Supporting Information

DEVELOPMENT OF P84/ZCC COMPOSITE CARBON MEMBRANE FOR GAS SEPARATION OF H_2/CO_2 AND H_2/CH_4

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1. **Gas permeation result of P84/ZCC composite carbon membrane with heating rate variation**

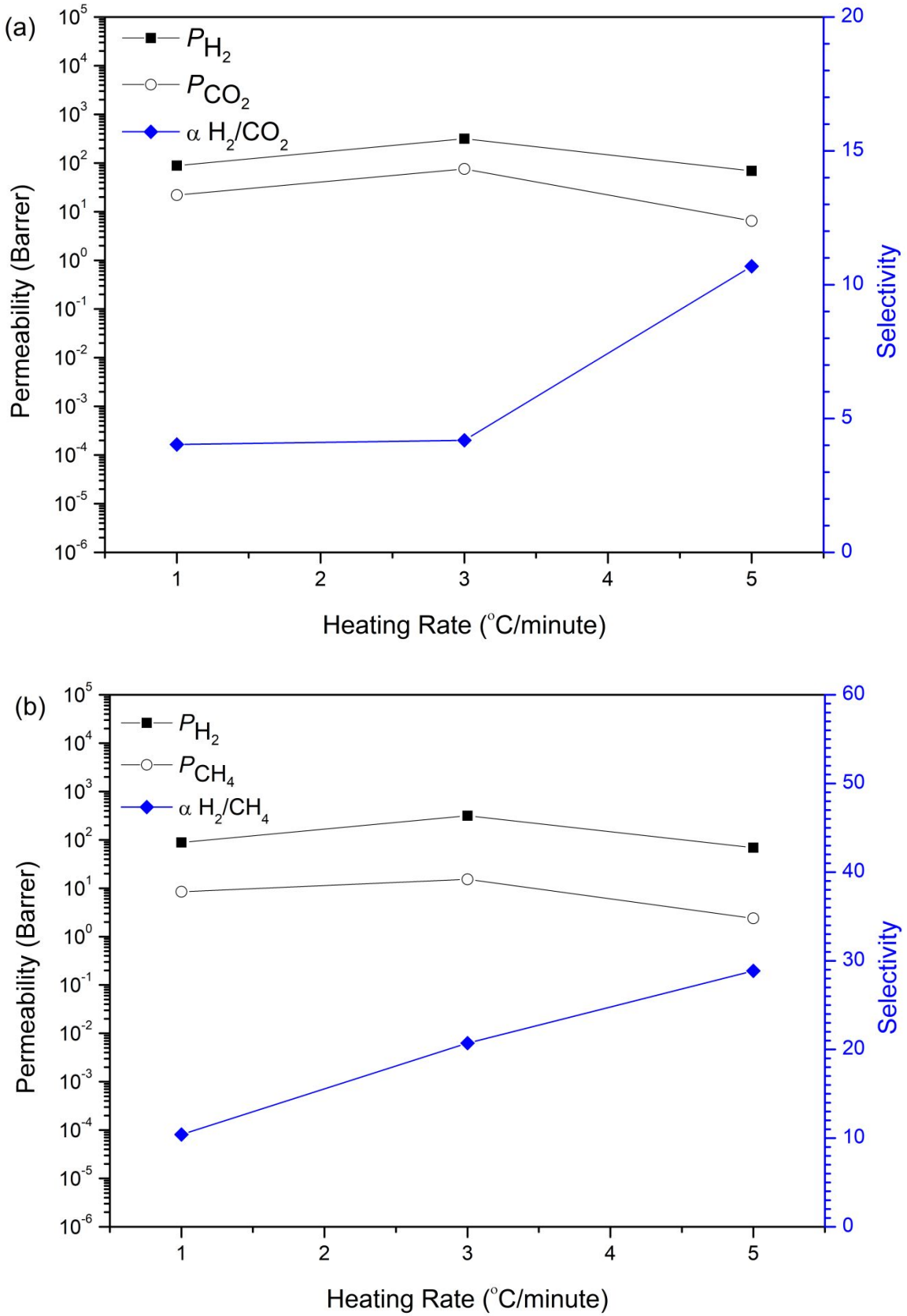

Figure S1. Permeability and selectivity of (a) H_2/CO_2 and (b) H_2/CH_4 with heating rate variation.

2. Gas permeation result of P84/ZCC composite carbon membrane at various permeation temperature

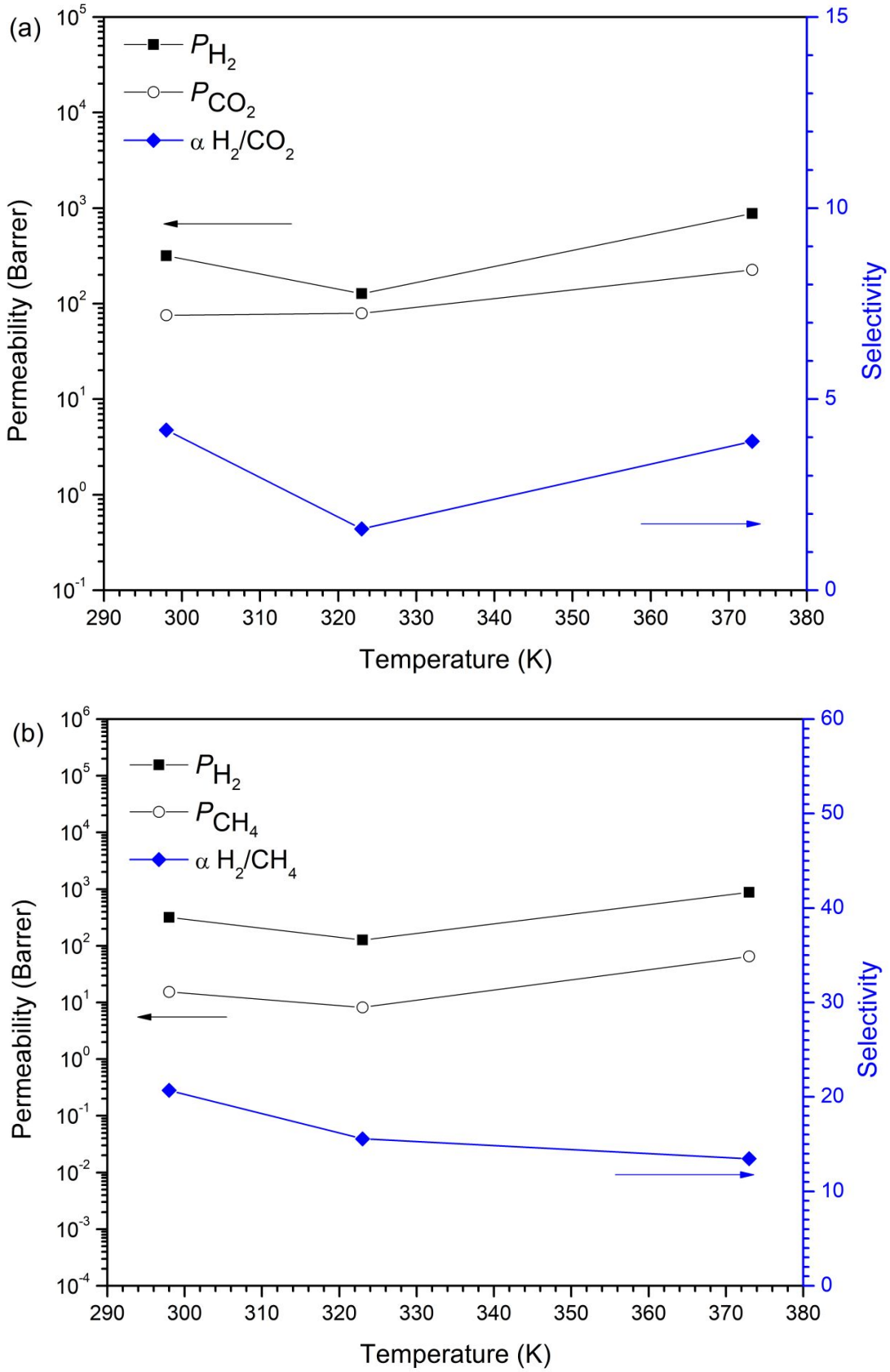

Figure. S2 Permeability and selectivity of (a) H_2/CO_2 and (b) H_2/CH_4 at various permeation temperatures.

3. P84/ZCC mixed matrix membrane and carbon composite membrane sample image

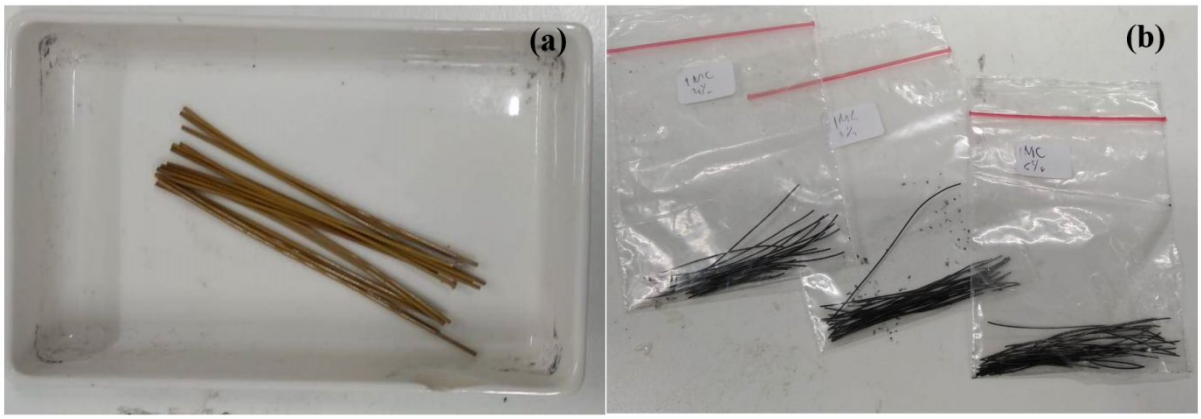

Figure S3. Image of P84/ZCC (a) mixed matrix membrane and (b) carbon composite membrane.