

Product Profile

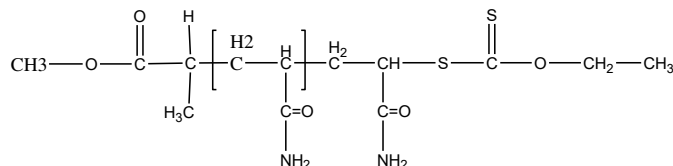
Identification

Product Name: Poly(Acrylamide)

Product Lot Number: P14880-AMD

CAS #: 9003-05-8

Chemical Architecture:

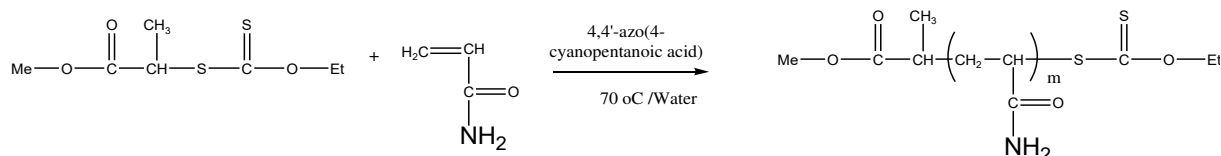


Composition:

Mn (g/mole)	6,000
Mw (g/mole)	6,500
Mw/Mn	1.10
Tg (°C)	184
dn/dc (mL/g) in THF at 30 °C	0.180

Method of Synthesis

Poly (acrylamide) is synthesized by RAFT polymerization of acrylamide using 4,4'-azo(4-cyanopentanoic acid) as initiator and xanthate as chain transfer agent. 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 was 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.

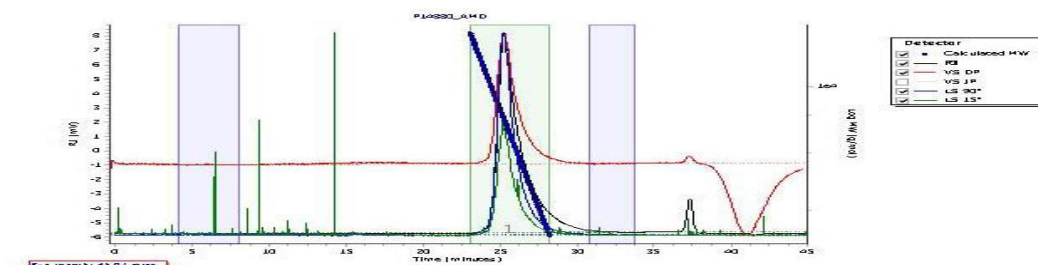


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Agilent GPC/SEC Software

P14880_AMD

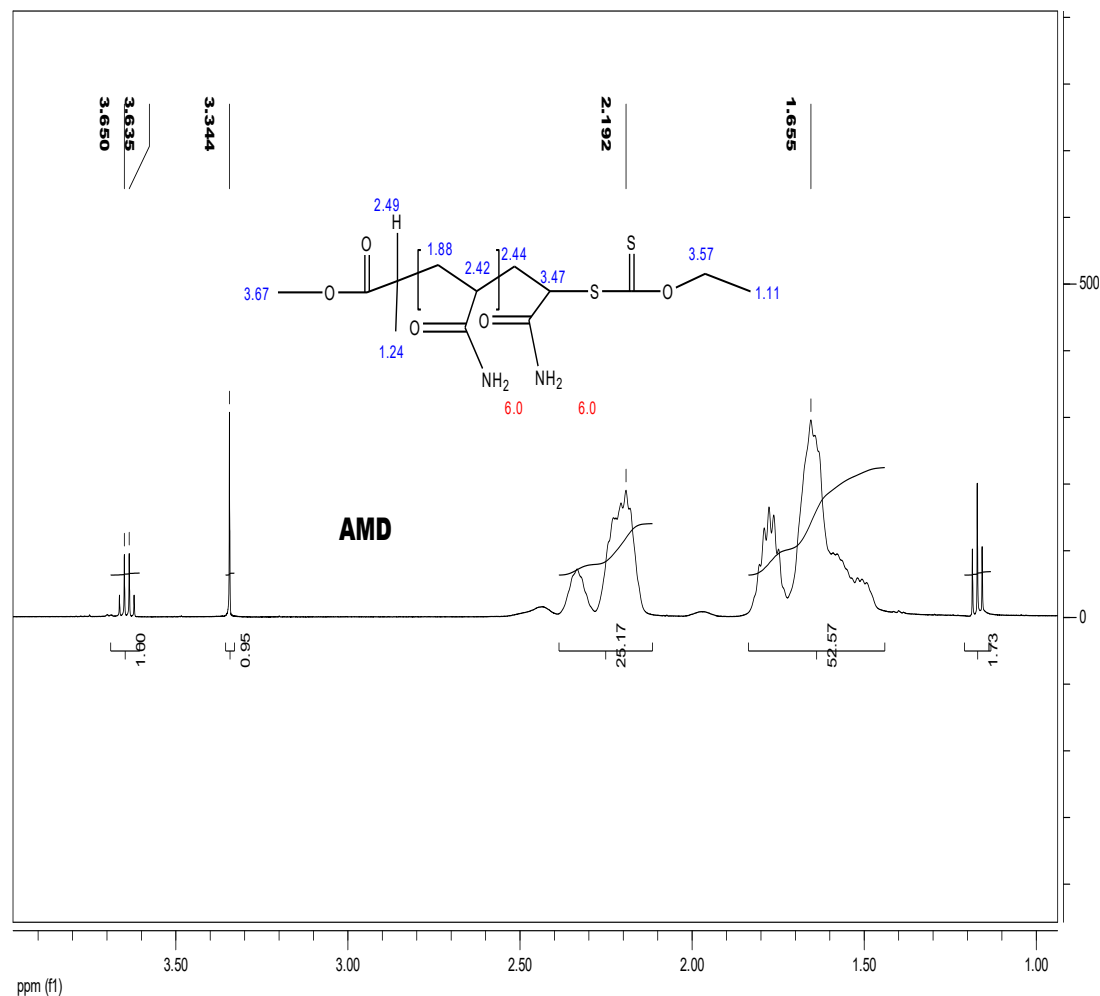
Chromatogram Plot



Molecular Weight Averages							
Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	7399	5801	6374	6864	7272	6803	1.099

B. NMR (^1H NMR) of CL

sample was dissolved in D_2O . ^1H NMR spectra was determined using a 500 MHz. Bruker Avance III spectrometer

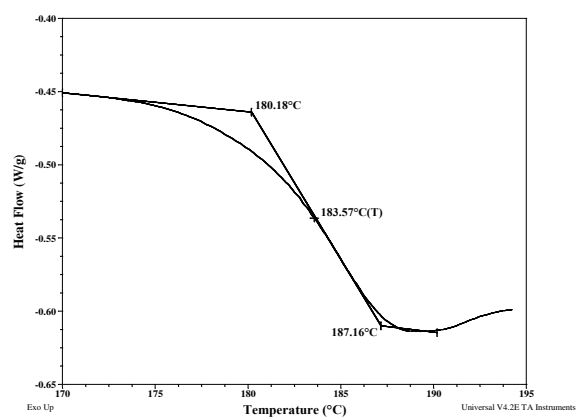


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C. DSC thermogram for the polymer:



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