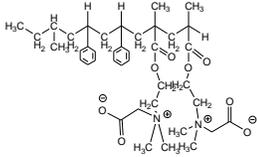


**Sample Name:** Zwitterionic block copolymer of Poly (styrene-*b*-*N,N*-dimethyl amino ethyl methacrylate) with bromoacetic acid

**Sample #:** P41665B-SDMAEMAZ

**Structure:**

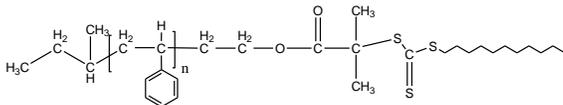


**Composition:**

|   |  |
|---|--|
| Mn x 10 <sup>3</sup><br>S- <i>b</i> -DMAEMA-Z | Mw/Mn (PDI)                                      |
| 11.5- <i>b</i> -6.0                           | 1.05   |
| T <sub>g</sub> for PS block: 80°C             | T <sub>g</sub> for DMAEMA block:<br>Not distinct |
| DP of each Block<br>110- <i>b</i> -44         |  |

**Synthesis Procedure:**

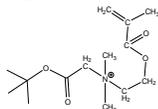
Poly (styrene-*b*-*N,N*-dimethyl amino ethyl methacrylate) is prepared by RAFT process using PS-RAFT macroinitiator (lot#P41656)



and the following monomer: 2-(*tert*-butoxy)-*N*-(2-(methacryloyloxy)ethyl)-*N,N*-dimethyl-2-oxoethanaminium

**Sample #:** Zwitter ionic -1 Lot#: P41655

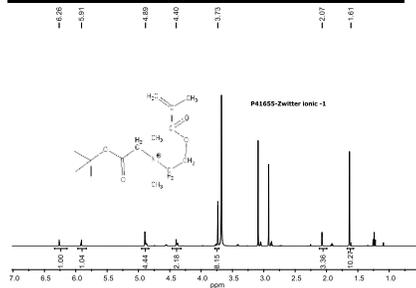
**Structure:**



2-(*tert*-butoxy)-*N*-(2-(methacryloyloxy)ethyl)-*N,N*-dimethyl-2-oxoethanaminium  
Chemical Formula: C<sub>17</sub>H<sub>28</sub>N<sub>2</sub>O<sub>4</sub><sup>+</sup>  
Exact Mass: 272.19  
Molecular Weight: 272.36

**Composition:** purity ≥ 97% (from NMR)

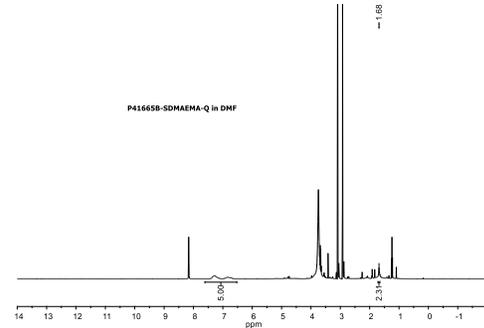
**<sup>1</sup>H NMR of the Zwitter ionic -1:**



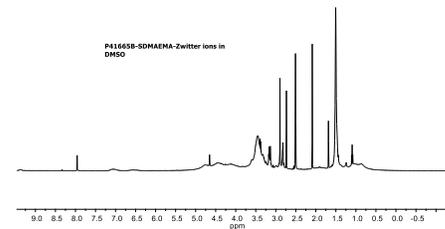
**Characterization:**

The product was characterized by size exclusion chromatography (SEC) and <sup>1</sup>H NMR.

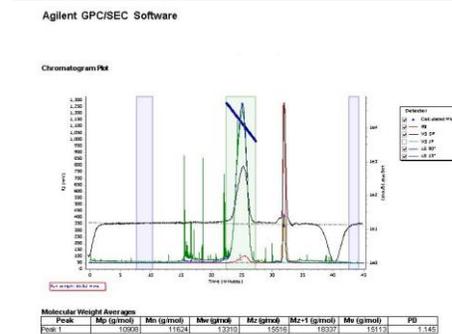
**<sup>1</sup>H NMR spectrum of the block copolymer carried out in DMF:**



**<sup>1</sup>H NMR spectrum of SDMAEMAZ Sample runs in DMSO:**



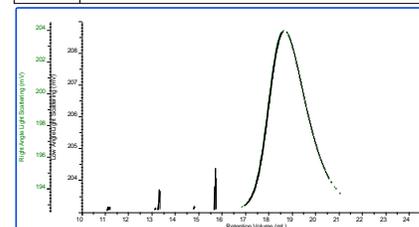
**SEC profile of the S-RAFT macroinitiator**



**SEC profile of the Product:**

P41665B-SDMAEMA-Z

|         |                                       |
|---------|---------------------------------------|
| dn/dc   | 0.1300                                |
| Flow    | 0.7000                                |
| Solvent | DMF with LiBr                         |
| Method  | PSS column-PMMA60K-Jan3-2019-0002.vcm |



| Sample     | Mn     | Mw     | Mz     | IV     | Mw/Mn |
|------------|--------|--------|--------|--------|-------|
| P41665B-SZ | 13,627 | 14,266 | 15,059 | 0.0690 | 1.047 |