Supporting Information

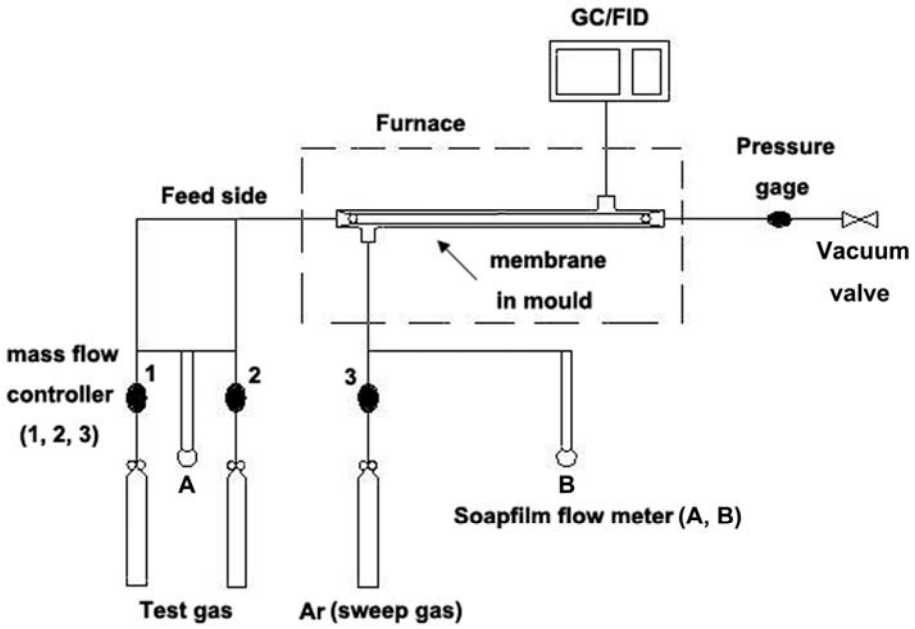

Fig. S1 The experimental set-up scheme for gas separation with hollow ceramic fiber supported $Cu_3(BTC)_2$ membranes.

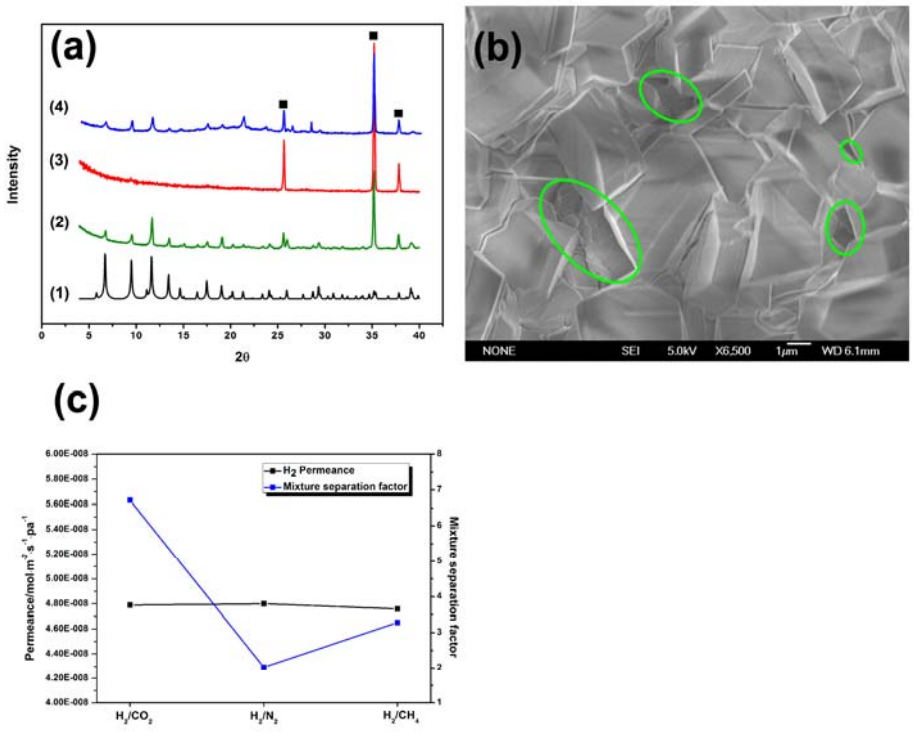

Fig. S2 (a) XRD patterns of simulated $Cu_3(BTC)_2$ (1), $Cu_3(BTC)_2$ seeded layer without chitosan (2), α-Al_2O_3 HCFs (3), and $Cu_3(BTC)_2$ membrane on α-Al_2O_3 HCFs without chitosan (4) (peaks from α-Al_2O_3 HCFs are marked by ■). (b) SEM image of $Cu_3(BTC)_2$ membrane without chitosan (Pinholes of $Cu_3(BTC)_2$ membrane are indicated by green circles), and (c) the gas separation performance of $Cu_3(BTC)_2$ membrane on α-Al_2O_3 HCFs without chitosan (H_2/CO_2, H_2/N_2 and H_2/CH_4 binary gas mixtures in the volume ratio 1:1 at 40 °C with a pressure drop of 1 atm).