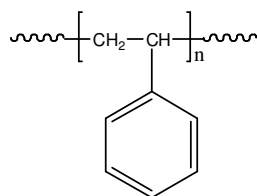


Sample Name: **Polystyrene**

Sample #: **P2814-S**

Structure:

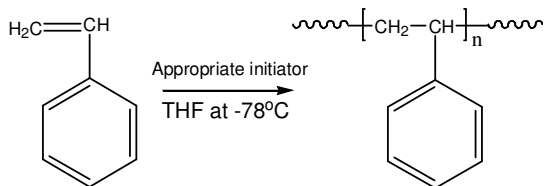


Composition:

$M_n \times 10^3$	PDI
492.0	1.10
T_g	106 °C

Synthesis procedure:

Polystyrene was obtained by living anionic polymerization of styrene as illustrated below:



Characterization:

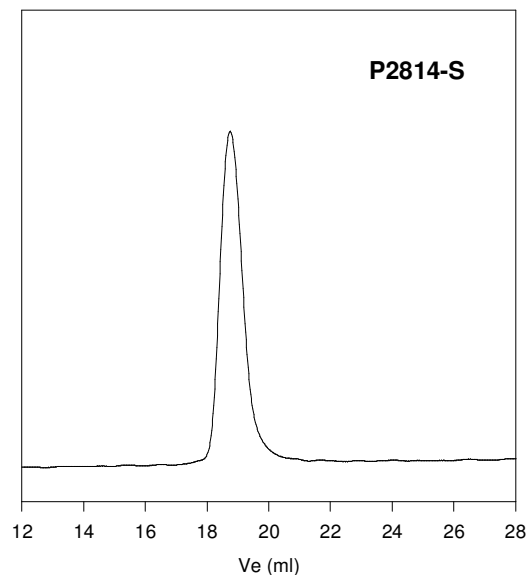
The molecular weight and polydispersity index (PDI) were obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

Thermal analysis of the sample was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T_g) has been considered.

Solubility:

Polystyrene is soluble in DMF, THF, toluene and CHCl_3 . It precipitates from methanol, ethanol, water and hexanes.

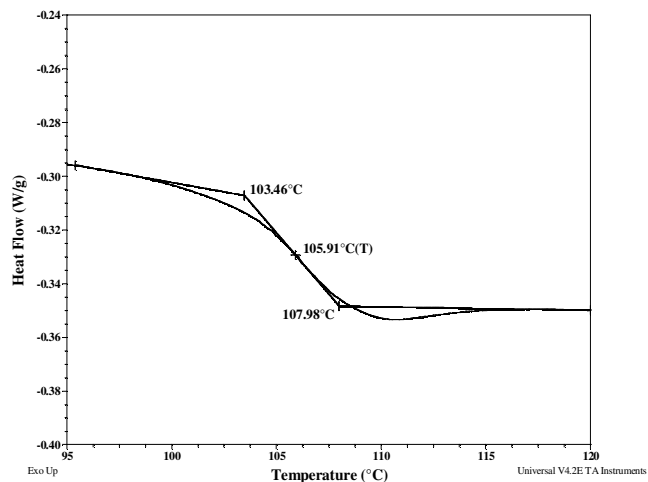
SEC elugram:



Size exclusion chromatograph of polystyrene:

$M_n=492000$ $M_w=541000$, $PI=1.10$

DSC thermogram:



T_g of polystyrene as function of molecular weight

