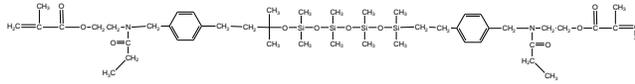


Sample Name:

Methacrylate end functionalized Poly(2-ethylloxazoline-b-dimethylsiloxane-b-2-ethylloxazoline) Triblock Copolymer

Sample #: P9177-MAEtOXZDMSEtOXZMA

Structure:



Composition:

Mn x 10 ³	PDI
1.4-b-4.0-b-1.4	1.3
Dp of each units: (14-b-54-b-14)	

Synthesis Procedure:

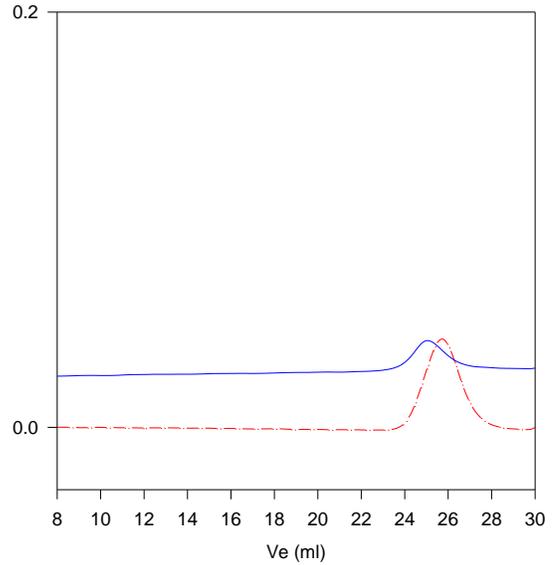
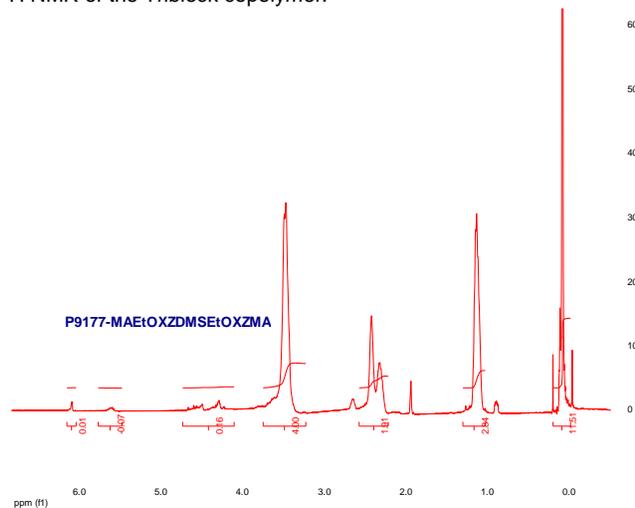
The α - ω dihydroxy terminated Poly(2-ethylloxazoline-b-dimethylsiloxane-b-2-ethylloxazoline) triblock copolymer was prepared by combination of anionic living polymerization of hexamethylcyclotrisiloxane (D3) and cationic polymerization of 2-ethyl oxazoline, using difunctional initiator. Polymer was treated with equivalent amount of end functional moieties with methacrylic acid/(Et)3N. Polymer was recovered in cold acetone, wash couple of times with cold acetone to remove the unreacted any trace amount of monomer.

Characterization:

Central Block: Size exclusion chromatography (SEC):

Varian liquid chromatograph equipped with UV and refractive detector. SEC columns from Supelco were used with THF. The chemical composition was extracted from proton NMR, which was recorded from Varian 500MHz instrument using CDCl₃ as solvent.

H NMR of the Triblock copolymer:



Size exclusion chromatography of the polymer

- Polydimethyl siloxane disilanol M_n=4000, M_w=5400, Mw/Mn=1.3
- Poly(ethylloxazoline-b-dimethyl siloxane-b-ethyl oxazoline)
- Mn: PEtOXZ(1400)-b-PDMS(4000)-b-PEtOXZ(1400) Mw/Mn=1.3

FTIR Spectra of the Products;

1. PDMS α - ω -disilanol terminated.
2. PDMS- α - ω - dibenzyl chloride terminated PDMS
3. EtOXZ-DMS-EtOXZ triblock copolymer End Functionalized with metacrylate:
4. FTIR shows the presence of C=C at 1560cm⁻¹

