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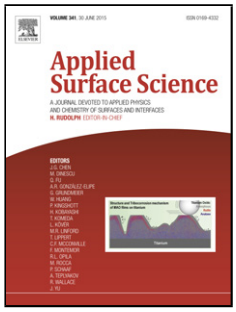

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PII: S0169-4332(17)32618-1
DOI: http://dx.doi.org/10.1016/j.apsusc.2017.09.018
Reference: APSUSC 37097

To appear in: *APSUSC*

Received date: 31-3-2017
Revised date: 28-8-2017
Accepted date: 4-9-2017

Please cite this article as: Ji Young Park, Chan Gi Lee, Han Wook Seo, Da-Woon Jeong, Min Young Kim, Woo-Byoung Kim, Bum Sung Kim, Structural and Optical Properties of ZnSe:Eu/ZnS Quantum Dots depending on Interfacial Residual Europium, Applied Surface Sciencehttp://dx.doi.org/10.1016/j.apsusc.2017.09.018

Structural and Optical Properties of ZnSe:Eu/ZnS Quantum Dots depending on Interfacial Residual Europium

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Highlights

- ZnSe:Eu/ZnS core/shell quantum dots (QDs) prepared in situ for the first time.
- Luminescence intensity of core/shell QDs three times that of uncoated core QDs.
- The core/shell system showed no Eu^{2+} emission but only the sharp peaks in the red at 579, 592, 615, 651, and 700 nm due to the electronic transitions of $^5D_0 \rightarrow {}^7F_n$ (n = 0, 1, 2, 3, 4) depending on leisurely decreased with increased reaction time..
- The core and core/shell QDs both have a zinc blende structure, and their respective sizes were about 3.19 and 3.44 nm.