

Electronic Supplementary Information for:

**Polymer coated template confinement CsPbBr₃ perovskite quantum
dots composite**

Jianhua Shen,^a Yu Wang,^a Yihua Zhu,^{a,*} Yiqing Gong,^a and Chunzhong Li^{b,*}

^a Shanghai Engineering Research Centre of Hierarchical Nanomaterials, Key Laboratory for Ultrafine Materials of Ministry of Education, Frontiers Science Centre for Materiobiology and Dynamic Chemistry, School of Materials Science and Engineering, East China University of Science and Technology, Shanghai 200237, China.

^b Shanghai Engineering Research Centre of Hierarchical Nanomaterials, School of Chemical Engineering, East China University of Science and Technology, Shanghai 200237, China.

*Corresponding author. E-mail: yhzhu@ecust.edu.cn; czli@ecust.edu.cn

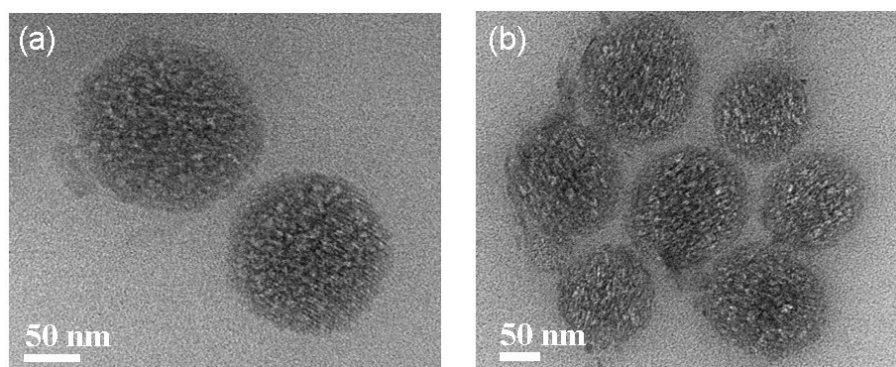


Fig. S1 TEM images of (a) CsPbBr₃@SiO₂ and (b) CsPbBr₃@SiO₂/CLA.

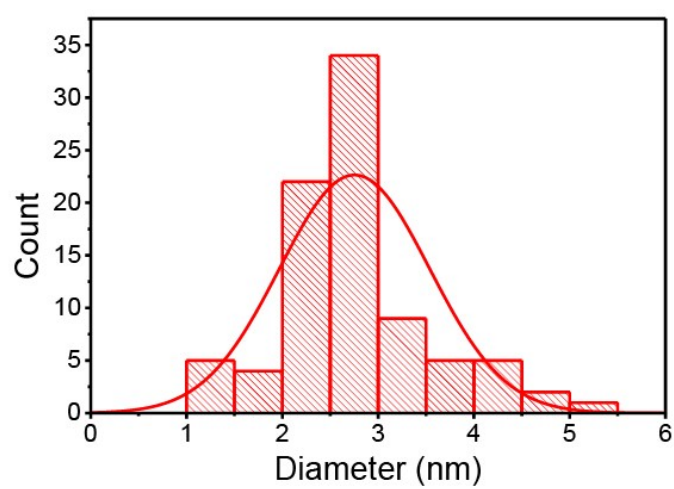


Fig. S2 Size distribution of CsPbBr₃ QDs in mesoporous SiO₂ microspheres.

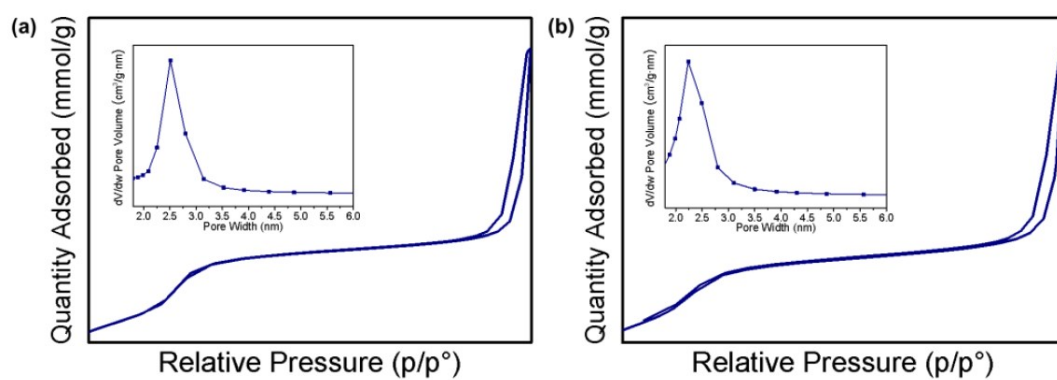


Fig. S3 Adsorption-desorption curve and BJH pore diameter distribution of (a) SiO₂ and (b) CsPbBr₃@SiO₂.

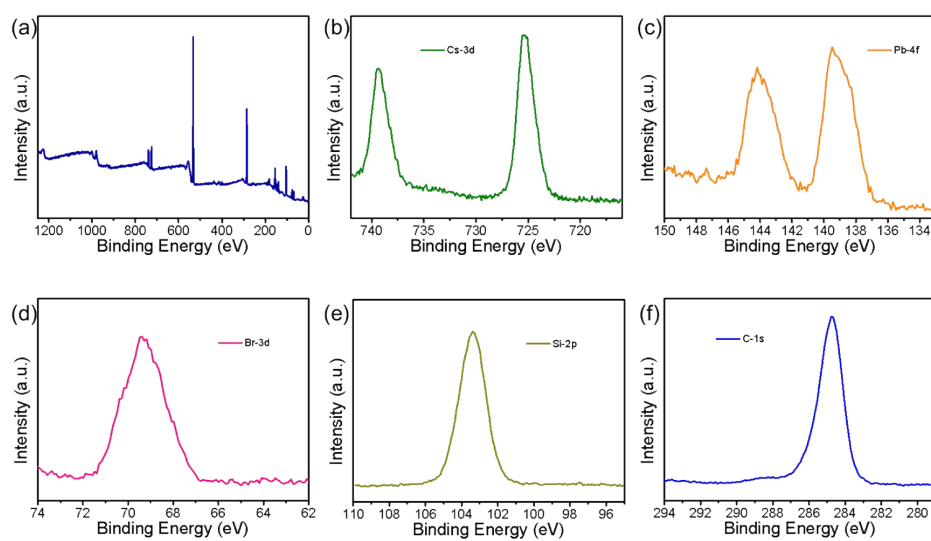


Fig. S4 XPS analysis of (a) CsPbBr₃@SiO₂/Poly-CLA and zoom-in scans highlighting of (b–f) Cs, Pb, Br, Si, and C elements.

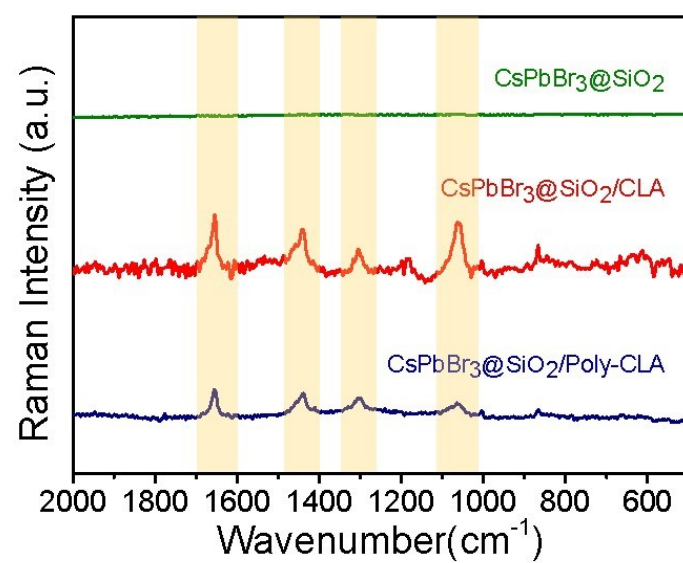


Fig. S5 Raman spectra of CsPbBr₃@SiO₂, CsPbBr₃@SiO₂/CLA and CsPbBr₃@SiO₂/Poly-CLA.

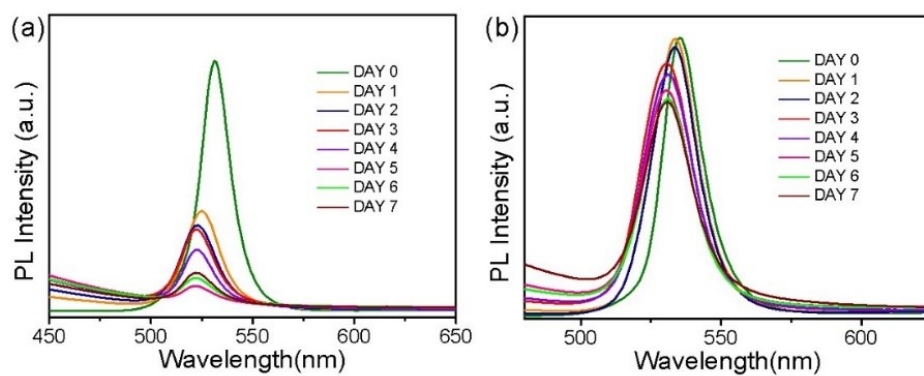


Fig. S6 PL emission of (a) CsPbBr₃@SiO₂/CLA and (b) CsPbBr₃@SiO₂/Poly-CLA in water.

Table S1 BET surface area and BJH cumulative volume of pores of mesoporous SiO₂ microspheres and CsPbBr₃@SiO₂.

Sample	BET Surface Area (m ² /g)	BJH cumulative volume of pores (m ³ /g)
SiO ₂	1,093.42	1.60
CsPbBr ₃ @SiO ₂	724.53	1.09