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Bio-based and Biodegradable Superabsorbent Polymers Based on Citric Acid and Polyols

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List of Publications

Scientific papers:

1. Chen, J.; Wu, J.; Raffa, P.; Picchioni, F.; Koning, C. E., Superabsorbent Polymers: From long-established, microplastics generating systems, to sustainable, biodegradable and future proof alternatives. *Progress in Polymer Science* 2022, 125, 101475.
2. Chen, J.; Wu, J.; Veldhuis T.; Raffa, P.; Picchioni, F.; Koning, C. E., Mechanistic study on citric acid-based esterification: a versatile reaction for preparation of hydrophilic polymers. *ACS Sustainable Chemistry & Engineering*. Minor revision.
3. Chen, J.; Chan, D.; Yang, T.; Parisi, D.; Reuvers, B.; Brooijmans. T.; Veldhuis, T.; Picchioni, F.; Wu, J.; Raffa, P.; Koning, C. E., Bio-degradable, fully bio-based, thermally cross-linked superabsorbent polymers, manuscript ready for submission.
4. Chen, J.; Chan, D.; Veldhuis, T.; Reuvers, B.; Brooijmans. T.; Wu, J.; Picchioni, F.; Raffa, P.; Koning, C. E., Fully bio-based, bio-degradable superabsorbent polymers based on citric acid and sorbitol, manuscript ready for submission.
5. Chen, J.; Chan, D.; Reuvers, B.; Brooijmans. T.; Veldhuis, T.; Wu, J.; Picchioni, F.; Raffa, P.; Koning, C. E., Fully bio-based, biodegradable superabsorbent polymers from citric acid and tartaric acid, manuscript ready for submission.
6. Chen, J.; Chan, D.; Veldhuis, T.; Reuvers, B.; Wu, J.; Picchioni, F.; Raffa, P.; Koning, C. E., Bio-based, bio-degradable SAPs based on citric acid and glycerol: influence of counterion on properties, manuscript ready for submission.
7. Chen, J.; Wu, J.; Qi, J.; Wang, H., Systematic Study of Thermal and (Bio)Degradable Properties of Semiaromatic Copolyesters Based on Naturally Occurring Isosorbide. *ACS Sustain. Chem. Eng.* 2019, 7 (1), 1061-1071.
8. Chen, J.; Lin, Y.; Chen, Y.; Koning, C. E.; Wu, J.; Wang, H., Low-crystallinity to highly amorphous copolyesters with high glass transition temperatures based on rigid carbohydrate-derived building blocks. *Polymer International* 2021, 70 (5), 536-545.
9. Qi, J.; Wu, J.; Chen, J.; Wang, H., An investigation of the thermal and (bio)degradability of PBS copolyesters based on isosorbide. *Polymer Degradation and Stability* 2019, 160, 229-241.

Patents:

1. **CN 109369893 A.** A polyester with low oligomer content and preparation method thereof. 2019
2. **CN 110903469 A.** A low-crystallinity biodegradable polyester and preparation method thereof. 2020
3. **CN 110862524 A.** A bio-based high-transparency polymer film and preparation method thereof. 2020

Conference proceedings:

1. The 16th International Symposium on Biopolymers, 2018, Beijing, China, poster presentation
2. The Advanced Materials Postgraduate Academic Forum, 2018, Shanghai, China, poster presentation
3. International Technology and Application Conference on Bio-based Materials, 2019, Ningbo, China, poster presentation
4. China Materials Conference, 2019, Shanghai, China, poster presentation
5. ENTEG autumn meeting, 2020, Groningen, The Netherlands, poster presentation
6. ENTEG autumn meeting, 2021, Groningen, The Netherlands, poster presentation
7. ENTEG autumn meeting, 2022, Groningen, The Netherlands, poster presentation
8. Bordeaux Polymer Conference, 2022, Bordeaux, France, oral presentation
9. NWO CHAINS, 2022, Eindhoven, The Netherlands, poster presentation
10. Dutch Polymer Day, 2023, Lunteren, The Netherlands, poster presentation
11. ENTEG autumn meeting, 2023, Groningen, The Netherlands, poster presentation
12. IUPAC|CHAINS, 2023, Hague, The Netherlands, poster presentation