

Graphene Derivatives for Bioanalytical Chemistry

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Graphene and graphene derivatives have attracted enormous attention from various research fields for applications in electronic devices, transparent electrodes, biosensors, drug delivery system and surface coatings. In the viewpoint of chemist, the chemical structure of graphene derivatives seems intriguing but detailed structures are being revealed only recently while engineering approaches for various applications are being executed very actively. Recently, several reports are available on interactions of graphene with biomolecules including proteins and nucleic acids.

In this talk, I'll introduce recent studies which harness graphene derivatives for developing bio-analytical platforms to quantitatively analyze various enzyme activities. The systems rely on attractive interaction between graphene oxide and nucleic acids or phospholipids.

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