

ELECTRONIC SUPPLEMENTARY INFORMATION

ZnTa-TUD-1 as easily prepared, highly efficient catalyst for the selective conversion of ethanol to 1,3-butadiene

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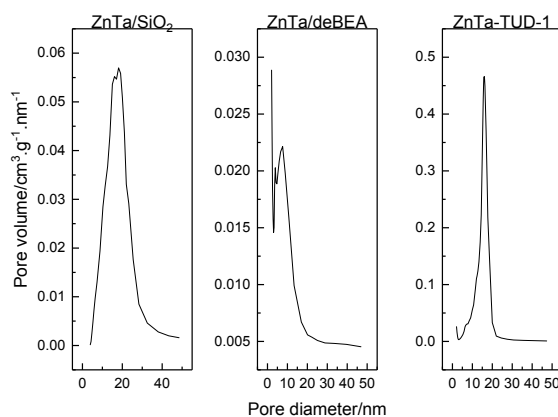


Figure S1 Pore size distribution of synthesized samples

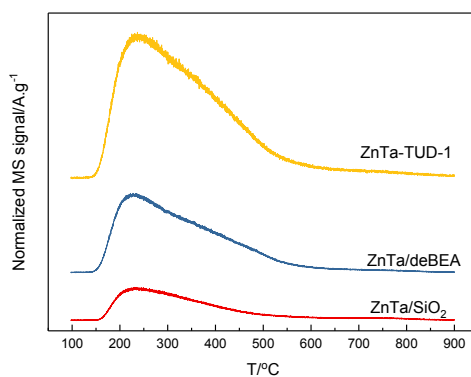


Figure S2 Normalized NH₃-TPD profiles for ZnTa-TUD-1, ZnTa/deBEA and ZnTa/SiO₂

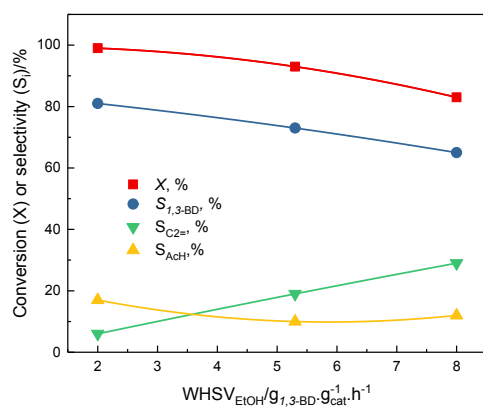


Figure S3 Effect of $WHSV_{EtOH}$ on the catalytic performances of ZnTa-TUD-1 (T: 400 °C, TOS: 5 h, P: 1 atm).

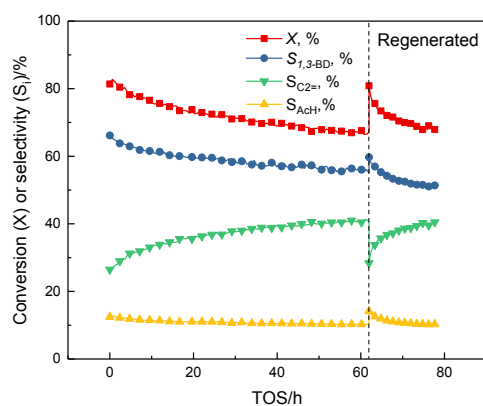


Figure S4 Activity of ZnTa-TUD-1 over time with regeneration after 60 hours (T: 400 °C, $WHSV_{EtOH}$: 8 h⁻¹, P: 1 atm)

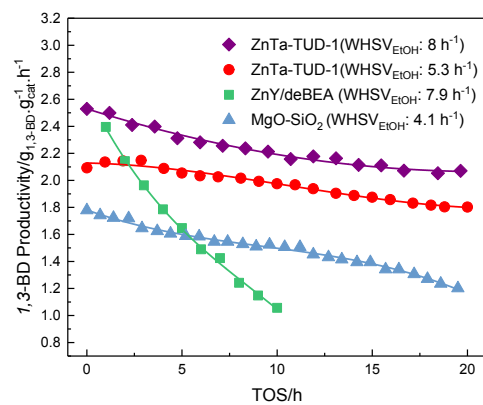


Figure S5 Comparison between the productivity of ZnTa-TUD-1 and the two most productive catalysts of the literature-hierarchical MgO-SiO₂ from Men *et al.* and ZnY/deBEA from Li *et al.*^{1,2}

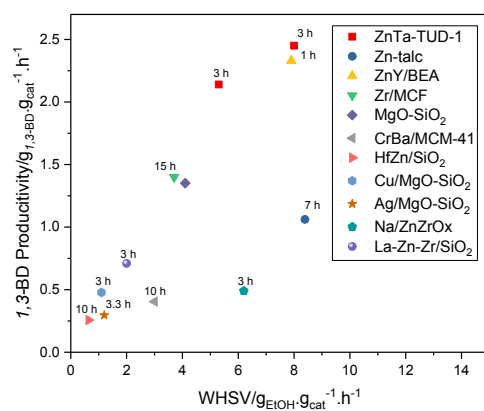


Figure S6 1,3-BD productivity of the top catalysts found in the literature, include the TOS at which each were recorded.³

References

- 1 X. Huang, Y. Men, J. Wang, W. An and Y. Wang, *Catal. Sci. Technol.*, 2017, **7**, 168–180.
- 2 W. Dai, S. Zhang, Z. Yu, T. Yan, G. Wu, N. Guan and L. Li, *ACS Catal.*, 2017, **7**, 3703–3706.
- 3 G. Pomalaza, M. Capron, V. Ordonsky and F. Dumeignil, *Catalysts*, 2016, **6**, 203.