

## Electronic supplementary information (ESI)

### Efficiently H<sub>2</sub> adsorption by bimetallic Ni-Zn zeolite imidazole skeleton

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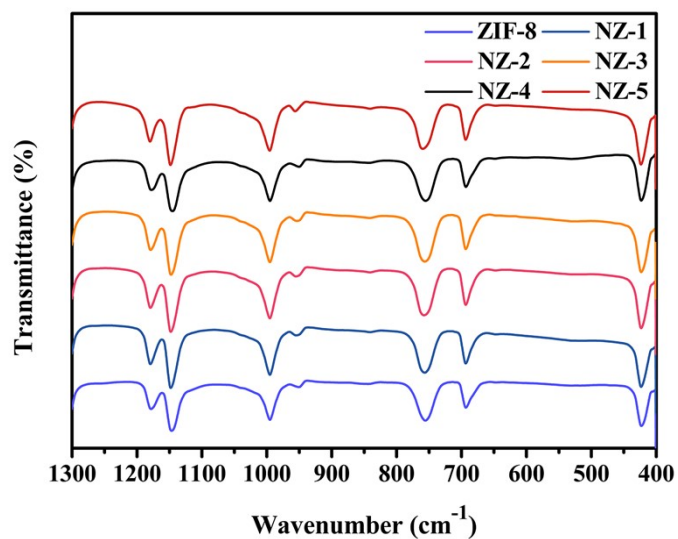
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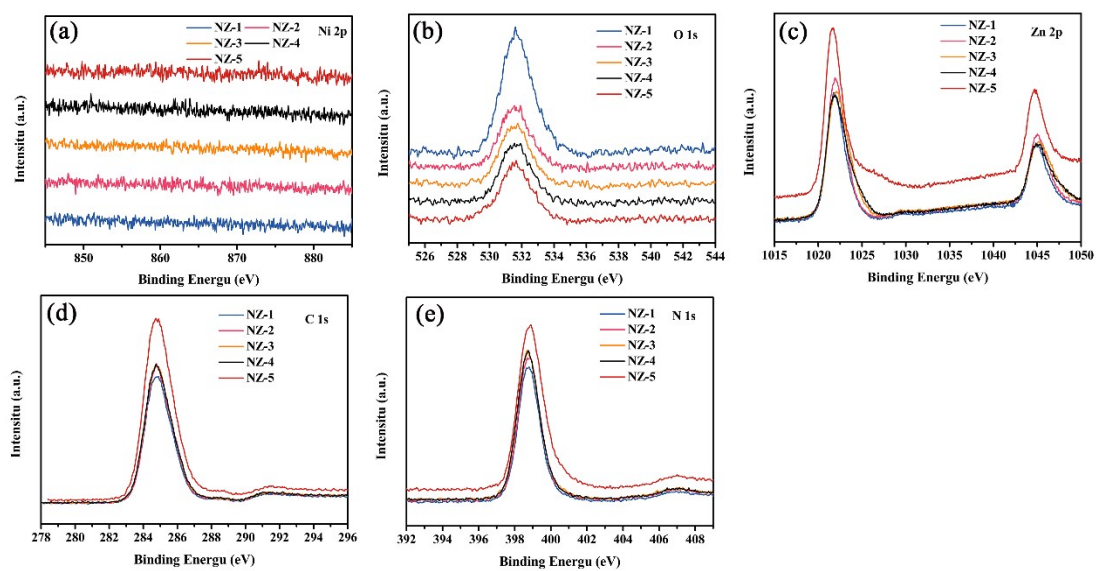
**Keywords:** ZIF-8; H<sub>2</sub> adsorption; Bimetallic MOFs; Synergistic effect

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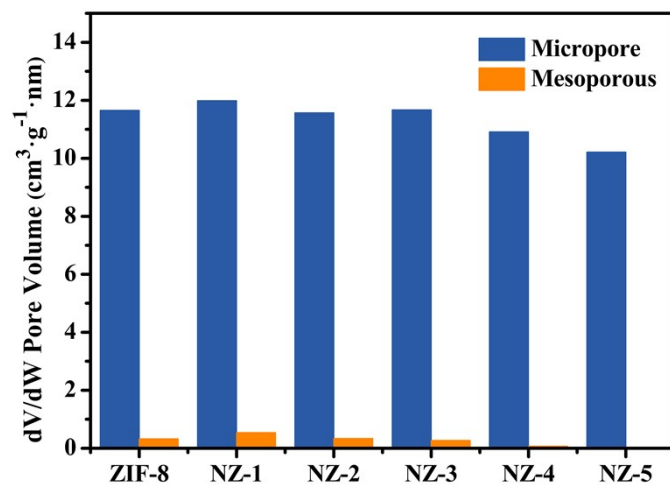
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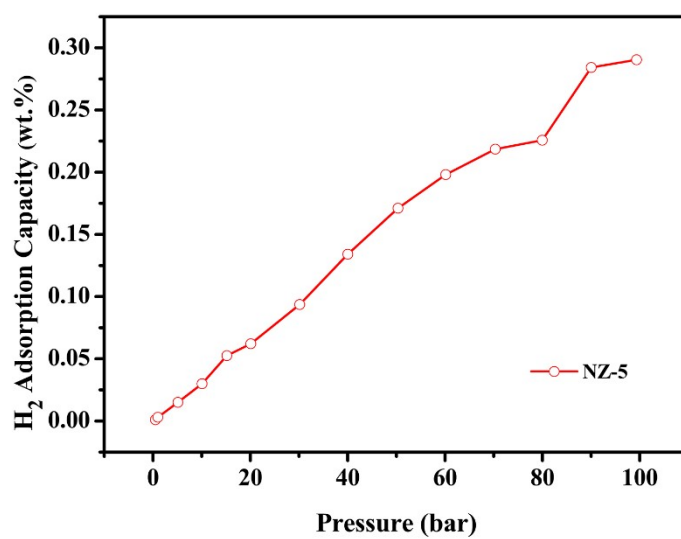
**Fig. S1** Infrared spectrum fingerprint region of ZIF-8 and NZ-X.



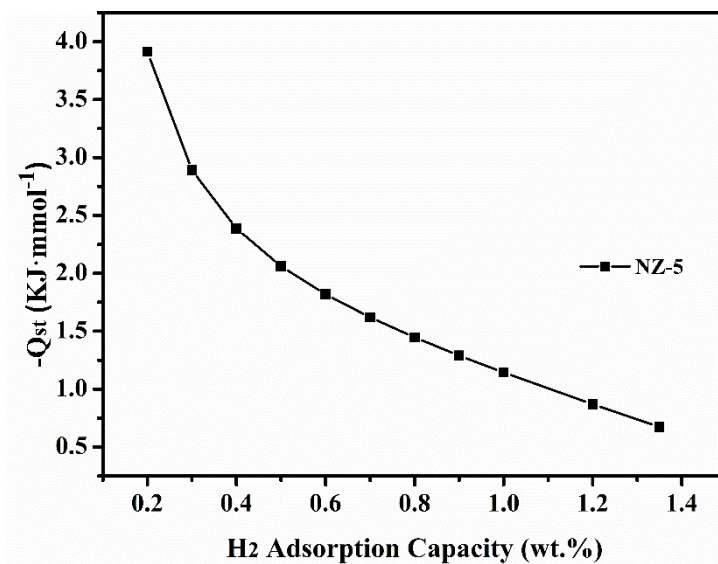
**Fig. S2** (a) Ni2p spectrum of NZ-X, (b) O1s spectrum of NZ-X, (c) Zn 2p spectrum of NZ-X, (d) C1s spectrum of NZ-X, (e) N 1s spectrum of NZ-X



**Fig. S3** Volume of Micropore and Mesoporous of ZIF-8, NZ-1, NZ-2, NZ-3, NZ-4 and NZ-5



**Fig. S4** H<sub>2</sub> adsorption isotherm of NZ-5 at 298 K and 100 bar.



**Fig. S5** Isosteric heats of H<sub>2</sub> adsorption on NZ-5.