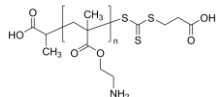


**Sample Name: Poly(2-aminoethyl methacrylate)**

**Sample #: P42319-AEMA**

Structure:

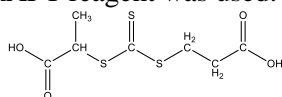


**Composition:**

$M_n \times 10^3$	PDI
4.5	1.2

**Synthesis:**

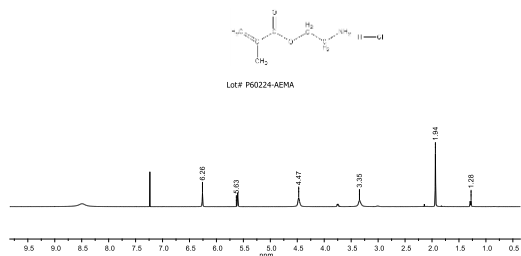
The polymer was synthesized by RAFT polymerization process using VA-057 catalyst. the following RAFT reagent was used:



Chemical Formula:  $C_7H_{10}O_3S_2$   
Molecular Weight: 254.3

Poly(2-aminoethyl methacrylate) has a  $pK_a$  of about 7.6 and is chemically stable in acidic or neutral aqueous solution in its protonated form. However, chemical degradation of P2AMA is known to occur in alkaline media as its primary amine groups become deprotonated (He L *et al.* Macromolecules 2007; 40: 4429–38) and the formation of 2-hydroxyethyl methacrylamide repeat units occur above pH 9; such elimination is simply due to ester hydrolysis. In dry form the polymer is stable at room temperature.

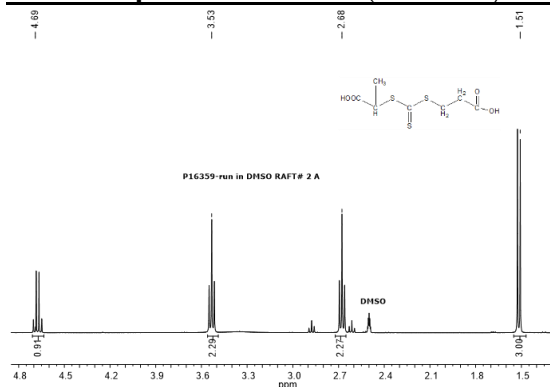
**$^1H$ -NMR Spectrum of the monomer in  $CDCl_3$ :**



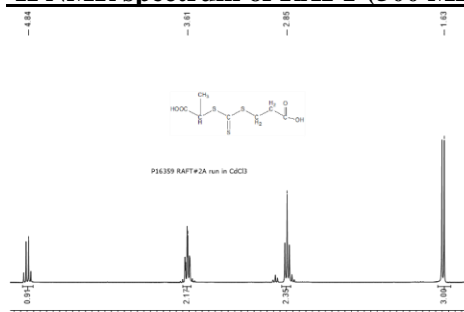
**Characterization:**

The product was characterized by size exclusion chromatography (SEC) and  $^1H$  NMR.

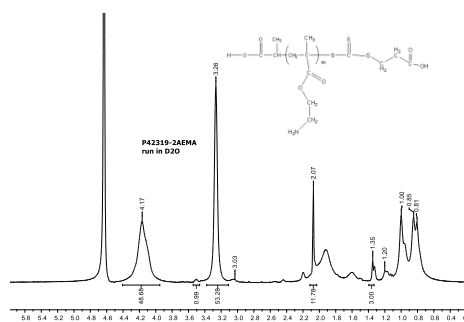
**$^1H$  NMR spectrum of RAFT (500 MHz,  $DMSO-d_6$ ):**



**$^1H$  NMR spectrum of RAFT (500 MHz,  $CDCl_3$ ):**

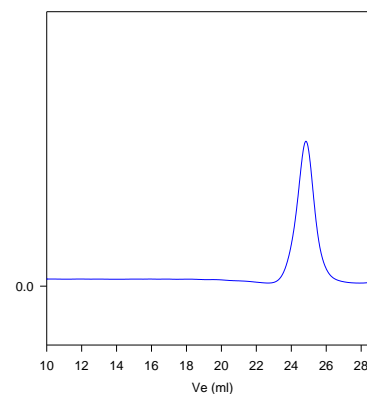


**HNMR spectrum of the polymer run in  $D_2O$ :**



**SEC profile of the Polymer run in  $H_2O$ :**

P42319-2AEMA



Size exclusion chromatography:

—  $M_n$ :4,500  $M_w$ : 5,500  $M_w/M_n$  : 1.2