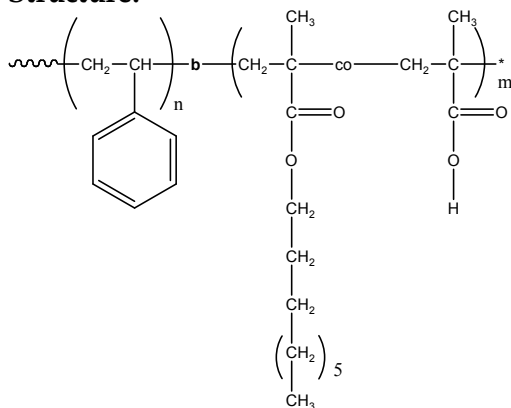


Sample Name:

Poly(styrene-b-nonyl methacrylate-co-Methacrylic acid)

Sample #: P9363-S-NMAMAAran

Structure:**Composition:**

Mn × 10 ³ S-b-NMA-Co-MAA	Mw/Mn (PDI)
21.0-b-9.5	1.10
NMA:MAA	50:50

Glass transition temperature at a glance

T _g for PS block	102 °C
T _g for NMA-MAA ran block	

Synthesis Procedure:

Polymer is prepared by living anionic polymerization by sequence addition of styrene followed by n-tertButylMA. Poly tert.BuMA block converted to methacrylic acid and then partial transesterification reaction with 1-nonanol.

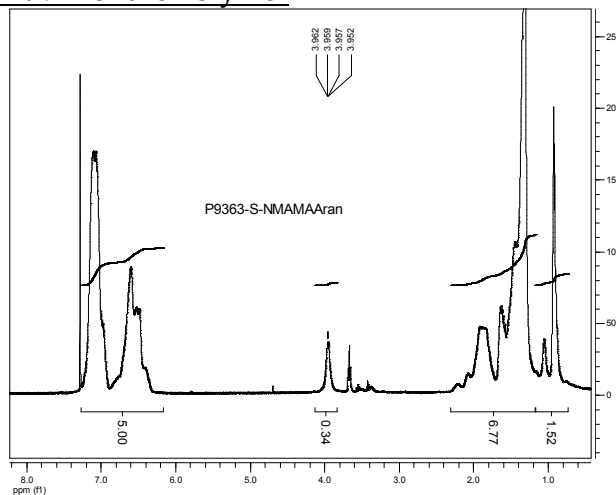
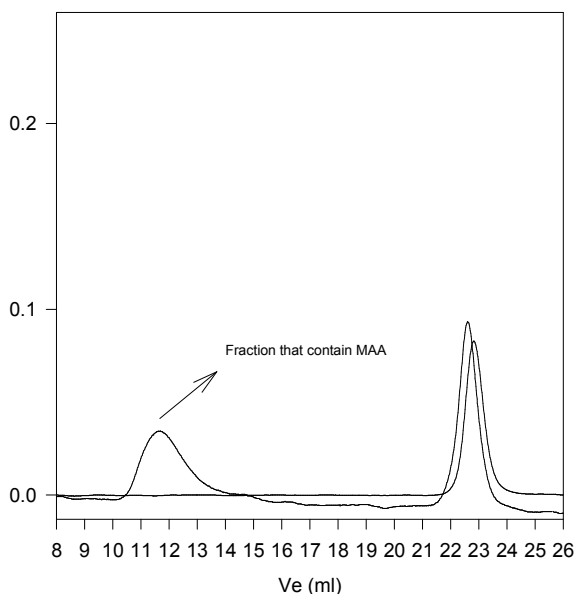
Characterization:

An aliquot of the polystyrene block was terminated before addition of n-Hexyl methacrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI).

The final block copolymer composition by ¹H-NMR spectroscopy in CdCl₃. Block copolymer PDI is determined by SEC.

Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

HNMR of the Polymer**SEC profile of the block copolymer P9363-SNMAMAAran**

Size exclusion chromatography of polystyrene-b-poly(NMA-coMAA))

— Polystyrene, M_n=21200, M_w=22000, PI=1.04
— Block Copolymer