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Supporting Information

Role of gallium and yttrium dopants on the stability and performance of solution processed indium oxide thin-film transistors

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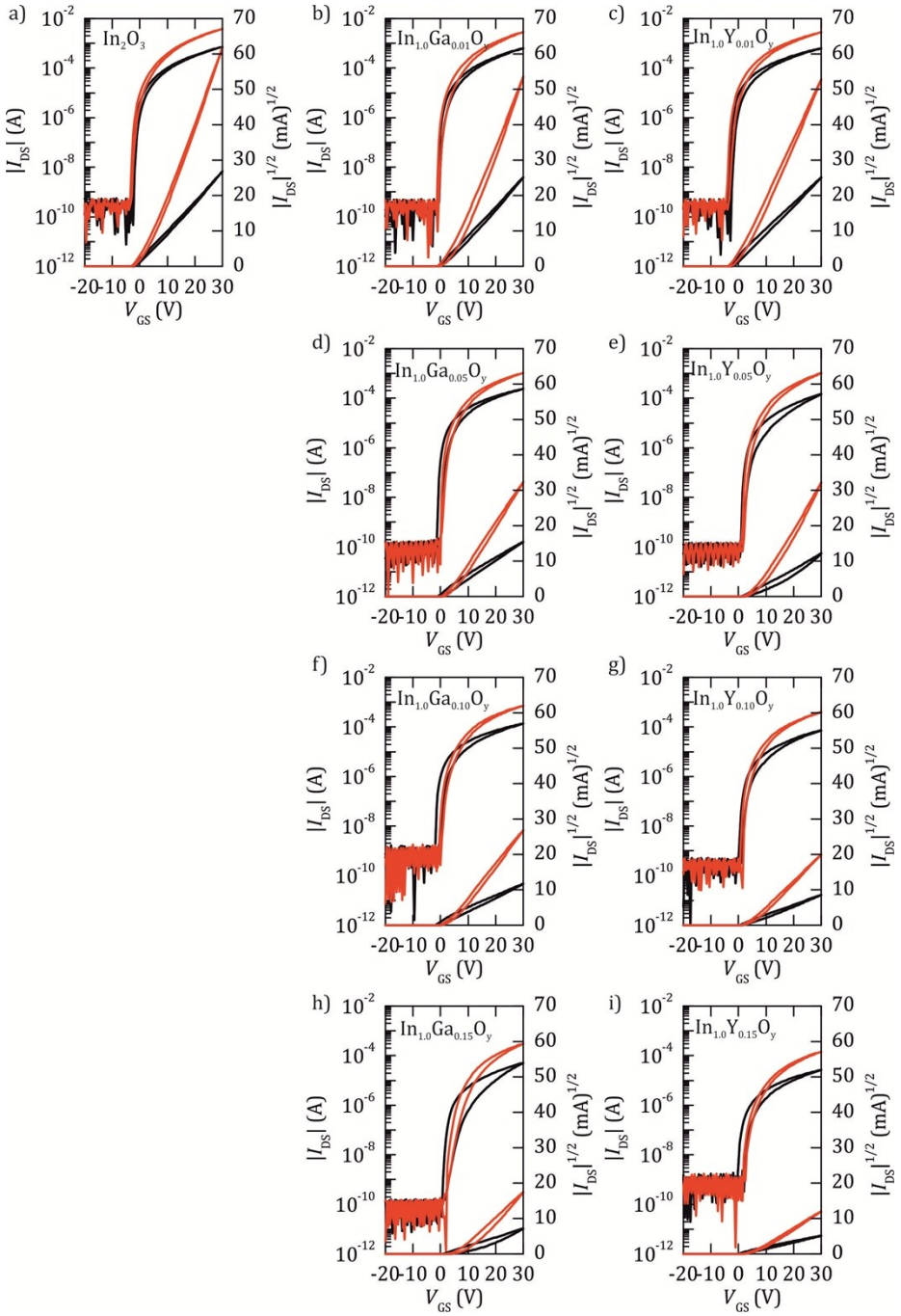

Fig. S 1: Transfer characteristics of TFTs with different metal-oxides as semiconductor material: In_2O_3 (first column), InGaO (second column) and InYO (third column) in the proportions b, c) 100:1, d, e) 100:5, f, g) 100:10 and h, i) 100:15. Black curves: V_{DS} = 2 V, red curves: V_{DS} =10 V.

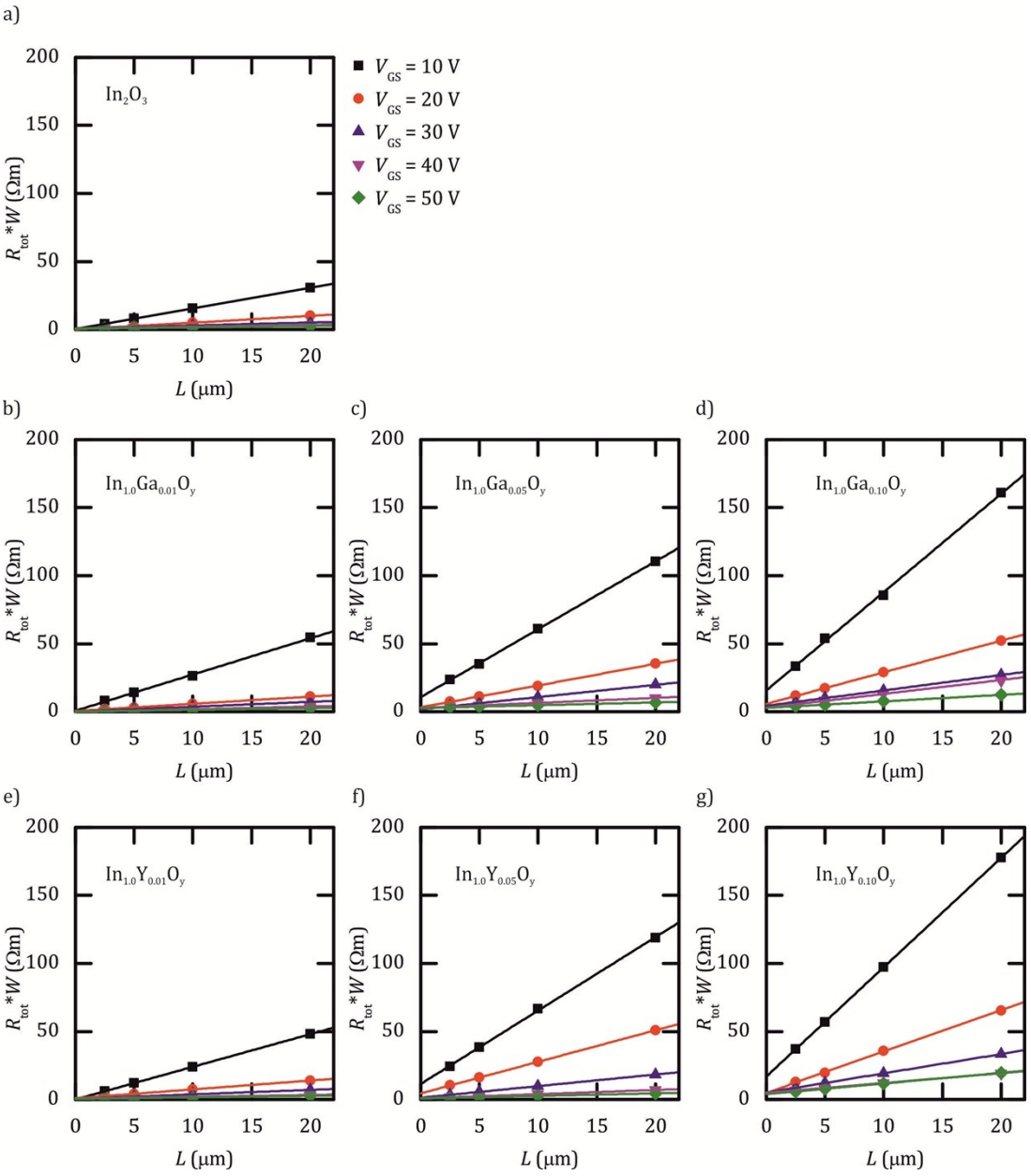

Fig. S2: Width-normalized device resistance $R_{tot*}W$ as a function of channel length L (10 V $\leqslant V_{GS} \leqslant$50 V) for transistors with (a) undoped In_2O_3, (b-d) $In_{1,0}Ga_xO_y$ with x = 0.01; 0.05; 0.1 and (e-g) $In_{1,0}Y_xO_y$ with x = 0.01; 0.05; 0.1.

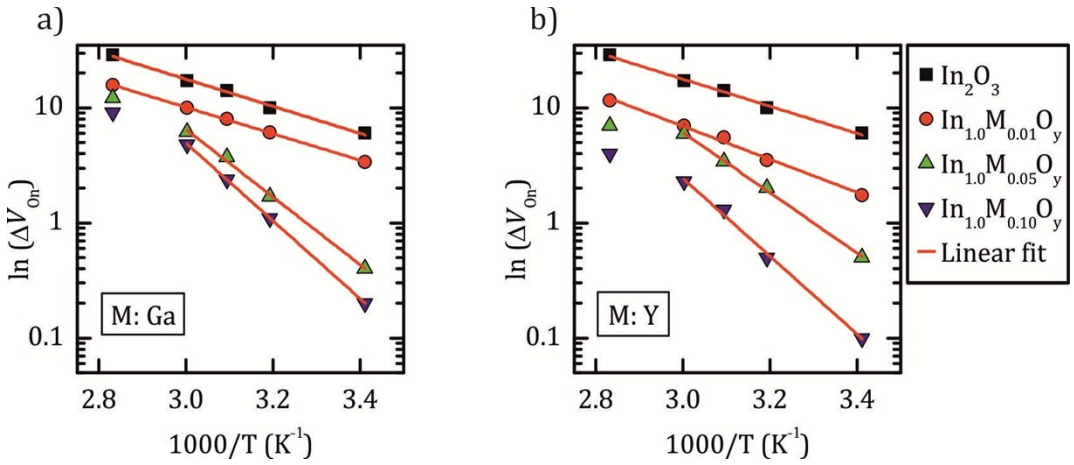

Fig. S 3: Semi-logarithmic scale of the onset voltage shift ΔV_{on} during temperature stress versus the reciprocal temperature of TFTs with different metal oxide compositions: a) indium oxide and $In_{1.0}Ga_xO_y$ and b) Indium oxide und $In_{1.0}Y_xO_y$ with x = 0.01, 0.05, 0.10. The red curves are the linear fits of the data points.