Electronic Supplementary Information (ESI)

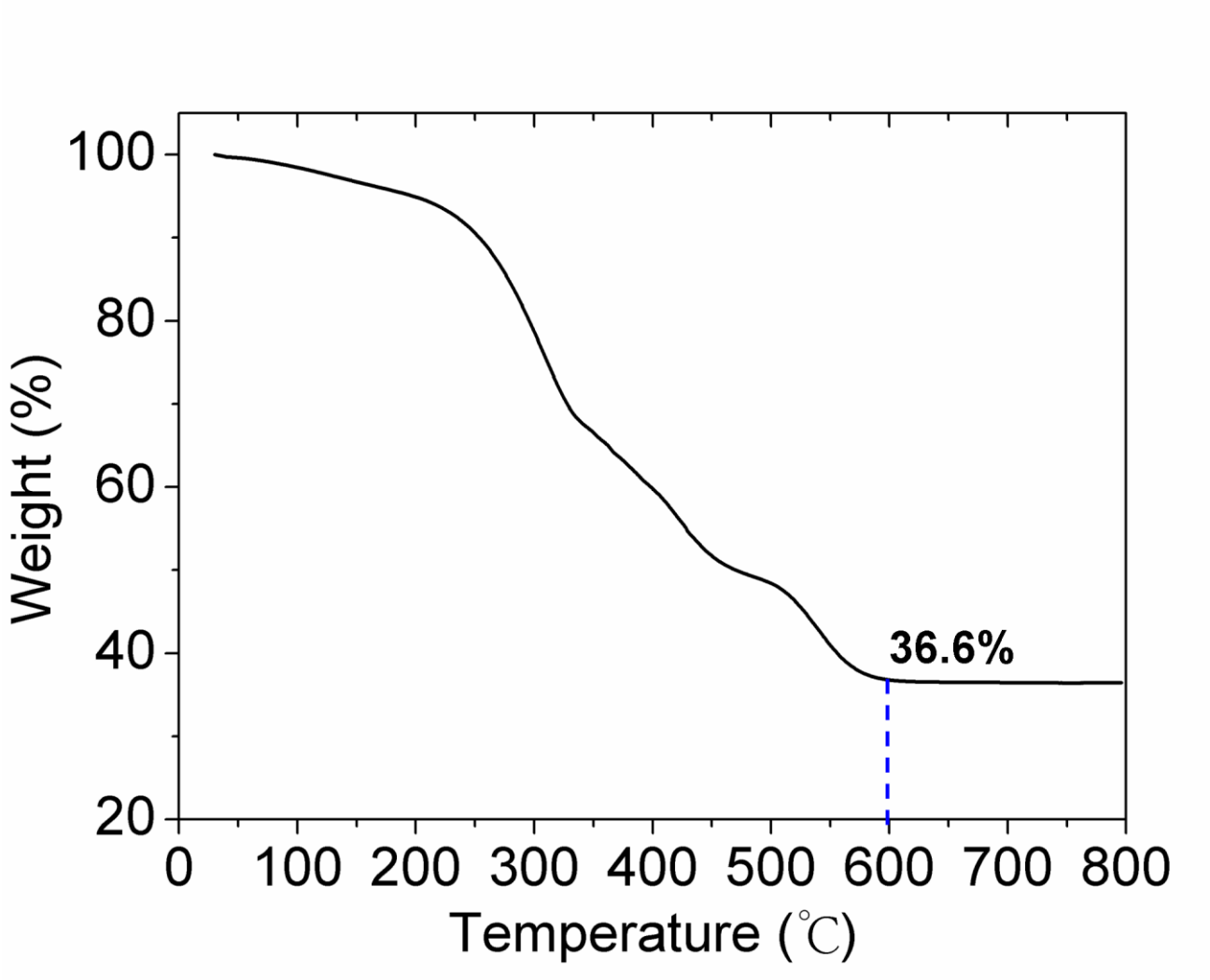

Fig. S1 TGA curve of hydrated hybrids.

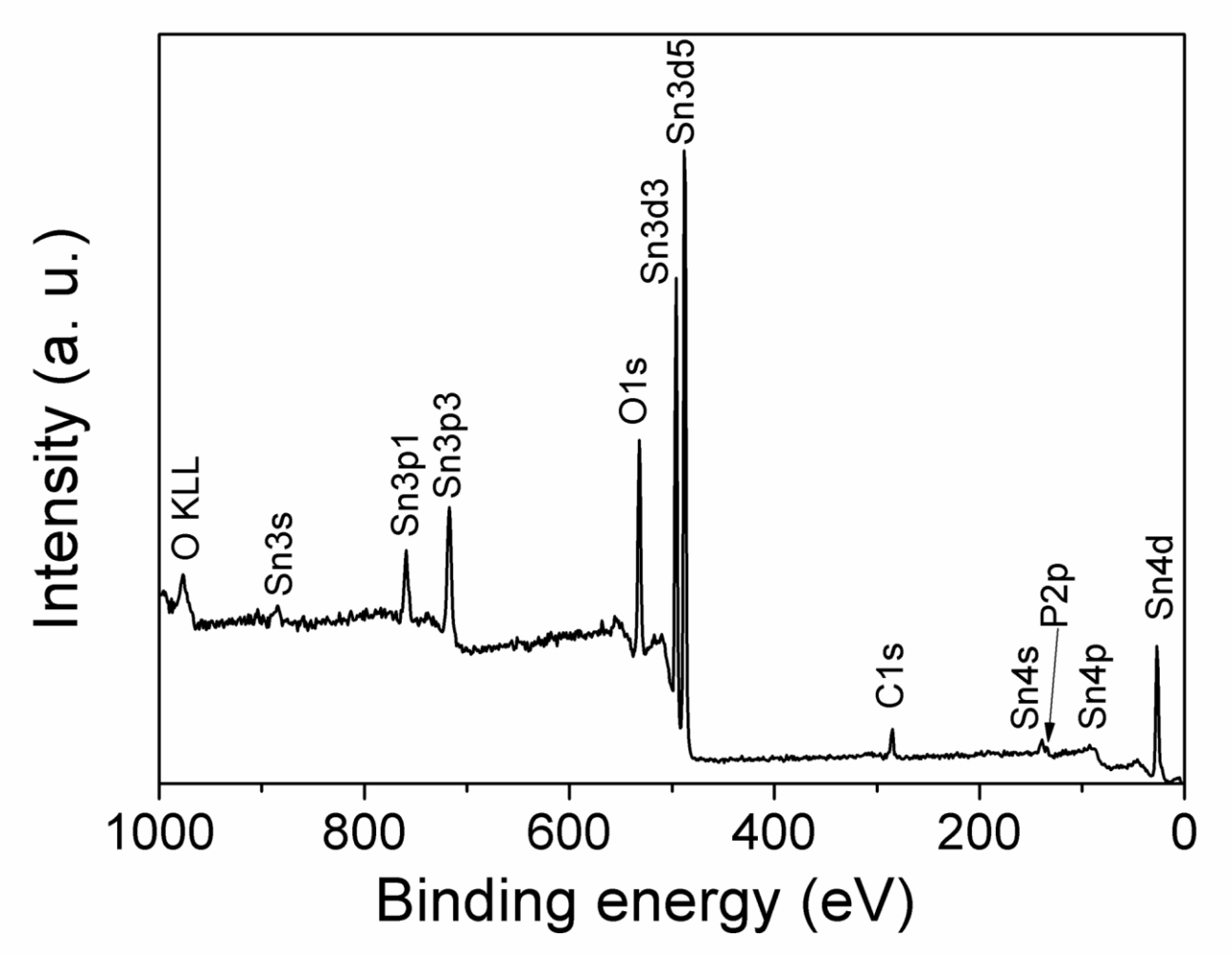

Fig. S2 XPS spectra of the typical sinter SnO_2-600.

Fig. S2 shows the XPS spectra measured within a range of binding energies of 0-1000 eV. Apart from the C1s peak positioned at 285.0 eV, which stems from carbon-containing molecules (presumably the decomposed pollen coats), the XPS result confirm the high chemical purity of the sinters, which consist solely of Sn and O, and a few P derived from phoslipids in pollen coats possibly.

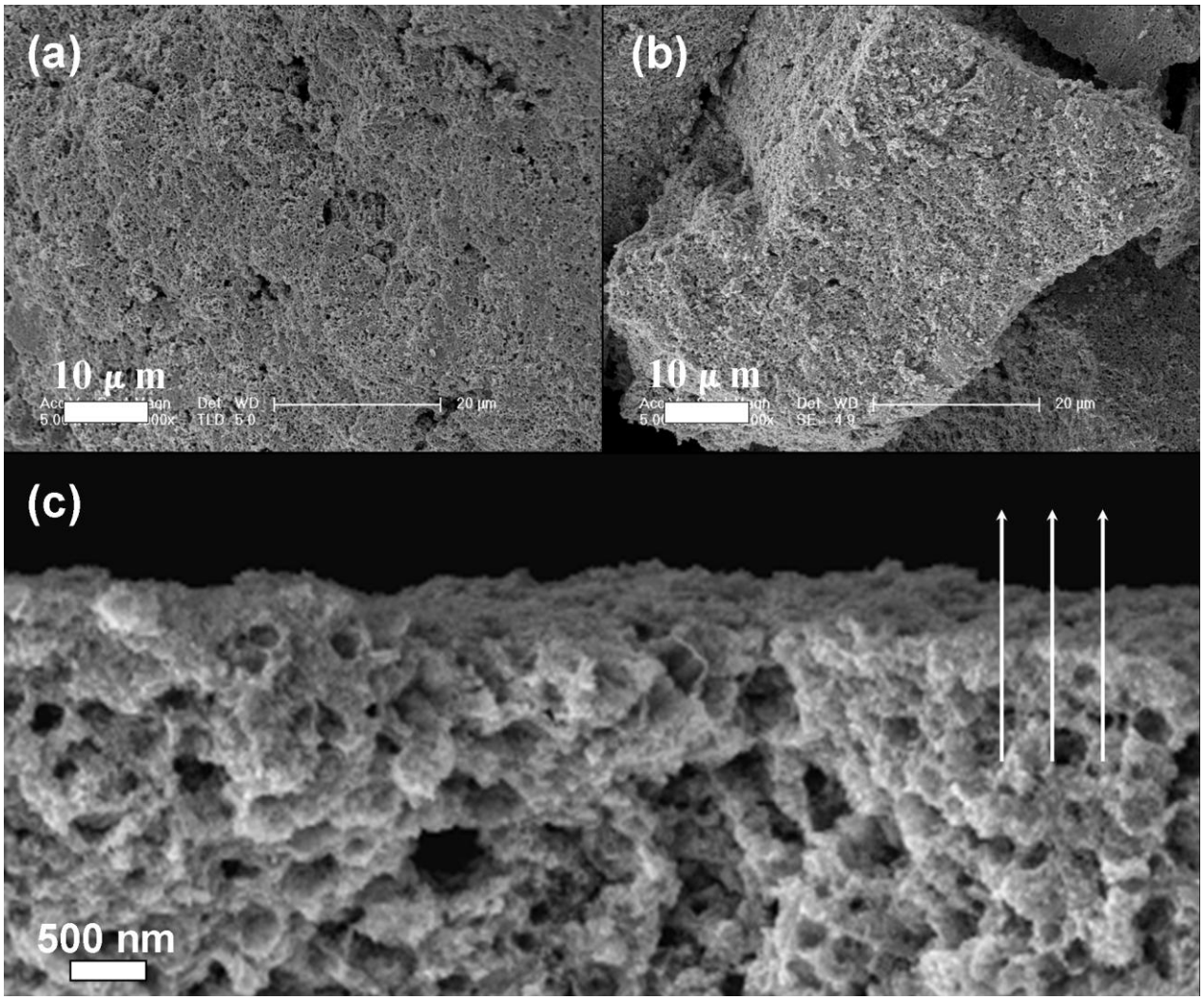

Fig. S3 FESEM images of (a, b) the sinter SnO_2-600 in low magnifications, and (c) its cross-section.

Fig. S3 (a) shows a part of the microcells, and Fig. S3 (b) shows an entire small microcell. It is obvious that the macropores networks in the sinters are continuous in large range and generally extend to large microcells of scores of micrometers or more. Besides the inner connectivity, the pores are also highly open to the outer environment via the equally porous surfaces, as seen in the cross-section of the networks (Fig. S3 (c)).

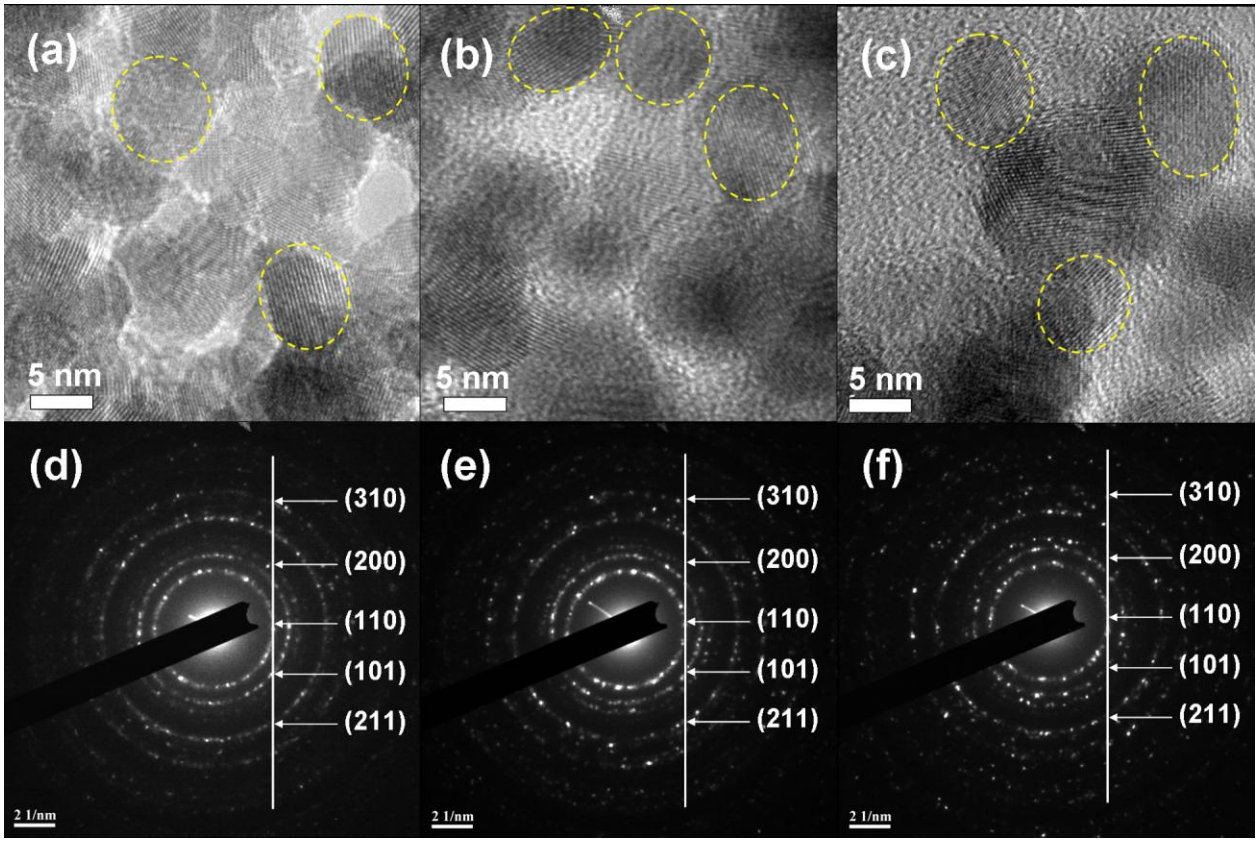

Fig. S4 TEM images of the sinters: (a) SnO_2-600, (b) SnO_2-700, and (c) SnO_2-800; (d), (e), and (f) are the corresponding SEAD patterns.

TEM images in Fig. S4 show that the crystal size increases little with the increasing calcination temperature. The spatial confinement resulting from the loose assembly of nanoparticles should be the main reason for the holding back of the crystal growth in the elevated temperature. The diffraction rings in the Selected Area Electron Diffraction (SAED) pattern in each inset indicate their polycrystalline nature.