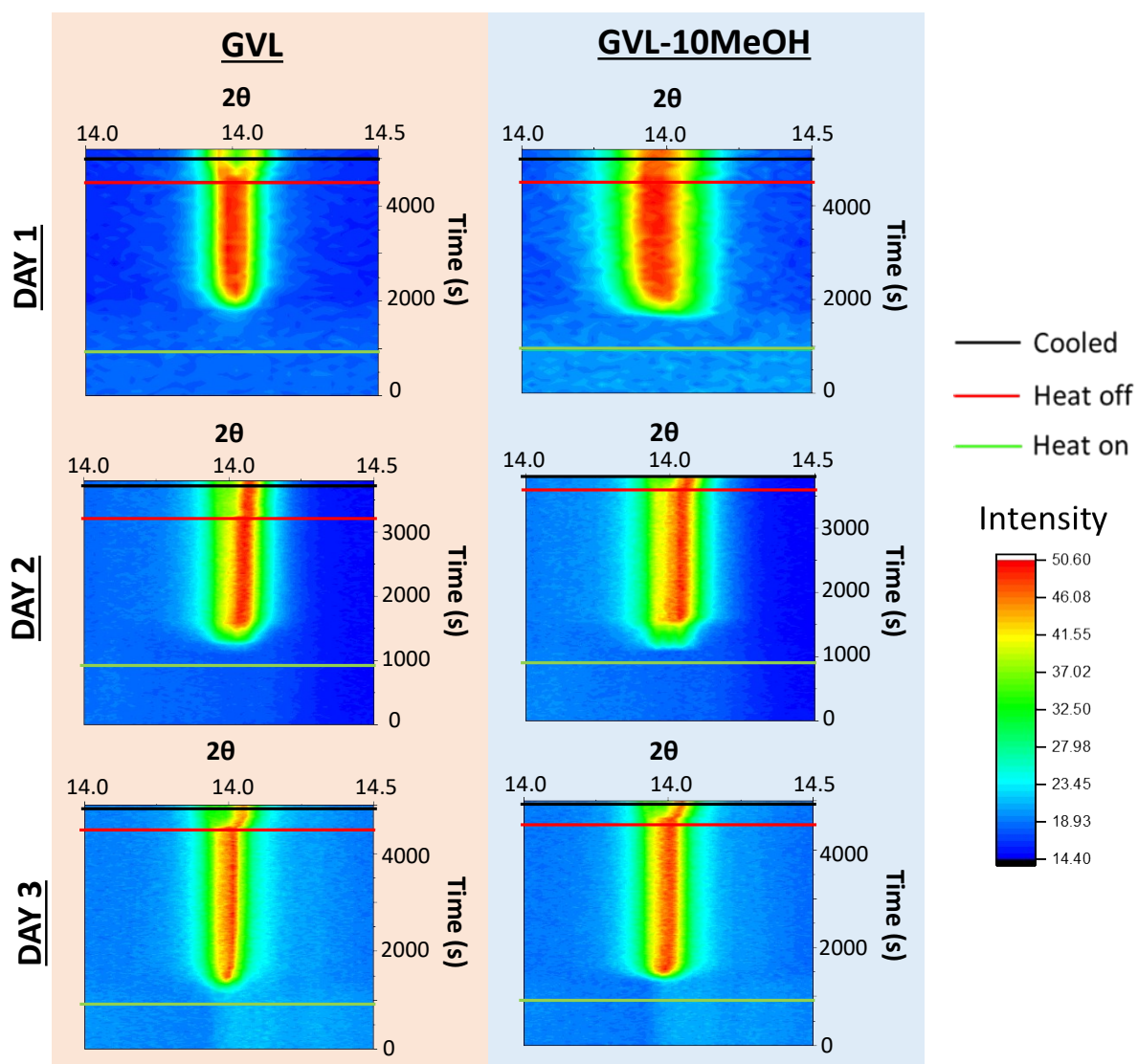
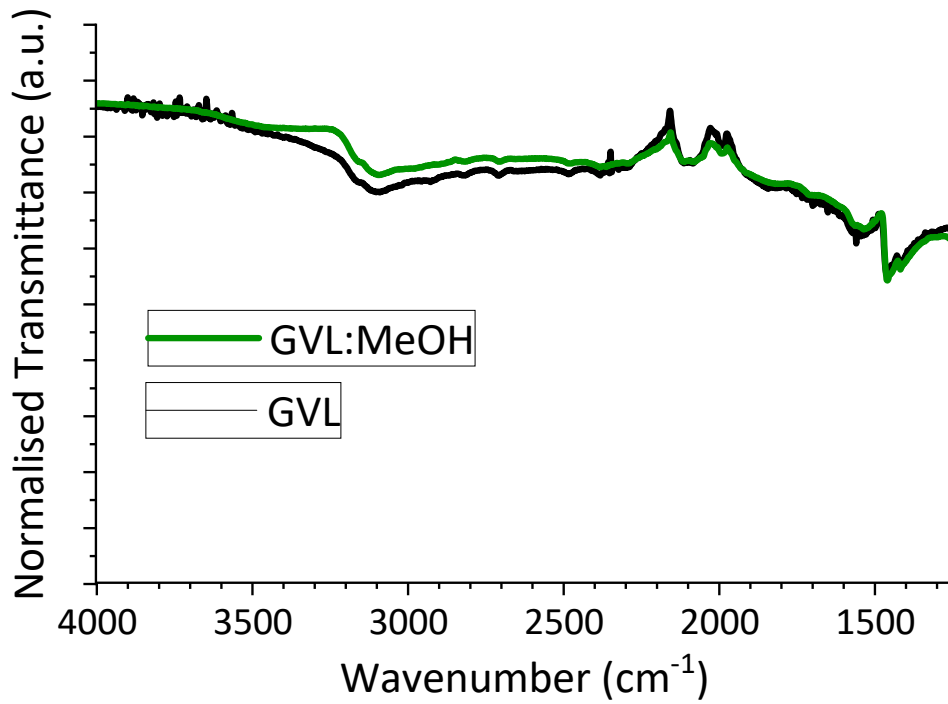


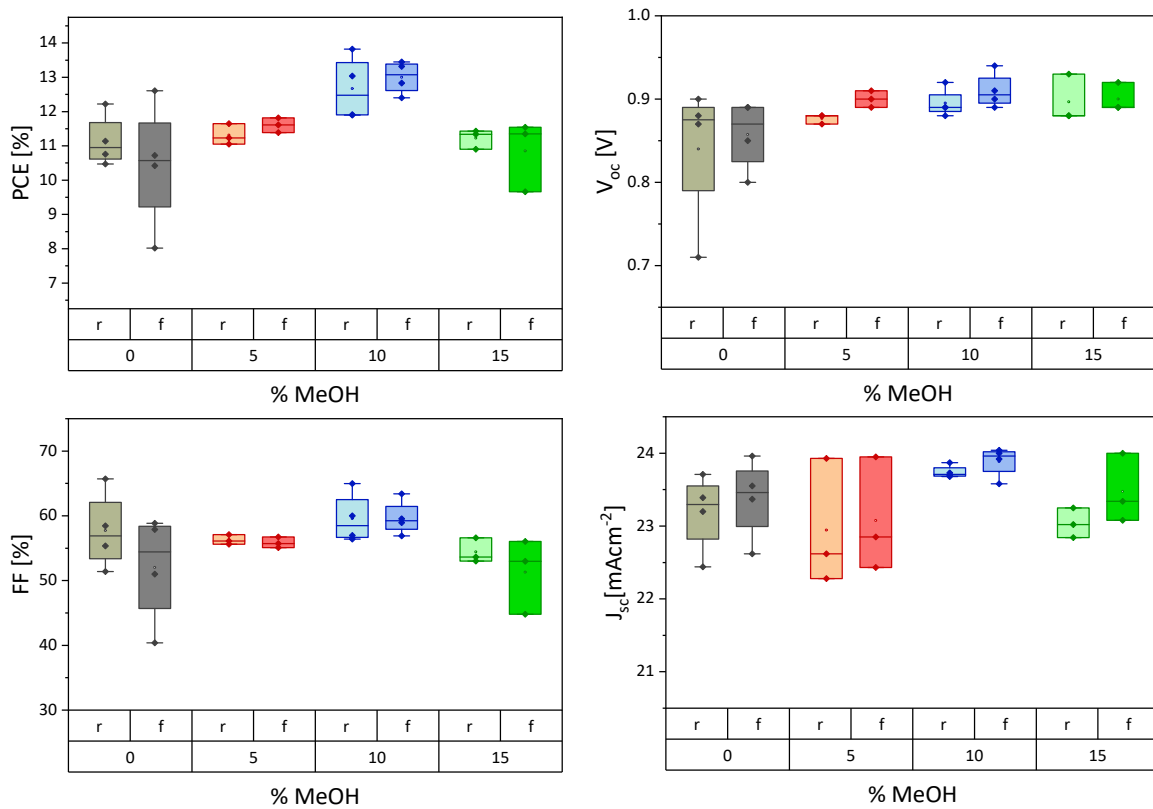
Supplementary



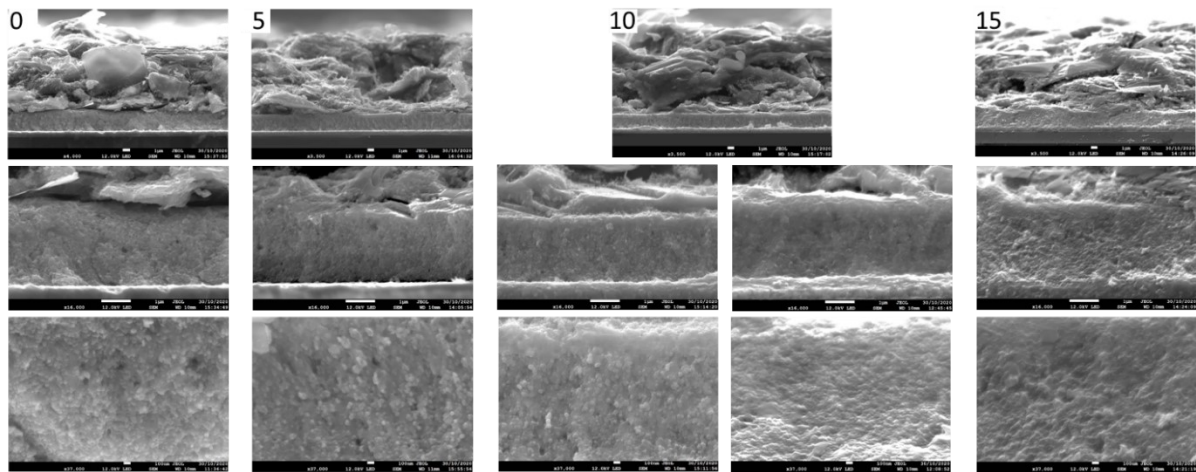
S 1: XRD crystallisation data obtained for GVL only and GVL-10MeOH systems drop cast onto annealed stacks and annealed at 45-50°C in-situ. Samples were maintained for 15 minutes at 25°C prior to heat onset to accurately imitate the standard device infiltration procedure. Heat onset, removal and cooling are highlighted on each graph by green, red and black lines respectively.



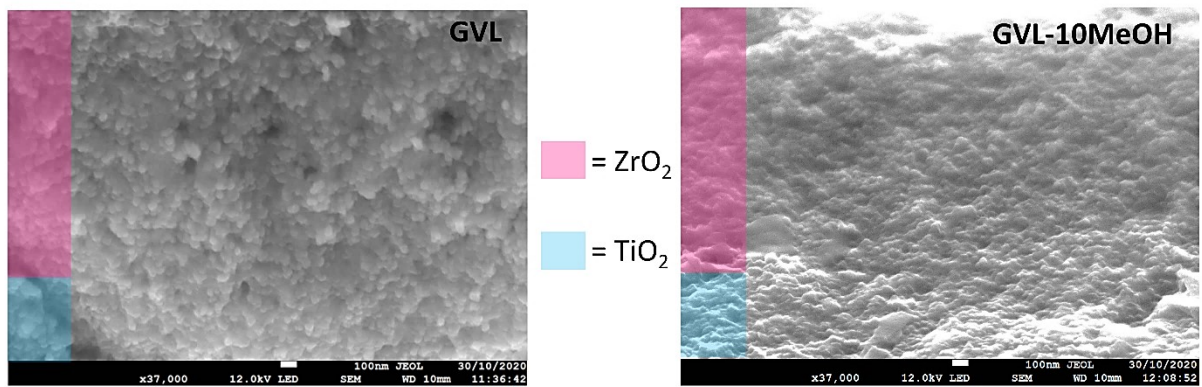
S 2: FTIR traces of MAPbI<sub>3</sub> crystallised in ZrO<sub>2</sub> scaffolds from GVL only and GVL-10MeOH based precursors.



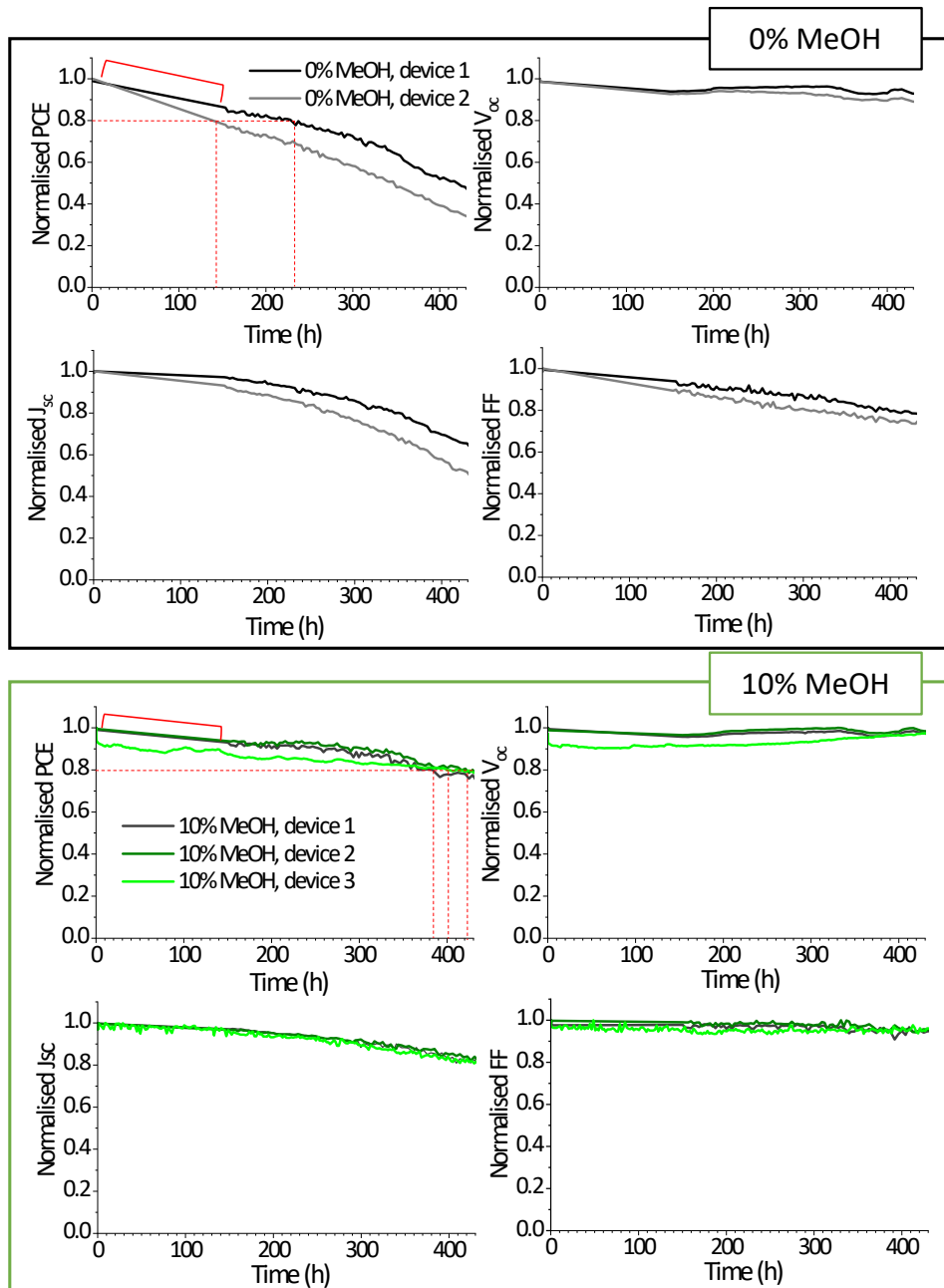
S 3: PV device parameters from devices made using MAPbI<sub>3</sub> precursors in GVL with 0, 5, 10 and 15% MeOH. Four devices in each set.



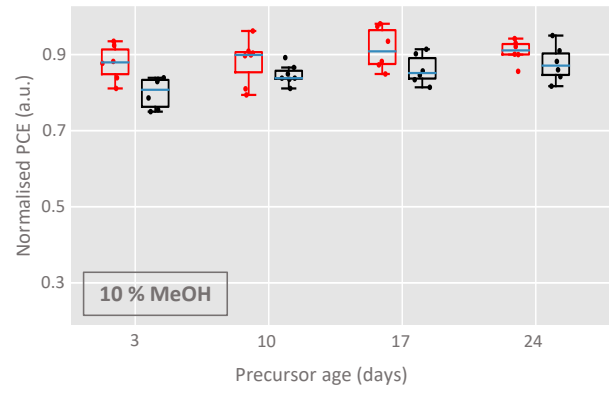
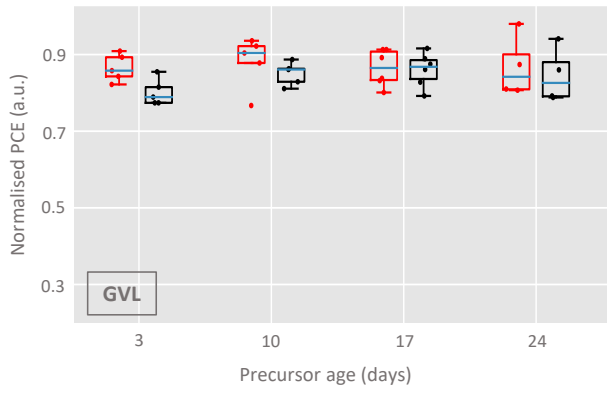
S 4: Cross-sectional SEM images of devices produced using GVL and GVL-MeOH precursors. 10% samples show two types of mesoporous infiltration, with some particularly densely filled areas of the  $\text{TiO}_2/\text{ZrO}_2$  observed.



S 5: Cross sectional SEM images of the  $\text{TiO}_2$  and  $\text{ZrO}_2$  layers in a GVL only GVL-10MeOH device. This section of the GVL-10MeOH device exhibits particularly dense  $\text{ZrO}_2$  and  $\text{TiO}_2$  infiltration.



**S 6:** Normalised PV parameters of two GVL only and three GVL-10MeOH devices over 430 hours of stability testing. The unencapsulated devices were tested every four hours and held at  $V_{oc}$  under AM1.5 at 50°C in ambient conditions for the duration. The red bracket highlights extrapolated data between hours 12 and 136, where a software glitch prevented data collection for GVL 1 and 2 and GVL-10MeOH 1 and 2. Red dashes highlight device T80 lifetimes.



**S 7: Normalised performance of devices fabricated from the same GVL only or GVL-10MeOH precursor and printing batch over a period of 24 days. 5-6 devices for each precursor on each day.**