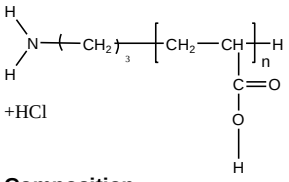
Sample Name:
Amino Terminated Poly acrylic acid

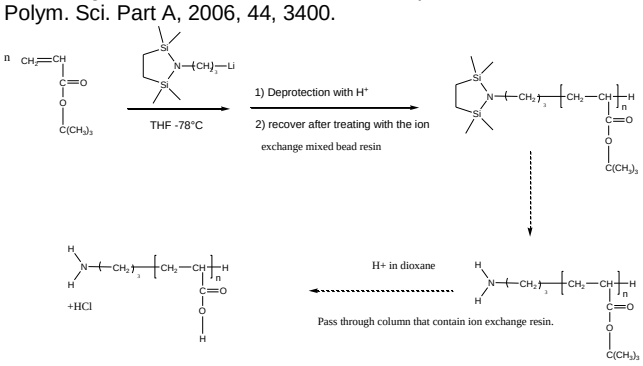
Sample #: **P5839A-AANH2**



Composition:

Mn x 10^3	PDI
2.4	1.3

Synthesis Procedure:
α-amino terminated poly tert-butylacrylate was synthesized by anionic living polymerization using NH2 protected initiator. The details please see our published results. Varshney, S. K.; Song, Z.; Zhang, Jian-Xin.; Jerome, Robert. Rapid Communication; J. Polym. Sci. Part A, 2006, 44, 3400.

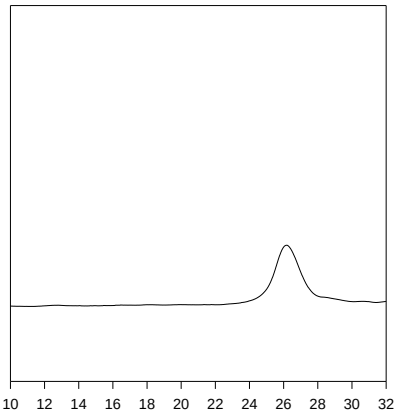


Characterization:
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector. However, amino terminated poly tert.butyl acrylate was found to interact with chromatography columns and therefore the amino group was protected by reaction with 1-naphthyl isocyanate before GPC analysis. Removal of the protecting group was confirmed by UV spectroscopy and the degree of functionality was confirmed by titration with $HClO_4$ using crystal violet as the indicator.

Hydrolysis of tert-butyl ester was monitored by disappearance of ester absorbance at 1365cm-1.

Solubility:
Polymer is soluble in THF, methanol and water. .

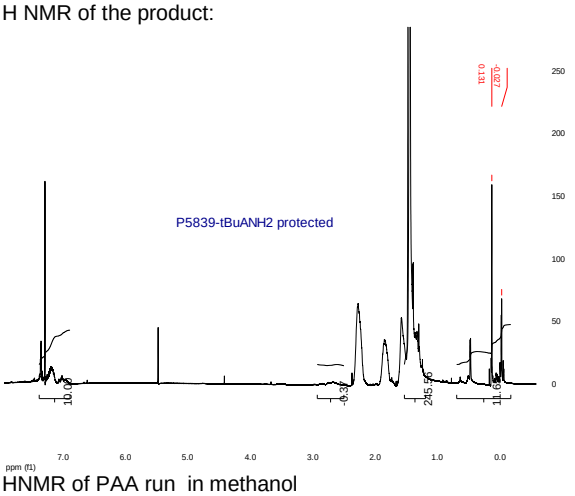
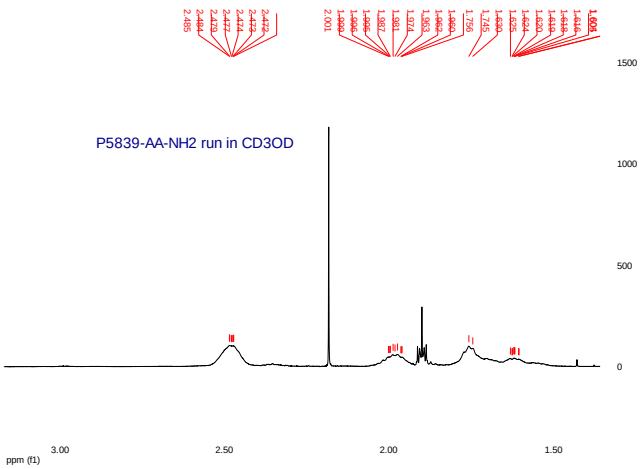
SEC of Sample:
P5839-tBuANH2 for P5839AANH2



Size Exclusion Chromatography of Amino Terminated Amino protected Poly(tert.butyl acrylate)

M_n=4000 M_w=5200, PI=1.3 functionality >0.99%
After Hydrolysis of ester group: PAA-NH2 terminated
Mn: 2400 Mw/Mn 1.3

H NMR of the product:



HNMR of PAA run in methanol