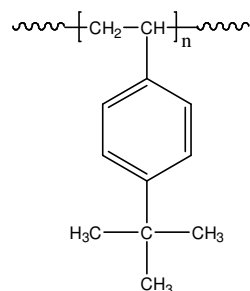


Sample Name: Poly(t-butyl styrene)

Sample #: P2687-4tBuS

**Structure:**

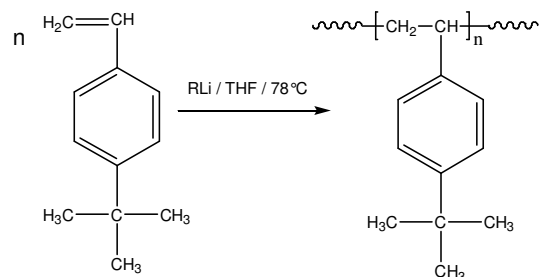


**Composition:**

$M_n \times 10^3$	PDI
1.3	1.08
$T_g$	54 °C

**Synthesis Procedure:**

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



**Characterization:**

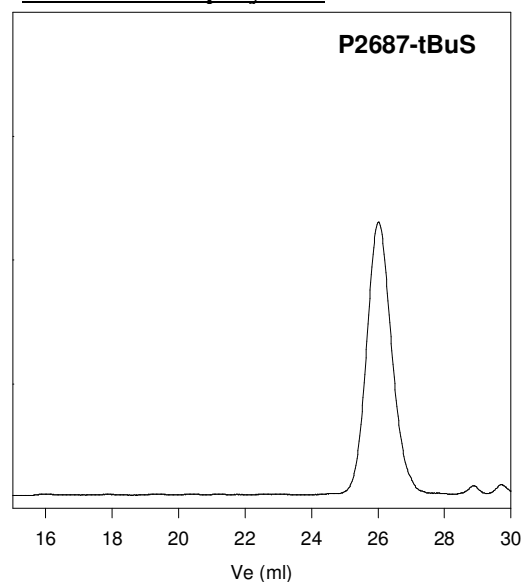
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography.

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 ( $T_g$ ).

**Solubility:**

Poly(4-t-butyl styrene) is soluble in DMF, THF, toluene and  $CHCl_3$ . It precipitates from methanol, ethanol, water and hexanes.

**SEC of Homopolymer:**



Size exclusion chromatograph of poly(p-tert-butylstyrene):  
 $M_n=1300$ ,  $M_w=1400$ ,  $PI=1.08$

**DSC thermogram for the polymer:**

