Product Profile

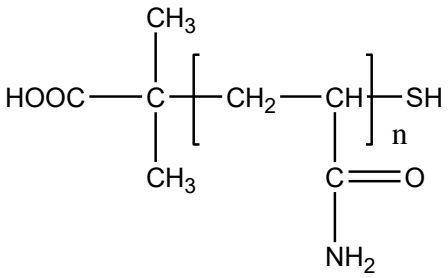
Identification

Product Name: Poly(Acrylamide)

Product Lot Number: P20261A-AMD

CAS #: 9003-05-8

Chemical Architecture:

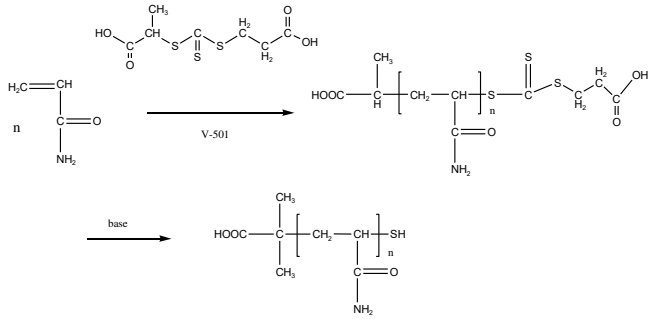


Composition:

Mn (g/mole)	**149,000**
Mw (g/mole)	**228,000**
Mw/Mn	**1.50**
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**

124 avenue Avro, Dorval (Montreal)
Quebec H9P 2X8 Canada
Phone : +1-514-421-5517 or +1-514-421-5506
support@polymersource.com
www.polymersource.ca

Alcohol	**X**

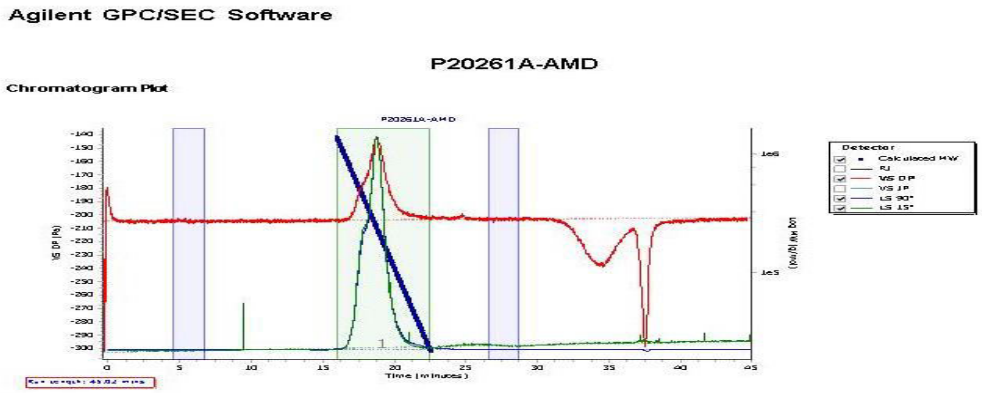
Validation of Architecture

A. <u>Gel Permeation Chromatography (GPC), SEC Profile:</u>

The polymer was characterized by size exclusion chromatography (SEC) using State-of-the-art Agilent Technologies 1260 Infinity II GPC system Equipped with triple detector:

Solvent (mobile phase) Water containing 0.1MNaNO3 as eluent
Filtration: 0.45 µNylon Syringe Filter
Columns: Agilent three columns
Flow Rate: 1 ml/min
Injection Volume: 100 µL
Column Temperature: 30 °C
Calibration of Instrument using PEO polymer.

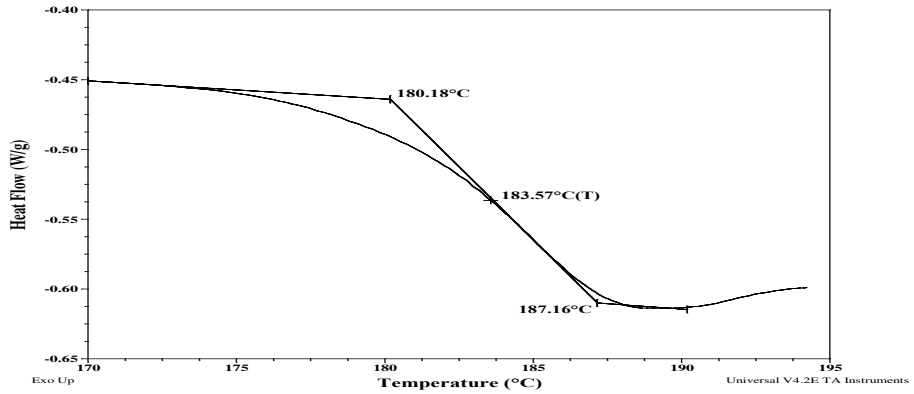
Note: Polyacrylamide bearing Mw > 1M are difficult to filter therefore this equipment is highly sensitive where less than 1mg/ml polymer solution can be detected by triple detector.



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	231018	149131	228227	295800	359418	279362	1.53

B. <u>DSC thermogram for the polymer:</u>



124 avenue Avro, Dorval (Montreal)
Quebec H9P 2X8 Canada
Phone : +1-514-421-5517 or +1-514-421-5506
support@polymersource.com
www.polymersource.ca

124 avenue Avro, Dorval (Montreal)
Quebec H9P 2X8 Canada
Phone : +1-514-421-5517 or +1-514-421-5506
support@polymersource.com
www.polymersource.ca