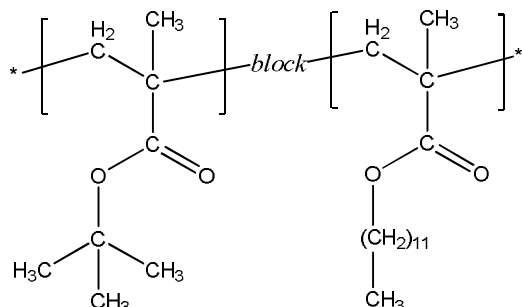


Sample Name: Poly(*tert*-Butyl Methacrylate-*b*-Lauryl Methacrylate)

Sample # P8580-tBuMALMA

Structure:

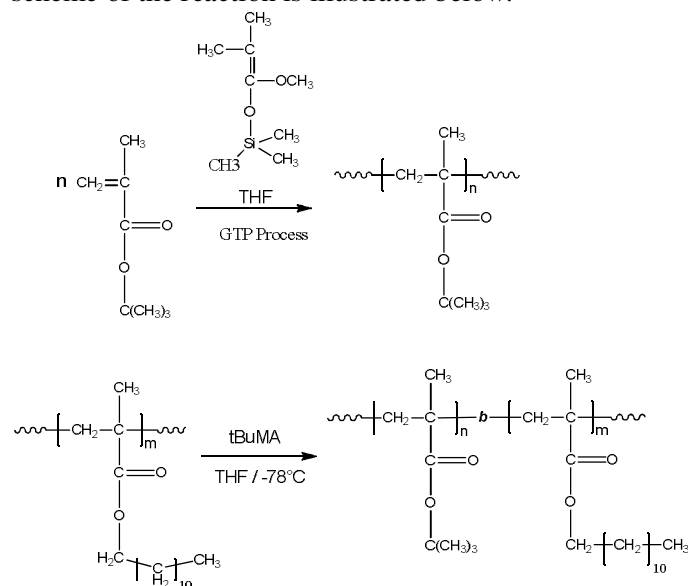


Composition:

$M_n \times 10^3$ (tBuMA- <i>b</i> -LMA)	PDI
5.0- <i>b</i> -4.0	1.3

Synthesis procedure:

Poly(*t*-butyl methacrylate-*b*-lauryl methacrylate) was prepared by GTP polymerization method with sequence addition of *t*-butylmethacrylate followed by addition of lauryl methacrylate in THF at room temperature. The scheme of the reaction is illustrated below.



Characterization:

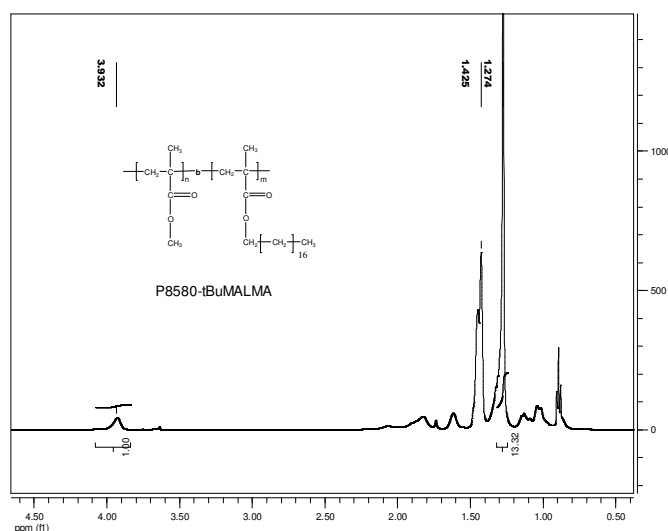
An aliquot of the anionic poly(*t*-butyl methacrylate) block was terminated before addition of lauryl methacrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI) of the first block. The

final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the lauryl methacrylate protons (CH₂ adjacent to the ester) at about 3.9 ppm with the peak area of *t*-butyl methacrylate protons at about 1.43 ppm. PDI of the diblock copolymer was determined by SEC.

Solubility:

Poly(*t*-butylmeth acrylate-*b*- lauryl methacrylate) is soluble in THF, CHCl₃, toluene, dioxane. The polymer can precipitate from ethanol/water or methanol/water mixtures.

¹H-NMR spectrum of the diblock copolymer:



SEC of the first block and diblock copolymer:

