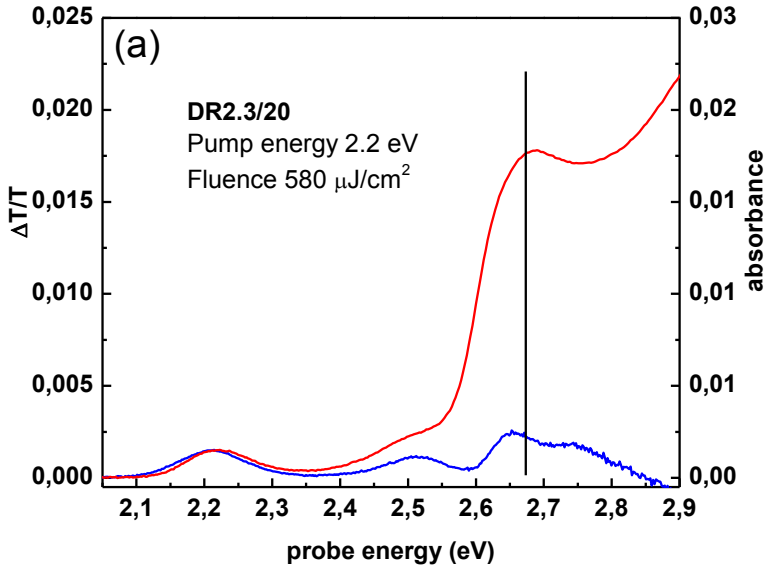
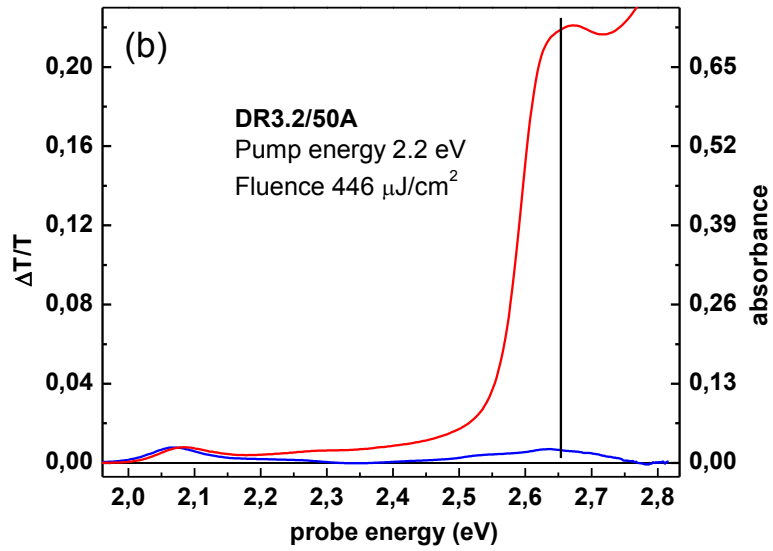
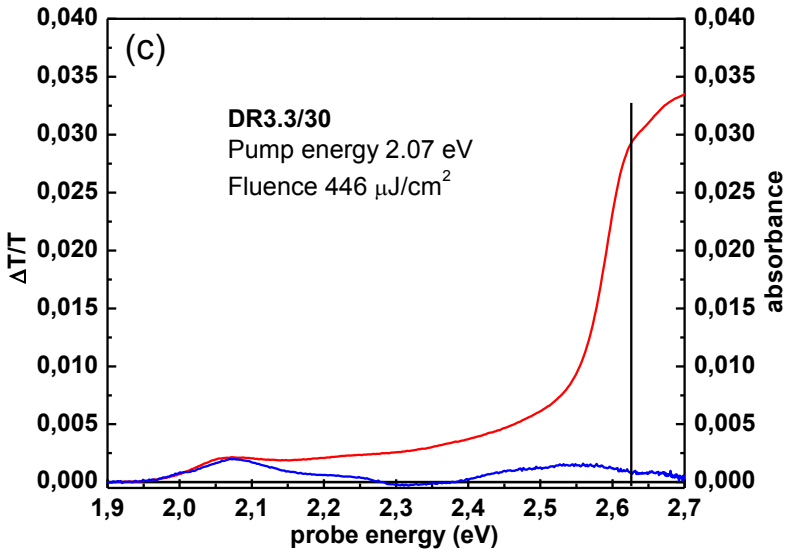
Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics

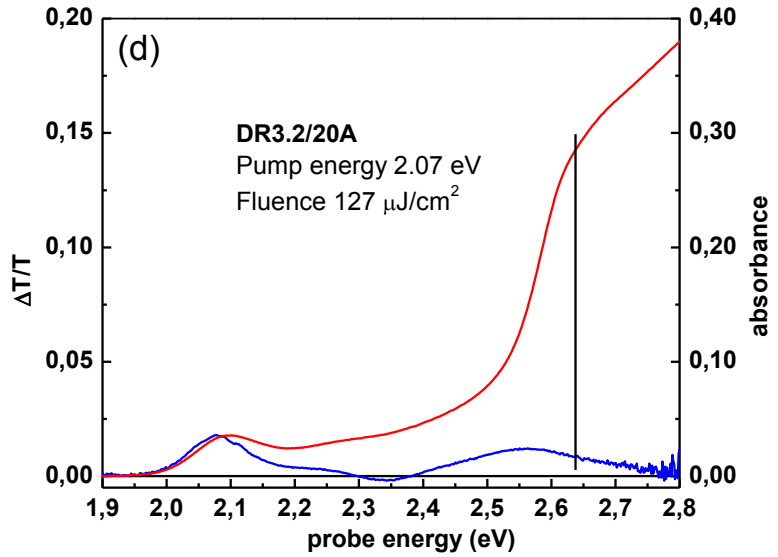
Band-edge ultrafast pump-probe spectroscopy of core/shell CdSe/CdS rods: assessing electron delocalization by effective mass calculations

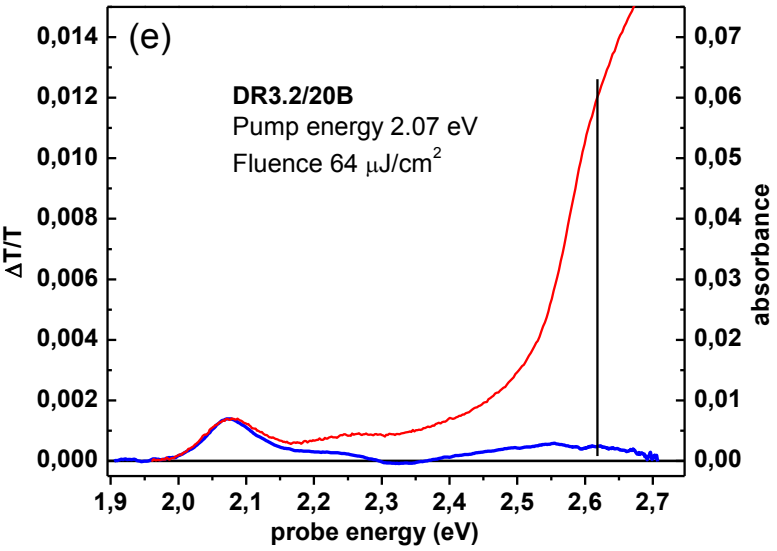
Supporting Information

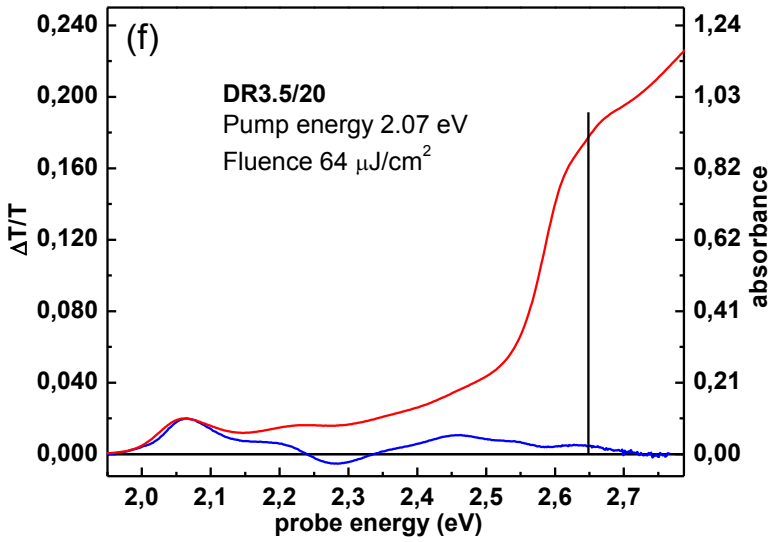












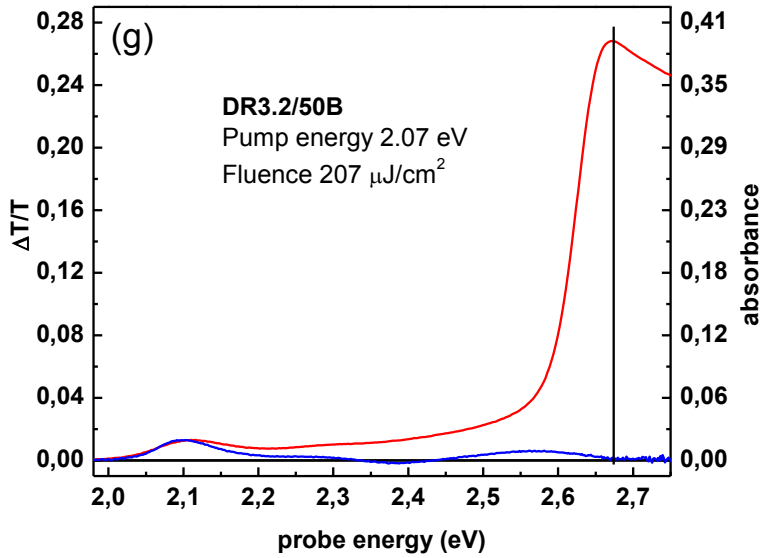


Fig. S1 Differential transmission spectra of the samples DR2.3/20 (a), DR3.2/50A (b), DR3.3/30 (c), DR3.2/20A (d), DR3.2/20B (e), DR3.5/20 (f), DR3.2/50B (g), together with the related absorption spectra. The pump energy is indicated on the figure, together with the pump fluence used in the measurement. In all cases, the average number of electron-hole pairs excited per dot/rod is well below 1.

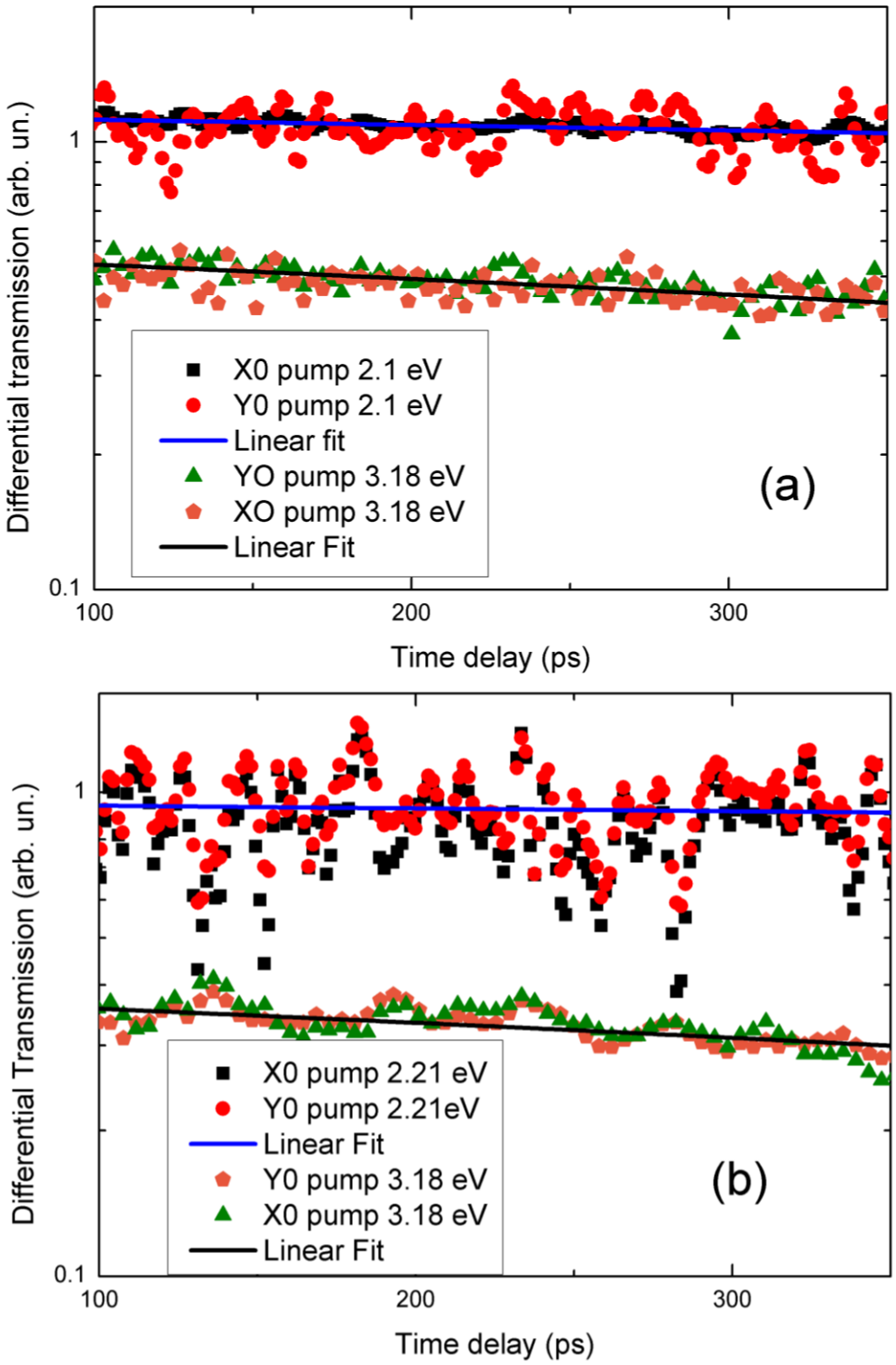


Fig. S2 Long-time dynamics of the X0 and Y0 transitions for DR2.3/20 in (a) and DR3.5/20 (b) for both resonant and non-resonant excitation. A large part of the dynamics is related to carrier recombination which dominates over other processes. However, a slightly faster decay for the non-resonant pump case is evident, which is indicative of some residual relaxation. Indeed, much additional information is obtained from the spectra at long delays reported and discussed in the main article, which indicate that a different state of filling of the dot-rod is being probed in the resonant and non-resonant excitation cases.