

## Supporting Information

Aldehyde-alcohol reactions catalyzed under mild conditions by chromium (III) terephthalate metal organic framework (MIL-101) and phosphotungstic acid composites

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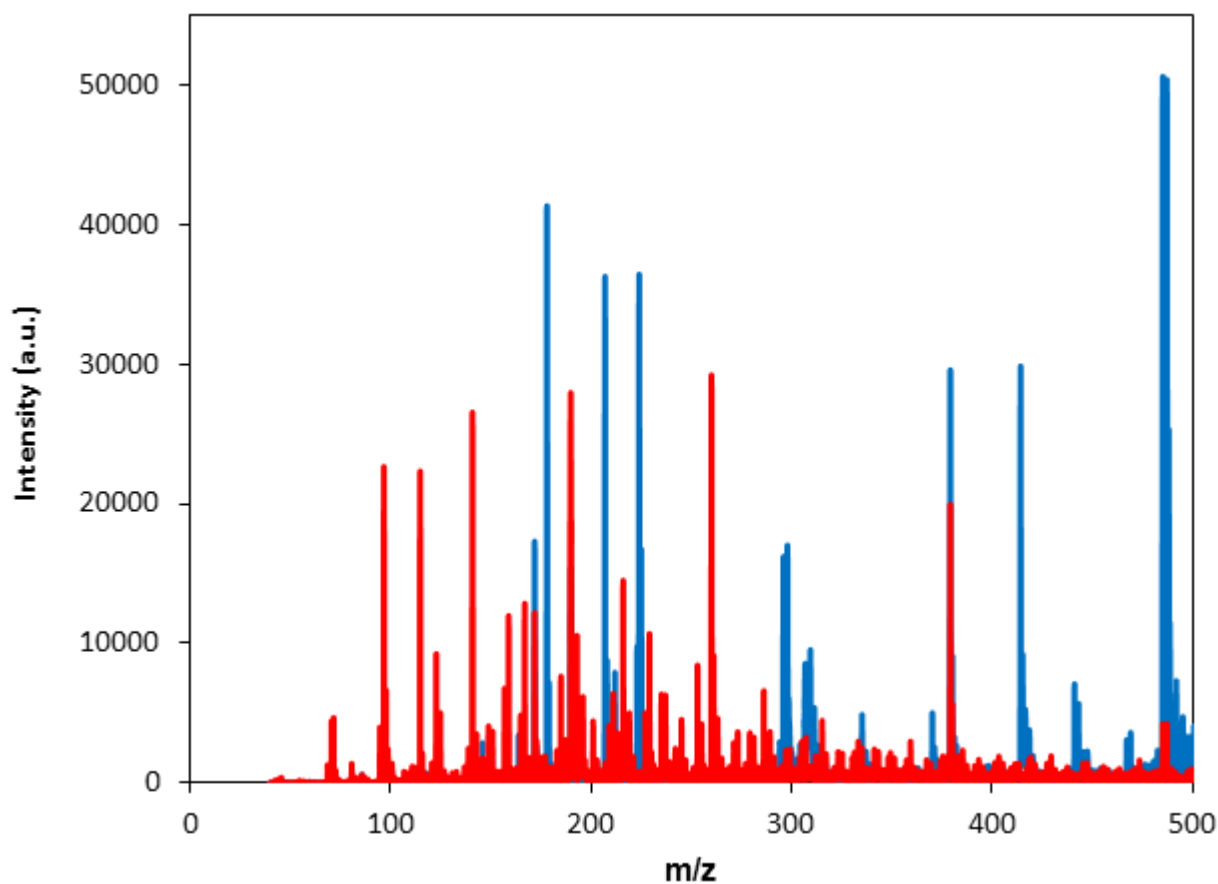


Fig. S-1. Typical MALDI-TOF spectrum of the liquid condensed over MIL101/PTA<sub>ja</sub> matrix after 2 days of exposure to acetaldehyde vapors at room temperature (red). Also shown is a

spectrum of  $\alpha$ -cyano-4-hydroxycinnamic acid (ACHCA) matrix (blue). For the measurement, 1  $\mu\text{L}$  of the liquid was lyophilized, reconstituted in 1  $\mu\text{L}$  of ACHCA matrix solution, spotted and analyzed.

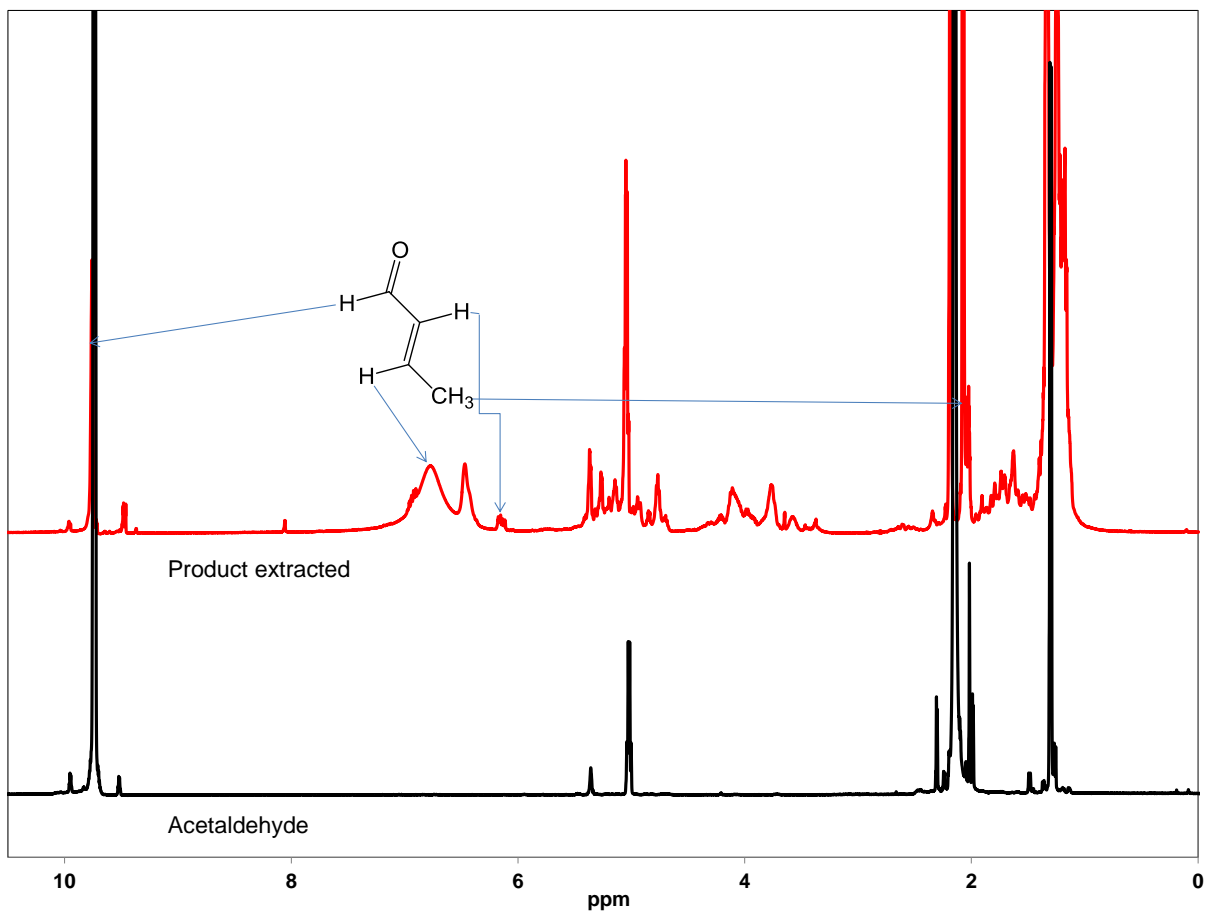
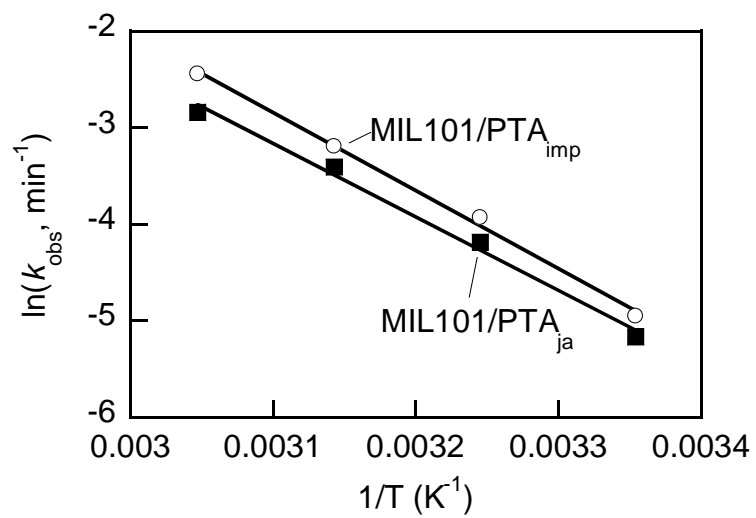


Fig.S-2.  $^1\text{H}$  NMR (400 MHz) spectra of acetaldehyde in  $\text{CDCl}_3$  and of the product of extraction from MIL101/PTA<sub>imp</sub> by  $\text{CDCl}_3$ , 2 hours after the adsorption of acetaldehyde vapors on the composite MOF material at room temperature. Signals corresponding to crotonaldehyde protons are shown.



**Fig.S-3.** Arrhenius plots of benzaldehyde-methanol reaction rate constants ( $k_{\text{obs}}$ ) over temperature range of 25-55°C for reactions catalyzed by MIL101/PTA<sub>imp</sub> and MIL101/PTA<sub>ja</sub>.