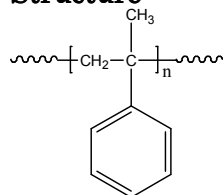


Sample Name: Poly(α -methyl styrene)

Sample #: P1809- α MeS

Structure:

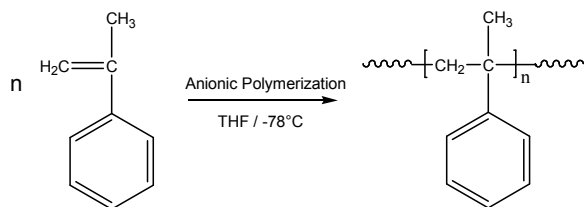


Composition:

$M_n \times 10^3$	PDI
84.3	1.04
T_g ($^{\circ}C$)	171

Synthesis Procedure:

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



Characterization:

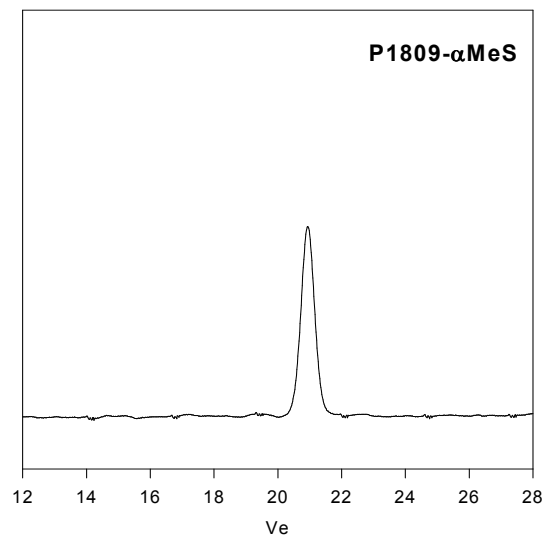
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography.

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^{\circ}C/min$. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Poly(α -methyl styrene) is soluble in DMF, THF, toluene and $CHCl_3$. It precipitates from methanol, ethanol, water and hexanes.

SEC of Homopolymer:



Size Exclusion Chromatography of poly α -methyl styrene:

$M_n=84300$ $M_w=88000$ $M_w/M_n=1.04$

DSC thermogram for the polymer:

