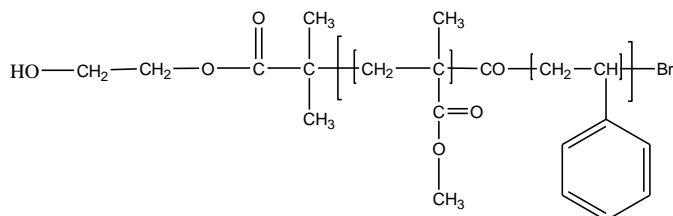


**Sample Name:** Random copolymer of  
Poly(methylmethacrylate-*co*-styrene)  $\alpha$ -Hydroxy  
 $\omega$ -Bromide moiety terminated  
**Sample #:** P6650-SMMAranOHBrT

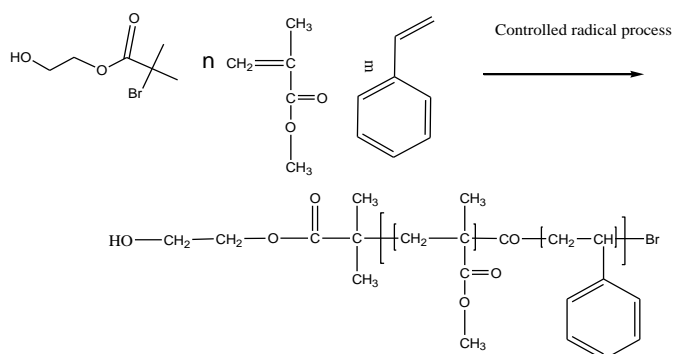


### Composition:

Mn x 10 <sup>3</sup>	Mw/Mn (PDI)	PMMA microstructure (Iso:hetero:syndio)
12.0	1.24	13: 35: 52
Glass Transition temp. (T <sub>g</sub> )		107°C

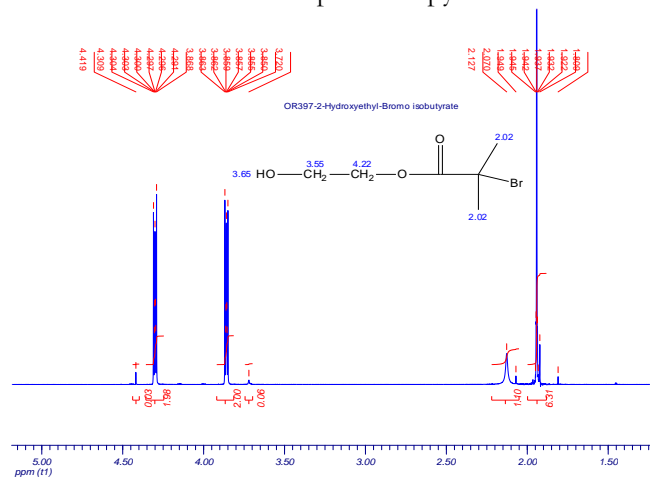
### Synthesis Procedure:

Polymer is obtained by controlled radical process using different ligand system. The scheme of the reaction is illustrated below:

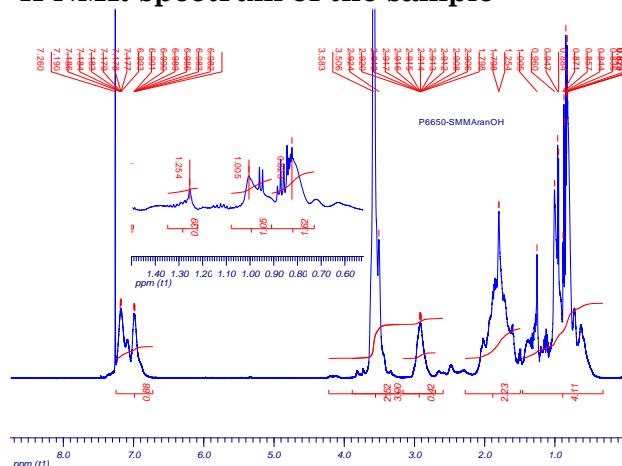


### Characterization:

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

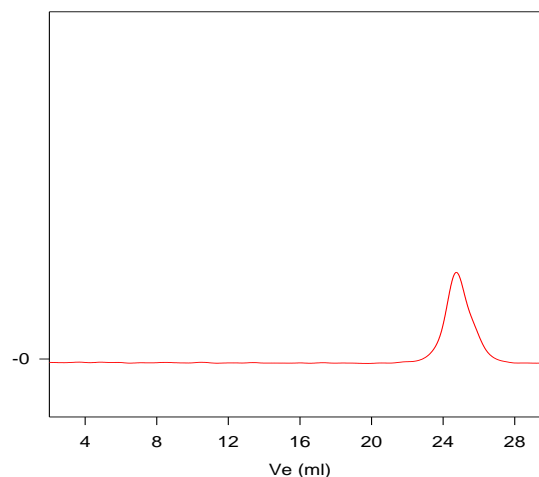


### <sup>1</sup>H NMR spectrum of the sample



### SEC profile of the block copolymer

**P6650-SMMAranOHBrT**



Size exclusion chromatograph of random copolymer: poly(styrene-*co*-MMA):

M<sub>n</sub>=12000, M<sub>w</sub>=15000, M<sub>w</sub>/M<sub>n</sub>=1.24  
Polystyrene content: 15 mol% by NMR

### Thermal Analysis:

Thermal analysis was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T<sub>g</sub>) is reported.

### DSC thermogram for the sample:

