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Supporting Information

Corn-cob like Nanofibres as Cathode Catalysts for an Effective Microstructure Design in Solid Oxide Fuel Cells

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Supplementary Tables and Figures

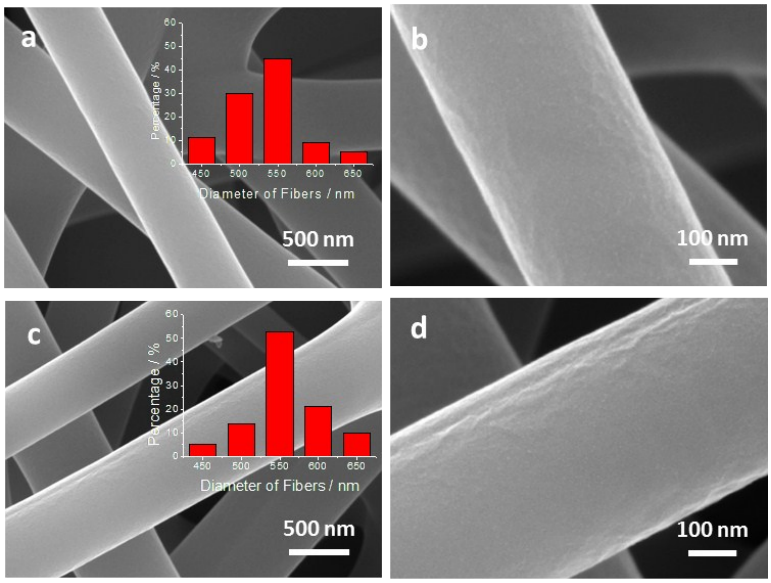

Figure S1. Magnified SEM image of (a-b) LSM@YSZ metal precursor/PVP nanofibers and (c-d) LSM@YSZ metal precursor/PVP nanofibers with insets of (a)/(c) each nanofiber diameter distributions.

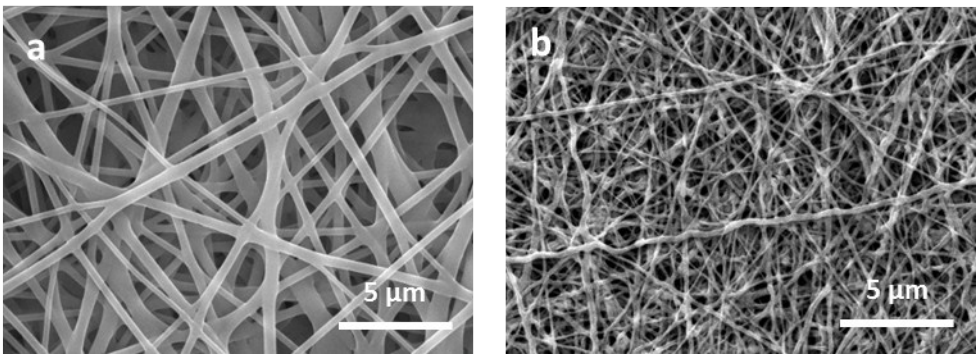

Figure S2. SEM image of (a) LSM@YSZ metal precursor/PVP nanofibers and (b) LSM@YSZ corn-cob nanofiber.

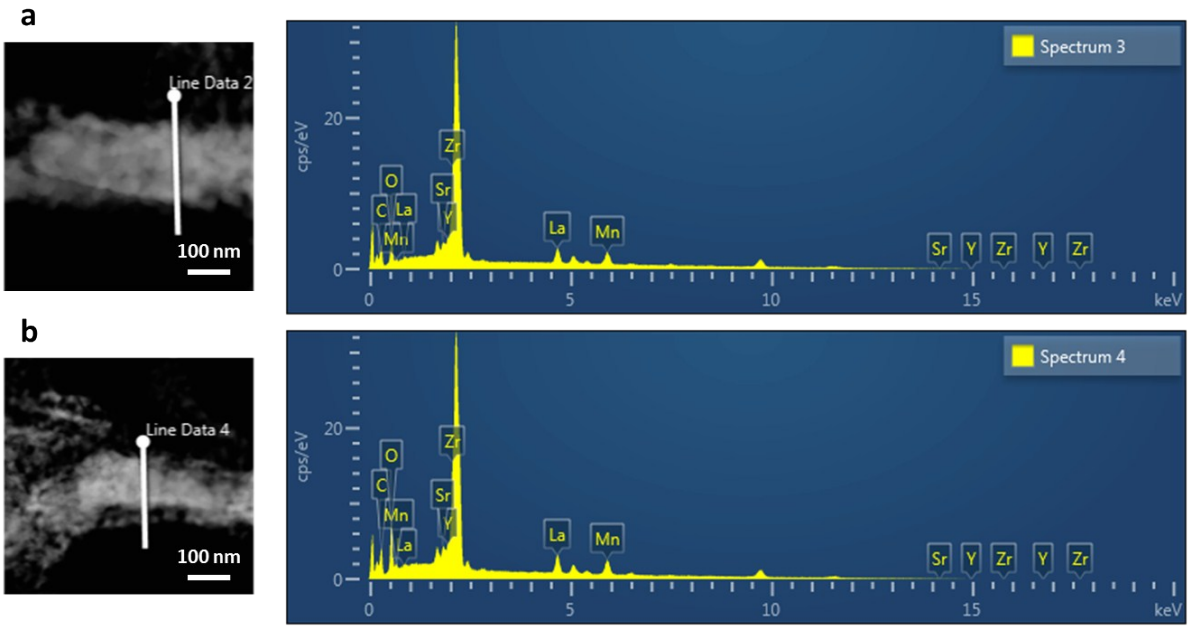

Figure S3. EDS results of (a)LSM@YSZ and (b)YSZ@LSM corn-cob nanofibers from HR-TEM analysis.

Table S1. Elemental analysis of (a)LSM@YSZ and (b)YSZ@LSM corn-cob nanofibers from EDS analysis.

Samples	La (wt%)	Mn (wt%)	Sr (wt%)	Zr (wt%)	Y (wt%)	O (wt%)
(a)	13.32	14.48	2.54	25.29	5.03	41.88
(b)	14.53	15.22	1.98	26.84	4.55	39.11

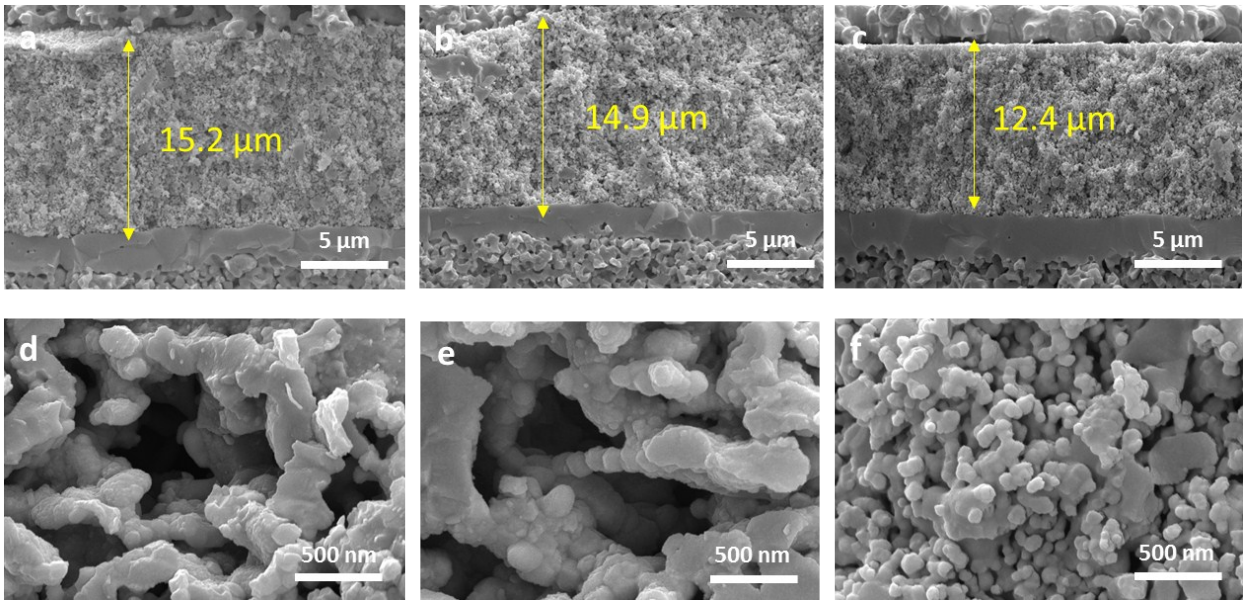

Figure S4. SEM images of the (a)-(c) cross-section and (d)-(f) magnification for the cathodes based on the (a)/(d) YSZ@LSM and (b)/(e) LSM@YSZ corn-cob nanofibers, and (c)/(f) commercial LSM-YSZ.

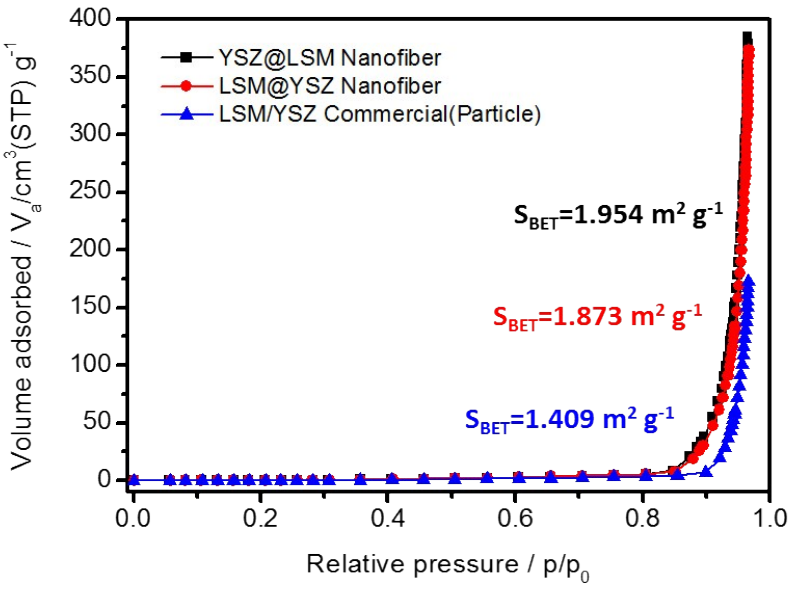

Figure S5. N_2-adsorption-desorption isotherms for the cathodes based on the YSZ@LSM and LSM@YSZ corn-cob nanofibers, and commercial LSM-YSZ.

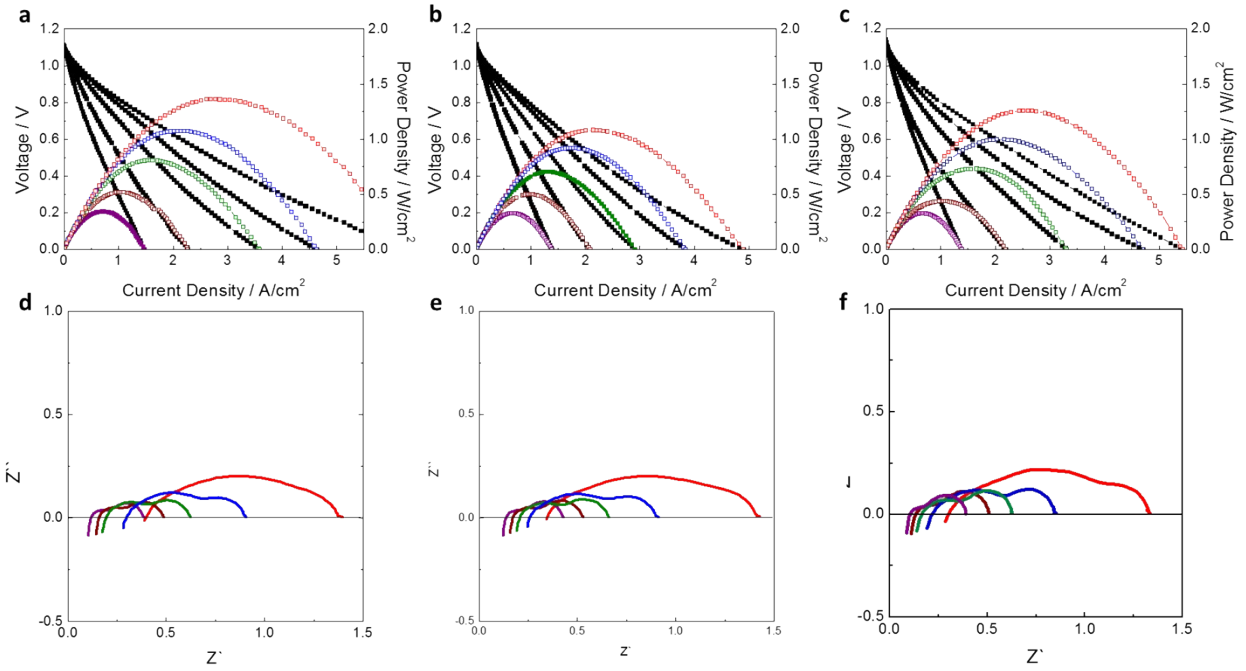

Figure S6. (a)-(c) Polarization curves with power density and (d)-(f) impedance analysis according to the operation temperatures of 650 ^{o}C to 850 ^{o}C for the corn-cob nanofibrous cathode based on the (a)/(d) YSZ@LSM and (b)/(e) LSM@YSZ nanofibers, including the (c)/(f) commercial LSM-YSZ.