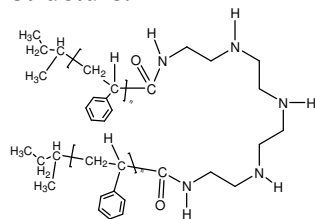



Sample Name: Polystyrene bearing Pent ethyl Hexamine unit in the middle of polymer chain

Sample #: P18881A-S 2PEHA

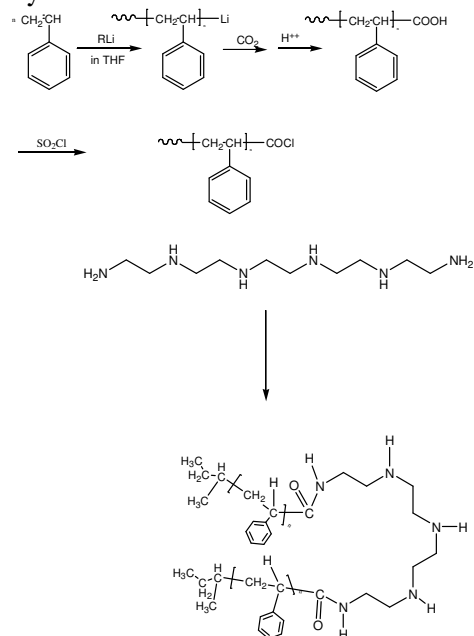
Structure:



Composition:

Mn x 10 ³	PDI
4.0	1.35
Functionality %	80
	about 10%

Synthesis Procedure:



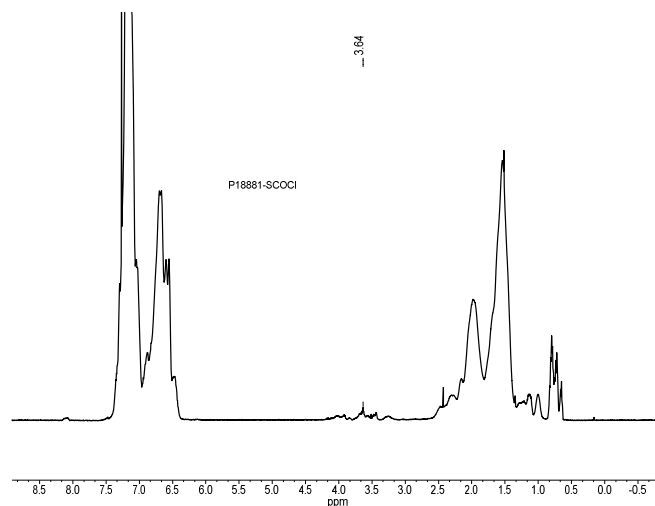
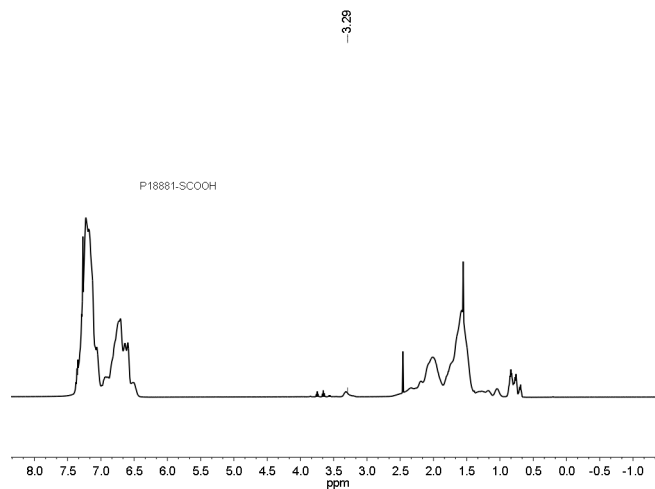
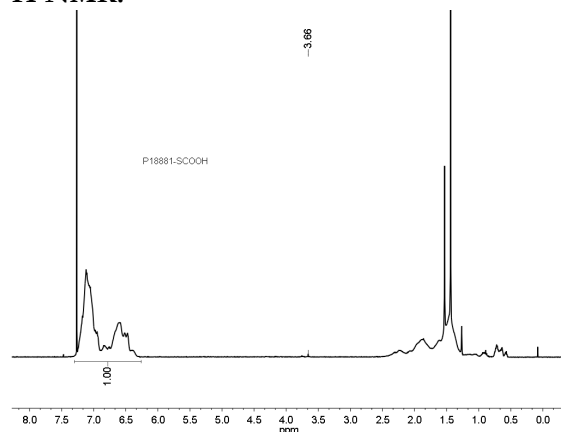
Characterization:

BY GPC, HNMR and by titration.

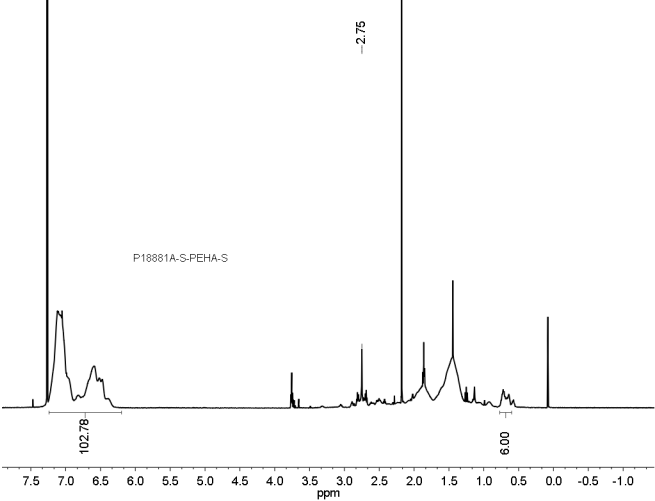
Solubility:

Polymer is soluble in toluene, THF, CHCl₃ and can be precipitated in water and cold methanol.

H NMR:



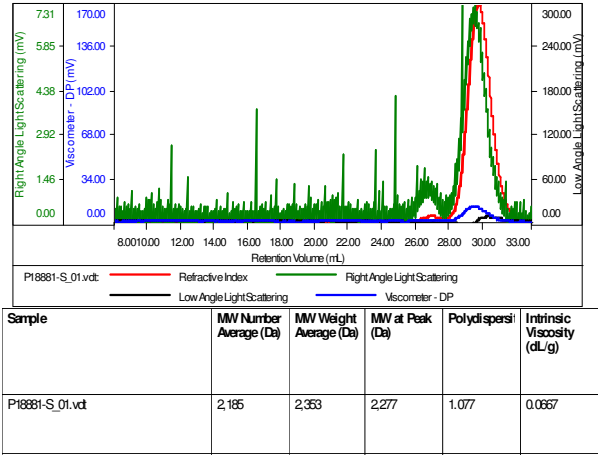
H NMR cont.:



SEC of Sample used for end functionaliztion with Pentaethylene hexamine

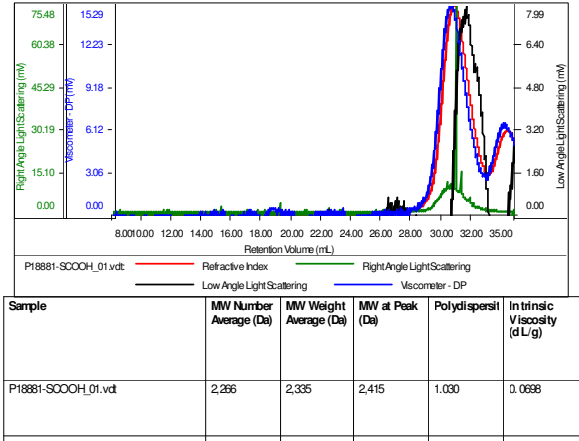
Sample ID: P18881-S Before termination with CO2

Concentration (mg/mL)	5.5172
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-0803-2014-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF

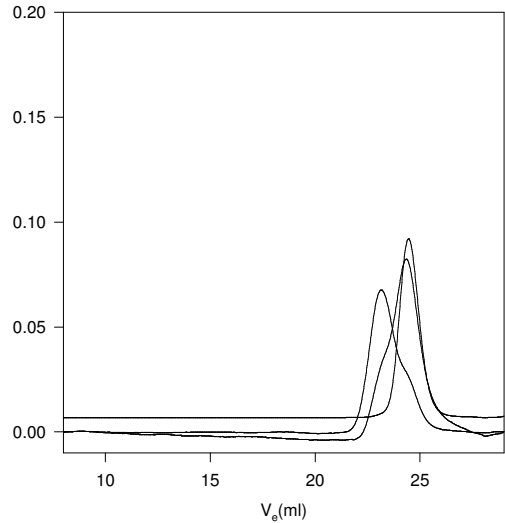


Sample ID: P18881-S after termination with CO2

Concentration (mg/mL)	9.6880
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-0803-2014-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



P18881A-SPEHA



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-PEHA (terminated with pentaethylene hexamine) Mn 2300 Contain about 16% dimer
- 3. PS-PEHA-PS: unit of pentaethylene hexamine in the middle of polymer chain