Supplementary material

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List of Abbreviation

APTES	(3-aminopropyl) triethoxysilane
CH	Cyclohexane
CS	Ceramic screen
LAD	Liquid acquisition device
PMD	Propellent management device
SC-LAD	Screen channel liquid acquisition device

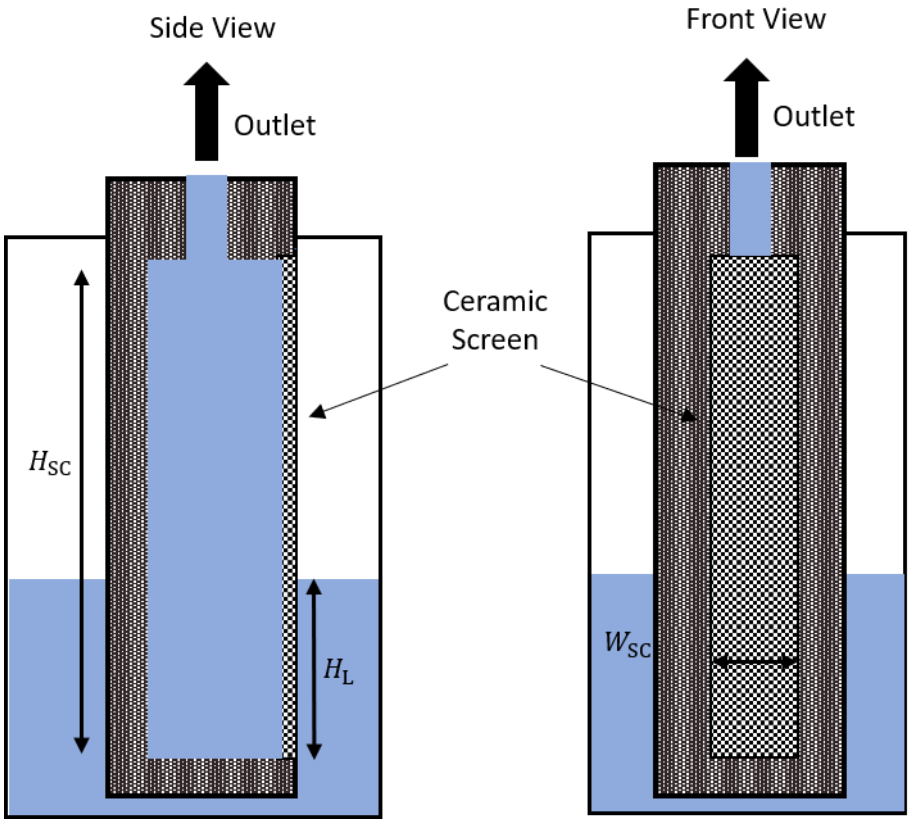

Figure S1 Vertically oriented SC-LAD schematic with partial filled supply tank in g_E

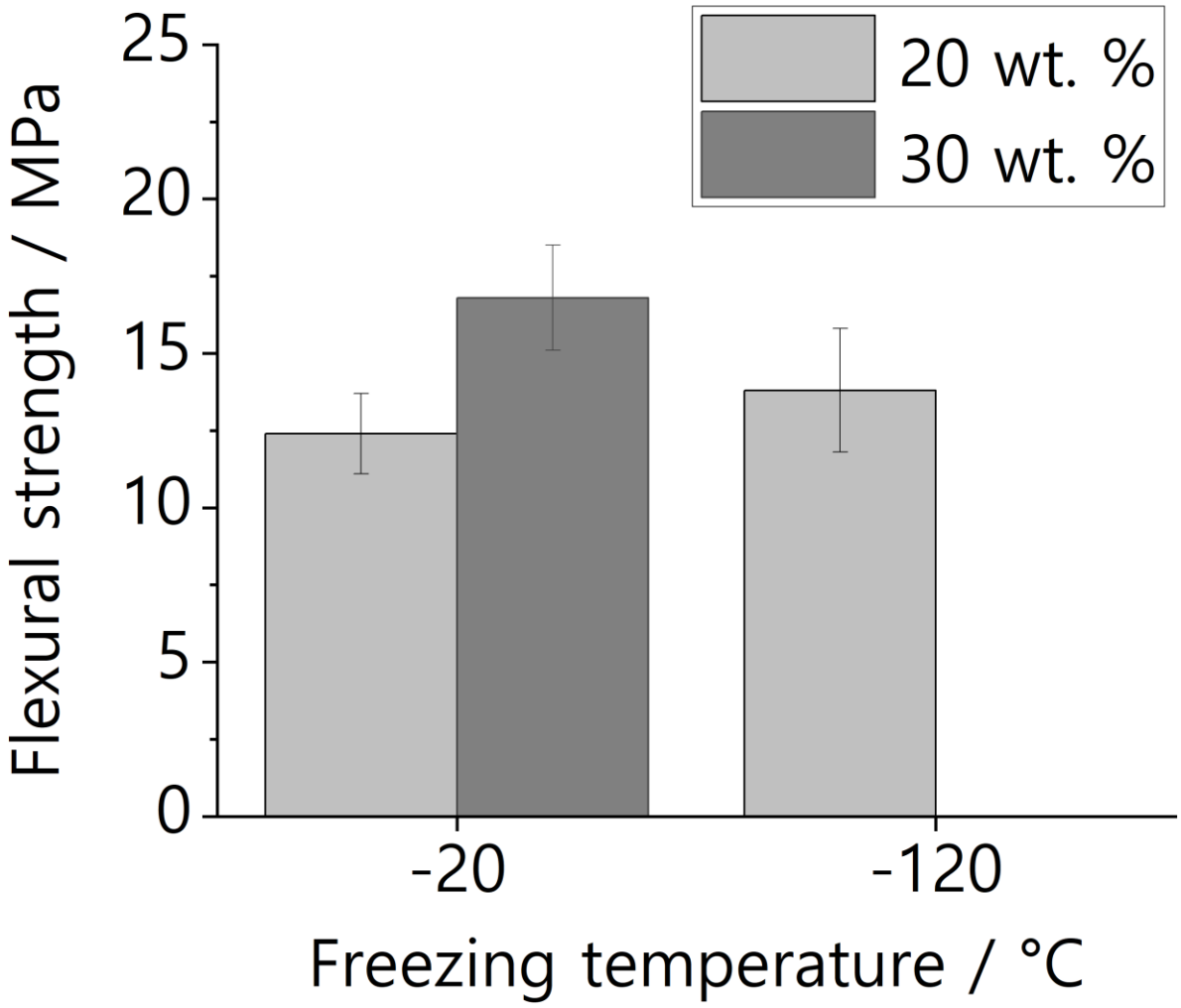

Figure S2 Values of flexural strength from 3-point bending tests following DIN EN 843- 1 for samples with 20 wt% (light blue bars) and 30 wt% (dark blue).

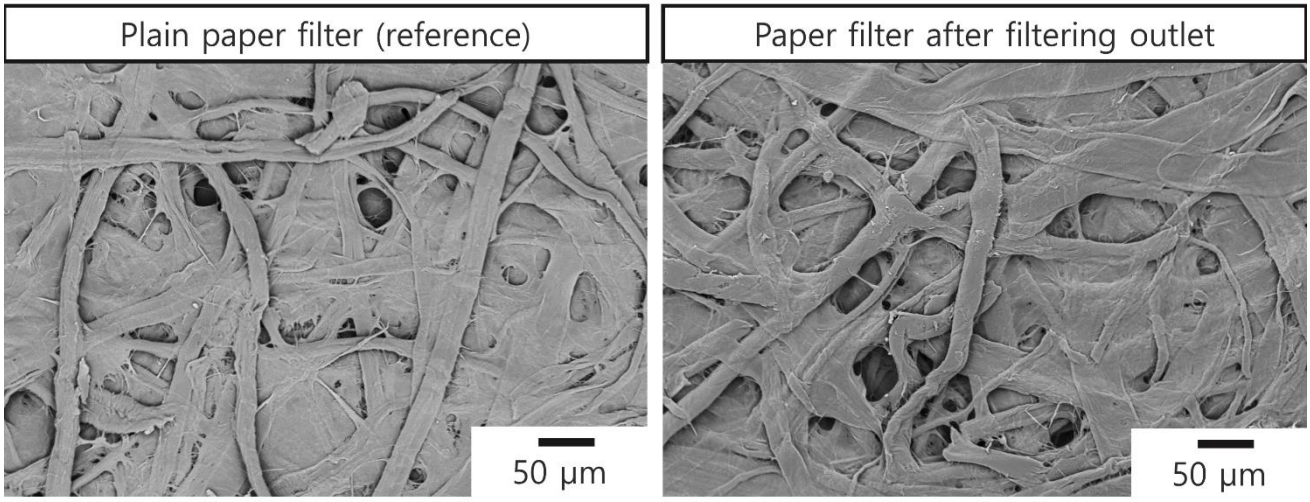

Figure S3 SEM images of paper filter before and after filtering the liquid in the outlet of the gas-liquid phase separation.

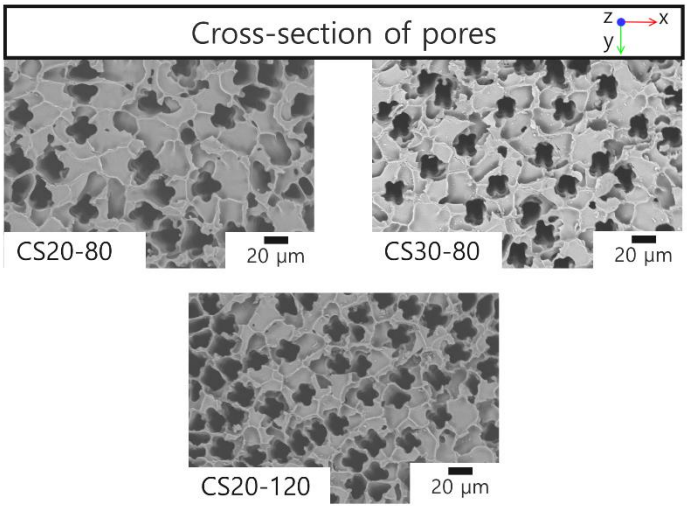

Figure S4 SEM pictures with higher resolution of pore structures with relatively smaller pore window sizes (CS20-80; CS20-120 and CS30-80). The pore morphology is shown from the center position of the samples. Images of cross-section and lateral view with pores perpendicular and parallel to the freezing direction, respectively.