

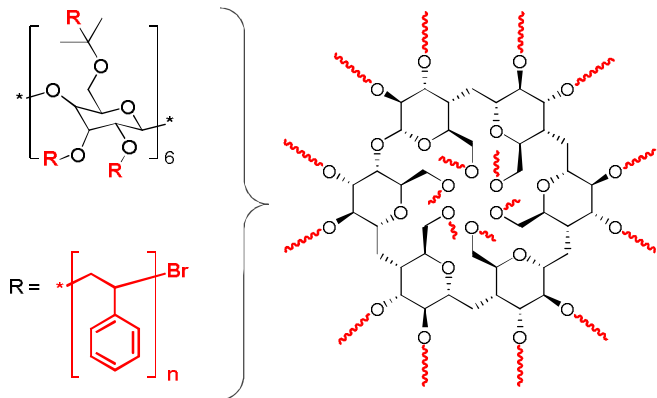
Sample Name:

Star-like Polystyrene with α -Cyclodextrin core

Number of arms: 15 arms

Sample # **P20133A-15S**

Structure:



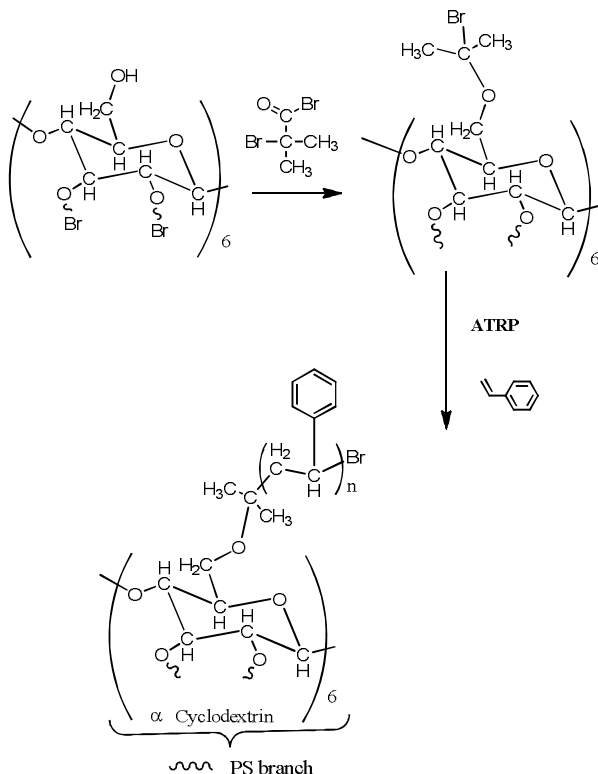
In star-like polymer that contains <18 arms, some R = H (hydrogen).

Composition:

Mn x 10 ³	PDI
Total: 69.5	1.3
Each branch: 4.5	1.4

Synthesis Procedure:

The polymer was synthesized by ATRP process:



Characterization:

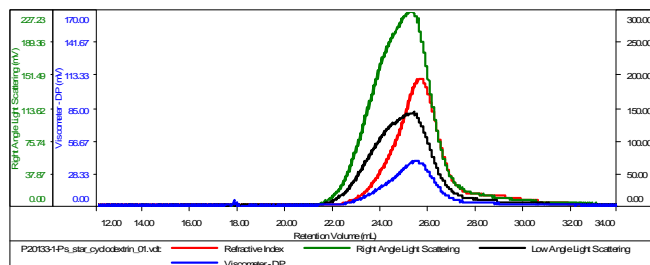
Molecular weight and polydispersity index were determined by size exclusion chromatography (SEC): The absolute molecular weight of the star-like polymer was determined by light scattering detector-Viscotek 270 model.

To analyze the molecular weight of the arms consisting of polystyrene, the ester groups located between cyclodextrin and PS block were cut by hydrolysis in the basic condition.

SEC elugram of star polymer:

Sample ID: P20133-1-PS star-cyclodextrin

Concentration (mg/mL)	23.5780
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-NDV-2014-0003.vcm
Column Set	3x PL 1113-6300
Solvent	THF

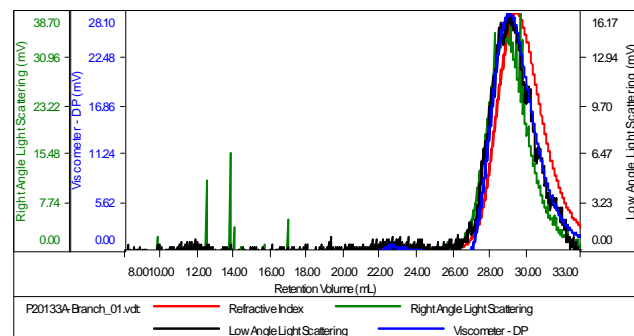


Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P20133-1-PS_star_cyclodextrin_01.vdt	68,399	93,063	68,029	1.341	0.0965

SEC elugram of branch (polymer after hydrolysis):

Sample ID: P20133A-S Branch

Concentration (mg/mL)	41.7820
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-NDV-2014-0003.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P20133A-Branch_01.vdt	4,786	6,769	6,731	1.411	0.0457