Supporting Information

Room-temperature fabrication of high-performance amorphous In-Ga-Zn-O/Al_2O_3 thin-film transistors on ultra-smooth and clear nanopaper

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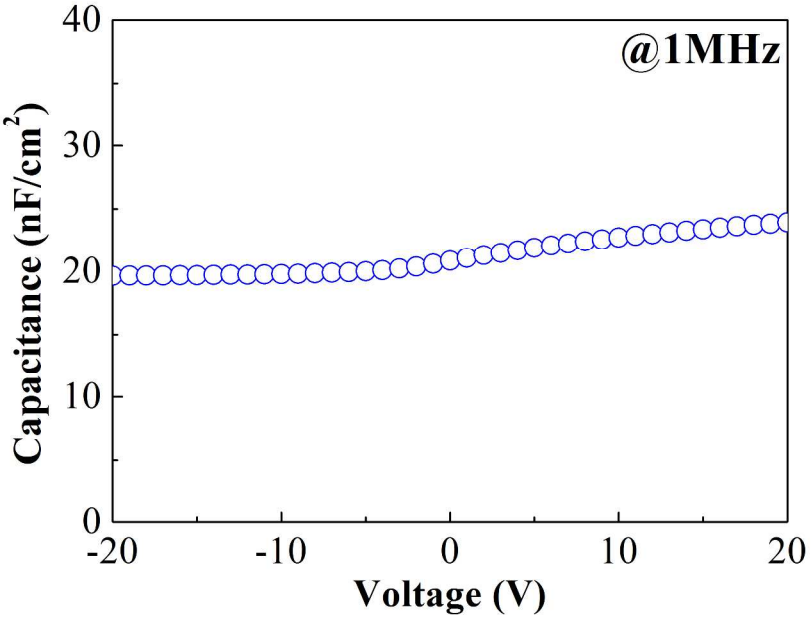

Figure S1. Capacitance values for sputtering Al_2O_3 insulator layer

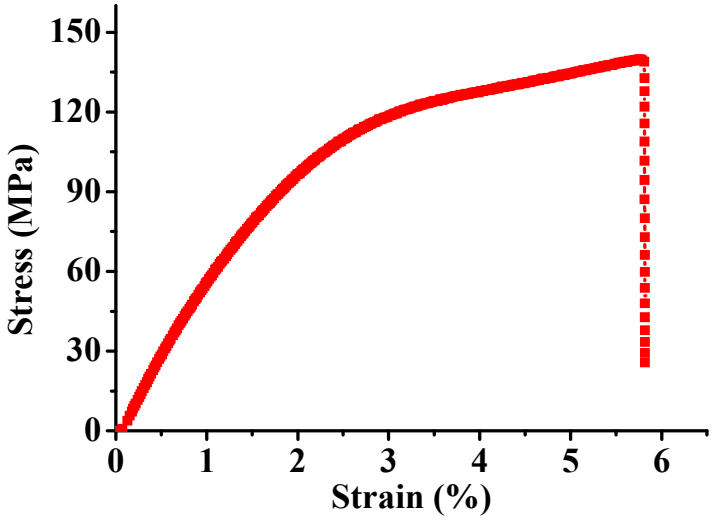

Figure S2. Tensile strength of the obtained transparent, clear, and ultra-smooth nanopaper**.**

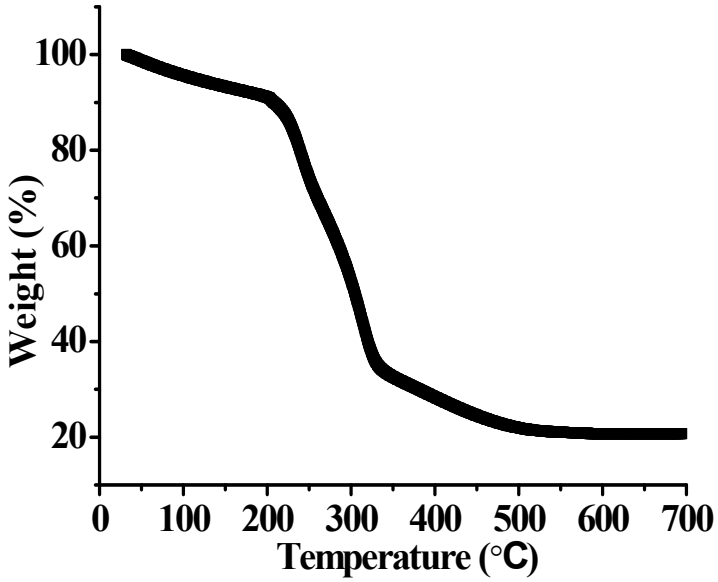

Figure S3. TGA curve of transparent nanopaper in nitrogen

Table S1 A comparison of nanopaper, PI, and Glass for electronic applications [1-6]

Properties	Nanopaper	CPI	Glass
Surface roughness （Ra, nm）	<5	<4	<2
Porosity （%）	20-30	-	-
Transparency （% 550nm）	90-92	85-90	90-92
Maximum stress (MPa)	100-300	50-150	30-70
Young modulus （GPa）	4-30	2-2.7	71
Coefficient of thermal expansion （ppm/K）	5-10	20-30	3-8
Printability	Good	Poor	Poor
Bending radius （mm）	1	5	Rigid
Renewability	Excellent	Bad	-

Table S2 Basic properties of our nanopaper

Properties	Nanopaper
Base weight (g/m^2)	40.0
Thickness (μm)	30.0
Tensile strength (MPa)	137.8
Young's modulus (GPa)	4.9
Transparency (%, at 550nm)	~90
Transmission haze (%, at 550nm)	~0.85
Surface roughness (nm, Rq, 5*5 μm^2 scanning area)	1.8
Maximum operation temperature (℃)	200

References

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