Conference abstract PMS33

**Oxazoline-Based Hydro-, Amphi- and Lipogels from Microwave-Assisted Synthesis**

**F. WIESBROCK**<sup>1</sup>, **A. HECKE**<sup>2</sup>, **B. WIRNSBERGER**<sup>1</sup>, **A. M. KELLY**<sup>2</sup>, **F. STELZER**<sup>1</sup>

<sup>1</sup>Graz University of Technology, Institute for Chemistry and Technology of Materials, Stremayrgasse 16, AT-8010 Graz, Austria.

<sup>2</sup>Polymer Competence Center Leoben GmbH (PCCL), Roseggerstrasse 12, AT-8700 Leoben, Austria.

E-mail: f.wiesbrock@tugraz.at (F.Wiesbrock)


The group of poly(2-oxazoline)s has scarcely been considered as scaffold for hydrogels [1, 2], despite of the FDA approval for two prominent congeners, namely poly(2-ethyl-2-oxazoline) and poly(2-phenyl-2-oxazoline) (21 CFR 175.105). The polymerization of 2-oxazolines has significantly benefited from the advent of microwave reactors specially designed for chemical syntheses by a remarkable decrease of reaction times with a factor of 60, maintaining the livingness of the polymerization [3, 4]. These accelerations have paved the way to the synthesis of hydro-, amphi-, and lipogel libraries.

In this presentation, the influence of the ratio of poly(2-ethyl-2-oxazoline) vs. poly(2-phenyl-2-oxazoline), the degree of cross-linking and the type of cross-linker on the swelling degree and the proton-mediated degradation of the gels will be shown, and the potential of 2-oxazoline-based gels as toolbox for tailor-made hydro-, lipo- and amphigels will be discussed [5].

---


