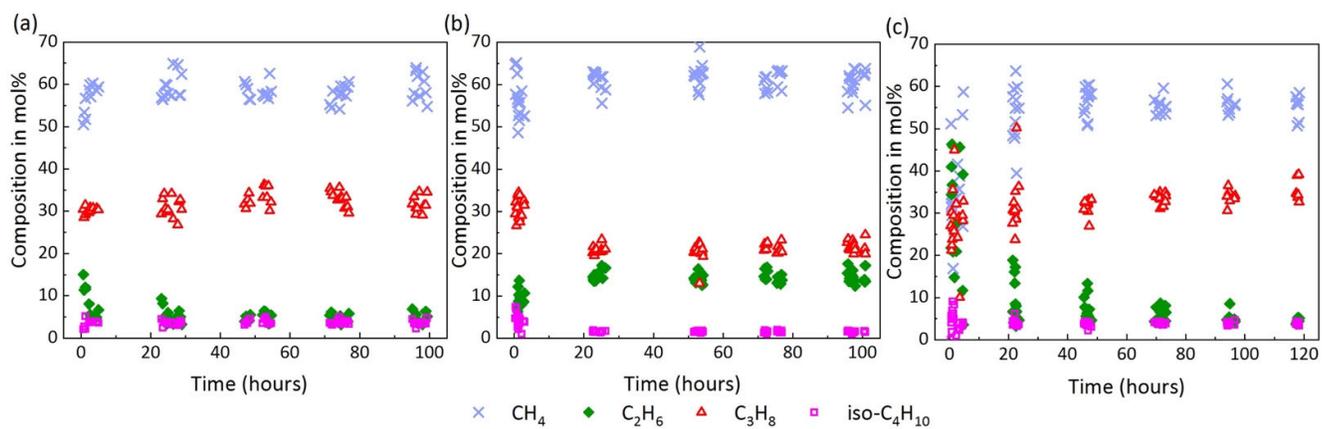


## Supporting Information



**Figure S1. Composition changes measured on the surface of mixed hydrate crystals during a repeated test in the open system (Figure S1a), the closed system (Figure S1b), and the semi-closed system (Figure S1c).**