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Supporting information

Hydrophilic swellable metal–organic framework encapsulated Pd nanoparticles as an efficient catalyst for Cr(VI) reduction

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Table S1 The elemental composition of the Pd@ZIF-67 catalyst and its precursor Pd(II) ZIF-67

Elements	Pd@ZIF-67	Pd(II) ZIF-67
C (wt.%)	22.5	29.2
H (wt.%)	2.7	4.0
N (wt.%)	10.5	12.3
Co (wt.%)	17.3	11.8
Pd (wt.%)	22.8	19.4

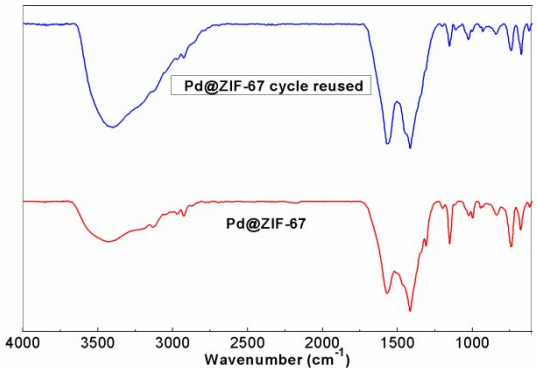


Fig. S1. FTIR spectra of the Pd@ZIF-67 before and after cycle reused.

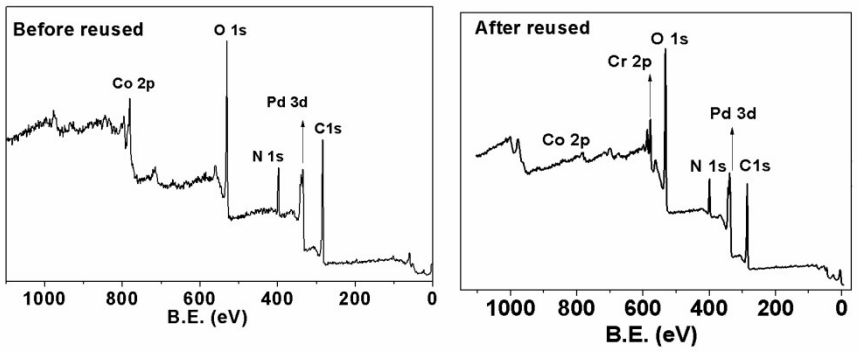


Fig. S2. XPS survey spectra of the Pd@ZIF-67 before and after cycle reused.

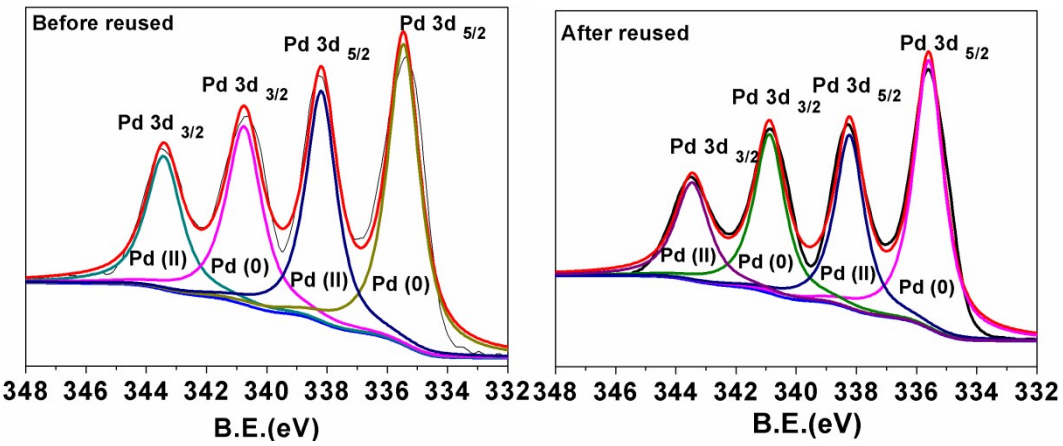


Fig. S3. XPS Pd 3d spectra of the Pd@ZIF-67 before and after cycle reused

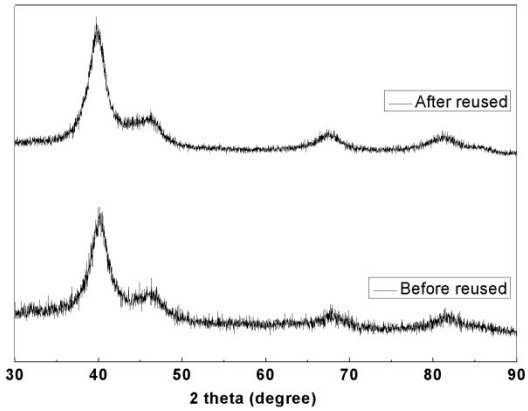
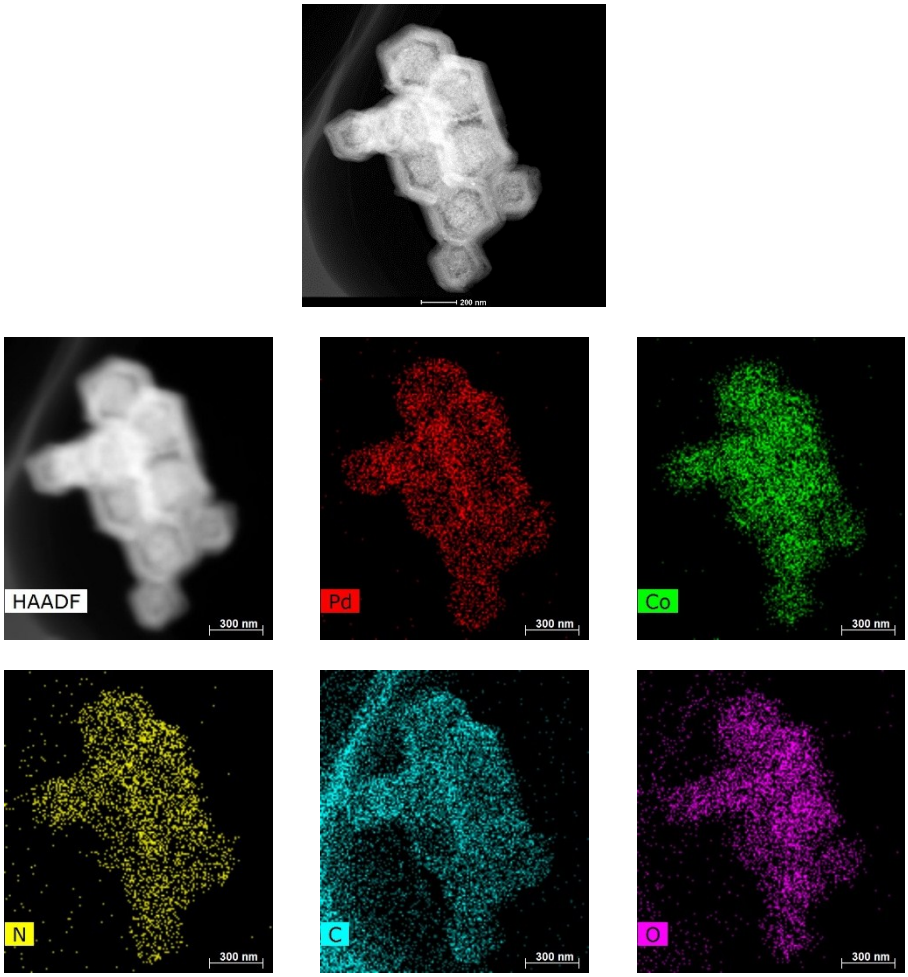


Fig. S4. XRD patterns of the Pd@ZIF-67 before and after cycle reused.



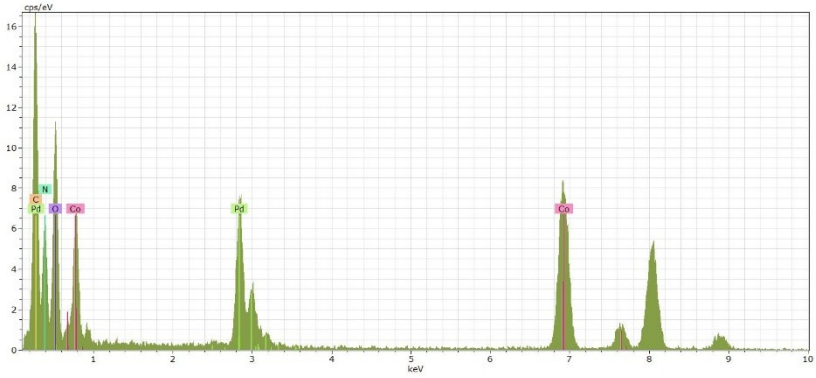


Fig. S5. TEM image and EDX elemental mappong Pd@ZIF67 before reused. The Cu signal is originated from the sample holder (Cu grid contain carbon membrane)

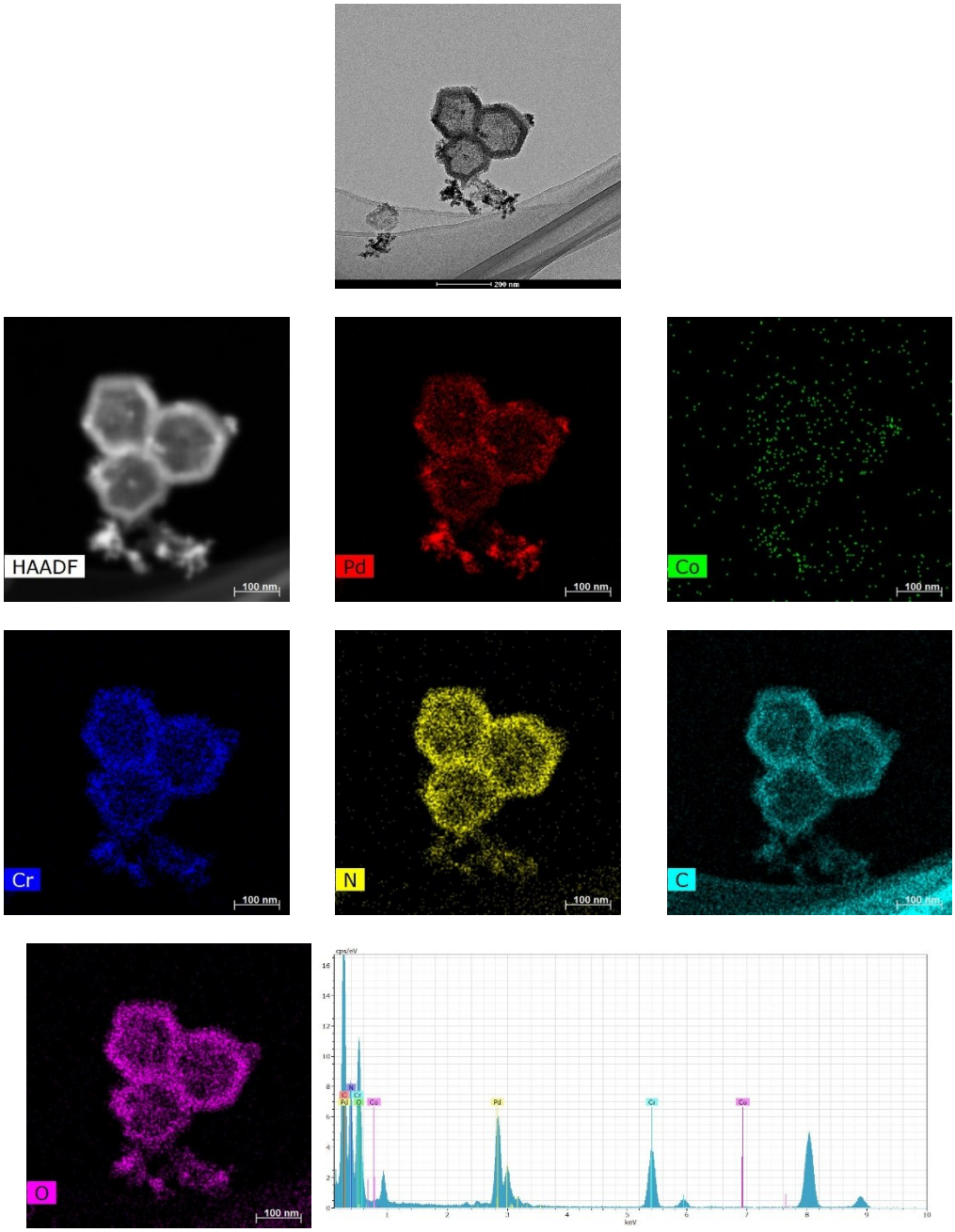


Fig. S6. TEM image and EDX elemental mapping Pd@ZIF67 after reused. The Cu signal is originated from the sample holder (Cu grid contain carbon membrane)