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Precise Characterization of Cyclization Reaction Product Obtained from A Telechelic Polystyrene by HPLC ATSUSHI TAKANO, YUUKI KUSHIDA, YUTAKA OHTA, DONGHYUN CHO, YUSHU MATSUSHITA, Nagoya University — Cyclization reaction product synthesized by the end-to-end ring closure reaction of a telechelic polystyrene (Mw=40k) in extremely dilute condition was carefully characterized by using two kinds of HPLC techniques, that is, liquid chromatography at the critical condition (LCCC) and size exclusion chromatography (SEC). Firstly the cyclization reaction product was coarsely separated into linear species and cyclic ones by LCCC, secondly each fraction was analyzed by high resolution SEC. It was found from the HPLC analyses that the cyclization reaction product contains both linear- and cyclic condensation products. Furthermore dimeric, trimeric and more multimeric cyclic molecules with reasonable abundance were identified in the cyclic products in addition to the monomeric cyclic molecule with high yield, as much as 50%.

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