

Fig 1. (a) Cross-sectional STEM micrograph of a "[2 nm Al₂O₃ (16 cycles) : 0.5 nm TiO₂ (16 cycles)]*10" sample and (b) XRR measurements in grazing angle of incidence up to 3° and simulation curves of selected Al₂O₃/TiO₂ nanocomposites. These observations ensure achieving controlled growth of atomic scale heterostructures by means of PEALD.

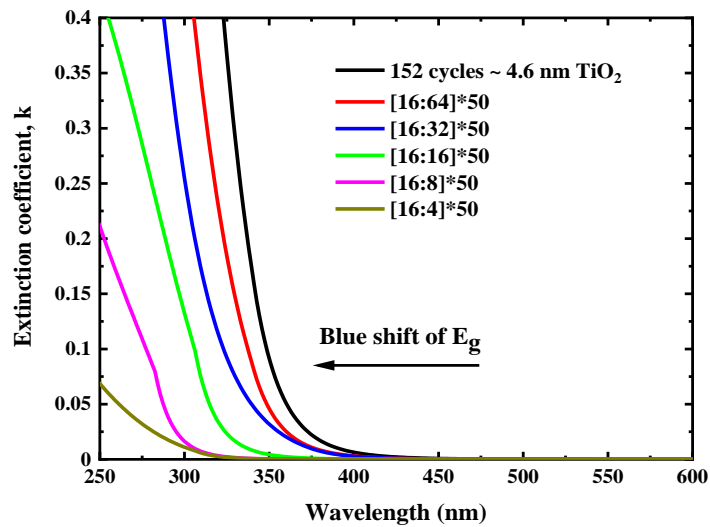


Fig 2. Significant blue shift in absorption edge leading to the presence of optical quantum confinement as the TiO₂ (quantum well) thickness becomes comparable to ~ 0.5 nm (16 cycles).