

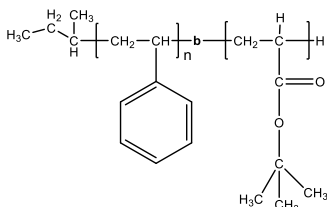
Product Profile

Identification

Product Name: Poly(styrene)-b-poly(tert-butyl acrylate)

Product Lot Number: P45147-StBuA

Product Chemical Architecture:



Composition:

Mn x 10 ³ P(S-b-tBuA)	Mw/Mn (PDI)
135.0-b-88.0	1.09
PolyStyrene: 55 mole%	

Method of Synthesis

Poly(styrene-b-tert.acrylate) is prepared by living anionic polymerization in THF at -78 °C using sec.BuLi initiator adduct with α-methyl styrene in the presence of LiCl. tert.butyl acrylate (tBuA) monomer was added after dilution in THF. More details are available in the published literature.1-3

1. S. K. Varshney, R. Fayt, Ph. Teyssie, and J.P. Hautekeer US Patent 5,264,527 (1993)
2. Ph. Teyssie, R. Fayt, J. P. Hautekeer, C. Jacobs, R. Jerome, L. Leemans and S. K. Varshney Makromolekular Chemie, Macromol. Symp., 1990, 32,61-73.
3. S. K. Varshney, J. P. Hautekeer, R. Fayt, R. Jerome, and Ph.Teyssie Macromolecules, 1990, 23, 2618-2622.

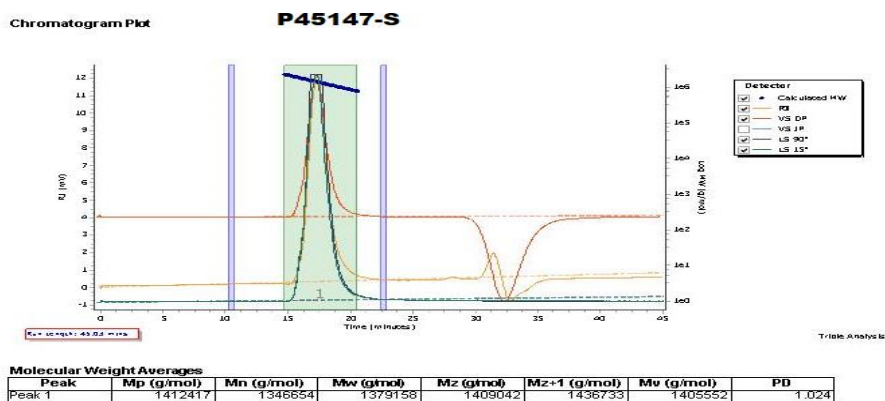
Solubility in different solvents

THF	√		
CHCl ₃	X	DMF	√
Toluene-Hot	X	THF-Methanol	√

Purification of Polymer to remove any homo polystyrene fractions.

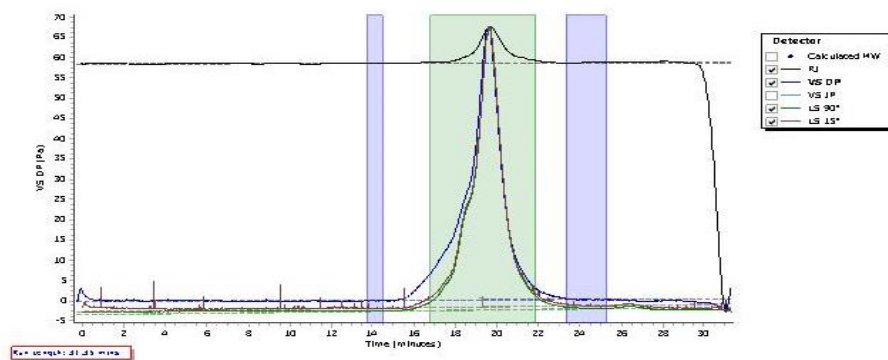
Validation of Architecture:

A. Gel Permeation Chromatography (GPC), SEC- Profile



Chromatogram Plot

P45147-StBuA



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	236681	223503	243595	267380	297239	272214	1.09

B. HNMR of the polymer run in CdCl₃:

