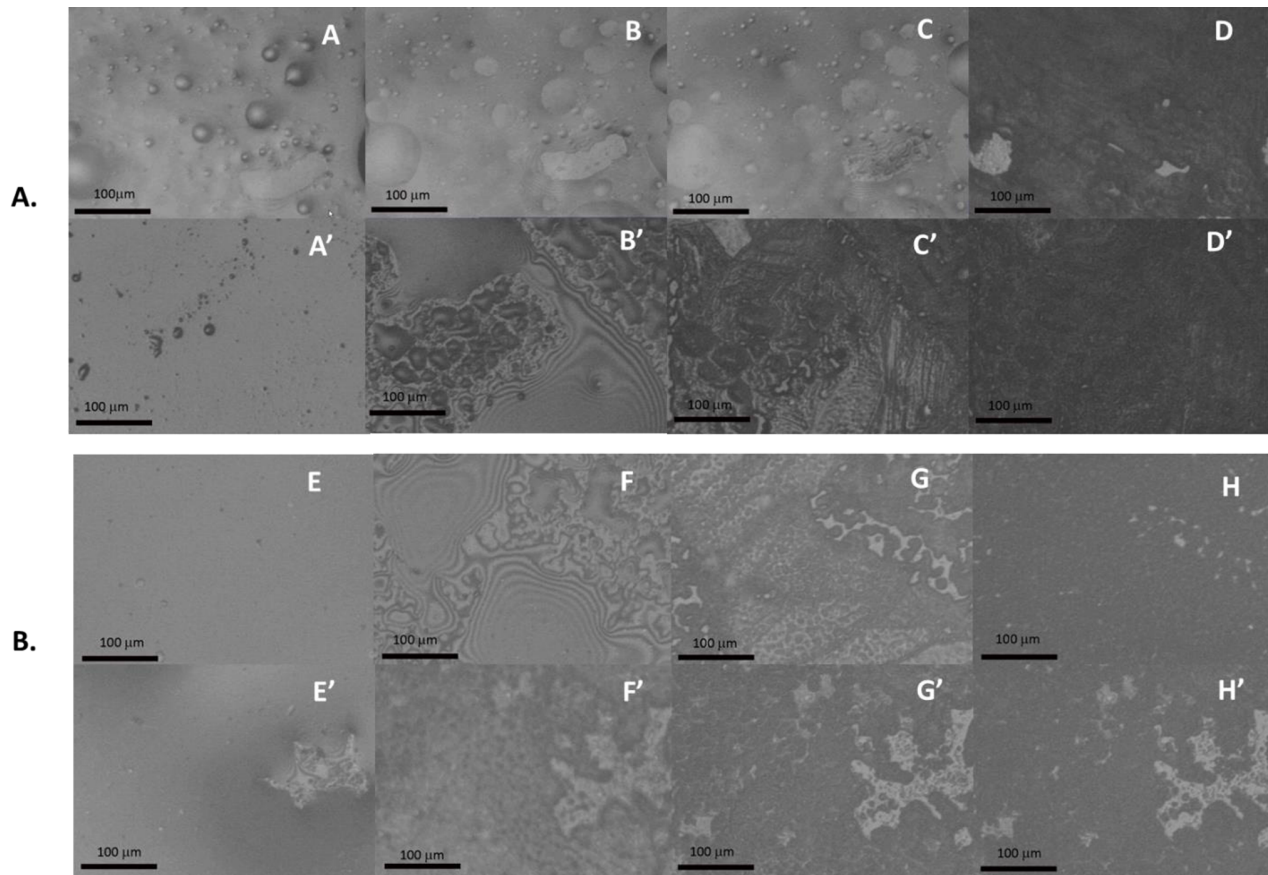


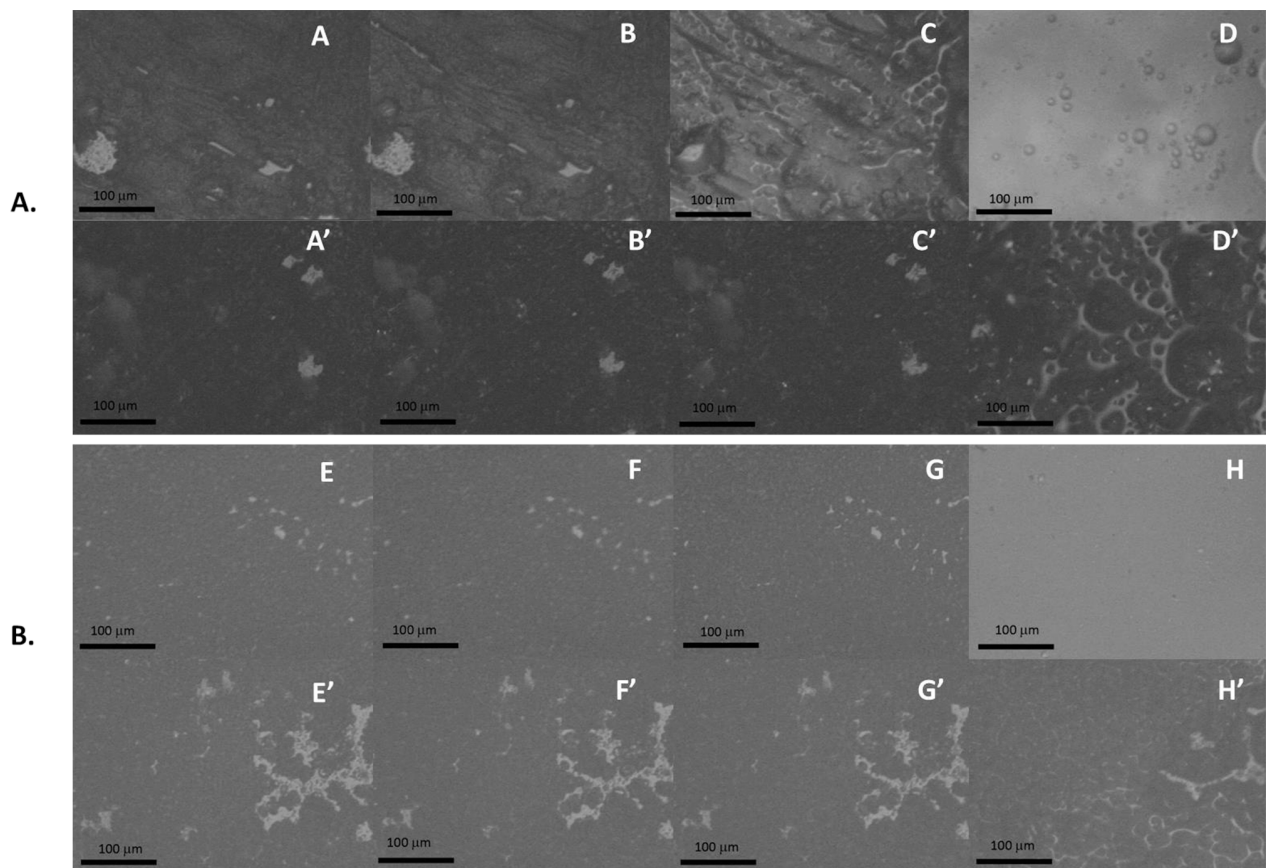
## Supplementary Material

Figure SM1



**Fig. SM1** A. Morphology of freezing cycle of CAWJP 0% in sample G. (A.-D.) and CAWJP 0.2% in sample G. (A'-D') (scale bar 100 μm) (A. 20°C t 0s, B. 2°C +60 s, C. 0°C +120s, D. 0°C +360s A'. 20°C t 0s, B'. 2°C +60s, C'. 0°C +120s, D'. -1°C +360s.) B. Morphology of freezing cycle of CAWJP 0% in sample H. (E.-H.) and CAWJP 0.2% in sample H. (E'-H') (scale bar 100 μm) E. 24°C t 0s, F. 3°C +60s, G. 1°C +120s, H. 0°C +240s E'. 24°C t 0s, F'. 4°C +60s, G'. 1°C +120s, H'. 1°C +180s

**Figure SM2**



**Fig. SM2** A. Morphology of thawing cycle of CAWJP 0% in sample G. (A.-D.) and CAWJP 0.2% in sample G. (A'-D') (scale bar 100 μm) (A. t 0s, B. +10 s, C. +40s, D. +60s A'. t 0s, B'. +10s, C'. +30s, D'. +40s). B. Morphology of thawing cycle of CAWJP 0% in sample H. (E.-H.) and CAWJP 0.2% in sample H. (E'-H') (scale bar 100 μm) E. t 0s, F. +10s, G. +40s, H. +60s E'. t 0s, F'. +10s, G'. +20s, D'. +30s.