

POLY

- 355. CONTROLLED ACTIVITY POLYMERS; SYNTHESIS, CHARACTERIZATION, AND REACTIVITY RATIOS OF β -NAPHTHYL ACRYLATE, 5-ACRYLAMIDO(β -NAPHTHYL)VALERATE, AND 6-ACRYLAMIDO(β -NAPHTHYL)CAPROATE COPOLYMERS.** Chase Boudreaux, Dana Sellers, and Charles L. McCormick, Department of Polymer Science, The University of Southern Mississippi, Hattiesburg, Mississippi 39406-0076.

Free radical solution polymerization of β -naphthyl acrylate (β NA), acrylamido(β -naphthyl)valerate (A β NV), and acrylamido(β -naphthyl)caproate (A β NC) were carried out using AIBN in benzene at 70 °C. The composition of the copolymers were determined using ¹H-NMR and ¹³C-NMR. FT-IR spectrum of the copolymer was also used to establish structure. The copolymerization ratios were calculated from the NMR data using both Fineman-Ross (F-R) and Kelen-Tudos (K-T) methods. For the acrylic acid (m_2) and β -naphthyl acrylate (m_1) copolymers, the values of r_1 and r_2 were found to be 1.43 ± 0.07 and 1.31 ± 0.07 respectively. For the acrylic acid (m_2) and 5-acrylamido(β -naphthyl)valerate (m_1) copolymers, the values of r_1 and r_2 were found to be 0.25 ± 0.06 and 1.04 ± 0.06 respectively. For the acrylic acid (m_2) and 6-acrylamido(β -naphthyl)caproate (m_1) copolymers, the values of r_1 and r_2 were found to be 0.31 ± 0.06 and 0.59 ± 0.06 respectively. These model structures in the future will be utilized for the determination of structure/controlled release relationships.

- 356. SUPRAMOLECULAR ARCHITECTURES FROM PHTHALOCYANINE BUILDING BLOCKS.** R.J.M. Nolte, Department of Organic Chemistry, NSR Center, University of Nijmegen, 6525 ED Nijmegen, The Netherlands

New molecular materials for applications in the fields of electronics and opto-electronics are currently receiving much attention. Molecular materials are composed of molecular units which are synthesized separately and in a subsequent step are organized to form a supramolecular structure. We are studying molecular materials based on phthalocyanine building blocks. Organization is achieved by four means: (i) with the help of liquid-crystallinity (ii) by using crown ether rings attached to the phthalocyanine core (iii) by polymerization (iv) by Langmuir-Blodgett film formation. Recent results will be presented and discussed.

- 357. LIQUID CRYSTALS AND THE QUESTION OF THE INTERPLAY OF INTRAMOLECULAR AND SUPRAMOLECULAR CHIRALITY.** Mark M. Green, Dexi Weng, Junko Noguchi, and Yoshio Okamoto, Department of Chemistry, 6 Metrotech Center, Brooklyn, NY; Department of Applied Chemistry, Nagoya University, Nagoya, Japan.

Addition of either dynamically racemic poly(n-hexyl isocyanate) or oligophenyls causes pitch reductions in both lyotropic and thermotropic cholesteric phases leading to the suggestion that the liquid crystal is enforcing an excess of one enantiomer. To test this idea we have synthesized and analyzed a mesogenic chiral atropisomer which then can allow a memory of the resolution after passing out of the liquid crystal phase.

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- HYDROGEN-BONDED MAIN CHAIN LIQUID CRYSTALLINE POLYMERS.** C Alexander, C P Jariwala, C-M Lee and A C Griffin. Melville Laboratory for Polymer Synthesis, University of Cambridge, Pembroke Street, Cambridge CB2 3RA UK.

Association polymers have been synthesized and characterized. They are based on hydrogen-bonded complexes formed between carboxylic acids and pyridines. Linear association generates a chain extended species which exhibits liquid crystalline behavior. (The starting components are not liquid crystalline.)