# Nitrogen doped blue emission carbon dots for the selective detection of hypochlorite ion

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## Abstract
In this work, we synthesize 3-Aminophenylboronic acid functionalized nitrogen doped carbon dots (GAAP-CDs) through a green and facile process. With the help of proper spectrochemical characterization the size and morphology has been explained. The quantum yield of GAAP-CDs was 58.28%. GAAP-CDs were used as probe for the detection of hypochlorite ion ($ClO^-$) in aqueous medium. The detection of $ClO^-$ was done through UV-vis absorbance as well as fluorescence spectroscopy, and the detection limit was 4.63 mM, and 2.26 mM, respectively. GAAP-CDs showed excellent selectivity in the presence of various interfering chemicals. The obtained GAAP-CDs showed significant photostability in adverse environments such as high intensity light, different pH values and high ionic strength conditions. The applicability of GAAP-CDs based sensor was successfully examined for real sample analysis using tap water and drinking water.
**Key words**: Carbon dots, fluorescence, colorimetric, hypochlorite ion, quantum yield