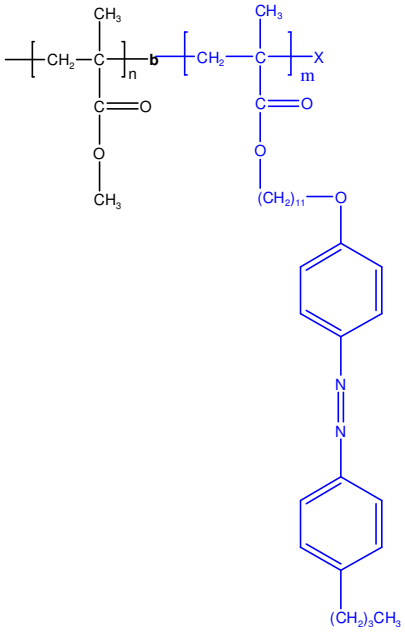
Sample Name: **Poly(Methylmethacreylate-b-AzoMA)**
AzoMA=11-[4-(4-butylphenylazo)phenoxy]-undecyl methacrylate)

Sample #: **P5853-MMAAzoMA**

Structure:

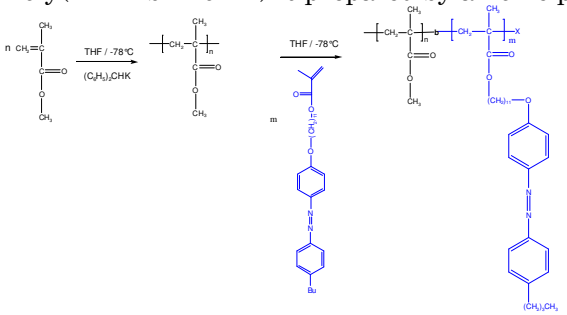


Composition:

Mn x 10^3 PMMA-b-PAzoMA	PDI
9.0-b-2.0	1.2

Synthesis Procedure:

Poly(MMA-b-AzoMA) is prepared by anionic process:



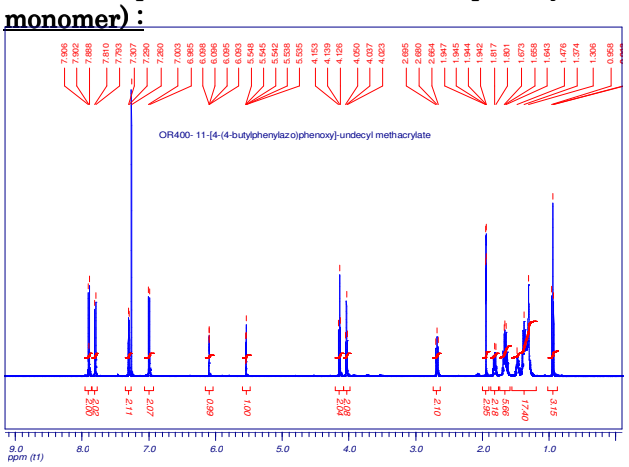
Characterization:

Block c9polymer were analyzed by size exclusion chromatography (SEC) to obtain the molecular weight The final block copolymer composition was calculated from ^{1}H-NMR spectroscopy.

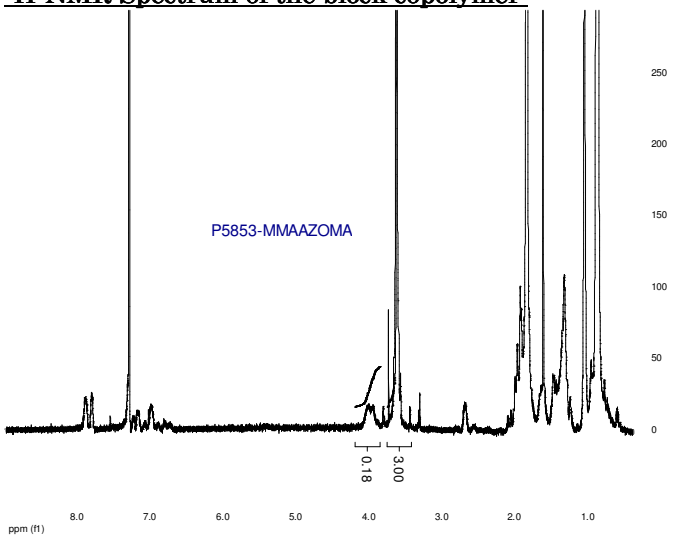
Solubility:

Poly(MMA-b-AzoMA) is soluble in THF, acetone, and chloroform and it precipitates out in hexane or cold methanol.

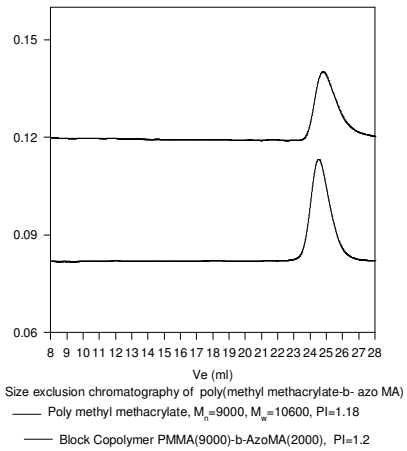
^{1}H-NMR Spectrum of the Azo-MA (Liquid crystalline monomer) :



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



P5853-MMAAZOMA



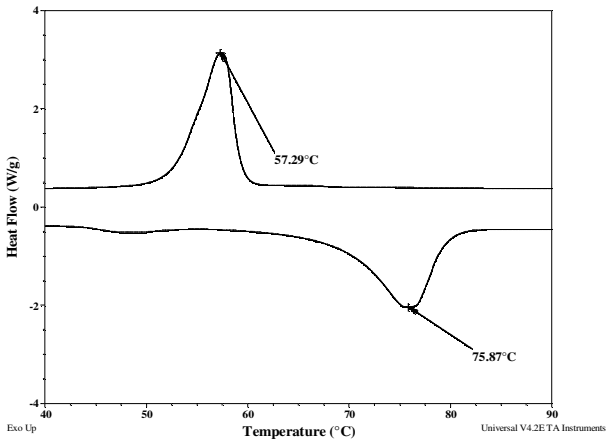
Thermal analysis for sample#P5853-MMAzoMA

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.

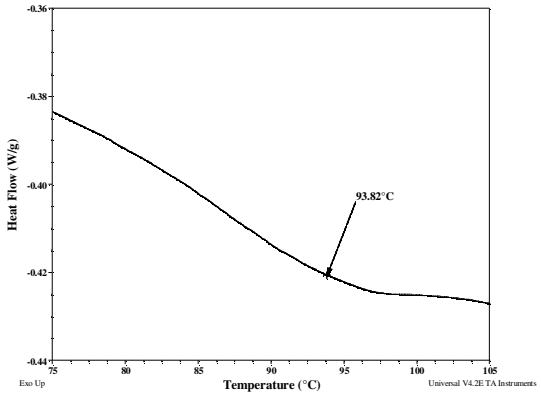
Thermograms for AzoMA monomer:



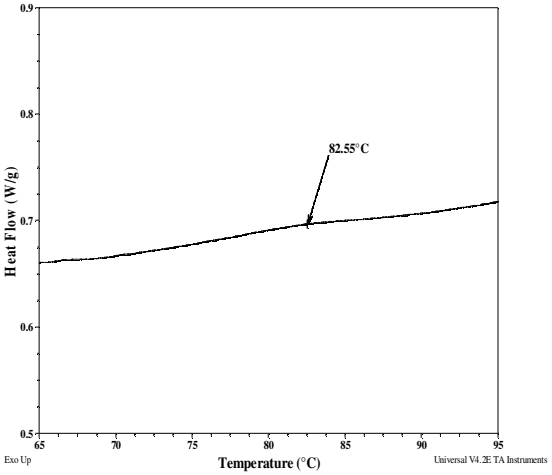
Thermal analysis results at a glance

Sample	T_m (°C)	T_c (°C)	T_g (°C)
AzoMA monomer	76	57	
PAzoMA:	83	94	-
MMA block:	-	-	114

Melting curve for AzoMA block:



Crystallization peak for AzoMA block:



Thermogram for MMA block: