

BLOCK COPOLYMERS, SELF-ASSEMBLY AND SURFACE DESIGN: SYNTHESIS AND ADVANCED CHARACTERIZATION

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ABSTRACT

The tutorial lecture will introduce the key principles of advanced polymer characterization techniques with an emphasis on coupled techniques such as liquid adsorption chromatography under critical conditions coupled with size exclusion chromatography (LACCC-SEC) as well as other hyphenation modes (such as SEC coupled to electrospray ionization mass spectrometry). These techniques will be introduced on the example of selected advanced synthetic problems from variable laboratories, including ours. The syntheses will be in-depth explained and strength and problems highlighted. A particular emphasis will be placed on orthogonal ligation chemistries and the development of dynamic covalent environments. In addition, the study and orthogonal modification of surfaces with well-defined polymer strands and suitable surface analytical methods will be introduced and discussed on recent examples from our laboratories.