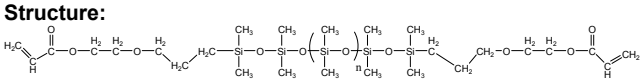
Sample Name:

α—ω diacrylate terminated Poly(dimethyl siloxane)

Sample #: **P8621A-DMS2Acrylate**

Structure:



Composition:

Mn x 10^3	PDI
3.0	1.4

Synthesis Procedure:

α—ω dicarbinol terminated Poly(dimethyl siloxane) was prepared as described in our paper. This was reacted with acryloyl chloride in THF in the presence of (Et)3N. Polymer was purified after passing through the column packed with silica , eluent CHCl3.

Ref: 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

Characterization:

By Size exclusion chromatography (SEC): Varian liquid chromatograph equipped with UV and refractive detector. SEC columns from Supelco were used with THF containing 2 vol% $(Et)_3N$ as the eluent. The molecular weights were determined using light scattering detector and viscosity detector. The molecular weights and the polydispersity indice were calculated.

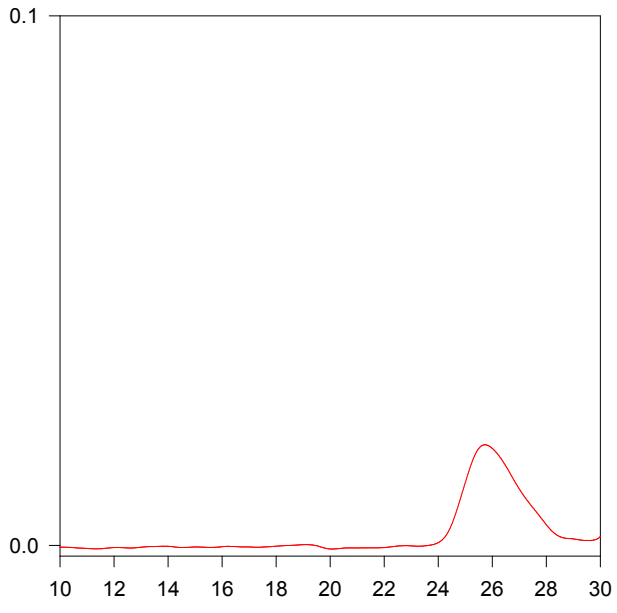
Functionality: Functionality of the polymer was determined by H NMR analysis. It was found over 90% by comparing CH2 –OCO at 4.3ppm with respect to the siloxane and about 75% with respect to the terminal acrylate unsaturated double bonds.

Solubility:

Polymer is soluble in $CHCl_3$, THF. It is precipitated out from cold ethanol, isopropanol.

SEC of Sample:

P8621A-DMS2acrylate



Size exclusion chromatography of functionalized PDMS:

M_n=3000 M_w=4200 PI=1.4 H NMR functionality (over 90%)

HNMR of the product: