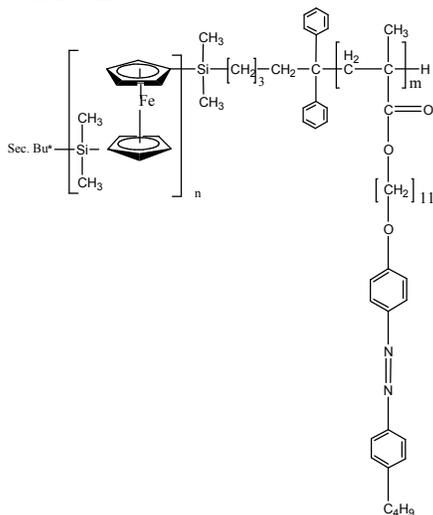


**Sample Name:**  
**Poly(ferrocenyldimethylsilane-b-11-(4-4-butylphenylazo)phenoxy)-undecyl methacrylate)**

**Sample #:** P9425B-FESAzoMA  
**Structure:**



**Composition:**

$M_n \times 10^3$ FES-b-AZoMA	$M_w/M_n$ (PDI)
7.0-b-90.0	1.5

**Synthesis Procedure:**

This particular lot is synthesized by Controlled radical process using OH terminated FES prepolymer.

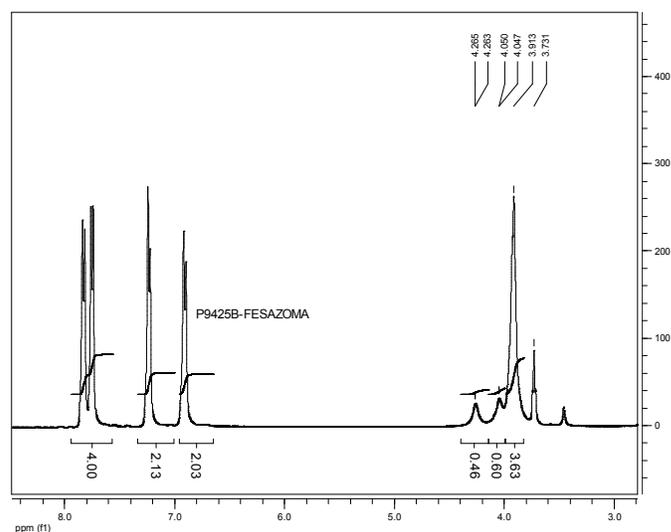
**Characterization:**

Polymer is analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from  $^1\text{H-NMR}$  spectroscopy by comparing the peak area of the phenyl protons at 6.3-7.2 ppm with the peak area of  $\text{Si}(\text{CH}_3)$  at 0.2ppm or Ferrocene protons at 4.0 and 4.2ppm.

**Solubility:**

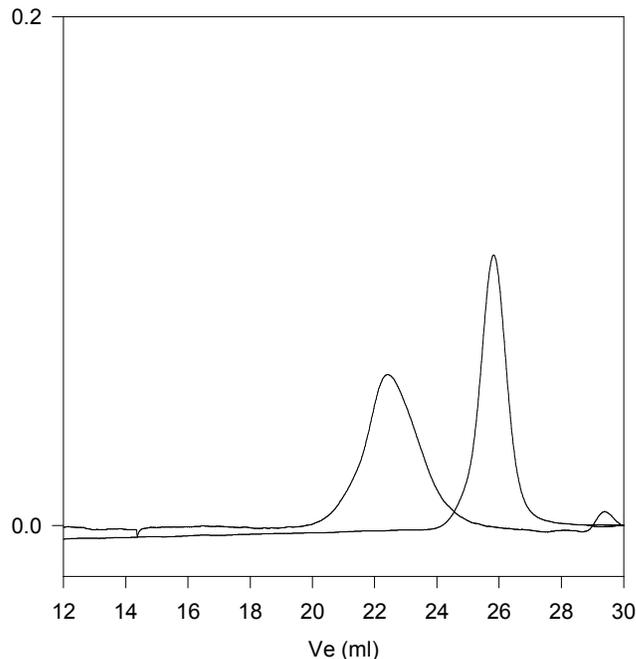
Polymer is soluble in THF,  $\text{CHCl}_3$ , toluene and precipitate out from ether and hexanes.

$^1\text{H}$  NMR spectrum of the sample



**SEC profile of the block copolymer**

**P9425B-FESAzoMA**



SEC profile of the Block copolymer:

— Poly FES,  $M_n=7000$ ,  $M_w=7700$ ,  $PI=1.10$

— Diblock Copolymer FES(7,000)-b-PAzoMA(90,000),  $PI=1.5$

## Thermal analysis of the sample# P9425B-FESAzoMA

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 ( $T_g$ ).

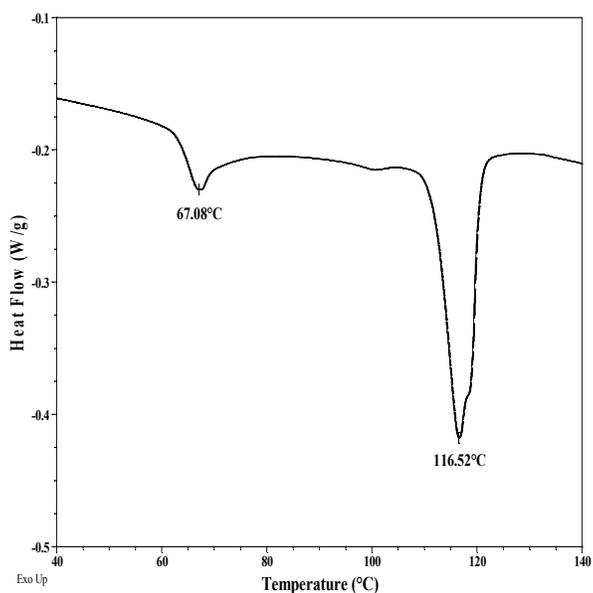
### Melting and crystallization curve for the sample

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.

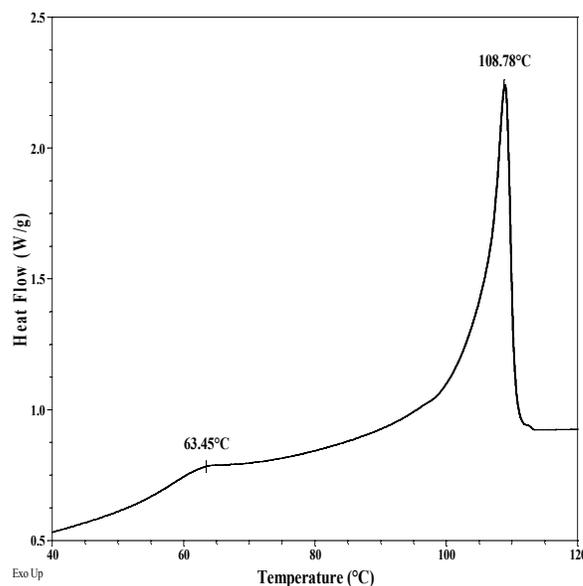
### Thermal analysis results at a glance

Sample	$T_m$ (°C)	$T_c$ (°C)	$T_g$ (°C)
FES (4.5k homo)	26.3		
AzoMA (6.5k homo)	53/93	48/92	-
AzoMA in FESAzoMA	67/117	63/109	-

### Melting curves for AzoMA block in FESAzoMA



### Crystallization curve for AzoMA block in the diblock



### Melting curve for FES homo polymer

