

Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Bio-based liquid crystalline polyesters¹ CAROLUS WILSENS, Eindhoven University of Technology, Department of Chemical Engineering and Chemistry, SANJAY RASTOGI, Department of Materials, Loughborough University, England (UK), DUTCH POLYMER INSTITUTE COLLABORATION — The reported thin-film polymerization has been used as a screening method in order to find bio-based liquid crystalline polyesters with convenient melting temperatures for melt-processing purposes. An in depth study of the structural, morphological and chemical changes occurring during the ongoing polycondensation reactions of these polymers have been performed. Structural and conformational changes during polymerization for different compositions have been followed by time resolved X-ray and Infrared spectroscopy. In this study, bio-based monomers such as vanillic acid and 2,5-furandicarboxylic acid are successfully incorporated in liquid crystalline polyesters and it is shown that bio-based liquid crystalline polymers with high aromatic content and convenient processing temperatures can be synthesized.

¹Special thanks to the Dutch Polymer Institute for financial support

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Date submitted: 27 Nov 2012

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