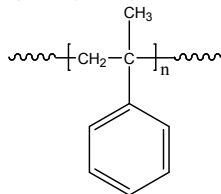


Sample Name: Poly( $\alpha$ -methyl styrene)

Sample #: P6095-MeS

**Structure:**

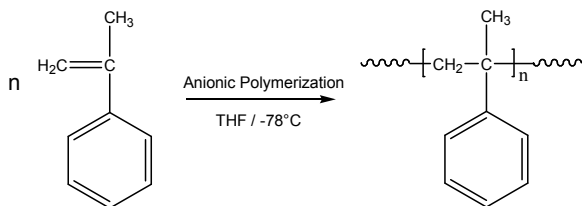


**Composition:**

Mn x 10 <sup>3</sup>	PDI
100.3	1.05
T <sub>g</sub> (°C)	173

**Synthesis Procedure:**

Poly( $\alpha$ -methyl styrene) is synthesized by living anionic polymerization of  $\alpha$ -methyl styrene and the reaction scheme is shown below.



**Characterization:**

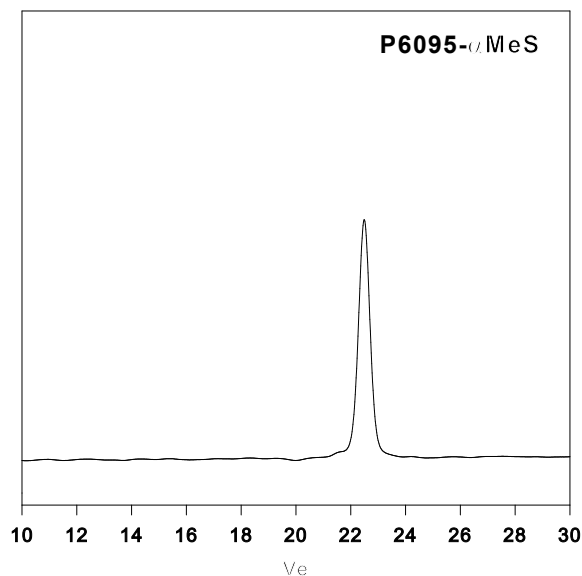
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography.

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>).

**Solubility:**

Poly( $\alpha$ -methyl styrene) is soluble in DMF, THF, toluene and CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water and hexanes.

SEC of Homopolymer:



Size exclusion chromatography of Poly( $\alpha$ -methyl styrene)  
with on-line TriSEC detector:

M<sub>n</sub>=100300, M<sub>w</sub>=105300, M<sub>w</sub>/M<sub>n</sub>=1.05

**DSC thermogram for the polymer:**

