

CORE-SHELL TYPE QUANTUM DOTS AND METHOD OF FORMING THE SAME

ABSTRACT

5 Provided is a core-shell type light-emitting quantum dot, including an alloy type
core consisting of Cd, Se, Zn, and S, and a shell layer having a sphalerite structure and
being coated on the surface of the alloy core, wherein the element ratio of each of Zn
and S accounts for 30 to 50% of the overall core, and the content of Cd and Se gradually
decreases outward from the core center. Also provided is a method for preparing the
10 core-shell type light-emitting quantum dot. By having the alloy core and the shell layer
with a sphalerite structure, the core-shell type quantum dot can achieve quantum
efficiency of 95%, and have high temperature resistance and excellent water- and
oxygen-barrier performance.

Fig. 1 accompanies abstract