

Accepted Manuscript

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PII: S1386-1425(18)30592-4
DOI: [doi:10.1016/j.saa.2018.06.052](https://doi.org/10.1016/j.saa.2018.06.052)
Reference: SAA 16211

To appear in: *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*

Received date: 10 May 2018

Revised date: 8 June 2018

Accepted date: 14 June 2018

Please cite this article as: Ashutosh Ghosh, Sourav Kanti Seth, Pradipta Purkayastha , Undulation induced tuning of electron acceptance by edge-oxidized graphene oxide. Saa (2018), doi:[10.1016/j.saa.2018.06.052](https://doi.org/10.1016/j.saa.2018.06.052)

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Undulation induced tuning of electron acceptance by edge-oxidized graphene oxideAshutosh Ghosh,^a Sourav Kanti Seth^a and Pradipta Purkayastha*^{a,b}

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ABSTRACT

Edge-oxidized graphene oxide (EOGO) nanosheets are good acceptors of electrons. We have employed a suitably designed pyrene-tailed fluorescent probe to establish that the electron acceptability of EOGO can be tuned by undulation of the GO sheet. Comparison between EOGO and single-walled carbon nanotubes (SWCNT) on electron acceptance from the probe molecule shows that the efficiency of π - π stacking between pyrene and the graphene sheet plays the key role.

Keywords: edge-oxidized graphene oxide; single-walled carbon nanotube; π - π stacking; fluorescence quenching; electron acceptability

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