

Supplementary Information

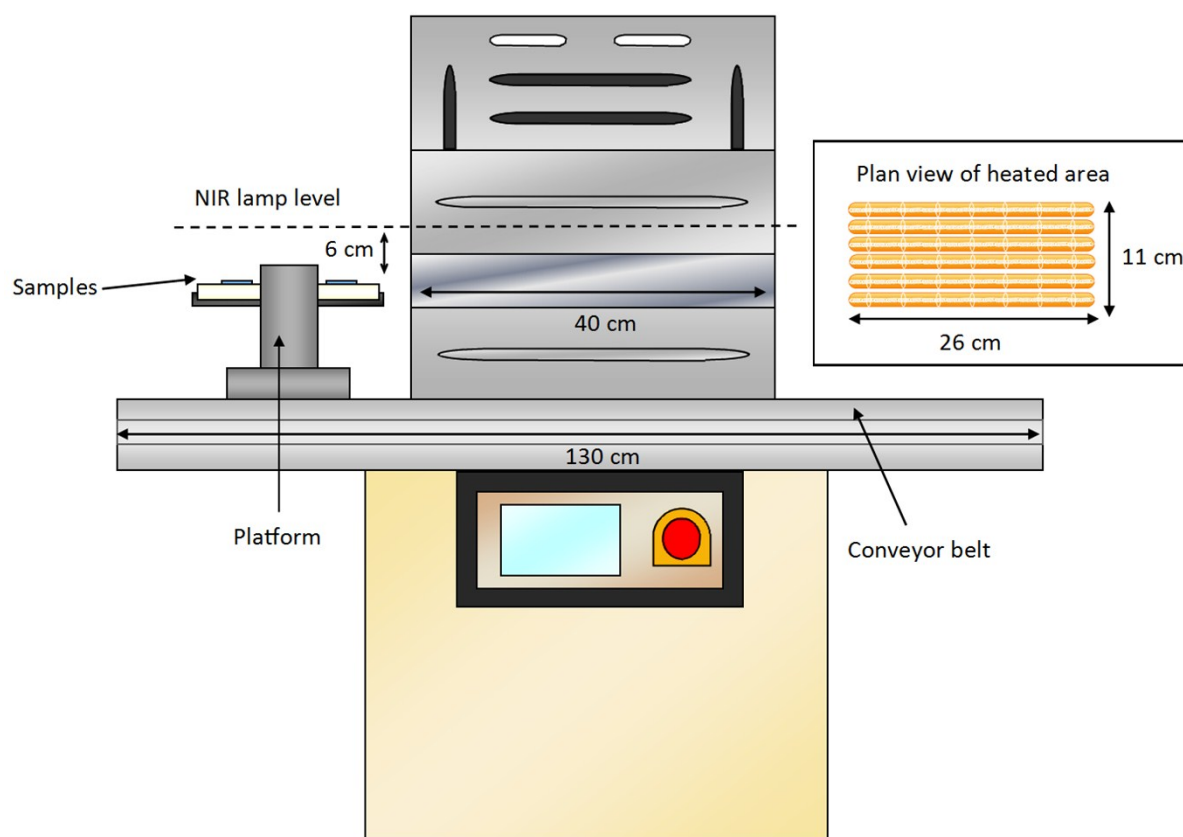


Figure S1 Schematic of NIR process

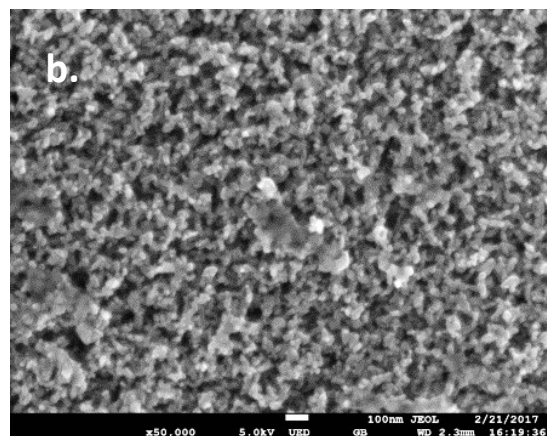
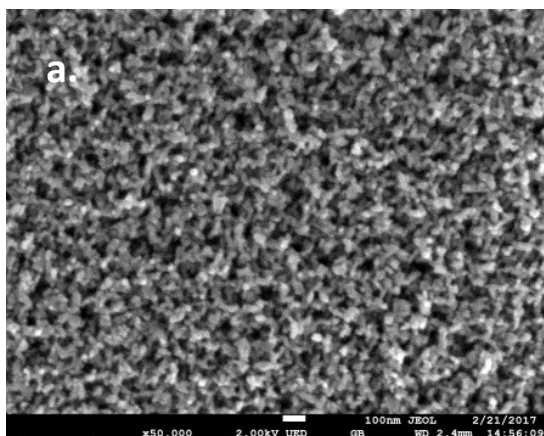


Figure S2 (a) NIR processed TiO_2 (b) hot plate

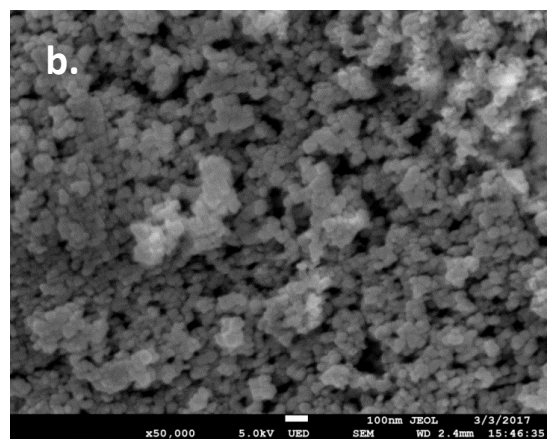
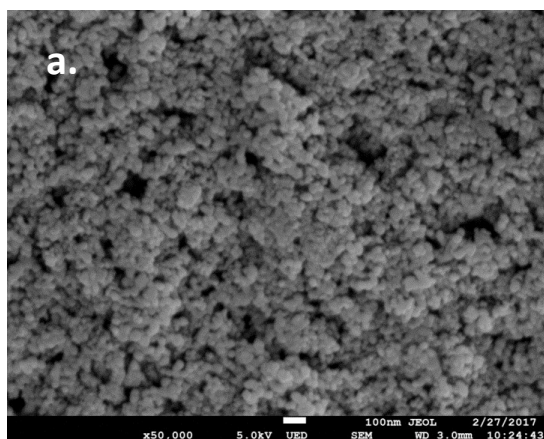


Figure S3 (a) NIR processed zirconia (b) hot plate processed zirconia

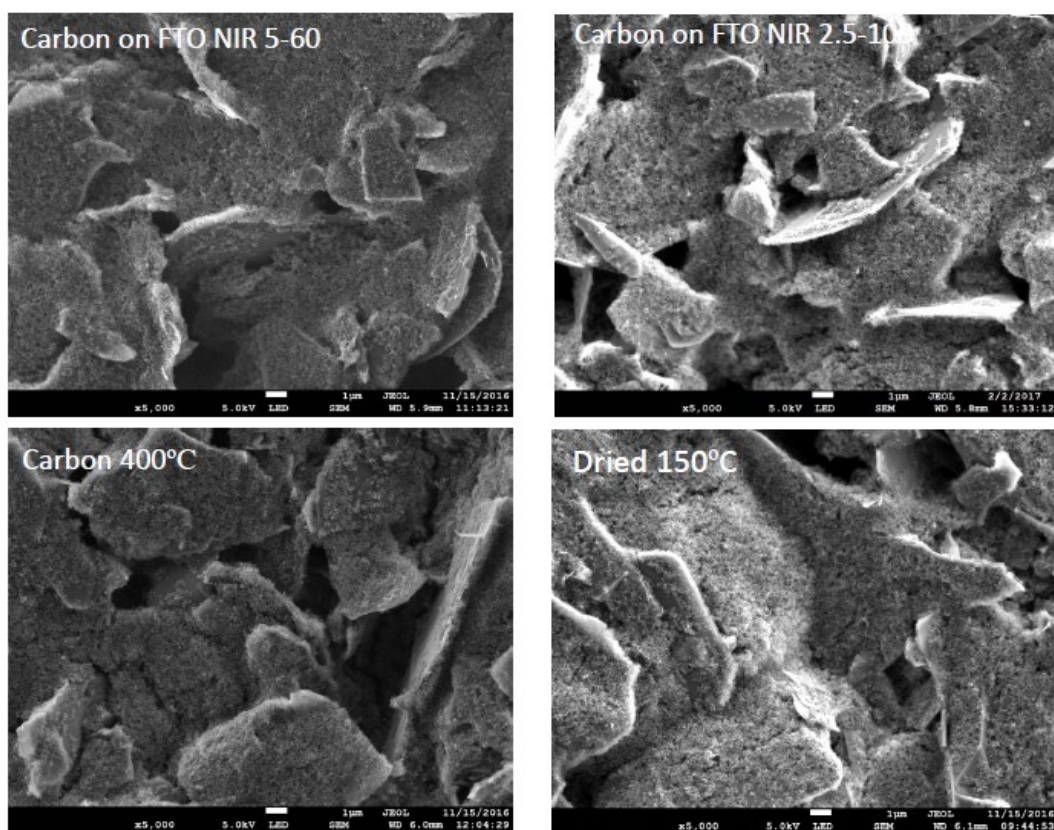


Figure S4 – SEM images of NIR processed and hot plate heated m-carbon.

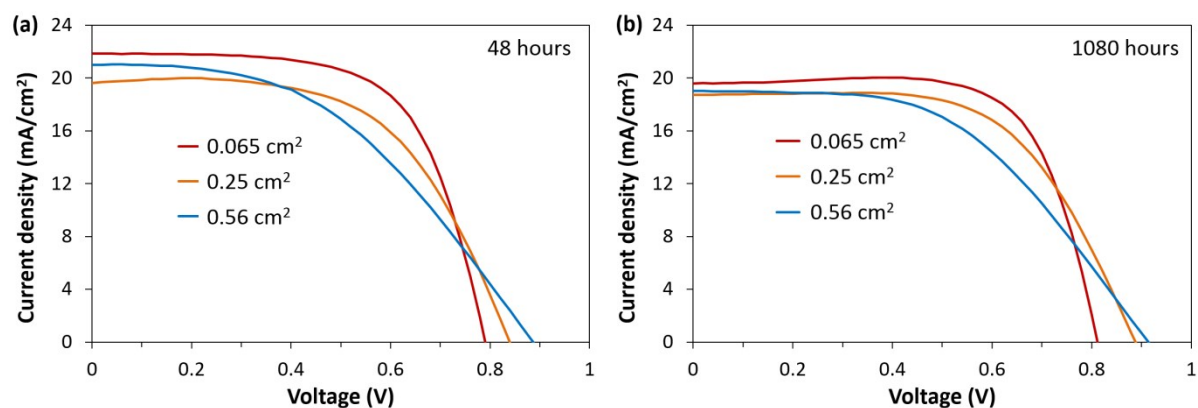


Figure S5 (a) Effect of masked area on cell performance 48 hours after manufacture. (b) Effect of masked area on cell performance 1080 hours after manufacture.

Table S1 - Effect of mask area size on cell performance.

Time	Area (cm ²)	V _{oc} (V)	J _{sc} (mA/cm ²)	FF (%)	PCE (%)	Stabilised PCE (%)
48 hours	0.065	0.78	21.86	65.83	11.28	11.01
		0.81	20.86	59.50	10.03	
	0.25	0.84	19.65	58.52	9.61	8.77
		0.85	17.83	53.52	8.14	
	0.56	0.89	21.00	45.49	8.49	8.13
		0.89	19.20	44.65	7.63	
1080 hours	0.065	0.80	19.60	71.67	11.24	10.25
		0.84	18.63	65.16	10.16	
	0.25	0.89	18.74	60.83	10.12	9.19
		0.90	17.98	56.12	9.05	
	0.56	0.92	19.03	50.19	8.75	8.24
		0.92	18.45	48.07	8.14	