

Mühendislik Fakültesi



Kimya Mühendisliği Bölümü

KMB322-Polimer Kimyası ve Teknolojisi

Dr. Öğr. Üyesi, İsa DEĞİRMENCI

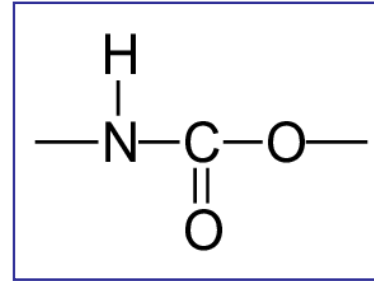
Poliüretanlar

KMB322-Polimer Kimyası ve Teknolojisi

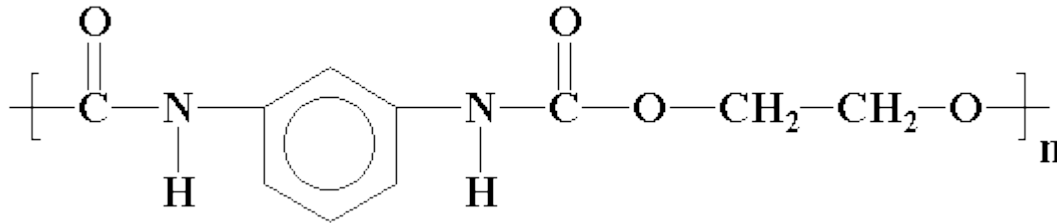
Hafta-5



Poliüretanlar

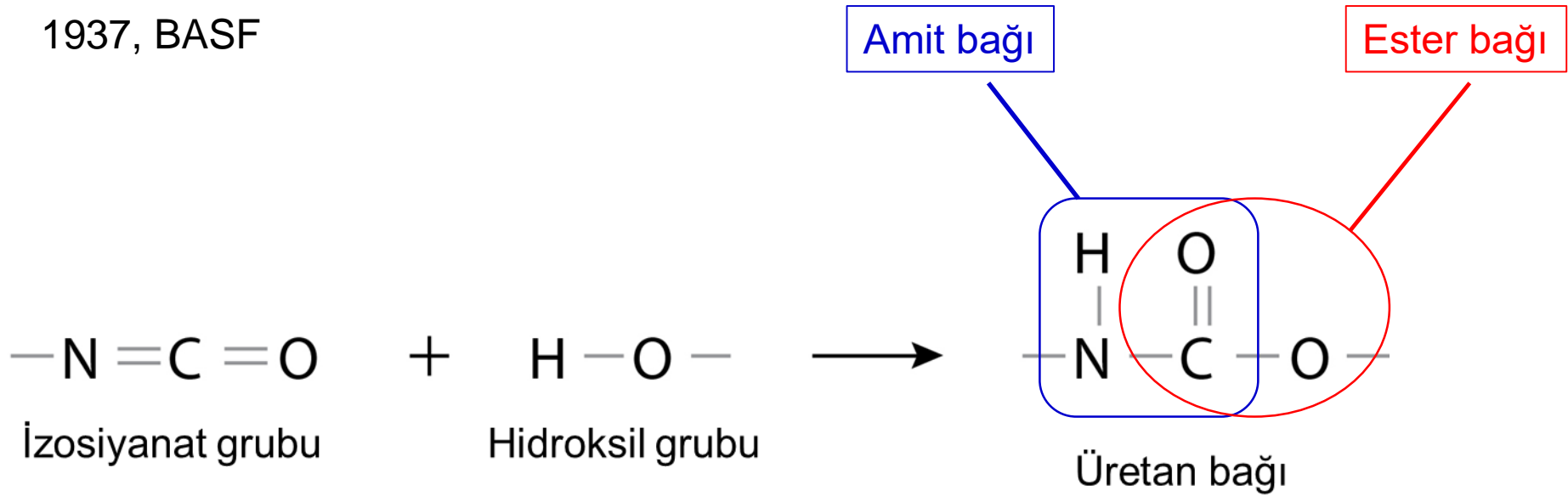


Üretan bağı

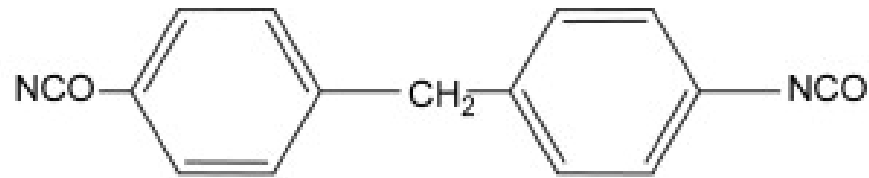


Poliüretanlar

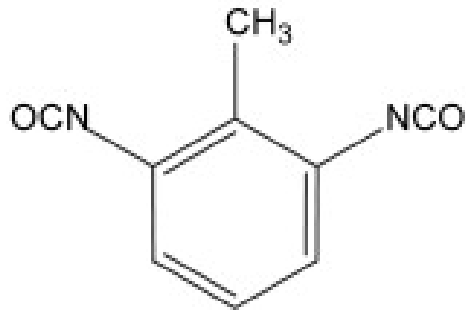
1937, BASF



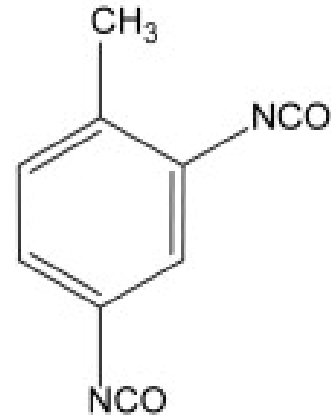
Ticari Diizosiyanatlar



Diphenylmethane diisocyanate (MDI)



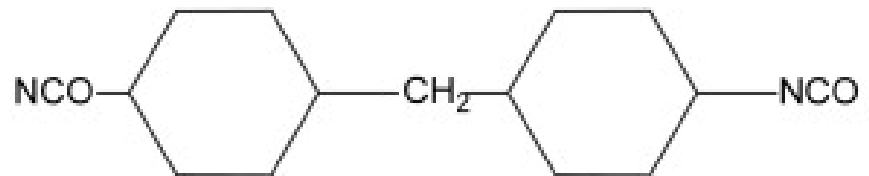
2,6-Toluene Diisocyanate (2,6-TDI)



2,4-Toluene Diisocyanate (2,4-TDI)



Hexamethylene Diisocyanate (HMDI)

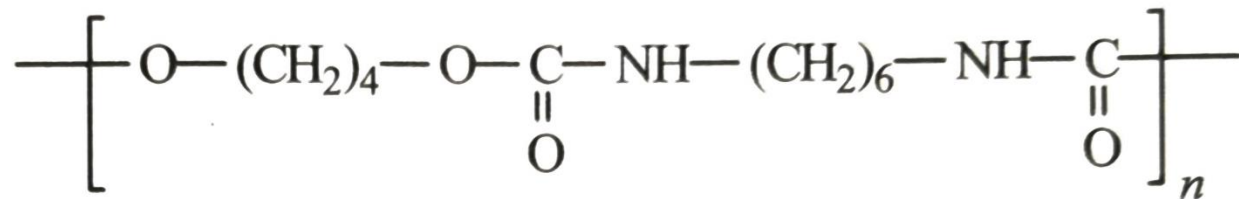


Methylene bis(4-cyclohexyl) diisocyanate (H₁₂MDI)

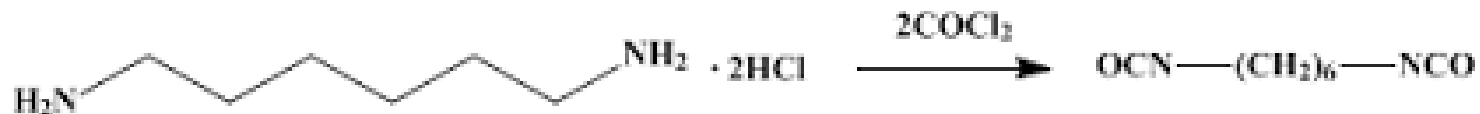


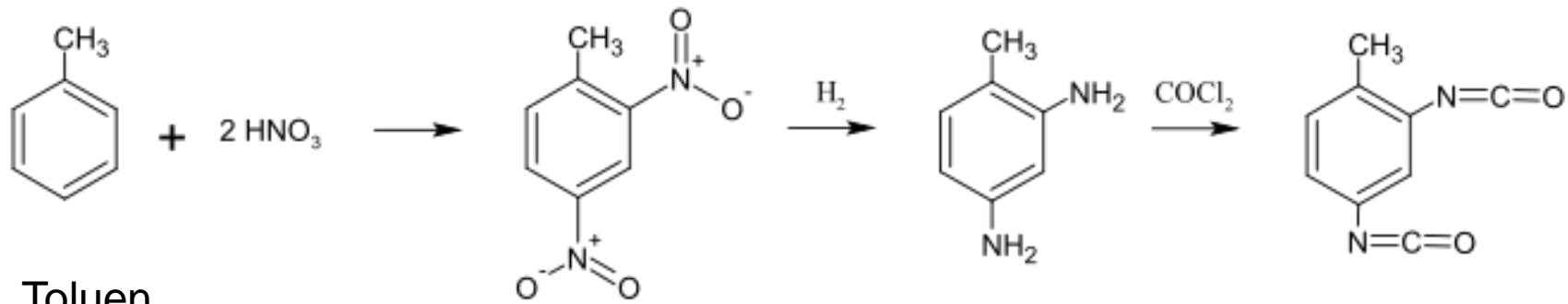
1,4-bütandiol

heksametilen diizosiyanat



poliüretan

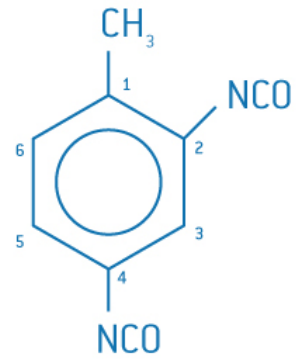




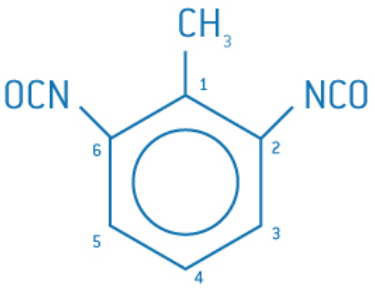
Toluen

Toluen diizosiyant (TDI)

TDI chemical structures

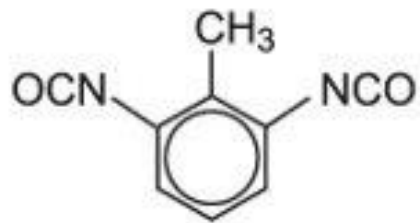


toluene-2,4-diisocyanate



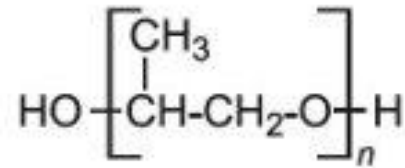
toluene-2,6-diisocyanate





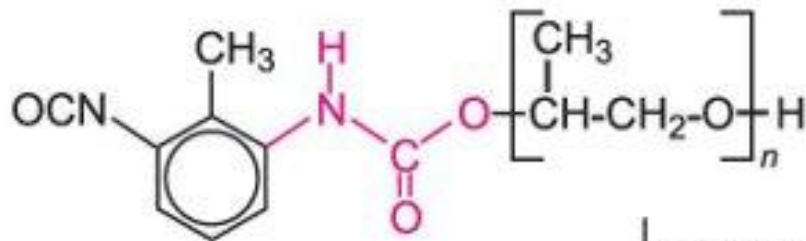
2,6-TDI
(a mixture of 2,4 and 2,6 isomers is normally used)

+

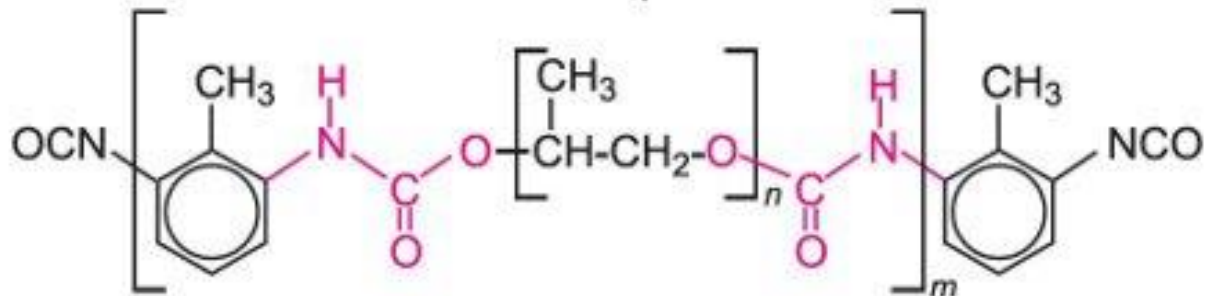


a polyol of low relative molecular mass (n is small)

first step

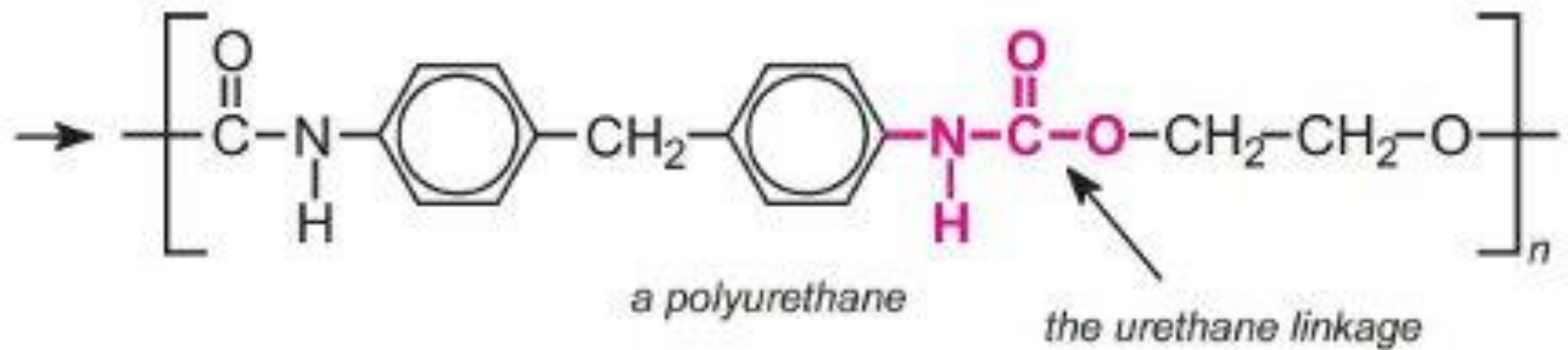
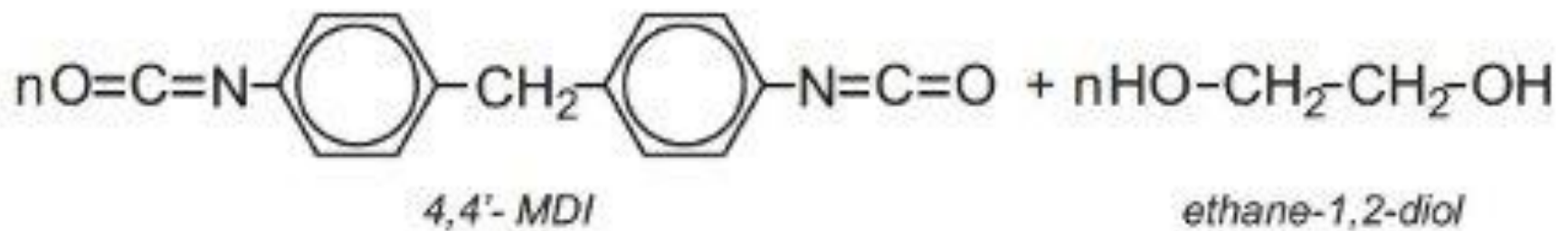


subsequent steps



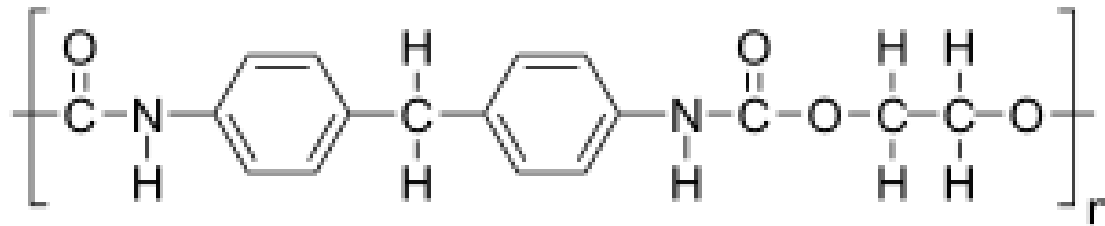
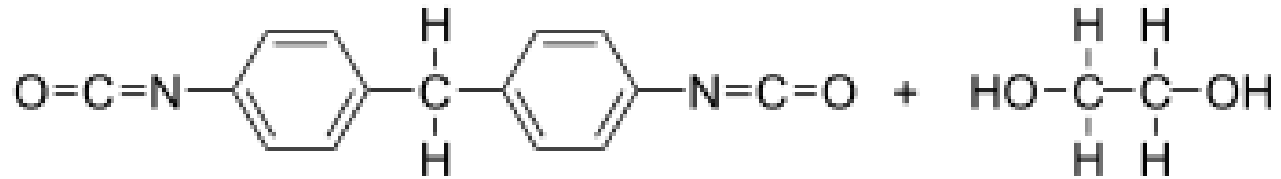
a long chain linear polyol



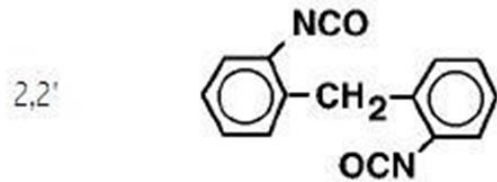
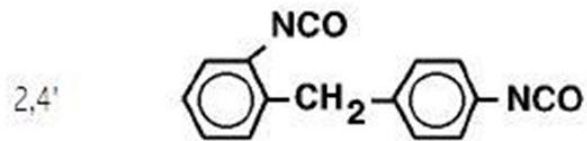
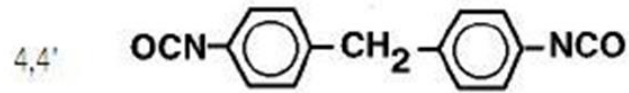
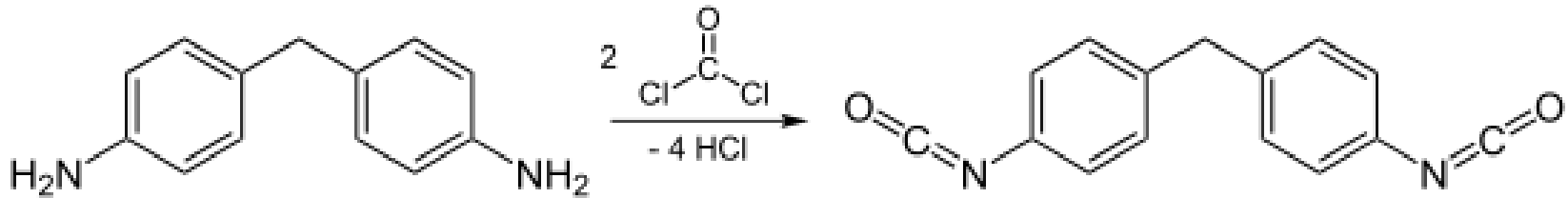
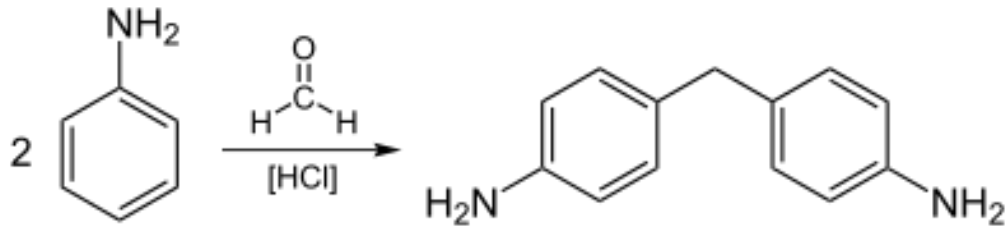


4,4'- Metilen-Difenil-diizosiyanat
(DMI)

Etil Glikol



poliüretan



Pure MDI's



PU Köpük oluşumu

