osmotic Engine: Translating Osmotic Pressure into Macroscopic Mechanical Force via Poly(Acrylic) Tj ETQq1 1 0.784314 rgBT /Overlo	5.6	2
90	A new slitâ€radial die for simultaneously measuring steady state shear viscosity and first normal stress difference of viscoelastic liquids via capillary rheometry. Journal of Applied Polymer Science, 0, , 52094.	1.3	1

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91	Macromol. Rapid Commun. 15/2010. Macromolecular Rapid Communications, 2010, 31, .	2.0	0
92	Quantifying separation energy with a modified Capillary Break-up Extensional Rheometer (CaBER) to study polymer solutions. Soft Materials, 2021, 19, 199-212.	0.8	0
93	Fourier transformation liquid chromatography: increasing sensitivity by a factor of 50. Analyst, The, 2022, 147, 1199-1212.	1.7	0