Conference abstract PMS33

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

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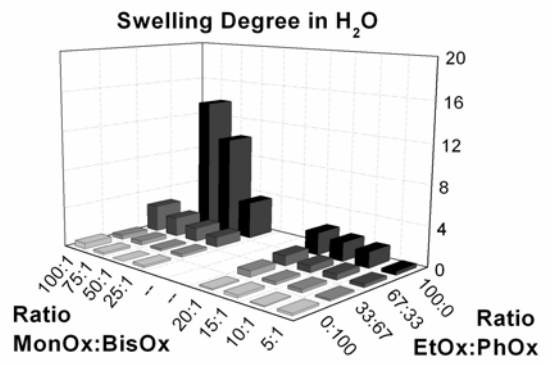
The group of poly(2-oxazoline)s has scarcely been considered as scaffold for hydrogels [1, 2], despite of the FDA approval for two prominent congeners, namely poly(2-ethyl-2-oxazoline) and poly(2-phenyl-2-oxazoline) (21 CFR 175.105). The polymerization of 2-oxazolines has significantly benefited from 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].



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