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*in kemijsko tehnologijo*

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*VABILO NA PREDAVANJE  
V OKVIRU DOKTORSKEGA ŠTUDIJA  
KEMIJSKE ZNANOSTI*

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z naslovom:

**Teaching Old Dogs New Tricks: Novel Materials  
From 'Click'  
Thiol-Ene & Thiol-Yne Polymerizations**

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*Vljudno vabljeni!*

## Abstract

Thiol-ene polymerizations have a long history yet have become in vogue recently through of the emergence of 'click' chemistries, a collection of reactions which includes thiol-ene/yne reactions. Our interest in 'click' thiol-ene/yne polymerizations centers on their ability to be carried out in a range of conditions, their orthogonality to other functional groups, the fact they can be photo-, redox- or thermally-initiated, they may produce highly crosslinked polymers, and the wide variety of monomers commercially available. We have focused on two areas in particular that 'click' thiol-ene/yne polymerizations have significant advantages over other polymerization mechanisms. The first is the synthesis of **polyanhydrides**, which have found a niche in the degradable polymer field largely because they often undergo *surface erosion*. Surface eroding polymers maintain both their mechanical integrity and shape, although exhibit a gradual loss in size, during degradation. The second area is the production of thiol-ene/yne based **polymer colloids** through either *suspension* or *miniemulsion* polymerizations. The fast polymerization rate afforded by thiol-ene chemistry allows these colloidal particles to be initiated both thermally and photochemically. Furthermore, off-stoichiometric polymerizations yield highly functionalized particles. This presentation will be shown that 'click' thiol-ene/yne polymerizations are extremely versatile and can produce polyanhydrides and polymer colloids with significant degrees of control. These materials have potential applications in diverse areas ranging from drug delivery and biomedical devices to coatings and chromatography.

