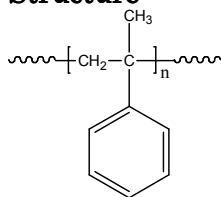


Sample Name: Poly(α -methyl styrene)

Sample #: P9099- α MeS

Structure:

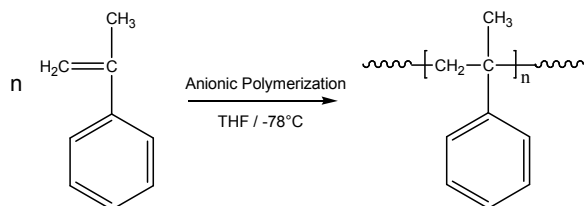


Composition:

$M_n \times 10^3$	PDI
215.0	1.10
T_g ($^{\circ}C$)	177

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 (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

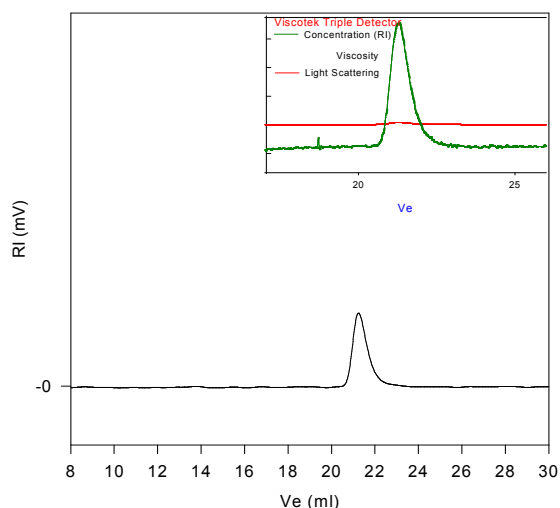
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^{\circ}C/min$. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

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:

P9099- α MeS



Size Exclusion Chromatography of polymer;

$M_n = 215,000$, $M_w = 236,000$, $M_w/M_n = 1.10$

In box Light Scattering data from Triple detectors:
 dn/dc in THF 0.185 ml/g Solution Viscosity in THF at $35^{\circ}C$: 0.718 dl/g
Radius of Gyration: 17.67 nm

DSC thermogram for the polymer:

