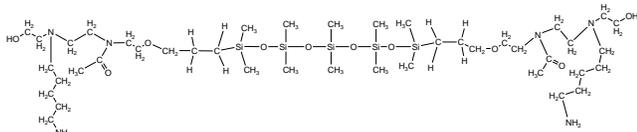


Sample Name: Amino end functionalized Poly(2-methyloxazoline-b-dimethylsiloxane-b-2-methyloxazoline) Triblock Copolymer

Sample #: P11427D-NH2MOXZDMSMOXZNH2

Structure:



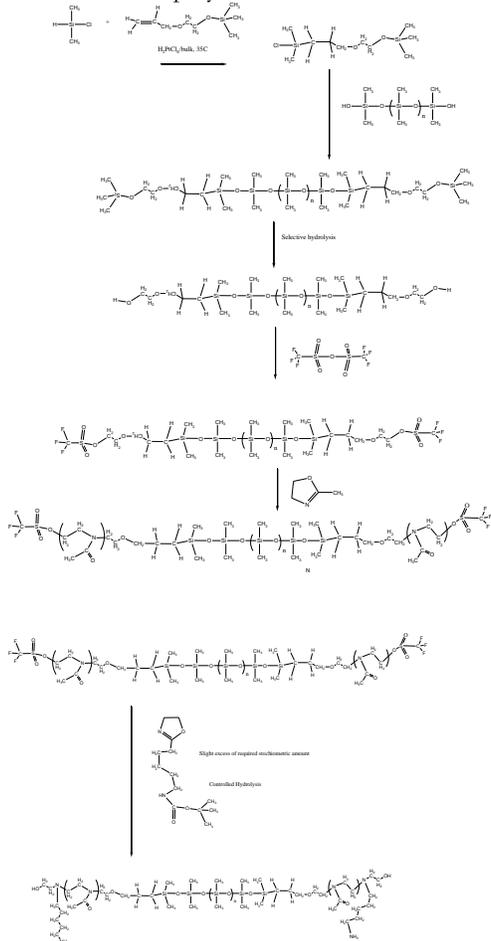
Composition:

$M_n \times 10^3$	PDI
1.0 -b- 5.0 -b- 1.0	1.4

Synthesis Procedure:

The α,ω -diamino terminated Poly(2-methyloxazoline-b-dimethylsiloxane-b-2-methyloxazoline) triblock copolymer was prepared by combination of anionic living polymerization of hexamethylcyclotrisiloxane (D3) and cationic polymerization of 2-methyl oxazoline, using difunctional initiator followed by termination of stoichiometric amount of 2-(N-Boc-aminopentyl)-2-oxazoline. The BOC Amino termination was hydrolyzed selectively without destroying the poly dimethyl siloxane chain. Polymer was recovered in cold acetone, washed a couple of times with cold acetone to remove the unreacted monomer and other side products.

The reaction of polymerization can be illustrated as follows:



Deprotection of Amino BOC to free NH₂ group:

Because of the presence of PDMS block, the deprotection of BOC-Amino can not be carried out in acidic conditions. PDMS block can be destroyed under acidic conditions. It was carried out under basic conditions using Cs₂CO₃/imidazole conditions and it was checked after deprotection by FT-IR and by SEC analysis illustrating no degradation of PDMS block.

¹H NMR of the Polymer:

