

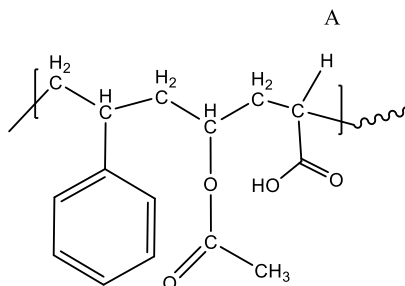
Product Profile

Identification

Product Name: Ter polymer based on Styrene, Vinyl acetate and acrylic acid

Product Lot Number: P80591-SVACAAran

Product Chemical Architecture:



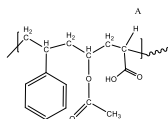
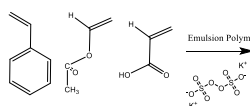
Composition:

Mn x 10 ³	Mw/Mn (PDI)
299.0	1.2
Feed ratio by weight S:VAC:AA ratio: 80:10:10	

Method of Synthesis

By emulsion polymerization using sodium dodecylbenzene sulfonate (surfactant) and sodium carbonate. Heat the emulsified solution to 60°C while stirring. To the reactor, added 80g of styrene, 10g AA, 10g vinyl acetate, and n-Hexyl mercaptan (chain transfer agent), ensuring thorough mixing. Gradually add an initiator solution of potassium persulfate dissolved in deionized water, while watching for an exothermic reaction. After adding the initiator solution completely, allow the reaction to continue for 70 min at 78°C. Polymer recover by precipitation in hot water. Polymer separated out. Polymer dried under vacuum at 58 °C for 3 days.

Polymerization Scheme



Solubility in different solvents

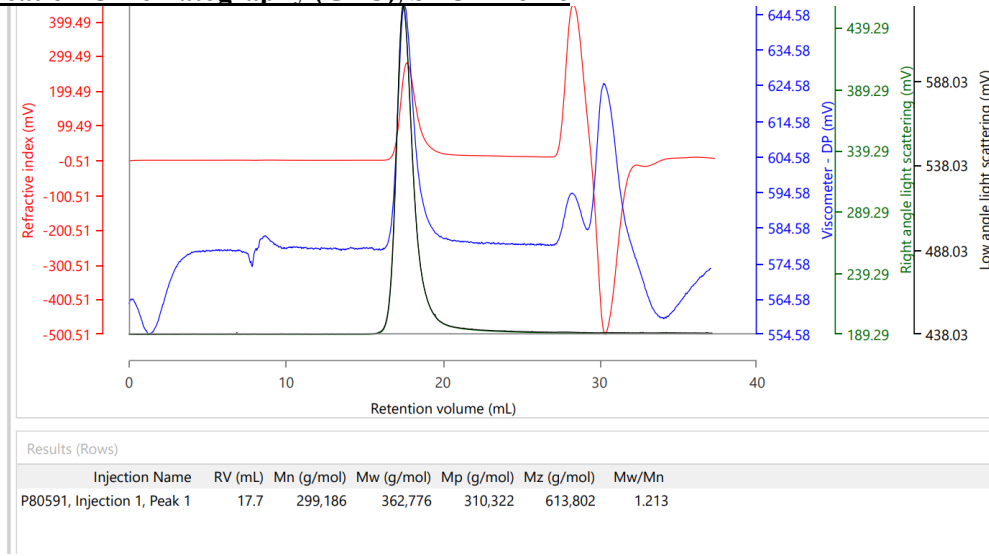
THF	√		
CHCl ₃	√	DMF	√
1,4 dioxane	√		

Purification of Polymer

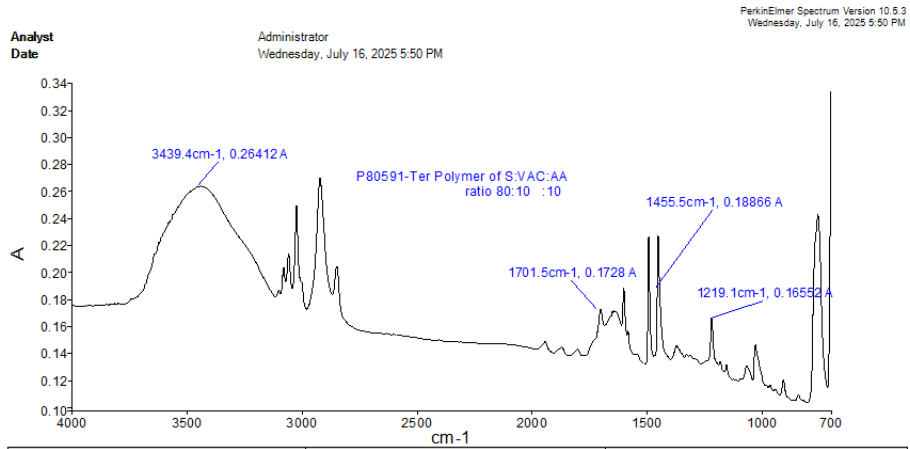
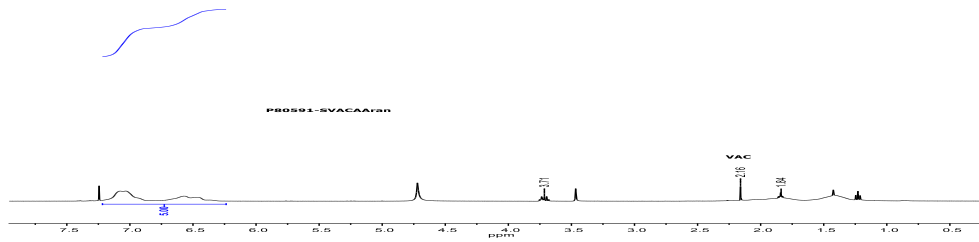
Soxhlet with acetone to remove unreacted monomer

Validation of Architecture:

A. Gel Permeation Chromatography (GPC), SEC- Profile



B. NMR (HNMR) of polymer:



Sample Name	Description	Quality Checks
P80591	Sample 1549 By Administrator Date Wednesday, July 16 2025	The Quality Checks give rise to a Fringes warning for the sample.