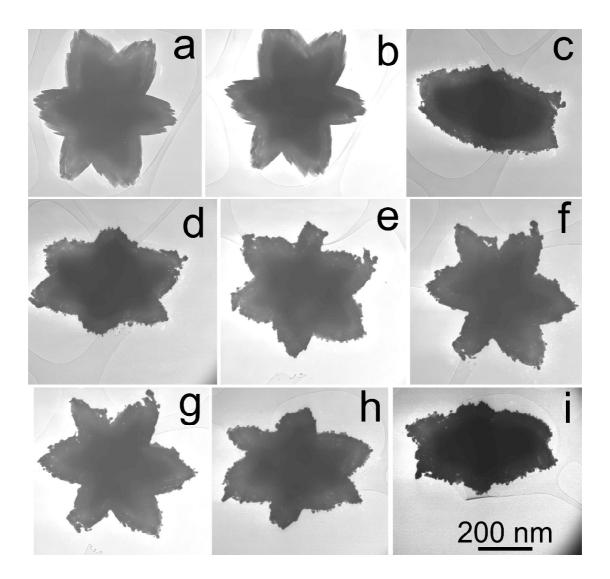
## **Supporting Information**



**Fig. S1** In-situ TEM observation of the FeWO<sub>4</sub> flowers turning under electron beam. (a-b) show the 6-folded feature of a flower when initially exposed to electron beam during observation and tilting of the sample holder. (c-i) revealed a series of turning sequences of the same flower, after exposing to the focused electron beam for about 10 min. When shifting the beam towards the flower, it started to turn over, projecting a platelet shape at some stage, images (c) and (i). Damage on the surface was also observed due to the irradiation of the high density electron beam (TEM operated at 200 KeV). Pictures from (c-i) were taken at an interval about 40 s. The scale bar in the images is same.

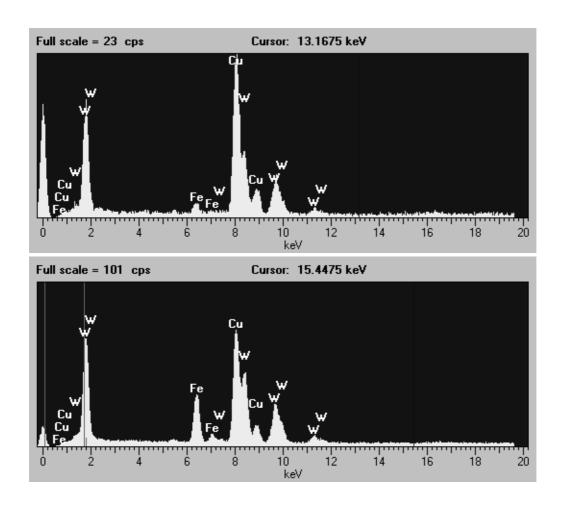


Fig. S2 EDX profile of the Fe-doped  $W_{18}O_{49}$  nanowires (top) and the FeWO<sub>4</sub> flowers (bottom).