



Supporting Information

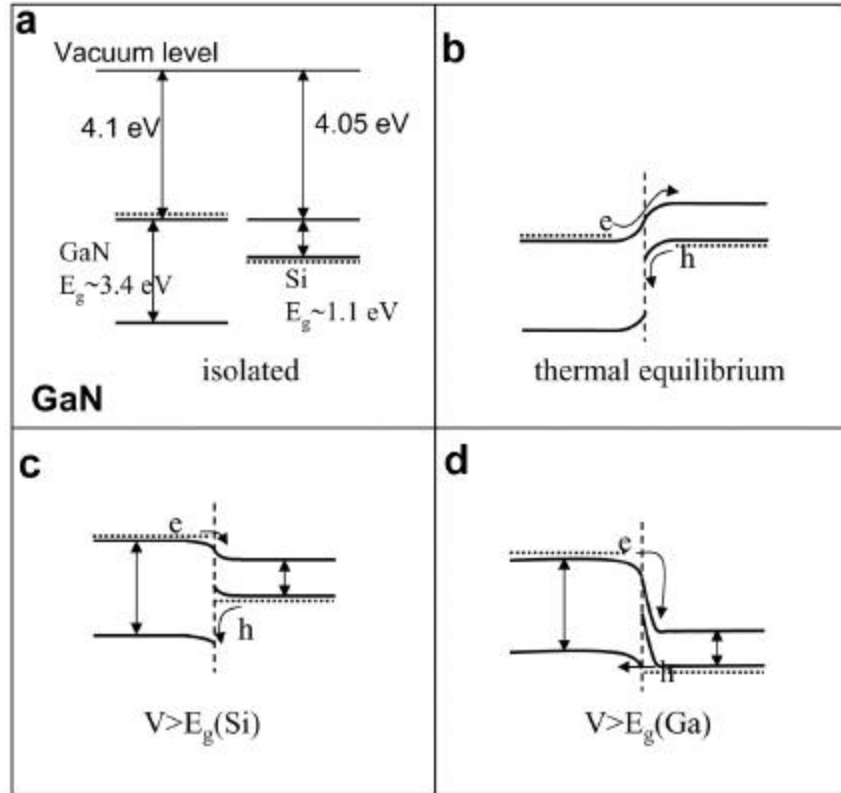
© Copyright Wiley-VCH Verlag GmbH & Co. KGaA, 69451 Weinheim, 2006

Supporting Information (2-Figures)

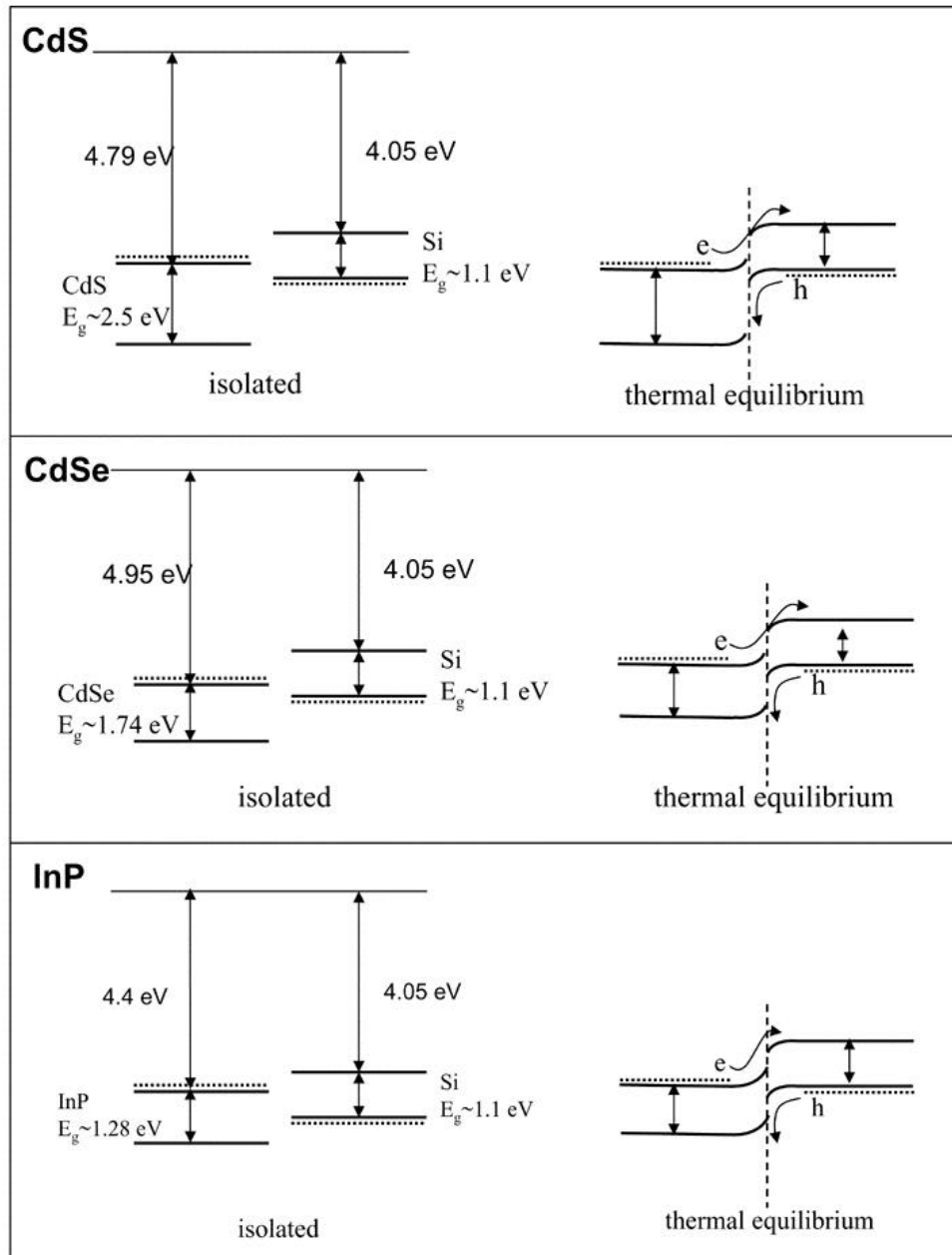
Journal: *Small*

Title: **Nanowires for Integrated Multicolor Nanophotonics**

Authors: *Yu Huang, Xiangfeng Duan, Charles M. Lieber*



Supporting Figure 1. Band-diagram of n-GaN-p-Si heterojunction. (a) Band diagram of p-Si and n-GaN when isolated from each other. (b) Under thermal equilibrium, the Fermi levels line up. (c) For a forward bias of ca. Si band gap, conduction band line up, current turns on. Electrons can efficiently flow from n-GaN to p-Si. However, very few holes can pass into n-GaN due to larger energy barrier. (d) When the forward bias exceeds GaN band gap, valence band line up, holes can readily pass into n-GaN and recombine with electrons in GaN to give light emission.



Supporting Figure 2. n-CdS/p-Si, n-CdS/p-Si and n-InP/p-Si heterojunctions have band diagrams that are qualitatively similar to that of n-GaN/p-Si heterojunction (Supporting Figure 1).