Frederik R Wurm

List of Publications by Citations

239 papers	9,109 citations	46 h-index	86 g-index
260 ext. papers	10,904 ext. citations	7.8 avg, IF	6.89 L-index

#	Paper	IF	Citations
239	Protein adsorption is required for stealth effect of poly(ethylene glycol)- and poly(phosphoester)-coated nanocarriers. *Nature Nanotechnology*, **2016**, 11, 372-7	28.7	741
238	Liposomes and polymersomes: a comparative review towards cell mimicking. *Chemical Society Reviews*, **2018**, 47, 8572-8610	58.5	458
237	Plastics of the Future? The Impact of Biodegradable Polymers on the Environment and on Society. *Angewandte Chemie - International Edition*, **2019**, 58, 50-62	16.4	444
236	Polymerization of Ethylene Oxide, Propylene Oxide, and Other Alkylene Oxides: Synthesis, Novel Polymer Architectures, and Bioconjugation. *Chemical Reviews*, **2016**, 116, 2170-243	68.1	406
235	Molecular Firefighting-How Modern Phosphorus Chemistry Can Help Solve the Challenge of Flame Retardancy. *Angewandte Chemie - International Edition*, **2018**, 57, 10450-10467	16.4	268
234	Linear□dendritic block copolymers: The state of the art and exciting perspectives. *Progress in Polymer Science*, **2011**, 36, 1-52	29.6	223
233	Polymeric janus particles. *Angewandte Chemie - International Edition*, **2009**, 48, 8412-21	16.4	199
232	Poly(phosphoester)s: A New Platform for Degradable Polymers. *Angewandte Chemie - International Edition*, **2015**, 54, 6098-108	16.4	159
231	Carbohydrate nanocarriers in biomedical applications: functionalization and construction. *Chemical Society Reviews*, **2015**, 44, 8301-25	58.5	154
230	Multifunctional Poly(ethylene glycol)s. *Angewandte Chemie - International Edition*, **2011**, 50, 7988-97	16.4	150
229	Reactions and Polymerizations at the Liquid-Liquid Interface. *Chemical Reviews*, **2016**, 116, 2141-69	68.1	141
228	Biodegradable lignin nanocontainers. *RSC Advances*, **2014**, 4, 11661-11663	3.7	130
227	Main-chain poly(phosphoester)s: History, syntheses, degradation, bio-and flame-retardant applications. *Progress in Polymer Science*, **2017**, 73, 61-122	29.6	123
226	Carbohydrate-Based Nanocarriers Exhibiting Specific Cell Targeting with Minimum Influence from the Protein Corona. *Angewandte Chemie - International Edition*, **2015**, 54, 7436-40	16.4	117
225	Hyperbranched Polyglycerols with Elevated Molecular Weights: A Facile Two-Step Synthesis Protocol Based on Polyglycerol Macroinitiators. *Macromolecules*, **2009**, 42, 3230-3236	5.5	107
224	Synthesis and noncovalent protein conjugation of linear-hyperbranched PEG-poly(glycerol) alpha,omega(n)-telechelics. *Journal of the American Chemical Society*, **2009**, 131, 7954-5	16.4	105
223	Double-Hydrophilic Linear-Hyperbranched Block Copolymers Based on Poly(ethylene oxide) and Poly(glycerol). *Macromolecules*, **2008**, 41, 1184-1188	5.5	104

222	Hyperbranched unsaturated polyphosphates as a protective matrix for long-term photon upconversion in air. *Journal of the American Chemical Society*, **2014**, 136, 11057-64	16.4	101
221	Be squared: expanding the horizon of squaric acid-mediated conjugations. *Chemical Society Reviews* , **2013**, 42, 8220-36	58.5	96
220	Functional biodegradable polymers via ring-opening polymerization of monomers without protective groups. *Chemical Society Reviews*, **2018**, 47, 7739-7782	58.5	89
219	Coating nanoparticles with tunable surfactants facilitates control over the protein corona. *Biomaterials*, **2017**, 115, 1-8	15.6	82
218	Water-Soluble Poly(phosphonate)s via Living Ring-Opening Polymerization.. *ACS Macro Letters*, **2014**, 3, 244-248	6.6	81
217	Amino Functional Poly(ethylene glycol) Copolymers via Protected Amino Glycidol. *Macromolecules*, **2010**, 43, 2244-2251	5.5	79
216	Unsaturated Polyphosphoesters via Acyclic Diene Metathesis Polymerization. *Macromolecules*, **2012**, 45, 8511-8518	5.5	78
215	Functional PEG-based polymers with reactive groups via anionic ROP of tailor-made epoxides. *Polymer Chemistry*, **2012**, 3, 1714	4.9	78
214	Morphology-Controlled Synthesis of Lignin Nanocarriers for Drug Delivery and Carbon Materials. *ACS Biomaterials Science and Engineering*, **2017**, 3, 2375-2383	5.5	69
213	Hyperbranched poly(phosphoester)s as flame retardants for technical and high performance polymers. *Polymer Chemistry*, **2014**, 5, 7042-7053	4.9	68
212	Hyperbranched polyglycerol-based lipids via oxyanionic polymerization: toward multifunctional stealth liposomes. *Biomacromolecules*, **2010**, 11, 568-74	6.9	67
211	Hydrophilicity Regulates the Stealth Properties of Polyphosphoester-Coated Nanocarriers. *Angewandte Chemie - International Edition*, **2018**, 57, 5548-5553	16.4	66
210	Ferrocenyl Glycidyl Ether: A Versatile Ferrocene Monomer for Copolymerization with Ethylene Oxide to Water-Soluble, Thermoresponsive Copolymers. *Macromolecules*, **2013**, 46, 647-655	5.5	66
209	PEG-based Multifunctional Polyethers with Highly Reactive Vinyl-Ether Side Chains for Click-Type Functionalization. *Macromolecules*, **2011**, 44, 6326-6334	5.5	66
208	Unsaturated poly(phosphoester)s via ring-opening metathesis polymerization. *Polymer Chemistry*, **2013**, 4, 3800	4.9	65
207	Nanoparticles from renewable polymers. *Frontiers in Chemistry*, **2014**, 2, 49	5	64
206	High biocompatibility and improved osteogenic potential of amorphous calcium carbonate/vaterite. *Journal of Materials Chemistry B*, **2016**, 4, 376-386	7.3	63
205	Electroactive linear-hyperbranched block copolymers based on linear poly(ferrocenylsilane)s and hyperbranched poly(carbosilane)s. *Chemistry - A European Journal*, **2009**, 15, 9068-77	4.8	62

204	A Library of Well-Defined and Water-Soluble Poly(alkyl phosphonate)s with Adjustable Hydrolysis. *Macromolecules*, **2015**, 48, 3853-3863	5.5	60
203	Aliphatic Polyethers: Classical Polymers for the 21st Century. *Macromolecular Rapid Communications*, **2015**, 36, 1147-65	4.8	58
202	Squaric acid mediated synthesis and biological activity of a library of linear and hyperbranched poly(glycerol)-protein conjugates. *Biomacromolecules*, **2012**, 13, 1161-71	6.9	58
201	Synthesis and Characterization of Poly(glyceryl glycerol) Block Copolymers. *Macromolecules*, **2008**, 41, 1909-1911	5.5	58
200	Carbanions on Tap Living Anionic Polymerization in a Microstructured Reactor. *Macromolecular Chemistry and Physics*, **2008**, 209, 1106-1114	2.6	57
199	Functional Poly(ethylene glycol) PEG-Based Random Copolymers with 1,2-Diol Side Chains and Terminal Amino Functionality. *Macromolecules*, **2010**, 43, 8511-8518	5.5	56
198	Polymere Janus-Partikel. *Angewandte Chemie*, **2009**, 121, 8564-8574	3.6	54
197	Seawater-Degradable Polymers-Fighting the Marine Plastic Pollution. *Advanced Science*, **2020**, 8, 2001121	13.6	53
196	Hetero-Multifunctional Poly(ethylene glycol) Copolymers with Multiple Hydroxyl Groups and a Single Terminal Functionality. *Macromolecular Rapid Communications*, **2010**, 31, 258-64	4.8	52
195	Hyperbranched PEG by random copolymerization of ethylene oxide and glycidol. *Macromolecular Rapid Communications*, **2010**, 31, 1811-5	4.8	50
194	Fast ultrasound assisted synthesis of chitosan-based magnetite nanocomposites as a modified electrode sensor. *Carbohydrate Polymers*, **2016**, 151, 760-769	10.3	47
193	Janus micelles induced by olefin metathesis. *Journal of the American Chemical Society*, **2008**, 130, 5876-7	16.4	46
192	Paclitaxel-loaded polyphosphate nanoparticles: a potential strategy for bone cancer treatment. *Journal of Materials Chemistry B*, **2014**, 2, 1298-1306	7.3	44
191	Amphiphilic Linear-Hyperbranched Block Copolymers with Linear Poly(ethylene oxide) and Hyperbranched Poly(carbosilane) Block. *Macromolecules*, **2008**, 41, 9602-9611	5.5	44
190	Fast Access to Amphiphilic Multiblock Architectures by the Anionic Copolymerization of Aziridines and Ethylene Oxide. *Journal of the American Chemical Society*, **2018**, 140, 13407-13412	16.4	44
189	Hyperbranched phosphorus flame retardants: multifunctional additives for epoxy resins. *Polymer Chemistry*, **2019**, 10, 4346-4358	4.9	43
188	Tailoring the stealth properties of biocompatible polysaccharide nanocontainers. *Biomaterials*, **2015**, 49, 125-34	15.6	43
187	Rapid Access to Polyfunctional Lipids with Complex Architecture via Oxyanionic Ring-Opening Polymerization. *Macromolecules*, **2011**, 44, 4648-4657	5.5	43

186	Aziridines and azetidines: building blocks for polyamines by anionic and cationic ring-opening polymerization. *Polymer Chemistry*, **2019**, 10, 3257-3283	4.9	42
185	Microstructure analysis of biocompatible phosphoester copolymers. *Polymer Chemistry*, **2013**, 4, 4469	4.9	42
184	Sequence-Controlled Polymers via Simultaneous Living Anionic Copolymerization of Competing Monomers. *Macromolecular Rapid Communications*, **2016**, 37, 833-9	4.8	40
183	Hyperbranched–linear–hyperbranched ABA-type block copolymers based on poly(ethylene oxide) and polyglycerol. *Polymer International*, **2009**, 58, 989-995	3.3	40
182	The organocatalytic ring-opening polymerization of N-tosyl aziridines by an N-heterocyclic carbene. *Chemical Communications*, **2016**, 52, 9719-22	5.8	40
181	Multihydroxy Polyamines by Living Anionic Polymerization of Aziridines. *ACS Macro Letters*, **2016**, 5, 195-198	6.9	39
180	Poly(phosphonate)s via Olefin Metathesis: Adjusting Hydrophobicity and Morphology. *Macromolecules*, **2014**, 47, 4884-4893	5.5	39
179	Reversible Self-Assembly of Degradable Polymersomes with Upper Critical Solution Temperature in Water. *Journal of the American Chemical Society*, **2017**, 139, 11064-11072	16.4	39
178	From CO2-Based Multifunctional Polycarbonates With a Controlled Number of Functional Groups to Graft Polymers. *Macromolecular Chemistry and Physics*, **2013**, 214, 892-901	2.6	39
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176	Targeted Drug Delivery in Plants: Enzyme-Responsive Lignin Nanocarriers for the Curative Treatment of the Worldwide Grapevine Trunk Disease Esca. *Advanced Science*, **2019**, 6, 1802315	13.6	38
175	Bio-Based Lignin Nanocarriers Loaded with Fungicides as a Versatile Platform for Drug Delivery in Plants. *Biomacromolecules*, **2020**, 21, 2755-2763	6.9	38
174	Oncolytic Nanoreactors Producing Hydrogen Peroxide for Oxidative Cancer Therapy. *Nano Letters*, **2020**, 20, 526-533	11.5	38
173	Degradable Polyphosphoester-Protein Conjugates: "PPEylation" of Proteins. *Biomacromolecules*, **2016**, 17, 3338-3346	6.9	37
172	Systematically Controlled Decomposition Mechanism in Phosphorus Flame Retardants by Precise Molecular Architecture: PO vs PN. *ACS Applied Polymer Materials*, **2019**, 1, 1118-1128	4.3	36
171	Biodegradable protein nanocontainers. *Biomacromolecules*, **2015**, 16, 815-21	6.9	36
170	From an epoxide monomer toolkit to functional PEG copolymers with adjustable LCST behavior. *Macromolecular Rapid Communications*, **2011**, 32, 1930-4	4.8	36
169	Morphology and Thermal Properties of Precision Polymers: The Crystallization of Butyl Branched Polyethylene and Polyphosphoesters. *Macromolecules*, **2016**, 49, 1321-1330	5.5	35

168	Interleukin-2 Functionalized Nanocapsules for T Cell-Based Immunotherapy. *ACS Nano*, **2016**, 10, 9216-9226	16.7	34
167	Controlling the Polymer Microstructure in Anionic Polymerization by Compartmentalization. *Angewandte Chemie - International Edition*, **2018**, 57, 2483-2487	16.4	34
166	Ferrocene-Containing Multifunctional Polyethers: Monomer Sequence Monitoring via Quantitative 13C NMR Spectroscopy in Bulk. *Macromolecules*, **2014**, 47, 2242-2249	5.5	33
165	Functional Colloidal Stabilization. *Advanced Materials Interfaces*, **2017**, 4, 1600443	4.6	33
164	Functional Group Distribution and Gradient Structure Resulting from the Living Anionic Copolymerization of Styrene and -But-3-enyl Styrene.. *ACS Macro Letters*, **2014**, 3, 560-564	6.6	32
163	A metathesis route for BODIPY labeled polyolefins. *Organic Letters*, **2013**, 15, 3844-7	6.2	32
162	Branched and Functionalized Polybutadienes by a Facile Two-Step Synthesis. *Macromolecular Chemistry and Physics*, **2008**, 209, 675-684	2.6	31
161	The living anionic polymerization of activated aziridines: a systematic study of reaction conditions and kinetics. *Polymer Chemistry*, **2017**, 8, 2824-2832	4.9	30
160	Selective Initiation from Unprotected Aminoalcohols for the N-Heterocyclic Carbene-Organocatalyzed Ring-Opening Polymerization of 2-Methyl-N-tosyl Aziridine: Telechelic and Block Copolymer Synthesis. *Macromolecules*, **2018**, 51, 2533-2541	5.5	29
159	Cubosomes stabilized by a polyphosphoester-analog of Pluronic F127 with reduced cytotoxicity. *Journal of Colloid and Interface Science*, **2020**, 580, 286-297	9.3	29
158	Water-Soluble Metallocene-Containing Polymers. *Macromolecular Rapid Communications*, **2016**, 37, 1482-93	4.8	29
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156	A Facile Two-Step Route to Branched Polyisoprenes via ABn-Macromonomers. *Macromolecular Rapid Communications*, **2007**, 28, 704-709	4.8	28
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153	Selective Interfacial Olefin Cross Metathesis for the Preparation of Hollow Nanocapsules. *ACS Macro Letters*, **2014**, 3, 40-43	6.6	27
152	One-pot squaric acid diester mediated aqueous protein conjugation. *Chemical Communications*, **2013**, 49, 7815-7	5.8	27
151	In-Chain Poly(phosphonate)s via Acyclic Diene Metathesis Polycondensation. *Macromolecules*, **2016**, 49, 3761-3768	5.5	27

150	Mechanistic study on the hydrolytic degradation of polyphosphates. *European Polymer Journal*, **2018**, 108, 286-294	5.2	27
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148	Poly(alkylidene chlorophosphate)s via Acyclic Diene Metathesis Polymerization: A General Platform for the Postpolymerization Modification of Poly(phosphoester)s. *Macromolecules*, **2014**, 47, 8506-8513	5.5	26
147	Long-Chain Polyorthoesters as Degradable Polyethylene Mimics. *Macromolecules*, **2019**, 52, 2411-2420	5.5	25
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143	Aziridine termination of living anionic polymerization. *Macromolecular Rapid Communications*, **2014**, 35, 585-9	4.8	24
142	Enlarging the Toolbox: Epoxide Termination of Polyferrocenylsilane (PFS) as a Key Step for the Synthesis of Amphiphilic PFS-Polyether Block Copolymers.. *ACS Macro Letters*, **2013**, 2, 313-316	6.6	24
141	Poly(alkyl ethylene phosphonate)s: A New Class of Non-amide Kinetic Hydrate Inhibitor Polymers. *Energy & Fuels*, **2017**, 31, 3843-3848	4.1	23
140	Vinyl ferrocenyl glycidyl ether: an unprotected orthogonal ferrocene monomer for anionic and radical polymerization. *Polymer Chemistry*, **2015**, 6, 3617-3624	4.9	23
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138	Squaric acid mediated chemoselective PEGylation of proteins: reactivity of single-step-activated ω-amino poly(ethylene glycol)s. *Chemistry - A European Journal*, **2012**, 18, 16828-35	4.8	23
137	Sophorolipids: Expanding structural diversity by ring-opening cross-metathesis. *European Journal of Lipid Science and Technology*, **2015**, 117, 217-228	3	22
136	Triple-Stimuli-Responsive Ferrocene-Containing PEGs in Water and on the Surface. *ACS Applied Materials & Interfaces*, **2015**, 7, 26137-44	9.5	22
135	Pencil Lead as a Matrix for MALDI-ToF Mass Spectrometry of Sensitive Functional Polymers. *Macromolecules*, **2007**, 40, 746-751	5.5	22
134	Reversible Bioconjugation: Biodegradable Poly(phosphate)-Protein Conjugates. *Macromolecular Bioscience*, **2017**, 17,	5.5	21
133	Living Anionic Polymerization of Functional Aziridines. *Macromolecular Symposia*, **2015**, 349, 51-56	0.8	21

132	Artificial cartilage bio-matrix formed of hyaluronic acid and Mg2+-polyphosphate. *European Cells and Materials*, **2016**, 32, 271-283	4.3	21
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130	Matrix matters: Hyperbranched flame retardants in aliphatic and aromatic epoxy resins. *Polymer Degradation and Stability*, **2019**, 170, 108986	4.7	20
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127	Self-Assembly of Giant Unilamellar Vesicles by Film Hydration Methodologies. *Advanced Biology*, **2019**, 3, e1800324	3.5	19
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120	Sulfur's role in the flame retardancy of thio-ether-linked hyperbranched polyphosphoesters in epoxy resins. *European Polymer Journal*, **2020**, 122, 109390	5.2	17
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114	Polymerizing Phostones: A Fast Way to In-Chain Poly(phosphonate)s with Adjustable Hydrophilicity. *Macromolecules*, **2018**, 51, 1272-1279	5.5	15
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92	Ferrocenyl-functionalized long chain branched polydienes. *Journal of Polymer Science Part A*, **2009**, 47, 2518-2529	2.5	12
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90	From Compost to Colloids: Valorization of Spent Mushroom Substrate. *ACS Sustainable Chemistry and Engineering*, **2019**, 7, 6991-6998	8.3	11
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88	Polyphosphoester surfactants as general stealth coatings for polymeric nanocarriers. *Acta Biomaterialia*, **2020**, 116, 318-328	10.8	11
87	Intrinsic flame retardant phosphonate-based vitrimers as a recyclable alternative for commodity polymers in composite materials. *Polymer Chemistry*, **2020**, 11, 4933-4941	4.9	11
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81	Enzyme-Loaded Nanoreactors Enable the Continuous Regeneration of Nicotinamide Adenine Dinucleotide in Artificial Metabolisms. *Angewandte Chemie - International Edition*, **2021**, 60, 7728-7734	16.4	11
80	Fully degradable protein nanocarriers by orthogonal photoclick tetrazole-ene chemistry for the encapsulation and release. *Nanoscale Horizons*, **2017**, 2, 297-302	10.8	10
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