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Photoinstable hybrid all-inorganic halide perovskite quantum dots as single downconverters for white light emitting devices

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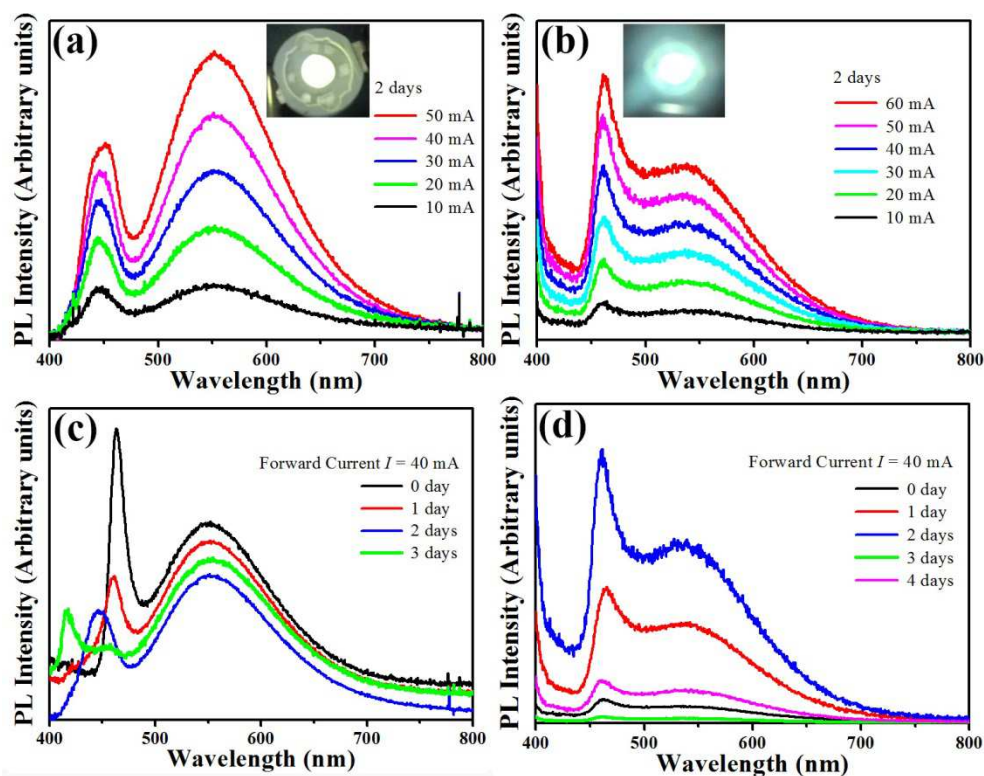
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Herein we introduce mesoporous silica particles upon the blue emission  $\text{CsPb}(\text{BrCl})_3$  QDs. The silica coat, protecting the core QDs from oxygen and humidity somewhat, the stability of the PL QYs and the luminescence of the  $\text{CsPb}(\text{BrCl})_3$  QDs, as well as the emission and vision properties of the devices based on these QDs are improved evidently. By integrating the prepared blue emission  $\text{CsPb}(\text{BrCl})_3$  QDs or the silica-coated  $\text{CsPb}(\text{BrCl})_3$  QDs as single downconverters on violet chips, except for the originate blue emission, we observe a new peak  $\sim 550$  nm in the electroluminescence (EL) spectrum of the resultant devices, which benefits for the construction of white light emitting devices.

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