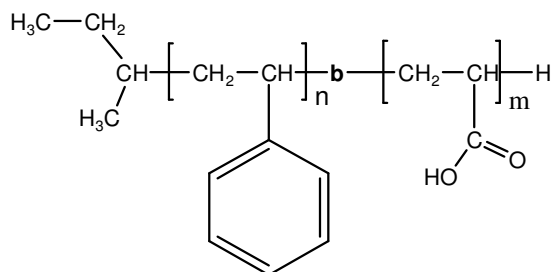


Sample Name: Poly (styrene -b- acrylic acid)

Sample #: P19509-SAA

Structure:



Composition:

Mn x 10 ³ PS- <i>b</i> -PAA	M _w /M _n
13.0- <i>b</i> -22.0	1.3
Dp: 29- <i>b</i> -115	

Synthesis procedure:

Poly (styrene-*b*-acrylic acid) was prepared by living anionic polymerization with sequence addition of styrene followed by t-butyl acrylate and hydrolysis of the t-butyl group.

Characterization:

The polymer was analyzed by ¹H NMR, SEC, and FTIR.

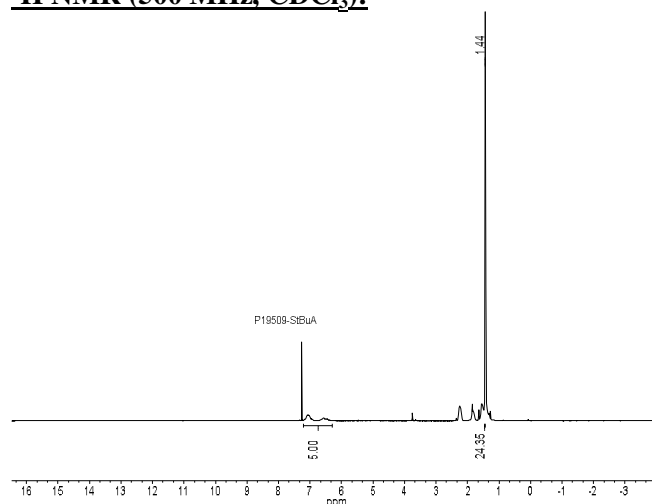
Solubility:

Polymer must be soluble in THF. If not, than it has been cross-linked due to the formation of inter molecular anhydride formation.

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".

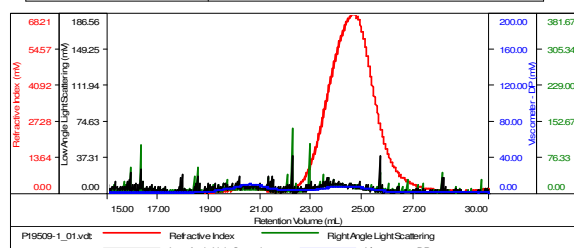
¹H NMR (500 MHz, CDCl₃):



SEC of the first block and diblock copolymer precursor:

Sample IDP19509-S

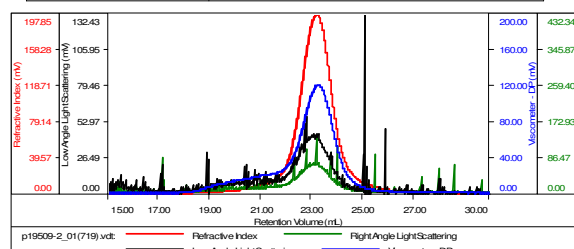
Concentration (mg/mL)	0.7265
Sample dn/dc (mL/g)	0.1860
Method File	PS80K-June03-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19509-1_01.vcl	13,544	17,218	11,874	1.271	0.6749

Sample IDP19509-StBuA

Concentration (mg/mL)	3.1392
Sample dn/dc (mL/g)	0.0660
Method File	PS80K-June03-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
p19509-2_01(719).vcl	53,662	70,682	46,407	1.317	2.1149