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Metalloid tellurium-doped graphene nanoplatelets as ultimately stable electrocatalysts for cobalt reduction reaction in dye-sensitized solar cells

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Abstract

One feasible alternative to Pt catalyst in dye-sensitized solar cells (DSSCs) is metalloid tellurium (Te)-doped graphene nanoplatelets (TeGnPs). These were prepared by ball-milling graphite in the presence of Te crystals. Introduction of Te at the edges of TeGnPs was confirmed with various analytical techniques including time of flight secondary ion mass spectrometry (TOF-SIMS). The resultant TeGnPs are herein evaluated as counter electrode

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