Supporting informations

Bimetallic Cobalt-Iron Diselenide Nanorods Modified Glassy Carbon Electrode: An Electrochemical Sensing Platform for the Selective Detection of Isoniazid

Sundas Sultan [a], Muhammad Zulqarnain[a], Afzal Shah [a,b,*], Naveeda Firdous[a], Jan Nisar[c], Muhammad Naeem Ashiq[d], Esraa M. Bakhsh[e] and Sher Bahadar Khan[e]

[a]Department of Chemistry, Quaid-i-Azam University, Islamabad, 45320, Pakistan

[b]Department of Chemistry, College of Science, University of Bahrain, Sakhir 32038, The Kingdom of Bahrain

[c]National Centre of Excellence in Physical Chemistry, University of Peshawar, Peshawar, Pakistan

[d]Institute of Chemical Sciences, Bahauddin Zakaryia University, Multan 6100, Pakistan

[e]Department of Chemistry, King Abdulaziz University, P.O. Box 80203, Jeddah 21589, Saudi Arabia

*To whom correspondence should be addressed

E-mail: Dr. Afzal Shah (afzals_qau@yahoo.com)

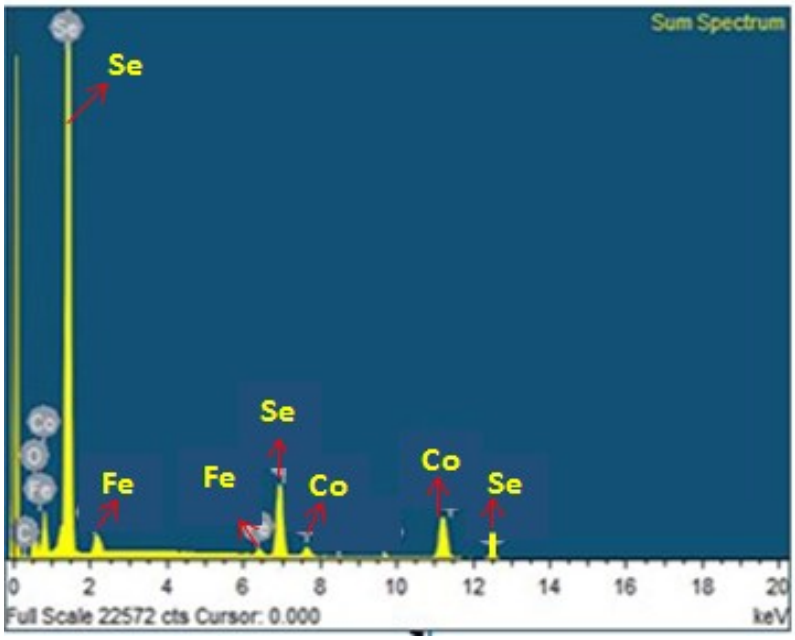

Figure S1. EDX profile of $CoFeSe_2$ nanocomposite.

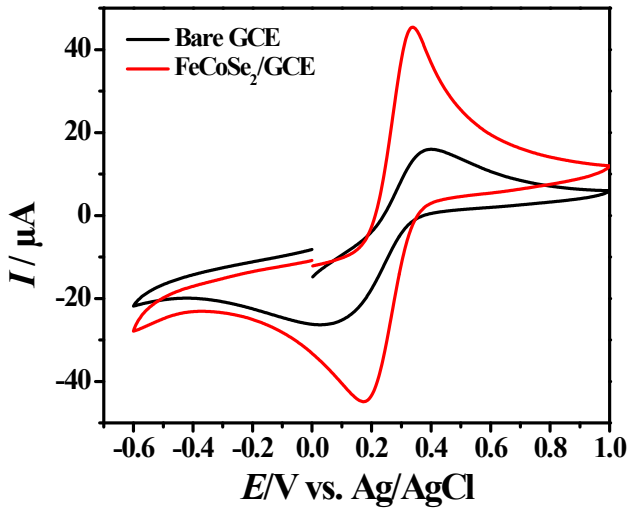

Fig. S2. Cyclic voltammograms for bare and $FeCoSe_2$/GCE in 5 mM solution of $K_3[Fe(CN)_6]$ at the scan rate of 50 mV/s.

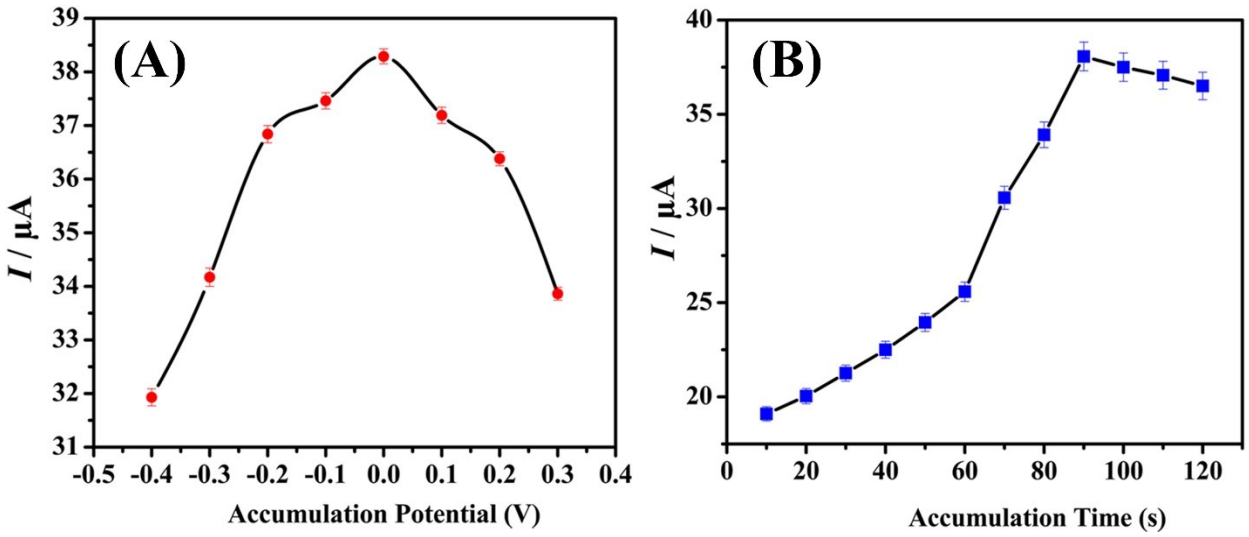

Fig. S3. (A) The effect of accumulation potential on oxidation peak current of INZ keeping accumulation time constant (90 s) and (B) the effect of accumulation time on oxidation peak current keeping accumulation potential constant (0.0 V) for $FeCoSe_2$/GCE in 18µM solution of INZ by applying SWASV technique.

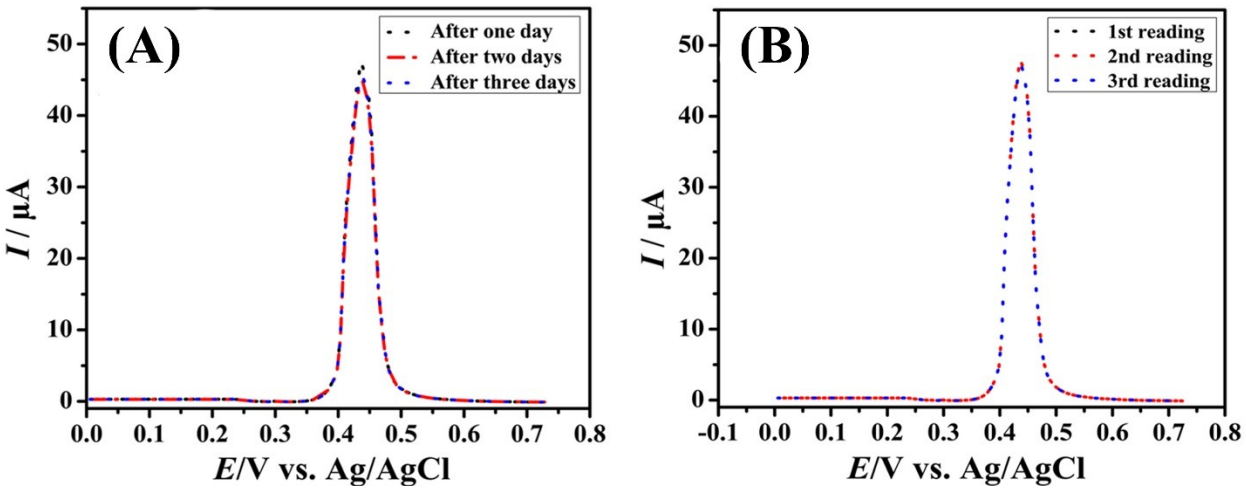

Fig. S4. Study of reproducibility and stability of designed sensor (A) Intra-day precision with RSD of 2.22%. (B) Inter-day precision with RSD of 0.56%.

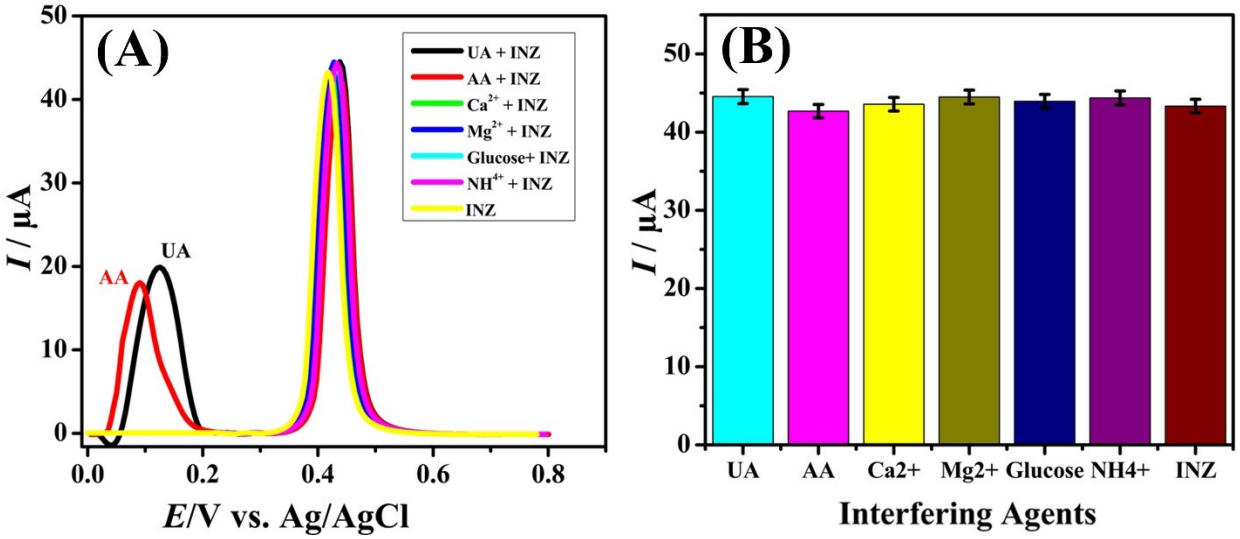

Fig. S5. (A) SWAS voltammograms of 25 µM solution of INZ for $FeCoSe_2$/GCE in the presence of various co-existing interfering species using BRB (pH 7) as a supporting electrolyte and (B) Bar graph showing the effect of uric acid, ascorbic acid, Ca^{2+}, Mg^{2+}, glucose, NH^{4+}, and pure INZ solution.

Table S1. The regression Data and Various Parameters Obtained from Calibration Curves.

Parameters	Measured Values
Measured potential (mV)	433
Linearity range (μM)	0.03-1
Correlation coefficient (R^2)	0.998
LOD (M)	1.24×10^{-10}
LOQ (M)	4.14×10^{-10}