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## Tunable Luminescent Carbon Quantum Dots Synthesized from Green Carbon Source 'Coffee'

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Carbon quantum dot (CQDs) were successfully synthesized from green Carbon source 'coffee', using hydrothermal technique. FTIR spectroscopy confirms the different vibratory bonds of CQDs. The optical absorption spectra show an absorption band located approximately at 270 nm which shift toward red for high concentration of CQDs dispersions. Photoluminescence spectra, shows a tunable emission behavior, more intense for an excitation of 310 nm, more remarkably at low concentrations of the synthesized nanoparticles (NPs), gives a rise to an emission band situated at 407 nm. The results of the multi-exponential time decay gives a lifetime of:  $\tau = 4,07 \pm 0,03$  ns. The fluorescence of our Carbon NPs shows their possible applications in the medical field.

**Keywords:** CQDs, FTIR, optical absorption, photoluminescence