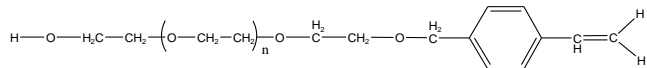


## Sample Name: $\alpha$ - Hydroxy $\omega$ -Vinyl Benzyl Terminated Poly(ethylene glycol)

Sample #: P9398-Styreomer™-OH

Structure:

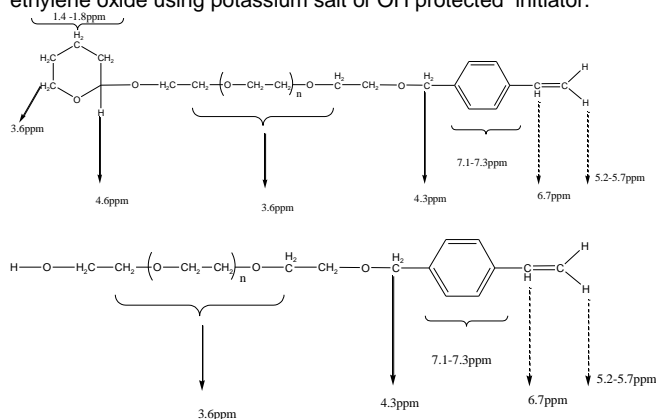


Composition:

| Mn x 10 <sup>3</sup>       | PDI   |
|----------------------------|-------|
| 5.5                        | 1.10  |
| Vinyl Benzyl Functionality | > 95% |

### Synthesis Procedure:

$\alpha$ - Hydroxy  $\omega$ - Vinyl benzyl Terminated Poly(ethylene glycol ) (Styreomer™) was prepared by anionic living polymerization of ethylene oxide using potassium salt of OH protected initiator.



### Characterization:

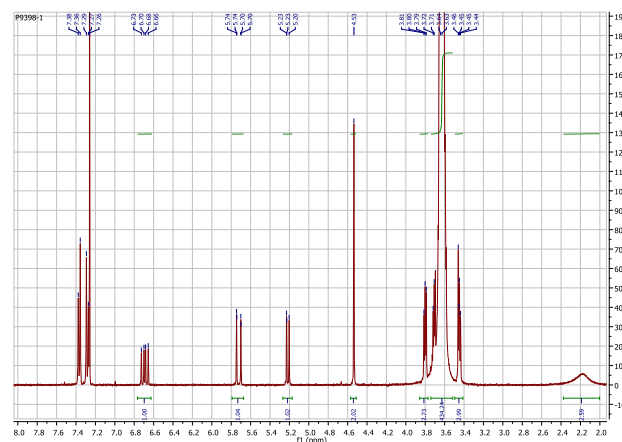
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector. Polymer functionality verified by <sup>1</sup>H-NMR spectroscopy or FT-IR.

### Purification of the obtained polymer:

Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

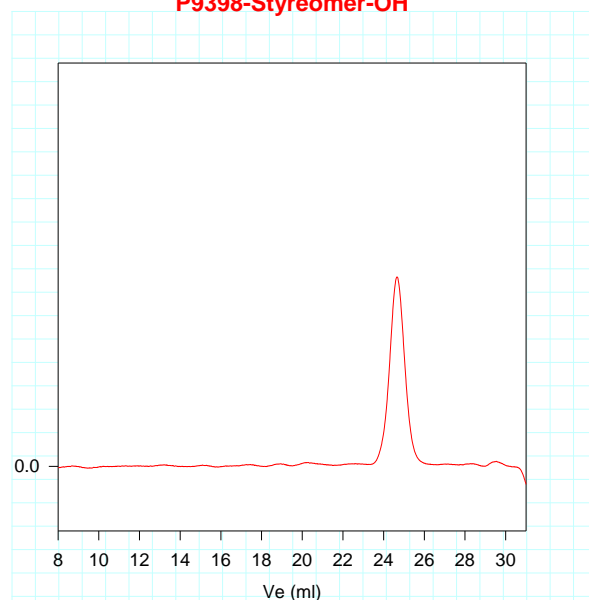
1. Dissolved the polymer in de-ionized distilled water to remove the any insoluble organic catalyst side product.
2. Polymer extracted from water with dichloromethane.
3. Polymer solution in dichloromethane was dried over anhydrous sodium sulfate.
4. Solution filtered and than passed through a column packed with basic Al<sub>2</sub>O<sub>3</sub>.
5. Solution concentrated on rota-evaporator
6. Solution precipitated in cold diethyl ether.
7. Dried under vacuum for 48h at 38°C.

### <sup>1</sup>H-NMR of OH terminated Styreomer:



### SEC of Sample:

#### P9398-Styreomer-OH



Size exclusion chromatography of vinyl benzyl terminated poly(ethylene glycol)

M<sub>n</sub>=5500, M<sub>w</sub>=6000, PI=1.10, Functionality > 95%