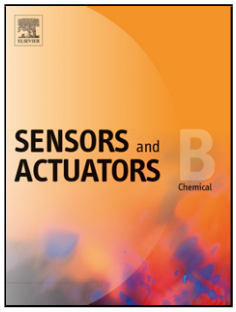

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NiFe layered double hydroxide nanosheets as an efficiently mimic enzyme for colorimetric determination of glucose and H_2O_2

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Highlights:

- The ultrathin NiFe-LDHNS were prepared by exfoliating bulk LDH in L-asparagine aqueous medium.
- The NiFe-LDHNS display ca. 200~300 nm lateral size and less than 2 nm thickness with broken edges.
- The NiFe-LDHNS exhibited the superior peroxidase-like activity to the bulk NiFe-LDH.
- The NiFe-LDHNS were employed to fabricate a non-enzyme H_2O_2 and glucose biosensor.

Abstract:

The ultrathin NiFe-layered double hydroxide nanosheets (NiFe-LDHNS) were prepared by exfoliating bulk LDH in L-asparagine aqueous medium. The transmission electron microscopy and atomic force microscopy results reveal that NiFe-LDHNS have about 200~300 nm lateral size and less than 2 nm thickness with the broken edges rather than the original hexagon of hydrotalcite. The peroxidase-like activity of the 2D NiFe-LDHNS was investigated by using oxidation of the

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