

Accepted Manuscript

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

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

PII: S0013-4686(17)30766-1
DOI: <http://dx.doi.org/doi:10.1016/j.electacta.2017.04.023>
Reference: EA 29278

To appear in: *Electrochimica Acta*

Received date: 10-3-2017
Accepted date: 4-4-2017

Please cite this article as: Susmita Pradhan, Rashmita Das, Sudip Biswas, Dipak K. Das, Radhaballabh Bhar, Rajib Bandyopadhyay, Panchanan Pramanik, Chemical synthesis of nanoparticles of nickel telluride and cobalt telluride and its electrochemical applications for determination of uric acid and adenine, *Electrochimica Acta* <http://dx.doi.org/10.1016/j.electacta.2017.04.023>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

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

Susmita Pradhan¹, Rashmita Das², Sudip Biswas², Dipak K Das³, Radhaballabh Bhar¹, Rajib Bandyopadhyay², Panchanan Pramanik^{3*}

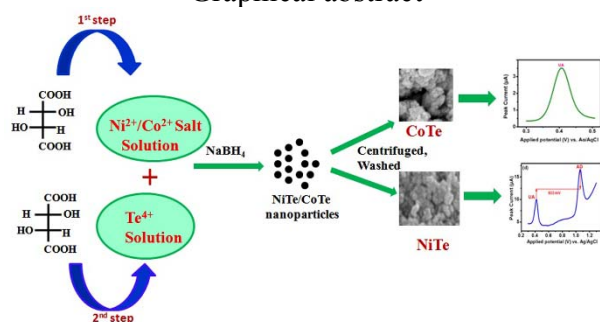
¹Department of Instrumentation Science, Jadavpur University, Kolkata-700032, India

²Department of Instrumentation and Electronics Engineering, Jadavpur University, Salt Lake Campus, Sector-III, Kolkata-700098, India

³Department 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 3-200 μ M and 3-50 μ M 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 μ M 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 Ni²⁺/Co²⁺ and Te⁴⁺ at room temperature

Download English Version:

<https://daneshyari.com/en/article/4767179>

Download Persian Version:

<https://daneshyari.com/article/4767179>

[Daneshyari.com](https://daneshyari.com)