

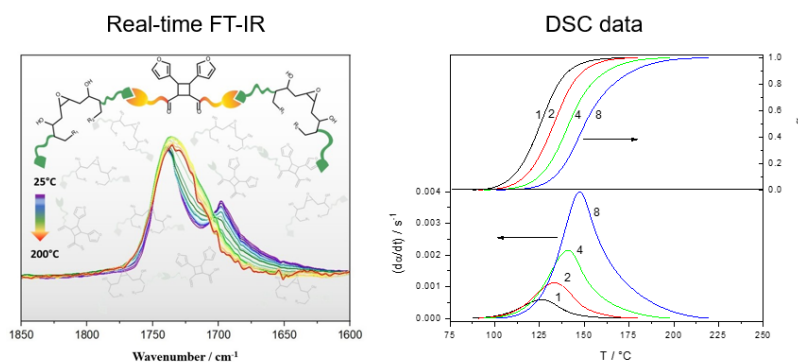
Crystallization and polymerization of biobased polymers

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Biobased polymers constitute a promising alternative to replace their petrosourced counterparts. However, they sometimes exhibit more complex behaviors as well as lower thermal and mechanical properties. The crystallization rate of semi-crystalline polymers as well as the polymerization kinetics of thermosetting resins have a major impact on the final properties of the material. Understanding these phenomena is therefore a crucial element for obtaining optimal properties. The presentation will focus on the study and modeling of crystallization and polymerization mechanisms using advanced thermal analysis methods (DSC, FlashDSC, TMDSC, rheology) and kinetics. The studies carried out concern the behavior of thermoplastic polymers (PET, PEF) and thermosetting resins (epoxidized vegetable oils and unsaturated polyesters). The objective will be to show how the combination of different techniques, coupled with specifically developed kinetic analysis methods, makes it possible to better understand and model the mechanisms of crystallization and polymerization [1-18].



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