

Tuning the structure, thermal stability and rheological
properties of liquid crystal phases via the addition of silica
nanoparticles

Electronic Supplementary Information

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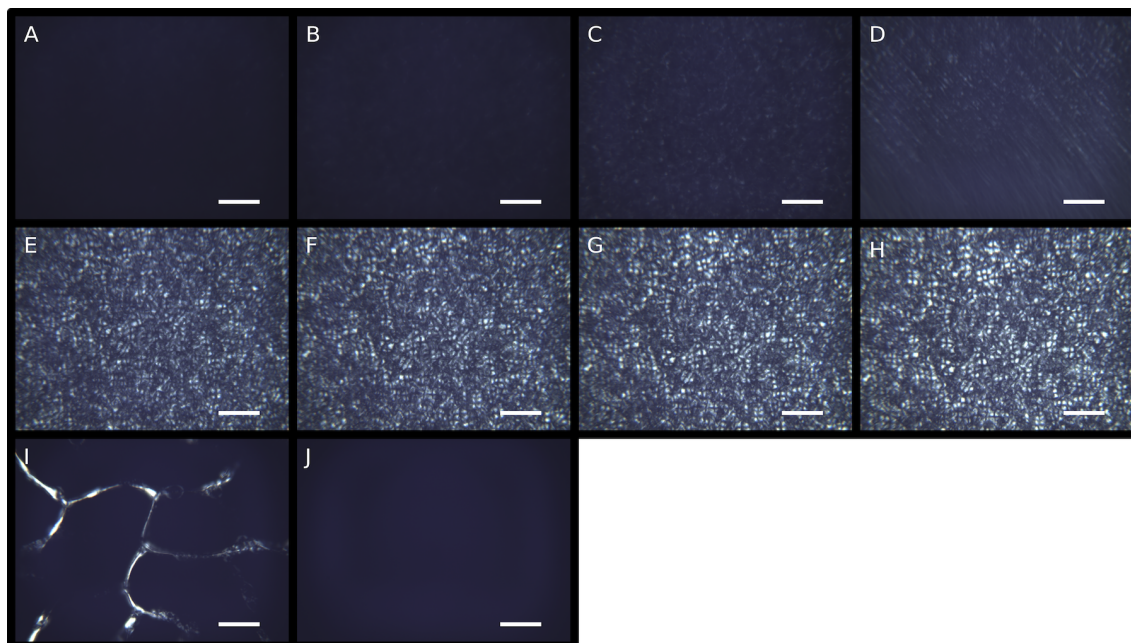


Figure S1: Polarising light microscopy (PLM) images of system F while heating at $2^{\circ}\text{C}/\text{min}$. (A) 2°C , (B) 5°C , (C) 10°C , (D) 15°C , (E) 20°C , (F) 25°C , (G) 30°C , (H) 35°C , (I) 40°C , and (J) 45°C . The scale bar represents 0.2 mm.

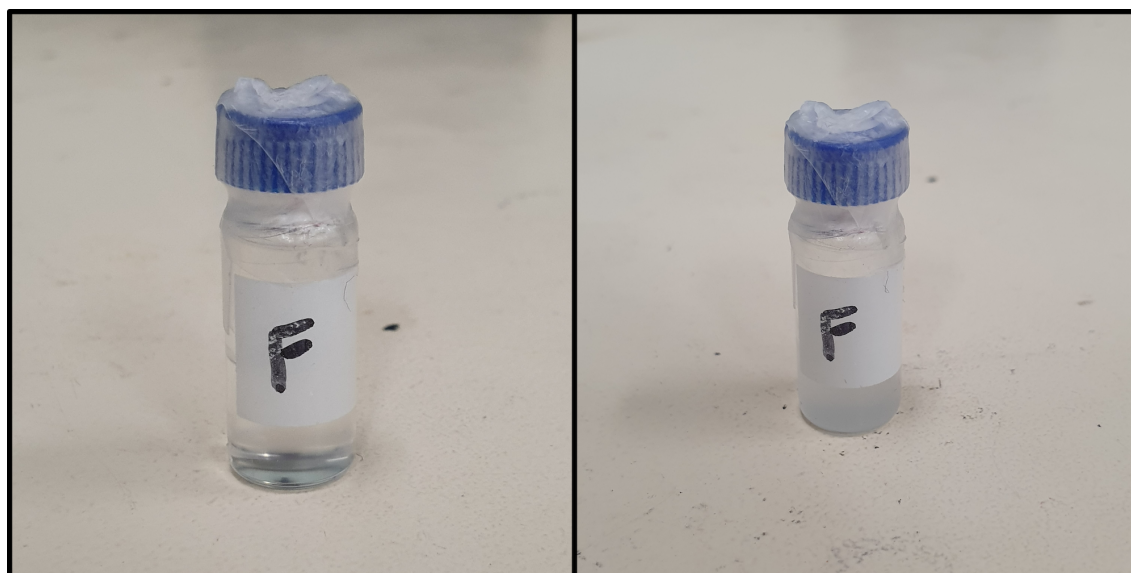


Figure S2: Photographs of a vial of system F before (left) and after (right) five minutes in the refrigerator at $\approx 4^{\circ}\text{C}$, showing temperature-induced phase separation (visible as clouding).

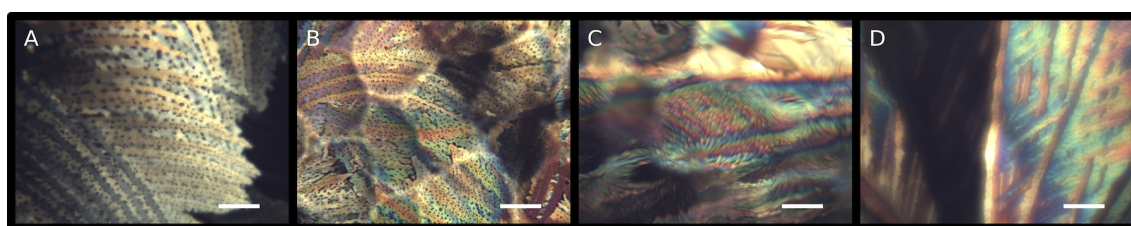


Figure S3: Polarising light microscopy (PLM) images of /textitp-xylene at 0°C. The scale bar represents 0.2 mm. Note that condensation was observed on top of the slide for (B) and (C).

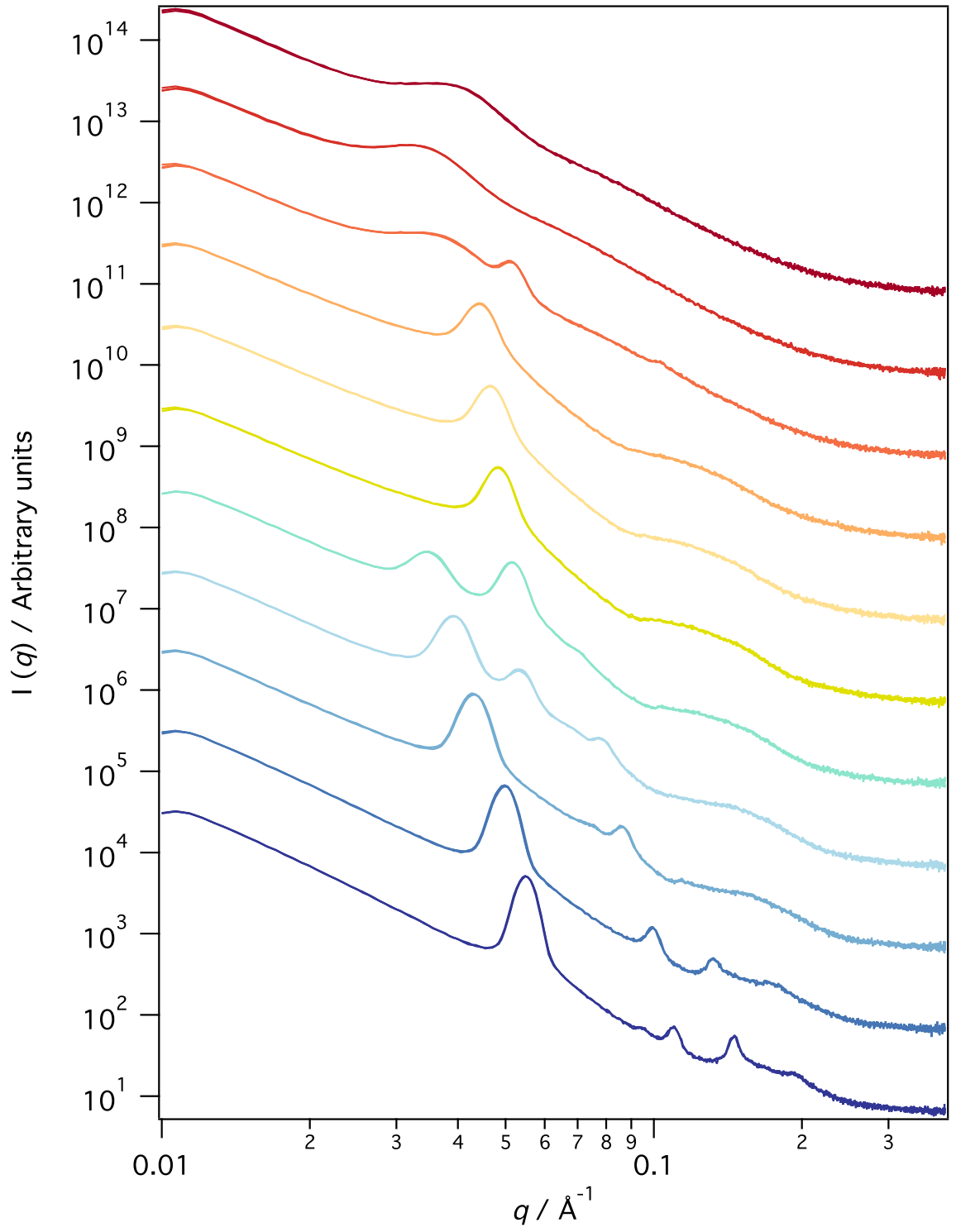


Figure S4: Temperature controlled SAXS measurements for system F/HB . Spectra above 26°C were collected while heating, and temperatures below 26°C were collected while cooling (i.e. the return to 26°C after heating or cooling is not depicted).

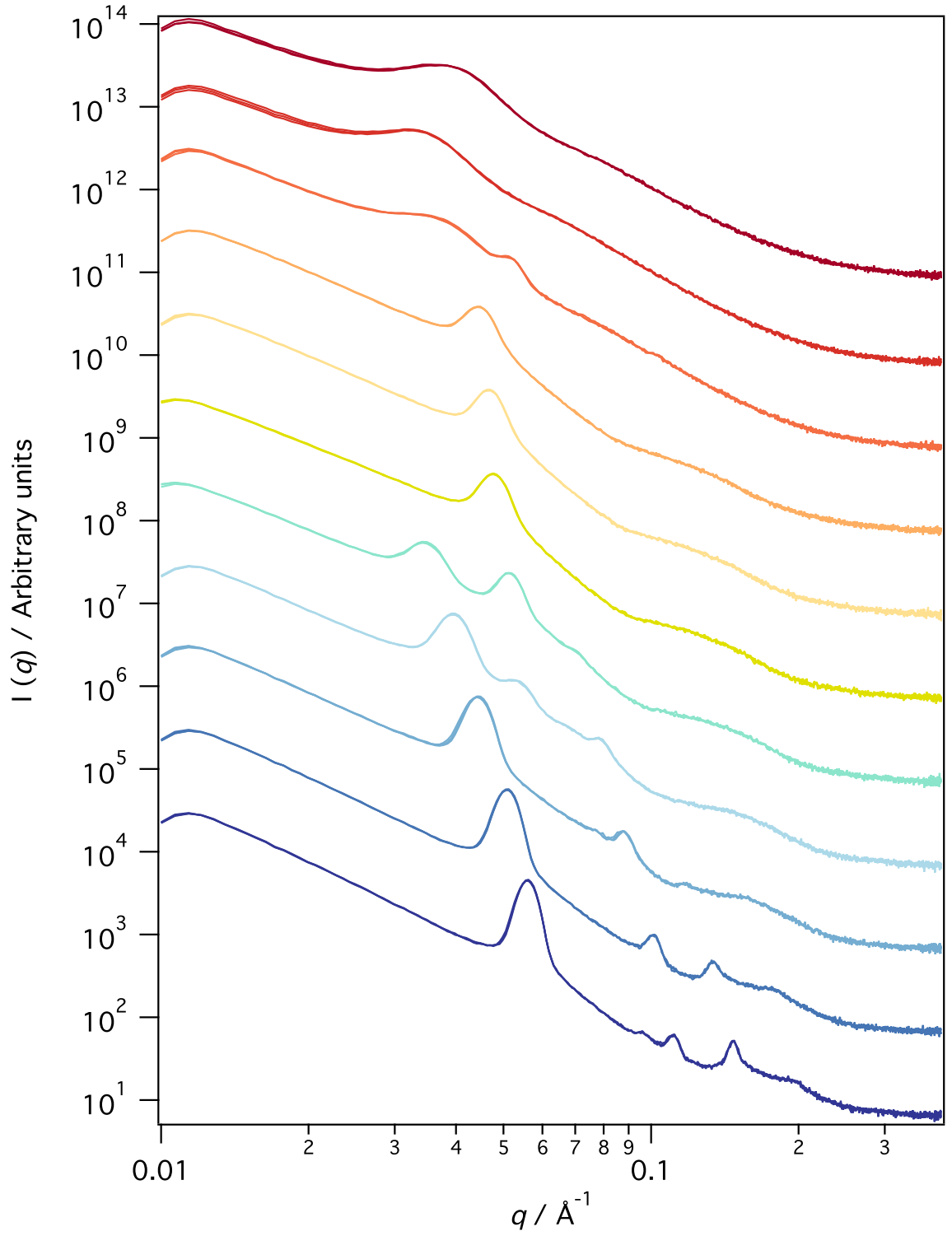


Figure S5: Temperature controlled SAXS measurements for system F/HP . Spectra above 26°C were collected while heating, and temperatures below 26°C were collected while cooling (i.e. the return to 26°C after heating or cooling is not depicted).

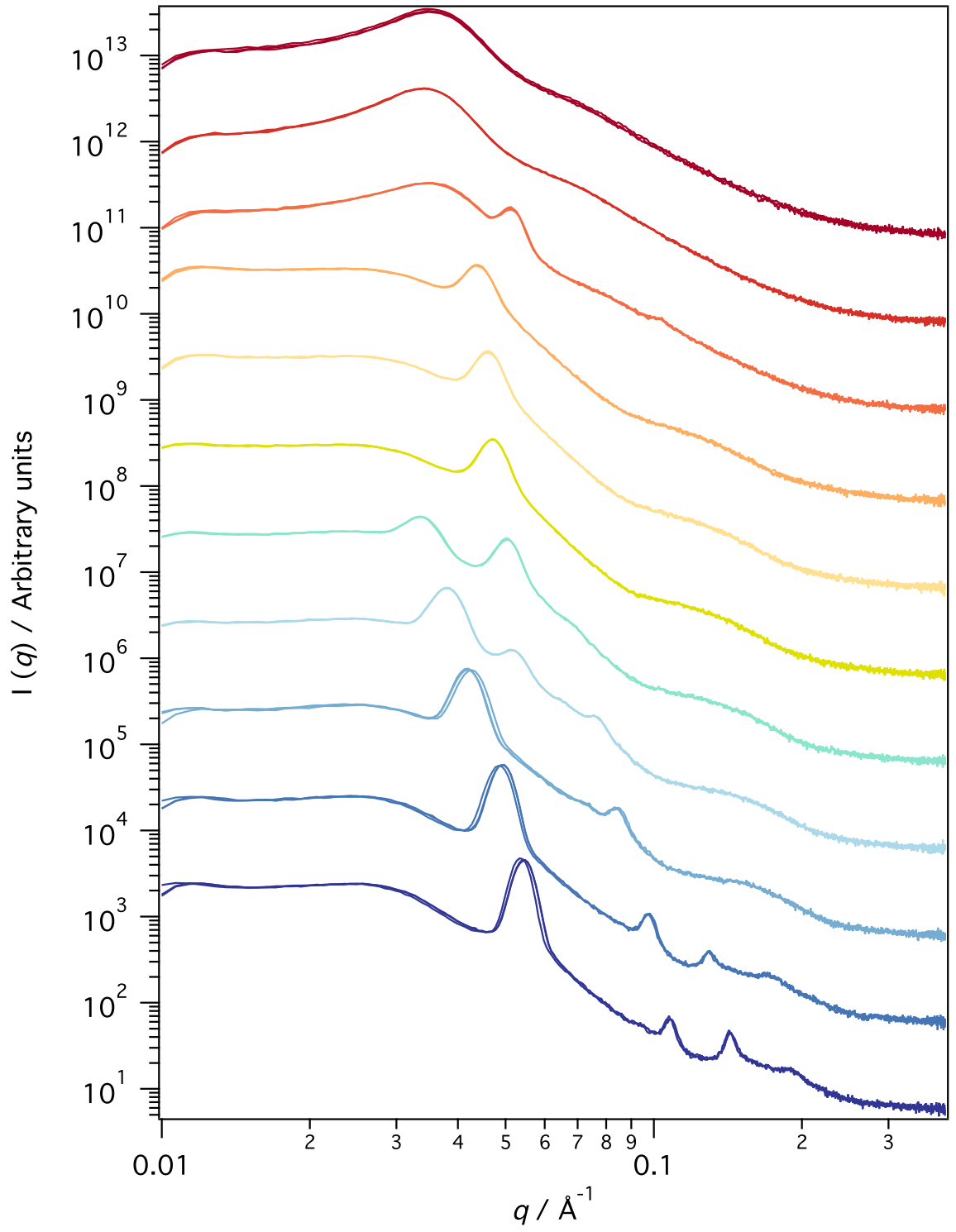


Figure S6: Temperature controlled SAXS measurements for system $F/20$. Spectra above 26°C were collected while heating, and temperatures below 26°C were collected while cooling (i.e. the return to 26°C after heating or cooling is not depicted).

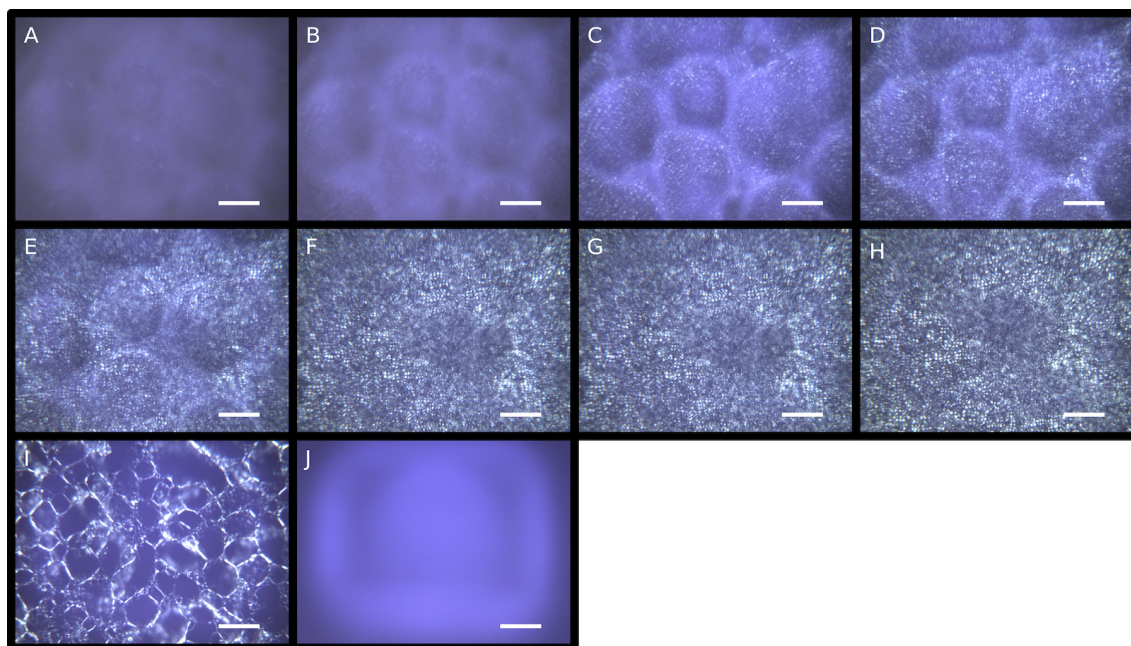


Figure S7: Polarising light microscopy (PLM) images of system F/HB while heating at $2^{\circ}\text{C}/\text{min}$. (A) 2°C , (B) 5°C , (C) 10°C , (D) 15°C , (E) 20°C , (F) 25°C , (G) 30°C , (H) 35°C , (I) 40°C , and (J) 45°C . The scale bar represents 0.2 mm.

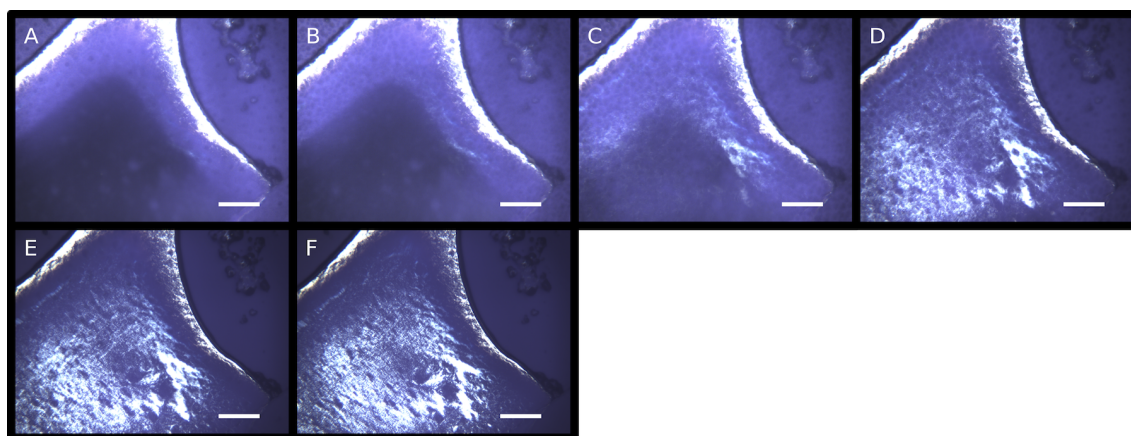


Figure S8: Polarising light microscopy (PLM) images of system F/HP while heating at $5^{\circ}\text{C}/\text{min}$. (A) 0°C , (B) 5°C , (C) 10°C , (D) 15°C , (E) 20°C , and (F) 25°C . The scale bar represents 0.2 mm.