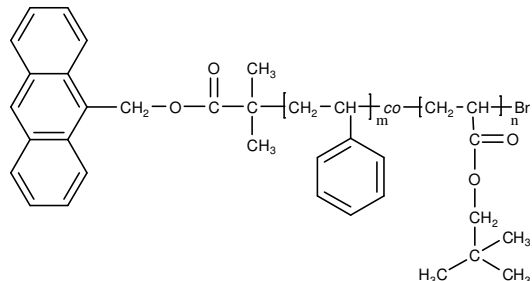


**Sample Name: Anthracene Terminated Poly(styrene-co-t-butyl acrylate) Random Copolymer**

Sample #: **P14972-StBuAran-An**

**Structure:**



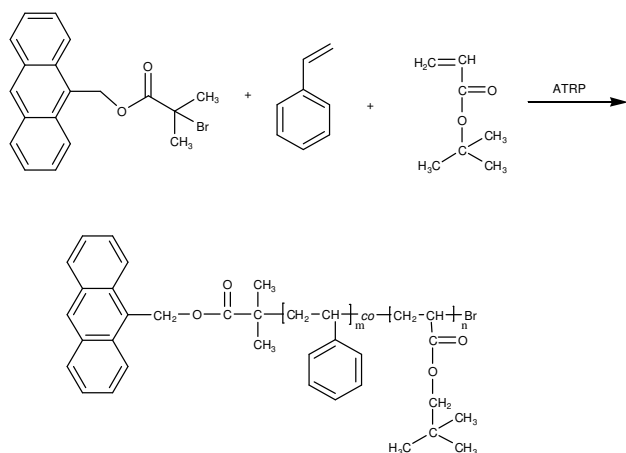
**Composition:**

$M_n \times 10^3$	PDI
10.5	1.1

Polystyrene content: 72 mol %

**Synthesis Procedure:**

Anthracene terminated poly(styrene-co-tert-butyl acrylate) random copolymer is prepared by polymerizing of styrene and tert-butyl acrylate via ATRP polymerization using an anthracene-containing initiator, 9-anthracenemethyl-2-2-bromoisobutyrate. The polymer was obtained by precipitating into methanol.



**Characterization:**

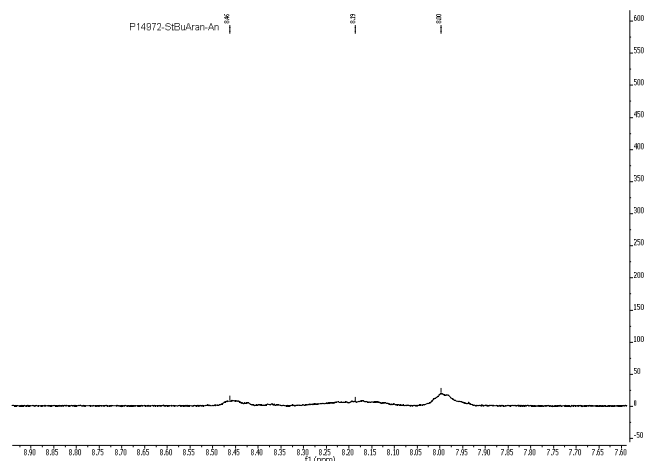
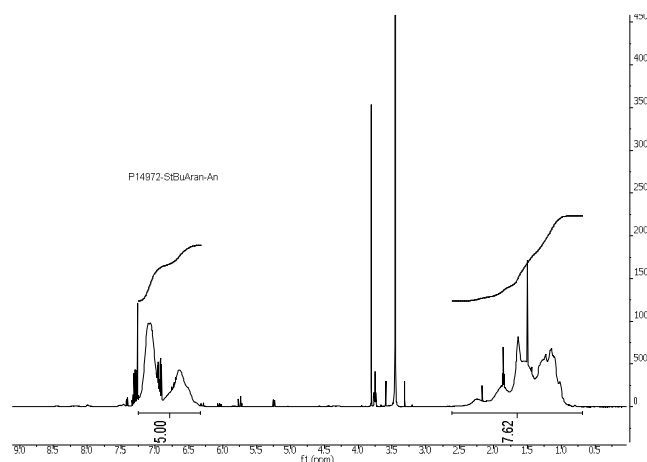
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a light scattering and refractive index detector. The ratio between polystyrene

and poly(methyl methacrylate) in the copolymer was calculated from  $^1\text{H}$  NMR spectroscopy by comparing the peak area of the PS phenyl protons at 6.5–7.3 ppm and the peak area of total aliphatic protons at 0.5–2.5 ppm.

**Solubility:**

Polymer is soluble in THF, toluene and  $\text{CHCl}_3$ . It precipitates from methanol, ethanol, water and hexanes.

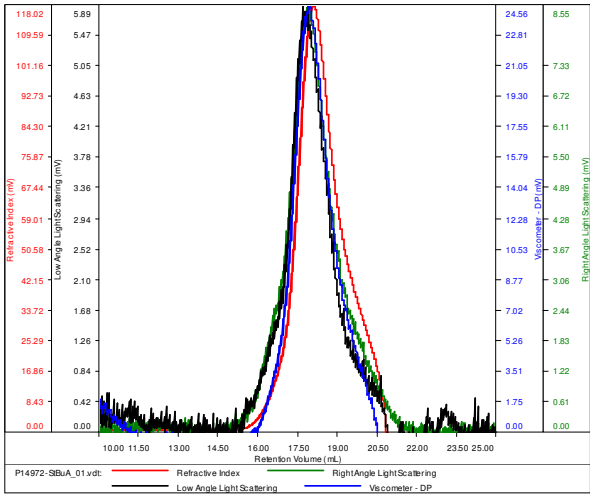
**$^1\text{H}$  NMR of the random copolymer P14972:**



SEC of the random copolymer:

SAMPLE ID: P14972-StBuA

Conc (mg/mL)	6.8690
dn/dc (mL/g)	0.1250
Method	ps80k-21Jan2016-DMF-0000.vcm
Solvent	DMF w 0.023M LiBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
P14972-StBuA_01.vdt	10,691	11,752	10,808	1.099	0.0695