

Figure S1 Typical course of methane production rate of FTS and HGL at 240°C after 1 h (left) and 3 h (right) of FTS ($V_{\text{syngas}, 240\text{ °C}} = 30 \text{ l}_{\text{STP}} (\text{g}_{\text{cat}} \text{ h})^{-1}$; $\text{H}_2/\text{CO} = 2/1$; $p_{\text{total, FTS}} = p_{\text{total, HGL}} = 15 \text{ bar}$; $p_{\text{H}_2, \text{HGL}} = 1 \text{ bar}$; $p_{\text{N}_2, \text{HGL}} = 14 \text{ bar}$).

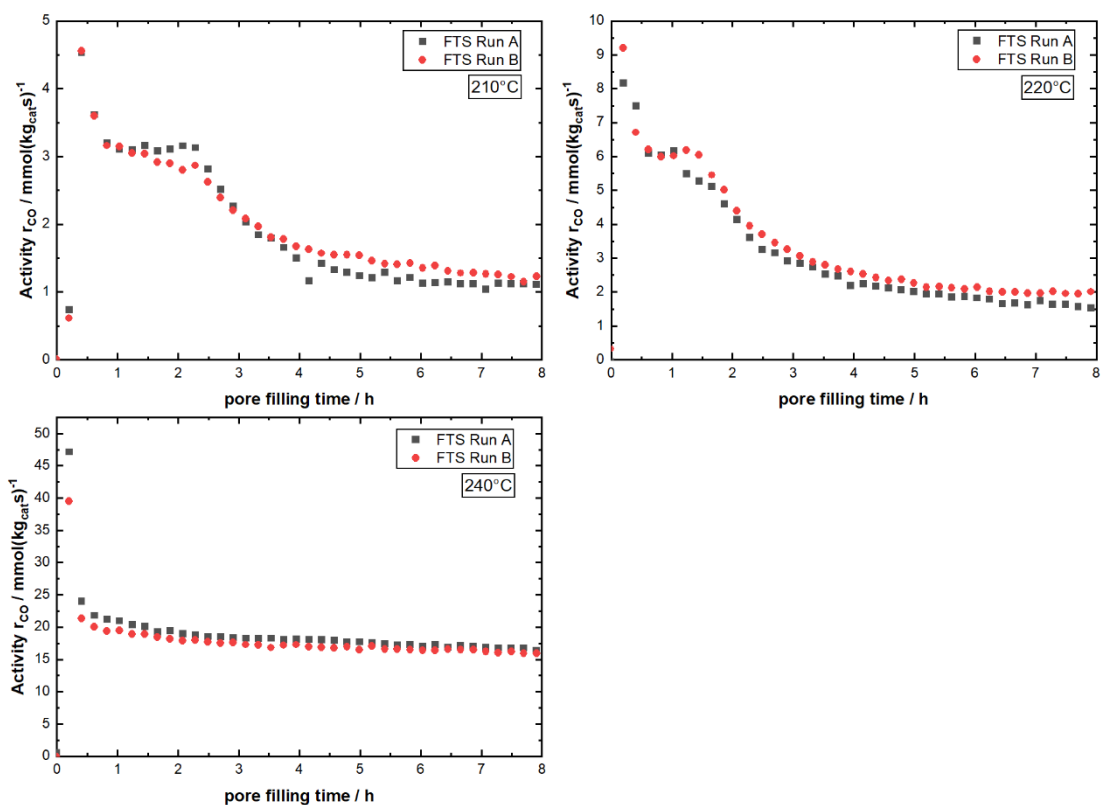


Figure S2 Comparison of FTS activities before and after pore draining using Hydrogenolysis at 210°C, 220°C and 240°C after 16 h FTS. FTS run A is measured prior to pore drainage, whereas FTS run B is measured directly after the pore drainage. Adapted from [52].