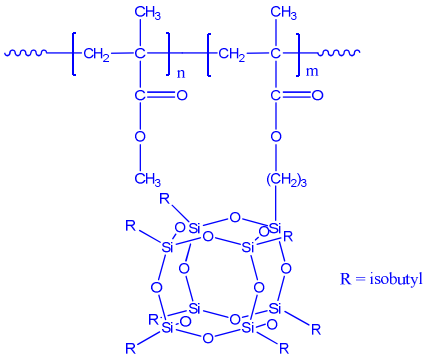
Sample Name:
Poly(methyl methacrylate-b-isobutyl-POSS methacrylate)
Sample #: P9796-MMAPOSSMA
Structure:



Composition:

Mn × 10^3 MMA-b-POSSMA	PDI
18.5-b-4.7	1.06
T_g (°C) for MMA block: 128	T_g (°C) for POSSMA block: Not distinct

Synthesis Procedure: Poly(Methyl methacrylate-b-isobutyl-POSS methacrylate) block copolymer is synthesized by living anionic polymerization with sequence addition of methyl methacrylate followed by addition of POSS methacrylate monomer. The obtained polymer was precipitation in methanol.

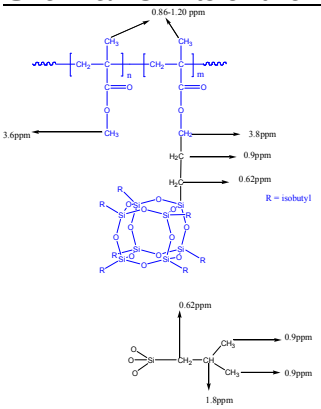
Characterization:

Polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from HNMR. Thermal analysis was carried out using TA Q100 DSC. The mid point of the thermal transition is considered as glass transition temperature (T_g).

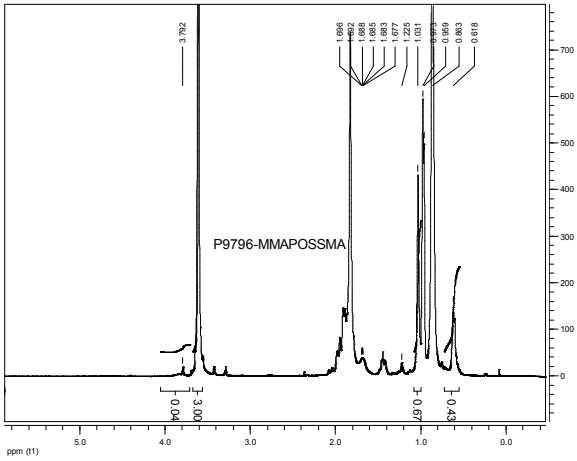
Solubility:

Polymer is soluble in THF and toluene. It is precipitated into methanol.

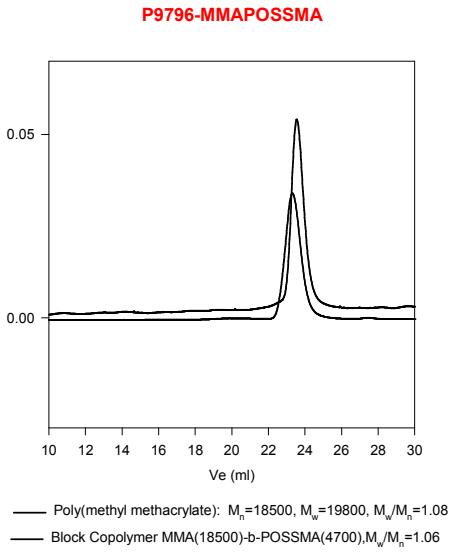
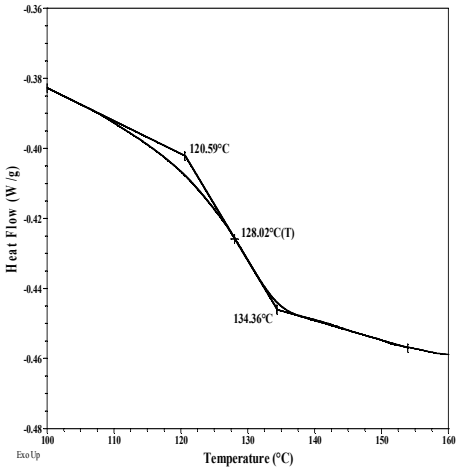
Chemical Shifts of the Products:



^{1}H-NMR Spectrum of the block copolymer:



SEC of the block copolymer:



DSC thermogram for MMA block: