

Supplementary Information for

Polyurea networks via organic sol-gel crosslinking
polymerization of tetrafunctional amines and
diisocyanates and their selective adsorption and
filtration of carbon dioxide

*Su-Young Moon, Eunkyung Jeon, Jae-Sung Bae, Minseon Byeon and Ji-Woong Park**

* E-mail: jiwoong@gist.ac.kr, Tel: +82-62-715-2315, Fax: +82-62-715-2314

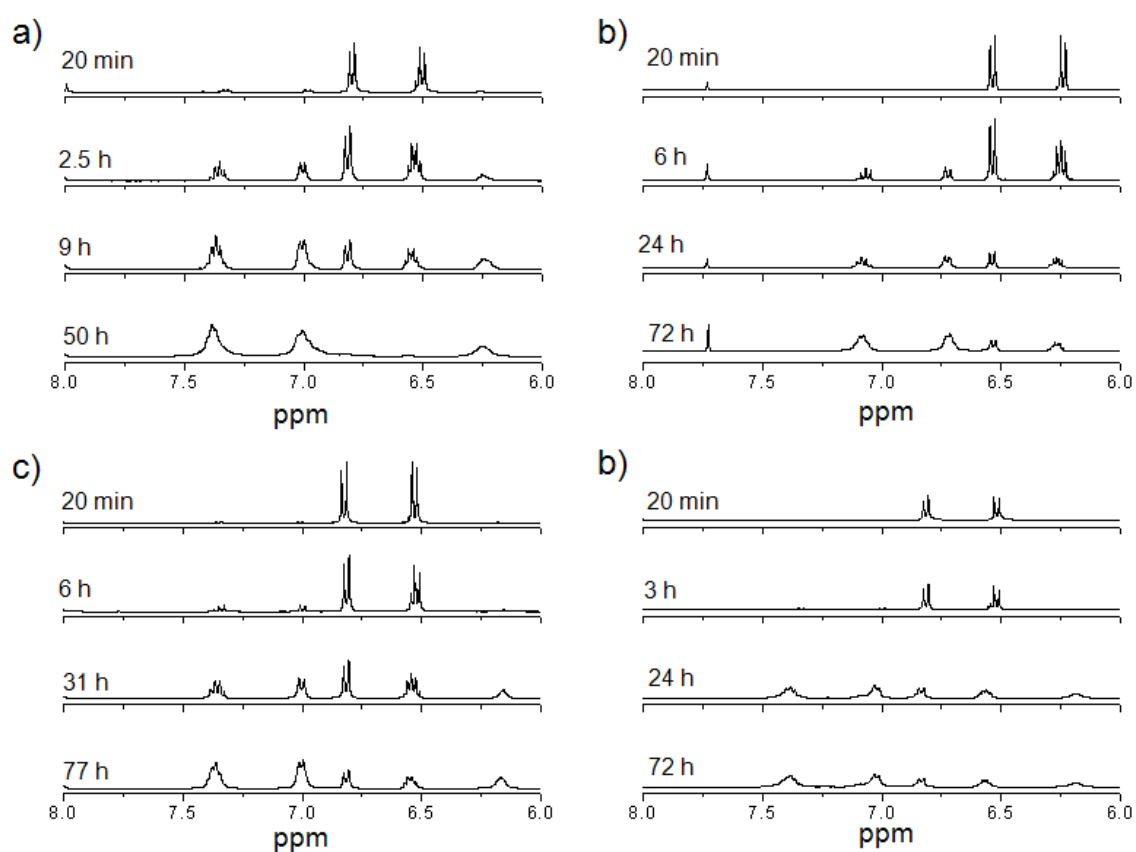


Fig. S1 ^1H NMR spectroscopy on the polymerization solution of 0.04 g/mL in DMF-d_7 recorded at different reaction times; a) TAPM/BDI, b) TAPM/HDI, c) TAPM/ODI, d) TAPM/DDI.

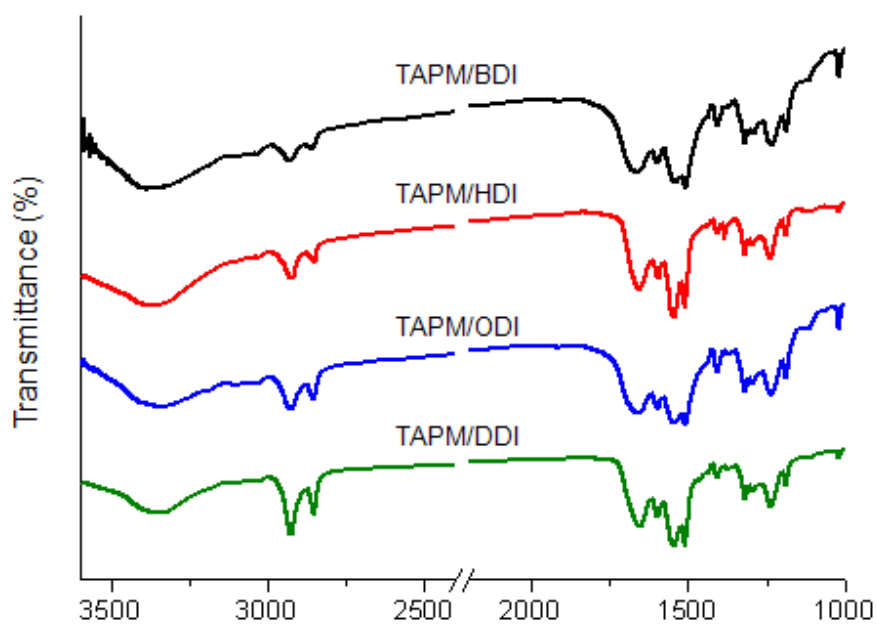


Fig. S2 FT-IR spectra of TAPM/BDI, TAPM/HDI, TAPM/ODI and TAPM/DDI

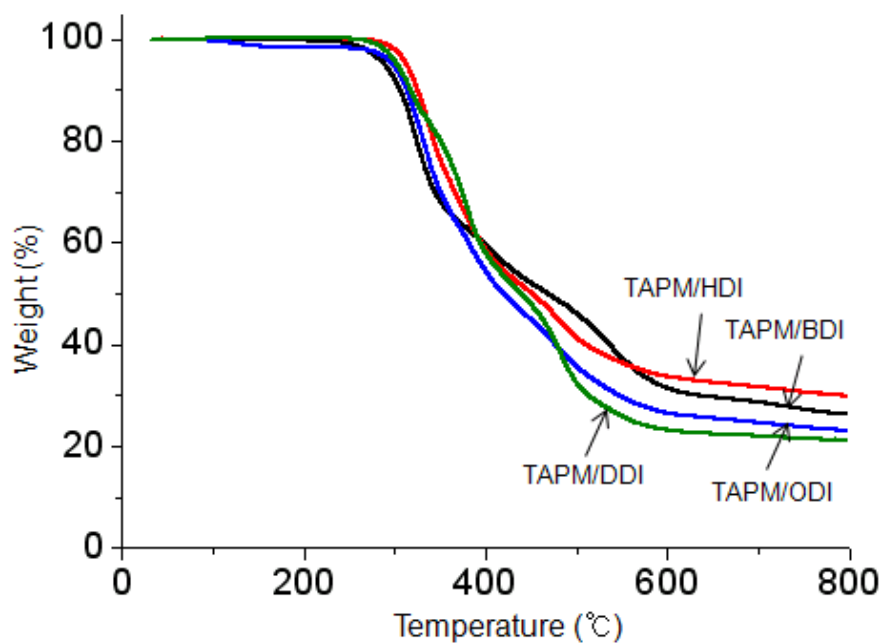


Fig. S3 TGA thermogram of TAPM/BDI, TAPM/HDI, TAPM/ODI and TAPM/DDI

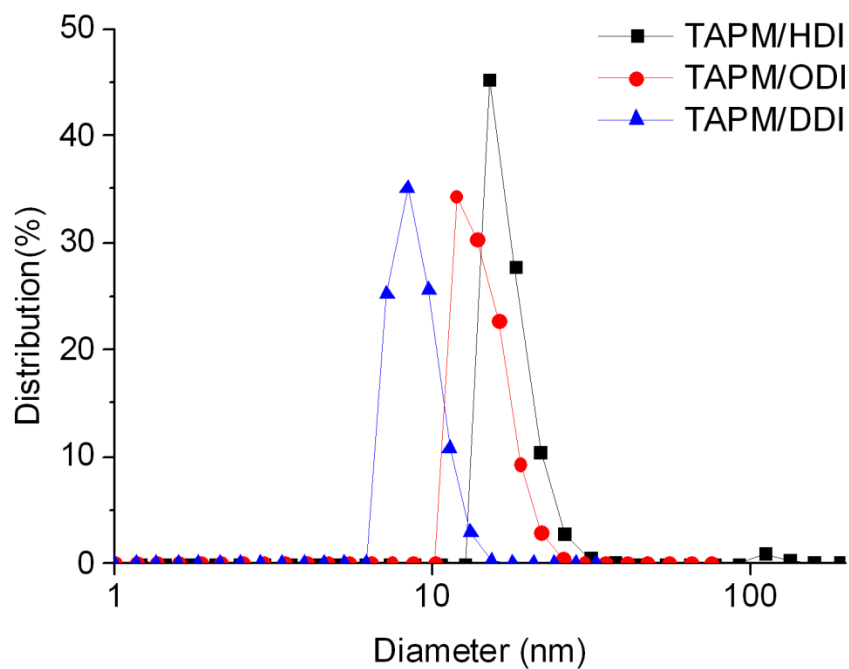


Fig. S4 Number distribution of particle diameter of 0.04 g/mL solution obtained from DLS measurements at the same reaction conversion (70 %).

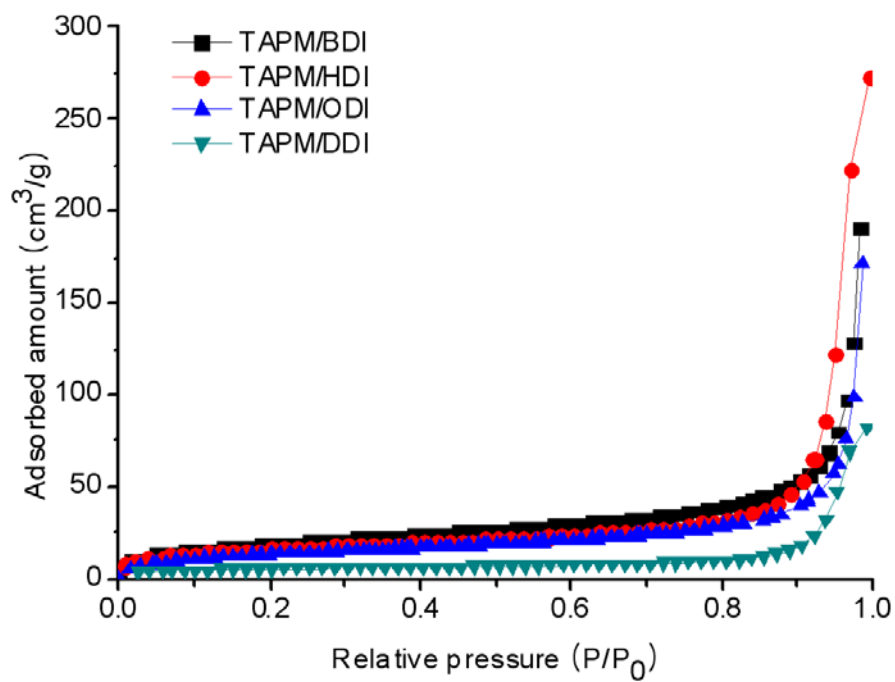


Fig. S5 Nitrogen adsorption for OMNs at 77K

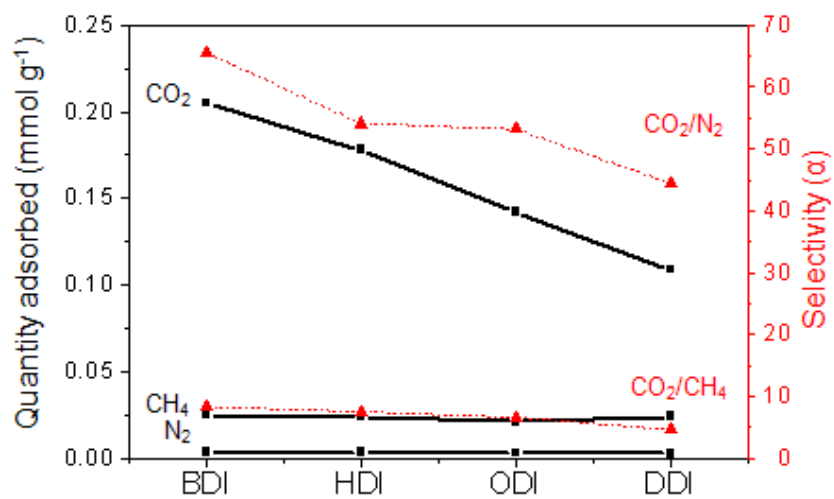


Fig. S6 Amount of adsorbed gas at 0.1 bar and gas adsorption selectivity for OMNs.

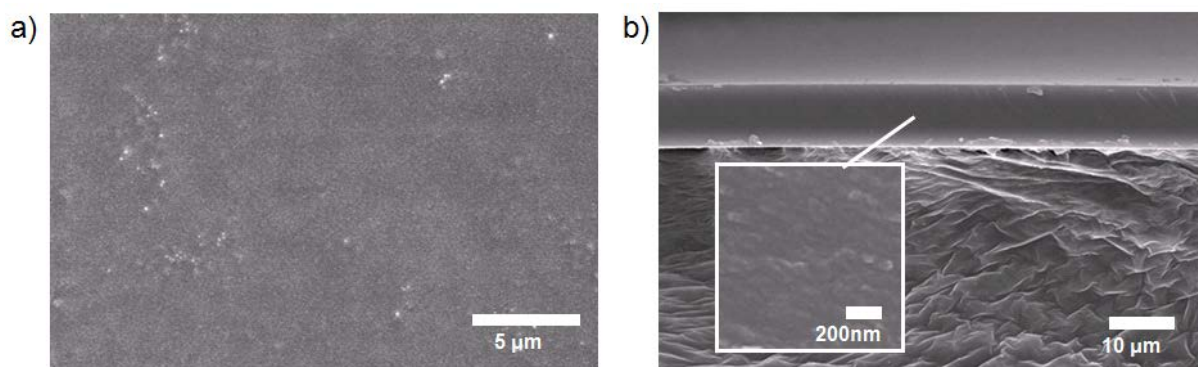


Fig. S7 SEM images of a) surface and cross section of TAPM/HDI free-standing film.