Supporting Information

Efficient Pd@MIL-101(Cr) Hetero-Catalysts for 2-Butyne-1,4-diol Hydrogenation exhibiting high selectivity

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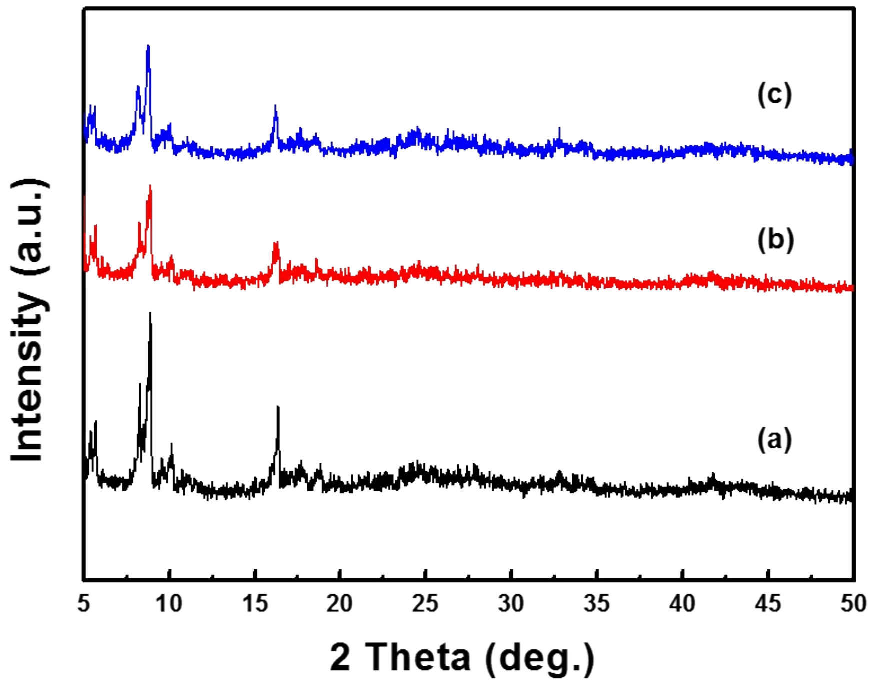

Fig. S1. Powder X-ray diffraction patterns of samples: (a) 0.38 wt% Pd@MIL-101(Cr), (b) 0.62 wt% Pd@MIL-101(Cr), (c) 1.82 wt% Pd@MIL-101(Cr).

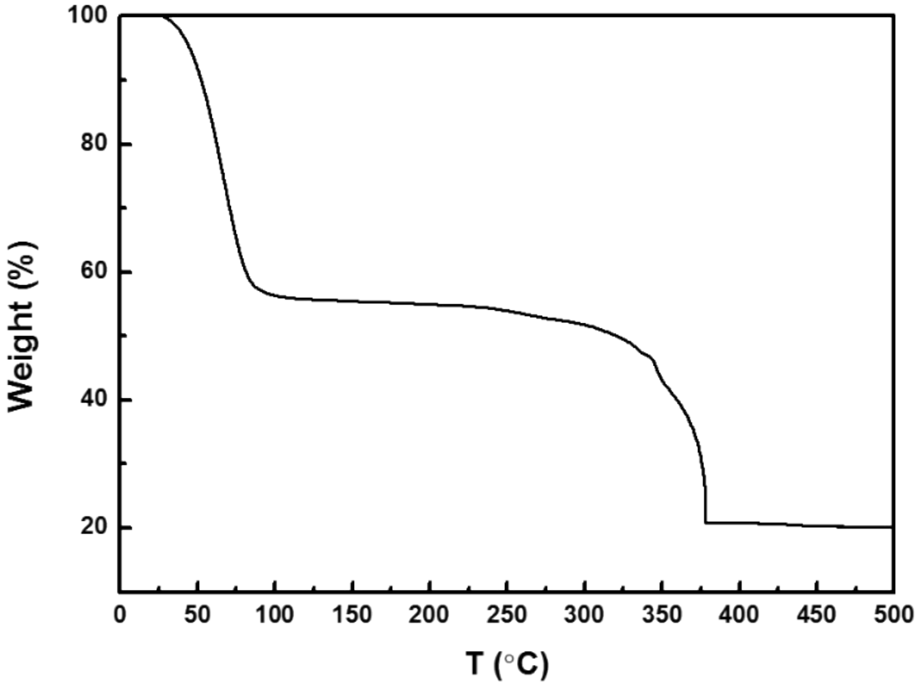

Fig. S2. TG curve of MIL-101(Cr) under air atmosphere.

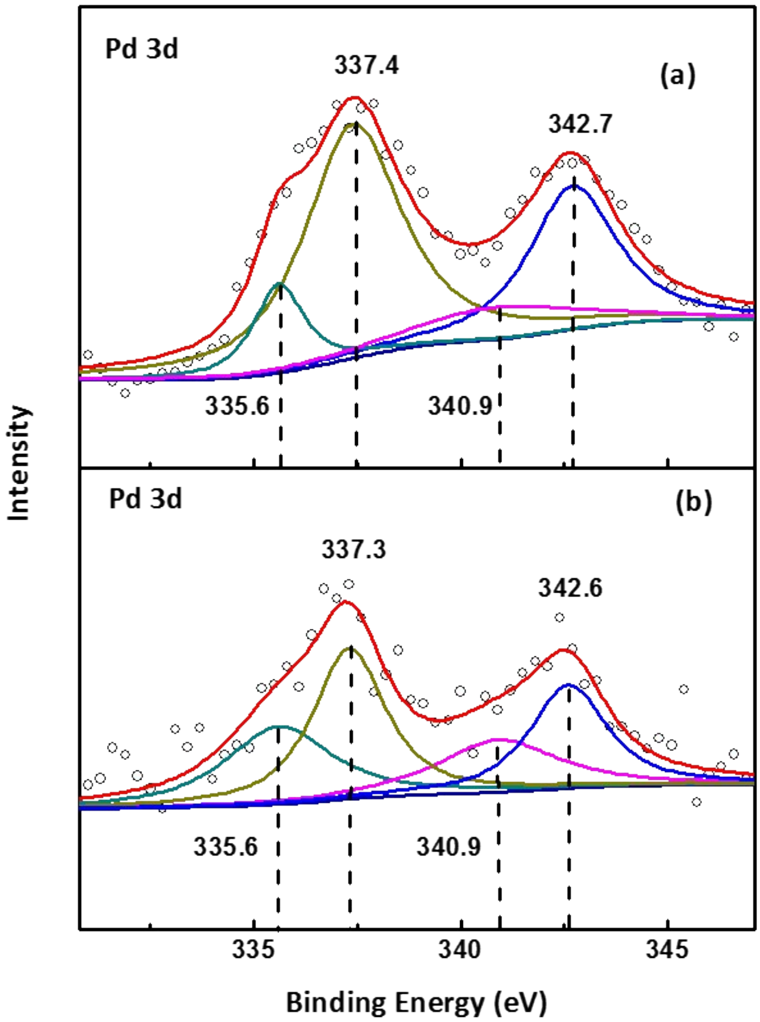

Fig. S3. XPS spectra of (a) Pd(η^3-C_3H_5)(η^5-C_5H_5)@MIL-101(Cr) and (b) Pd@MIL-101(Cr).

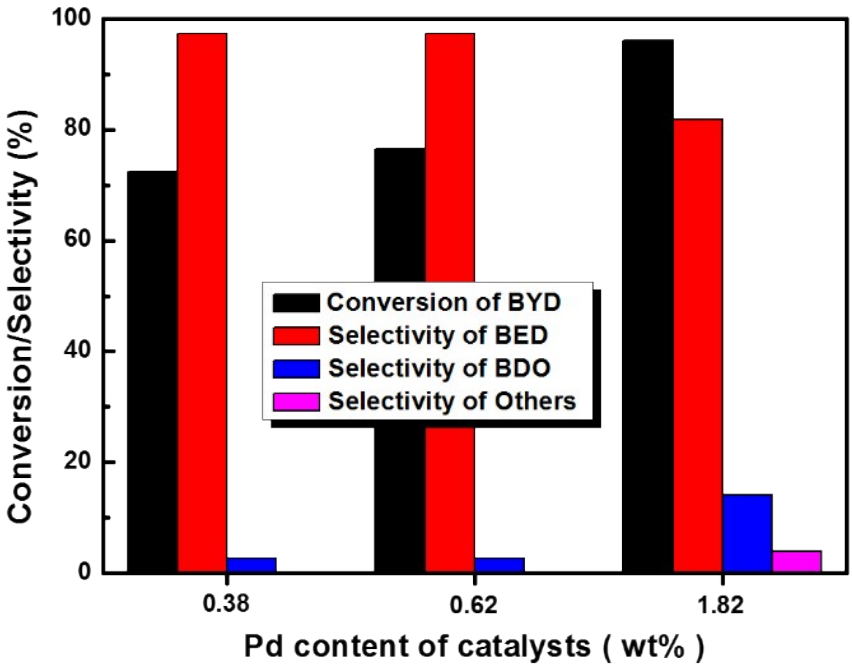

Fig. S4. Effect of Pd content of catalysts on the conversion of BYD and the selectivity of different products.

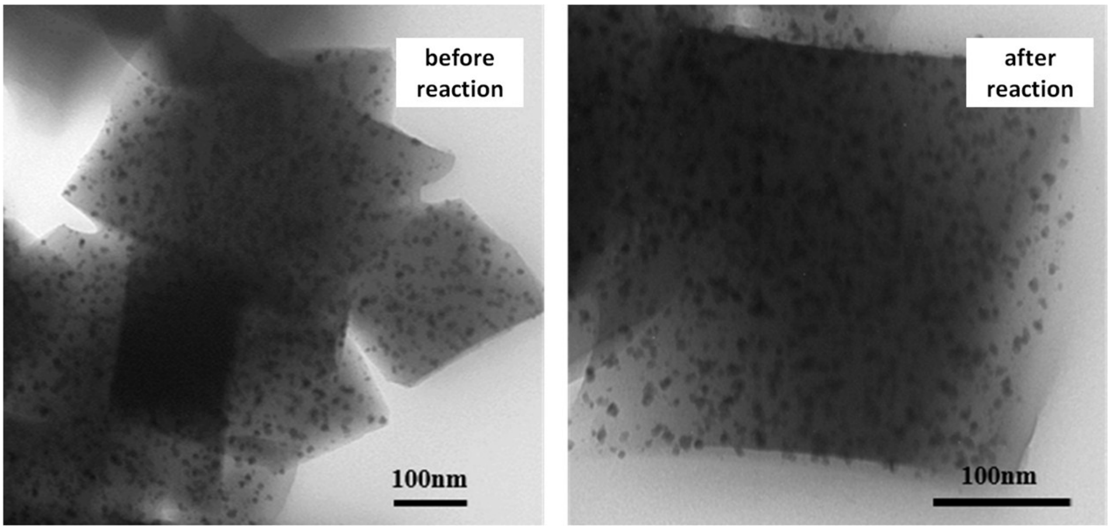

Fig. S5. TEM images of 1.82 wt% Pd@MIL-101(Cr) before and after reaction.

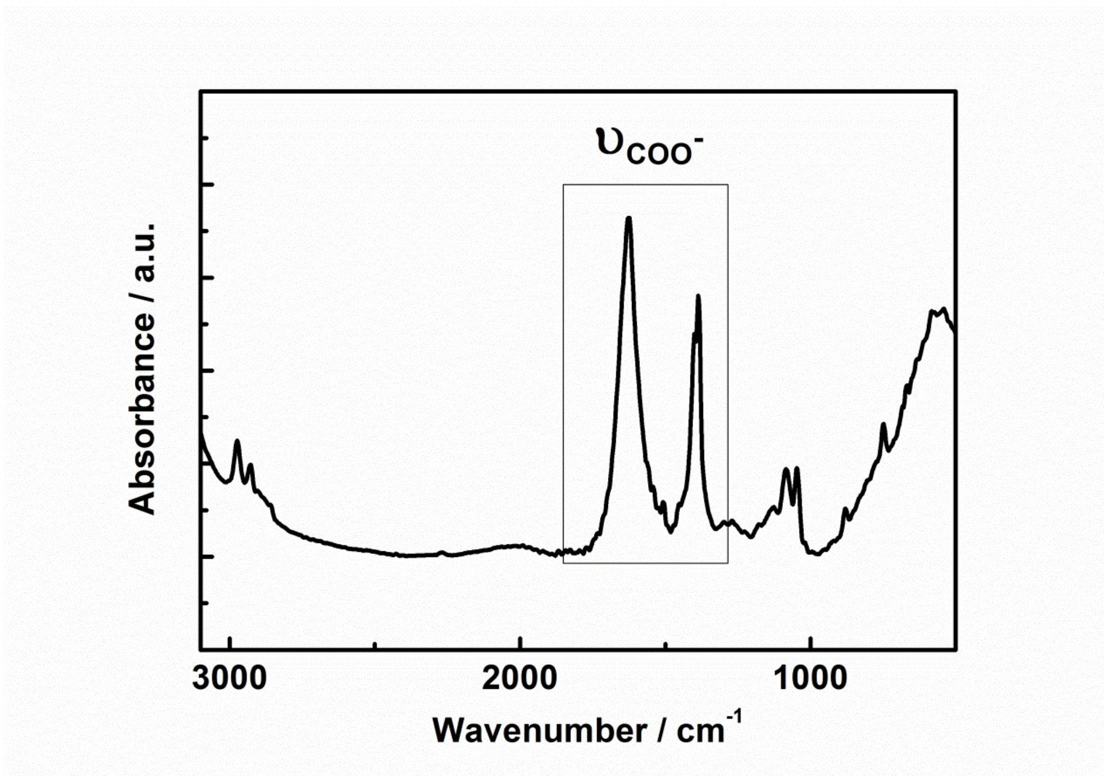

Fig. S6. FTIR spectrum of Pd@MIL-101(Cr) after 5-cycle reaction.

Table. S1. A summary of literature on hydrogenation of butynediol to butenediol

Reported catalyst	Conversion (%)	Selectivity (%)	Condition	Reference
Pd/Zn/$CaCO_3$	100	99	303～353 K, 0.8～3.5 MPa	1
Pd/TiO_2-additives	83	99	298 K	2
Pd-Pb	30	97	298 K	3
Pd/C	100	60～75	303～333 K	3
Pd/ACF	100	70	303 K, 0.6 MPa	4
Pt/ $CaCO_3$	78	73	393 K, 1 MPa	5
Pd/Resin	100	90	293 K, 0.1 MPa	6
Bio-Pd	75	98	313 K, 0.2 MPa	7
Bio-Pt	100	70	313 K, 0.2 MPa	8
Pt-Bi/C	25	90	313 K, 0.2 MPa	8

References

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