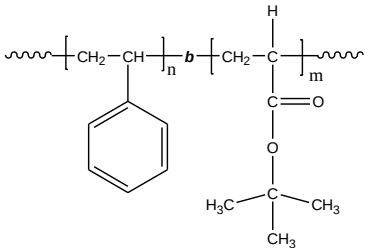
Sample Name: **Poly (styrene-b- tert.butylacrylate)**

Sample #: **P42251A-StBuA**

Structure:



Composition:

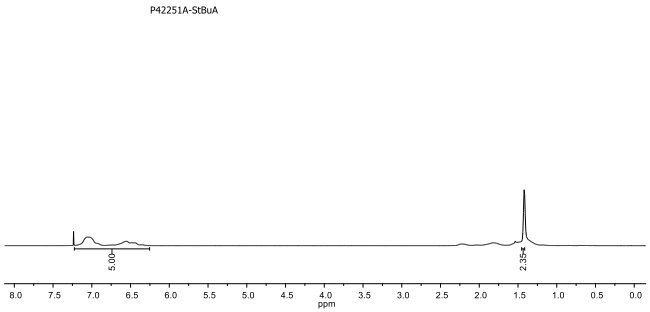
Mn x 10^3 S-b-tBuA	PDI
13.5-b-4.0	1.02

Synthesis Procedure:
Poly(styrene-b-tert.butyl acrylate) is prepared by living anionic polymerization in THF at -78 ºC using sec.BuLi initiator adduct with α-methyl styrene in the presence of LiCl. For further details please see our published articles.[1-3]

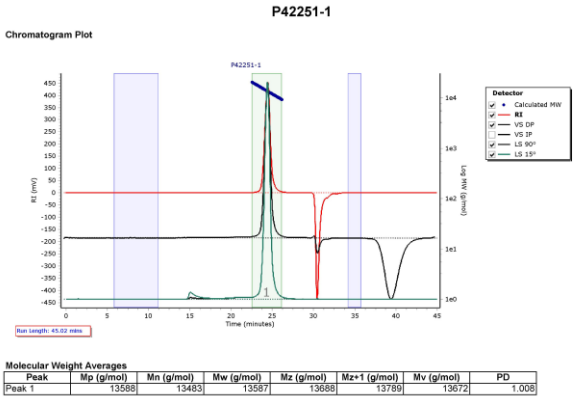
Characterization:
The product was characterized by size exclusion chromatography (SEC) and 1H NMR.

Solubility:
Poly (styrene-b-tert.butylacrylate) is soluble in THF, toluene, dioxane and $CHCl_3$.

^{1}H NMR spectrum of the PS-b-tBuA:



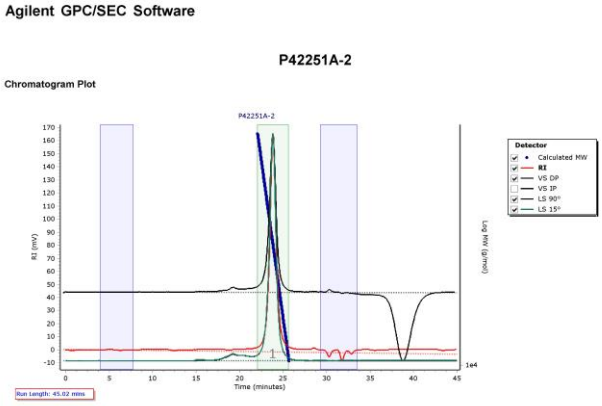
SEC of the first (PS) block:



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	13588	13483	13587	13688	13789	13672	1.008

SEC of the product (diblock copolymer):



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	17135	16955	17308	17667	18044	17680	1.021

References for further information:

1. S. K. Varshney, R. Fayt, Ph. Teyssie, and J.P. Hautekeer US Patent 5,264,527 (1993)
2. Ph. Teyssie, R. Fayt, **S. K. Varshney**, and C. Jacobs Eur. Pat. Appl., Jan 16, 1991 *Eur.Pat.408420*
   Patent Assignees- Atochem S.A France. CA. Vol 114, 26, 247998." Star Block Copolymers based on Acrylates and Methacrylates and their Manufacture process".
3. Ph.Teyssie, R. Fayt, and **S. K. Varshney**, *Eur. Pat. Appl. Dec. 12, 1990. Eur. Pat.402204*
   Patent Assignees-Norsolor S.A. France. CA Vol 114, 20, 186314."Catalyst for the the Anionic Living Polymerization (Meth)acrylates".