

Supporting Information for:

Synthesis of MIL-53 Thin-films by Vapour-Assisted Conversion

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Additional Figures

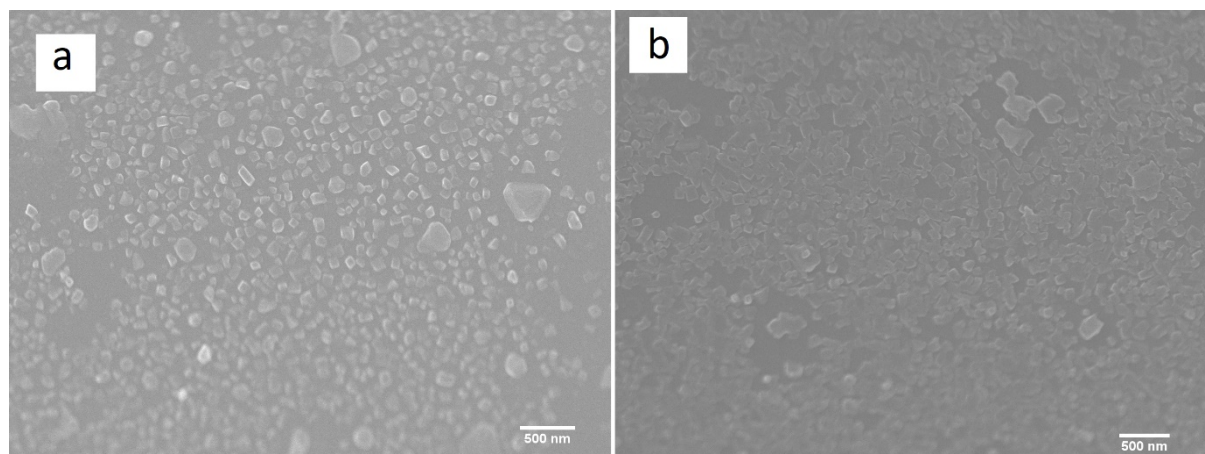


Figure S1: SEM images of glass slides coated using the RTD approach after switching off the oven after short initial reaction time (15 min at 150 °C) followed by cooling in the switched-off oven for 285 min (leading to total reaction time of 5 h) (a) and a glass slide kept at 150 °C for 5 h (b).

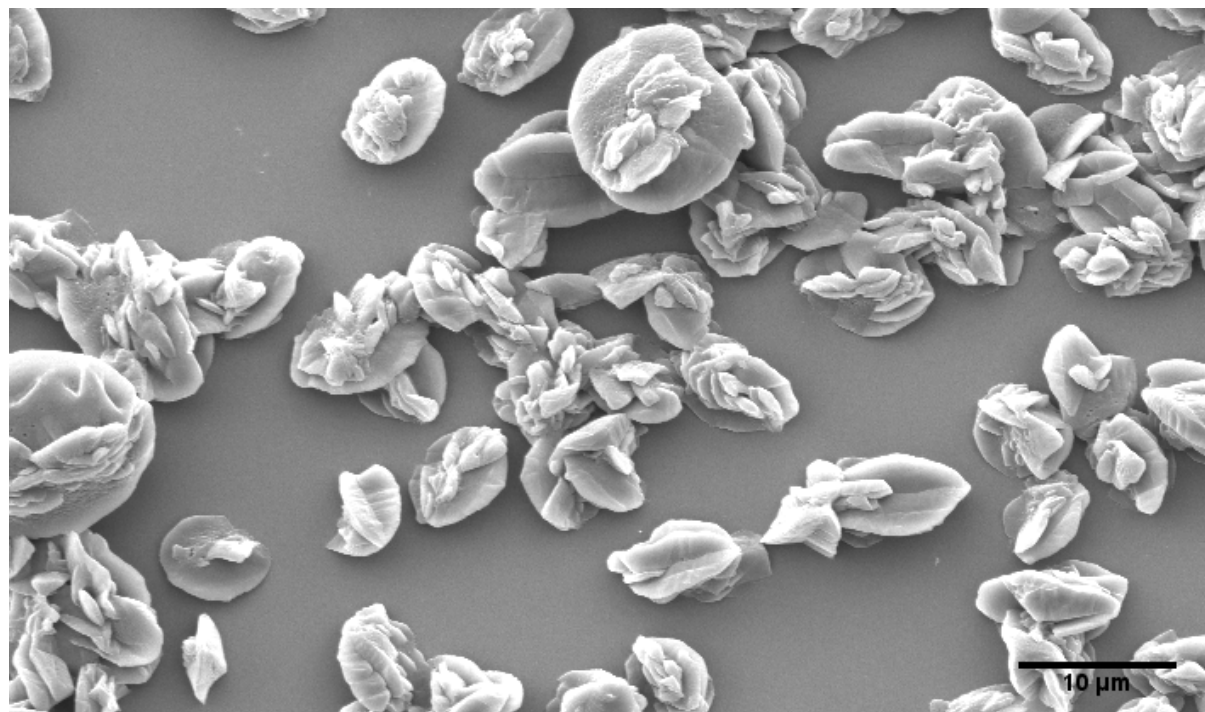


Figure S2: SEM image of glass slide covered with H₂BDC dissolved in DMF in similar concentration to the reaction mixture used for the VAC approach. The particles are leaf-shaped and have size ranging from 1-5 μm.

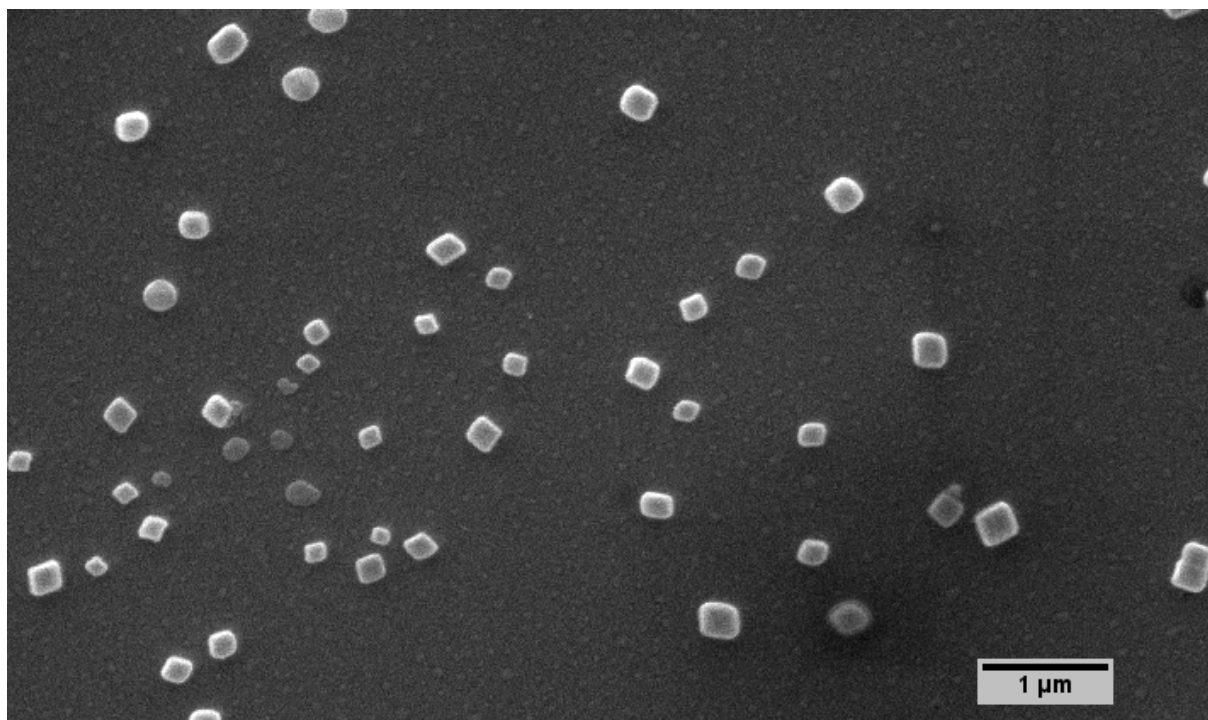


Figure S3: SEM image of glass slide coated using the RTD approach with reduced temperature of 100 °C. Instead of angular particles, cubic shaped particles with a size of 250 ± 56 nm are observed.

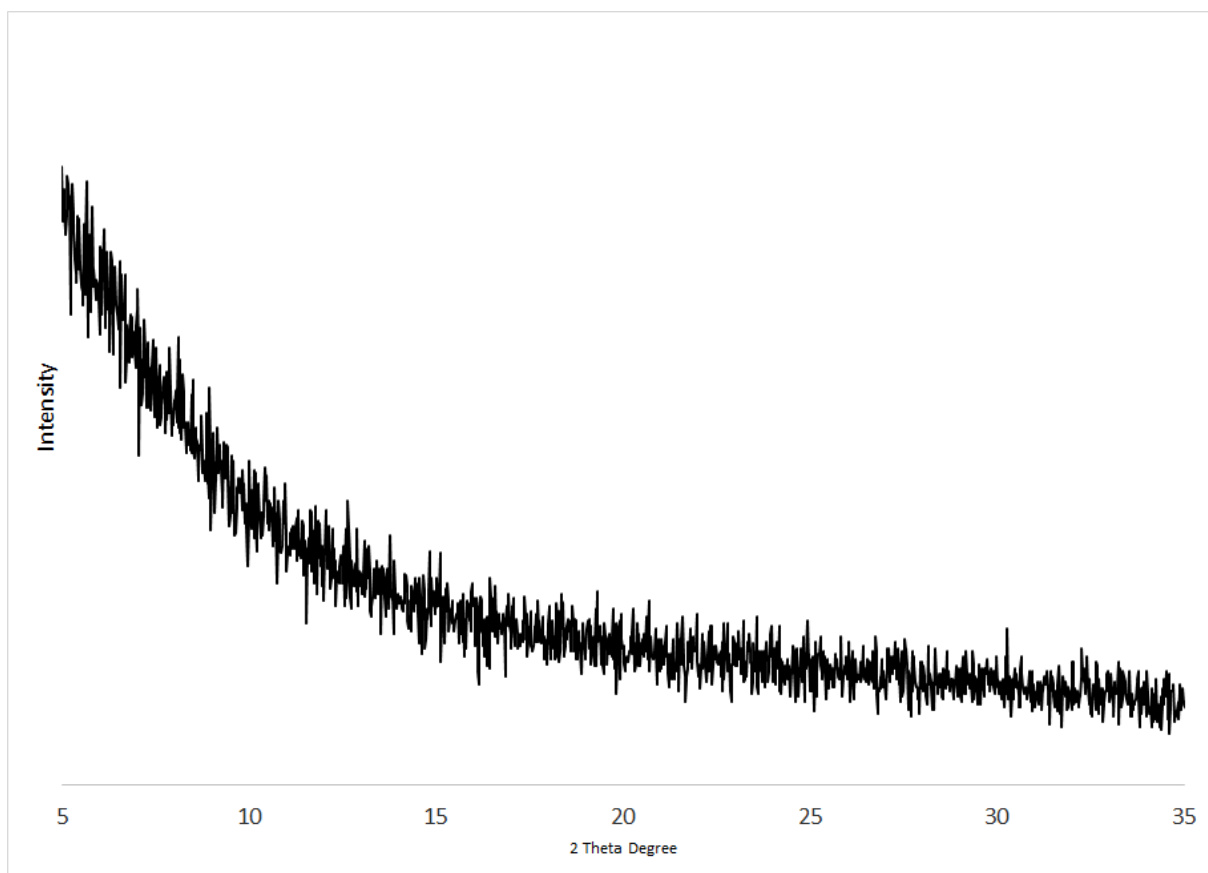


Figure S4: XRD pattern of a glass slide covered using the RTD approach at 100 °C (**Figure S3**). No peak at $\sim 8.8^\circ$ can be identified, which would be expected for MIL-53(DMF).

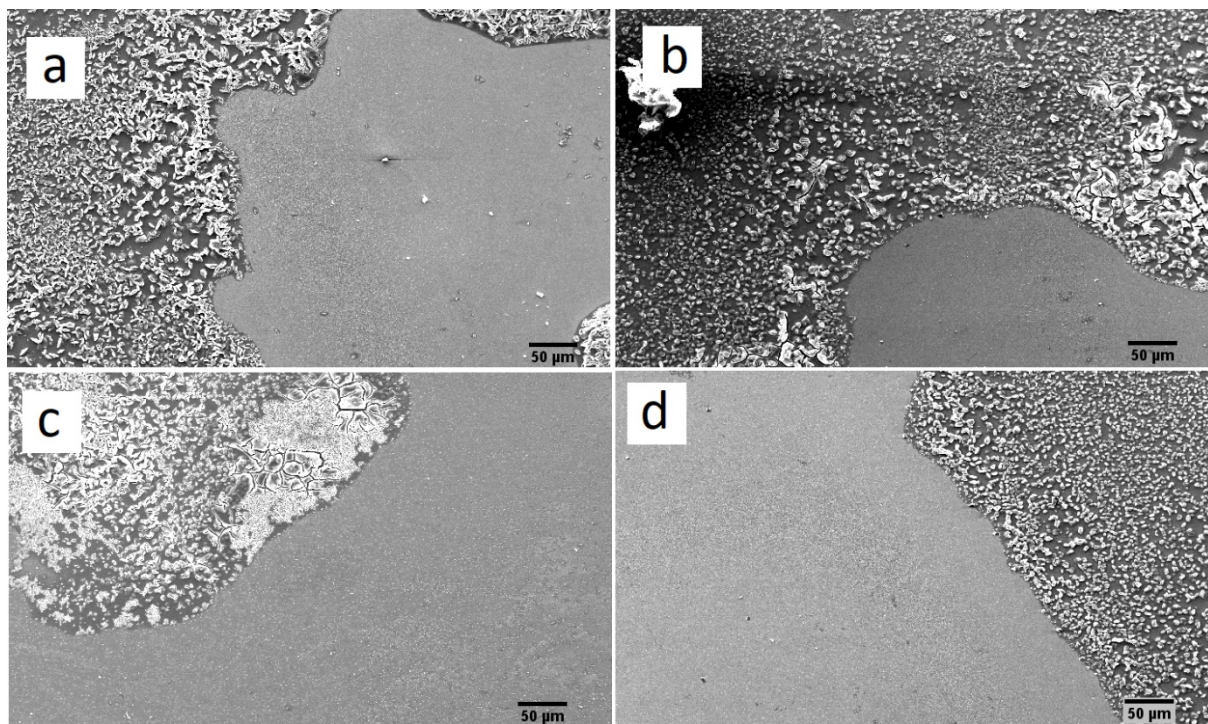


Figure S5: Comparison of glass slides covered at 150°C using the RTD approach with reaction times of a) 1 h, b) 3 h, c) 5 h and d) overnight reaction (~17°C). All images were taken at lower magnification in comparison to Figure 1. Areas covered with leaf-shaped particles and with angular shaped particles are visible.



Figure S6: Comparison of glass slide covered using the RTD approach after 5 h at 150°C (left) with uncoated glass slide (right). The white areas of unreacted starting material are visible, while the rest of the glass slide is slightly opaque in comparison with the uncoated glass slide, implying coating of the surface.



Figure S7: *Experimental set-up used for the vapour-assisted conversion.*