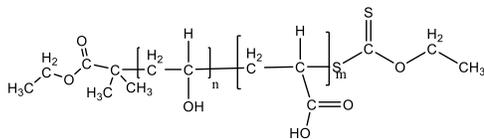


Sample Name:

Poly(vinyl Alcohol-b-Acrylic acid)

Sample #: **P42351A-VAAA**

Structure:



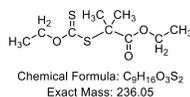
Composition:

$M_n \times 10^3$ VA-b-AA	PDI
5.3-b-34.0	2.7

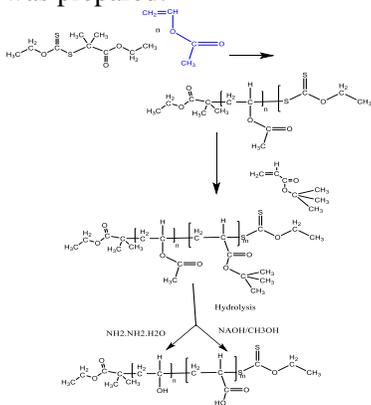
Solubility in Water clear solution

Synthesis Procedure:

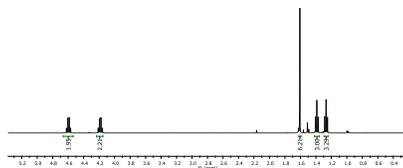
The polymer was synthesized by RAFT polymerization process using following RAFT reagent.



The following reaction scheme shows how the product was prepared:



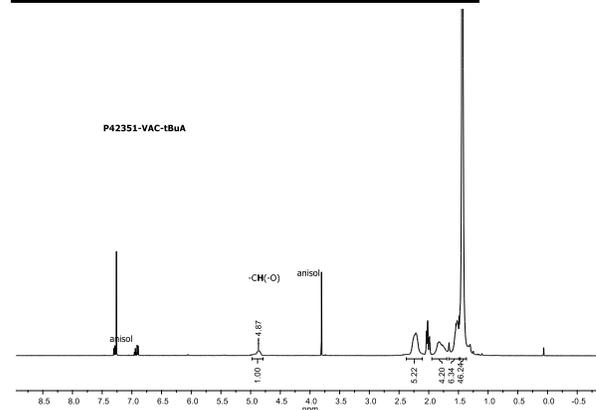
1H NMR spectrum of RAFT (400 MHz, $CDCl_3$):



Characterization:

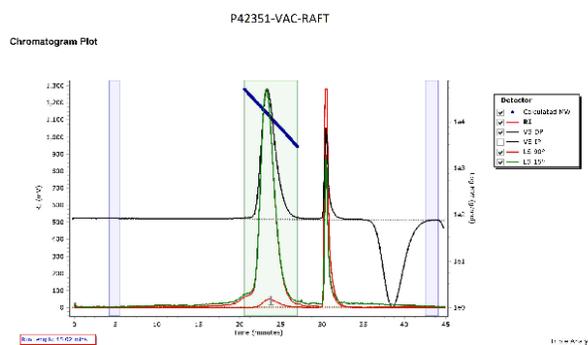
The product was characterized by size exclusion chromatography (SEC), 1H NMR, and FTIR analysis.

HNMR spectrum of PVAc-b-PtBuA:



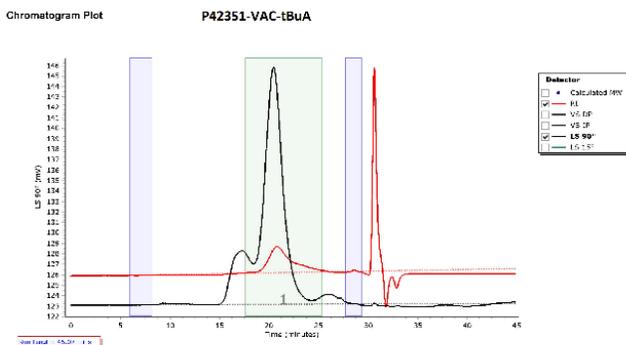
SEC elugram of the VAC-RAFT macroinitiator :

Agilent GPC/SEC Software

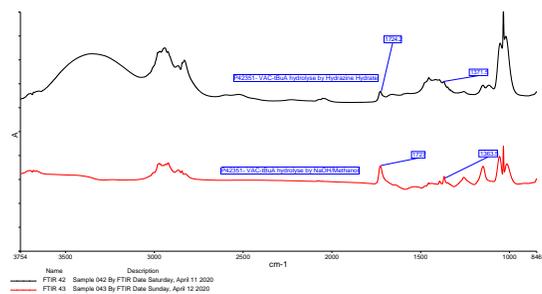
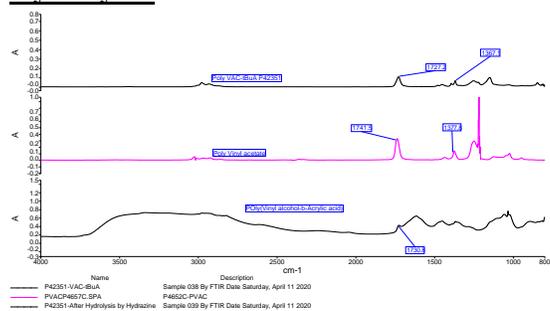


SEC elugram of VAC-tBuA block copolymer:

Agilent GPC/SEC Software



FTIR spectrum of the Polymer recorded after Hydrolysis:



FTIR analysis shows incomplete hydrolysis of tert.butyl ester moiety in presence of NaOH. Polymer was recovered and dried under vacuum . Polymer dissolved in DCM and subjected to further hydrolysis in presence of CF₃COOH. Polymer solubility after drying check in water. Polymer gives clear solution in Water and FTIR also indicated a quantitative hydrolysis of ester moiety.