

Photocatalytic Glucose Electrooxidation Applications of Titanium Dioxide Supported CD and CdTe Catalysts

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Abstract : At present, Cd/TiO₂ and CdTe/TiO₂ catalysts are prepared via sodium borohydride (NaBH₄) reduction method. These catalysts are characterized by fourier transform infrared spectroscopy (FTIR) and scanning electron microscopy (SEM). These Cd/TiO₂ and CdTe/TiO₂ are employed as catalysts for the photocatalytic oxidation of glucose. Cyclic voltammetry (CV), chronoamperometry (CA), and electrochemical impedance spectroscopy (EIS) measurements are used to investigate their glucose electrooxidation activities of catalysts at long and under UV illumination ($\lambda=354$ nm). CdTe/TiO₂ catalyst is showed the best photocatalytic glucose electrooxidation activity compared to Cd/TiO₂ catalyst.

Keywords : cadmium, NaBH₄ reduction method, photocatalytic glucose electrooxidation, Tellerium, TiO₂

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