

SCN 掺杂提高 CsPbI₃ 胶体量子点的稳定性和光探测性能

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SCN-doped CsPbI₃ for Improving Stability and Photodetection Performance of Colloidal Quantum Dots

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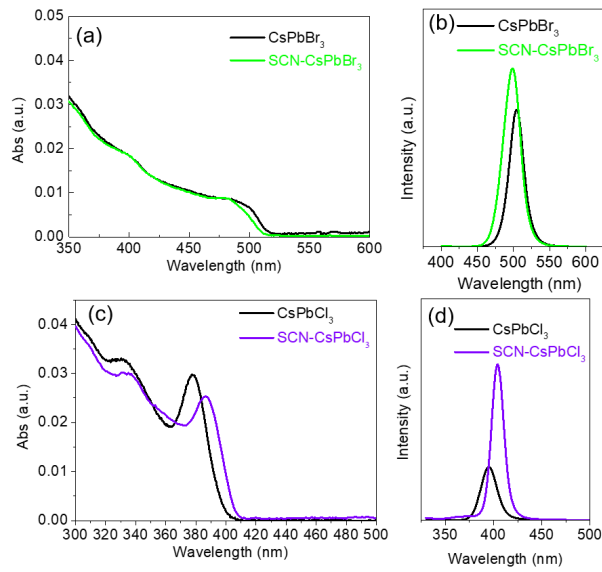


Fig. S1 Absorption spectra of (a) CsPbBr₃ and (b) CsPbCl₃ QDs; photoluminescence spectra of (c) CsPbBr₃ and (d) CsPbCl₃ QDs.

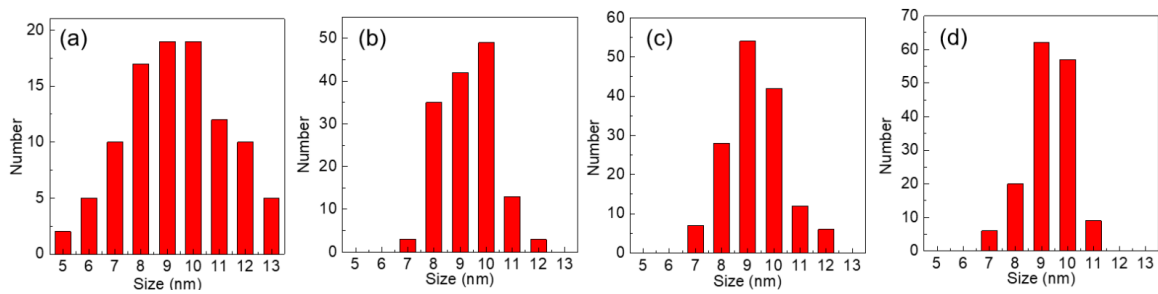


Fig. S2 TEM size statistical histogram of CsPbI₃ with/without doping.
 (a) CsPbI₃ and (b) 1.6% SCN-CsPbI₃, (c) 3.3% SCN-CsPbI₃, (d) 5%SCN-CsPbI₃.

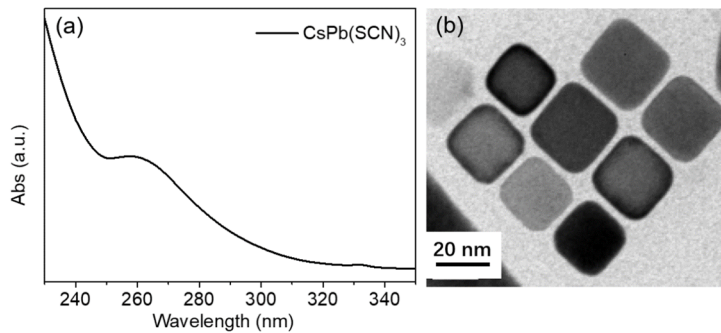


Fig. S3 (a) Absorption spectra and (b) TEM images for CsPb(SCN)₃.

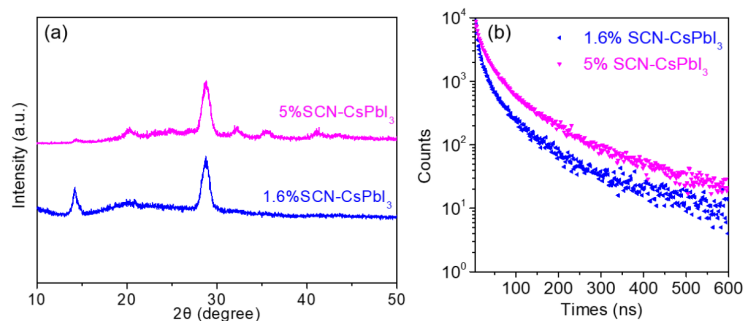


Fig. S4 (a) X-ray diffraction pattern and (b) PL decay transients of 1.6% SCN and 5% SCN doped CsPbI₃.

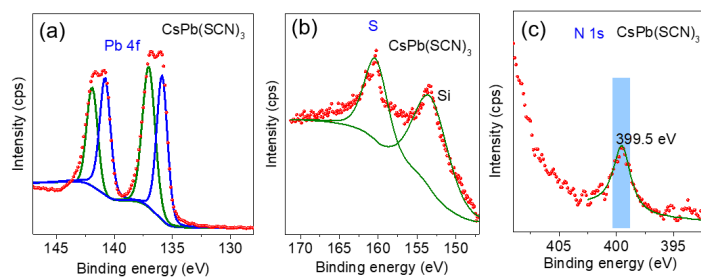


Fig. S5 (a) The Pb 4f core-level, (b) S core-level, (c) N 1s core-level spectra for CsPb(SCN)₃.

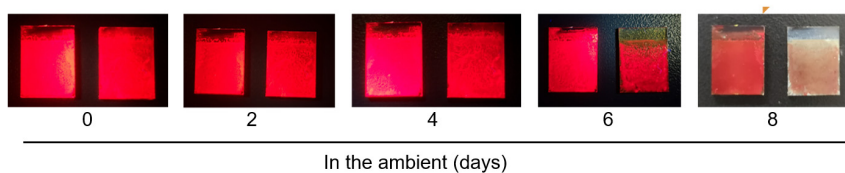


Fig. S6 A graph of fluorescence versus time when a film doped with undoped SCN is exposed to outdoors with a relative humidity of 60%. (left-CsPbI₃, right-SCN-CsPbI₃).

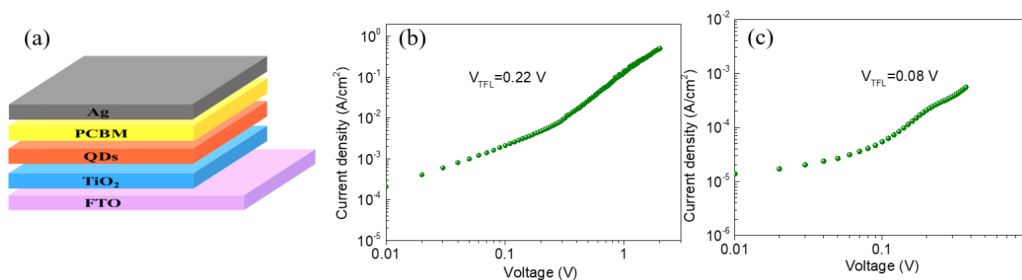


Fig. S7 (a) Schematic diagram of SCLC structure. The space charge limited current response of (b) CsPbI₃ and (c) SCN-CsPbI₃.