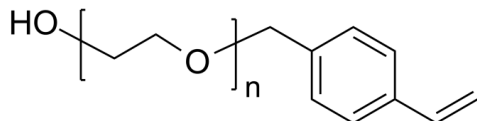


**Sample Name:**  $\alpha$ -Hydroxy  $\omega$ -Vinyl Benzyl Terminated Poly(ethylene glycol)

**Sample #:** P42902A-Styreomer-OH

**Structure:**

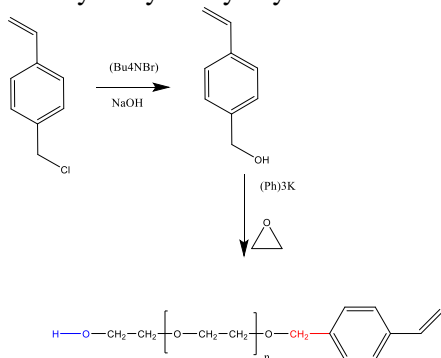


**Composition:**

$M_n \times 10^3$	PDI
3.3	1.10

**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 4-hydroxy benzyl styrene.



**Characterization:**

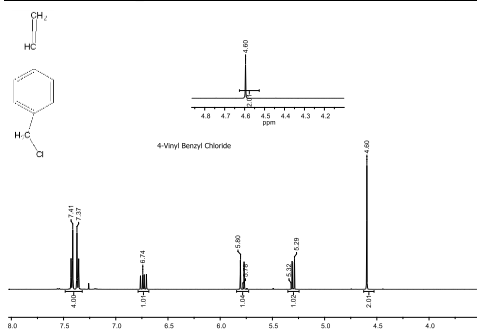
The product was characterized by size exclusion chromatography (SEC) and  $^1\text{H}$  NMR data analysis.

**Purification of the obtained polymer:**

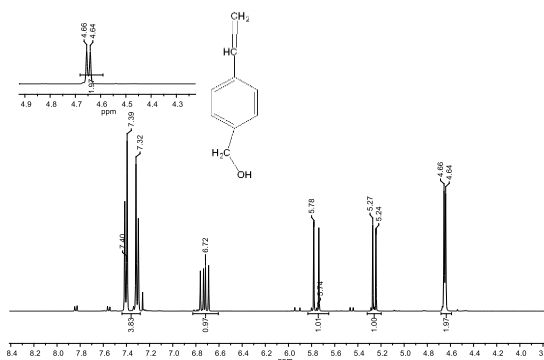
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

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  $\text{Al}_2\text{O}_3$ .
5. Solution concentrated on rota-evaporator
6. Solution precipitated in cold diethyl ether.
7. Dried under vacuum for 48h at  $38^\circ\text{C}$ .

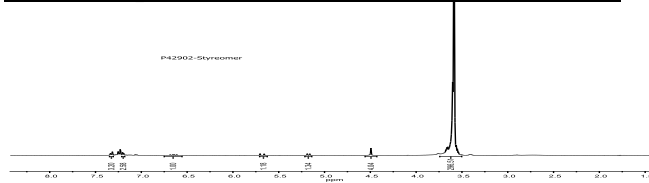
**$^1\text{H}$ -NMR spectrum of 4-Vinyl Benzyl Chloride:**



**$^1\text{H}$ -NMR spectrum of 4-Vinyl phenyl Methanol:**



**$^1\text{H}$ -NMR spectrum of OH terminated Styreomer:**



**SEC elugram of selected PEO standard Samples:**

SEC of selected Polyethylene oxide standard

