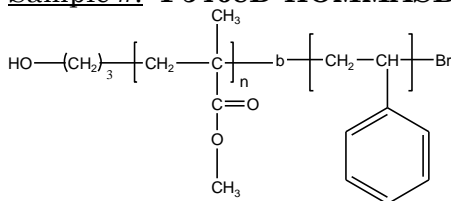


**Sample Name:** Hydroxy Terminated Poly(methylmethacrylate-*b*-styrene) with Bromide terminal end towards polystyrene block

**Sample #:** P5468D-HOMMASBr



**Composition:**

Mn x 10 <sup>3</sup> MMA- <i>b</i> -St	Mw/Mn (PDI)	PMMA microstructure (Iso:hetero:syndio)
42.0- <i>b</i> -46.0	1.35	3: 18: 79
T <sub>g</sub> for PS block: 108°C		T <sub>g</sub> for MMA block: 134°C

**Synthesis Procedure:**

Polymer is obtained by combination of anionic and controlled radical process using different ligand system.

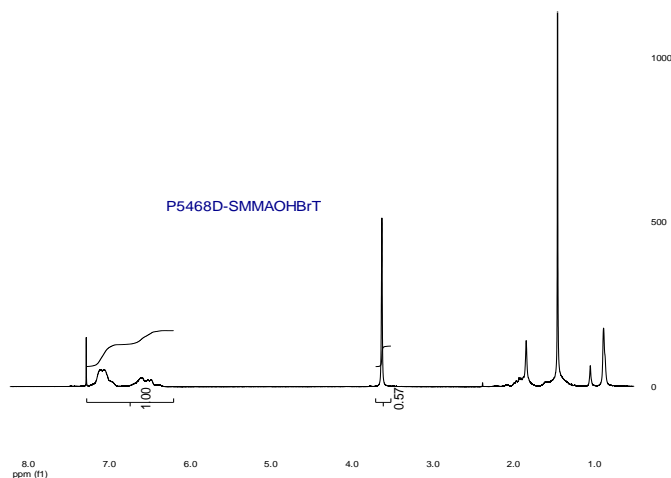
**Characterization:**

Polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from <sup>1</sup>H-NMR spectroscopy.

**Thermal analysis:**

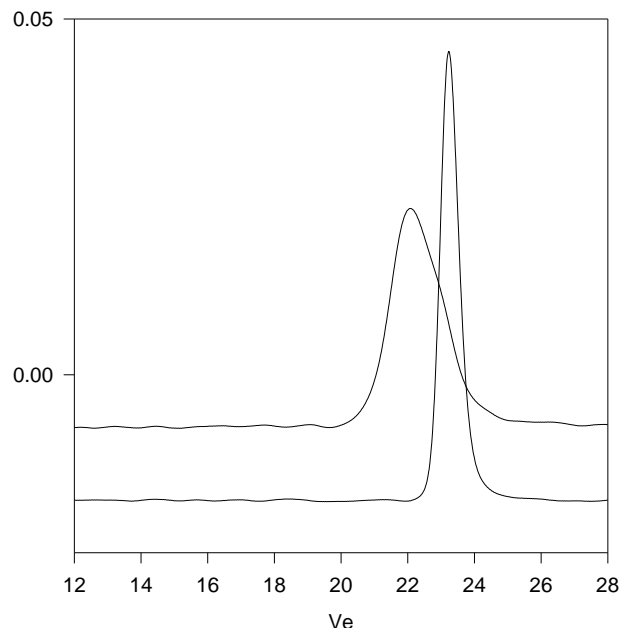
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T<sub>g</sub>).

**<sup>1</sup>H NMR spectrum of the sample**



**SEC profile of the block copolymer**

**P5468D-HOMMASBr**



Size Exclusion Chromatography :

- First PMMA block bear terminal Br group M<sub>n</sub>=42000, M<sub>w</sub>/M<sub>n</sub>=1.09
- After reaction with styrene Mn : 42000-*b*-46000 Mw/Mn: 1.35 Composition from HNMR

**DSC thermogram for the diblock polymer:**

