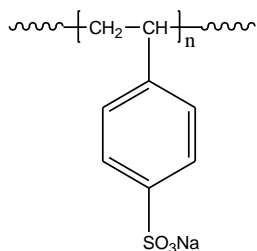


Poly (styrene sulfonic acid, sodium salt)

Structure:



Mn x 10 ³	PDI
1,912.0	1.15

$$\text{H}_2\text{C}=\text{CH}-\text{C}_6\text{H}_5 \xrightarrow[\text{THF at } -78^\circ\text{C}]{\text{Appropriate initiator}} \left[\text{CH}_2-\text{CH}(\text{C}_6\text{H}_5) \right]_n$$

$$\xrightarrow[\text{catalyst}]{\text{H}_2\text{SO}_4} \left[\text{CH}_2-\text{CH}(\text{C}_6\text{H}_4\text{SO}_3\text{H}) \right]_n$$

$$\xrightarrow{\text{NaOH}} \left[\text{CH}_2-\text{CH}(\text{C}_6\text{H}_4\text{SO}_3\text{Na}) \right]_n$$

Poly (styrene sulfonic acid sodium salt) is soluble in water, and ethylene glycol.

A chromatogram plot with the x-axis labeled 'Ve (ml)' ranging from 12 to 22. The y-axis represents detector response. A single, sharp, symmetrical peak is visible, centered at approximately 17.5 ml. The baseline is stable and low across the rest of the run.

after Sulfonation and Neutralization to Sodium salt:
Mn SSO₃Na: 1912,000 MW/MN 1.15