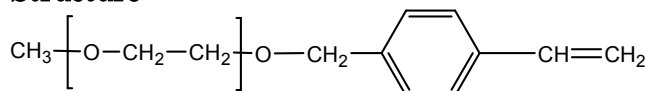


Sample Name: **Styrene Terminated**
Poly(ethylene glycol)
Sample #: **Styreomer-5K (Lot# P2156)**

Structure:

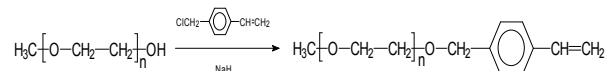


Composition:

Mn x 10 ³	PDI
5.0	1.07

Synthesis Procedure:

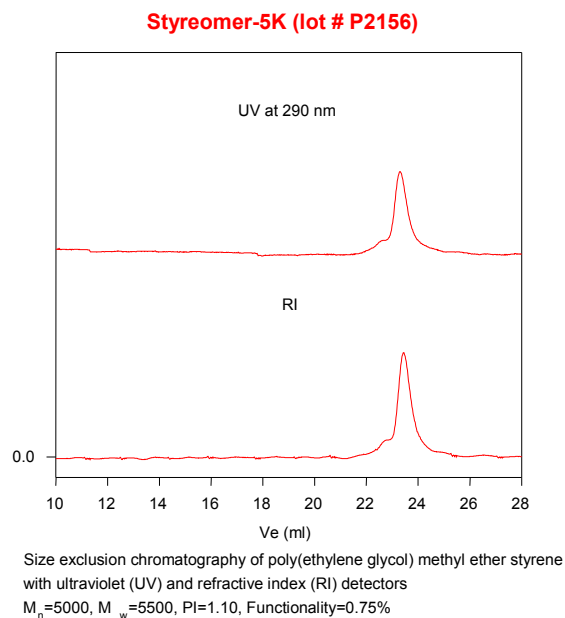
Polyethylene glycol monomethyl ether was prepared by anionic living polymerization of ethylene oxide using potassium salt of 2 methoxyl 1-propanol as initiator. Styrene terminated PEG was obtained via etherification with 4-chloromethyl styrene. The scheme of the reaction is illustrated below. The obtained polymer is called 'Styreomer'.



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 ¹H-NMR spectroscopy or FT-IR.

SEC of Sample:



Thermal analysis of the sample

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_g).

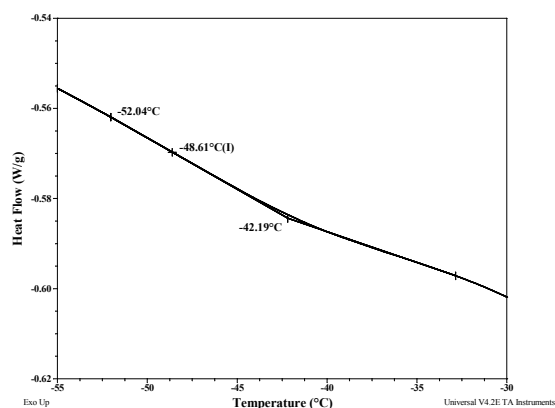
Melting and crystallization curve for the sample

The melting temperature (T_m) was taken as the maximum of the endothermic peak where as the crystallization temperature (T_c) was considered as the minimum of the exothermic peak.

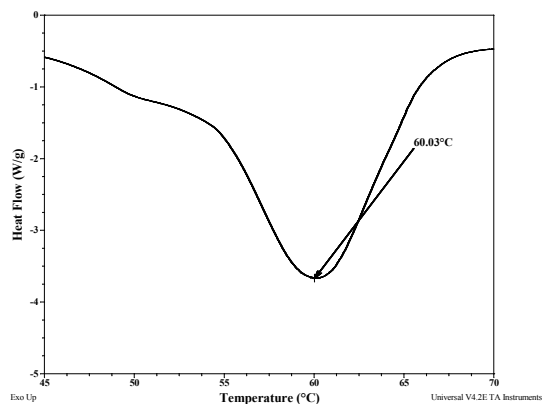
Thermal analysis results at a glance

T _m (°C)	T _c (°C)	T _g (°C)
60	38	-49

Thermogram of EO



Melting curve for EO



Crystallization curve for the sample:

