

Supporting information

Section SI: Energy-dispersive X-ray spectroscopy (EDX)

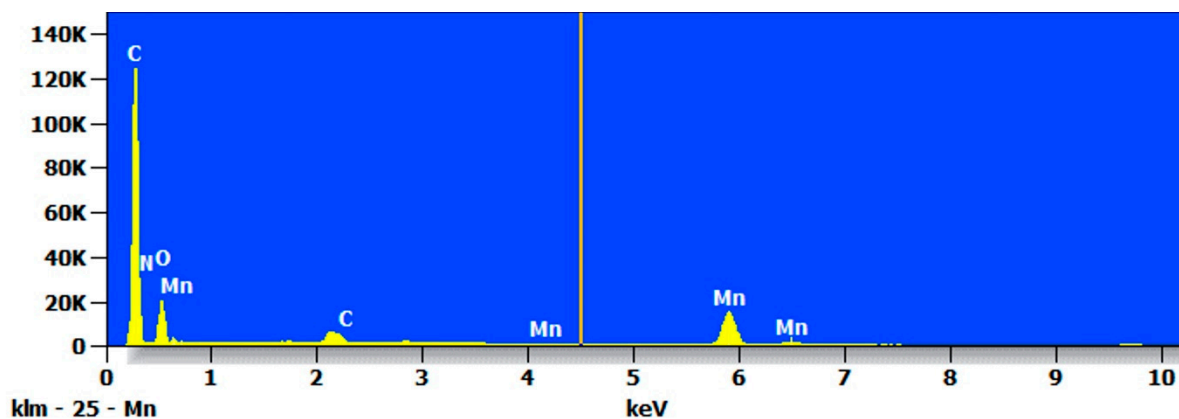


Figure S1. EDX spectrum of $\text{Mn}^{\text{II}}_3(\text{tp})_{6/2}(\text{bpy})_2 \cdot (\text{dmf})$ with presence of elements Mn, N, C, and O in the sample.

Table S1. Atomic percentages of $\text{Mn}^{\text{II}}_3(\text{tp})_{6/2}(\text{bpy})_2 \cdot (\text{dmf})$.

Element	Weight %	Atom %
C	39.84	54.41
O	26.71	28.20
N	8.65	8.64
Mn	24.80	8.75

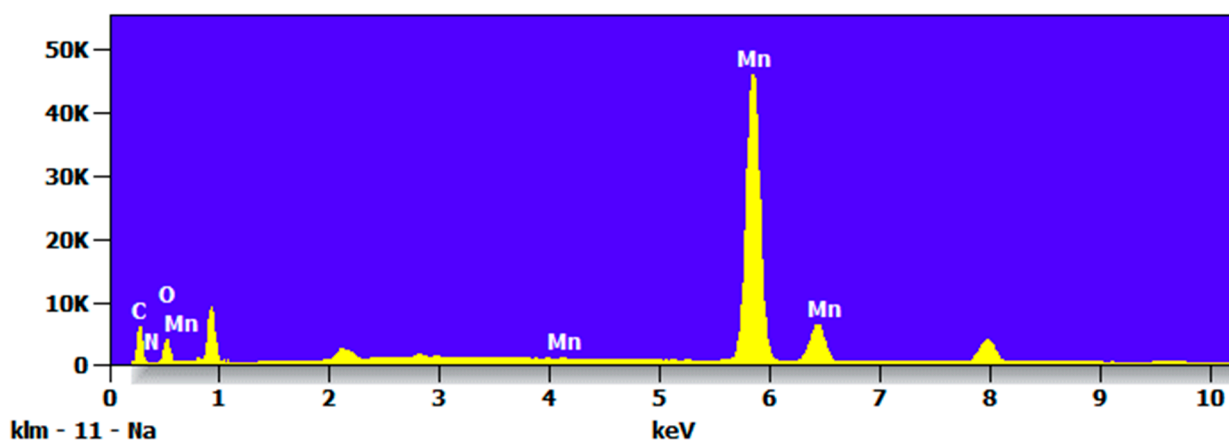


Figure S2. EDX spectrum of $\text{Mn}_2(\text{tpa})_2(\text{dmef})_2$ showing the elements Mn, C, O, and N in the sample.

Table S2. Atomic percentages of $\text{Mn}_2(\text{tpa})_2(\text{dmef})_2$.

Element	Weight %	Atom %
C	10.31	26.26
O	8.94	17.09
N	7.17	15.66
Mn	73.59	40.99

Section SII: Diffuse reflectance spectroscopy (DRS)

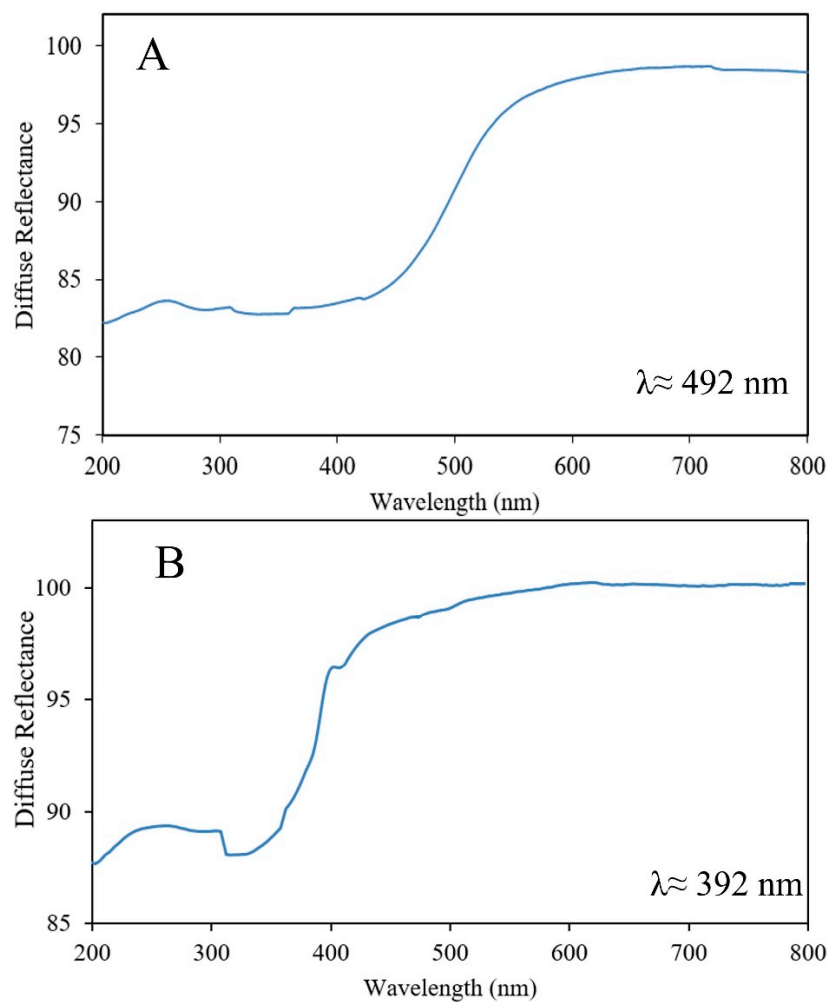


Figure S3. The diffuse reflectance spectrum of $\text{Mn}^{\text{II}}_3(\text{tp})_{6/2}(\text{bpy})_2(\text{dmf})$ (A) and $\text{Mn}_2(\text{tpa})_2(\text{dmf})_2$ (B).

Section SIII: Thermal Gravimetric Analysis

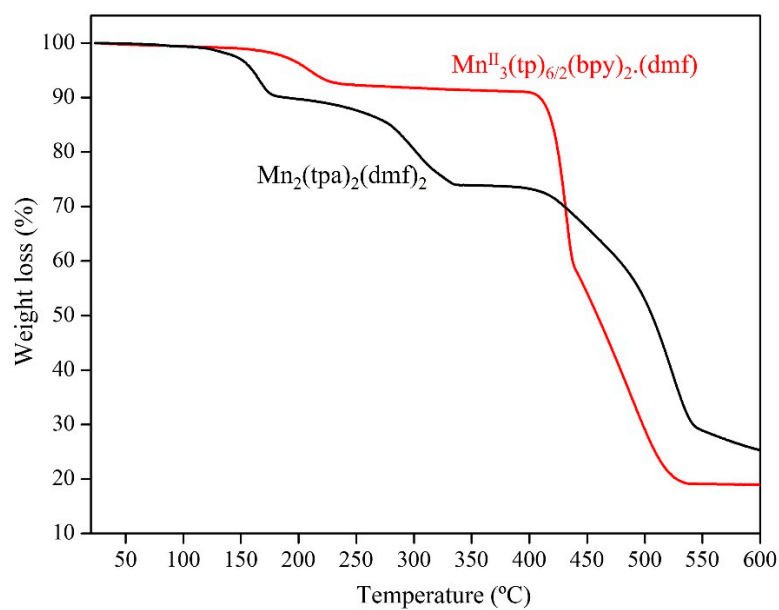


Figure S4. Thermogravimetric analysis of $\text{Mn}^{\text{II}}_3(\text{tp})_{6/2}(\text{bpy})_2 \cdot (\text{dmf})$ and $\text{Mn}_2(\text{tpa})_2(\text{dmf})_2$ under nitrogen flow and 10 °C min⁻¹ heating rate.

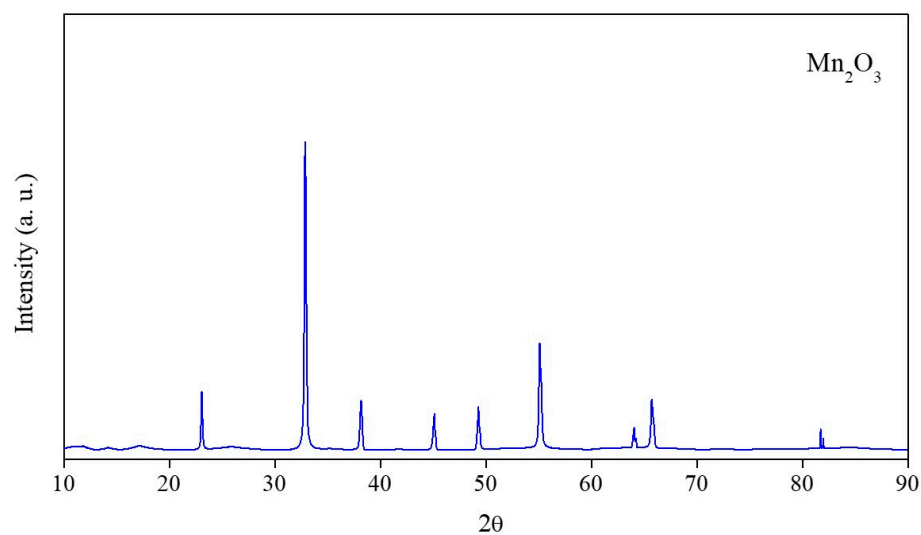


Figure S5. The PXRD pattern of obtained Mn_2O_3 from calcinated Mn-MOFs through TGA analysis.

Section SIV: NMR spectra

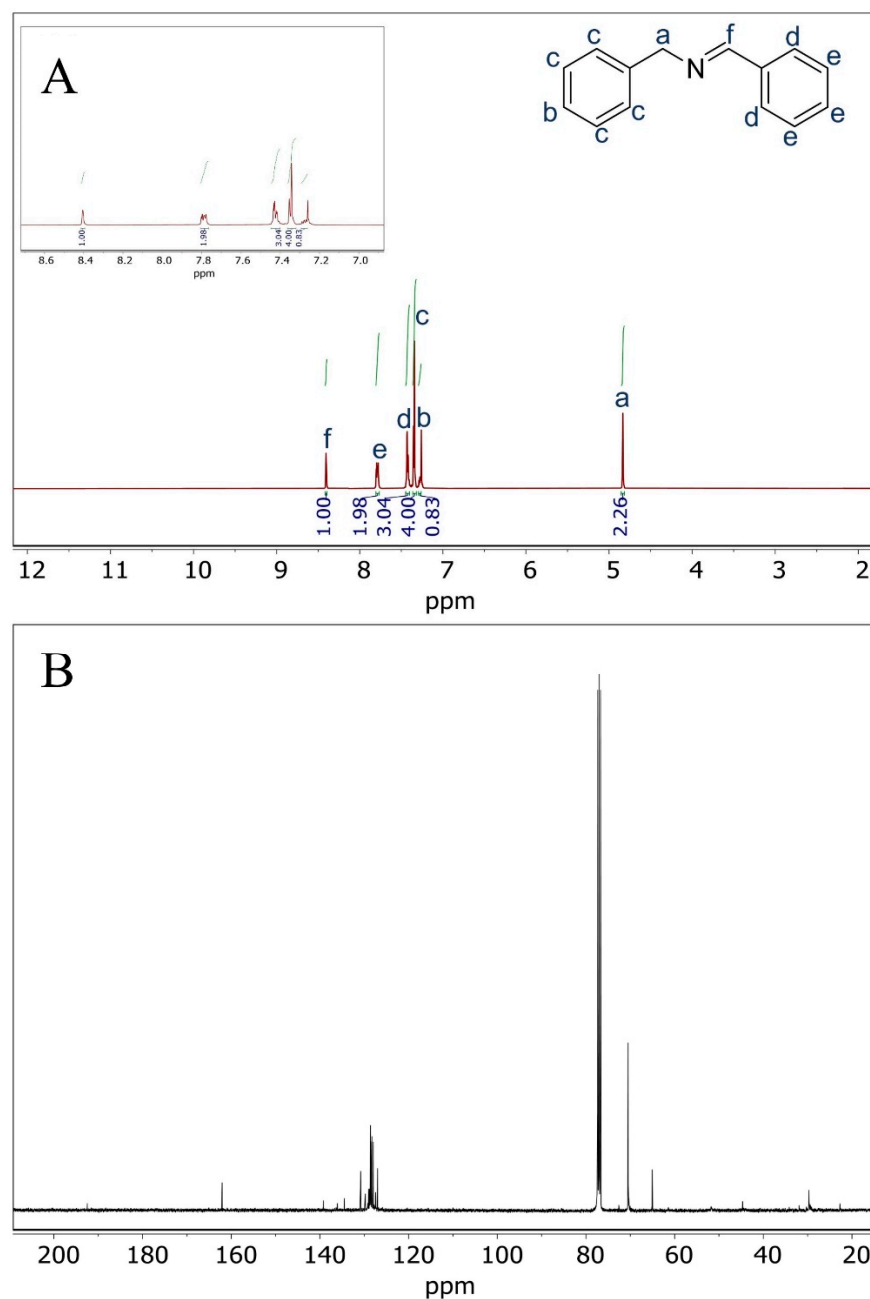


Figure S6. ¹H-NMR (A) and ¹³C-NMR (B) Spectra of *N*-benzylidenebenzylamine product.

Section SV: FTIR spectrum

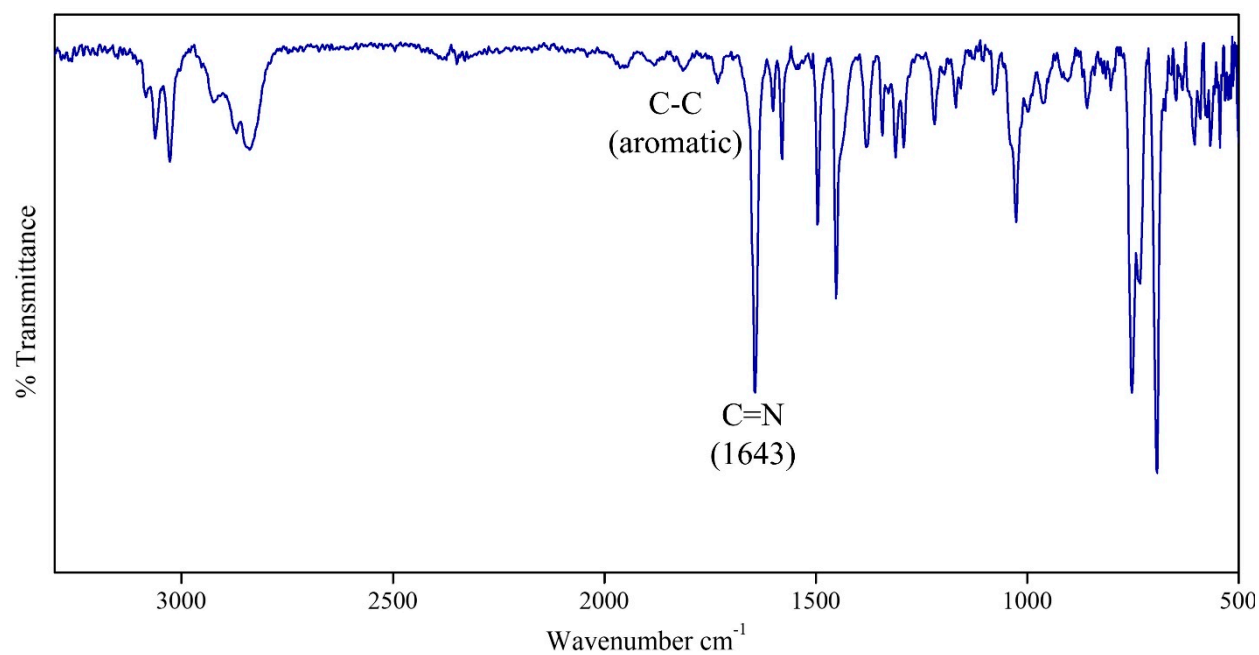


Figure S7. FT-IR spectrum of *N*-benzylidenebenzylamine product.