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Synthesis of novel mesoporous sulfated zirconia nanosheets derived from Zr-based Metal-Organic Frameworks

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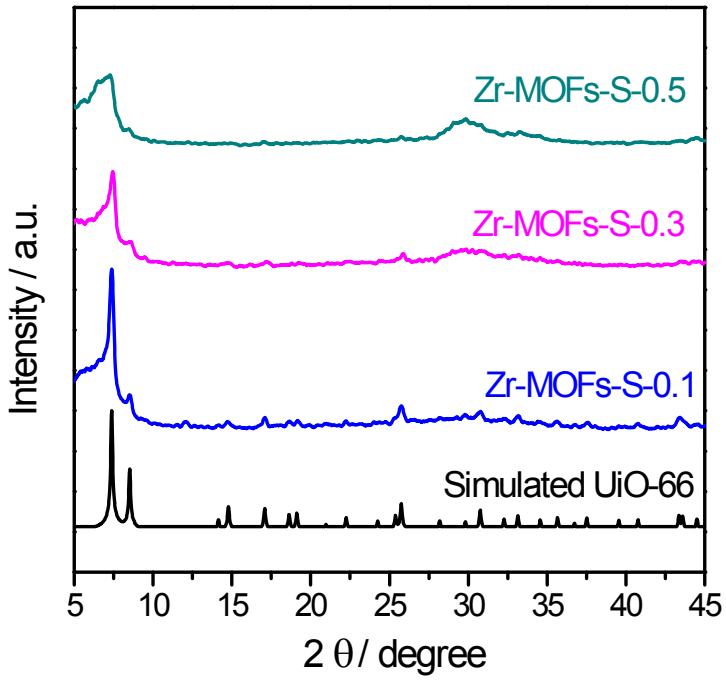

Fig. S1 XRD patterns of Zr-MOFs-S samples with different S/Zr molar ratios.

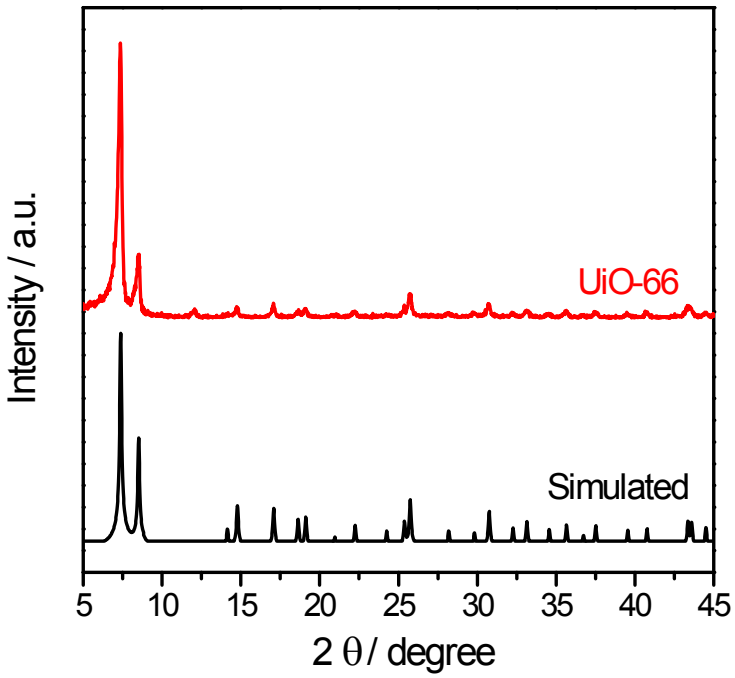

Fig. S2 XRD pattern of UiO-66 sample.

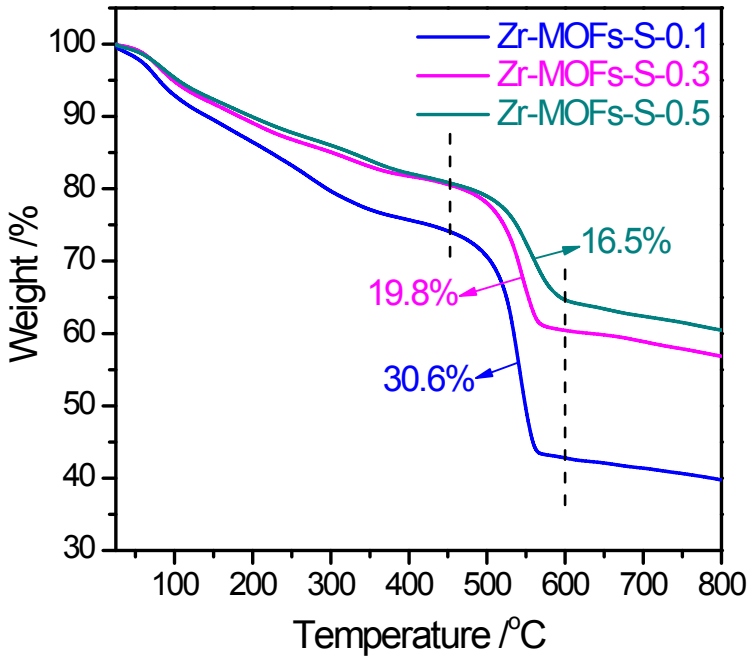

Fig. S3 TGA curves under Air of Zr-MOFs-S samples with different S/Zr molar ratios.

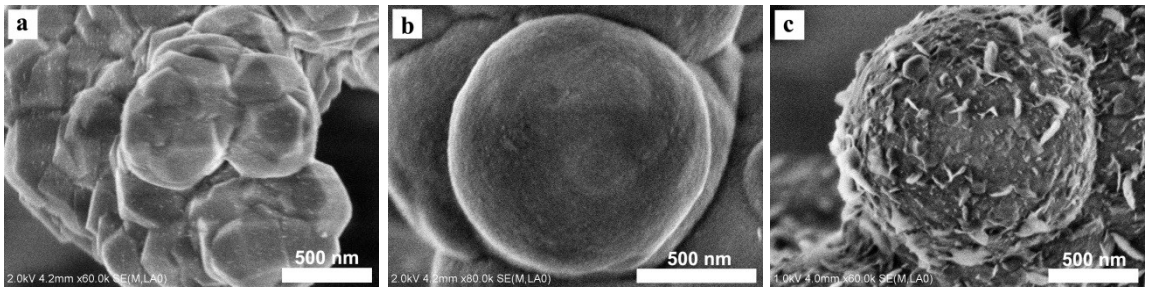

Fig. S4 SEM images of UiO-66 (a), Zr-MOFs-S-0.1 (b), Zr-MOFs-S-0.3 (c).

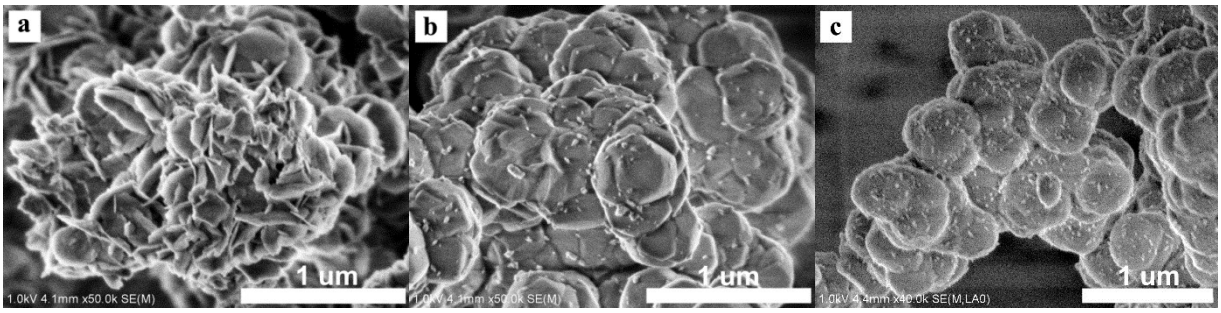

Fig. S5 SEM images of Zr-MOFs-SH (a), Zr-MOFs-NH (b) and Zr-MOFs-NO (c).

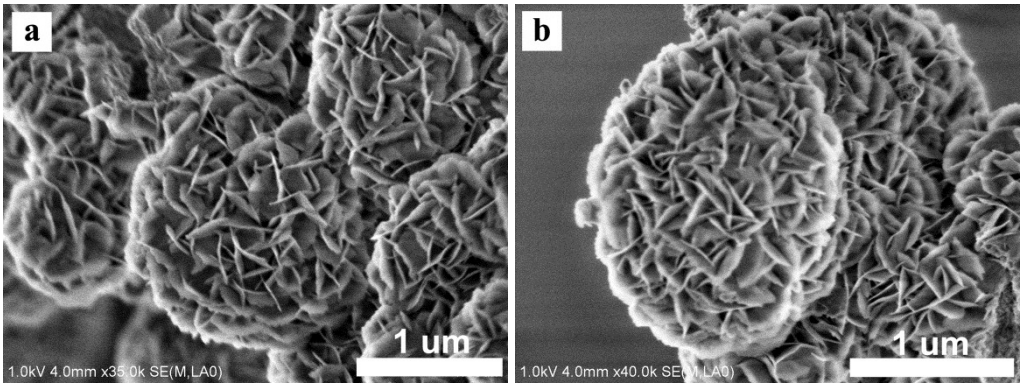

Fig. S6 SEM images of SZN-600 (a), SZN-700 (b).

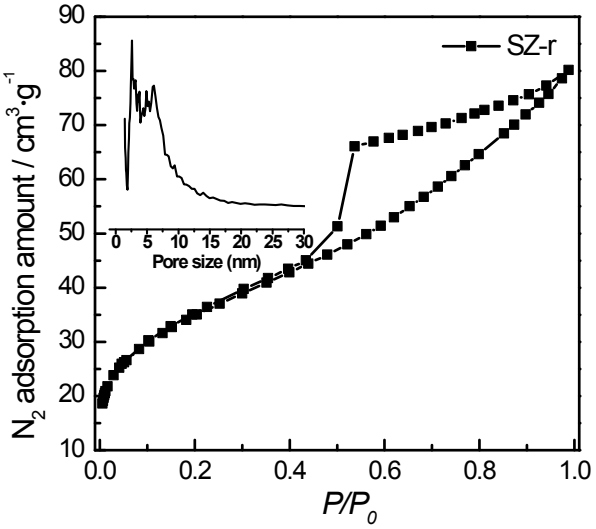

Fig. S7 N_2 adsorption-desorption isotherm and pore distribution plots (inset) of SZ-r samples.

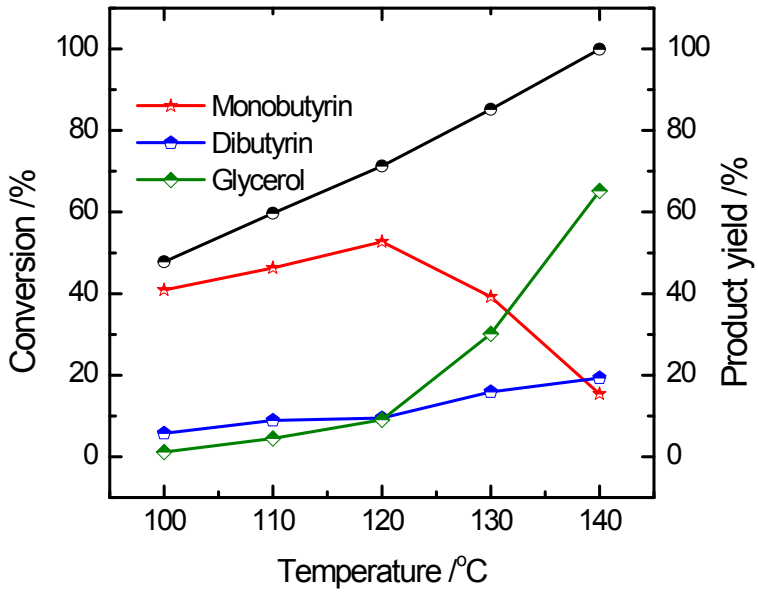

Fig. S8 The conversion of tributyrin as a function of reaction temperature over SZN-500 catalyst. (Reaction conditions: 0.1 g catalyst, 1.3 mmol tributyrin, 52 mmol methanol, 6 h)

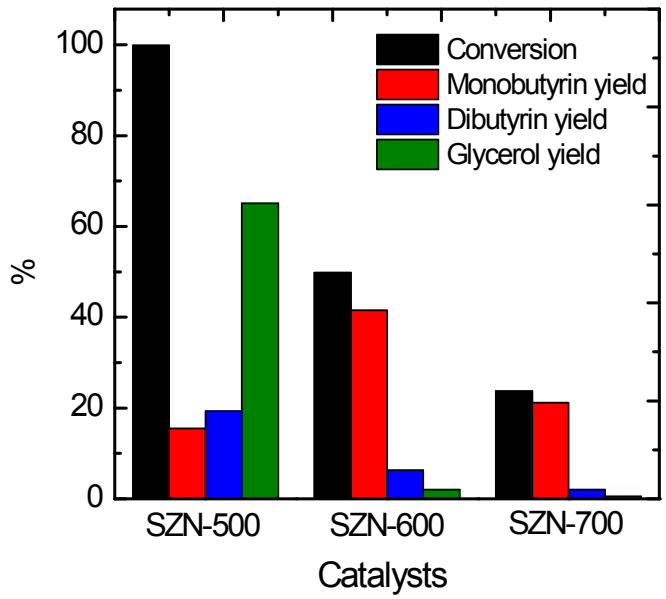

Fig. S9 Catalytic performances of different SZN samples on transesterification of tributyrin. (Reaction conditions: 0.1 g catalyst, 1.3mmoltributyrin, 52 mmol methanol, 140 °C, 6 h)

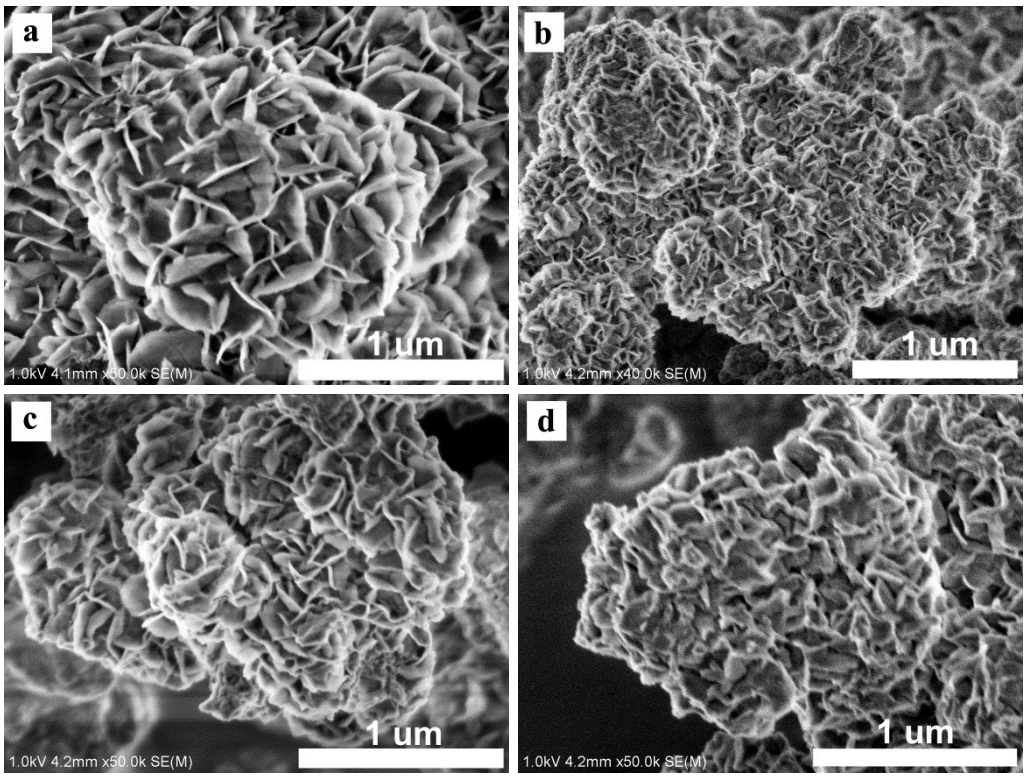

Fig. S10 SEM images of Zr-MOFs-M samples. (M = SAl (a), SCo (b), SCu (c), SZn (d)).