

Abstract Submitted  
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**Tunable Emission in Inverted Type-I CdS/CdSe Core/Crown Semiconductor Nanoplatelets** PEDRO LUDWIG HERNANDEZ-MARTINEZ<sup>1</sup>, Nanyang Technological University, SAVAS DELIKANLI, BURAK GUZELTURK<sup>2</sup>, TALHA ERDEM, YUSUF KELESTEMUR, MURAT OLUTAS, MEHMET ZAFER AKGUL, Bilkent University, HILMI VOLKAN DEMIR<sup>3</sup>, Nanyang Technological University — In this work, we present the tunable optical properties of an inverted Type-I core/crown nanoplatelet heterostructure. We show that the emission peak of the resulting CdS/CdSe hetero-nanoplatelets can be tuned continuously between the peak emission wavelengths of the core only CdS nanoplatelets (421 nm) and CdSe nanoplatelets (515 nm). In these inverted Type-I nanoplatelets, the unique continuously tunable emission is enabled by adjusting the lateral width of the CdSe crown, around the core CdS nanoplatelet. As a proof-of-concept, we generate white light by using color conversion concept with CdS/CdSe hetero-nanoplatelets, which have finely tuned thin crowns. This results in a color rendering index of 80.

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