



Product Profile

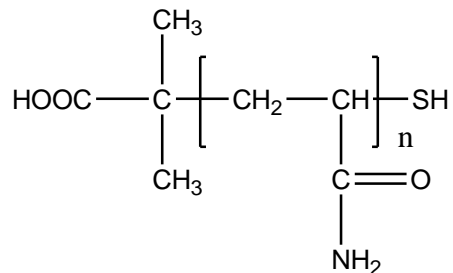
Identification

Product Name: Poly(Acrylamide)

Product Lot Number: P14775A-AMD

CAS #: 9003-05-8

Chemical Architecture:

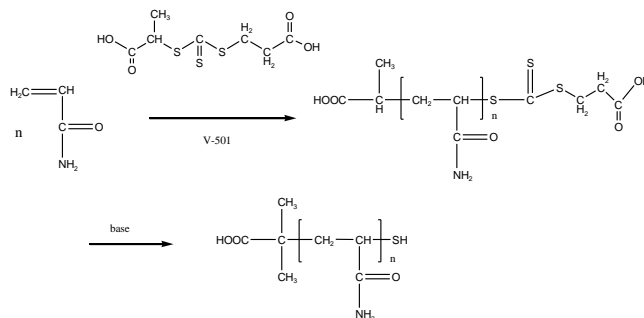


Composition:

Mn (g/mole)	210,000
Mw (g/mole)	278,000
Mw/Mn	1.33
Tg (°C)	184
dn/dc (mL/g) in THF at 30 °C	0.180

Method of Synthesis

Poly(acrylamide) was synthesized by RAFT polymerization of acrylamide using 4,4'-azo(4-cyanopentanoic acid) as initiator and trithiocarbonate as chain transfer agent in water. The reaction scheme is shown below:



Solubility in different solvents:

Water	√
THF	X
Alcohol	X

Validation of Architecture

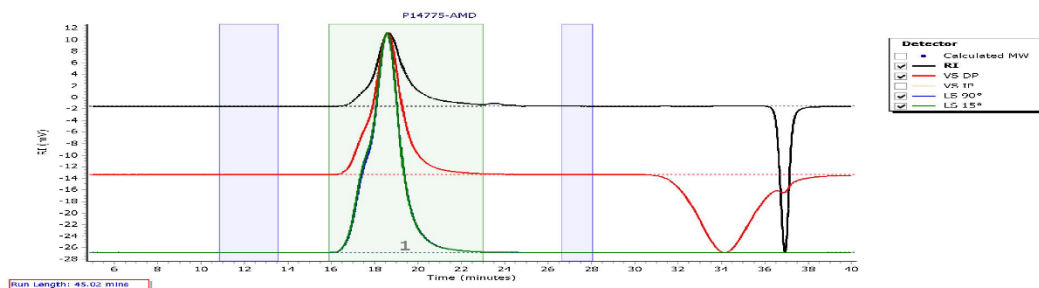
A. Gel Permeation Chromatography (GPC), SEC Profile:

Polyacrylamide and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI) using water containing 0.1M NaNO₃ and 0.01M NaH₂PO₄ and 4 vol% acetonitrile as eluent.

Agilent GPC/SEC Software

P14775-AMD

Chromatogram Plot



Molecular Weight Averages							PD
Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	
Peak 1	289106	210862	278754	332675	382937	323748	1.322

sample was dissolved in D₂O. ¹H NMR spectra was determined using a 500 MHz. Bruker Avance III spectrometer

B. DSC thermogram for the polymer:

