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Supporting Information

Uncoordinated carbonyl groups of MOFs as anchoring sites for the preparation of highly active Pd nano-catalysts

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Table S1. Crystal data and structure refinement for Tm-MOF.

Empirical formula	$C_9H_{13}N_3O_{11}Tm$		
Formula weight	508.15	D_c (mg/cm^3)	1.905
Crystal system	Triclinic	F (000)	490
Space group	P-1	μ (mm^{-1})	5.064
a/ Å	6.0200(5)	Refections collected	4623
b/ Å	12.7722(11)	Independent reflections	3147 (R_{int} = 0.0279)
c/ Å	13.1612(11)	Data/restraints/parameters	3147/5/212
α/°	118.8290(10)	GOF	1.047
β/°	90.6090(10)	θ range for data collection (°)	1.77 to 25.20
γ/°	91.6870(10)	Final R indices [I>2σ(I)]	R_1 = 0.0402
			ωR_2 = 0.0987
V (Å^3)	885.79(13)	R indices (all data)	R_1 = 0.0466
			ωR_2 = 0.1036
Z	2	Largest diff. peak and hole/eÅ^{-3}	1.98 and 0.99

$R = \sum(F_o | - | F_c) / \sum | F_o |$.

$wR = [\sum w(F_o^2 - F_c^2)^2 / \sum w(F_o)^2]^{1/2}$.

The Palladium contents of the samples were determined quantitatively by atomic absorption spectroscopy (AAS) on a HITACHI Z-2300 instrument. The calibration curve were obtained with a series of aqueous standard solutions of $Pd(NO_3)_2$. Approximately 0.0040 g of sample was weighed precisely and dissolved in 5 mL of agua regia ($HCl:HNO_3$ = 3:1), and the solution was diluted with deionized water to reach a concentration of Pd approximately in the range from 0.5 to 1.5 mg L^{-1}.

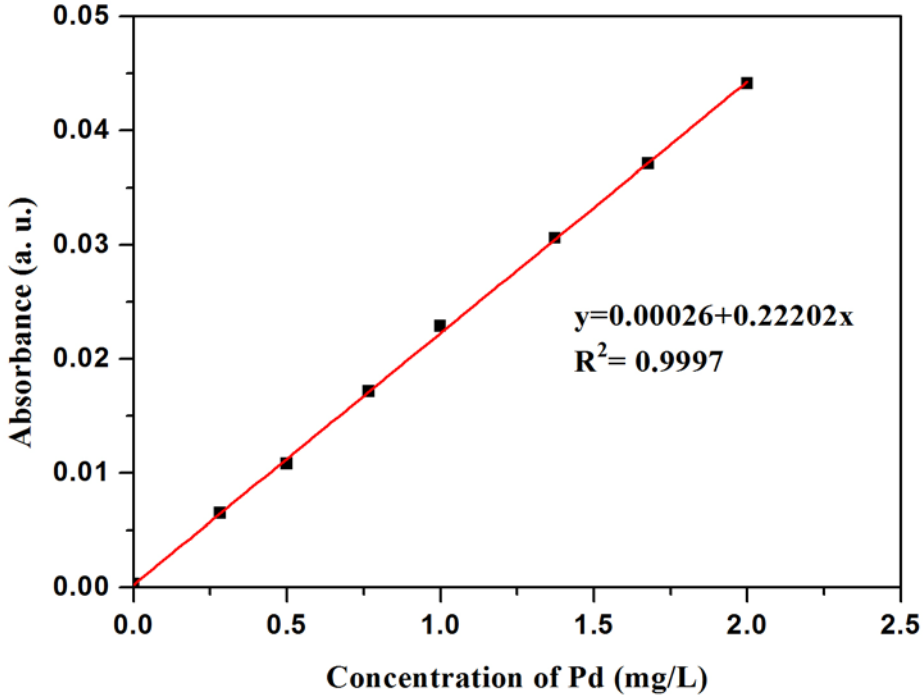

Figure S1. The AAS calibration curve for Pd using aqueous standard solution.

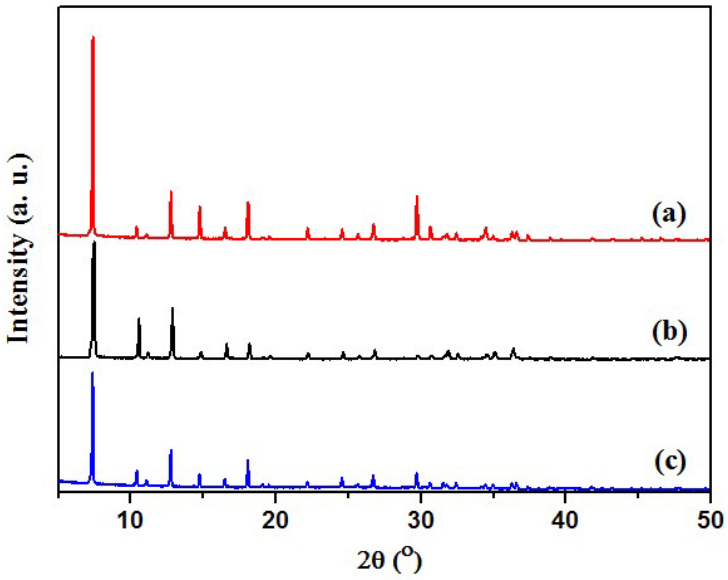

Figure S2. Powder X-ray diffraction patterns of ZIF-8: (a) stimulated, (b) as-synthesized, and (c) 1.0 wt% Pd/ZIF-8.