Supplementary Materials File

Nanostructuring of SnO_2 thin films by associating glancing angle deposition and sputtering pressure for gas sensing applications

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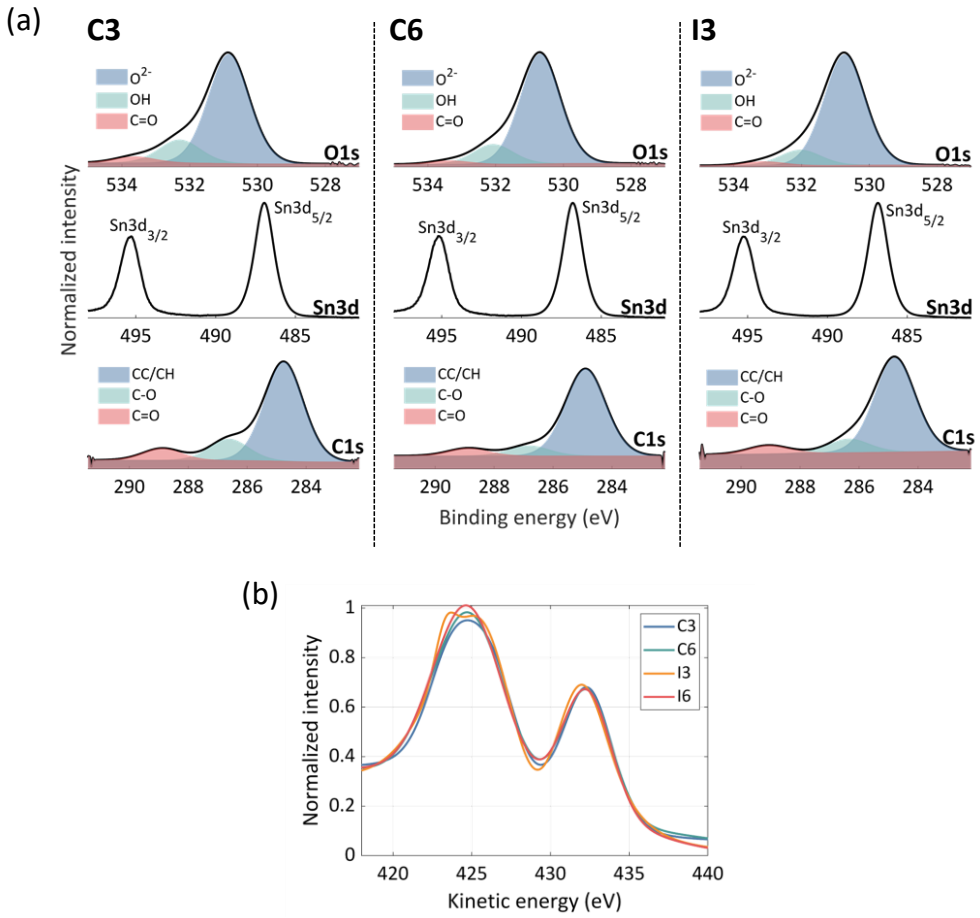

Figure S1 (a) XPS O1s, Sn3d and C1s spectral windows of the C3, C6 and I3 SnO_2 thin films and (b) experimental Sn MNN Auger spectra for C3, C6, I3 and I6 SnO_2 thin films SnO_2 thin film. All films were sputter-deposited on (110) Si substrates and annealed in ambient air at 500 °C for 48 hours.

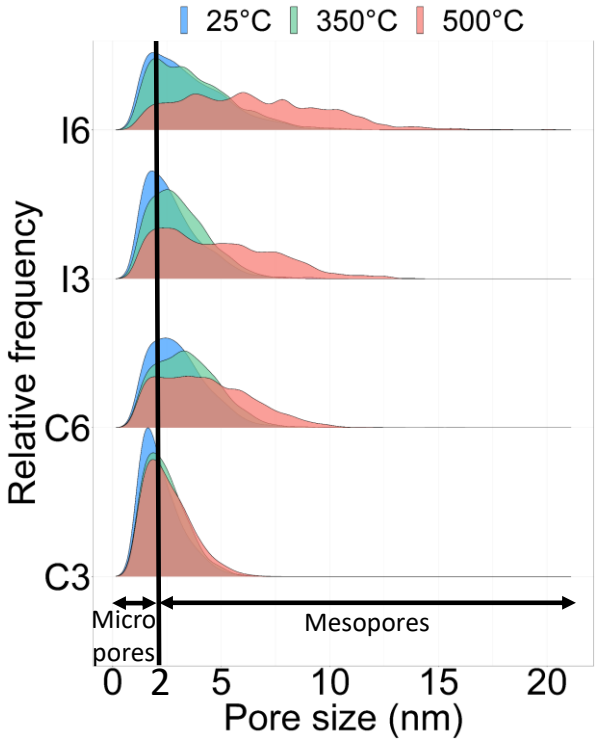

Figure S2 Pore size distributions (PSDs) of all films sputter-deposited on (100) Si substrates, before and after annealing treatments at 350 and 500°C for 48 hours in ambient air. All PSDs were calculated using MATLAB software.

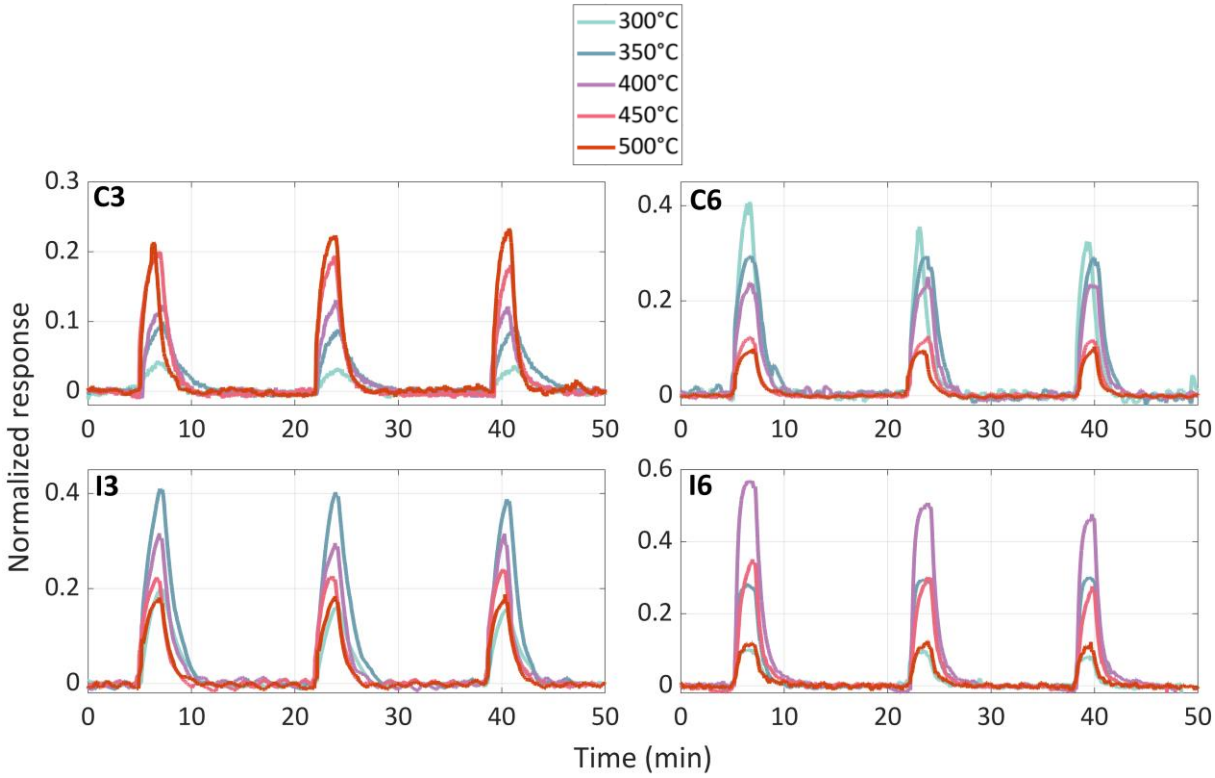

Figure S3 Dynamic normalized response of the SnO_2-based gas sensors (C3, C6, I3 and I6) as a function of the sensing temperature under 900 ppb of benzene. For all tests, 2 min. exposition time, 15 min. recovery time and 100 mL min^{-1} flow rate were applied. Each benzene exposition was replicated 3 times.

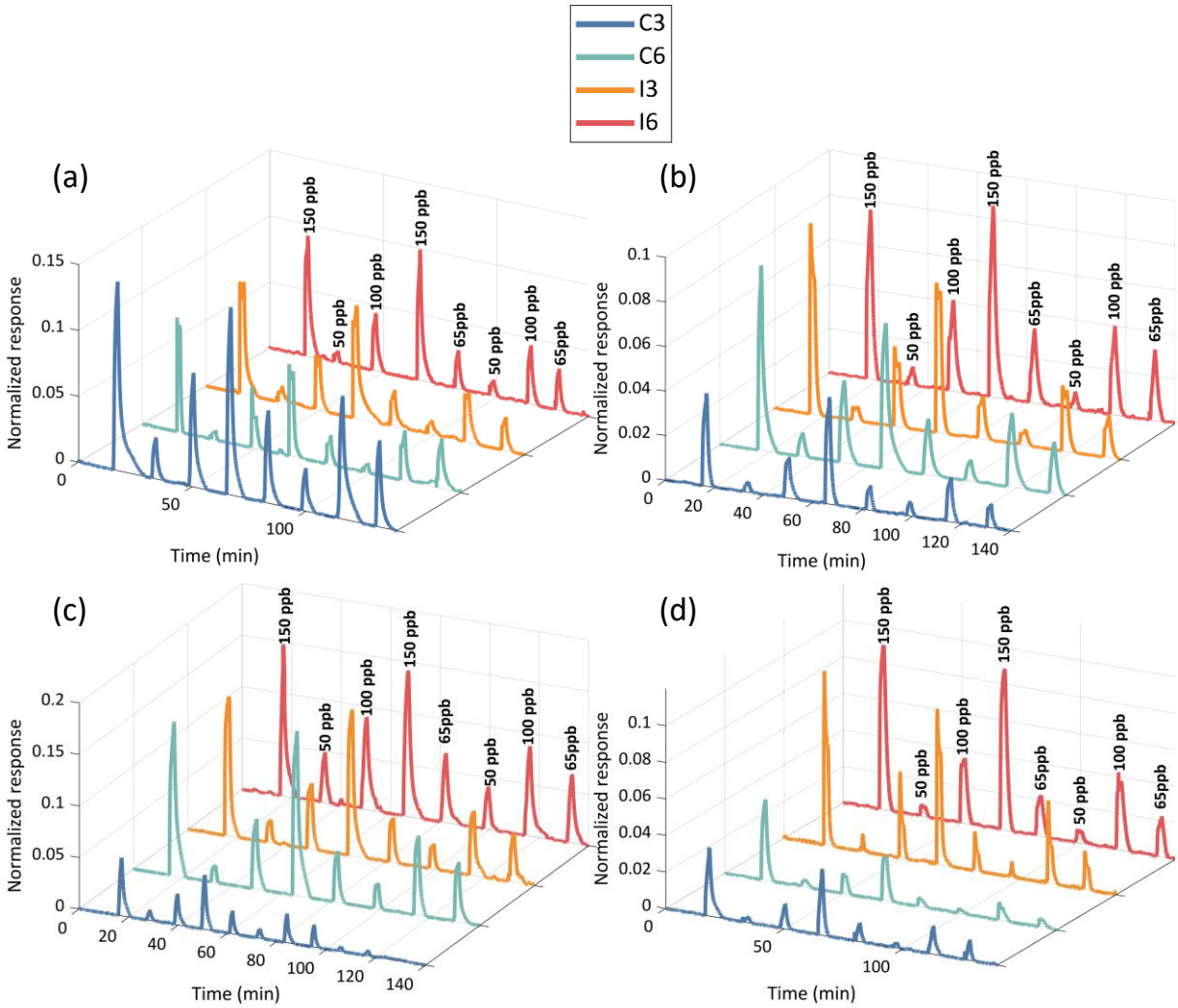

Figure S4 Dynamic normalized response of the SnO_2-based gas sensors (C3, C6, I3 and I6) for different concentrations of (a) toluene (b) ethylbenzene (c) p-xylene and (d) o-xylene. For all tests, 2 min. exposition time, 15 min. recovery time and 100 mL min^{-1} flow rate were applied.