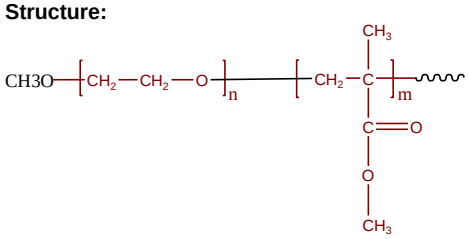
Sample Name:

Poly(ethylene oxide-b-methylmethacrylate)

Sample #: **P7356-EOMMA**

Structure:

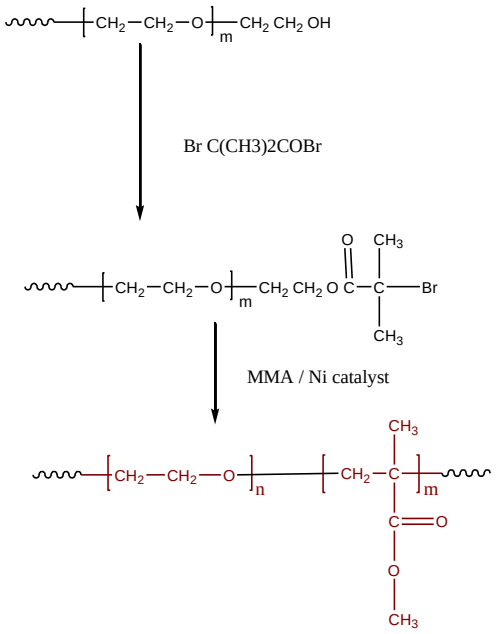


Composition:

Mn x 10^3 PEO-b-MMA	PDI
5.0-b-4.0	1.2

Synthesis Procedure:

Poly(Ethylene oxide-methylmethacryale)) is prepared as the scheme below:



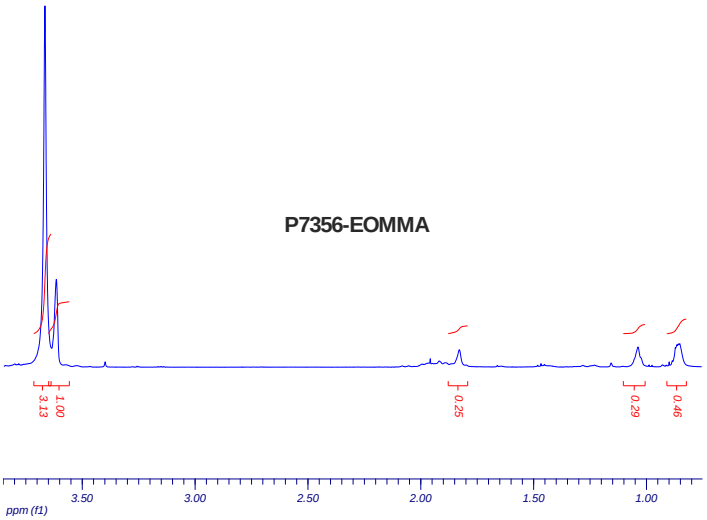
Characterization:

Polymer composition was determined by H NMR taking the integration of PEG block at 3.6 ppm and methyl ester of PMMA block at 3.5 pmm. Molecular weights of the first block and the Mw/Mn of the final and the first block was determined by SEC in THF.

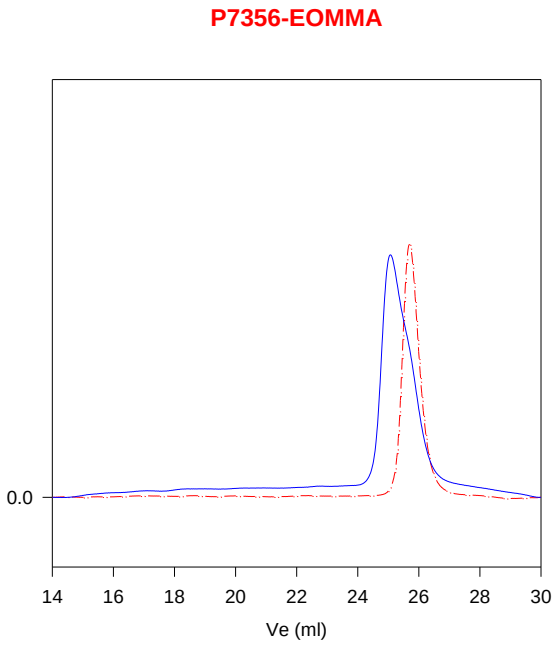
Solubility:

Poly(ethylene oxide -b- MMA) is soluble in CHCl3, THF, toluene. The polymer precipitated out from hexane.

^{1}H-NMR Spectrum of the block copolymer:



SEC of the block copolymer:



Size exclusion chromatography of poly(ethylene oxide-b-methyl methacrylate)

PEO, M_n=5000, M_w=5200, Mw/Mn=1.05

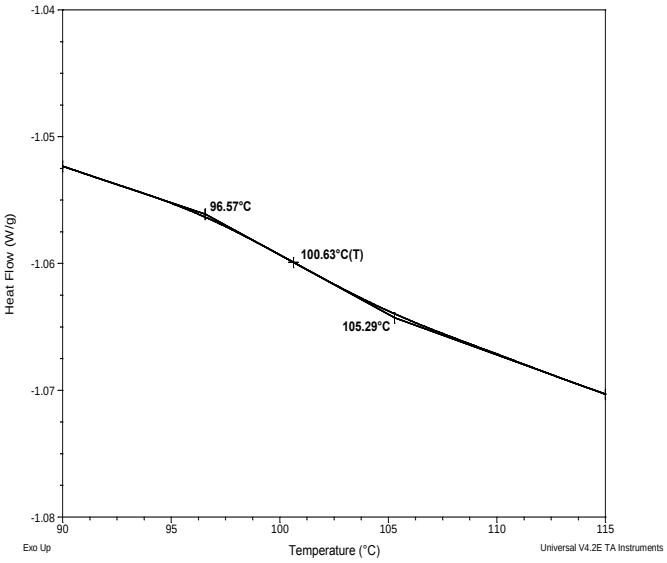
Poly(ethylene oxide-b-methyl methacrylate)

Mn: PEO(5000)-b-MMA(4000) Mw/Mn=1.2

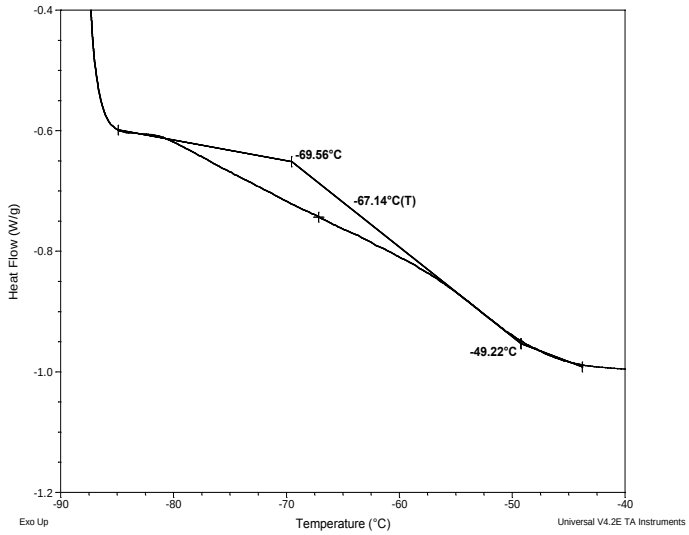
Thermal analysis of the sample# P8065-EOMMA

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

Thermogram for the MMA block



Thermogram for the PEO block



Thermal analysis results at a glance

For PMMA block		
T_g: 101^{o}C	T_m: -	T_c: -
For PEO block		
T_g: -67 ^{o}C	T_m: 48^{o}C	T_c: Not observed