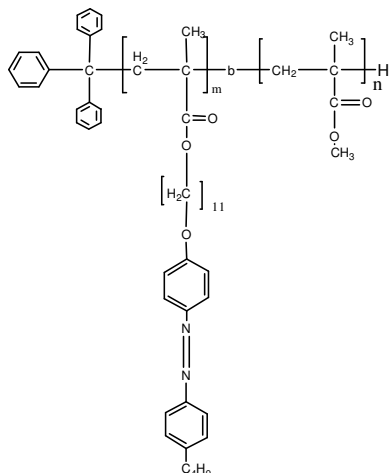


Sample Name: Poly(AzoMA -b-)Methylmethacrylate

AzoMA=11-[4-(4-butylphenylazo)phenoxy]-undecyl methacrylate)

Sample #: P9487-AzoMAMMA

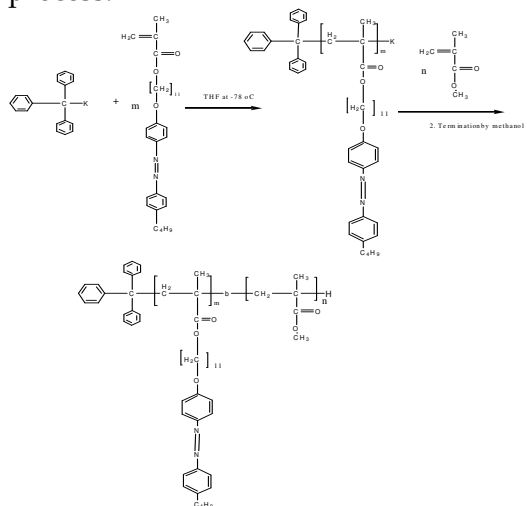
Structure:



Composition:

Mn x 10 ³	PDI
PAzoMA-MMA	
11.0-b-42.0	1.08

Synthesis Procedure: In this lot AZOMA was polymerized first than MMA monomer Poly(MMA-b-AzoMA) is prepared by anionic process:



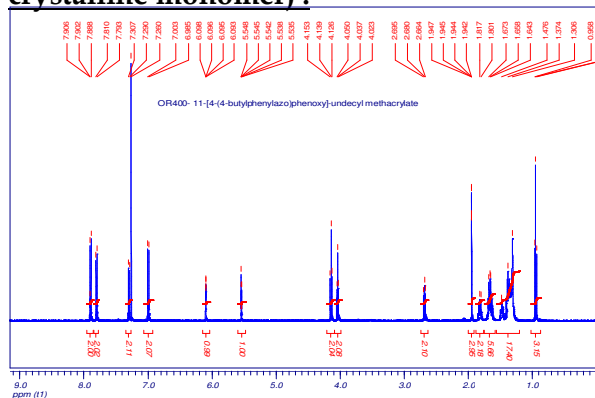
Characterization:

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

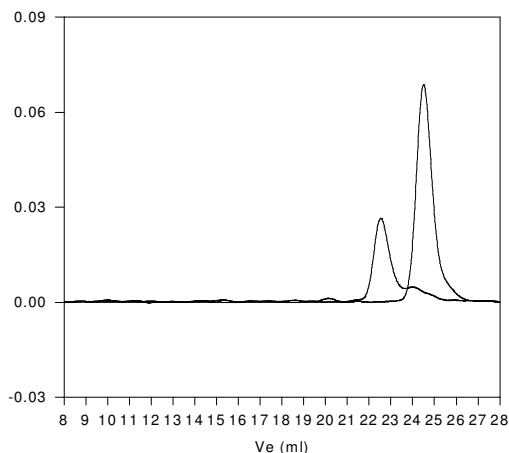
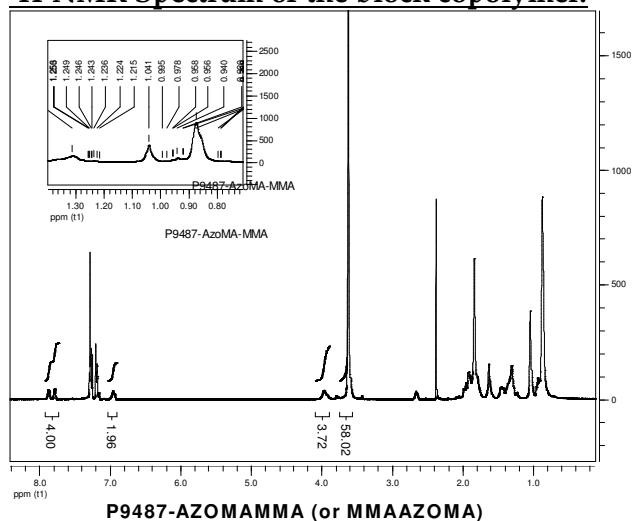
Solubility:

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

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



¹H-NMR Spectrum of the block copolymer:



Size exclusion chromatography of poly(methyl methacrylate-b- azo MA)
 — Poly Azo methacrylate, $M_n=11000$, $M_w=12000$, $PI=1.10$
 — Block Copolymer PAZOMA(11000)-b-MMA(42000), $PI=1.08$

Thermal analysis of the sample# P9487- AzoMAMMA

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).

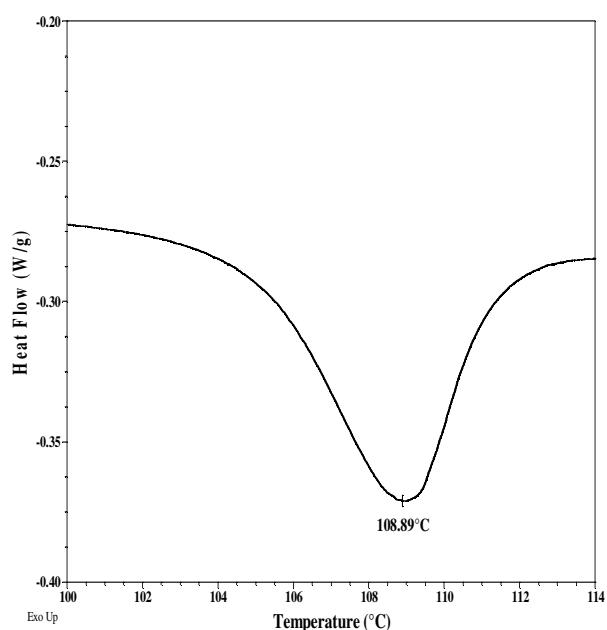
Melting and crystallization curve for the sample

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.

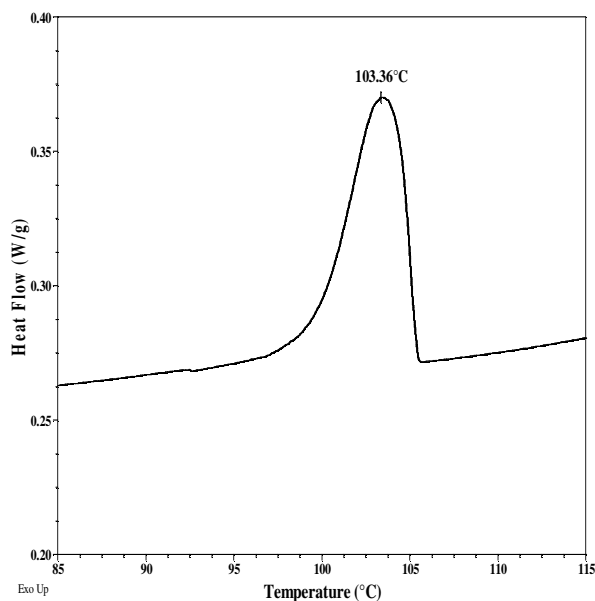
Thermal analysis results at a glance

Sample	T_m (°C)	T_c (°C)	T_g (°C)
AzoMA (6.5k homo)	53/93	48/92	
AzoMA in FESAzoMA	109	103	-
MMA Block			127

Melting curves for AzoMA block



Crystallization curve for AzoMA block



DSC thermogram for the MMA block:

