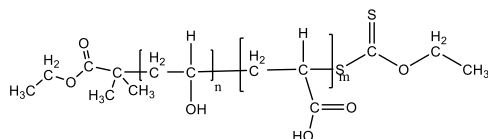


**Sample Name:**  
**Poly(vinyl Alcohol-b-Acrylic acid)**

**Sample #:** P42351A-VAAA

**Structure:**



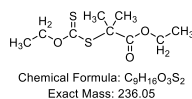
**Composition:**

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

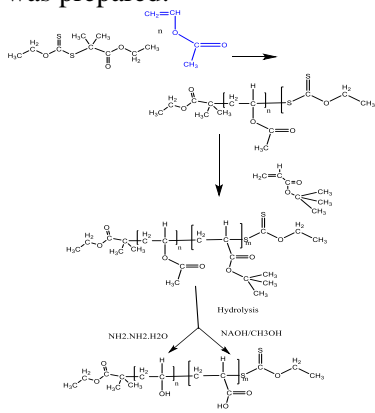
Solubility in Water clear solution

**Synthesis Procedure:**

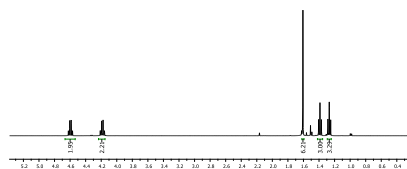
The polymer was synthesized by RAFT polymerization process using following RAFT reagent.



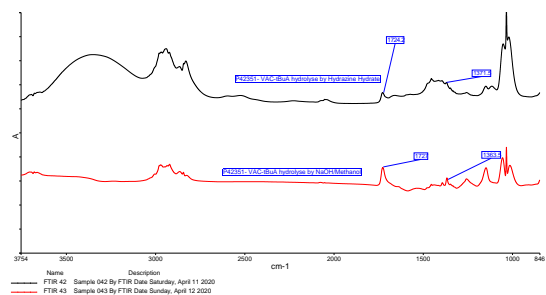
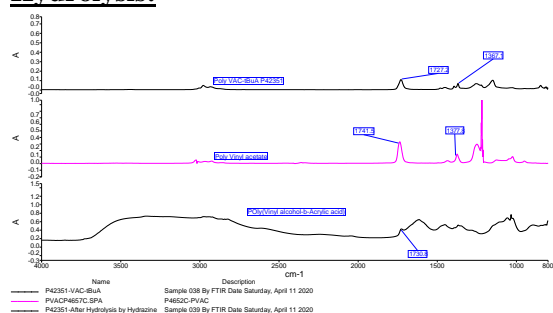
The following reaction scheme shows how the product was prepared:



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



## 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 CF<sub>3</sub>COOH. Polymer solubility after drying check in water. Polymer gives clear solution in Water and FTIR also indicated a quantitative hydrolysis of ester moiety.