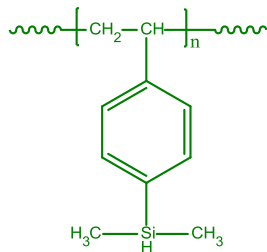


Sample Name:

**Poly(4-dimethylsilyl styrene) or [poly(4-vinylphenyl)dimethylsilane]**

Sample #: P6547-4SSiH

**Structure:**

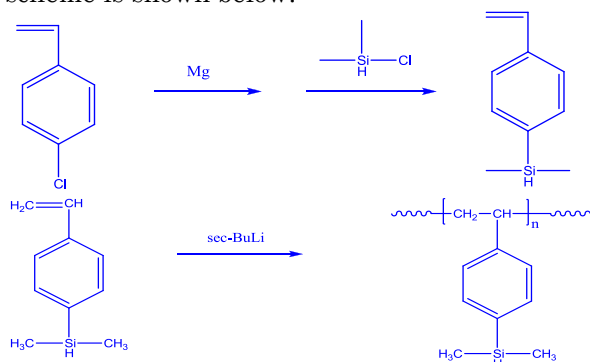


**Composition:**

$M_n \times 10^3$	PDI
21.7	1.17
$T_g$ ( $^{\circ}C$ )	97

**Synthesis Procedure:**

Poly(4-dimethylsilyl styrene) was synthesized via anionic polymerization and the reaction scheme is shown below.



**Characterization:**

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography. The chemical structure was validated by NMR.

**Thermal analysis**

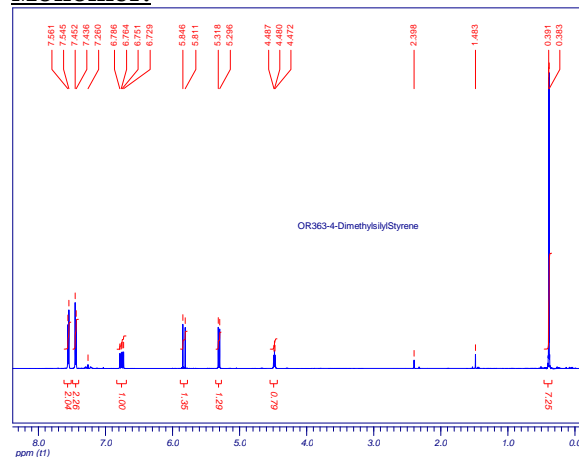
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of  $10^{\circ}C/min$ .

**Solubility:**

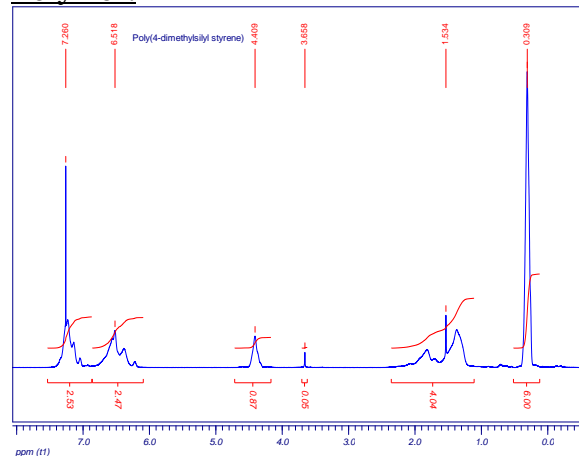
Poly(4-dimethylsilyl styrene) is soluble in DMF, THF, toluene, hexane, acetone, ether and  $CHCl_3$ . It precipitates from methanol.

**NMR of Homopolymer:**

**Monomer:**

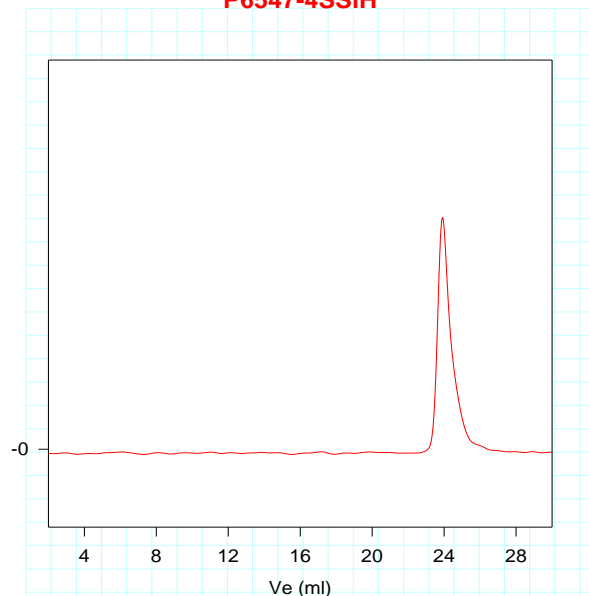


**Polymer:**



**SEC of Homopolymer:**

**P6547-4SSiH**



Size exclusion chromatograph of polymer: poly(4-dimethylsilyl styrene):

$M_n=21700$ ,  $M_w=25300$ ,  $M_w/M_n=1.17$

# DSC thermogram for the polymer:

