

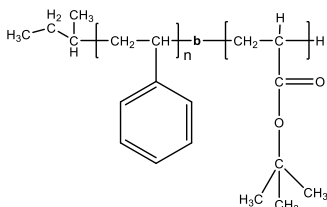
# Product Profile

## Identification

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

**Product Lot Number:** P45152-StBuA

**Product Chemical Architecture:**



## Composition:

Mn x 10 <sup>3</sup> P(S-b-tBuA)	Mw/Mn (PDI)
335.0-b-321.0	1.23
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.

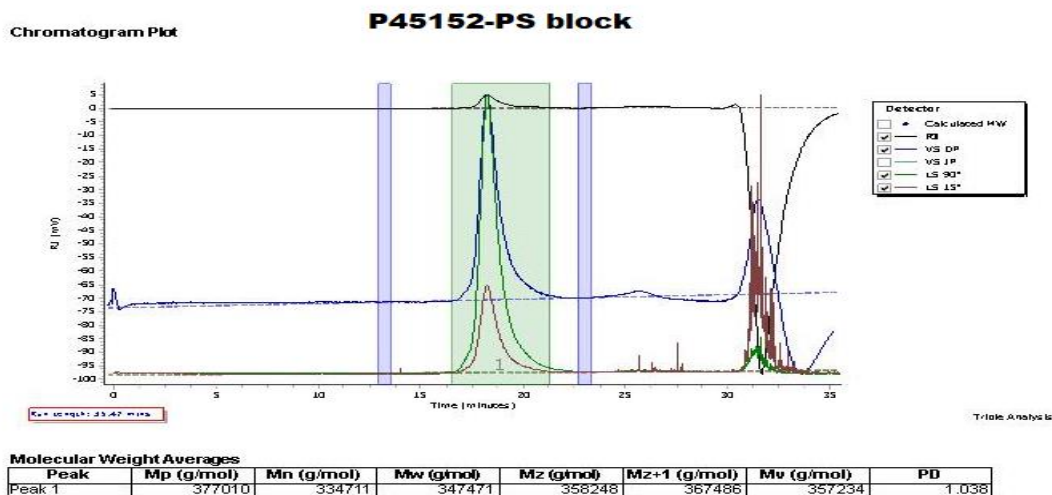
## Solubility in different solvents

THF	√		
CHCl <sub>3</sub>	X	DMF	√
Toluene-Hot	X	THF-Methanol	√

**Purification of Polymer** to remove any homo polystyrene fractions.

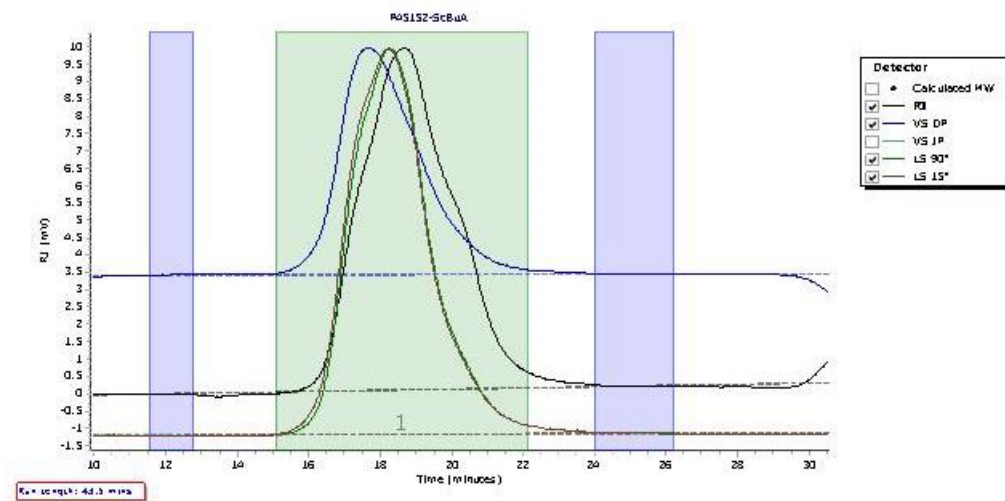
## Validation of Architecture:

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



## P45152-StBuA

Chromatogram Plot



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	781105	655937	808415	967090	1118779	988460	1.232

## B. HNMR of the polymer run in CdCl<sub>3</sub>:

