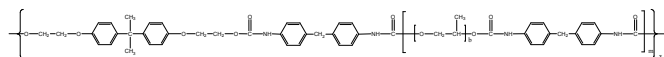


Sample Name:

Polyurethane based on Bisphenol A-diethoxylate and propylene glycol and MDI-isocyanate.

Lot Sample #: **P7293-PU**

Structure



Composition

Mw x 10 ³	Mw/Mn (PDI)	Composition
16.9	1.6	MDI:PPO:BPAE O 1.8:1.0:0.81 feed ratio
		From H NMR 1.8:0.91:0.79

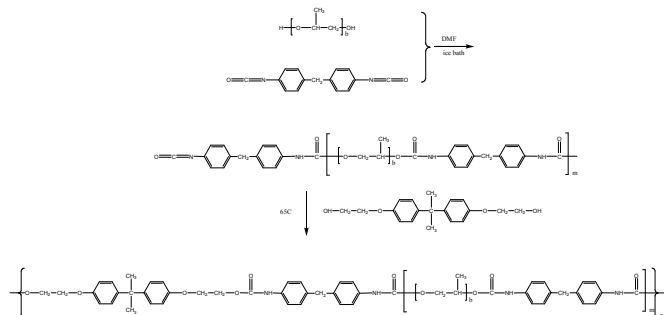
MDI: 4,4'-Methylenebis(phenyl isocyanate)

PPO Poly(propylene glycol) (725)

BPAEO: Bisphenol A + ethylene oxide

Synthesis Procedure:

The synthesis method was followed the literature offered by costumer. The scheme of the reaction is illustrated below:



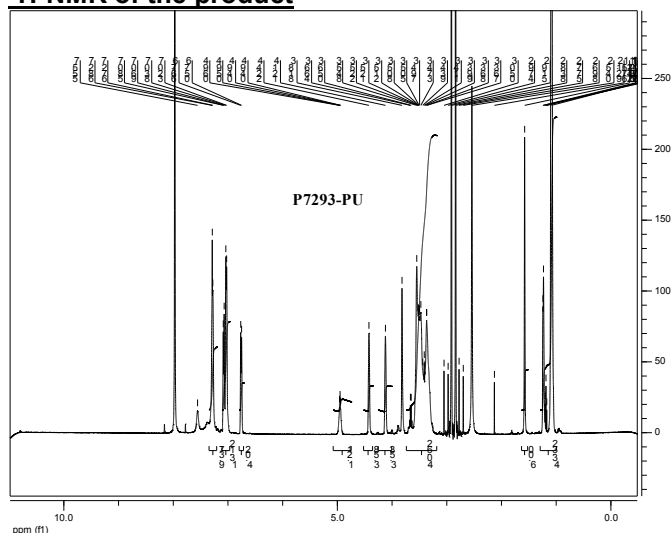
Characterization:

The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight, polydispersity index (PDI). The composition of the structure was determined by comparing the area of 7.09ppm deduct area of 6.773ppm (MDI), 1.0-1.4ppm (PPG) and 1.59ppm (BOAEO) in NMR spectrum.

Solubility:

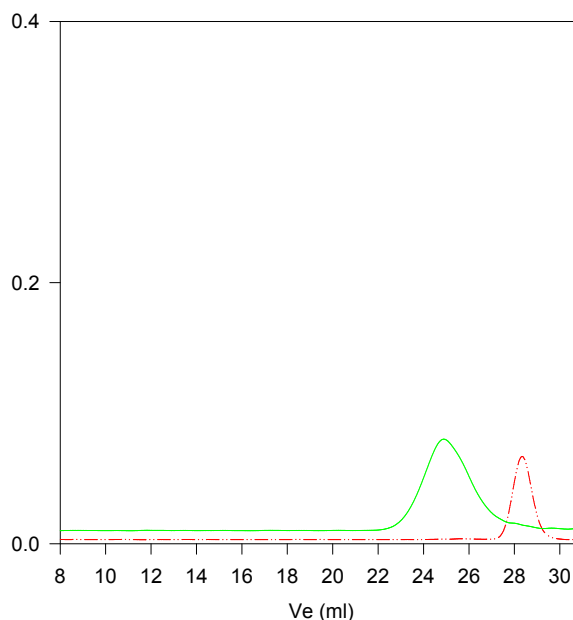
MDI:PPO:BPAEO (1.8:1.0:0.81)	Chloroform	DMF	THF	DMSO	Tg
	Y	Y	Y	Y (slow)	25 oC

¹H-NMR of the product



SEC of the product:

P7293- PU



Size exclusion chromatography:

--- Polypropylene glycol,
M_n=725, M_w=800, PI=1.1

— Final polymer polyurethanes Mw=16900 Mn=10600, PI=1.6