Electronic Supplementary Material (ESI) for CrystEngComm.

Electronic Supplementary Information for MS:

Interpenetrating amine-functionalized metal-organic framework as an efficient and reusable catalyst for selective synthesis of tetrahydro-chromenes

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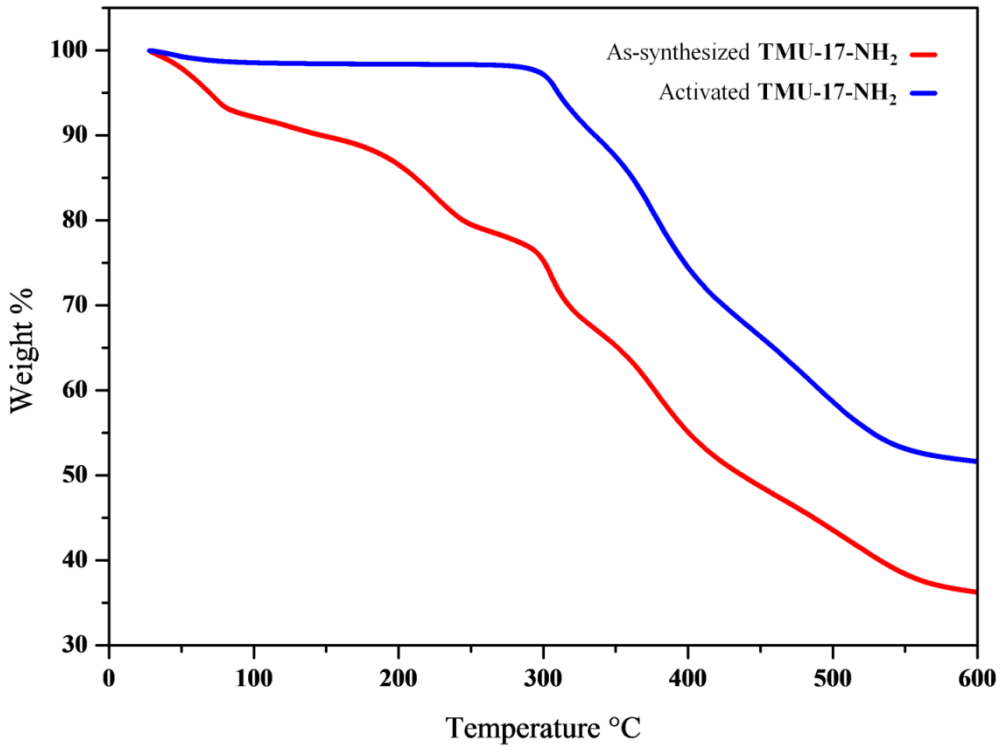


Fig. S1 TGA curves of as-synthesized (red) and activated (blue) **TMU-17-NH$_2$**.

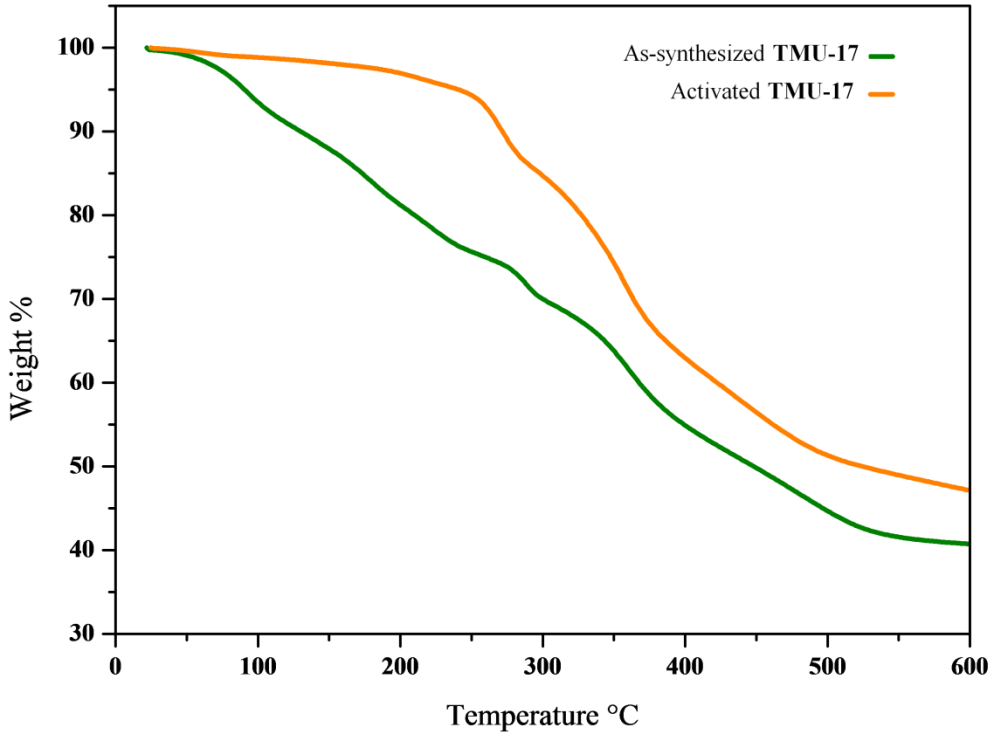


Fig. S2 TGA curve of as-synthesized (green) and activated (orange) **TMU-17**.

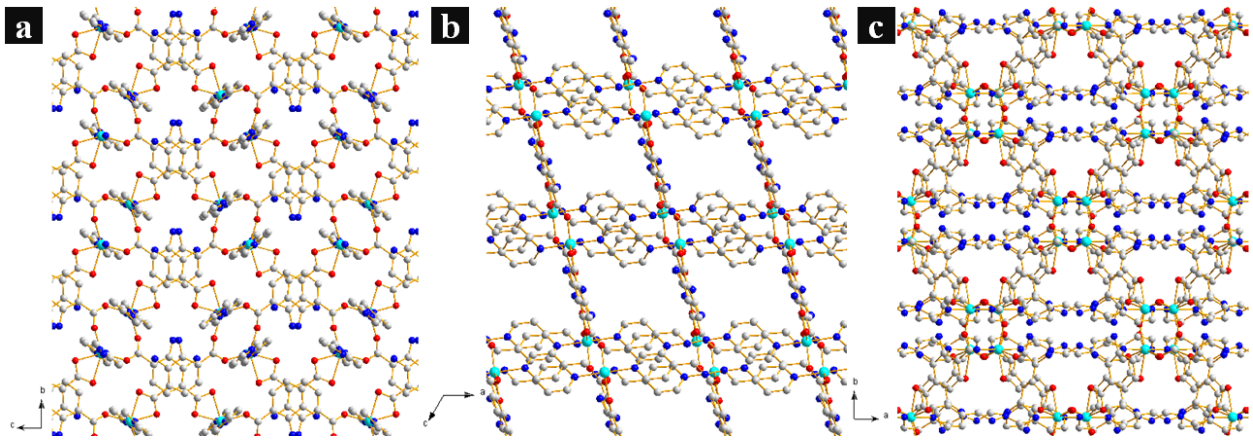


Fig. S3 3D two-fold interpenetrated **TMU-17-NH$_2$**, viewed along(a) *a*, (b) *b* and (c) *c* axes. All hydrogen atoms and the disordered guest molecules in **TMU-17-NH$_2$** are omitted for clarity.

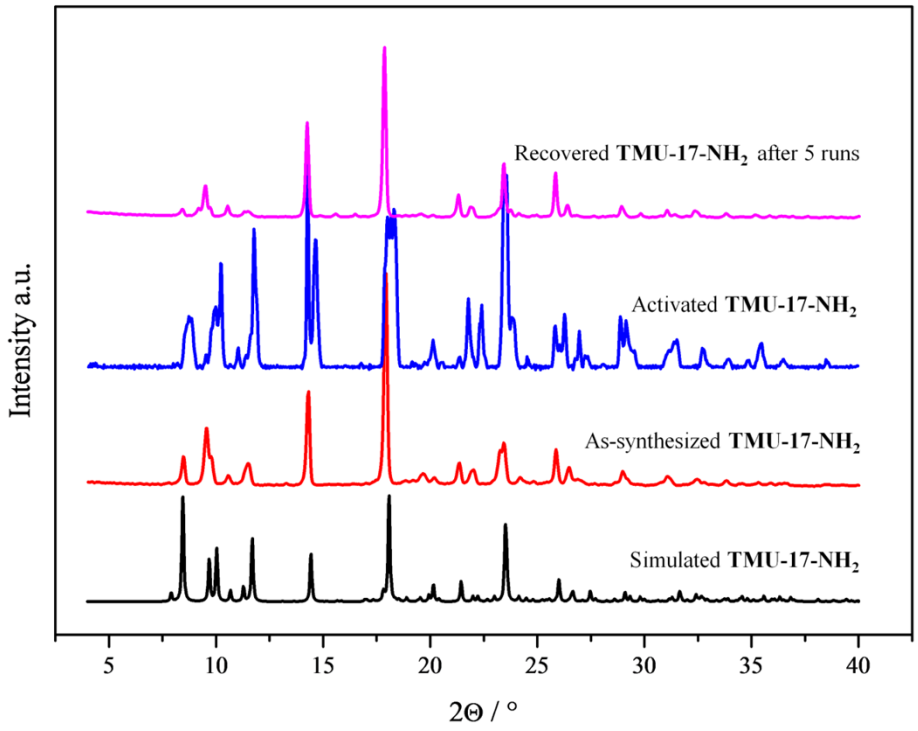


Fig. S4 X-ray powder diffraction patterns of recovered **TMU-17-NH$_2$** after five runs (purple); activated (blue); as-synthesized (red) and simulated (black) **TMU-17-NH$_2$**.

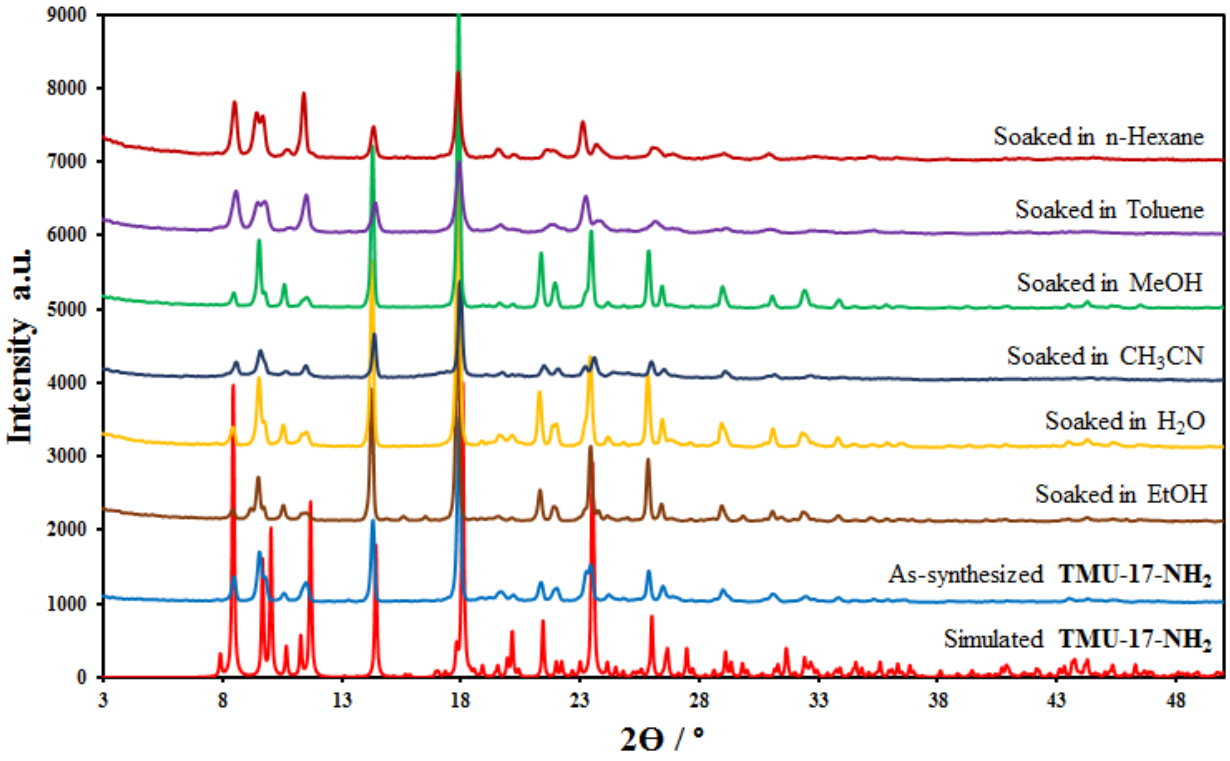


Fig. S5 PXRD patterns of simulated (red) and as-synthesized (blue) **TMU-17-NH$_2$**; and immersed **TMU-17-NH$_2$** in solvents for 2 hours.

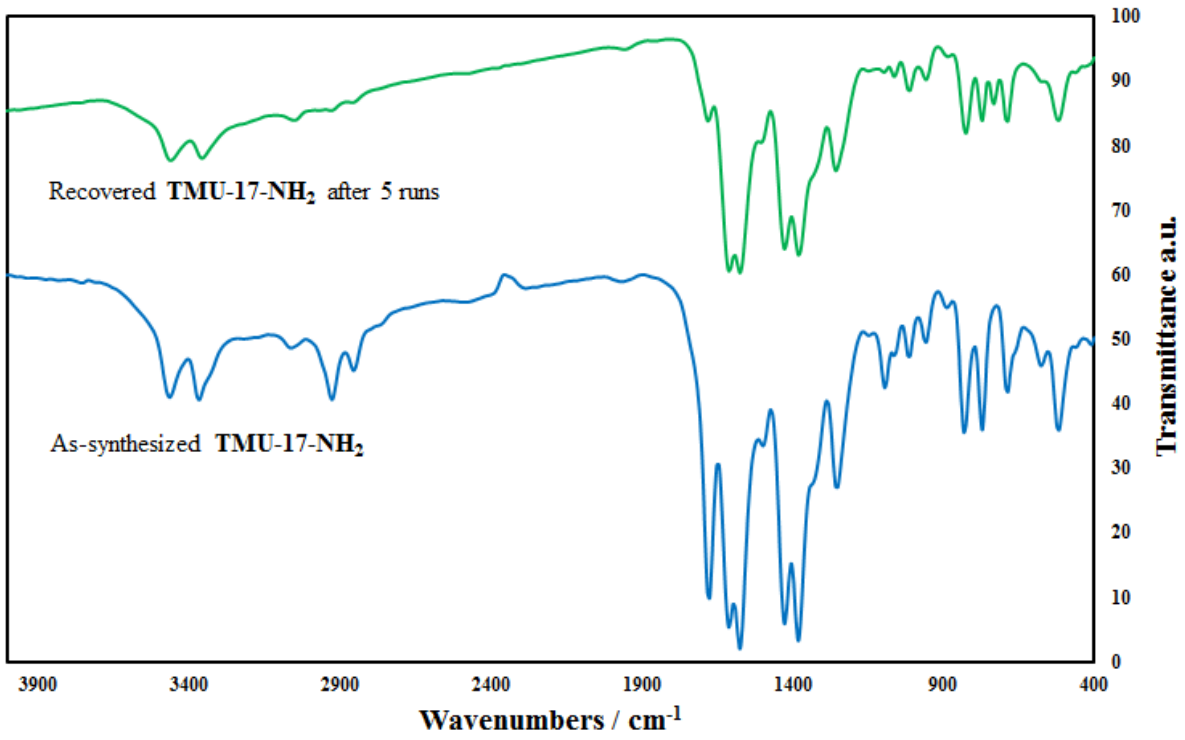


Fig. S6 FT-IR spectra of recovered **TMU-17-NH$_2$** after five runs (green) and as-synthesized **TMU-17-NH$_2$** (blue).

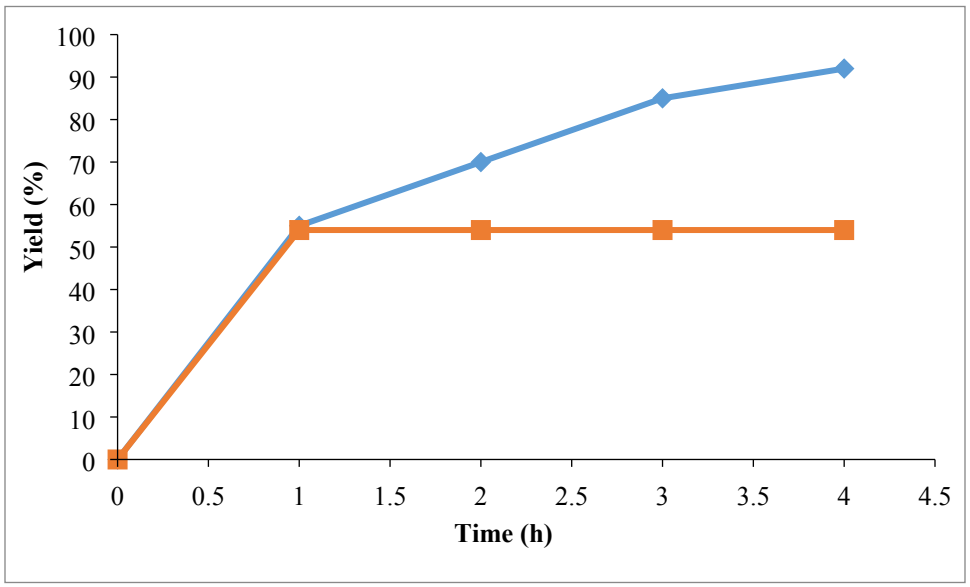
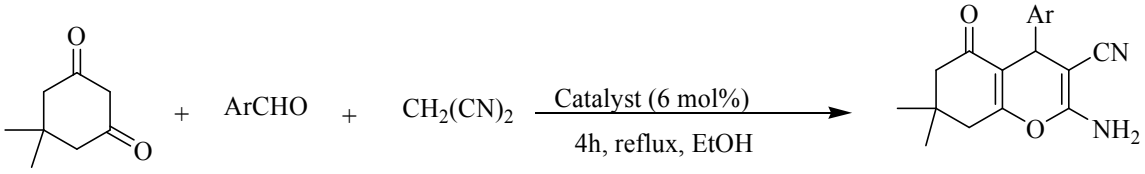


Fig. S7. Leaching test for **TMU-17-NH$_2$**.

Table S1 Preliminary crystallographic data for **TMU-17** in comparison with those of **TMU-17-NH_2**.

Entry	MOF	Crystal System	*a* (Å)	*b* (Å)	*c* (Å)	β (deg)
1	TMU-17-NH_2	monoclinic	15.655	16.561	21.200	120.567
2	TMU-17	monoclinic	15.939	16.354	21.511	122.001

Table S2. The reaction in the presence of **TMU-17-NH_2** and **TMU-17**.



Entry	Catalyst	Yield (%)
1	TMU-17	43
2	TMU-17-NH_2	92
3	-	0

Table S3 Crystal data and structure refinements for compound **TMU-17-NH_2**.

Identification code	**TMU-17-NH_2**
Chemical formula	$C_{23}H_{22}N_6O_5Zn$
formula mass	527.84
T (K)	180(2)
Crystal syst	Monoclinic
Space group	C_2/c
a (Å)	15.655(3)
b (Å)	16.561(3)
c (Å)	21.200(3)
β (deg)	120.567(9)
V (Å^3)	4732.6(14)
Z	8
$\mu_{calcd.}$(g/m^3)	1.085
F(000)	2176
Reflections collected	4534 / 2844
R(int)	0.0855
Goodness-of-fit on F^2	1.083
R_1[a] [I>2σ(I)]	0.0805
wR_2[b]	0.1589

[a] $R_1 = \Sigma||Fo|-|Fc||/\Sigma|Fo|$. [b] $wR_2 = |\Sigma w(|Fo|^2-|Fc|^2)|/\Sigma|w(Fo^2)^2|^{1/2}$