

THIOL-ENE PHOTOPOLYMERISATIONS WITHIN HIGH INTERNAL PHASE EMULSIONS FOR CREATING MATERIALS WITH CONTROLLED POROSITY AND MORPHOLOGY

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Using high internal phase emulsions for templating macropores within a polymer material is now an established technique. However, it remains used mostly for free radical polymerisations with thermal initiation. On the other hand, we have shown that photo initiated thiol-ene polymerisations can be effectively used within the high internal phase emulsion templating approach. Furthermore, this type of polymerisation can, in combination with several methodologies, e.g. additive manufacturing technologies and solid sphere templating, yield hierarchically porous polymers with well defined morphology and porosity on several levels. Presentation will focus on examples of multi-technique approach with thiol-ene photopolymerisations for the synthesis of innovative porous polymers with controlled porosity and morphology.