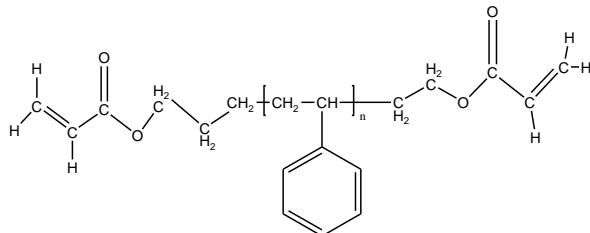


Sample Name:

$\alpha$ ,  $\omega$ -Diacrylate end Functionalized Polystyrene

Sample #: P42659B- S2acrylate

**Structure:**



**Composition:**

$M_w \times 10^3$	PDI
26.0	1.4
$T_g$ ( $^{\circ}C$ )	102

**Synthesis Procedure:**

$\alpha$ ,  $\omega$ -Hydroxy Terminated Polystyrene was prepared by living anionic polymerization of styrene using bifunctional 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.

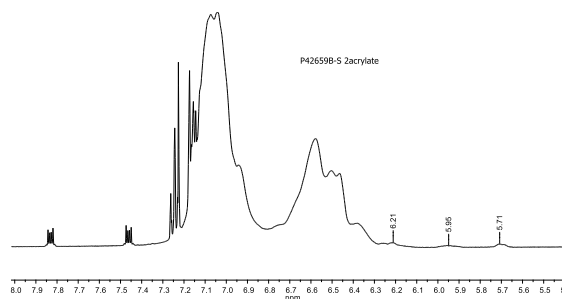
**Thermal analysis:**

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

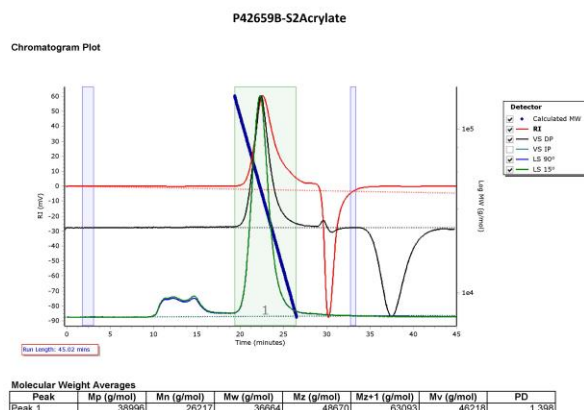
**Solubility:**

Polymer is soluble in toluene, THF,  $CHCl_3$  and can be precipitated in water and, cold methanol.

**$^1H$ -NMR spectrum of the Polymer:**



**SEC elugram of the functional polymer:**



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	30990	26217	36664	48670	63093	46218	1.398