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Authors: Susmita Pradhan, Rashmita Das, Sudip Biswas, Dipak K. Das, Radhaballabh Bhar, Rajib Bandyopadhyay, Panchanan Pramanik

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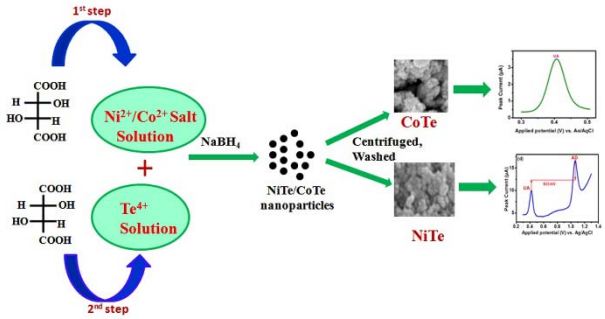
Chemical synthesis of nanoparticles of nickel telluride and cobalt telluride and its electrochemical applications for determination of uric acid and adenine

Susmita Pradhan[1], Rashmita Das[2], Sudip Biswas[2], Dipak K Das[3], Radhaballabh Bhar[1], Rajib Bandyopadhyay[2], Panchanan Pramanik[3*]

[1]Department of Instrumentation Science, Jadavpur University, Kolkata-700032, India
[2]Department of Instrumentation and Electronics Engineering, Jadavpur University, Salt Lake Campus, Sector-III, Kolkata-700098, India
[3]Department of Chemistry and Nanoscience, GLA University, Mathura-281406, India
[*]Email: pramanik1946@gmail.com

Graphical abstract



Highlights

- NiTe and CoTe nanoparticles are synthesized by chemical method at room temperature
- Linear response ranges for UA and AD are 3-200µM and 3-50µM for NiTe/GP
- At NiTe/GP the detection limits of UA and AD are 95 nM and 206 nM respectively
- Limit of detection (LOD) for UA is 0.875 µM at CoTe/GP
- Both the electrodes show satisfactory results in clinical samples

Abstract

Nickel telluride (NiTe) and cobalt telluride (CoTe) nanocrystallites were synthesized from homogeneous reaction mixtures of tartrate complex of Ni^{2+}/Co^{2+} and Te^{4+} at room temperature