

Articles in Refereed Journals (Student Coauthors in Bold, Undergraduate Students in Bold Italics)

188. **King-Smith, N.**, Molnar, K., Blakeslee, J.J., McMahan, C.M., **Pillai, A.S.**, Mutalkhanov, M., Puskas, J.E., Cornish, K., Extractable Latex Yield from *Taraxacum kok-saghyz* Roots is Enhanced by Increasing Rubber Particle Buoyancy, *Industrial Crops & Products* **2023** (accepted 10/22/23).
187. Molnar, K.; **Pillai, A.S.**; Chen, D.; McKenna; G.B.; Kaszas, G.; Kornfield, J.A.; Puskas, J.E. Investigation of the Structure, Filler Interaction and Degradation of Disulfide Elastomers made by Reversible Radical Recombination Polymerization (R3P). *EPJ* **2023**, *181*, 112033-112041 DOI: 0.1016/j.eurpolymj.2023.112033.
186. Puskas, J.E.; Shrikhande, G.; Molnar, K. Synthesis and Characterization of Four-functional Fluoresceins. *J. Mol. Liquids* **2023**, *381*, 121747-121755. DOI: 10.1016/j.molliq.2023.121747.
185. Chen, D.; Molnar, K.; Kim, H.; Helfer, Carin A.; Kaszas, G.; Puskas, J.E.; Kornfield, J.A.; McKenna; G.B. Linear Viscoelastic Properties of Putative Cyclic Polymers Synthesized by Reversible Radical Recombination Polymerization (R3P). *Macromolecules* **2023**, *56*, 1013-1032. DOI: 10.1021/acs.macromol.2c00892.
184. Puskas, J. E., Krisch, E.; Shrikhande, G.; Molnar, K. Multifunctional PEG Carrier by Chemoenzymatic Synthesis for Drug Delivery Systems: In Memory of Professor Andrzej Dworak. *MDPI Polymers* **2022**, *14*, 2900-2915. DOI: 10.3390/polym14142900.
183. Puskas, J. E., Krisch, E.; **Pillai, A.S.**; Mulay, P. Enzyme-catalyzed Amine-functionalization of Poly(ethylene-glycol). *Express Polymer Letters* **2022**, *16*, 933-938. DOI: [10.3144/expresspolymlett.2022.68](https://doi.org/10.3144/expresspolymlett.2022.68).
182. Molnar, K.; **Kim, H.**; **Chen, D.**; Helfer, C.A.; Kaszas, G.; McKenna, G.B; Kornfield, J. A.; Yuan, C.; Puskas, J. E. PolyDODT: A Macrocyclic Elastomer with Unusual Properties. *RSC Polymer Chemistry* **2022**, *13*, 668-676. DOI: 10.1039/D1PY01426A.
181. Nagy, K.S.; Toth, K.; Pallinger, E.; Takacs, A.; Kohidai, L.; Jedlovszky-Hajdu, A.; Mathe, D.; Kovacs, N.; Veres, S.D.; Szigeti, K.; Molnar, K.; Krisch, E.; Puskas, J.E. Folate-Targeted Monodisperse PEG-Based Conjugates Made by Chemo-Enzymatic Methods for Cancer Diagnosis and Treatment *Int. J. Mol. Sci.* **2021**, *22*, 10347; DOI:10.3390 /ijms221910347.
180. Barczikai, D.; Domokos, J.; Szabó, D.; Molnar, K.; Juriga, D.; Krisch, E.; Nagy, K.S.; Kohidai, L.; Helfer, C.A.; Jedlovszky-Hajdu, A.; Puskas, J.E. Polyisobutylene—New Opportunities for Medical Applications. *Molecules*, **2021**, *26*, 5207-5220. DOI: 10.3390/molecules26175207.
179. Molnar, K.; Helfer, C.A.; Kaszas, G.; Krisch, E.; **Chen, D.**; McKenna, G.B; Kornfield, J. A.; Puskas, J. E. Liquid Chromatography at Critical Conditions (LCCC): Capabilities and Limitations for Polymer Analysis *Journal of Molecular Liquids*, **2021**, *322*, 114956-114964. DOI: 10.1016/j.molliq.2020.114956.
178. Molnar, K.; Varga, R.; Jozsa, B.; **Barczikai, D.**; Kirsch, E.; Nagy, K.S.; Varga, G.; Jedlovszky-Hajdu, A.; Puskas, J.E. Investigation of the Cytotoxicity of Electrospun Polysuccinimide-based Fiber Mats. *Polymers*. **2020**, *12* (10), 2324-2334. DOI: 10.3390/polym12102324.
177. Jepsen, S.D.; Pfeifer, L.; Garcia, L.G.; Plakias, Z.; Inwood, S.; Rumble, J.N.; Rodriguez, M.T.; Puskas, J.E.; Custer, S.G. Lean on Your Land Grant: One University’s Approach to Address the Food Supply Chain Workforce during the COVID-19 Pandemic. *J. Agromedicine* **2020**, *25* (4), 417-422. DOI: 10.1080/1059924X.2020.1815623.
176. **Shrikhande, G.**; **Mulay, P.**; Puskas, J.E. PEGylation of Fluorescein by Enzyme-Catalyzed “Click” Michael Addition. *Macromol. Rapid Commun.* **2020**, 2000163-2000167. DOI: 10.1002/marc.202000163.

175. Sikorska, W.; Zięba, M.; Musioł, M.; Kowalczyk, M.; Janeczek, H.; Chaber, P.; Masiuchok, O.; Demchenko, V.; Talanyuk, V.; Iurzhenko, M.; Puskas, J.E.; Adamus, G. Forensic Engineering of Advanced Polymeric Materials—Part VII: Degradation of Biopolymer Welded Joints. *Polymers*. **2020**, *12* (5), 1167-1181. DOI:10.3390/polym12051167.
174. Das, D.; Koirala, N.; Li, X.; Khan, N.; Dong, F.; Zhang, W.; **Mullay, P.**; **Shrikhande, G.**; Puskas, J.E.; Drazba, J.; McLennan, G. Screening of Polymer-based Drug Delivery Vehicles Targeting Folate Receptors in Triple Negative Breast Cancer. *Journal of Vascular and Interventional Radiology*, **2020**, *31* (11), 1866–1873. DOI: 10.1016/j.jvir.2020.05.010.
173. Puskas, J.; Molnar, K.; Krisch, E. Toward the Effective Synthesis of Bivalent Folate-targeted PEGylated Cancer Diagnostic and Therapeutic Agents using Chemo-enzymatic Processes. *Journal of Molecular Liquids*. **2020**, *310*, 113218-113222. DOI: 10.1016/j.molliq.2020.113218.
172. Molnar, K.; **Jozsa, B.**; **Barczikai, D.**; Krisch, E.; Puskas, J.E.; Jedlovszky-Hajdu, A. Plasma Treatment as an Effective Tool for Crosslinking of Electrospun Fibers. *Journal of Molecular Liquids*. **2020**, *303*, 112628-112635. DOI: 10.1016/j.molliq.2020.112628.
171. Sonseca, A.; Sahay, R.; Stepien, K.; Bukala, J.; Wcislek, A.; **McClain, A.**; Sobolewski, P.; Sui, X.; Puskas, J.E.; Kohn, J.; Wagner, H.D.; El Fray, M. Architected Helically Coiled Scaffolds from Elastomeric Poly(butylene succinate) (PBS) Copolyester via Wet Electrospinning. *Materials Science and Engineering: C*. **2020**, *108*, 110505-110515. DOI: 10.1016/j.msec.2019.110505.
170. **Mulay, P.**; **Shrikhande, G.**; Puskas, J.E. Synthesis of Mono- and Dithiols of Tetraethylene Glycol and Poly(ethylene glycol)s via Enzyme Catalysis. *Catalysts*. **2019**, *9*(3), 228-239. DOI: 10.3390/catal9030228.
169. **Kantor, J.**; Collister, E.A.; Puskas, J.E.; Mallamaci, M.P.; Comes, V.C. Mechanical Performance of Novel Polyisobutylene-Based Elastomeric Polyurethanes Before and After Hydrolysis. *Rubber Chem. Tech.* **2019**, *92*(3), 481-495. DOI: 10.5254/rct.19.81509.
168. **Koirala, N.**; Das, D.; Fayazzadeh, E.; Sen, S.; **McClain, A.**; Puskas, J.E.; Drazba, J.A.; McLennan, G. Folic Acid Conjugated Polymeric Drug Delivery Vehicle for Targeted Cancer Detection in Hepatocellular Carcinoma. *Journal of Biomedical Materials Research Part A*. **2019**, *107*(11), 2252-2535. DOI: 10.1002/jbm.a.36758.
167. Stępień, K.; Miles, C.; **McClain, A.**; Wisniewska, E.; Sobolewski, P.; Kohn, J.; Puskas, J.; Wagner, H. D.; El Fray, M. Biocopolyesters of Poly(butylene-succinate) (PBS) Containing Long-chain Biobased Glycol Synthesized with Heterogeneous Titanium Dioxide Catalyst. *ACS Sustainable Chemistry & Engineering*. **2019**, *7*(12), 10623-10632. DOI: 10.1021/acssuschemeng.9b01191.
166. Sonseca, A.; **McClain, A.**; El Fray, M.; Puskas, J. Kinetic Studies of Biocatalyzed Copolyesters of Poly(butylene succinate) (PBS) Containing Fully Bio-Based Dilinoleic Diol. *European Polymer Journal* **2019**, *116*, 515-525. DOI: 10.1016/j.eurpolymj.2019.04.038.
165. Ransom, T.C.; Roy, D.; Puskas, J.E.; Kaszas, G.; Roland, C.M. Molecular Weight Dependence of the Viscosity of Highly Entangled Polyisobutylene. *Macromolecules* **2019**, *52*(14), 5177-5182. DOI: 10.1021/acs.macromol.9b00993.
164. **Kantor, J.**; Puskas, J.E.; Kaszas, G. The Effect of Reaction Conditions on the Synthesis of Thermoplastic Elastomers Containing Polyalloocimene, Polyisobutylene and Tapered Blocks. *Chinese J. Polym. Sci.* **2019**, *37*, 884-890. DOI: 10.1007/s10118-019-2254-8.
163. Puskas, J.E.; Molnar, K.; **Jindal, A.** Electrospun Fiber Mats from Poly(alloocimene-isobutylene-alloocimene) Thermoplastic Elastomer. *International Journal of Polymeric Materials and Polymeric Biomaterials*. **2020**, *69*(4), 263-267. DOI: 10.1080/00914037.2018.1563083.

162. Puskas, J.E.; **Castano, M.**; **Mulay, P.**; Dudipala, V.; Wesdemiotis, C. Method for the Synthesis of γ -PEGylated Folic Acid and its Fluorescein-labeled Derivative. *Macromolecules* **2018**, *51*(52), 9069-9077, DOI: 10.1021/acs.macromol.8b01888.
161. Puskas, J. E.; Helfer, C. A. Natural Rubber Biosynthesis: Still a Mystery. *Rubber Chem. Tech.* 2018, *91*(4), 683-700. DOI: 10.5254/rct.18.81529.
160. Puskas, J. E. Rubber City Girl: The Path to the Goodyear Medal. *Rubber Chem. Tech.* 2018, *91*(1), 1-26. DOI: 10.5254/rct.17.82588.
159. Zhao, Y. R.; Buren, B. D.; Puskas, J.E.; McAuley, K. B. A Simple Monte Carlo Method for Modeling Arborescent Polymer Production in Continuous Stirred Tank Reactor. *Macromol. React. Eng.*, 2018, *12*(5), 1800020-1800030. DOI: 10.1002/mren.201800020.
158. Buren, B. D; **Zhao, Y. R.**; Puskas, J.E.; McAuley, K. B. Predicting Average Molecular Weights and Branching Level for Self-Condensing Vinyl Copolymerization in a CSTR. *Macromol. React. Eng.*, **2018**, *12*(4, SI), 1700074-1700086. DOI: 10.1002/mren.201700074.
157. Wcislek, A.; Olalla, A. S; McClain, A.; Piegat, A.; Sobolewski, P.; Puskas, J.; El Fray, M. Enzymatic Degradation of Poly(butylene succinate) Copolyesters Synthesized with the use of *Candida Antarctica* Lipase B. *Polymers*, 2018, *10*(6), 688-706. DOI: 10.3390/polym10060688.
156. **Jindal, A.**; Puskas, J.E.; **McClain, A.**; Nedic, K.; Luebbbers, M.T.; Baker Jr., J.R.; dos Santos, B.P.; Camassola, M.; Jennings, W.; Einsporn, R.L.; Leipzig, N.D. Encapsulation and Release of Zafirlukast from Electrospun Polyisobutylene-Based Thermoplastic Elastomeric Fiber Mat. *European Polymer Journal*, **2018**, *98*, 254-261. DOI: 10.1016/j.eurpolymj.2017.11.012.
155. Puskas, J.E.; Sen, S. Synthesis of Biodegradable Polyisobutylene Disulfides by Living Reversible Recombination Radical Polymerization (R3P): Macrocycles? *Macromolecules*, 2017, *50*(7), 2615–2624. DOI: 10.1021/acs.macromol.6b02397.
154. Alvarez Albarran, A.; Rosenthal-Kim, E.Q.; Kantor, J.; Liu, L. Nikolov, Z.; Puskas, J.E. Stimuli-Responsive Antifouling Polyisobutylene-based Biomaterials via Modular Surface Functionalization. *J. Polym. Sci: Polym. Chem.*, 2017, *55*(10), 1742–1749. DOI: 10.1002/pola.28540.
153. Zhao, Y.R.; Arriola, D.J.; Puskas, J.E.; McAuley, K.B. Applying Multidimensional Method of Moments for Modeling and Estimating Parameters for Arborescent Polyisobutylene Production in Batch Reactor. *Macromol. Theory Simul.* 2017, *26*(1), 1600004-1600022. DOI: 10.1002/mats.201600004.
152. Puskas, J.E.; Kantor, J.; Shrikhande, G. Reaction Engineering with Enzymes: A Relatively Uncharted Territory. *AICHE J.*, 2017, *63*(1), 266–272. DOI: 10.1002/aic.15544.
151. Castano, M.; Alvarez, A.; Becker, M.L.; Puskas, J.E. Synthesis of Polyisobutylene-Polycaprolactone Block Copolymers using Enzyme Catalysis. *eXpress Polym. Lett.* 2016, *10*(8), 693–700. DOI: 10.3144/expresspolymlett.2016.62.
150. Zhao, Y.R.; McAuley, K.B.; Iedema, P. D.; Puskas, J.E. Advanced Monte Carlo Modeling Using Weight-Based Selection of Arborescent Polyisobutylene Molecules in a Batch Reactor. *Macromol. Theory Simul.* 2016, *25*(2), 134-154. DOI: 10.1002/mats.201500059.
149. Roh, J.H.; Doy, D.; Lee, W.K.; Gergely, A.L.; Puskas, J.E.; Roland, C.M. Thermoplastic Elastomers of Alloocimene and Isobutylene Triblock Copolymers. *Polymer* 2015, *56*(15), 280-283. DOI: 10.1016/j.polymer.2014.11.015.
148. Sen, S.; Puskas, J.E. Green Polymer Chemistry: Enzyme Catalysis for Polymer Functionalization. *Molecules* 2015, *20*(5), 9358-9379. DOI: 10.3390/molecules20059358.
147. **Rosenthal-Kim, E.Q.**; Puskas, J.E. Green Polymer Chemistry: Investigating the Mechanism of Radical Ring-Opening Redox Polymerization (R3P) of 3,6-Dioxa-1,8-Octanedithiol (DODT). *Molecules* **2015**, *20*(4), 6504-6519. DOI: 10.3390/molecules20046504.

146. Gergely, A.L.; Puskas, J.E. Synthesis and Characterization of Thermoplastic Elastomers with Polyisobutylene and Polyalloocimene Blocks. *J. Polym. Sci. Part A: Polym. Chem.* **2015**, *53*, 1567-1574. DOI: 10.1002/pola.27587.
145. Zhao, Y.R.; McAuley, K.B.; Puskas, J.E. Parallel Models for Arborescent Polyisobutylene Synthesized in Batch Reactor. *AIChE J.* **2015**, *61*(1), 253-265. DOI: 10.1002/aic.14655.
144. Rosenthal-Kim, E.Q.; Agapov R.L.; Puskas J.E. Visualization of the Architecture of Poly (α -lipoic acid) Using Atomic Force Microscopy. *Eur. Polym. J.* **2015**, *65*, 232-237. DOI: 10.1016/j.eurpolymj.2015.02.020.
143. Yang, J.; **Charif, A.C.**; Puskas, J.E.; Phillips, H.; Shanahan, K.J.; Garsed, J.; Fleischman, A.; Goldman, K.; Roy, S; Luebbbers, M.T.; Dombrowski, S.M.; Luciano, M.G. Biocompatibility Evaluation of a Thermoplastic Rubber for Wireless Telemetric Intracranial Pressure Sensor Coating. *J. Mech. Behav. Biomed. Mater.* **2015**, *45*, 83-89. DOI: 10.1016/j.jmbbm.2015.01.018.
142. **Castano, M.**; Seo, K.S.; Guo, K.; Becker, M.L.; Wesdemiotis, C.; Puskas, J.E. Green Polymer Chemistry: Synthesis of Symmetric and Asymmetric Telechelic Ethylene Glycol Oligomers. *Polym. Chem.* **2015**, *6*, 1137-1142. DOI: 10.1039/C4PY01223B.
141. **Castano, M.**; Becker, M.L.; Puskas, J.E. New Method for the Synthesis of Fully Aliphatic Telechelic α,ω -dihydroxy Polyisobutylene. *Polym. Chem.* **2014**, *5*, 5436-5442. DOI: 10.1039/C4PY00569D.
140. Götz, C.; Lim, G.T.; Puskas, J.E.; Altstädt, V. The Effect of Carbon Black Reinforcement on the Dynamic Fatigue and Creep of Polyisobutylene-based Biomaterials. *J. Mech. Behav. Biomed. Mater.* **2014**, *39*, 355-365. DOI: 10.1016/j.jmbbm.2014.08.008.
139. Chiang, C.K.; Barkakaty, B.; Puskas, J.E.; Xie, W.; Cornish, K.; Peruch, F.; Deffieux, A. Unraveling the Mystery of Natural Rubber Biosynthesis. Part II: Composition and Growth of In Vitro Natural Rubber Using High-Resolution Size Exclusion Chromatography. *Rubber Chem. Technol.* **2014**, *87* (3), 451-458. DOI: 10.5254/rct.14.87913.
138. **Alvarez Albarran, A.**; Silantyeva E., Seo, K.S., Puskas, J.E. Synthesis of Functionalized Polyisobutylenes using the Propylene Epoxide/TiCl₄ Initiating System. *Polym. Chem.*, **2014**, *5*, 4710-4714. DOI: 10.1039/C4PY00363B.
137. **Castano, M.**; Zheng, J.; Puskas, J.E.; Becker, M.L. Enzyme-Catalyzed Ring-Opening Polymerization of ϵ -caprolactone using Alkyne Functionalized Initiators. *Polym. Chem.* **2014**, *5*, 1891-1896. DOI: 10.1039/C3PY01536J.
136. Seo, K.S.; **Castano, M.**; Casiano, M; Wesdemiotis, C.; Becker, M.L.; Puskas, J.E. Enzyme-catalyzed Quantitative Chain-end Functionalization of Poly(ethylene glycol)s under Solventless Conditions. *RSC Advances* **2014**, *4*, 1683-1688. DOI: 10.1039/C3RA46070C.
135. **Gergely, A.L.**; Turkarslan, O.; Puskas, J.E.; Kaszas, G. The Role of Electron Pair Donors in the Carbocationic Copolymerization of Isobutylene with Alloocimene. *J. Polym. Sci. Chem.* **2013**, *51*, 4717-4721. DOI: 10.1002/pola.26915.
134. **Casiano-Maldonado, M.**; Lim, G.T., Li, X.; Reneker, D.H.; Puskas, J.E.; Wesdemiotis, C. Protein Adsorption on Thermoplastic Elastomeric Surfaces: A Quantitative Mass Spectrometry Study. *Intl. J. Mass Spectrometry* **2013**, *354-355*, 391-397. DOI: 10.1016/j.ijms.2013.08.007.
133. Chavan, V.; Quirk, R.P.; Puskas, J.E.; Seo, K.S. Functionalization of Living Polyisobutylene: Preference for Reduction over Electrophilic Addition. *Eur. Polym. J.* **2013**, *49*, 4020-4024. DOI: 10.1016/j.eurpolymj.2013.09.007.
132. **Charif, A.**; Diorio, N.; Fodor-Csorba, K.; Puskas, J.E.; Jakli, A. A Piezoelectric Thermoplastic Elastomer Containing a Bent-Core Liquid Crystal. *RSC Advances* **2013**, *3*, 17446-17452. DOI: 10.1039/C3RA41766B.

131. **Castano M.**; Seo K.; Kim G.; Becker M. L.; Puskas J.E. Green Polymer Chemistry: Synthesis of Halo-ester Functionalized Poly(ethylene glycol)s via Enzymatic Catalysis. *Macromol. Rapid Commun.* **2013**, *34*, 1375-1380. DOI: 10.1002/marc.201300430.
130. Lim, G.T.; Valente, S.A.; Hart-Spicer, C.R.; Evancho-Chapman, M.M.; Puskas, J.E.; Horne, W.I.; Schmidt, S.P. New Biomaterial as a Promising Alternative to Silicone Breast Implants. *J. Mech. Behav. Biomed Mater.* **2013**, *21*, 47-56. DOI: 10.1016/j.jmbbm.2013.01.025.
129. **Zhao, Y.R.**; McAuley, K.B.; Puskas, J.E. Monte Carlo Model for Arborescent Polyisobutylene Production in a Batch Reactor. *Macromol. Theory Simul.* **2013**, *22*, 365-376. DOI: 10.1002/mats.201300114.
128. Puskas, J.E.; **Gergely, A.L.**; Kaszas, G. Controlled/Living Carbocationic Copolymerization of Isobutylene with Alloocimene. *J. Polym. Sci. Part A: Polym. Chem* **2013**, *51* (1), 29-33. DOI: 10.1002/pola.26306.
127. El Fray, M.; Piątek-Hnat, M.; Puskas, J.E.; **Foreman-Orlowski, E.**; Influence of E-Beam Irradiation on the Chemical and Crystal Structure of Poly(aliphatic/aromatic-ester) Multiblock Thermoplastic Elastomers. *Polish J. Chem. Tech.* **2012**, *14* (2), 70-74. DOI: 10.2478/v10026-012-0073-6.
126. **Rosenthal, E.Q.**; Puskas, J.E. Green Polymer Chemistry: Living Oxidative Polymerization of Dithiols. *Pure & Applied Chem.* **2012**, *84* (10), 2121-2133. DOI: 10.1351/PAC-CON-11-11-04.
125. **Ouardad, S.**; Bakleh, M.-E.; Kostjuk, S.V.; Ganachaud, F.; Puskas, J.E.; Deffieux, A.; Peruch, F. Bio-inspired Cationic Polymerization of Isoprene and Analogues: State-of-the-art. *Polym. Int.* **2012**, *61*, 149-156. DOI: 10.1002/pi.3223.
124. Götz, C.; Lim, G.T.; Puskas, J.E.; Altstädt, V. Investigation of Structure-Property Relationships of Polyisobutylene-based Biomaterials: Morphology, Thermal, Quasi-static Tensile and Long-term Dynamic Fatigue Behavior. *J Mech Behav Biomed Mater.* **2012**, *10*, 206-215. DOI: 10.1016/j.jmbbm.2012.02.016.
123. **Heidenreich, A.J.**; Puskas, J.E.; Sappacher, M.; Ibarboue, E.; Deffieux, A. Visualization of Arborescent Architecture of Polystyrenes Prepared by RAFT-Based Initiator-monomer Polymerization using Atomic Force Microscopy. *J. Polym. Sci. Chem.* **2012**, *50* (6), 1238-1247. DOI: 10.1002/pola.25889.
122. **Rosenthal, E.Q.**; Puskas, J.E.; Wesdemiotis, C. Green Polymer Chemistry: New Living Dithiol Polymerization via Cyclic Intermediates. *Biomacromolecules* **2012**, *13* (1), 154-164. DOI: 10.1021/bm201395t.
121. Puskas, J.E.; Burchard, W.; **Heidenreich, A.J.**; Dos Santos, L.M. Analysis of Branched Polymers by High Resolution Multidetector Size Exclusion Chromatography: Separation of the Effects of Branching and Molecular Weight Distribution. *J. Polym. Sci. Chem.* **2012**, *50*, 70-79. DOI: 10.1002/pola.24982.
120. Puskas, J.E.; Luebbbers, M. Breast Implants: the Good, the Bad and the Ugly. *WIRE Interdisciplinary Reviews* **2012**, *4* (2), 153-168. DOI: 10.1002/wnan.164
119. **Chiang, C.K.**; Xie, W.; McMahan, C.; Puskas, J.E. Unraveling the Mystery of Natural Rubber Biosynthesis. Part I: Investigation of the Composition and Growth of *in vitro* Natural Rubber using High Resolution Size Exclusion Chromatography. *Rubber Chem. Tech.* **2011**, *84* (2), 166-177. DOI: 10.5254/1.3570528.
118. Kostjuk, S.V.; **Ouardad, S.**; Peruch, F.; Deffieux, A.; Absalon, C.; Puskas, J.E.; Ganachaud, F. Carbocationic Polymerization of Isoprene Co-initiated by B(C₆F₅)₃: An Alternative Route toward Natural Rubber Polymer Analogues? *Macromolecules* **2011**, *44*, 1372-1384. DOI: 10.1021/ma1027966.

117. Lim, G.T.; Reneker, D.; Jakli, A.; Puskas, J.E. Highly Hydrophobic Electrospun Fiber Mats from Polyisobutylene-based Thermoplastic Elastomers. *Biomacromolecules* **2011**, *12* (5), 1795-1799. DOI: 10.1021/bm200157b.
116. Puskas, J.E.; **Seo, K.S.; Sen, M.Y.** Green Polymer Chemistry: Precision Synthesis of Novel Multifunctional Poly(ethylene glycol)s using Enzymatic Catalysis. *Eur. Polym. J.* **2011**, *47* (4), 524-34. DOI: 10.1016/j.eurpolymj.2010.10.015.
115. Puskas, J.E.; Dos Santos, L.M.; **Foreman-Orlowski, E.A.** Polyisobutylene-based Thermoplastic Biorubbers. *Rubber Chem. Tech.* **2010**, *83* (3), 235-46. DOI: 10.5254/1.3525683.
114. **Sen, M.Y.**; Puskas, J.E.; **Dabney, D.E.**; Wesdemiotis, C.; Absalon, C. Precision Synthesis and Characterization of Thymine-functionalized Polyisobutylene. *J. Polym. Sci. Chem.* **2010**, *48* (16), 3501-3506. DOI: 10.1002/pola.24058.
113. Puskas, J.E.; Hoerr, R.A. Drug Release from Novel Rubbery Coatings. *Macromol. Symp.* **2010**, 291-92, 326-329 (May 22). DOI: 10.1002/masy.201050538.
112. Robertson, C.G.; Hogan, T.E.; Rackaitis, M.; Puskas, J.E.; Wang, X. Effect of Nanoscale Confinement on Glass Transition of Polystyrene Domains from Self-assembly of Block Copolymers. *J. Chem. Physics* **2010**, *132* (10), 104904-104904-5. DOI: 10.1063/1.3337910.
111. Puskas, J.E.; **Foreman-Orlowski, E.A.**; Lim, G.T.; **Porosky, S.E.**; Evancho-Chapman, M.M.; Schmidt, S.P.; El Fray, M.; Piatek, M.; Prowans, P.; Lovejoy, K. A Nanostructured Carbon-reinforced Polyisobutylene-based Thermoplastic Elastomer. *Biomaterials* **2010**, *31* (9), 2477-2488. DOI: 10.1016/j.biomaterials.2009.12.003.
110. Lim, G.T.; **Foreman-Orlowski, E.A.**; **Porosky, S.E.**; **Pavka, P.**; Puskas, J.E.; **Götz, C.**; Altstädt, V. Novel Polyisobutylene-based Biocompatible TPE Nanocomposites. *Rubber Chem. Tech.* **2009**, *82* (4), 461-72. DOI: 10.5254/1.3548258.
109. Dong, J.; Foley, J.D.; Haugstad, G.; Frethem, C.; Hoerr, R.A.; Matuszewski, M.; Puskas, J.E. Multimodal Dynamic Imaging of Therapeutic Biomedical Coatings in Aqueous Medium. *Langmuir* **2009**, *25* (10), 5442-5445. DOI: 10.1021/la9004455.
108. Hayat, S.; Lim, G.T.; Puskas, J.E. Synthesis of POSS-Functionalized Polyisobutylene via Direct Initiation. *Macromol. Rapid Comm.* **2009**, *30* (24), 2112-2115. DOI: 10.1002/marc.200900493.
107. Puskas, J.E.; **Muñoz-Robledo, L.**; Hoerr, R. A.; Foley, J.; Schmidt, S. P.; Evancho-Chapman, M.; Dong, J.; Frethem, C.; Haugstad, C. Drug Eluting Stent Coatings. Wiley Interdisciplinary Reviews *WIRE* **2009**, *1*(4), 451-462. DOI: 10.1002/wnan.038.
106. Puskas, J.E.; **Sen, M. Y.**; **Seo, K. S.** Green Polymer Chemistry using Nature's Catalysts, Enzymes. *Invited Highlight J. Polym. Sci. Chem.* **2009**, *47* (12), 2959-2976. DOI: 10.1002/pola.23351.
105. Puskas, J.E.; Peres, C.; Peruch, F.; Deffieux, A.; **Dabney, D.E.**; Wesdemiotis, C.; **Hayat-Soytaş, S.**; **Lindsay, A.** Biomimetic Processes. IV. Carbocationic Polymerization of Isoprene Initiated by Dimethyl Allyl Alcohol. *J. Polym. Sci. Chem.* **2009**, *47* (8), 2181-2189. DOI: 10.1002/pola.23293.
104. Puskas, J.E.; Peruch, F.; Deffieux, A.; **Dabney, D.E.**; Wesdemiotis, C.; Li, H.; **Lindsay, A.** Biomimetic Carbocationic Polymerizations III: Investigation of Isoprene Polymerization Initiated by Dimethyl Allyl Bromide. *J. Polym. Sci. Chem.* **2009**, *47* (8), 2172-2180. DOI: 10.1002/pola.23294.
103. Forestier, T.; Pasetto, P.; Peruch, F.; Deffieux, A.; Puskas, J.E. Biomimetic Processes II. Carbocationic Polymerization of Isopentenyl Alcohol: A Model for the Synthesis of Natural Rubber? *Materials Sci. Eng.* **2009**, *C291* (2), 357-362. DOI: 10.1016/j.msec.2008.06.025.

102. Puskas, J.E.; **Dos Santos, L.M.**; Kaszas, G.; Kulbaba, K. Novel Thermoplastic Elastomers based on Arborescent (Dendritic) Polyisobutylene with Short Copolymer End Sequences. *J. Polym. Sci. Chem.* **2009**, *47* (4), 1148-1158. DOI: 10.1002/pola.23218.
101. Puskas, J.E.; El Fray, M.; **Tomkins, M.**; **Dos Santos, L.M.**; **Fischer, F.**; Altstädt, V. Fatigue Testing of Implantable Specimens; Effect of Sample Size and Branching on the Dynamic Fatigue Properties of Polyisobutylene-based Biomaterials. *Polymer* **2009**, *50* (2), 591-597. DOI: 10.1016/j.polymer.2008.10.061.
100. Puskas, J.E.; El Fray, M.; **Tomkins, M.**; **Dos Santos, L. M.**; **Fischer, F.**; Altstädt, V. Dynamic Stress Relaxation of Thermoplastic Elastomeric Biomaterials. *Polymer* **2009**, *50* (1), 245-249. DOI: 10.1016/j.polymer.2008.10.030.
99. **Heidenreich, A.H.**; Puskas, J.E. Synthesis of Arborescent (Dendritic) Polystyrenes via Controlled Inimer-type Reversible Addition-fragmentation Chain Transfer Polymerization. *J. Polym. Sci. Chem.* **2008**, *46* (23), 7621-7627. DOI: 10.1002/pola.23062.
98. **Sen, M.Y.**; Puskas, J.E.; Ummadisetty, S.; Kennedy, J.P. Green Polymer Chemistry: II Enzymatic Synthesis of Methacrylate-terminated Polyisobutylenes. *Macromol. Rapid Comm.* **2008**, *29* (19), 1598-1602. DOI: 10.1002/marc.200800359.
97. **Kunal, K.**; Paluch, M.; Roland, C.M.; Puskas, J.E.; Chen, Y.; Sokolov, A.P. Polyisobutylene: A Most Unusual Polymer. *J. Polym. Sci. B, Polym. Physics* **2008**, *46* (13), 1390-99. DOI: 10.1002/polb.21473.
96. **Hayat Soytaş, S.**; Puskas, J.E.; Kulbaba, K. Real-time FTIR Monitoring of the Mechanism of Initiation of Isobutylene Polymerizations by Epoxide/Lewis Acid Systems. *J. Polym. Sci. A, Polym. Chem.* **2008**, *46* (11), 3611-18. DOI: 0.1002/pola.22699.
95. Piatek, M.; El Fray, M.; Puskas, J.E. Radiation Degradation and Crosslinking of Elastomeric Biomaterials. *Elastomery* **2008**, *12*, 20-23.
94. Puskas, J.E.; **Sen, M.Y.**; **Kasper, J.R.** Green Polymer Chemistry: Telechelic Poly(ethylene glycol)s via Enzymatic Catalysis. *J. Polym. Sci. Chem.* **2008**, *46* (9), 3024-28. **Featured by VCH-Materials Views 6/5/08.** DOI: 10.1002/pola.22640.
93. Puskas, J.E.; **Foreman, E.A.**; **Dos Santos, L.M.**; **Hayat-Soytaş, S.**; Characterization of Polymer Architectures by Multidetector Size Exclusion Chromatography. *Makromol. Chem, Macromol. Symp.* **2008**, *261* (1), 85-90. DOI: 10.1002/masy.200850111.
92. **Foreman, E.A.**; Puskas, J.E.; Kaszas, G. Synthesis and Characterization of Arborescent (Hyperbranched) Polyisobutylenes from the 4-(1,2-oxirane-isopropyl) Styrene Inimer. *J. Polym. Sci., Chem.* **2007**, *45* (24), 5847-5856. DOI: 10.1002/pola.22335.
91. Sui, C.; McKenna, G.B.; Puskas, J.E. Nonlinear Viscoelastic Response of Dendritic (Arborescent) Polyisobutylenes in Single- and Reversing Double-step Shearing Flows. *JOR* **2007**, *51*, 1143-1169. DOI: 10.1122/1.2790073.
90. Puskas, J.E.; **Dos Santos, L.**; **Sen, M.**; Kaszas, G. Effect of Architecture on the Properties of Polyisobutylene-based TPE Materials. *Rubber Chem. & Tech.* **2007**, *80* (4), 661-671. DOI: 10.5254/1.3548186.
89. Puskas, J.E.; **Chan, P.**; McAuley, K.B.; Kaszas, G.; **Shaikh, S.** Living Carbocationic Copolymerization of Isobutylene with Styrene. *J. Polym. Sci. Chem.* **2007**, *45* (9), 1778-87. DOI: 10.1002/pola.21945.
88. Puskas, J.E.; **Kwon, Y.**; Altstädt, V.; Kontopoulou, M. Blends of Poly(2,6-dimethyl-1,4-phenylene oxide) (PPO) with Polystyrene-based Thermoplastic Rubbers; a Comparative Study. *Polymer* **2007**, *48* (2), 590-597. DOI: 10.1016/j.polymer.2006.11.045.
87. Puskas, J.E.; **Dos Santos, L.**; Kaszas, G. Innovation in Material Science: The Chameleon Block Copolymer. *J. Polym. Sci., Chem.* **2006**, *44* (21), 6494-6497. DOI: 10.1002/pola.21693.

86. Puskas, J.E.; Kwon, Y. Biomacromolecular Engineering: Design, Synthesis and Characterization. One-pot Synthesis of Block Copolymers of Arborescent Polyisobutylene and Polystyrene. *Polym. Adv. Techn.* **2006**, *17* (9-10), 615-620. DOI: 10.1002/pat.770.
85. Puskas, J. E.; **Gautriaud, E.**; Deffieux, A.; Kennedy, J. P. Natural Rubber Biosynthesis – a Living Carbocationic Polymerization? *Prog. Polym. Sci.* **2006**, *31*(6), 533-548. DOI: 10.1016/j.progpolymsci.2006.05.002.
84. Puskas, J.E.; McAuley, K.B.; **Chan, S.W.P.** Fundamental Aspects of Measuring Copolymerization Reactivity Ratios using Real-time FTIR Monitoring. *Macromol. Symp.* **2006**, *243*, 46-52. DOI: 10.1002/masy.200651105.
83. Puskas, J.E.; **Chan, P.**; McAuley, K.B.; Kaszas, G.; **Shaikh, S.** Real-time FTIR Monitoring of the Carbocationic Copolymerization of Isobutylene with Styrene. *Makromol. Chem., Macromol. Symp.* **2006**, *240*, 18-22. DOI: 10.1002/masy.200650803.
82. El Fray, M.; Prowans, P.; Puskas, J.E.; Altstädt, V. Biocompatibility and Fatigue Properties of Polystyrene-polyisobutylene-polystyrene, an Emerging Thermoplastic Elastomeric Biomaterial. *Biomacromolecules* **2006**, *7* (3), 844-850. DOI: 10.1021/bm050971c.
81. Puskas, J.E.; Chen, Y.; Kulbaba, K.; Kaszas G.; **Soleymannezhad, A.** Effect of the Molecular Weight and Architecture on the Size and Glass Transition of Arborescent Polyisobutylenes. *J. Polym. Sci., Chem.* **2006**, *44* (5), 1770-1776. DOI: 10.1002/pola.21273.
80. Puskas, J.E.; Chen, Y.; Kulbaba, K.; Kaszas, G. Comparison of Molecular Weight and Size Measurement of Polyisobutylenes by SEC-MALLS and Viscometry. *J. Polym. Sci., Chem.* **2006**, *44* (5), 1777-1783. DOI: DOI: 10.1002/pola.21272.
79. Puskas, J.E.; **Chan, S.W.P.**; Kwon, Y.; McAuley, K.B.; Shaikh, S.; Kaszas, G. Kinetics and Mechanisms in Carbocationic Polymerization; the Quest for True Rate Constants. *J. Polym. Sci., Chem.* **Cover Page 2005**, *43* (22), 5394-5413. DOI: 10.1002/pola.21011.
78. Cunningham, M.F.; **Chatterton, M.**; Puskas, J.E. Thymine-functionalized Polystyrenes for Applications in Biotechnology. III. Increasing Thymine Loading via a New Synthetic Pathway. *J. Polym. Sci. Chem.* **2005**, *43*(22), 5545-53. DOI: 10.1002/pola.20984.
77. Puskas, J.E.; Kumar, B.; **Ebied, A.**; Lamperd, B. Novel Butyl Composite for Less-lethal Ammunition. *Kautsch. Gummi Kunstst.* **2005**, *58* (6), 288-296.
76. Puskas, J.E.; Kumar, B.; **Ebied, A.**; Lamperd, B.; Kaszas, G.; Sandler, J.; Altstädt, V. Comparison of the Performance of Vulcanized Rubbers and Elastomer/TPE Iron Composites for Less Lethal Ammunition Applications. *Polym. Eng. Sci.* **2005**, *45* (7), 966-974. DOI: 10.1002/pen.20363.
75. Puskas, J.E.; **Kwon, Y.**; Antony, P.; Bhowmick, A.K. Synthesis and Characterization of Novel Dendritic (Arborescent, hyperbranched) Polyisobutylene-Polystyrene Block Copolymers. *J. Polym. Sci. A.* **2005**, *43* (9), 1811-1826. (**Cover Page**). DOI: 10.1002/pola.20638.
74. Puskas, J.E.; **Shaikh, S.**; Yao, K. Z.; McAuley, K. B. Kinetic Simulation of Living Carbocationic Polymerizations. II. Simulation of Living Isobutylene Polymerization using a Mechanistic Model. *Eur. Polym. J.* **2005**, *41*(1), 1-14. DOI: 10.1016/j.eurpolymj.2004.08.006.
73. Roland, C.M.; Robertson, C.G.; Nikiel, L.; Puskas, J.E. Filler Dispersion in Hyperbranched Polyisobutylene. *Rubber Chem. Techn.* **2004**, *77* (2), 372-79. DOI: 10.5254/1.3547829.
72. Puskas, J.E.; Chen, Y. Biomedical Application of Commercial Polymers and Novel Polyisobutylene-based Thermoplastic Elastomers for Soft Tissue Replacement. *Biomacromolecules* **2004**, *5* (4), 1141-1154; *GAK-GV*, **2004**, *7*, 455-461; **2004**, *8*, 526-534. (German). DOI: 10.1021/bm034513k.
71. **Kirschnick, T.**; **Gottschalk, A.**; **Ott, H.**; Abetz, V.; Puskas, J. E.; Altstädt, V. Melt Processed Blends of Poly(styrene-co-acrylonitrile) and Poly(phenylene ether) Compatibilized with

- Polystyrene-b-Polybutadiene-b-Poly(methyl methacrylate) Triblock Terpolymers. *Polymer* **2004**, *45* (16), 5653-5660. DOI: 10.1016/j.polymer.2004.03.106.
70. Puskas, J.E.; **Shaikh, S.** Comparison of the Mechanism and Kinetics of Living Carbocationic Isobutylene and Styrene Polymerizations based on Real-time FTIR Monitoring. *Makromol. Chem., Macromol. Symp.* **2004**, *215*, 231-54. DOI: 10.1002/masy.20045119.
 69. Puskas, J.E.; Chen, Y.; **Dahman, Y.; Padavan, D.** Polyisobutylene-based Biomaterials. **Feature Article.** *J. Polym. Sci., Chem.* **2004**, *42* (13), 3091-3109. DOI: 10.1002/pola.20114.
 68. **Shaikh, S.;** Puskas, J.E.; Kaszas, G. A. New High-throughput Approach to Measure Copolymerization Reactivity Ratios using Real-time FTIR Monitoring. *J. Polym. Sci., Chem.* **2004**, *42* (16), 4084-4100. DOI: 10.1002/pola.20244.
 67. **Del Vecchio, N. D.;** Barghi, S.; Primak, S.; Puskas, J.E. New Method for Monitoring of Adsorption Column Saturation and Regeneration II. On-line Measurement. *Chem. Eng. Sci.* **2004**, *59* (12), 2389-2400. DOI: 10.1016/j.ces.2004.01.062.
 66. Puskas, J.E.; **Dahman, Y.;** Margaritis, A.; Cunningham, M. Novel Thymine - Functionalized Polystyrenes for Applications in Biotechnology. II. Adsorption of Model Proteins. *Biomacromolecules* **2004**, *5* (4), 1412-1421. DOI: 10.1021/bm034497r.
 65. Antony, P.; **Kwon, Y.;** Puskas, J.E.; Kovar, M.; Norton, P.R. Atomic Force Microscopic Studies of Novel Arborescent Block and Linear Triblock Polystyrene-Polyisobutylene Copolymers. *Eur. Polym. J.* **2004**, *40* (1), 149-157. DOI: 10.1016/j.eurpolymj.2003.08.010.
 64. **Kwon, Y.;** Puskas, J.E. Investigation of the Effect of Reaction Conditions on the Synthesis of Multiarm - Star Polyisobutylene-Polystyrene Block Copolymers. *Eur. Polym. J.* **2004**, *40* (1), 119-127. DOI: 10.1016/S0014-3057(03)00167-8.
 63. Puskas, J.E.; Chen, Y.; Antony, P.; **Kwon, Y.;** Kovar, M.; Harbottle, R.; **de Jong, K.;** Norton, P.; **Cadieux, P.;** **Burton, J.;** Reid, G.; Beiko, D.; Watterson, J.; Denstedt, J. Atomic Force Microscopic and Encrustation Studies of Novel Prospective Polyisobutylene-based Thermoplastic Elastomeric Biomaterials. *Polymers for Advanced Technologies* **2003**, *14* (11-12), 763-770. DOI: 10.1002/pat.392.
 62. Chen, Y.; Puskas, J.E.; **Tomkins, M.** Investigation of the Effect of Epoxide Structure on the Initiation Efficiency in Isobutylene Polymerizations Initiated by Epoxide/TiCl₄ Systems. *Eur. Polym. J.* **2003**, *39* (11), 2147-2153. DOI: 10.1016/S0014-3057(03)00149-6.
 61. **Uribe-Arocha, P.;** Mehler, C.; Altstädt, V.; Puskas, J.E. Effect of Sample Thickness on the Mechanical Properties of Injection Moulded Polyamide-6 and Polyamide-6-Clay Nanocomposites. *Polymer* **2003**, *44* (8), 2441-2446. DOI: 10.1016/S0032-3861(03)00115-0.
 60. Puskas, J. E.; **Luo, W.** Slow Initiation in Living Polymerizations with Reversible End Capping: Kinetic Analysis of the Initiation in Carbocationic Styrene Polymerization with 2-Chloro-2,4,4-trimethylpentane/TiCl₄. *Macromolecules* **2003**, *36* (18), 6942-6944. DOI: 10.1021/ma0301909.
 59. **Dahman, Y.;** Puskas, J.E.; Margaritis, A.; **Merali, Z.;** Cunningham, M. Novel Thymine-Functionalized Polystyrenes for Applications in Biotechnology. Polymer Synthesis and Characterization. *Macromolecules* **2003**, *36* (7), 2198-2205. DOI: 10.1021/ma021608q.
 58. Puskas, J.E.; Antony, P.; El Fray, M.; Altstädt, V. The Effect of Hard and Soft Segment Composition and Molecular Architecture on the Morphology and Mechanical Properties of Polystyrene-Polyisobutylene Thermoplastic Elastomeric Block Copolymers. *Eur. Polym. J.* **2003**, *39* (10), 2041-2049. DOI: 10.1016/S0014-3057(03)00130-7.
 57. Antony, P.; Puskas, J.E.; Kontopoulou, M. Investigation of the Rheological and Mechanical Properties of a Polystyrene-Polyisobutylene-Polystyrene Triblock Copolymer and its Blends with Polystyrene. *Polym. Eng. Sci.* **2003**, *43* (1), 243-253. DOI: 10.1002/pen.10021.

56. **Cadieux, P.**; Watterson, J.D.; Harbottle, R.; **Howard, J.**; Puskas, J.E.; Denstedt, J.; Gan, B.S.; James, V.; Reid, G. Potential Application of Polyisobutylene-Polystyrene and a *Lactobacillus* Protein to Reduce the Risk of Device-Associated Urinary Tract Infections. *J. Colloids and Surfaces B: Biointerfaces* **2003**, 28(2-3), 95-105. DOI: 10.1016/S0927-7765(02)00147-9.
55. Puskas, J.E.; Antony, P.; **Kwon, Y.**; Kovar, M.; Norton, P.R. Study of the Surface Morphology of Polyisobutylene-based Block Copolymers by Atomic Force Microscopy. *J. Macromol. Sci., Macromol. Symp.* **2002**, 183 (1), 191-197. DOI: 10.1002/1521-3900(200207)183:1<191:AID-MASY191>3.0.CO;2-N.
54. Puskas, J.E.; **Paulo, C.**; Altstädt, V. Mechanical and Viscoelastic Characterization of Hyperbranched Polyisobutylenes. *Rubber Chem. Techn.* **2002**, 75 (5), 853-864. DOI: 10.5254/1.3547688.
53. **Del Vecchio N.**; Puskas, J.E.; Barghi, S. New Method for Monitoring of Adsorption Column Saturation and Regeneration I. Demonstration of the Measurement Principle. *Chem. Eng. Comm.* **2002**, 189 (3), 352-371. DOI: 10.1080/00986440212078.
52. Song, J.; Bodis, J.; Puskas, J.E. Direct Functionalization of Polyisobutylene by Living Initiation with α -Methylstyrene Epoxide. *J. Polym. Sci., Polym. Chem.* **2002**, 40 (8), 1005-1015. DOI: 10.1002/pola.10193.
51. Robertson, C.G.; Roland, C.M.; Puskas, J.E. Non-Linear Rheology of Hyperbranched Polyisobutylene. *J. Rheology* **2002**, 46 (1), 307-320. DOI: 10.1122/1.1428318.
50. **Hoffmann, M.**; Puskas, J.E.; Weiss, K. Real-Time Mid-IR Monitoring of Metathesis Reactions by Fiber Optic FTIR Spectroscopy. *Eur. Polym. J.* **2002**, 38 (1), 19-24. DOI: 10.1016/S0014-3057(01)00181-1.
49. Robertson, C.G.; Roland, C.M.; **Paulo, C.**; Puskas, J.E. Linear Viscoelastic Properties of Hyperbranched Polyisobutylene. *J. Rheology* **2001**, 45 (3), 759-772. DOI: 10.1122/1.1357821.
48. Puskas, J.E.; Antony, P.; **Paulo, C.**; **Kwon, J.**; Kovar, M.; Norton, P.; Altstädt, V. Macromolecular Engineering via Carbocationic Polymerization: Branched Structures, Block Copolymers and Nanostructures. *Macromol. Mater. Eng.* **2001**, 286 (10), 565-582. DOI: 10.1002/1439-2054(20011001)286:10<565: AID-MAME565>3.0.CO;2-E.
47. Puskas, J.E.; Kaszas, G. Blends of Butyl and Bromobutyl Rubbers and Polystyrene-Polyisobutylene-Polystyrene (PS-PIB-PS) Block Copolymers with Improved Processability and Physical Properties. *Rubber Chem. Techn.* **2001**, 74 (4), 583-600. DOI: 10.5254/1.3544959.
46. **St. Lawrence, S.**; Shinozaki, D.M.; Puskas, J.E.; Gerchovich, M.; Myler, U. Micromechanical Testing of Polyisobutylene-Polystyrene Block-type Thermoplastic Elastomers. *Rubber Chem. Techn.* **2001**, 74 (4), 601-613. DOI: 10.5254/1.3544960.
45. **Paulo, C.**; Puskas, J.E. Synthesis of Hyperbranched Polyisobutylenes by Inimer-Type Living Polymerization. 1. Investigation of the Effect of Reaction Conditions. *Macromolecules* **2001**, 34 (4), 734-39. DOI: 10.1021/ma001467x.
44. Puskas, J.E.; Barghi, S.; **McIntyre, J.** Practical Approach to Measure the Relative Activity of Heterogeneous Catalysts. *J. Appl. Catalysis, A: General* **2001**, 217, 11-21. DOI: 10.1016/S0926-860X(01)00575-0.
43. Puskas, J.E.; Kaszas, G. Living Carbocationic Polymerization of Resonance-stabilized Monomers. *Prog. Polym. Sci.* **2000**, 25 (3), 403-452. DOI: 10.1016/S0079-6700(00)00010-1.
42. Puskas, J.E.; Michel, A.J.; **Brister, L.B.** Real-time Monitoring of Polymerization Processes using a Mid-IR Fiber Optic Probe. *Kautsch. Gummi Kunstst.* **2000**, 53 (10), 587-591.
41. **Neagu, C.**; Puskas, J.E.; Singh, M.A.; Natansohn, A. Domain Sizes Determination for Styrene-Isobutylene Block Copolymer Systems using Solid-state NMR Spectroscopy. *Macromolecules*, **2000**, 33 (16), 5976-81. DOI: 10.1021/ma991974i.

40. **Paulo, C.**; Puskas, J.E.; **Angepat, S.** Effect of Reaction Conditions on the Kinetics of Living Isobutylene Polymerization at High Initiator/TiCl₄ Ratios. *Macromolecules* **2000**, *33* (13), 4634-4638. DOI: 10.1021/ma992032g.
39. Michel, A.J.; Puskas, J.E.; **Brister, L.B.** Real-Time Mid-IR Monitoring of the Initiation and Propagation in Epoxi-initiated Living Isobutylene Polymerizations. *Macromolecules* **2000**, *33* (10), 3518-3524. DOI: 10.1021/ma990983o.
38. Puskas, J.E.; **Brister, L.B.**; Michel, A.J.; Lanzendörfer, M.G.; **Jamieson, D.**; **Pattern, W.G.** Novel Substituted Epoxide Initiators for the Carbocationic Polymerization of Isobutylene. *J. Polym. Sci.* **2000**, *38* (3), 444-452. DOI: 10.1002/(SICI)1099-0518(20000201)38:3<444: AID-POLA8>3.0.CO;2-B.
37. Puskas, J.E.; Michel, A. J. New Epoxy Initiators for the Controlled Synthesis of Functionalized Polyisobutylenes. *Makromol. Chem., Macromol. Symp.* **2000**, *161*, 141-148. DOI: 10.1002/1521-3900(200010)161:1<141: AID-MASY141>3.0.CO;2-K.
36. Puskas, J.E.; **Peng, H.** Kinetic Simulation of Carbocationic Polymerizations. I. Simulation of Living Isobutylene Polymerization. *Polym. React. Eng.* **1999**, *7* (4), 553-576. DOI: 10.1080/10543414.1999.10744530.
35. Puskas, J.E.; **Pattern, W.E.**; Wetmore, P.M.; Krukonis, A. Synthesis and Characterization of Novel Multiarm-star Polyisobutylene-Polystyrene Thermoplastic Elastomers. *Rubber Chem. Techn.* **1999**, *72* (4), 559-568. DOI: 10.5254/1.3538818.
34. Santangelo, P.G.; Roland, C.M.; Puskas, J.E. Rheology of Star-branched Polyisobutylene. *Macromolecules*, **1999**, *32* (6), 1972-77. DOI: 10.1021/ma9815556.
33. Puskas, J.E.; **Lanzendörfer, M.G.**; **Pattern, W. E.** Mid-IR Real-time Monitoring of the Carbocationic Polymerization of Isobutylene and Styrene. *Polymer Bull.* **1998**, *40* (1), 55-61. DOI: 10.1007/s002890050223.
32. Puskas, J.E.; **Wilds, C.J.** Multiarm-star Polyisobutylenes by Living Carbocationic Polymerization. *J. Polym. Sci.* **1998**, *36* (1), 85-92. DOI: 10.1002/(SICI)1099-0518(19980115)36:1<85: AID-POLA12>3.0.CO; 2-9.
31. Puskas, J.E.; **Grasmüller, M.** Star-branched and Hyperbranched Polyisobutylenes. *Makromol. Chem, Macromol. Symp.* **1998**, *132*, 117-26. DOI: 10.1002/masy.19981320113.
30. Puskas, J.E.; **Lanzendörfer, M.G.** Investigation of the TiCl₄ Reaction Order in Living Isobutylene Polymerizations. *Macromolecules* **1998**, *31* (25), 8684-8690. DOI: 10.1021/ma980934w.
29. Puskas, J.E.; Kaszas, G. Polyisobutylene-based Thermoplastic Elastomers: A Review. *Rubber Reviews, Rubber Chem Techn.* **1996**, *69* (3), 462-475. DOI: 10.5254/1.3538381.
28. Kaszas, G.; Puskas, J.E. Kinetics of the Living Polymerization of Isobutylene. *Bayer Science Forum Journal* **1996**, *17* (1), 21-26.
27. Puskas J.E.; Verhelst, M.; Collart, P.; Schmidt, J.B. Prediction of the Unsaturation of Butyl Rubbers On-line During the Manufacturing Process, *Kautsch. Gummi Kunstst.* **1995**, *48* (12), 866-871.
26. Puskas, J.E.; **Wilds, C.** Kinetics of the Epoxidation of Butyl Rubber; Development of a High-Precision Analytical Method for Unsaturation Measurement. *Rubber Chem. Techn.* **1994**, *67* (2), 329-341. DOI: 10.5254/1.3538678.
25. Kaszas, G.; Puskas, J.E. Kinetics of the Carbocationic Homopolymerization of Isobutylene with Reversible Chain Termination. *Polymer Reaction Engineering*, **1994**, *2* (3), 251-273. DOI: 10.1080/10543414.1994.10744454.
24. Puskas, J.E. Investigation of The Mechanism of Chain Termination and Transfer by 1,2-Butadiene in the Butyllithium-Initiated Polymerization of 1,3-Butadiene in Nonpolar-Solvents. *Makromol. Chem.* **1993**, *194* (1), 187-195. DOI: 10.1002/macp.1993.021940115.

23. Puskas, J.E. Kinetic Modelling in Living Polymerizations: The Effect of Modifiers on the Degree of Polymerization in Batch and Continuous Stirred-tank Reactors. *Makromol.Chem., Theory and Simulation* **1993**, 2 (1), 141-149. DOI: 10.1002/mats.1993.040020110.
22. Puskas, J.E.; **Hutchinson, R.** GPC Calibration for the Molecular-weight Measurement of Butyl Rubbers. *Rubber Chem. Techn.* **1993**, 66 (5), 742-748. DOI: 10.5254/1.3538341.
21. Puskas, J.E.; Kaszas, G.; Kennedy, J.P.; **Hager, W.** Polyisobutylene-containing Block Polymers by Sequential Monomer Addition. IV. New Triblock Thermoplastic Elastomers Comprising High Tg Styrenic Glassy Segments: Synthesis, Characterization and Physical Properties. *J. Polym. Sci., Polym. Chem.* **1992**, 30 (1), 41-48. DOI: 10.1002/pola.1992.080300105.
20. Kaszas, G.; Puskas, J.E.; Kennedy, J.P. Carbocationic Copolymerization in the Presence of Electron Pair Donors. I. Copolymerization of Isobutylene and Isoprene with the Cumyl Acetate/BCl₃ Initiating System. *Macromolecules* **1992**, 25 (6), 1771-1774. DOI: 10.1021/ma00032a023.
19. Kaszas, G.; Puskas, J.E.; Kennedy, J.P. Carbocationic Copolymerization in the Presence of Electron Pair Donors. 2. Copolymerization of Isobutylene and Isoprene or 2,4-dimethyl-1,3-pentadiene with TiCl₄-Based Initiating Systems Yielding In-situ Electron Pair Donors. *Macromolecules* **1992**, 25 (6), 1775-1779. DOI: 10.1021/ma00032a024.
18. Puskas, J.E.; Kaszas, G.; Kennedy, J.P. New Transparent Flexible UV-Cured Films from Polyisobutylene-Polyisoprene Block Polymers. *J. Macromol. Sci.-Chem* **1991**, A28 (1), 65-80. DOI: 10.1080/00222339108052086.
17. Kaszas, G.; **Hager, W.G.**; Puskas, J.E.; Kennedy, J.P. Polyisobutylene-Containing Block Polymers by Sequential Monomer Addition I., The Living Carbocationic Polymerization of Styrene. *J. Polym. Sci., Polym. Chem.* **1991**, 29 (3), 421-426. DOI: 10.1002/pola.1991.080290315.
16. Kaszas, G.; Puskas, J.E.; **Hager, W.G.**; Kennedy, J.P. Polyisobutylene-Containing Polymers by Sequential Monomer Addition II., Polystyrene-Polyisobutylene-Polystyrene Triblock Polymers: Synthesis, Characterization and Physical Properties. *J. Polym. Sci., Polym. Chem.* **1991**, 29 (3), 427-435. DOI: 10.1002/pola.1991.080290316.
15. Puskas, J.E.; Kaszas, G.; Litt, M. Chain Carriers and Molecular Weight Distributions in Living Isobutylene Polymerizations. *Macromolecules*, **1991**, 24 (19), 5278-5282. DOI: 10.1021/ma00019a009.
14. Kaszas, G.; Puskas, J.E.; Kennedy, J.P. New Thermoplastic Elastomers of Rubbery Polyisobutylene and Glassy Cyclopolyisoprene Segments. *J. Applied Polymer Sci.* **1990**, 39 (1), 119-144. DOI: 10.1002/app.1990.070390111.
13. Kaszas, G.; Puskas, J.E.; Kennedy, J.P.; **Chen, C.C.** Electron Pair Donors in Carbocationic Polymerizations. II. Mechanism of Living Carbocationic Polymerizations. The Role of In-situ and External Electron Pair Donors. *Macromolecules*, **1990**, 23 (17), 3909-3915. DOI: 10.1021/ma00219a008.
12. **Chen, C.C.**; Kaszas, G.; Puskas, J.E.; Kennedy, J.P. Living Carbocationic Polymerization XXXIII. Living Polymerization of Isobutylene by Tertiary Hydroxyl / Boron Trichloride/Electron Pair Donor Systems. *Polymer Bull.* **1989**, 22(5-6), 463-470. DOI: 10.1007/BF00718920.
11. Kaszas, G.; Puskas, J.E.; Kennedy, J.P.; **Chen, C.C.** Electron Pair Donors in Carbocationic Polymerizations. III. Carbonation Stabilization by External Electron Pair Donors in Isobutylene Polymerization. *J. Macromol. Sci., Chem.* **1989**, A26 (8), 1099-1114. DOI: 10.1080/00222338908052037.
10. Puskas, J.E.; Kaszas, G.; **Chen, C.C.**; Kennedy, J.P. New Polyisobutylene-based UV-curable Flexible Coatings. *Polymer Bull.* **1988**, 20 (3), 253-260. DOI: 10.1007/BF00261978.

9. Kaszas, G.; Puskas, J.E.; Kennedy, J.P.; **Chen, C.C.** Electron Pair Donors in Carbocationic Polymerizations. I. Introduction into the Synthesis of Narrow Molecular Weight Distribution Polyisobutylenes. *Polymer Bull.* **1988**, *20* (5), 413-419. DOI: 10.1007/BF01153431.
8. Kaszas, G.; Puskas, J.E.; Kennedy, J.P. Living Carbocationic Polymerization XIV. Living Polymerization of Isobutylene with Ester-TiCl₄ Complexes. *Makromol. Chem., Macromol. Symp.* **1988**, *13/14* (1), 473-493. DOI: 10.1002/masy.19880130134.
7. Kaszas, G.; Puskas, J.E.; Kennedy, J.P. Living Carbocationic Polymerization XV. Telechelic Polyisobutylenes by the 1, 4-bis-(2-methoxy-2-propyl)-benzene/TiCl₄ Initiating System. *Polym. Bull.* **1987**, *18* (2), 123-130. DOI: 10.1007/BF00261889.
6. Puskas, J.E.; Kaszas, G.; Kennedy, J.P.; Kelen, T.; Tüdös, F. Quasiliving Carbocationic Polymerization. III. Quasiliving Polymerization of Isobutylene. *J. of Macromol. Sci., Chem.* **1982-83**, *A18* (9), 1229-44. DOI: 10.1080/00222338208077220.
5. Puskas, J.E.; Kaszas, G.; Kennedy, J.P.; Kelen, T.; Tüdös, F. Quasiliving Carbocationic Polymerization. IV. Polymerization of p-tert-Butylstyrene. *J. of Macromol. Sci., Chem.* **1982-83**, *A18* (9), 1245-61. DOI: 10.1080/00222338208077221.
4. Puskas, J.E.; Kaszas, G.; Kennedy, J.P.; Kelen, T.; Tüdös, F. Quasiliving Carbocationic Polymerization. V. Quasiliving Polymerization of Indene. *J. of Macromol. Sci., Chem.* **1982-83**, *A18* (9), 1263-74. DOI: 10.1080/00222338208077222.
3. Puskas, J.E.; Kaszas, G.; Kennedy, J.P.; Kelen, T.; Tüdös, F. Quasiliving Carbocationic Polymerization. IX. Forced Ideal Copolymerization of Styrene Derivatives. *J. of Macromol. Sci., Chem.* **1982-83**, *A18* (9), 1315-38. DOI: 10.1080/00222338208077226.
2. Puskas, J.E.; Kaszas, G.; Kennedy, J.P.; Kelen, T.; Tüdös, F. Quasiliving Carbocationic Polymerization. XI. An Interpretation of Solvent Effects by Donor and Acceptor Numbers. *J. of Macromol. Sci., Chem.* **1982-83**, *A18* (9), 1353-66. DOI: 10.1080/00222338208077228.
1. Toth, A.L.; Puskas, J.E. Energy Dispersive X-Ray Microanalysis of Phosphosilicate Glasses (PSG). *Acta Phys. Acad. Sci. Hung.* **1980**, *49* (1-3), 133-143.

Books and Book Chapters

22. Molnar, K.; Krisch, E.; Puskas, J. E. Chapter XX. Thermoplastic Elastomers based on Polyisobutylene, in *Advances in Thermoplastic Elastomers: Opportunities and Challenges*. Jana, S.C.; Singha, S.C. Eds. **2024**, ISBN 9780323917582, eISBN 9780323986380.
21. Puskas, J. E.; Polyak, P.; Molnar, K.; Krisch, E. Green Polymer Science: Enzyme-Catalyzed Structure Assembly – Mini Review of a Patented Method. *Sustainable Green Chemistry in Polymer Research. Volume 1. Biocatalysis and Biobased Materials, ACS Symposium Series*, **2023**, 18-37; American Chemical Society: Washington, DC; Cheng and Gross, eds. eISBN 9780841296930; DOI:10.1021/bk-2023-1450.ch002
20. Molnar, K.; Krisch, E.; Puskas, J. E. Chapter 6: Polysuccinimide and Polyaspartamide for Functional Fibers: Synthesis, Characterization, and Properties, in *Electrospun Nanofibers. Principles, Technology and Applications*. Vaseasthta, A. and Bolgen, N. Eds.; Springer, **2022**, 135-158. ISBN 978-3-030-99957-5 ISBN 978-3-030-99958-2 (eBook); DOI: 10.1007/978-3-030-99958-2.
19. Puskas, J.E.; Kaszas, G.; Molnar, K.; Helfer, C.A. Polyisobutylene for the Rescue: Advanced Elastomers for Healthcare in *Macromolecular Engineering: Design, Synthesis*

- and Application of Polymers*. Lubnin, A. and Erdodi, G. Eds., Elsevier Inc. **2021**, 237-253, ISBN: 978-0-12-821998-0.
18. Molnar, K.; Krisch, E.; Jozsa, B.; Barczikai, D.; Jedlovszky-Hajdu, A.; El Fray, M.; Puskas, J.E. Synthesis and Characterization of Plasma Crosslinked Electrospun Fiber Mats from Allyl-functionalized Polysuccinimide. In *Green Polymer Chemistry and Sustainability*; Cheng, H., *et al.*; ACS Symposium Series; Vol. 1372, Chapter 7, 119-131, American Chemical Society: Washington, DC, **2020**, DOI: 10.1021/bk-2020-1372.ch007.
 17. Puskas, J.E.; Kaszas, G. Carbocationic Polymerization. In *Encyclopedia of Polymer Science and Technology*; Wiley-Intersci.; 2016, DOI: 10.1002/0471440264.pst040.pub2.
 16. Puskas, J.E.; Castano, M.; Gergely, A.L. Green Polymer Chemistry: Enzyme-catalyzed Polymer Functionalization, In *Green Polymer Chemistry III: Biobased Materials and Biocatalysis*; Cheng, H., *et al.*; ACS Symposium Series; American Chemical Society: Washington, DC, 2015, pp. 17-25. DOI: 10.1021/bk-2015-1192.ch002.
 15. Puskas, J.E.; Chiang, K.; Barkakaty, B. Natural rubber (NR) Biosynthesis: Perspectives from Polymer Chemistry, Ch.2 in *Chemistry, Manufacture and Applications of Natural Rubber*, Kohjiya, S.; Ikeda, Y. Eds., Woodhead Publishing Ltd., 2014.
 14. Puskas, J.E. Introduction to Polymer Chemistry: A Biobased Approach. ISBN: 978-1-60595-030-3. DEStech Publications Inc. 2014. 334 pages.
 13. Puskas, J.E.; Seo, K.S.; Castano, M.; Casiano, M.; Wesdemiotis, C. Green Polymer Chemistry: Enzymatic Functionalization of Poly(ethylene glycol)s Under Solventless Conditions. In *Green Polymer Chemistry: Biocatalysis and Materials II*; Cheng, H., *et al.*; ACS Symposium Series; American Chemical Society: Washington, DC, 2013.
 12. Sen, M.Y.; Puskas, J.E. Green Polymer Chemistry: Enzymatic Functionalization of Liquid Polymers in Bulk. In Chapter 28, *Green Polymer Chemistry: Biocatalysis and Biomaterials*; Cheng, H., *et al.*; ACS Symposium Series Vol 1043; American Chemical Society: Washington, DC, 2010.
 11. Puskas, J.E. New Elastomers: Biomacromolecular Engineering via Carbocationic Polymerization. In *Current Topics in Elastomer Research*; Bhowmick, A.K., Ed.; CRC Press, 2008, pp 193-219.
 10. Kennedy, J.P.; Puskas, J.E. Thermoplastic Elastomers by Carbocationic Polymerization. In *Thermoplastic Elastomers*; 3rd ed; Holden, G., Kricheldorf, H.R., Quirk, R., Eds.; Hanser Publishers: Munich, 2004, pp 285-321.
 9. Puskas, J.E.; Kaszas, G. Carbocationic Polymerization. In *Encyclopedia of Polymer Science and Technology*; Wiley-Intersci.; 2003, Vol. 5, pp 382-418.
 8. Puskas, J.E.; Michel, A.J.; Brister, L.B.; Tzaras, E.; Marr, G.; Hoffman, M.; Weiss, K. Real-time Fiber Optic Monitoring of Solution and Suspension Polymerization Processes. In *In situ Spectroscopy of Monomer and Polymer Synthesis*; Puskas, J.E., Long, T.E., Storey, R.F., Eds.; Kluwer Academic/Plenum Publishers: New York, 2003, pp 37-58.
 7. Shaikh, S.; van Zanden, S.; Puskas, J.E. Introduction to Real-time Infrared Spectroscopic Monitoring. In *In situ Spectroscopy of Monomer and Polymer Synthesis*; Puskas, J.E., Long, T.E., Storey, R.F., Eds.; Kluwer Academic/Plenum Publishers: New York, 2003, pp 1-8.
 6. Puskas, J.E. Producers and World Market of Synthetic Rubbers. In *Biopolymers*, Vol 2: Polyisoprenoids; Koyama, T., Steinbüchel, A., Eds.; Wiley-VCH: Weinheim, **2001**; pp 287-320.
 5. Puskas, J.E. Diene-Based Elastomers. In *Handbook of Elastomers*; Bhowmick, A. K., Stephens, H. L., Eds.; Marcel Dekker, Inc.: New York, **2000**, pp 817-833.

4. Puskas, J.E.; **Lanzendörfer, M.G.**; **Peng, H.**; **Paulo, C.**; **Brister, L.B.**; Michel, A. Kinetics of the Living Polymerization of Isobutylene. Proceedings of the NATO ASI *Ionic Polymerizations and Related Processes*, NATO Science Series 359, Kluwer Academic Publishers, **1999**, pp 143-160.
3. Langstein, G.; Obrecht, W.; Puskas, J.E.; Nuyken, O.; **Grassmüller, M.**; Weiss, K. New Branched Polyisobutylenes and Butyl Rubbers by the Inimer Method. Proceedings of the NATO ASI *Ionic Polymerizations and Related Processes*; NATO Science Series 359, Kluwer Academic Publishers, 1999, pp 31-44.
2. Puskas, J.E.; Wilson, G.; Duffy, J. Synthesis of Butyl Rubber by Cationic Polymerization. In *Ullman's Encyclopedia of Industrial Chemistry*, 6th Ed.;1998, Vol. A23, Section 3.3. pp 51-57.
1. Kaszas, G.; Puskas, J.E.; Baade, W. Butyl and Halobutyl Rubbers. In *Polymeric Materials Encyclopedia*; Salamon, J. Ed.; CRC Press, Inc. 1996, pp 175-177.