Nitrogen-doped Graphene Modified Glassy Carbon Electrode for Anodic Stripping Voltammetric Detection of Lead Ion

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Nitrogen-doped (NG) graphene modified glassy carbon electrode was prepared for sensitive electrochemical investigation on lead ion (Pb^{2+}) with differential pulse anodic stripping voltammetry. Due to the large surface area, excellent conductivity and good adsorption ability of NG nanosheet, Pb^{2+} can be accumulated and detected with enhanced voltammetric response in the concentration range from 9.0×10^{-9} mol/L to 9.0×10^{-5} mol/L. The detection limit was calculated as 1.91×10^{-9} mol/L and the proposed method was applied to fish powder sample determination.

Keywords: Nitrogen-doped graphene; Glassy carbon electrode; Differential pulse anodic stripping voltammetry; Lead ion

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