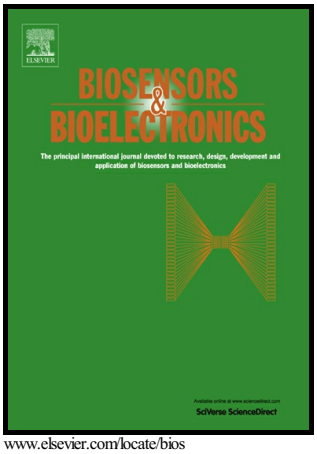

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CeO_2 nanocrystallines ensemble-on-nitrogen-doped graphene nanocomposites: one-pot, rapid synthesis and excellent electrocatalytic activity for enzymatic biosensing

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Abstract:

Ceria nanomaterials for heterogeneous catalysis have attracted much attention due to their excellent properties and have been extensively applied in recent years. But the poor electron conductivity and the aggregation behavior severely affect their electrocatalytic performances. In this paper, we prepared a novel catalyst based on CeO_2 nanocrystallines (CeO_2 NCs) ensemble-on-nitrogen-doped graphene (CeO_2-NG) nanocomposites through a one-step heat-treatment without the need of the precursor. The results confirmed that the high dispersion of CeO_2 NCs with the uniform size distribution of about 5 nm on the surface of nitrogen-doped graphene (NG) sheets could be easily obtained via the one-step procedure and the resultant CeO_2-NG

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