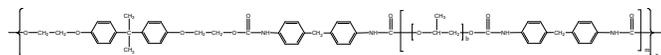


Sample Name:

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

Lot Sample #: **P7277-PU**

**Structure**



**Composition**

Mw x 10 <sup>3</sup>	Mw/Mn (PDI)	Composition
49.7	2.1	MDI:PPO:BPAEO 1.35:1.0:0.36 feed ratio
		From H NMR 1.35:1.47:0.25

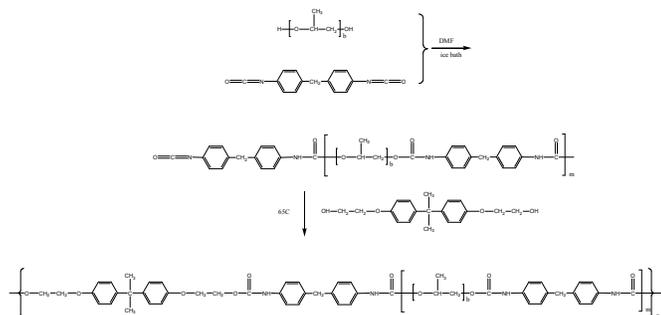
MDI: 4,4'-Methylenebis(phenyl isocyanate)

PPO: Poly(propylene glycol) (425)

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:



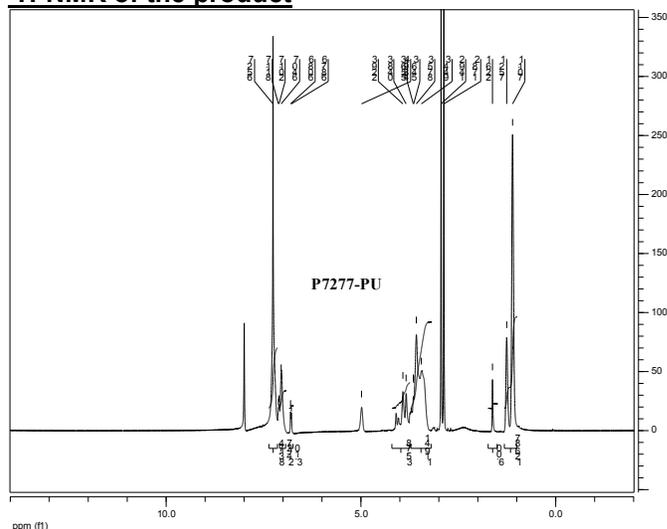
**Characterization:**

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 7.04ppm deduct area of 6.780ppm (MDI), 1.0-1.4ppm (PPG) and 1.59ppm (BOAEO) in NMR spectrum.

**Solubility:**

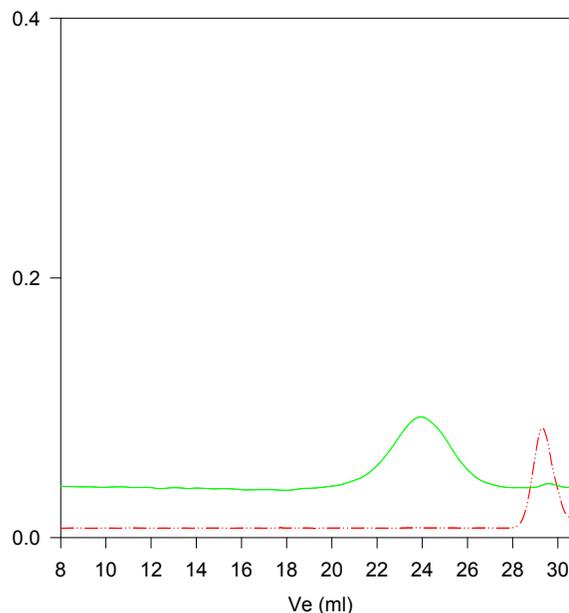
MDI:PPO:BPAEO 1.35:1.0:0.36	Chloroform	DMF	THF	DMSO	Tg oC
	Y	Y	Y	Y (slow)	23

**<sup>1</sup>H-NMR of the product**



**SEC of the product:**

**P7277- PU**



Size exclusion chromatography:

--- Polypropylene glycol,  
M<sub>n</sub>=425, M<sub>w</sub>=500, PI=1.18

— Final polymer polyurethanes Mw=49700 Mn=22900, PI=2.1