

## Basic study on surface interactions of amorphous carbon on nanoscale biosensor FET platform

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The nanomaterials-based biomimetic enzyme, nanozymes, have been emerging to imitate protein enzymes due to their intrinsic instability and high production cost in biosensor applications. Despite these nanozyme advantages, an effective surface modification platform is required at the nanoscale level for the practical non-enzymatic biosensor application. Herein, we report the detailed studies on surface interactions of amorphous carbon thin film layer used for the nanozyme functionalized biosensor FET platform. The detailed surface phenomena are monitored by the electrolyte gated FET structures with the variation of PH conditions. The importance of this work will be discussed in terms of artificial nanozymes biosensor applications.