

Improvement of Quantum Dots dispersion for high luminescent efficiency of QD/PDMS coating

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White light emitting diodes are known as LCD back lighting application and a potential solid-state lighting source because of their long lifetime and low power consumption. We used QD/Polymer film to coat on top of blue LED to produce white LED. In this work we fabricated QD/PDMS film using double-shell QDs. Double-shell quantum dots have higher quantum efficiency and higher stability in polymer than general quantum dots. Various molecules were used as surface modifier QDs to find out the effect on dispersion. [This work was supported by the Industrial Strategic technology development program (No. 10035274, Quantum dot phosphorus converted LED Module) funded by the Ministry of Knowledge Economy (MKE, Korea)]