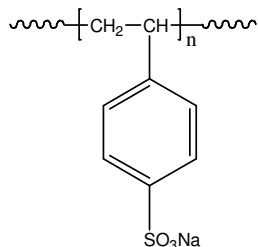


**Sample Name:** Poly(styrene sulfonic acid sodium salt)

**Sample #:** P3242-SSO3Na (dialysed form)

**Structure:**

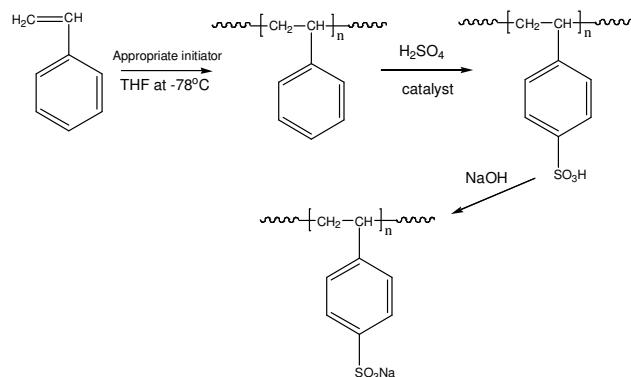


**Composition:**

$M_n \times 10^3$	PDI
263.0	1.04

**Synthesis Procedure:**

Poly(styrene sulfonic acid sodium salt) is obtained by the anionic polymerization of styrene followed by sulfonation of the polymer under acidic conditions. The reaction scheme is illustrated below:



**Characterization:**

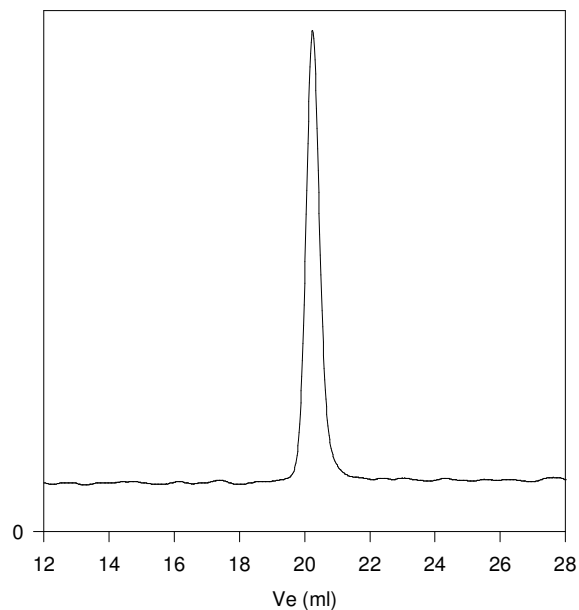
The molecular weight and polydispersity index (PDI) of poly(styrene sulfonic acid sodium salt) are obtained by size exclusion chromatography. The degree of sulfonation is determined by acid/base titration and by elemental analysis.

**Solubility:**

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

**SEC of Homopolymer:**

**Poly styrene Precursor (P2763-S) for Sulfonation Sample # P3242-SSO3H**



Size exclusion chromatograph of polystyrene used:

$M_n=133200$ ,  $M_w=138500$ ,  $PI=1.04$

After Sulfonation:

$M_n=235000$ ,  $M_w=244000$ ,  $PI=1.04$  degree of sulfonation over 85% by elemental analysis

Sodium salt form:  $M_n : 263000$   $M_w/M_n$  1.04

