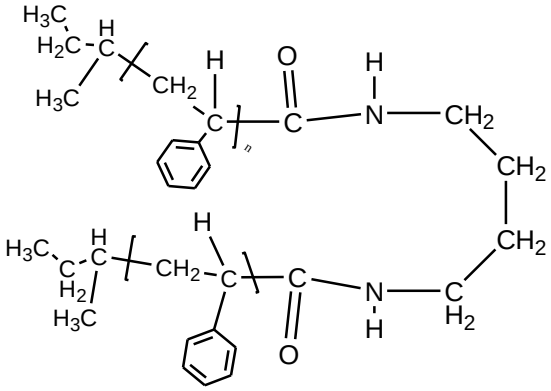
Sample Name: **Polystyrene bearing diamino unit in the middle of polymer chain**
Sample #: **P18874-SDAS**

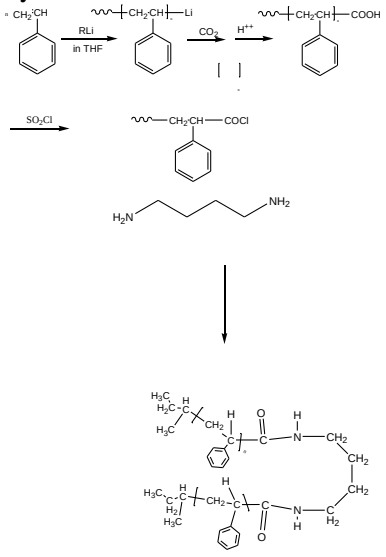
Structure:



Composition:

Mn x 10^3	PDI
4.0	1.28
Functionality %	98

Synthesis Procedure:



Characterization:

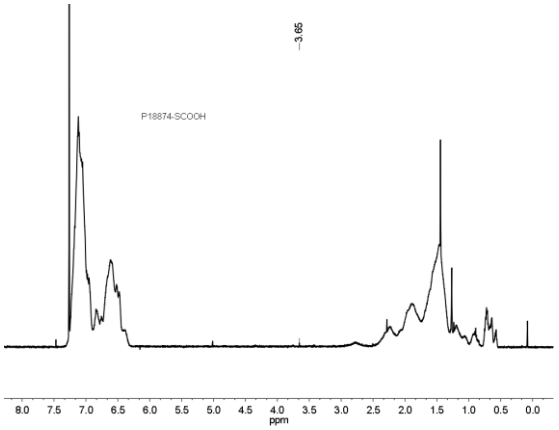
The molecular weight and polydispersity index of this polymer were determined before addition of the CO_2H function, by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector. Polymer functionality was determined by titration with NaOH using phenolphthalein as the indicator.

Solubility:

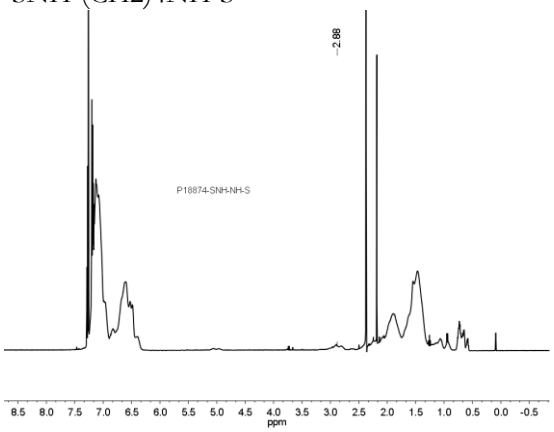
Polymer is soluble in toluene, THF, $CHCl_3$ and can be precipitated in water and cold methanol.

H NMR:

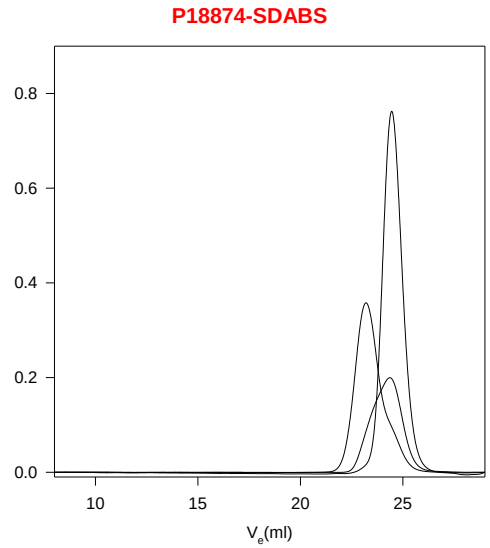
1. SCOOH:



2. SNH-(CH2)4NH-S



SEC of Sample:



Size exclusion chromatography of polymer in THf at 30 oC

1. PS-COOH Mn =2,300 Mw: 2,400 Mw/Mn:1.04
2. PS-NH2 (terminated with diamino butane) Mn 2300
Contain about 10% dimer
3. PS-DAB-PS: unit of diamino butane in the midle of polymer chain