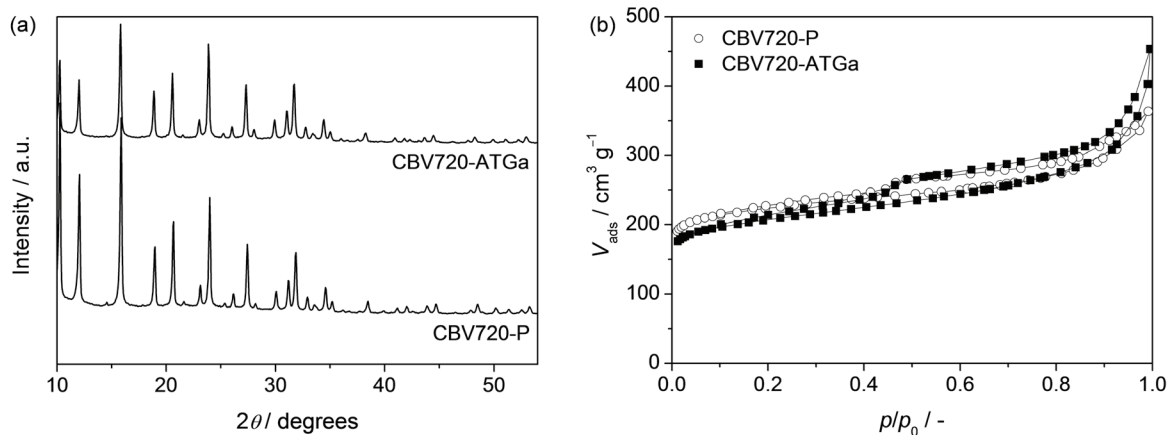


## Electronic Supplementary Information

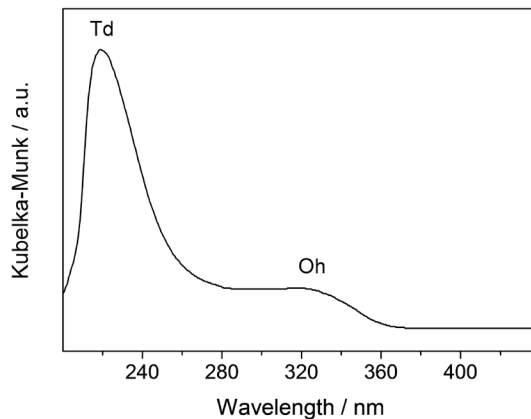
### Continuous Process for Glyoxal Valorisation using Tailored Lewis-acid Zeolite Catalysts

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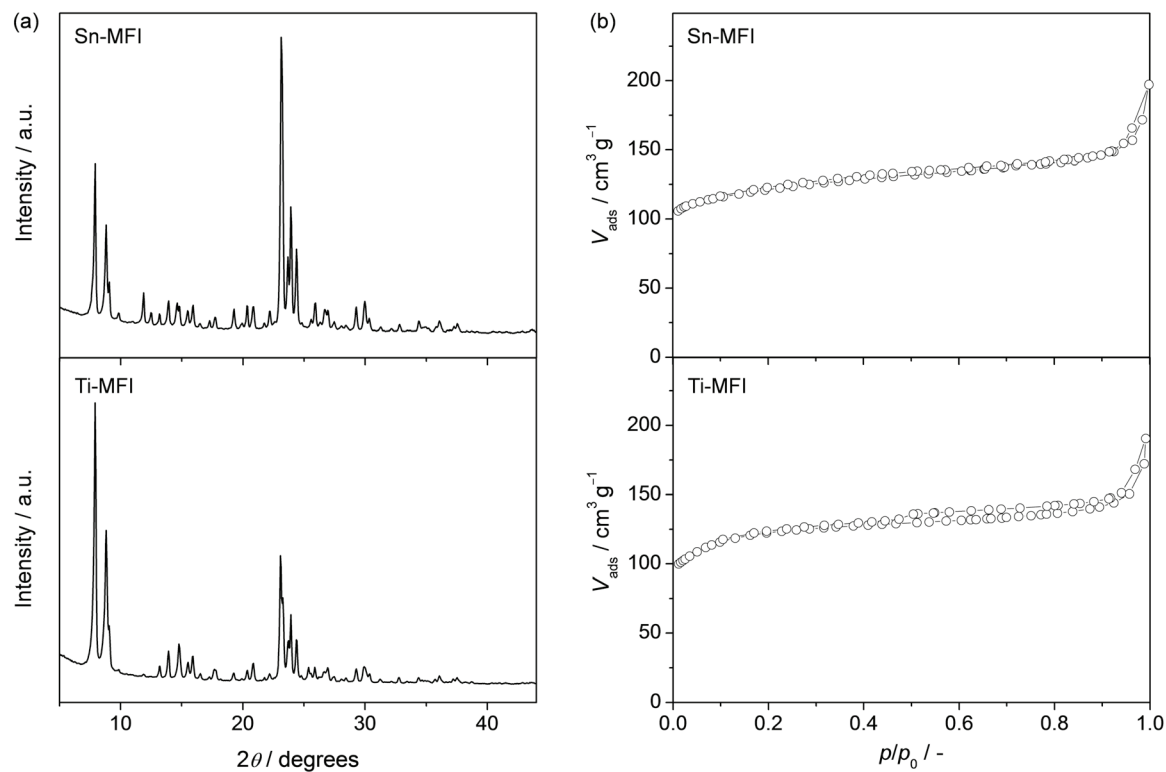
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**Fig. S11.** (a) X-ray diffraction patterns and (b) N<sub>2</sub> isotherms of CBV720 in parent form (P) and after alkaline-assisted galliation (ATGa).



**Fig. S12.** Diffuse reflectance UV-Vis spectrum of Ti-MFI. The bands can be assigned to tetrahedral (Td) titanium in lattice positions of the zeolite and octahedral (Oh) titanium in extra-framework positions.



**Fig. S13.** (a) X-ray diffraction patterns and (b) N<sub>2</sub> isotherms of Sn-MFI and Ti-MFI.

**Table S11** Characterisation data of the USY zeolites

Catalyst	Si/Al <sup>a</sup> (mol mol <sup>-1</sup> )	$V_{\text{pore}}^b$ (cm <sup>3</sup> g <sup>-1</sup> )	$V_{\text{micro}}^c$ (cm <sup>3</sup> g <sup>-1</sup> )	$S_{\text{meso}}^c$ (m <sup>2</sup> g <sup>-1</sup> )	$S_{\text{BET}}^d$ (m <sup>2</sup> g <sup>-1</sup> )
CBV300	2.55	0.37	0.33	34	843
CBV500	2.6	0.36	0.24	83	675
CBV600	2.6	0.39	0.23	76	651
CBV712	6.0	0.48	0.28	113	807
CBV720	17	0.56	0.29	128	842
CBV760	30	0.56	0.31	149	903
CBV780	40	0.54	0.30	139	859
HSZ390-HUA	250	0.57	0.29	116	825

<sup>a</sup> According to the manufacturer's specifications. <sup>b</sup> Volume adsorbed at  $p/p_0 = 0.99$ . <sup>c</sup> Determined by the  $t$ -plot method. <sup>d</sup> Determined by the BET method.