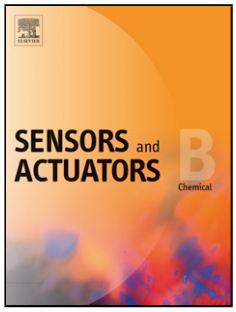

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Ionic liquid modified N-doped graphene as a potential platform for the electrochemical discrimination of DNA sequences

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Highlights of the our short communication entitled "*Ionic liquid modified N-doped graphene as an electrochemical platform for the selective discrimination of DNA sequences"*

- A label free and selective platform for the discrimination of complementary and non-complementary DNA sequences was demonstrated
- Nitrogen doped graphene (NrGO) was synthesized by a catalyst free route.
- NrGO surface was modified using an Ionic liquid and employed for the DNA mutation analysis.
- The proposed platform holds a great promise to be employed for single nucleotide polymorphism detection.

A B S T R A C T

Inventive designs for DNA-based electrochemical sensing are emerging tremendously in recent years. Herein, we report a label free ionic liquid (1-butyl-3-methylimidazolinium tetrafluoroborate) modified nitrogen doped graphene electrode as a potential platform for the electrochemical discrimination of complementary and non-complementary DNA sequences. The proposed platform holds a great promise for the rapid and selective hand-held detection of DNA sequences with a sensitivity and detection limit of 0.202 µA/nM/ mm^2 and 8.12 nM respectively, without any expensive labeling and cross-hybridization artifacts.

Keywords:
Each keyword to start on a new line