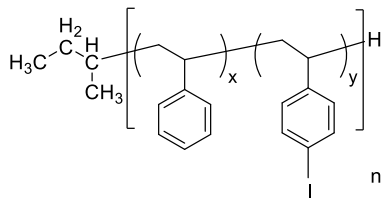


Sample Name: Poly(styrene-co-4-iodostyrene),
random

Sample #: P42217-S4ISran

Structure:



Composition:

$M_n \times 10^3$ (g/mol)	M_w/M_n
29.0	1.01

Content of poly(4-Iodostyrene):	17 mol%
T_g of PS-co-P4IS:	103 °C

Synthesis procedure:

Iodation of Polystyrene in Nitrobenzene in presence of Iodine and Hydroiodic acid.

Characterization:

Molecular weight and polydispersity index (M_w/M_n) of the copolymer were obtained by size exclusion chromatography (SEC).

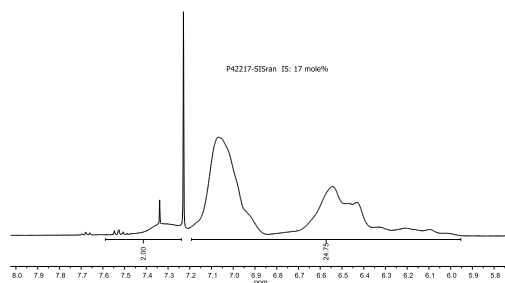
Thermal analysis:

Thermal analysis of the copolymer was performed on a TA Q100 differential scanning calorimeter (DSC) 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).

Solubility:

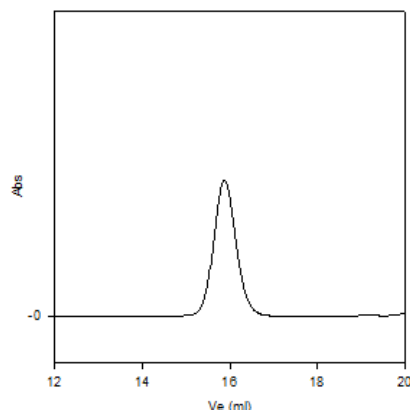
PS-co-P4IS is soluble in CHCl_3 , THF, DMF, toluene. The copolymer precipitates from hexane.

$^1\text{H-NMR}$ (500 MHz, CDCl_3) spectrum:



SEC profile of starting polystyrene:

P42217-S precursor



Size exclusion chromatograph of polystyrene:

$M_n = 24000$, $M_w = 24700$, $M_z = 25900$, $PDI = 1.03$

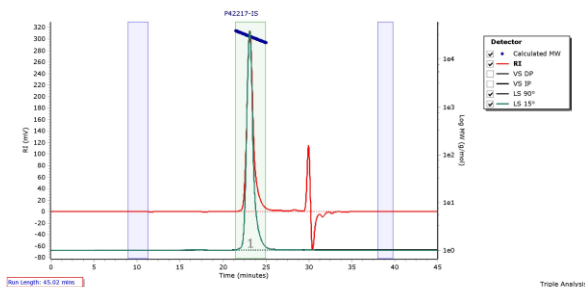
solution Viscosity in THF at 30 °C: 0.202 dL/g and radius of gyration: 5.48 nm obtained by Viscotek detectors

SEC elugram of the random copolymer:

Agilent GPC/SEC Software

P42217-IS

Chromatogram Plot



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mx (g/mol)	PD
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Peak 1	30261	29641	29803	29956	30100	30017	1.005
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DSC of PS-co-P4IS (2nd heating scan, 10 °C/min):

Sample: P42217_S4ISran
Size: 9.9000 mg

File: P42217_S4ISran.001

