

## Supporting Information

### **A novel hygroscopic salt-modified MOF-303 with efficient solar-driven water harvesting from arid air**

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Table. S1. EDS elemental content of MOF-303@LiCl.

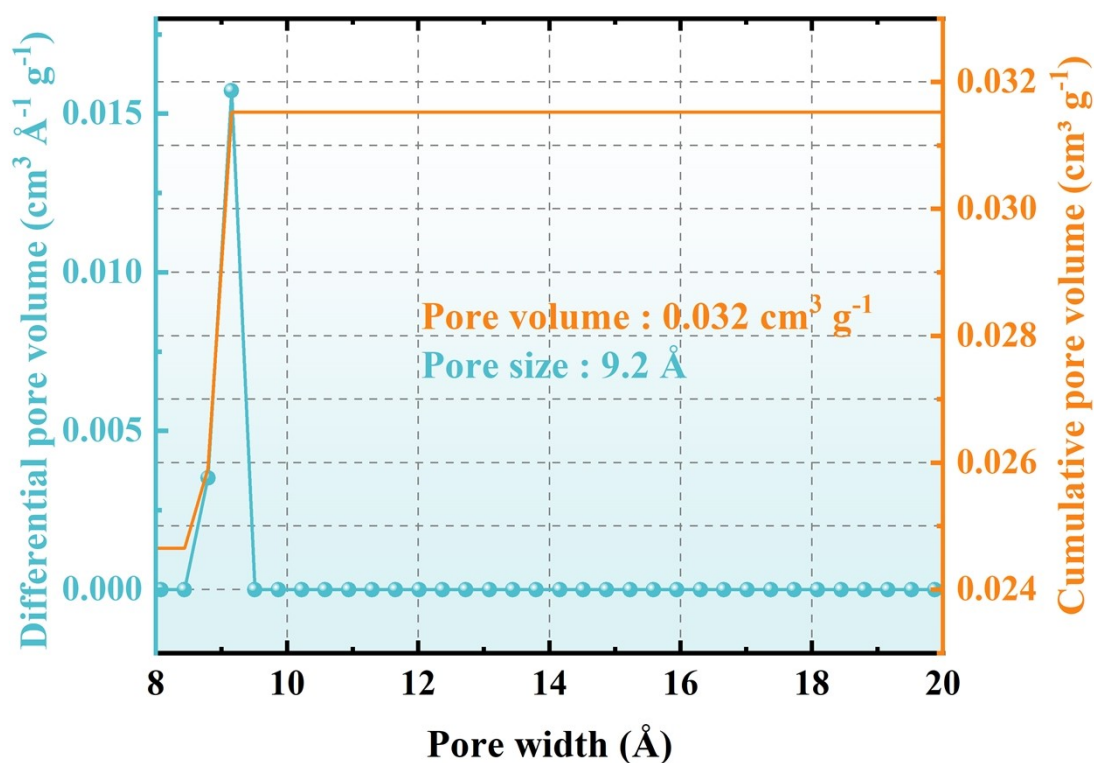


Figure. S1. Estimated differential and cumulative pore volume of MOF-303@LiCl based on the N<sub>2</sub> adsorption isotherm at 77 K.

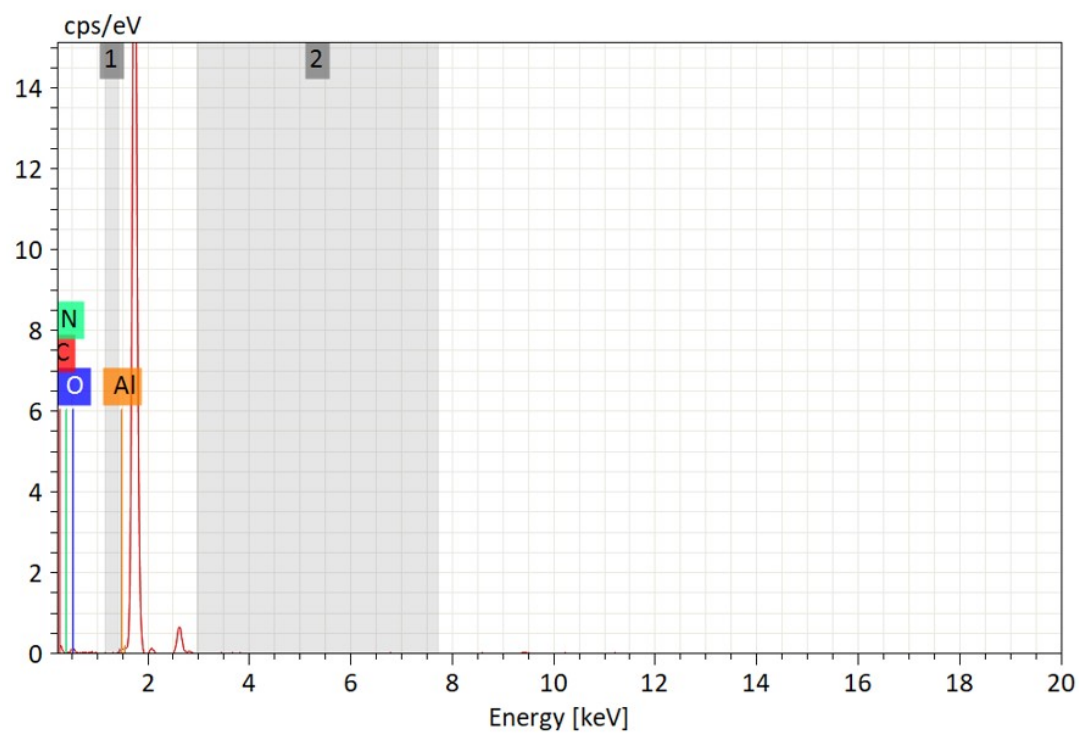


Figure. S2. EDS elemental content of MOF-303@LiCl.

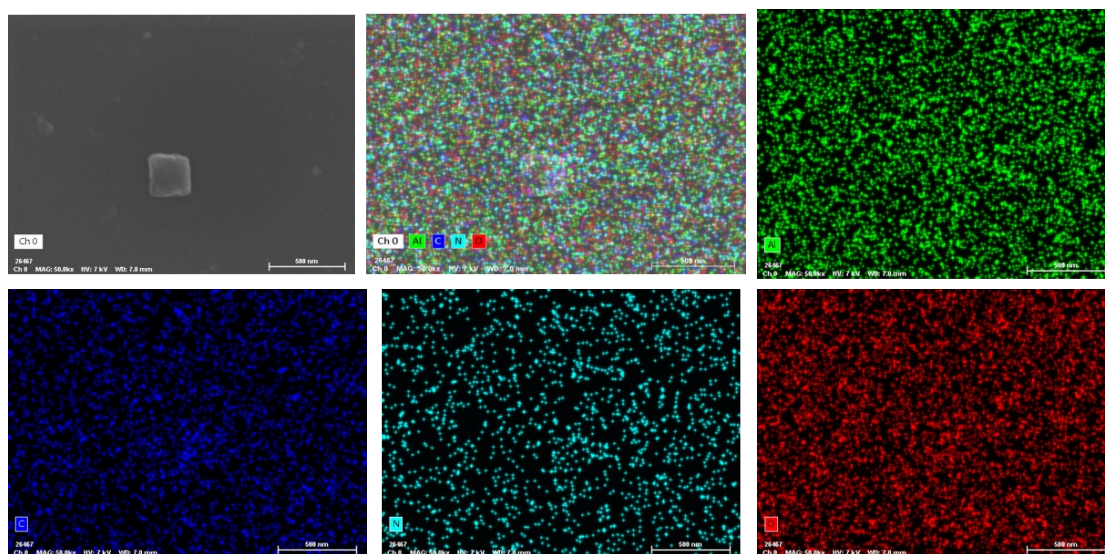


Figure. S3. EDS images of MOF-303.

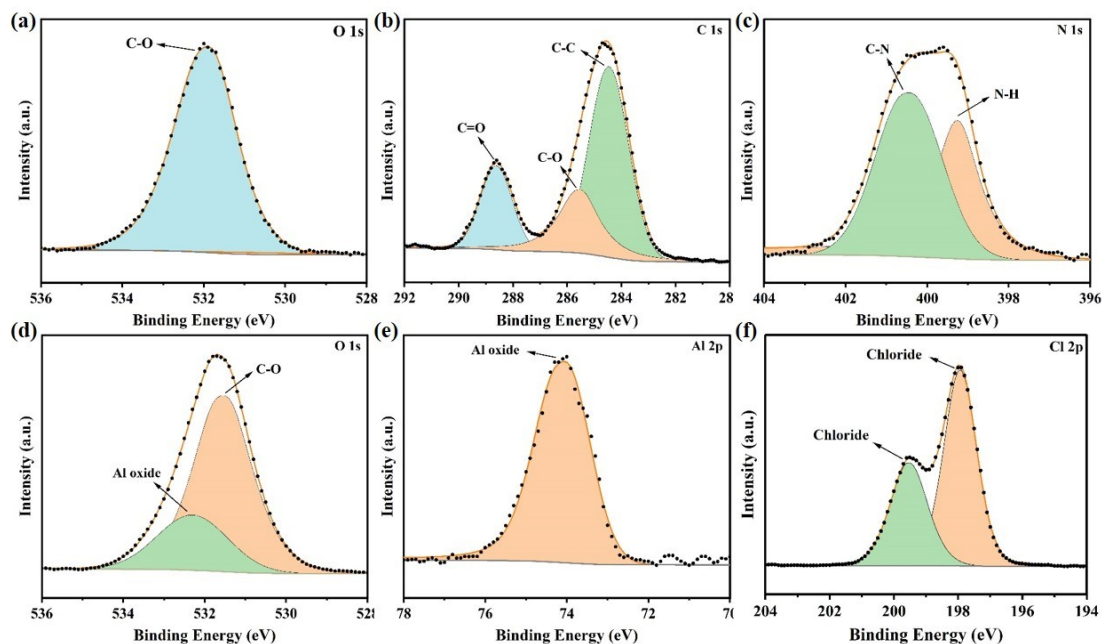


Figure. S4. (a) O 1s fine spectra of MOF-303.(b-f) XPS fine spectra of MOF-303@LiCl.

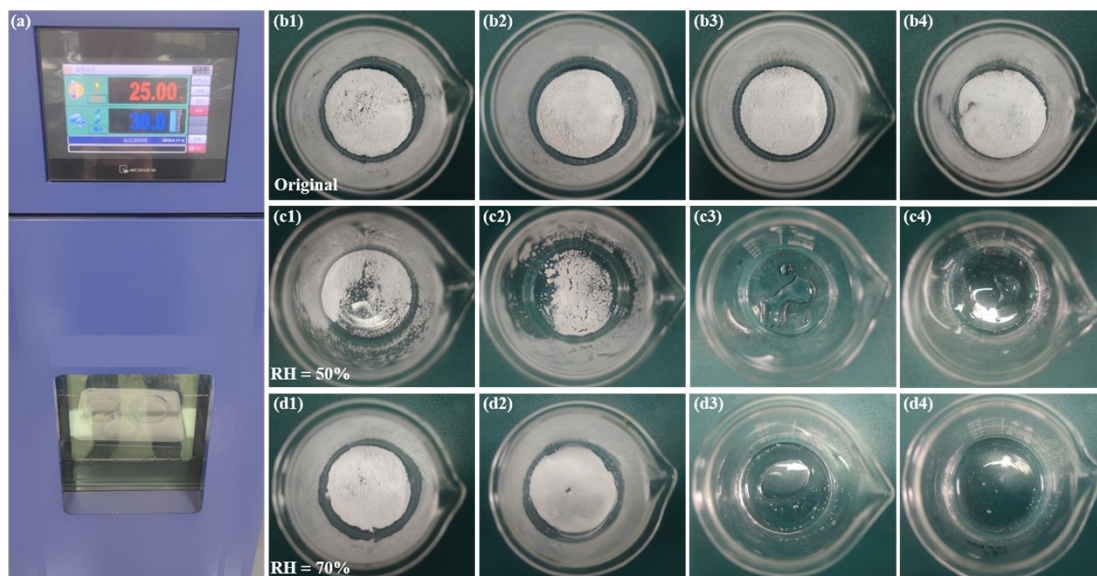


Figure. S5. (a) Constant temperature and humidity box equipment diagram. MOF-303 (b1) 、MOF-303@LiCl (b2) 、CaCl<sub>2</sub> (b3) and LiCl (b4) original sample images. Schematic of the desert beetle structure. (c) Plot of saturated adsorbed samples at 50% relative humidity. (d) Plot of saturated adsorbed samples at 70% relative humidity.



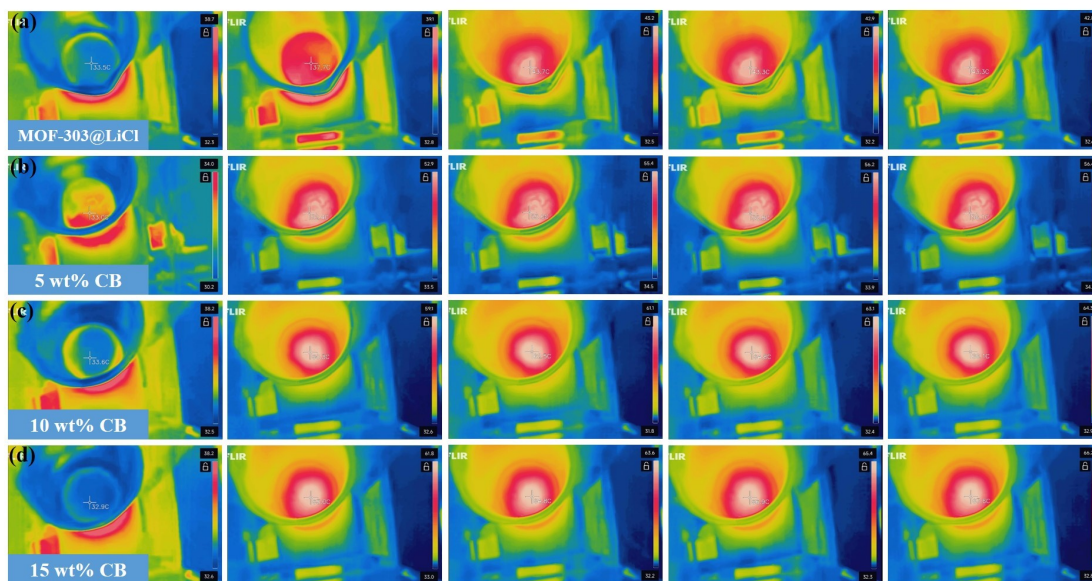


Figure. S6. Infrared imaging images of the sample surface under xenon lamp irradiation.



Figure. S7. Photographs of xenon lamp desorption equipment.

Table. S1. EDS elemental content of MOF-303@LiCl.

Elemental	Atomic number	Mass (%)	Normalized mass (%)	Atom (%)
O	8	3.62	21.93	20.23
C	6	7.56	45.75	56.21
N	7	2.56	15.51	16.34
Al	13	0.28	1.72	0.94
Cl	17	2.49	15.09	6.28
Total		16.52	100.00	100.00