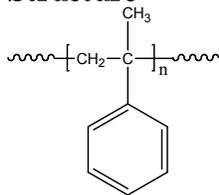


Sample Name: Poly(α -methyl styrene)

Sample #: P4878-MeS

Structure:

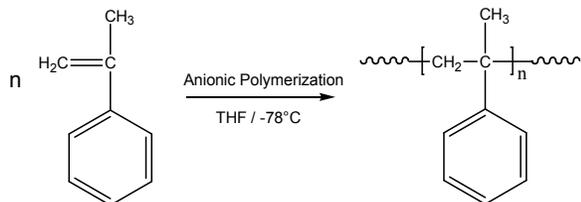


Composition:

$M_n \times 10^3$	PDI
160.0	1.04

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.

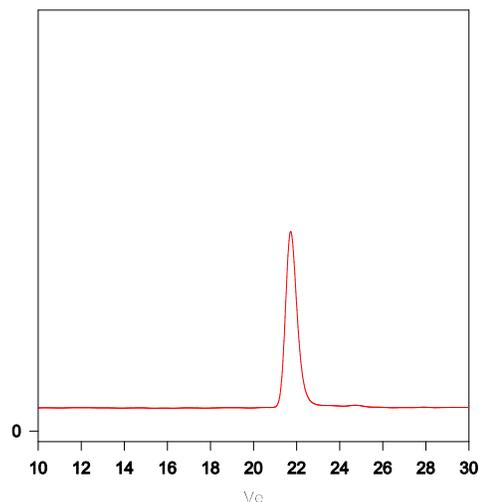
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^\circ C/min$. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

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:

P4878- α /MeS



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

$M_n=160,000$, $M_w=167000$, $M_w/M_n=1.04$
Solution viscosity in THF at $35^\circ C$: $0.673 dl/g$
Radius of Gyration: $14.94 nm$