

## Author's Accepted Manuscript

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PII: S0956-5663(16)30800-4  
DOI: <http://dx.doi.org/10.1016/j.bios.2016.08.043>  
Reference: BIOS9040

To appear in: *Biosensors and Bioelectronic*

Received date: 31 May 2016  
Revised date: 2 August 2016  
Accepted date: 15 August 2016

Cite this article as: Jagriti Narang, Nitesh Malhotra, Chaitali Singhal, Ashish Mathur, Dhritiman Chakraborty, Anusree Anil, Aviraj Ingle and Chandra S. Pundir, Point of care with micro fluidic paper based device integrated with nano zeolite –graphene oxide nanoflakes for electrochemical sensing of ketamine *Biosensors and Bioelectronic*, <http://dx.doi.org/10.1016/j.bios.2016.08.043>

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Point of care with micro fluidic paper based device integrated with nano zeolite –graphene oxide nanoflakes for electrochemical sensing of ketamine

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## ABSTRACT

The present study was aimed to develop an ultrasensitive technique for electroanalysis of ketamine; adate rape drug. It involved the fabrication of nano-hybrid based electrochemical micro fluidic paper-based analytical device (E $\mu$ PADs) for electrochemical sensing of ketamine. A paper chip was developed using zeolites nanoflakes and graphene-oxide nanocrystals (Zeo-GO). E $\mu$ PAD offers many advantages such as facile approach, economical and potential for commercialization. Nanocrystal modified E $\mu$ PAD showed wide linear range 0.001 -5 nM/mL and a very low detection limit of 0.001 nM/mL. The developed sensor was tested in real time samples like alcoholic and non-alcoholic drinks and found good correlation (99%). The hyphenation of E $\mu$ PAD integrated with nanocrystalline Zeo-GO for detection of

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