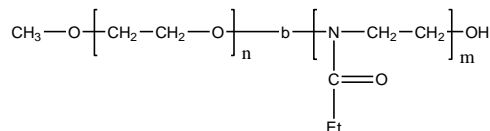


Sample Name: Poly(ethylene oxide -b- 2-ethyl oxazoline)

Sample #: P7406-EOEOXZ

Structure:

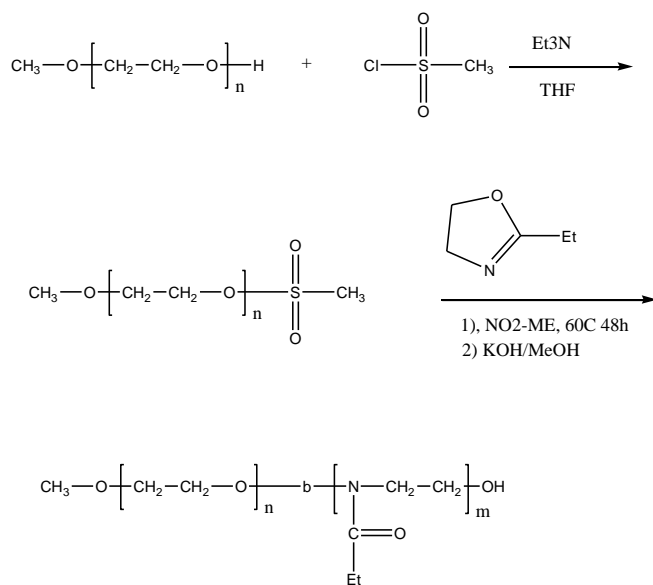


Composition:

Mn x 10 ³ PEO-b-PEOXZ (k)	PDI
1.1-b-3.3	1.5

Synthesis Procedure:

The polymer is prepared as followed scheme:



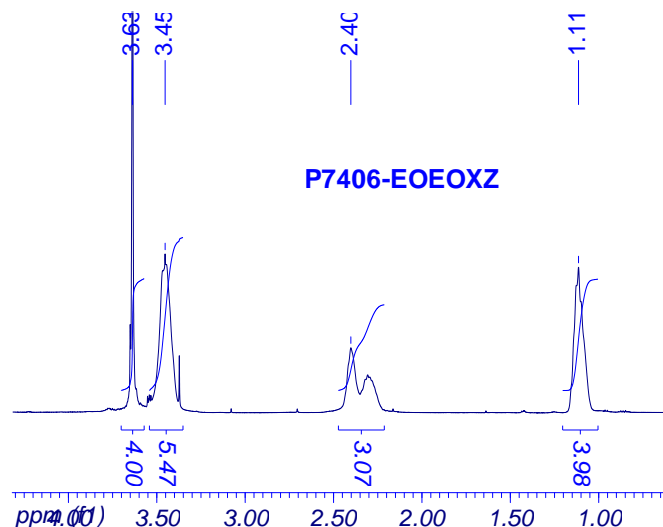
Characterization:

The Mn is calculated from NMR by comparing the peak area of the ethylene glycol protons at 3.64 ppm and CH3 in ethyl oxazoline at about 1.12 ppm and polydispersity index (PDI) is obtained by size exclusion chromatography.

Solubility:

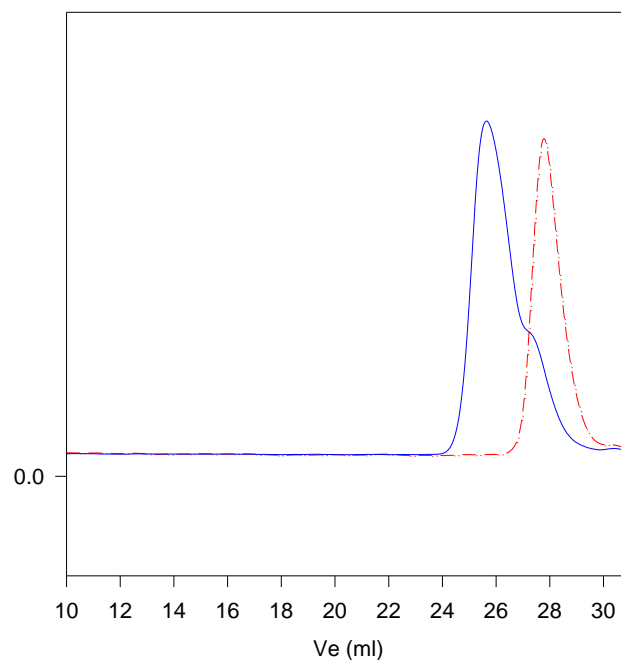
The polymer is soluble in MeOH, water, CHCl₃ and precipitated in hexane and ether.

¹H-NMR Spectrum of the block copolymer:



SEC of the block copolymer:

P7406-EOEOXZ



Size exclusion chromatography of the polymer

--- PEO, M_n=1100, M_w=1200, Mw/Mn=1.1

— Poly(ethylene oxide-b-ethyl oxazoline)

Mn: PEO(1100)-b-EOXZ(3300) Mw/Mn=1.5

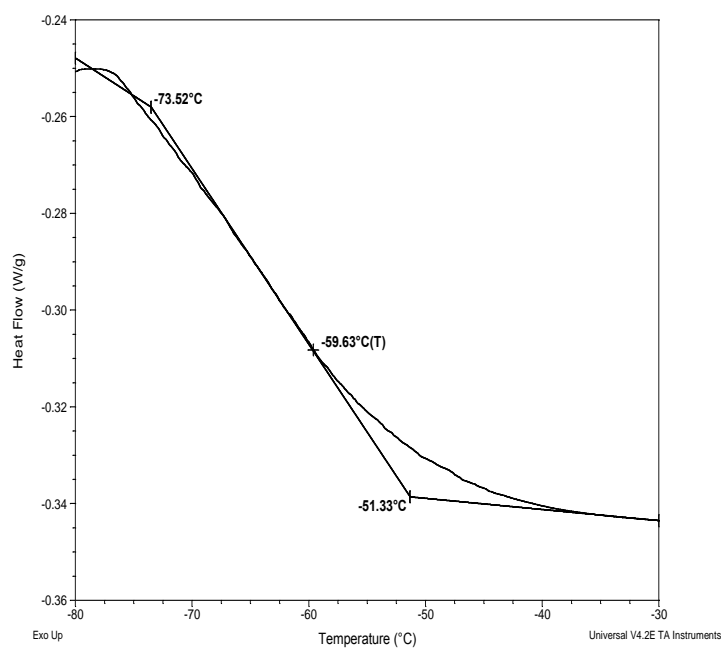
Thermal analysis of the sample# P7406-EOEOXZ

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 20°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).

Thermal analysis results at a glance

For PLA block		
T_g : Not distinct	T_m : Not found	T_c : Not found
For PEO block		
T_g : -60°C	T_m : 43°C	T_c : 32°C

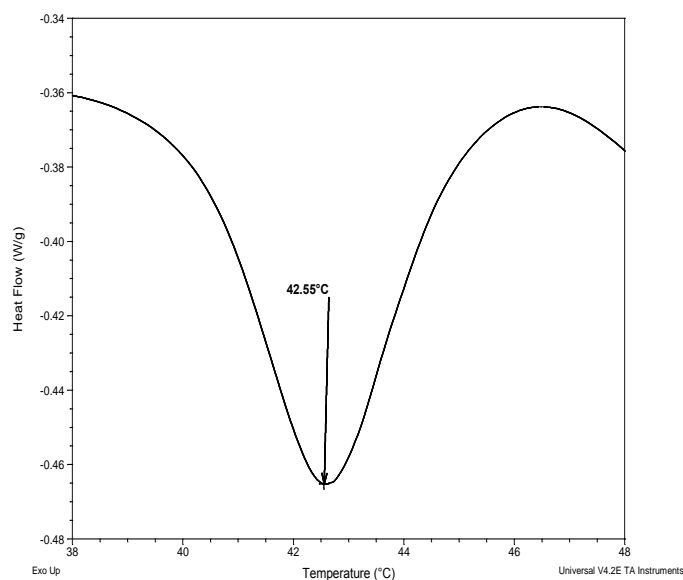
Thermogram for PEO block:



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.

Melting curve for PEO block



Crystallization curve For PLA block

