

## Surface Modification of Layered Zirconium Phosphate with PNIPAM

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### 1 SEM image of ZrP-PNIPAM

The scanning electron microscopy (SEM) image of ZrP-PNIPAM were shown in Fig. S1. The sample were freezing dried after preparation, and was observed using FEI Quanta 600 FE-SEM. Individual particle could be found, but the edge were not as clear as we obtained before<sup>1</sup>, we believe that was due to the PNIPAM polymer on the surface.

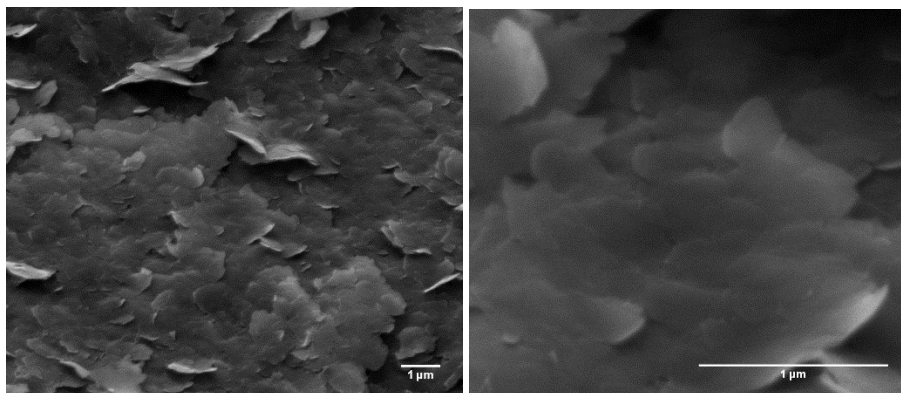


Fig S1. SEM image of ZrP-PNIPAM

### 2. Size difference of ZrP and ZrP-PNIPAM

Dynamic light scattering (DLS) had been used to measure the size of ZrP and ZrP-PNIPAM. The pristine ZrP had a size of  $295 \pm 134$  nm, after grafting PNIPAM, the particle size grew to be  $531 \pm 200$  nm. There were significant size growth after attaching PNIPAM, and the PNIPAM layer was then estimated to be around 118 nm.

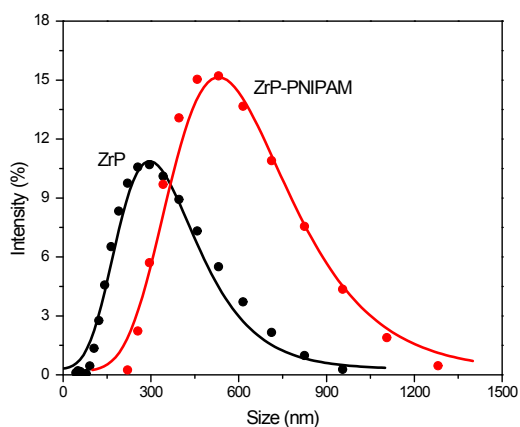


Fig S2. Size of ZrP and ZrP-PNIPAM measured by DLS

### References

- 1 M. Shuai, A. F. Mejia, Y.-W. Chang and Z. Cheng, *CrystEngComm*, 2013, **15**, 1970-1977.