The effect of dielectric constant on the exciton ground state energy of CdSe Quantum Dots (QDs) are investigated in four different QDs size (2.5, 2.7, 2.8, and 3.6 nm). We studied a) the exciton energy when the dielectric constants of the quantum dot and the surrounding material are different and b) the exciton energy when the dielectric constant of the dots is size-dependent. Four different materials for surrounding the QDs were used: chloroform (dielectric constant 4.8), hexane (dielectric constant 1.91) heptane (dielectric constant 1.92) and toluene (dielectric constant 2.4). The CdSe QDs have been characterized by high resolution scanning electronic microscope (HR-TEM) with the aim to control the QDs shape and the average size. The optical absorption and photoluminescence (PL) spectra are investigated in four samples. The results have shown that the reported exciton energies are in agreement with our experimental data.

**Keywords:** CdSe, Quantum dots, Photoluminescence

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