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Chemical Composition Distribution of Partially Brominated Polystyrenes WAYNE POWERS, Rensselaer Polytechnic Institute, YOUNG KUK JHON, JAN GENZER, North Carolina State University, CHANG RYU, Rensselaer Polytechnic Institute, RENSSELAER POLYTECHNIC INSTITUTE TEAM — Interaction chromatography has been employed to estimate the chemical composition distribution of partially brominated polystyrenes. In particular, random blocky and truly random partially brominated polystyrenes (b-PBrxS and r-PBrxS) differ in the dispersity of their chemical composition distributions, because of the limited accessibility of styrene segments for the bromination at temperature below theta temperature. First, the adsorption-based IC technique was used to fractionate b-PBrxS and r-PBrxS of the same average mole fraction of bromine. Then, these fractions were reinjected, and the peak position of each fraction was analyzed. In addition, the average chemical composition of each brominated polystyrene fraction has been analyzed separately via neutron activation analysis (NAA). The results of this analysis clearly supports that the chemical composition distribution b-PBrxS is narrower than that of r-PBrxS.

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