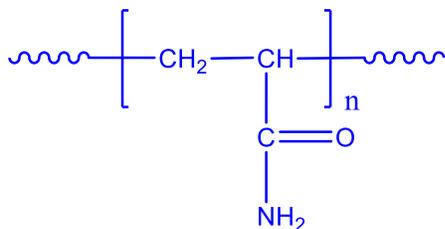


Sample Name: Poly(acrylamide)

Sample #: P6708A-AMD

Structure:

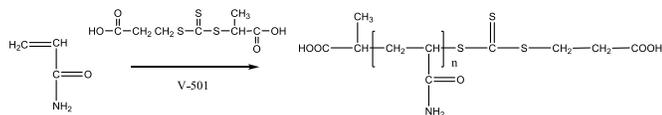


Composition:

| $M_n \times 10^3$ | Mw/Mn (PDI) |
|-------------------|-------------|
| 22.5 | 1.6 |

Synthesis Procedure:

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



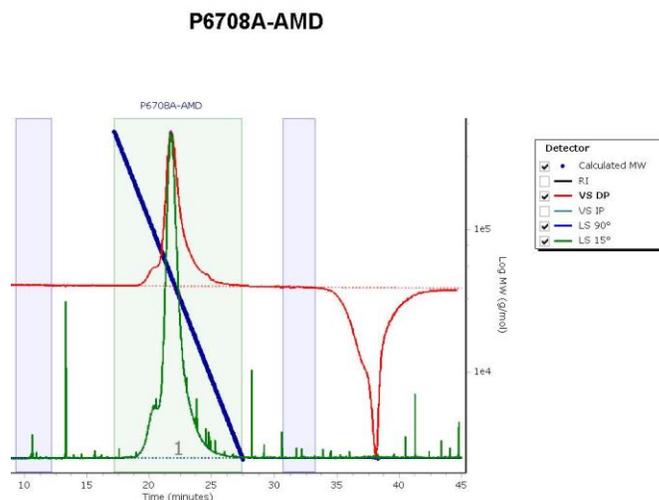
Characterization:

Polyacrylamide was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight polydispersity index (PDI) using water containing 0.2M NaNO₃ and 0.01M NaH₂PO₄ as eluent. The molecular weight can be calculated by intrinsic viscosity and by SEC the distribution of the polymer calculated using PEG standards polymers. [Ref. Suresh K. Jewrajka, and Broja M. Mandal, *Macromolecules*, 2003, 36 (2), 311-317]

Solubility:

The polymer is water soluble only.

SEC elugram of the polymer:



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 | 46693 | 22621 | 37159 | 49479 | 61559 | 47387 | 1.643 |

Processing Parameters

| | | |
|---|---|--|
| Method | RI | Last modified by GPC Agilent at 10:33:31 AM on August 29, 2018 |
| Concentration Detector Used in Analysis | RI | |
| Injection volume (μL) | 100.00 | |
| Flow rate (mL/min) | 1.00 | |
| Concentration options | Calculate Sample Concentration from Entered Sample Properties | |
| Entered dn/dc (mL/g) | 0.180 | |
| Entered Ext Coeff ((mg/mL) ⁻¹ cm ⁻¹) | 1.000 | |
| Calculated RI concentration (mg/mL) | 3.340 | |