Figure S1 Progress of the CO conversion rate measured at 210°C, 220°C and 240°C. Apparent CO conversion rate is measured with the same set of process parameters except the temperature, which was always 40°C for any experiment. ($V_{syngas,210°C}$ = 2.5 $l_{STP}(g_{cat}h)^{-1}$; $V_{syngas,220°C}$ = 5 l_{STP} $(g_{cat}$ $h)^{-1}$; $V_{syngas,240°C}$ = 30 l_{STP} $(g_{cat}$ $h)^{-1}$; p_{total} = 15 bar; H_2/CO = 2/1).
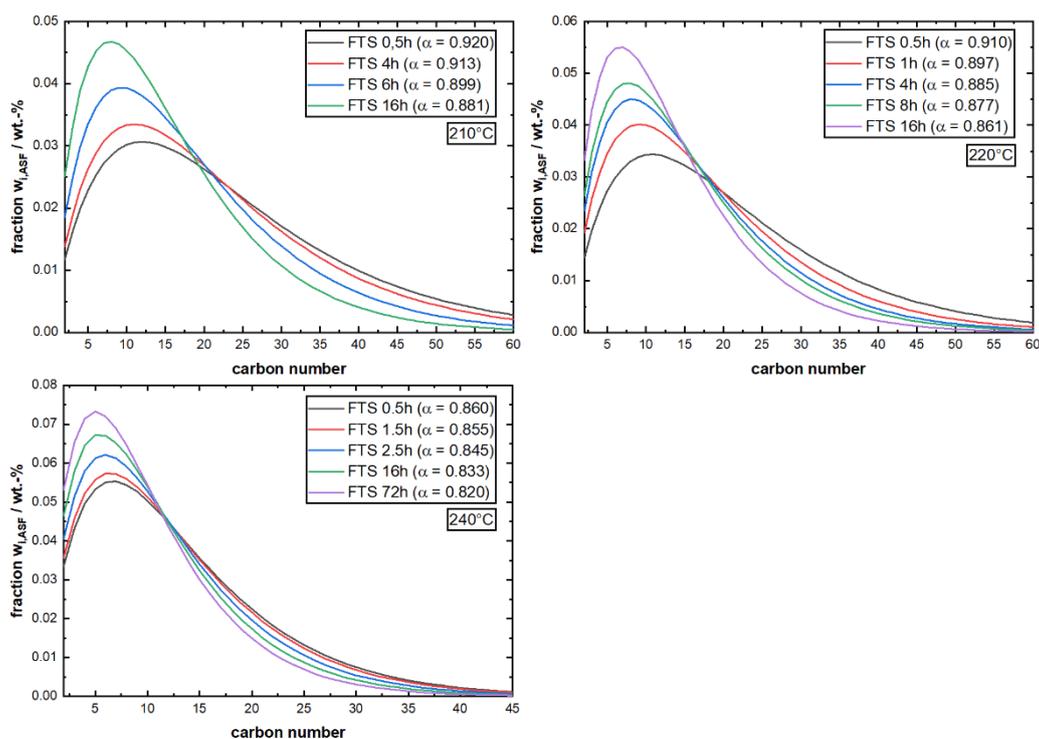
Figure S2 Progress of product distribution calculated from measured chain growth probability values using Anderson-Schulz-Flory equation during the initial time of Fischer-Tropsch synthesis.
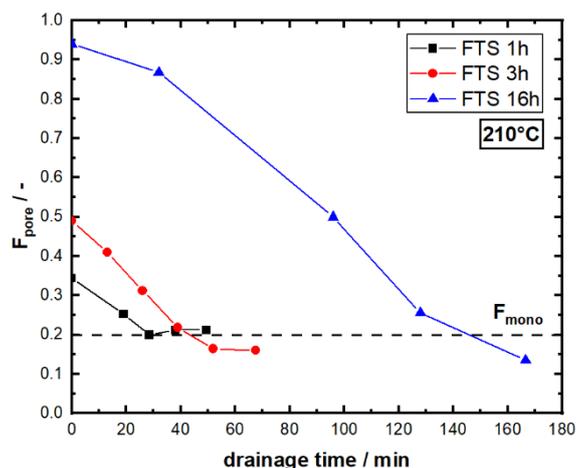
Figure S3 Decline of pore filling degree over drainage time for 210°C ($V_{HGL,total}$ = 45 l_{STP}/h; p_{H2} = 1 bar; ptotal = 15 bar).
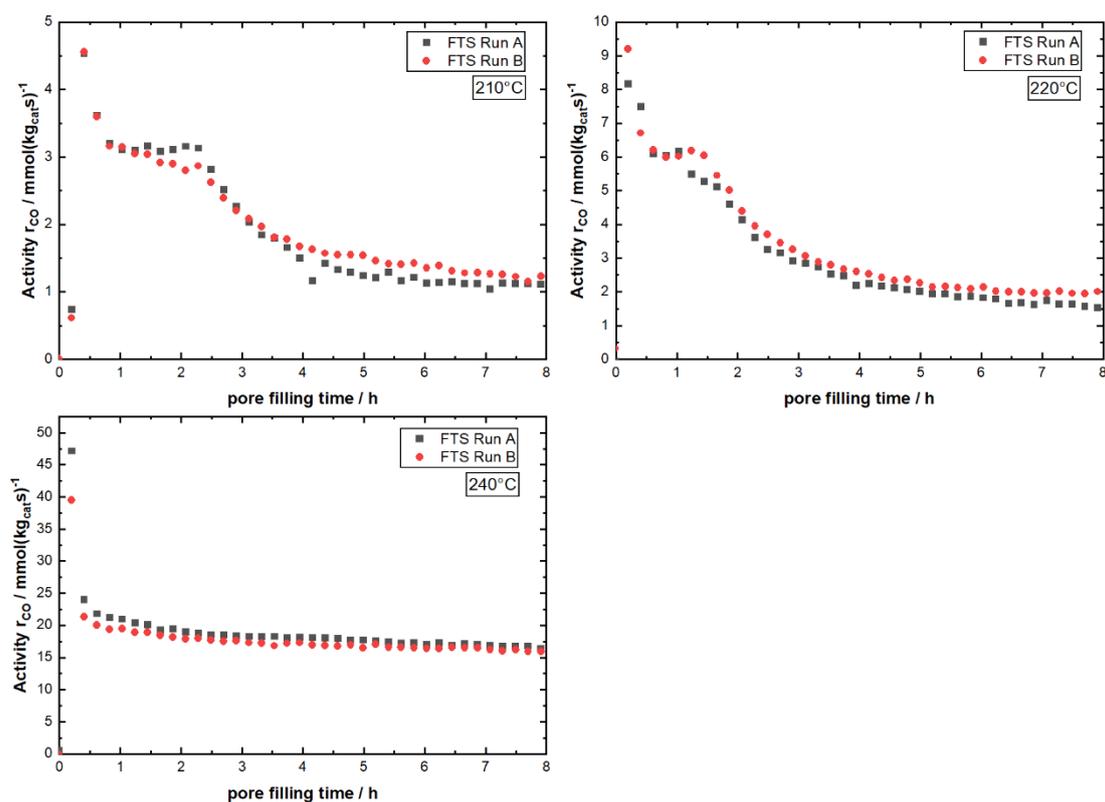
Figure S4 Comparison of FTS activities before and after pore draining using Hydrogenolysis at 210°C, 220°C and 240°C. FTS run A is measured prior to pore drainage, whereas FTS run B is measured directly after the pore drainage (full drainage, corresponds to last measuring point of the 16 h experiment visible in Figure 4 and Figure S3).
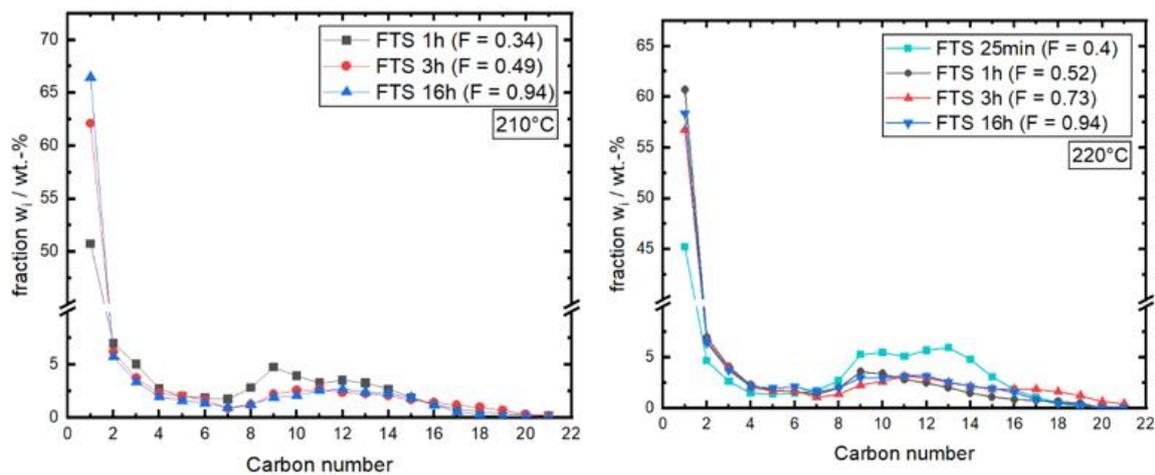
Figure S5 Typical distribution of products of hydrogenolysis at 210°C and 220°C after various Fischer-Tropsch synthesis time. Selectivity of methane and kerosene fraction (C_9-C_{17}) at different temperatures and pore filling degrees.