

Supporting Information for

Enhanced kinetic performance of amine-infused hydrogels for separating

CO₂ from CH₄/CO₂ gas mixture

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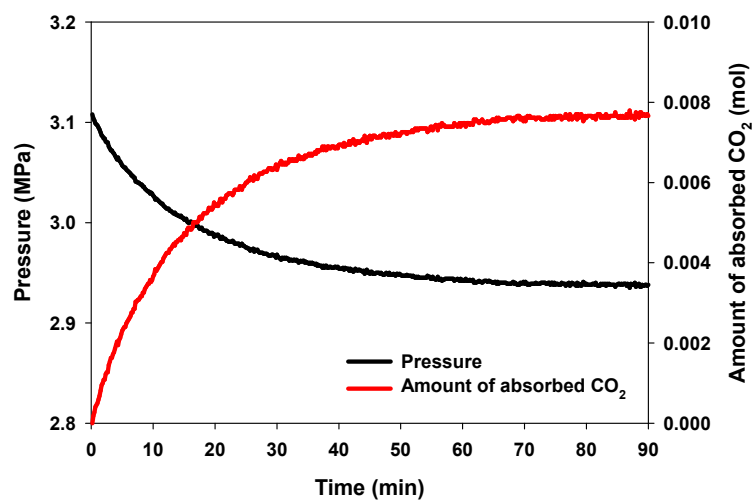


Figure S1. Pressure profile and amount of absorbed CO₂ calculated from pressure change ($\Delta n_{CO_2, pressure}$) during the experiment at 303 K

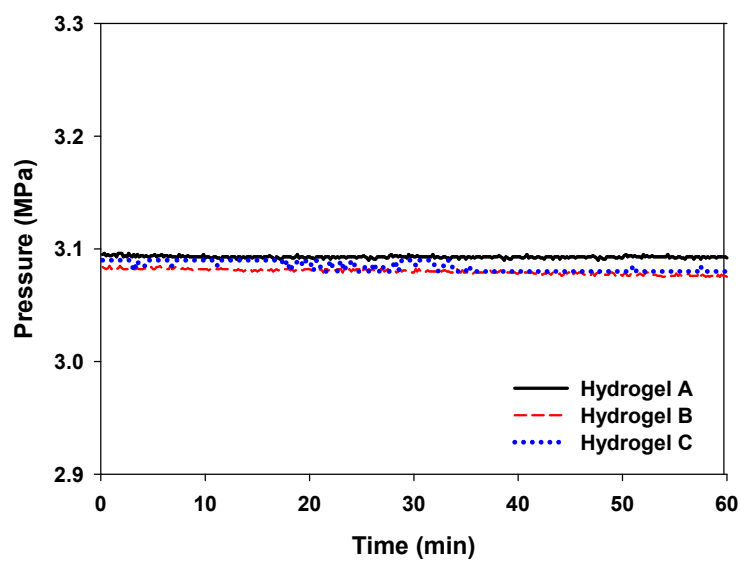


Figure S2. Pressure profile of methane (CH₄) gas on each hydrogel

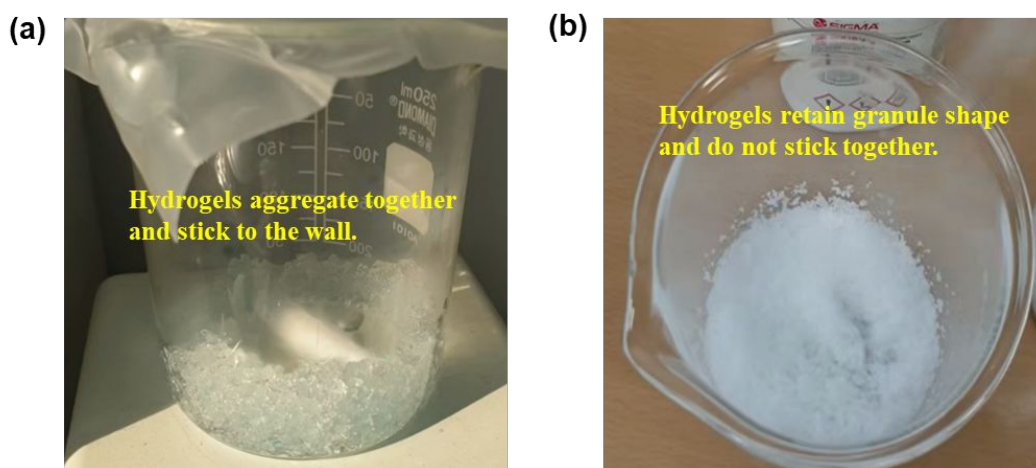


Figure S3. Shape of MEA-hydrogel B (a) and MEA-hydrogel C (b) under mixing condition

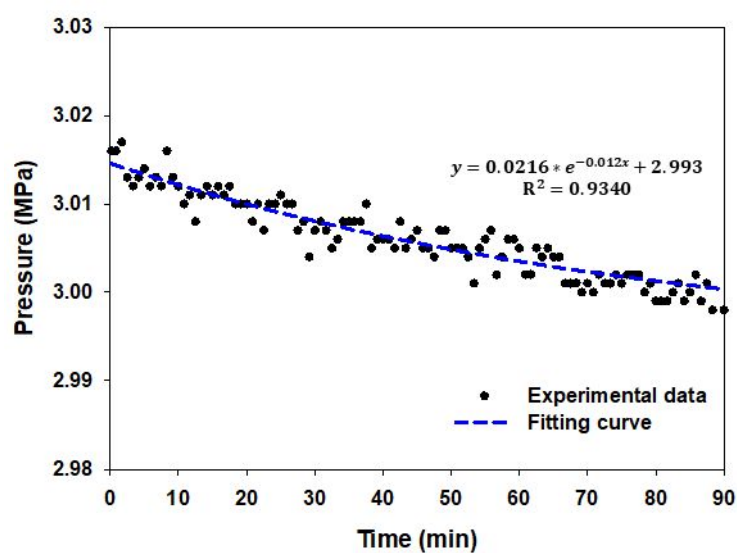


Figure S4. Pressure profile of methane (CH_4) gas in decane phase at 303 K

Table S1. Final composition of CH_4 and CO_2 in gas phase with decane liquid phase at 303 K

Method	Component	Final composition (mol%)
Measured by gas chromatography (GC)	CH_4	84.92
	CO_2	15.08
Calculated by pressure change	CH_4	84.93
	CO_2	15.07