

Reactivity ratios of RAFT polymerization of *tert*-butyl acrylate and a thiolactone-functionalized acrylamide

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The purpose of this work was to determine the reactivity ratios of *tert*-butyl acrylate (t-BA) and a thiolactone acrylamide (TlaAm) using RAFT polymerization. This was accomplished by initiating the solution polymerization using AIBN and monitoring the reaction by taking samples over time. These were used to determine the molar conversions of the monomers. Gel permeation chromatography (GPC) was used to determine the molecular weight distributions – these were narrow (dispersity <1.3), which indicates that the RAFT polymerization was successful. The molar conversions were then used along with the Kelen-Tudos method to calculate the reactivity ratios; these were $r_{tBA} = 0.96$ and $r_{TlaAm} = 0.84$.

