



**Supplementary information, Figure S3** Crystal packing might lead to the disappearance of the N-terminal conformation in the published MOF<sub>HAT</sub>-MSL1 structure. The published MOF<sub>HAT</sub>-MSL1 structure (MOF<sub>HAT</sub>, orange; MSL1, blue) and its symmetry-related molecule (purple) were superposed with our MOF<sub>HAT</sub>-MSL1<sub>MBM</sub> structure (MOF<sub>HAT</sub>, yellow; MSL1<sub>MBM</sub>, green). As denoted by the circle, the loop region between the  $\alpha$ D and  $\alpha$ E helices of the symmetry-related molecule partially occupies the position of the  $\beta$ -strand module of MSL1<sub>MBM</sub> in our structure, which might lead to the dissociation of MSL1 N-terminus from MOF during crystal packing.