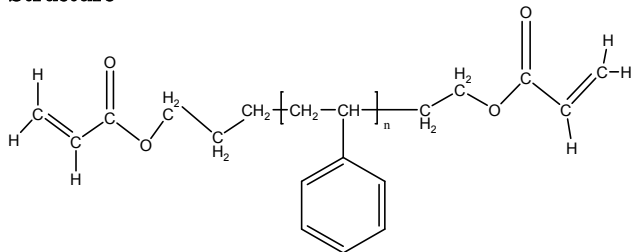
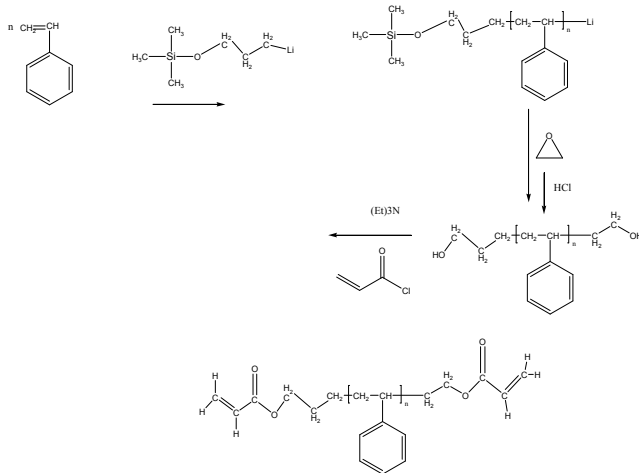


**Sample Name:** **$\alpha,\omega$ -Diacrylate end Functionalized Polystyrene****Sample #: P18109A- S2acrylate****Structure:****Composition:**

Mw x 10 <sup>3</sup>	PDI
506.0	1.18
T <sub>g</sub> (°C)	102

**Synthesis Procedure:**

$\alpha,\omega$ -Hydroxy Terminated Polystyrene was prepared by living anionic polymerization of styrene using hydroxy protected initiator followed by terminated with ethylene oxide. The OH end groups were then converted to acrylic end groups.

**Characterization:**

The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

**Thermal analysis:**

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<sub>g</sub>).

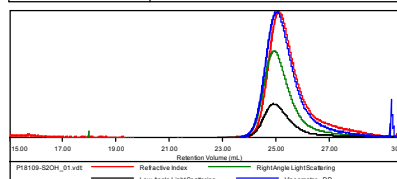
**Solubility:**

Polymer is soluble in toluene, THF, CHCl<sub>3</sub> and can be precipitated in water and, cold methanol.

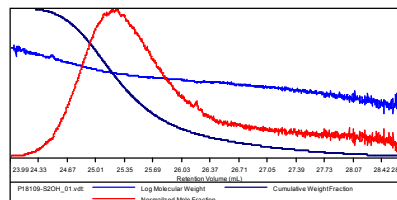
**SEC for the functional polymer:**

Sample ID: P18109-S2OH

Concentration (mg/mL)	0.9577
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-July-2013-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18109-S2OH_01.vdt	428,664	506,207	528,831	1.181	1.5281

**1H NMR of the Polymer**