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New Insights on a µm-Scale into the Transformation Process of CH_4 Hydrates to CO_2-Rich Mixed Hydrates

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Received: 22 June 2020; Accepted: 8 November 2020; Published: 12 November 2020

Supplementary Information

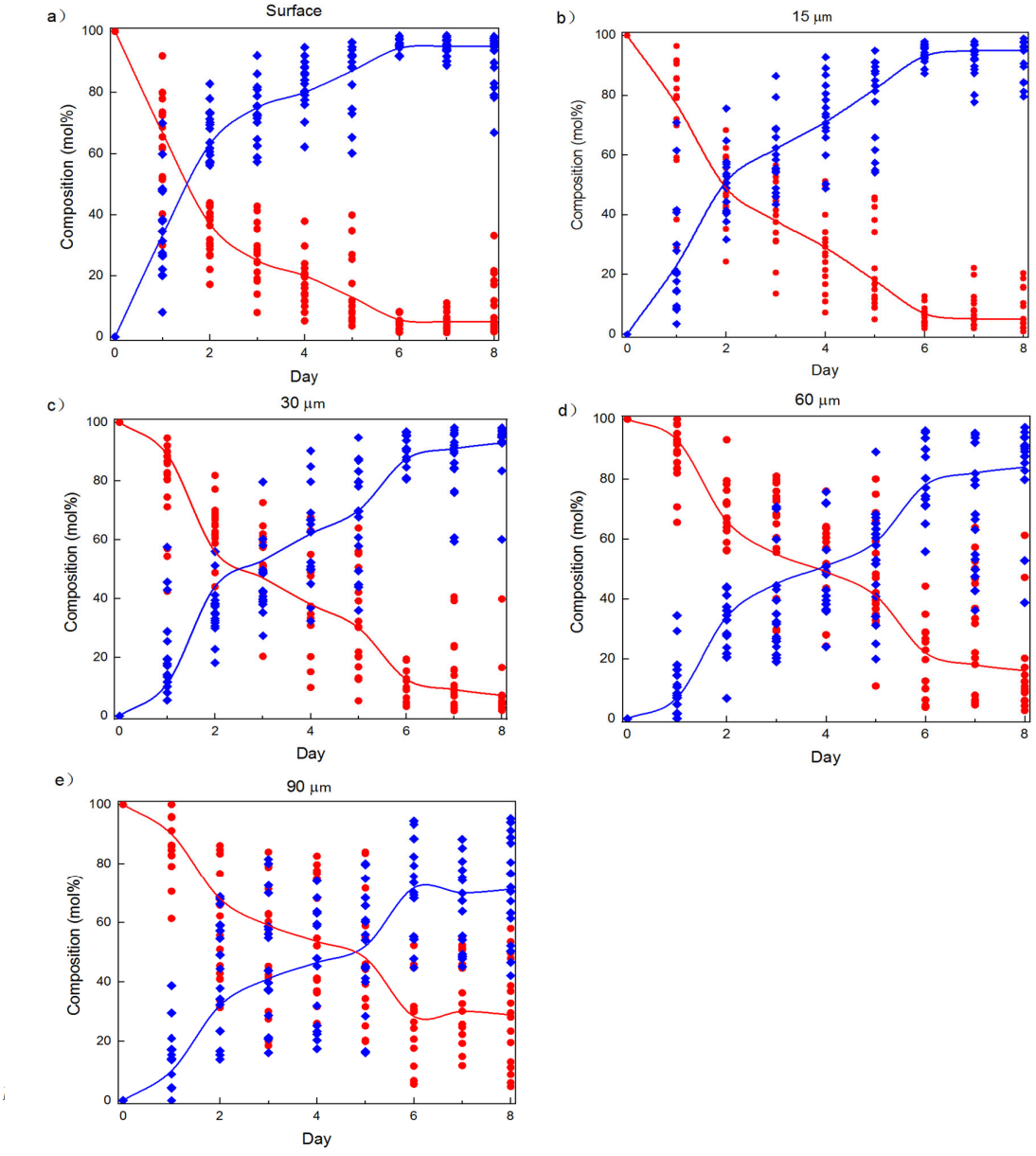

Figure S1. Composition of the selected hydrate crystals as a function of time at penetration depths of (a) surface, (b) 15 μm, (c) 30 μm, (d) 60 μm, and (e) 90 μm, after the exchange from CH_4 gas to CO_2 gas. Full circle symbol (●) is for CH_4 in hydrate phase, and full diamond symbol (♦) represents CO_2 in hydrate phase. Red and blue lines indicate the average compositions of CH_4 and CO_2 fitted by smooth curves. The standard deviation for the average composition ranged from 0.1 mol% to 9.4 mol% according to the data obtained from 3 parallel experiments.