Direct Evaluation of the Quantum Confinement Effect in Single Isolated Ge Nanocrystals

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Supporting Information

Additional tunneling spectra are presented here and referenced to from the main text.

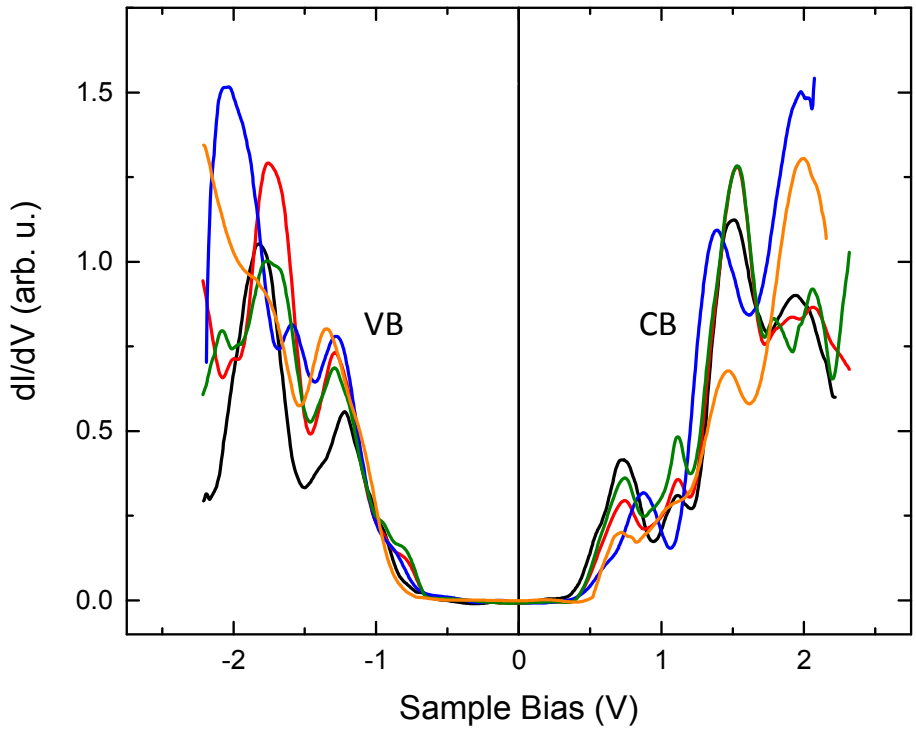

Figure S1. Tunneling spectra measured on five different 3-dimethylamino-1-propyne capped Ge NCs, 5.5 (±0.2) nm in diameter, all exhibiting n-type doping. This is manifested by the position of the chemical potential (zero bias), which is much closer to the conduction band (CB) than to the valence band (VB).

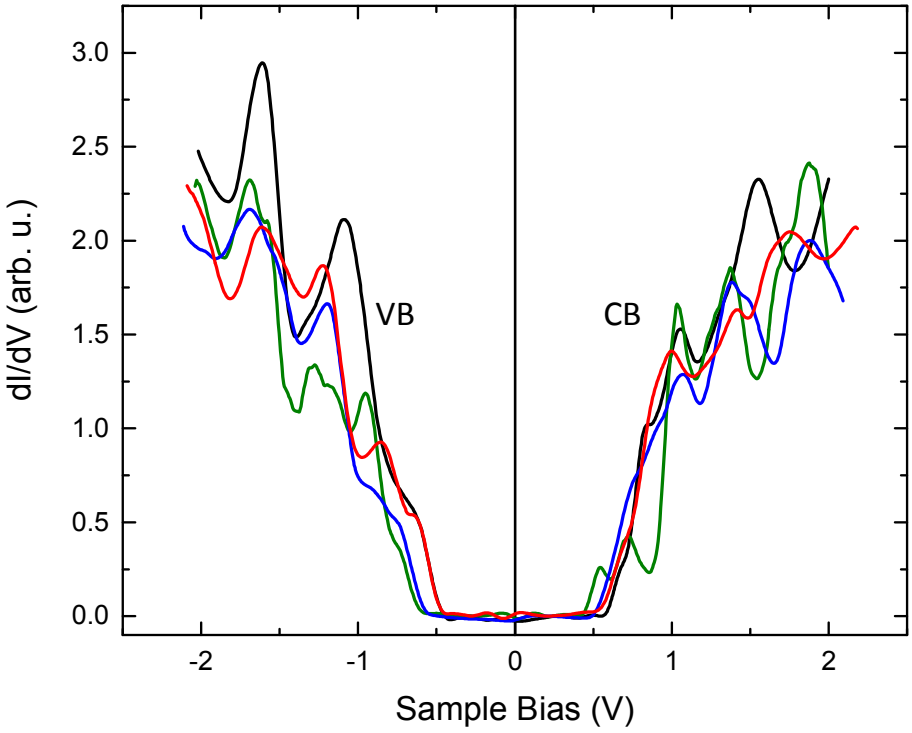

Figure S2: Tunneling spectra measured on four 7.75 (±0.3) nm Ge-NCs capped by 2-dedaconane. Unlike the case of Fig. S1, doping effect cannot be seen here. The chemical potential is positioned near the band-gap center, with slight shifts towards either the conduction band or valence band.

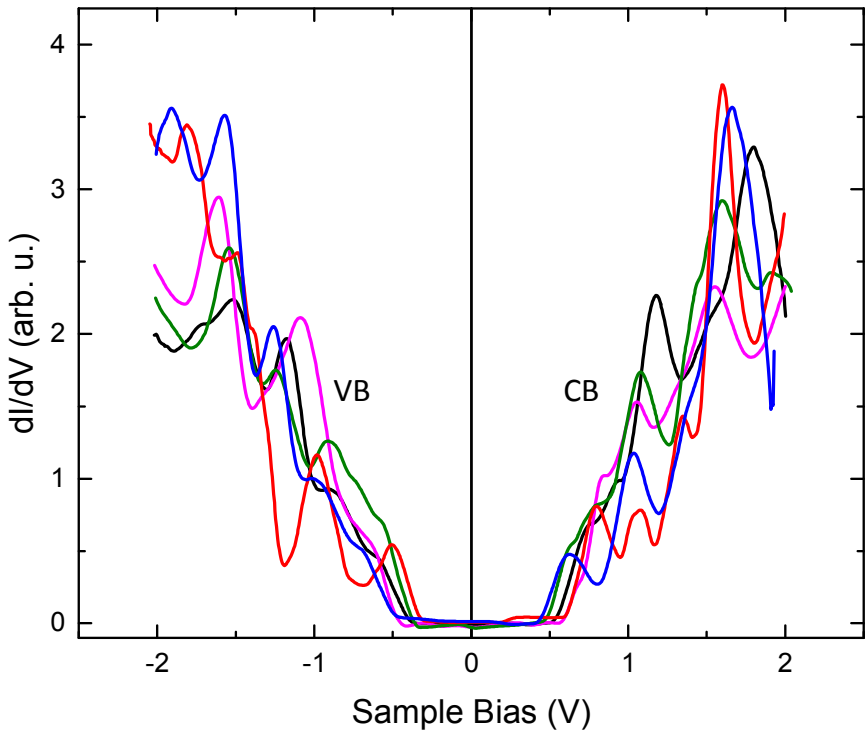

Figure S3: Tunneling spectra measured on five 10 (±0.5) nm Ge-NCs capped by dodecyl. Here too there is no evidence for doping.

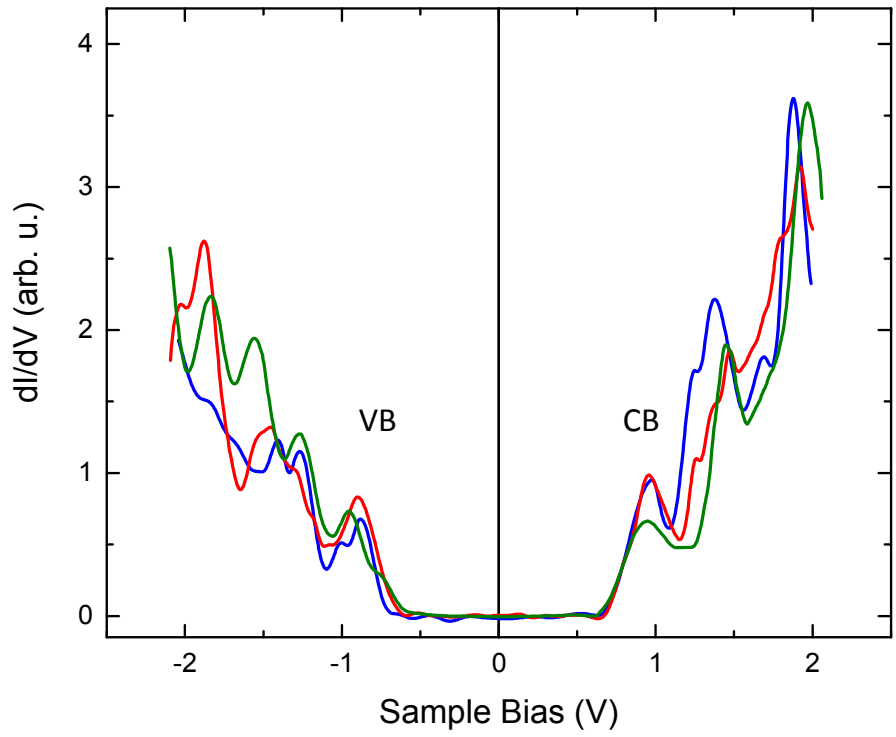

Figure S4: Tunneling spectra measured on three 4 (±0.2) nm Ge-NCs capped by dodecyl. Here too there is no evidence for doping.