

Supporting information

Acidic ionic liquid based UiO-67 type MOF: a stable and efficient heterogeneous catalyst for esterification

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The content of the supporting information:

NMR Spectroscopic Data for hexafluoroisopropyl sulfuric acid

^1H NMR (600 MHz, neat): δ = 10.17 (s, 1H), 5.14 (sep, J = 5.0 Hz, 1H).

^{13}C NMR (151 MHz, neat): δ = 118.59 (q, J = 282.4 Hz), 73.96 (hept, J = 36.5 Hz).

^{19}F NMR (565 MHz, neat): δ = -75.79.

The hexafluoroisopropoxy sulfuric acid was measured as a neat compound.

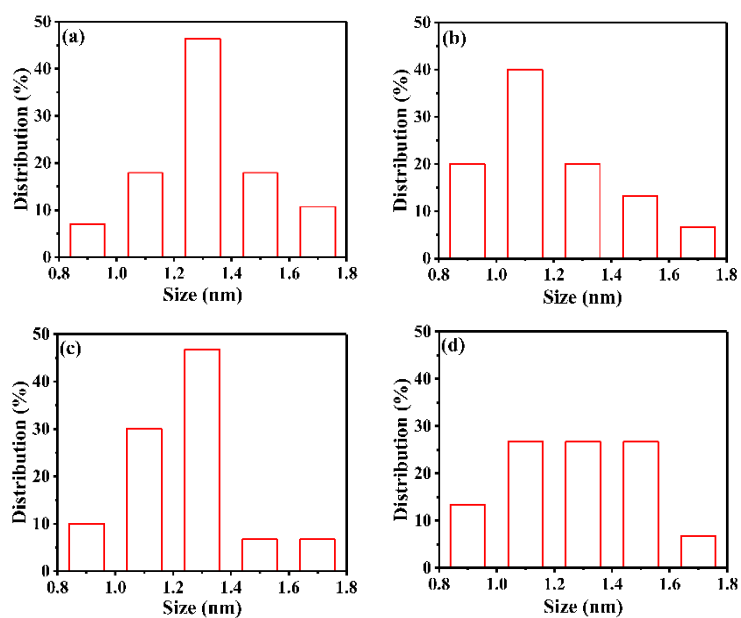


Fig. S1 Particle size distribution of the prepared catalysts. (a) the pristine UiO-67-bpy, (b) UiO-67-HSO₄, (c) UiO-67-CF₃SO₃, (d) UiO-67-hifpOSO₃.

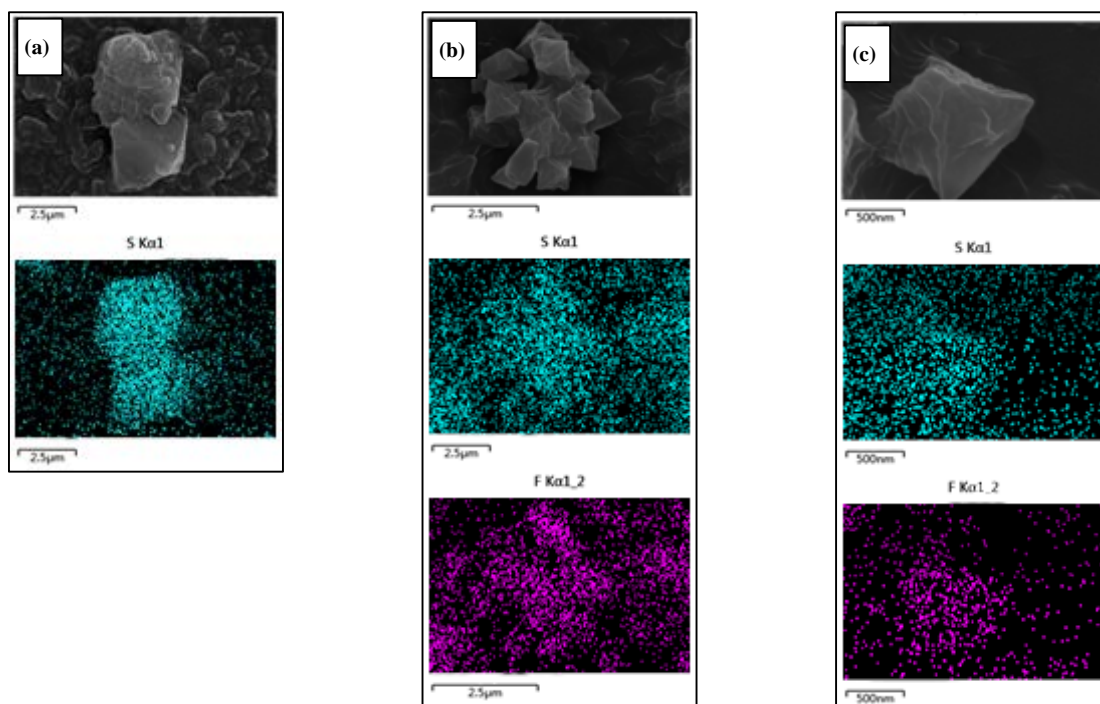


Fig. S2 EDS elemental mapping of S and F in the prepared catalysts. (a) UiO-67-HSO₄, (b) UiO-67-CF₃SO₃, (c) UiO-67-hifpOSO₃.

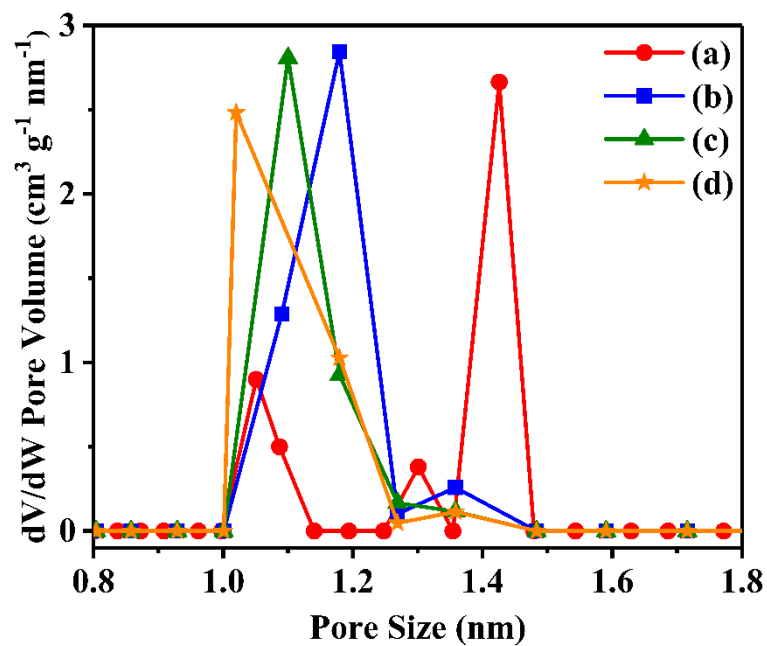


Fig. S3 Pore size distribution of the prepared catalysts. (a) the pristine UiO-67-bpy, (b) UiO-67-HSO₄, (c) UiO-67-CF₃SO₃, (d) UiO-67-hifpOSO₃.

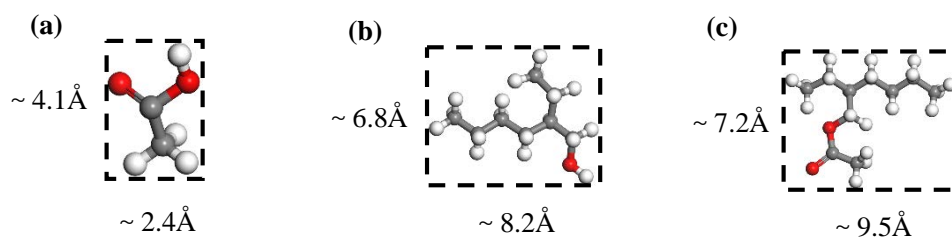


Fig. S4 Optimized geometric structures of (a) acetic acid, (b) isooctyl alcohol and (c) isooctyl acetate.

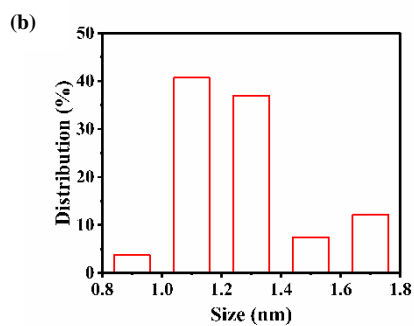
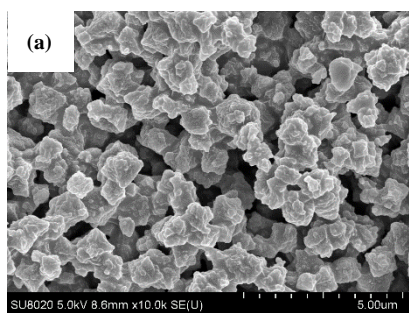


Fig. S5 Recovered results of the UiO-67-CF₃SO₃ catalyst. (a) SEM image, (b) particles size distribution.