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Fabrication of Hollow and Porous Tin-Doped Indium Oxide Nanofibers and Microtubes via a Gas Jet Fiber Spinning Process

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Received: 10 March 2020; Accepted: 25 March 2020; Published: date

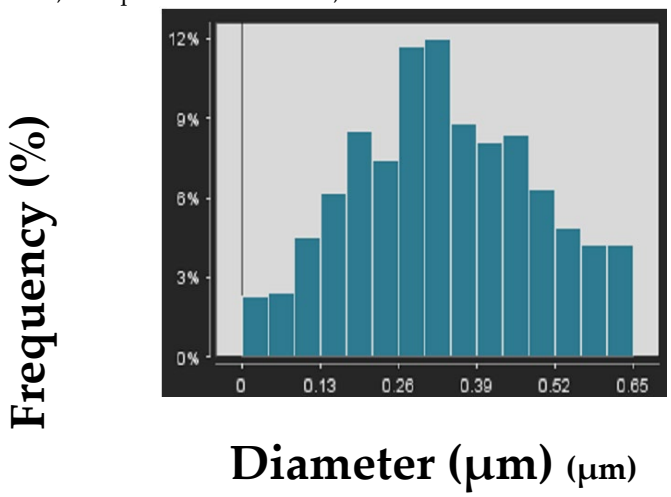

Figure S1. Diameter distribution of ITO nanofibers calcined at 700 °C with a heating rate of 0.5 °C min^{-1}.

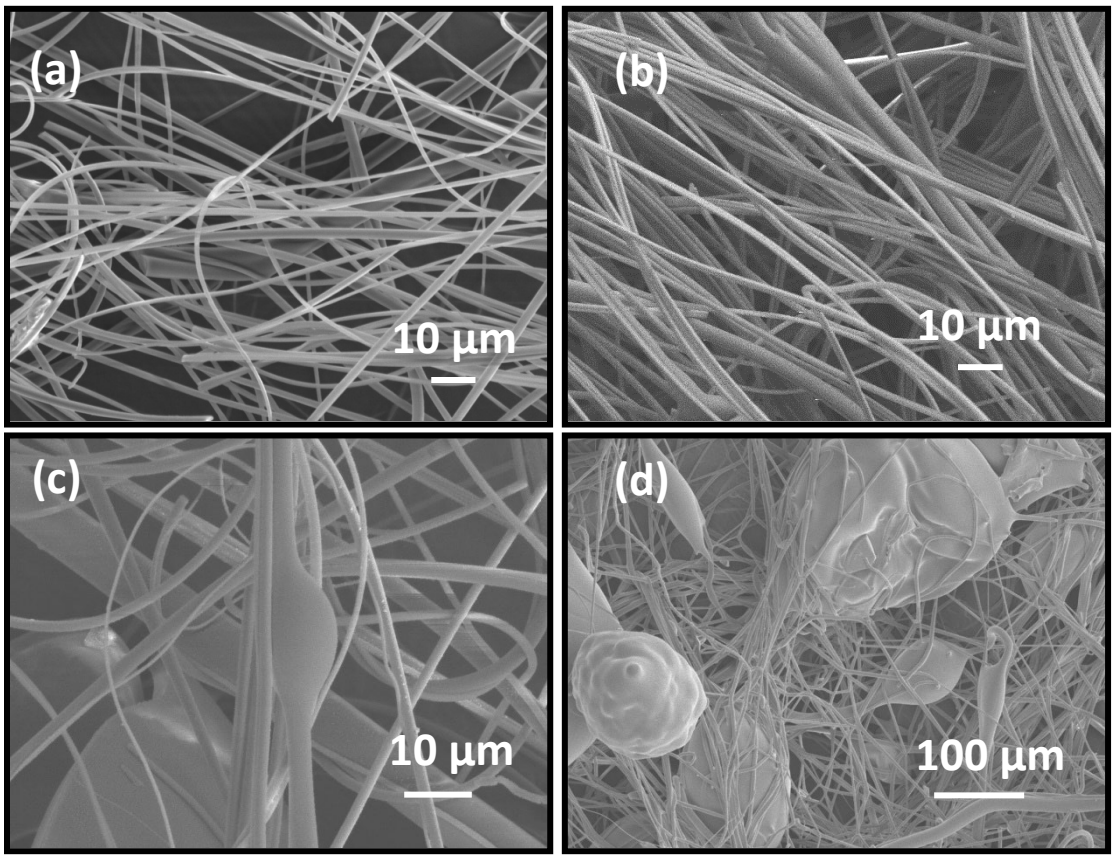

Figure S2. FESEM images of polymer precursor fibers obtained from a PVP-$InCl_3$-$SnCl_4$ spinning sol solution containing different (w/w) % of ITO precursor concentration (**a**) 4.5, (**b**) 9.0, (**c**) 12.0, and (**d**) 18.0. All experiments were performed under identical conditions as mentioned the experimental section.

GJF spinning process was not smooth, and tip of the needle clogged frequently due to higher viscosities of spinning solutions containing 12.0 and 18.0 (w/w) % ITO precursor with viscosities ~562 and ~900 cP, respectively. As a result, they produced fibers with agglomerated mass with a size in micrometers range.

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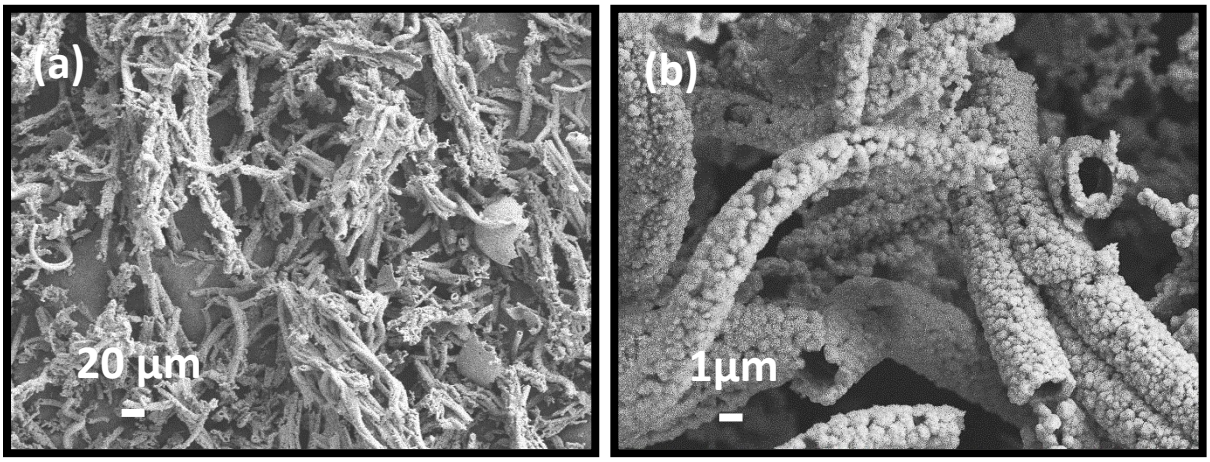

Figure S3. FESEM images of calcined fibers obtained with 9.0(w/w) % ITO precursor salts in the spinning solution. Fibers were calcined at 700 °C for 2 h with a heating rate of >10 °C min^{-1}. Images at (**a**) low magnification, and (**b**) high magnification.

Table 1. Elemental compositional analysis of (a) polymer fibers loaded with 9.0 (w/w) % of $InCl_3$ and. $SnCl_4$, and (b) corresponding ITO nanofibers calcined at 700 °C with a heating rate of 0.5 °C min^{-1}.

(a) Polymer precursor fibers		
Element	**Weight%**	**Atom%**
CK	53.57	80.47
OK	12.61	14.22
InL	33.02	05.19
SnL	00.80	00.12

(b) ITO nanofibers		
Element	**Weight%**	**Atom%**
OK	14.20	54.31
InL	84.74	45.15
SnL	0.06	00.54