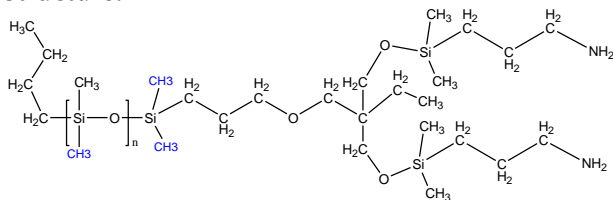


## Mono diamino Terminated Polydimethylsiloxane-Monofunctional

---

**Structure:**

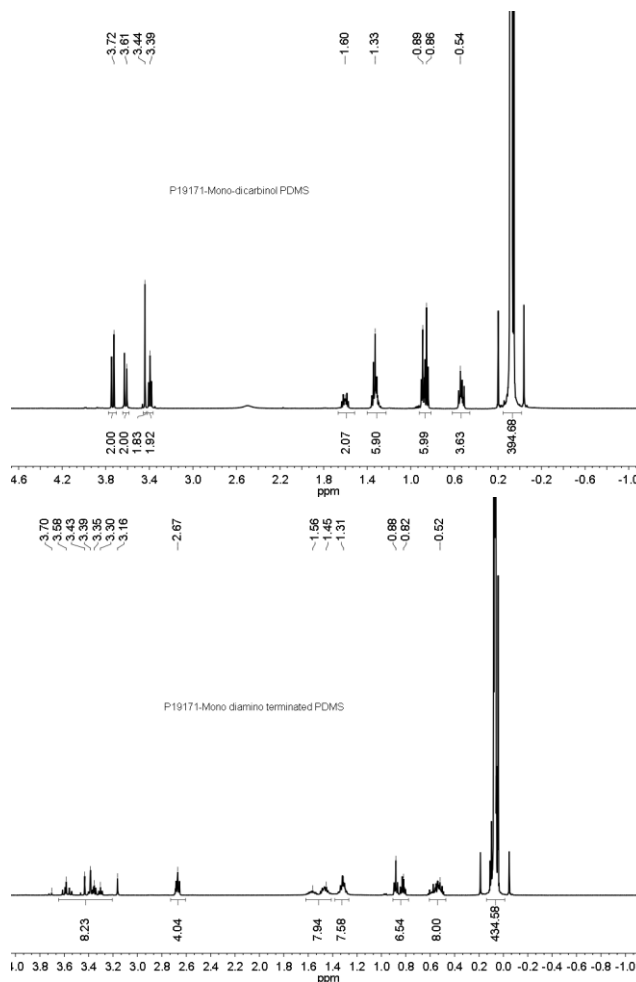
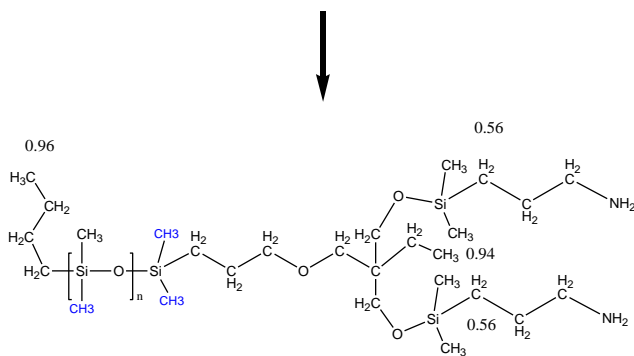


Mn x 10 <sup>3</sup>	PDI
5.0	1.07
NH2 functionality	> 99%

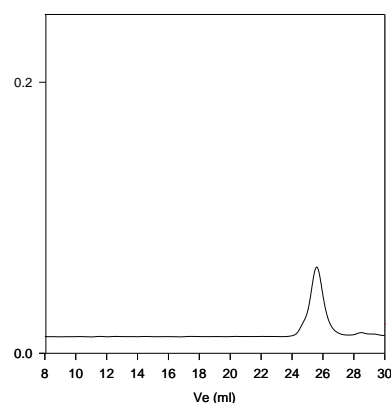
Mono diamino (monochelic) terminated poly(dimethyl siloxane) was prepared by living anionic polymerization of hexamethyl cyclotrisiloxane.

The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

The chemical structure shows a central siloxane repeat unit,  $[-Si(CH_3)_2-O-]_n$ , with two methyl groups highlighted in blue. Attached to one of the silicon atoms is a 2,2,4,4-tetramethyl-1,3-dioxane-5,6-diol side chain. The carbon atoms in this side chain are labeled with their  $^{13}C$  NMR chemical shifts in ppm: 0.90 for the methyl carbons of the gem-dimethyl groups, 1.3 for the methylene carbons adjacent to the methyl groups, 0.56 for the methylene carbons adjacent to the oxygen atoms, 1.6 for the central methylene carbons, 3.46 and 3.56 for the methylene carbons adjacent to the ether oxygens, and 3.45 for the methylene carbons adjacent to the hydroxyl groups. The hydroxyl groups are also labeled with 1.3 ppm. The other silicon atom in the repeat unit is substituted with two methyl groups, one of which is highlighted in blue and labeled with 0.90 ppm.



P19171-DMS mono 2OH (carbinol)used for  
DMS2NH2



Size exclusion chromatography of mono dicarbinol terminated polydimethylsiloxane

..... Polydimethylsiloxane  $M_n=5000$ ,  $M_w=5300$ ,  $PI=1.07$

J.X. Zhang, S.K. Varshney, "Simple Approach for the Scale-up Production of Block Copolymer of Polydimethylsiloxane with (Meth)acrylic Ester Monomers" *Designed Monomers and Polymers*, 2002, 1, 79.