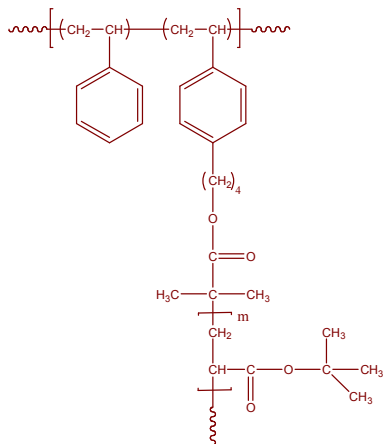


Sample Name: **Polystyrene Graft tert-Butyl Acrylate**

Sample #: **P3524-StBuAcomb**

Structure:



Composition:

Mn x 10 ³ (Main Chain)	Mn x 10 ³ (Graft Chain)	Mn x 10 ³ (Total Chain)	Mw/Mn (Total)
1.2	2.0	9.2	1.77

Synthesis Procedure:

Polystyrene-g-poly(t-butyl acrylate) is synthesized by two method: 1. side-chain first. 2. main-chain first. The reaction scheme is shown below. For more information, please call us to get the detail of specific batch.

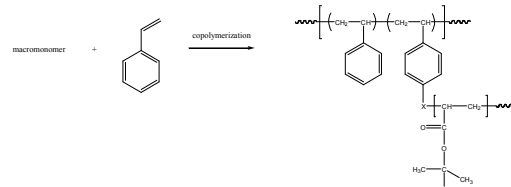
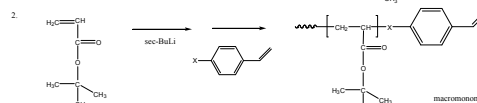
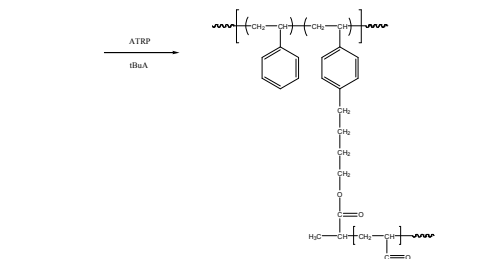
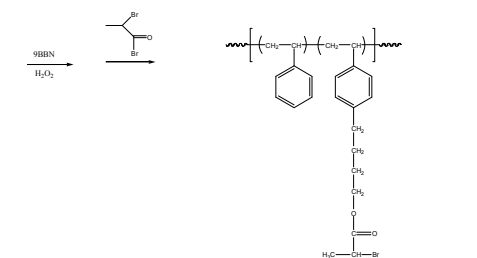
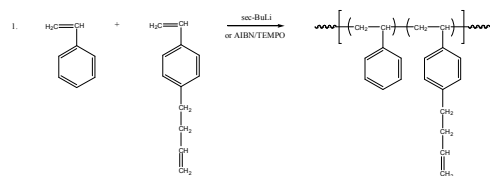
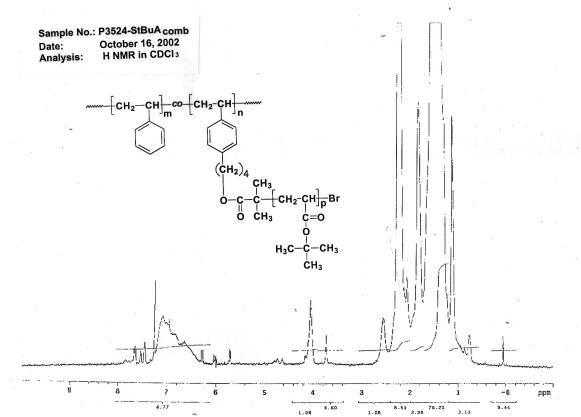
Characterization:

The molecular weight and polydispersity index (PDI) of polymers are obtained by size exclusion chromatography. The composition of grafting polymer is determined by NMR.

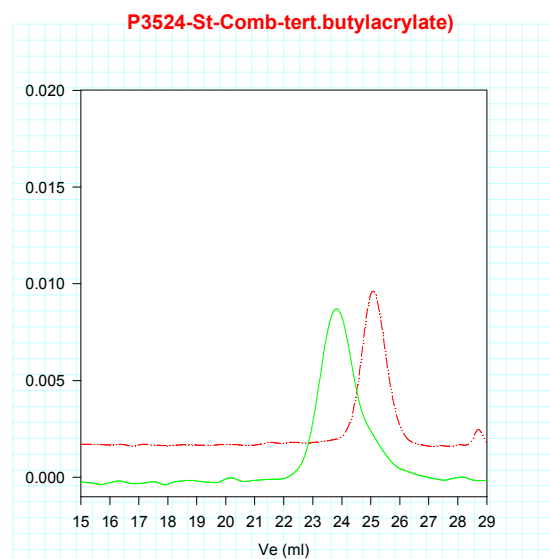
Solubility:

Polystyrene-g-poly(t-butyl acrylate) is soluble in THF, DMF, chloroform, and Toluene. It precipitates from methanol-water.

NMR of Polymer:



SEC of Polymer:



Size Exclusion chromatography of poly (styrene-graft-tert-Butylacrylate):

- Poly(styrene-co-4-butene styrene) Back-bone, $M_n=1200$, $M_w=1400$, $PI=1.20$
- Graft was prepared by backbone first and controlled radical polymerization of t-butyl acrylate, $PI=1.77$
- Poly tert.butylacrylate in the copolymer: 90 Wt % by NMR.
- The branch $M_n=2000$, and the number of branch = 4