

Supplementary Information

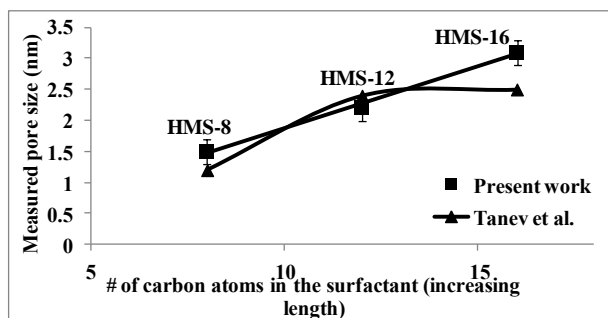


Figure 1. Measured pore diameter of the HMS templates vs. the chain length of the surfactant used in their respective synthesis in comparison with data from a previous study²⁴. Here, pore sizes were determined by applying the BJH model to the desorption branch of the N₂ sorption isotherm, whereas the HK model was used by Tanev et al.²⁰.

Fig. 1 shows that the measured HMS pore diameters match very closely with the predicted ones, based on the carbon chain lengths of the surfactants. Tanev et al.²⁰ obtained similar results, except for HMS-16, which gave a smaller pore diameter than expected²⁴.

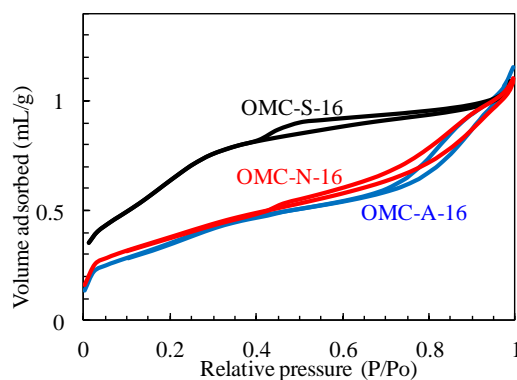


Figure 2. N₂ sorption isotherms for OMC-A-16, OMC-N-16, and OMC-S-16 as the OMC-S-n samples all showed similar isotherms, the data for OMC-S-8 and OMC-S-12 are not shown here.

The three sucrose-derived OMCs all demonstrated similar sorption isotherms, and therefore only the results for OMC-S-16 are given in Fig. 2 as an example. It is seen that OMC-S-16 has a much larger initial uptake of N₂ at low ($P/P^0 < 0.4$) partial pressures vs. either OMC-A-16 or OMC-N-16. This strongly suggests that a higher percentage of micropores is present in the sucrose-derived OMCs vs. in the aromatic-derived OMCs, as expected. This is because micropores have enhanced interactions with adsorbates (due to overlapping van der Waals forces inside the narrow pores) and thus they are filled at relatively low partial pressures²⁶.