

Supplementary data

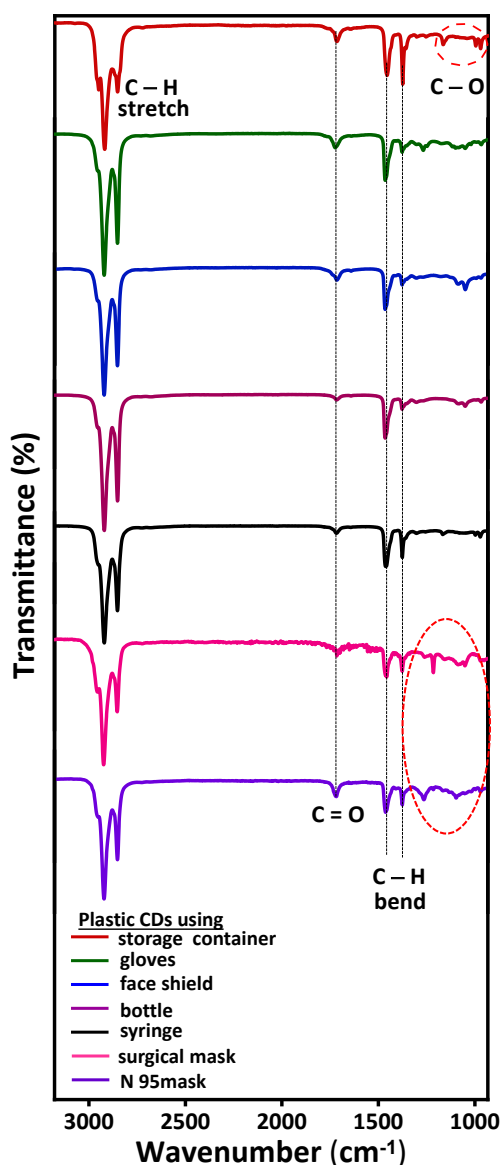
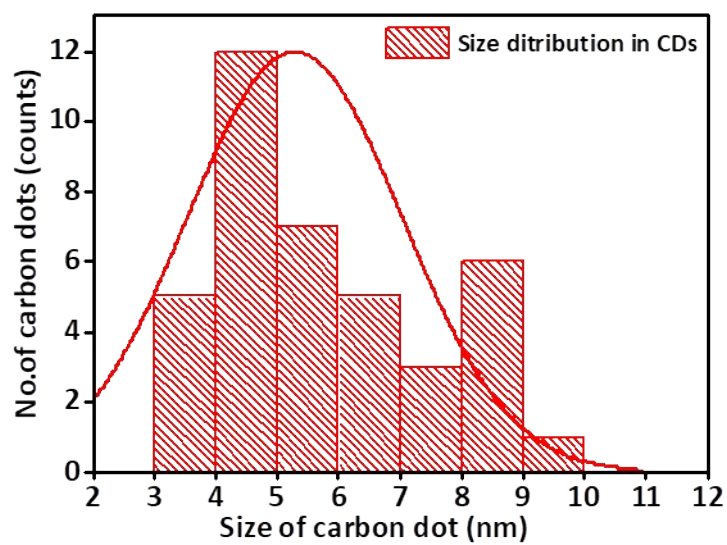
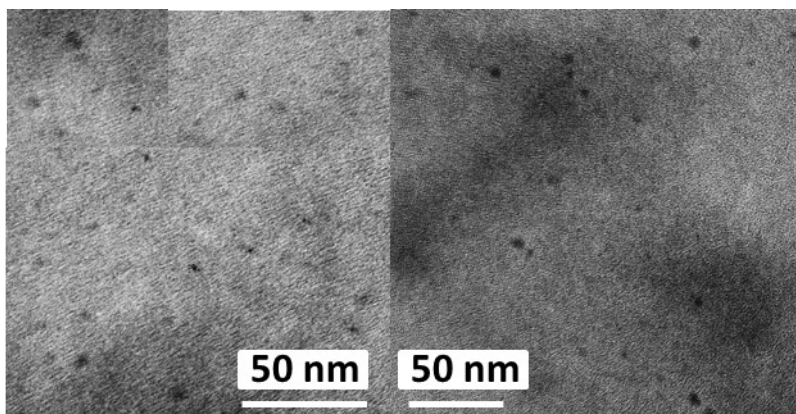


Figure S1: Showing Fourier transform infrared spectrum (FTIR) spectra of plastic CDs. Absorption peak at 1716 cm^{-1} correspond to C = O stretching vibrations. Absorption bands at 1202 cm^{-1} and 995 cm^{-1} correspond to C – O stretching vibrations. Peaks at 1454 cm^{-1} and 1376 cm^{-1} correspond to C – H bending modes and C = C stretching modes respectively. Bands at 2951 cm^{-1} , 2918 cm^{-1} and 2852 cm^{-1} correspond to C – H stretching vibrations. Increase in absorption bands between 1000 cm^{-1} to 1400 cm^{-1} observed in FTIR spectra of CDs from surgical mask and N 95 mask compared to that of CDs made of other plastic waste. These peaks could be related to surface groups on CD surface that supports presence of multiple peaks in emission spectra of CDs made from surgical mask and N95 face mask.



Supplementary figure 2: TEM image showing spherical nano particle formation in synthesized CDs with average particle size distribution of ~ 5 nm.