Supporting Information

Catalytic Deoxygenation of Stearic Acid into Olefins over Pt Catalysts Supported on MOF-derived Metal Oxides

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Number of pages: 9
Number of figures: 6
Number of tables: 1

Supplementary Figures

Supplementary Table

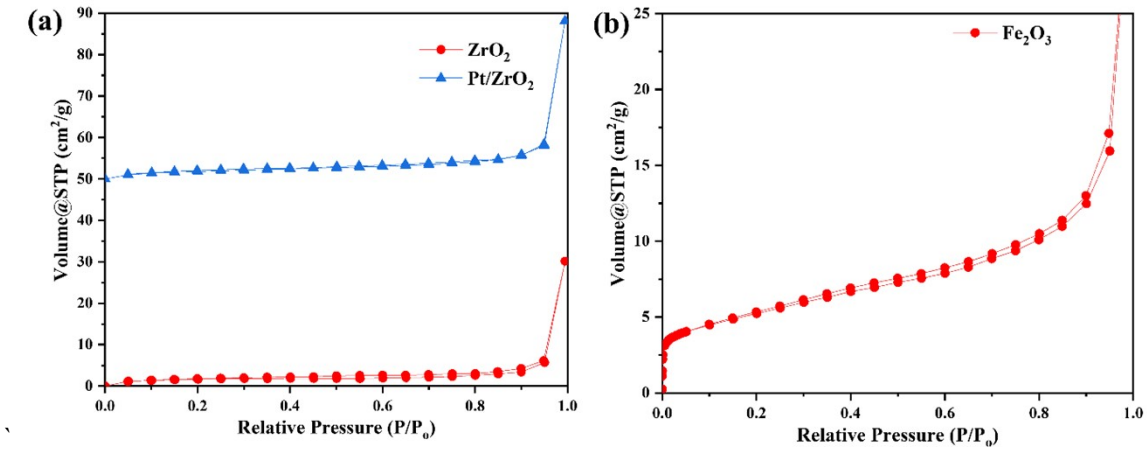

Figure S1. N_2 physisorption isotherms of (a) ZrO_2, Pt/ZrO_2, and (b) Fe_2O_3 samples.

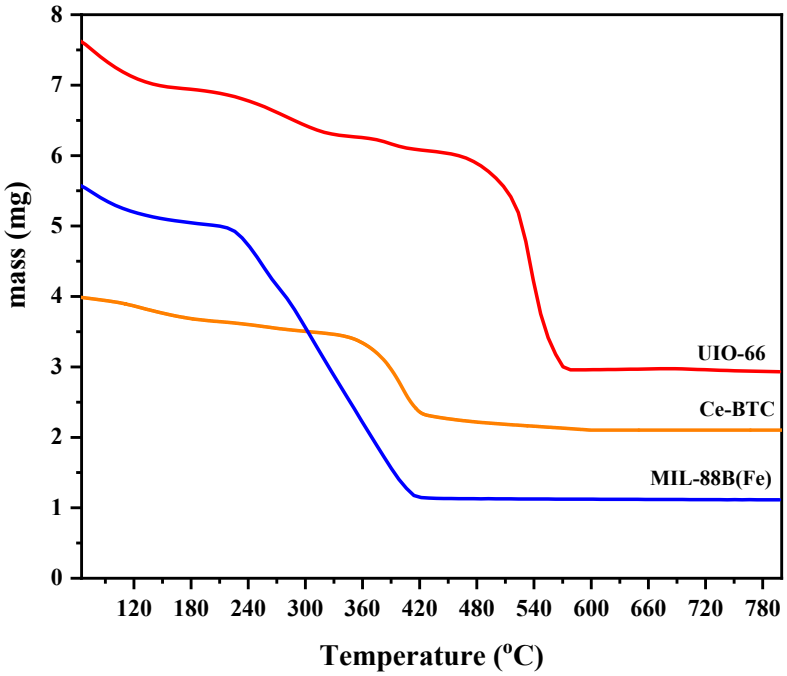

Figure S2. Thermogravimetric analysis (TGA) for UIO-66, Ce-BTC, and MIL-88B(Fe) metal-organic framework.

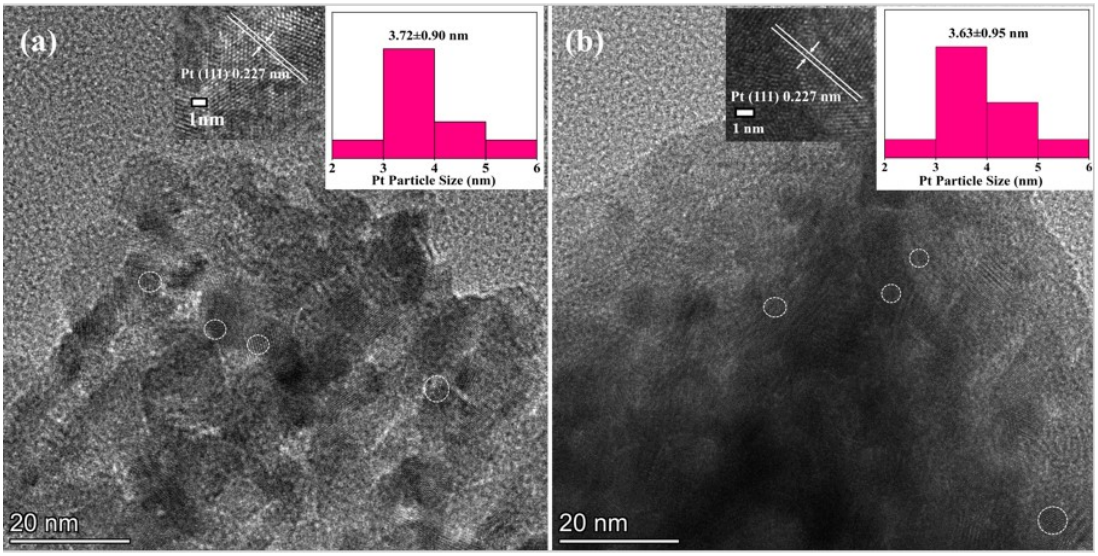

Figure S3. TEM image of (a) Pt/CeO_2, and(b) Pt/ZrO_2. Inset of (a, b) show the histogram of the particle size distribution of Pt nanoparticles

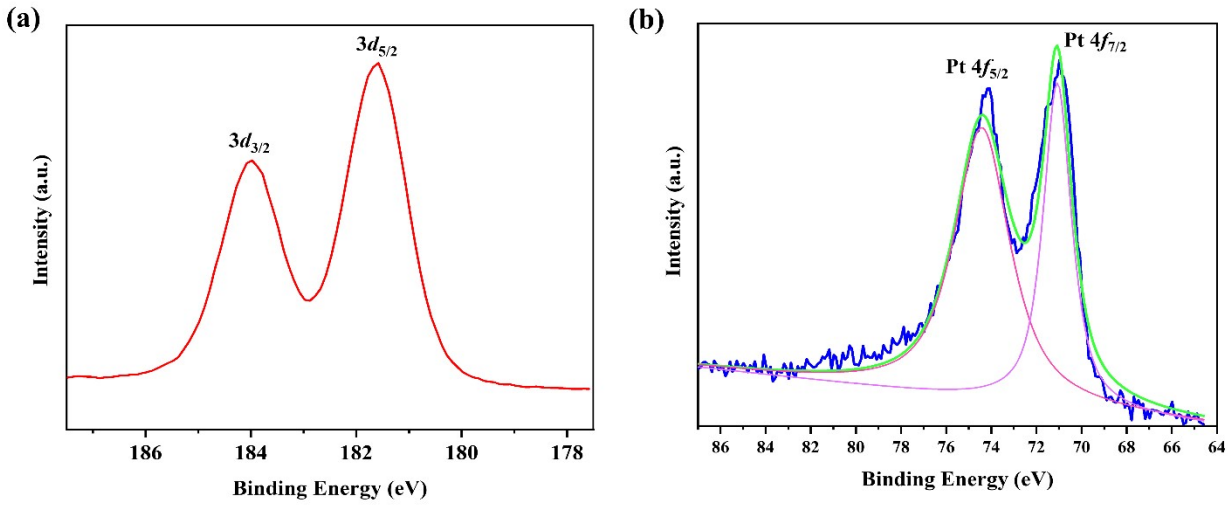

Figure S4. XPS data for Pt/ZrO_2 in different regions: (a) Zr 3*d* and (b) Pt 4*f*.

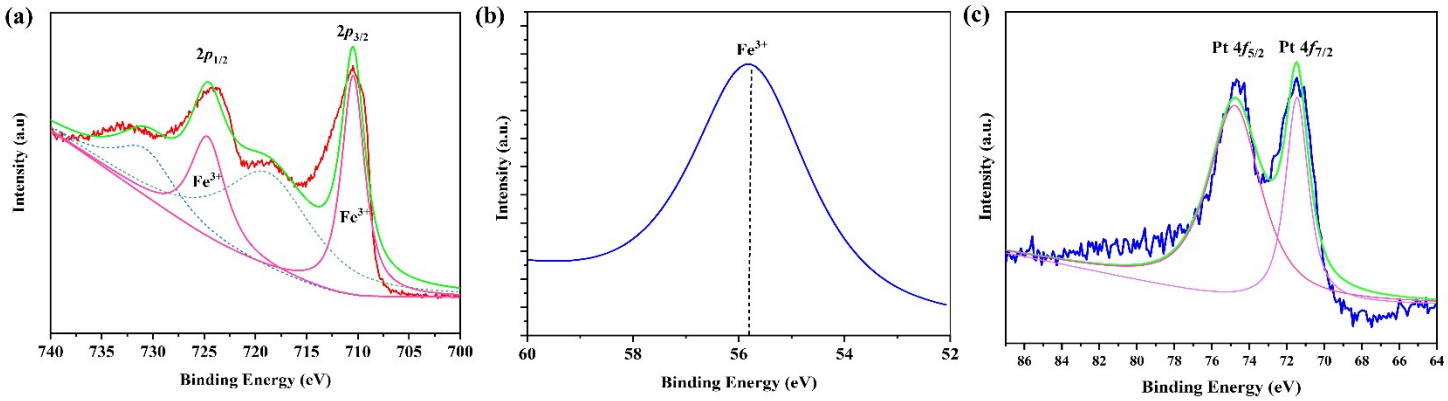

Figure S5. XPS data for Pt/Fe_2O_3 in different regions: (a) Fe 2*p*, (b) Fe 3*p*, and (c) Pt 4*f*.

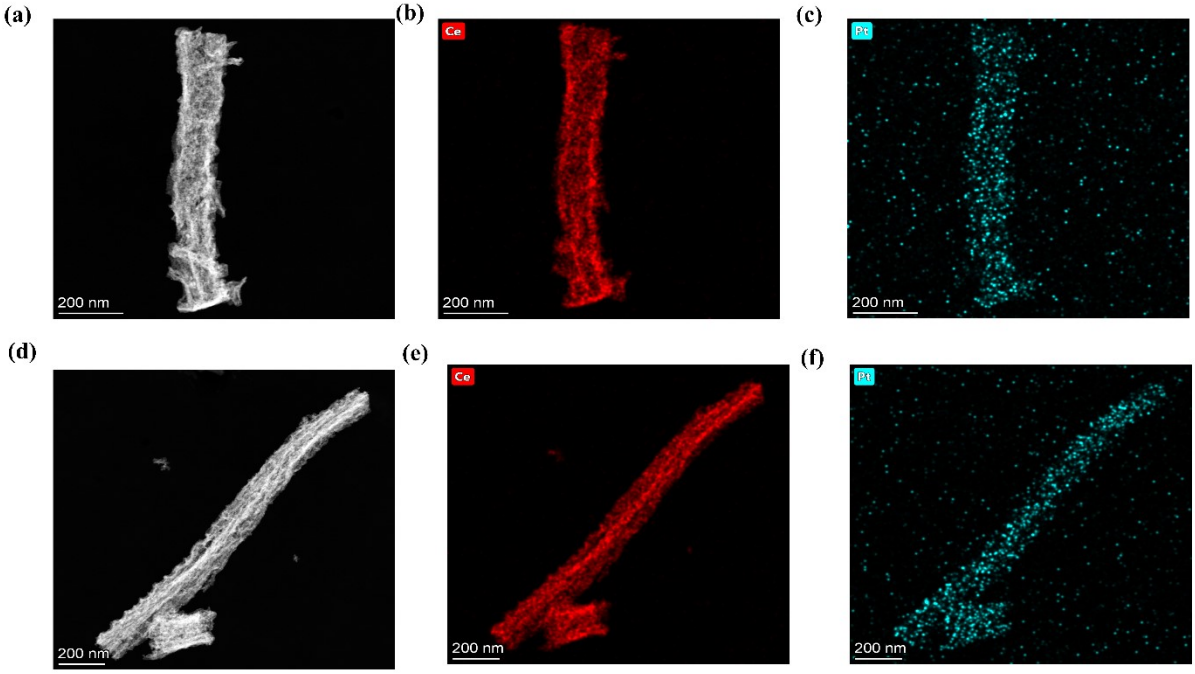

Figure S6. (a) TEM images of Pt/CeO_2 before reaction, (b-c) EDX elemental maps of Pt/CeO_2 before reaction, (d) TEM images of Pt/CeO_2 after reaction, and (e-f) EDX elemental maps of Pt/CeO_2 after reaction.

Table S1. BET-specific surface area, pore diameter, and Pt loading amount of various samples.

Sample	BET Surface area (m^2/g)	Pore diameter (nm)	pore volume (cm^2/g)	Pt wt%[a]
Ce-BTC	21.1	4.5	0.09	-
CeO_2	59.5	6.54	0.19	-
Pt/CeO_2	53	3.41	0.15	3.2
UIO-66	1456	0.78	0.58	-
ZrO_2	6.1	4.9	0.05	-
Pt/ZrO_2	7.1	3.82	0.06	1.4
MIL-88(B) Fe	42.7	4.6	0.17	-
Fe_2O_3	18.6	3.46	0.04	-
Pt/Fe_2O_3	25	3.06	0.22	2.6

Note: [a] detected based on ICP- OES.