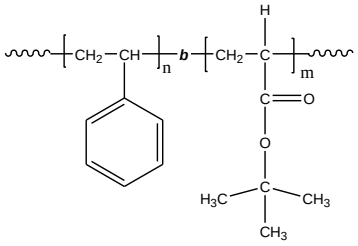
Sample Name: **Poly (styrene-b- tert.butylacrylate)**

Sample #: **P40952-StBuA**

Structure:



Composition:

Mn x 10^3 S-b-tBuA	PDI
65-b-142.0	1.09

Synthesis Procedure:

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

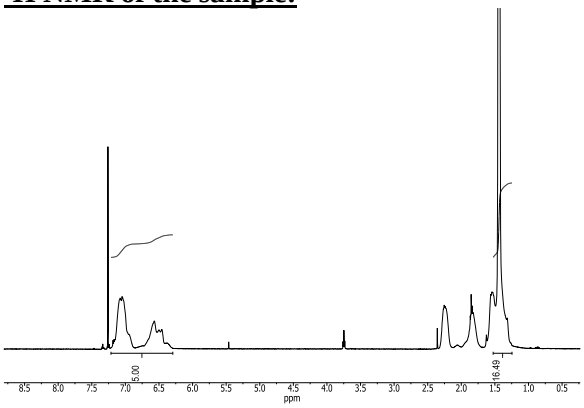
Characterization:

Polymer anlyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ^{1}H-NMR of the copolymer. Mw/Mn is determined by SEC.

Solubility:

Poly(styrene-b-tert.butylacrylate) is soluble in THF, toluene, dioxane and $CHCl_3$. This polymer readily precipitates from methanol, ethanol, hexanes and water.

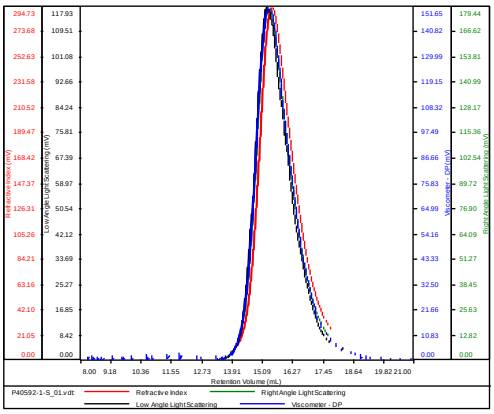
^{1}H NMR of the sample:



SEC of the first block PS:

P40952-1-S

Conc	13.1477
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k_2018-01-24-0000.vcm

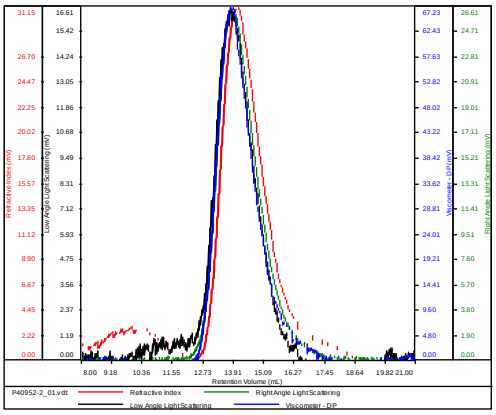


Sample	Mn	Mw	Mp	Mw/Mn	IV
P40592-1-S_01.vdt	65,229	70,453	72,112	1.080	0.2210

SEC for the block copolymer:

P40952-2-StBuA

Conc	3.3384
dn/dc	0.0750
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k_2018-01-24-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P40952-2_01.vdt	207,185	224,822	223,154	1.085	0.3962

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".