

*Electronic Supplementary Information (ESI) for*

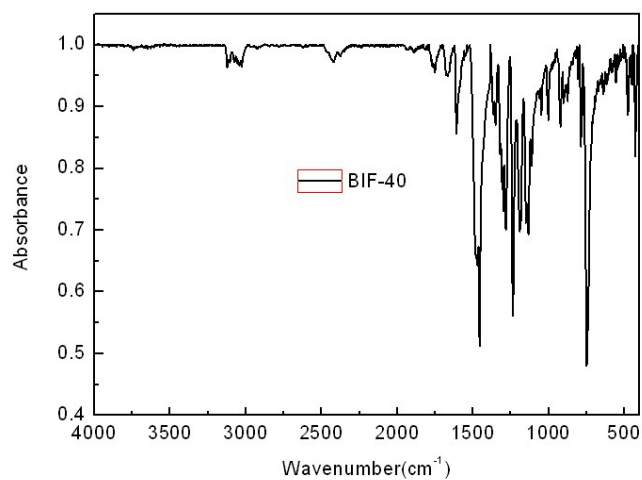
**Mechanochromic Cu(I) Boron Imidazolate Frameworks with Low-dimensional structures and Reducing Function**

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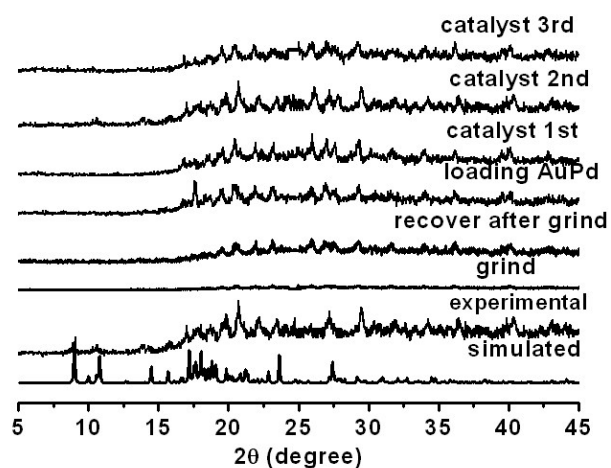
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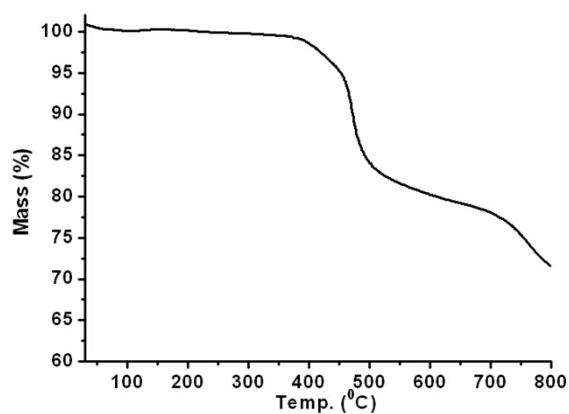
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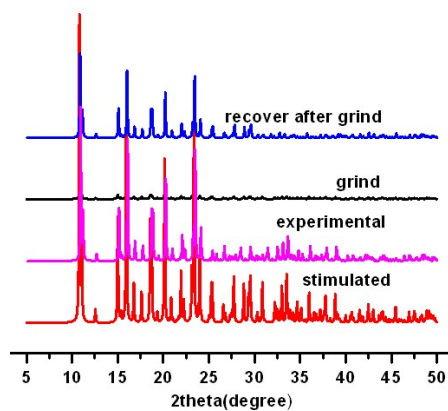
**Figure S1.** The FTIR spectra for **BIF-40**. IR spectrum (KBr pellets,  $\text{cm}^{-1}$ ): 3124.37(w), 3022.34(w), 2433.66(w), 1755.19(w), 1650.34(w), 1613.45(m), 1445.51(vs), 1279.99(vs), 1227.36(s), 1183.27(s), 1121.72(s), 1009.92(m), 904.06(m), 748.14(m), 469.89(m).



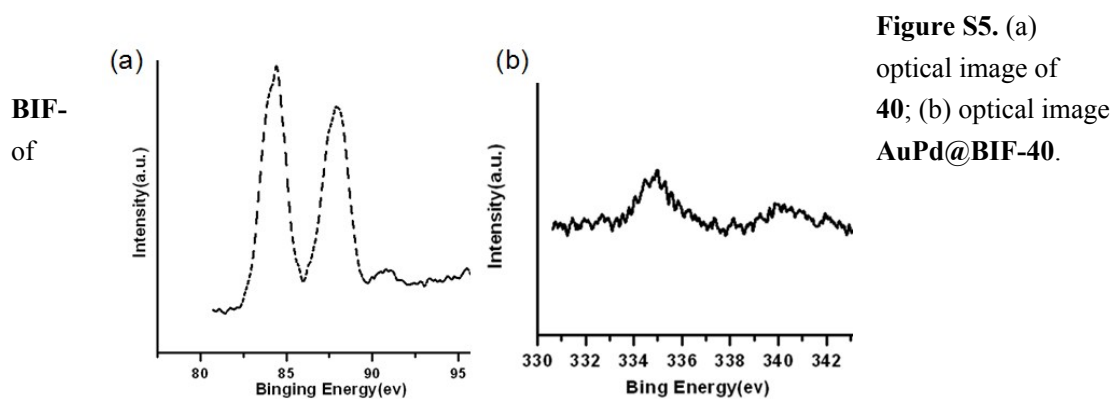
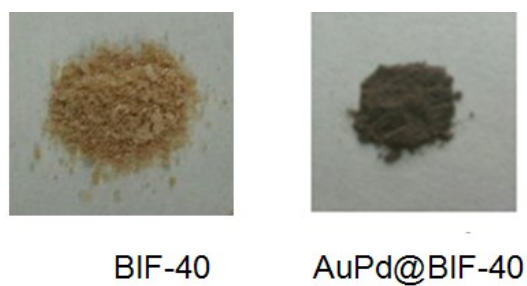
**Figure S2.** The PXRD patterns of **BIF-40** under different conditions.



**Figure S3.** Thermogravimetric analysis of **BIF-40** sample.

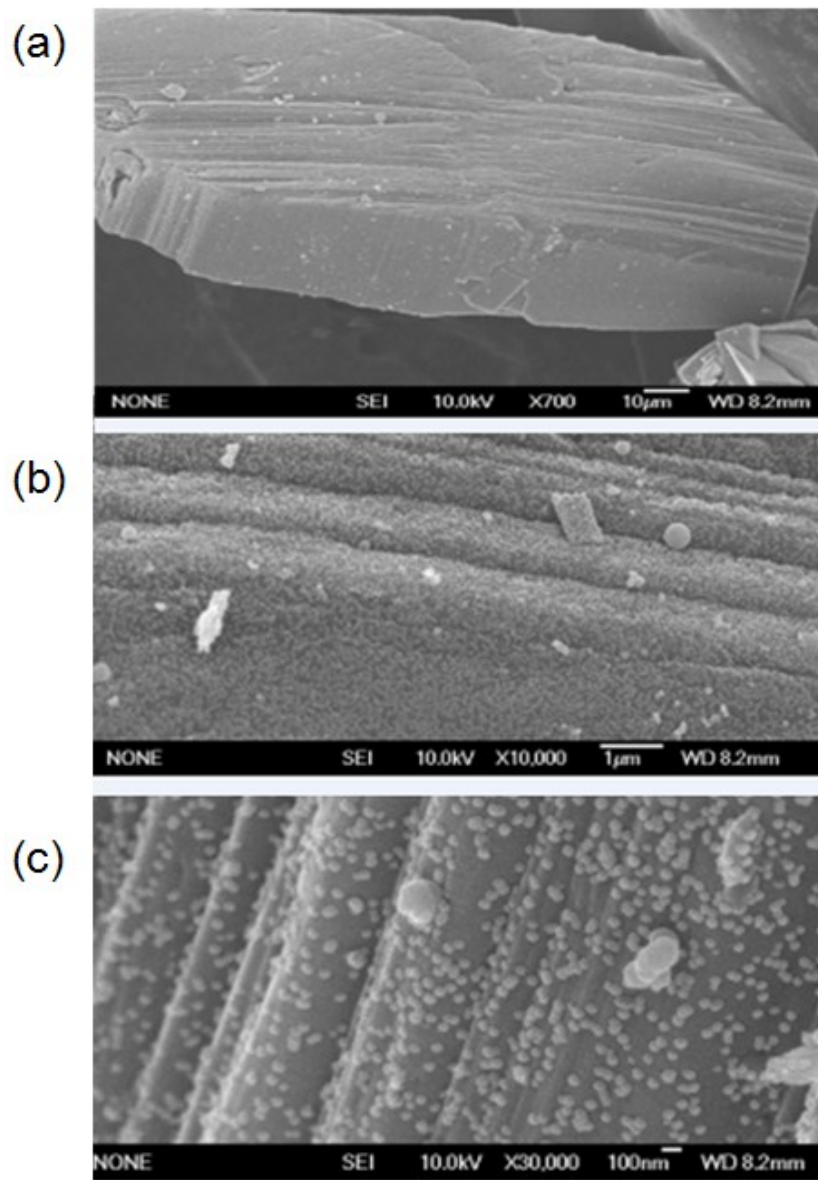


**Figure S4.** The PXRD patterns of **BIF-6** under different conditions.

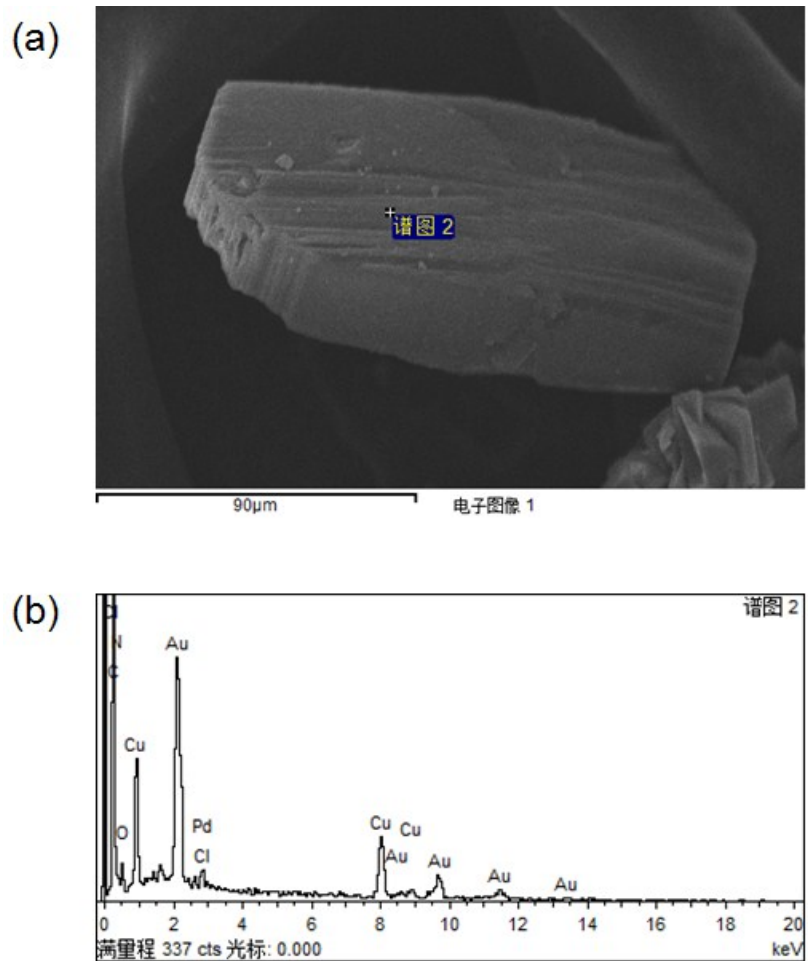


**Figure S5.** (a) optical image of **40**; (b) optical image **AuPd@BIF-40**.

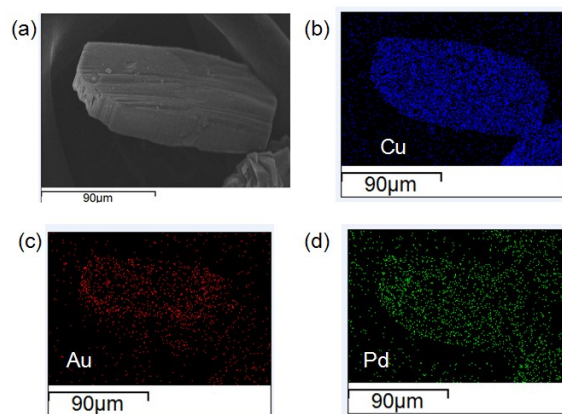
**Figure S6.** (a) XPS spectrum of Au; (b) XPS spectrum of Pd.



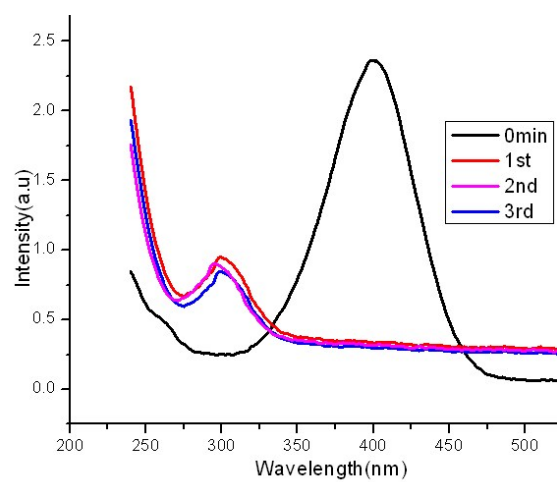
**Figure S7.** (a) (b) (c) Typical SEM images of the prepared **AuPd@BIF-40** with different magnifications.



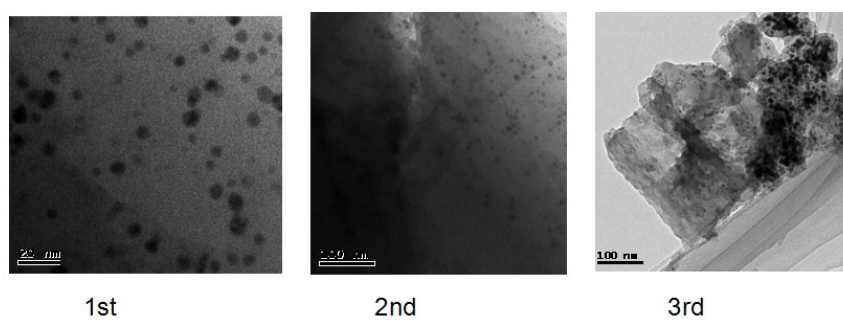
**Figure S8.** The SEM images and EDS spectrum of AuPd@BIF-40 mapping images.



**Figure S9.** (a) The SEM images of AuPd@BIF-40 , (b) (c) (d) Mapping images of **Cu**, **Au** and **Pd**.



**Figure S10.** Recycling test on reduction of 4-NP over **AuPd@BIF-40**.



**Figure S11.** TEM images of **AuPd@BIF-40** after three times catalytic reaction.