Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supplementary data

An illustration of method used in the image analysis of TEM images:

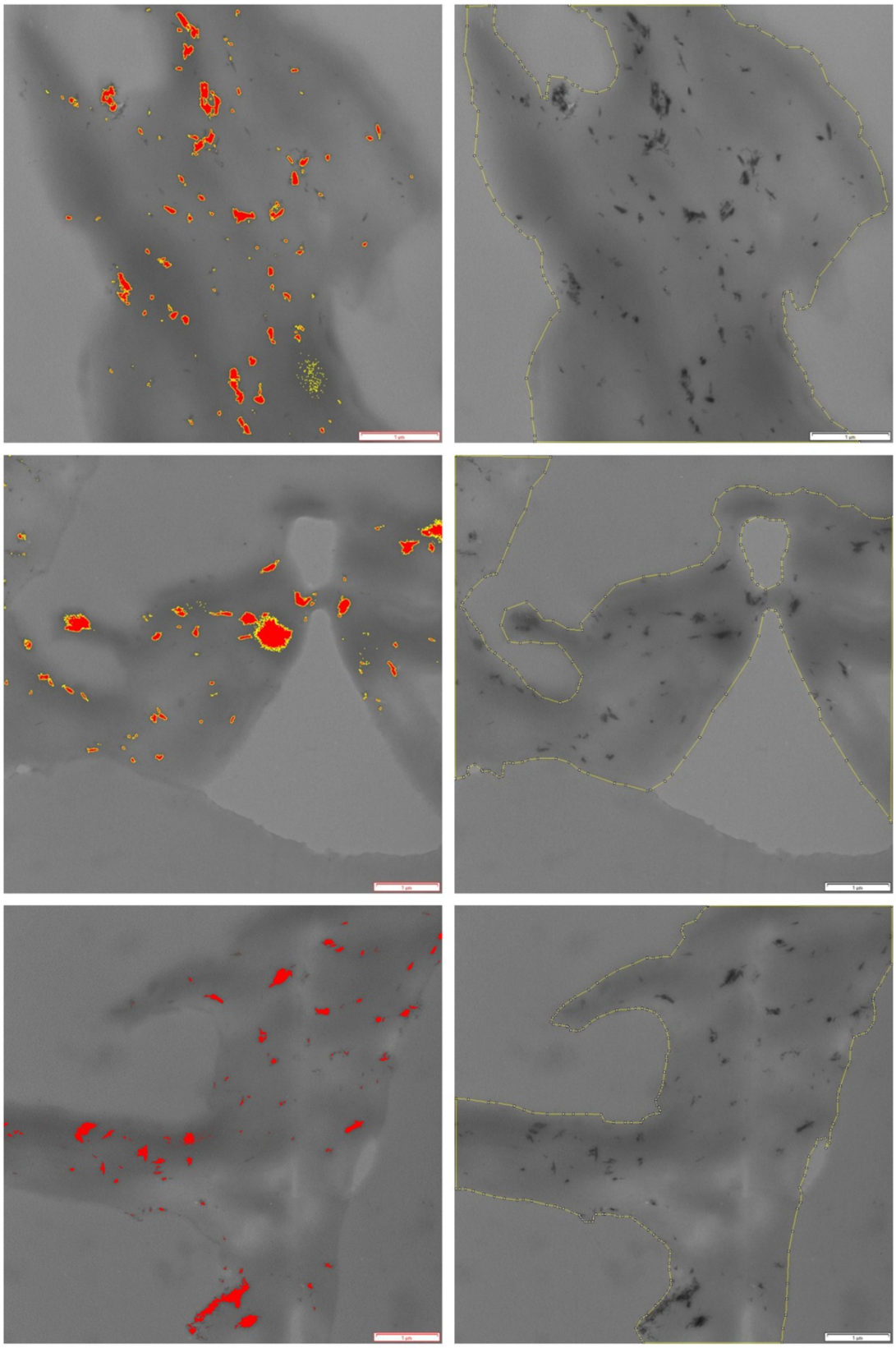

Figure S1. Segmented images of HAP-$PCL_{DO\text{-}S}$ (15 - 20 mm)

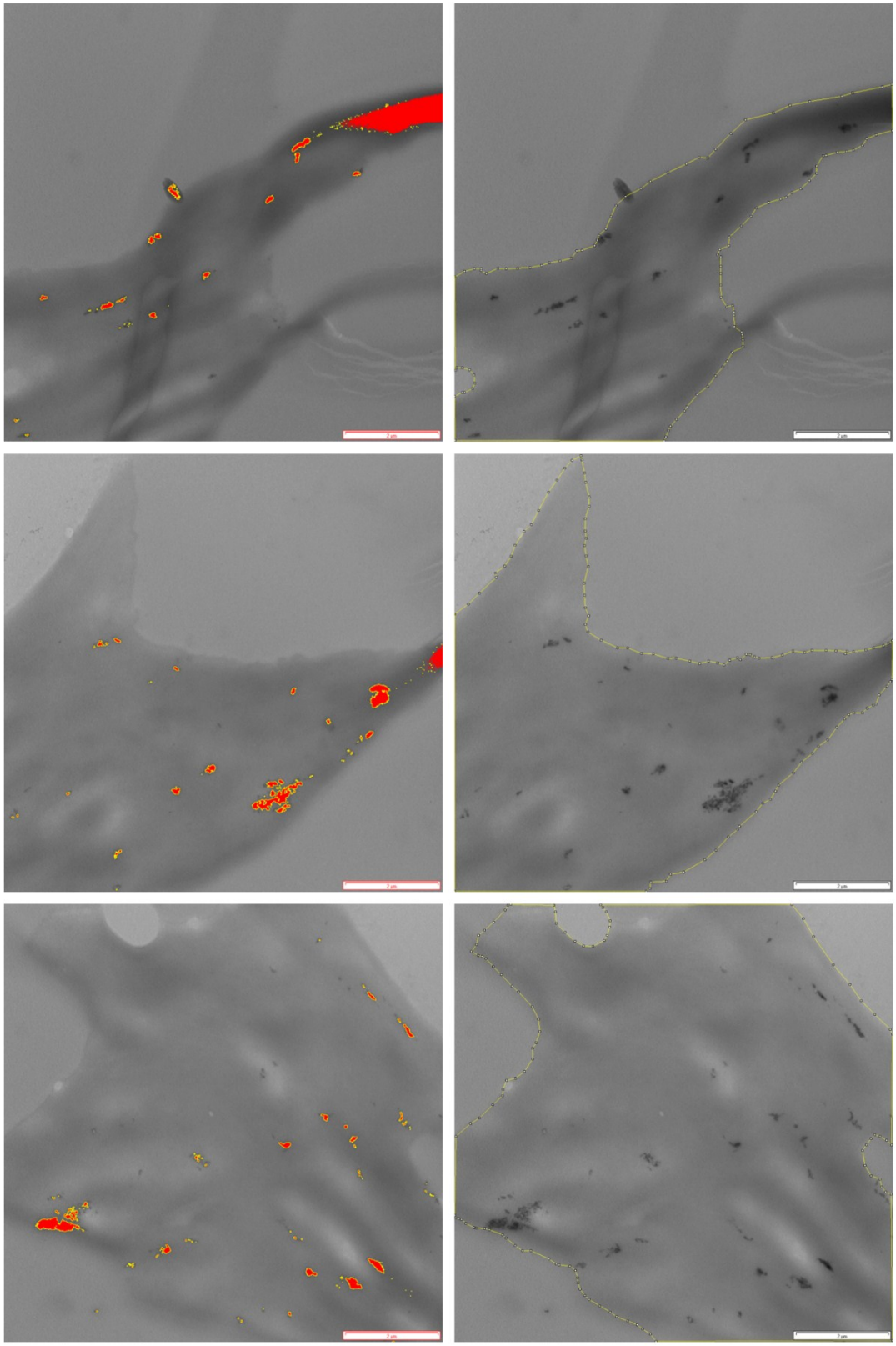

Figure S2. Segmented images of HEP-A-HAP-PCL_{DO-S} (15 - 20 mm)

Pore diameter measurement:

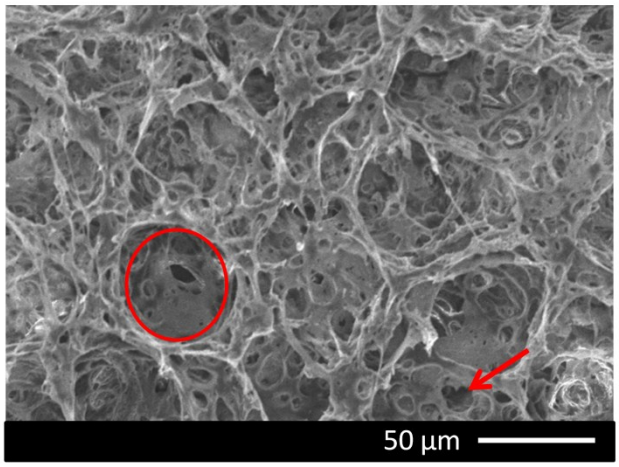

Figure S3. Pore diameter measurements of scaffolds using SEM images. The pore diameters were evaluated by drawing circles that were fully enclosed within the pore (e.g. red circle). The red arrowhead shows an example of a micropore. Macropores were considered to be the pores interconnecting cells in the scaffold, while micropores were taken to be the pores found in the walls of the cells.

Suspension of particles:

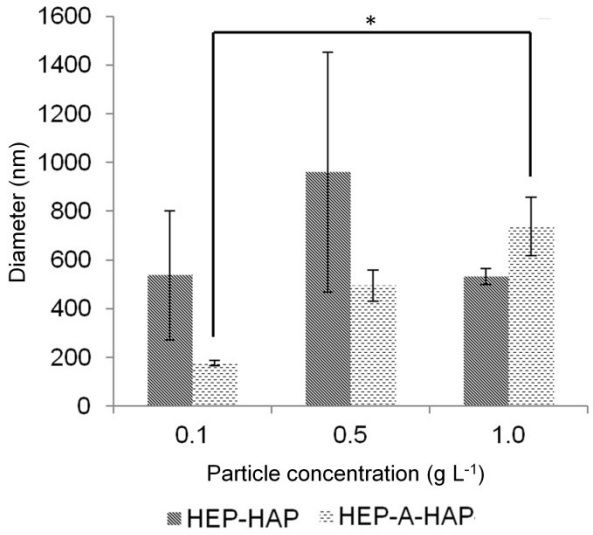

Figure S4. Particle diameters of HEP-HAP and HEP-A-HAP 15 minutes after dispersion in PCL/(1 mM KCl)/DO, (the error bars represent standard deviations, n = 3, *p < 0.05, **p < 0.01)

Cloud point measurements:

50 g L^{-1} of PCL was dissolved into DO solutions containing 0, 5, 10, 12, 13, 14 and 15 % (v/v) water. The absorbances of these solutions were measured using a Varian Cary 4000 (v1.12) UV-visible spectrophotometer at 650 nm. After equilibrating the solutions at 60 °C for 1 hour, absorbance readings (spectral width 1 nm, average time per reading 2 seconds) were taken every minute while cooling the solutions at a rate of 0.1 °C min^{-1}, until the bath temperature reached 5 °C. The cloud point was determined to be the temperature at which the absorbance started to increase.

50 g L^{-1} PCL solutions were made in pure DO and 5 % (v/v) water-DO and ~3 mL of each was poured into two test-tubes. The solutions were equilibrated at 5 °C for 1 hour in an ethylene glycol bath, and then cooled at 0.1 °C min^{-1} until the bath temperature reached -10 °C. The solutions were taken out of the bath every 10 minutes and observed by eye to determine the temperature at which the clear solution turned turbid and/or crystallised. This visual observation method was used for these samples because the water bath attached to the UV-visible spectrometer was unable to cool to temperatures lower than 5 °C.

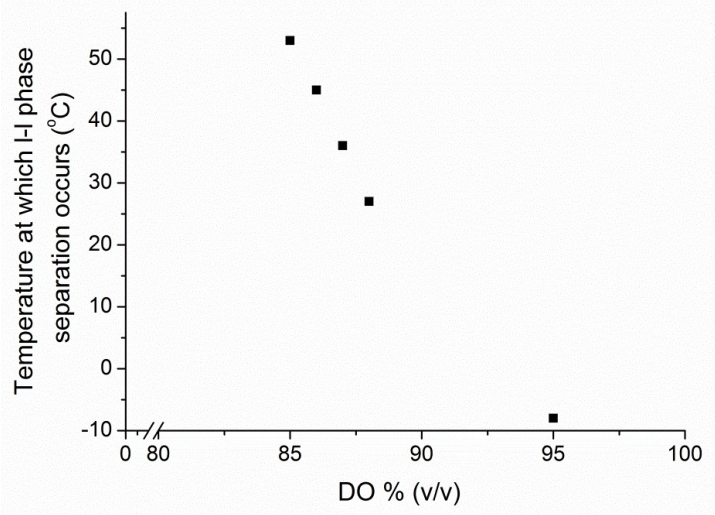

Figure S5. Cloud points observed for 50 g L^{-1} PCL solutions, made with varying DO and water % (v/v)

TEM images:

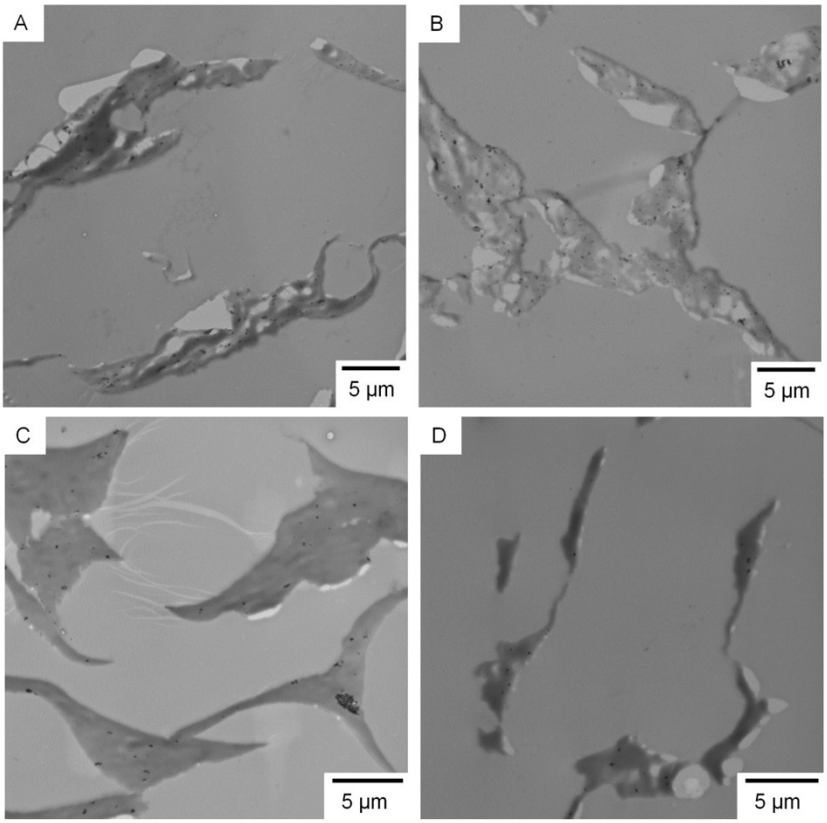

Figure S6. TEM images of sections of HAP-PCL_{DO-S} (A, B) and HEP-A-HAP-PCL_{DO-S} (C, D) scaffolds taken at 0 - 5 mm and 30 - 35 mm from the bottom of the scaffold, respectively

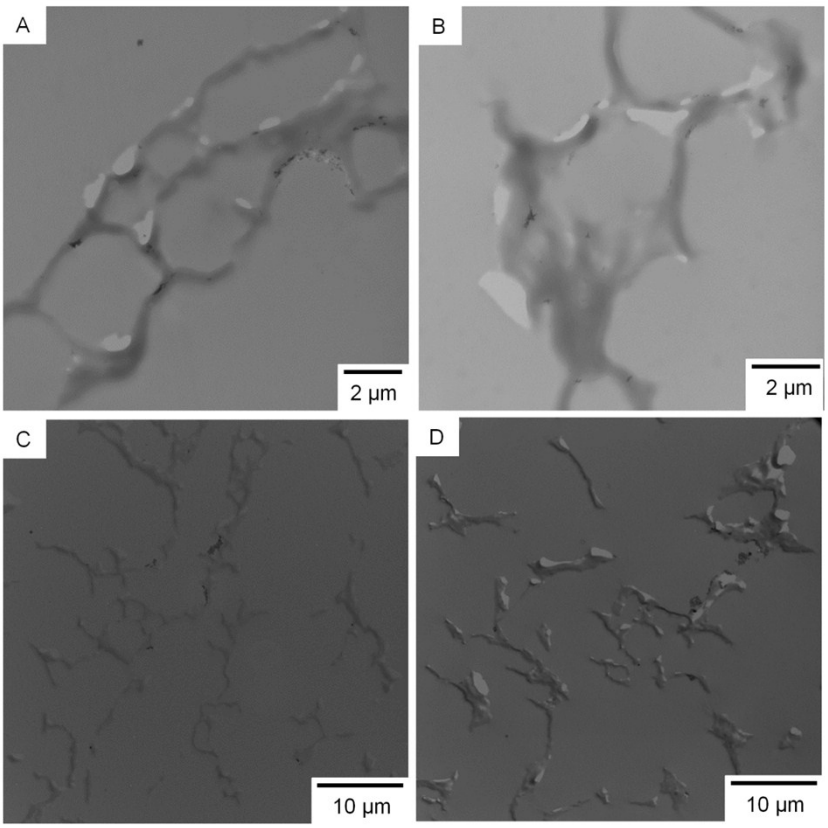

Figure S7. TEM images of sections of HAP-$PCL_{DO\text{-}H2O\text{-}S}$ (A, B) and HEP-A-HAP-$PCL_{DO\text{-}H2O\text{-}S}$ (C, D) scaffolds taken at 0 - 5 mm and 30 - 35 mm from the bottom of the scaffold, respectively.

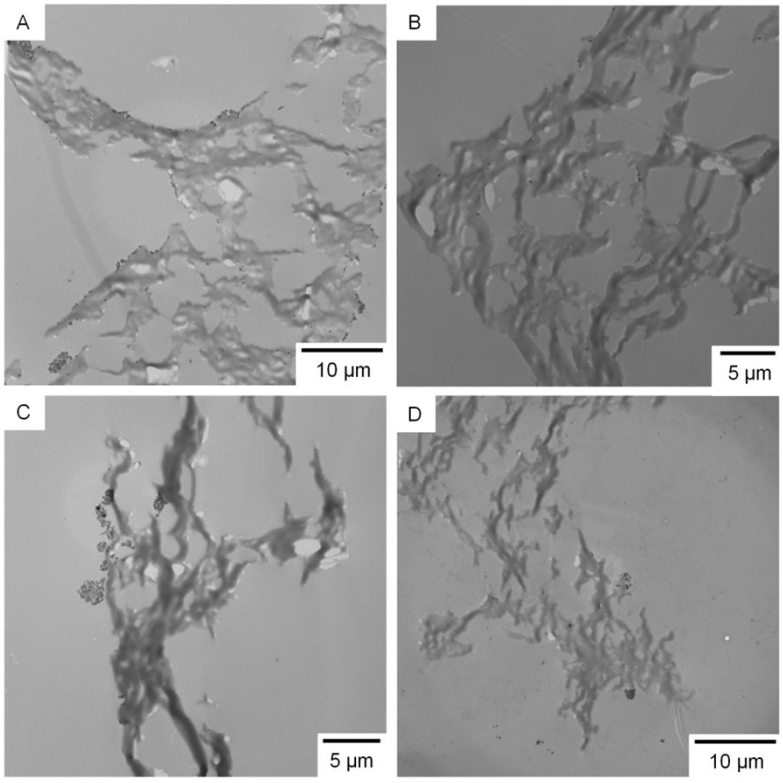

Figure S8. TEM images of sections of HAP-$PCL_{DO\text{-}H2O\text{-}Q}$ (A, B) and HEP-A-HAP-$PCL_{DO\text{-}H2O\text{-}Q}$ (C, D) scaffolds taken at 0 - 5 mm and 30 - 35 mm from the bottom of the scaffold, respectively.