

Supporting Information

Ultrafine Bi-Sn nanoparticles decorated on carbon aerogels for electrochemical simultaneous determination of dopamine (neurotransmitter) and clozapine (antipsychotic drug)†

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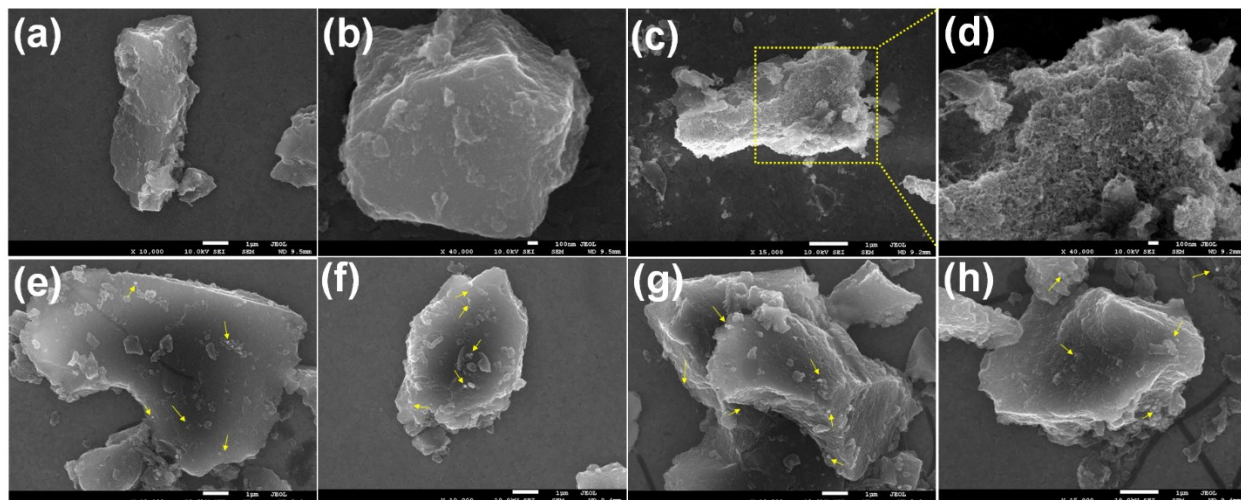


Figure S1. FE-SEM images of (a-d) CAG, (e-h) Bi-Sn NP/CAG with different micrographs. The arrow indicates Bi-Sn NP.

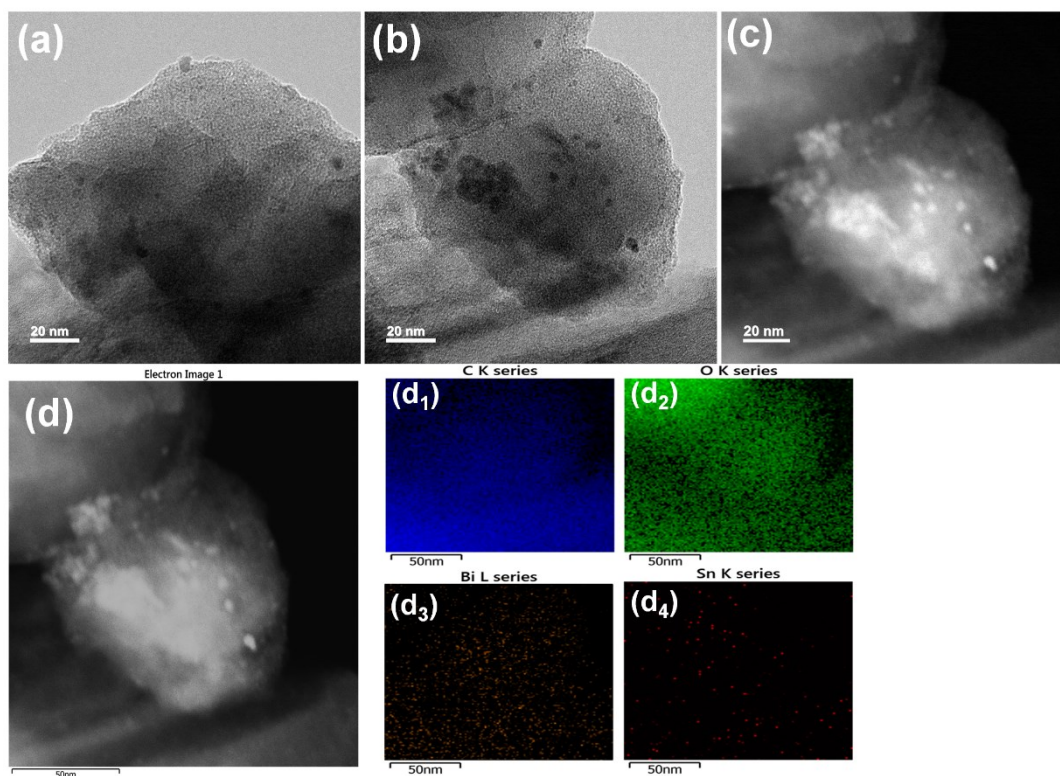


Figure S2. (a,b) High-magnification FE-TEM images of the Bi-Sn NP/CAG nanocomposite, (c,d) HAADF-STEM image of Bi-Sn NP/CAG nanocomposite, and HAADF-STEM image and elemental mapping image of (d₁) C, (d₂) O, (d₃) Bi, and (d₄) Sn.

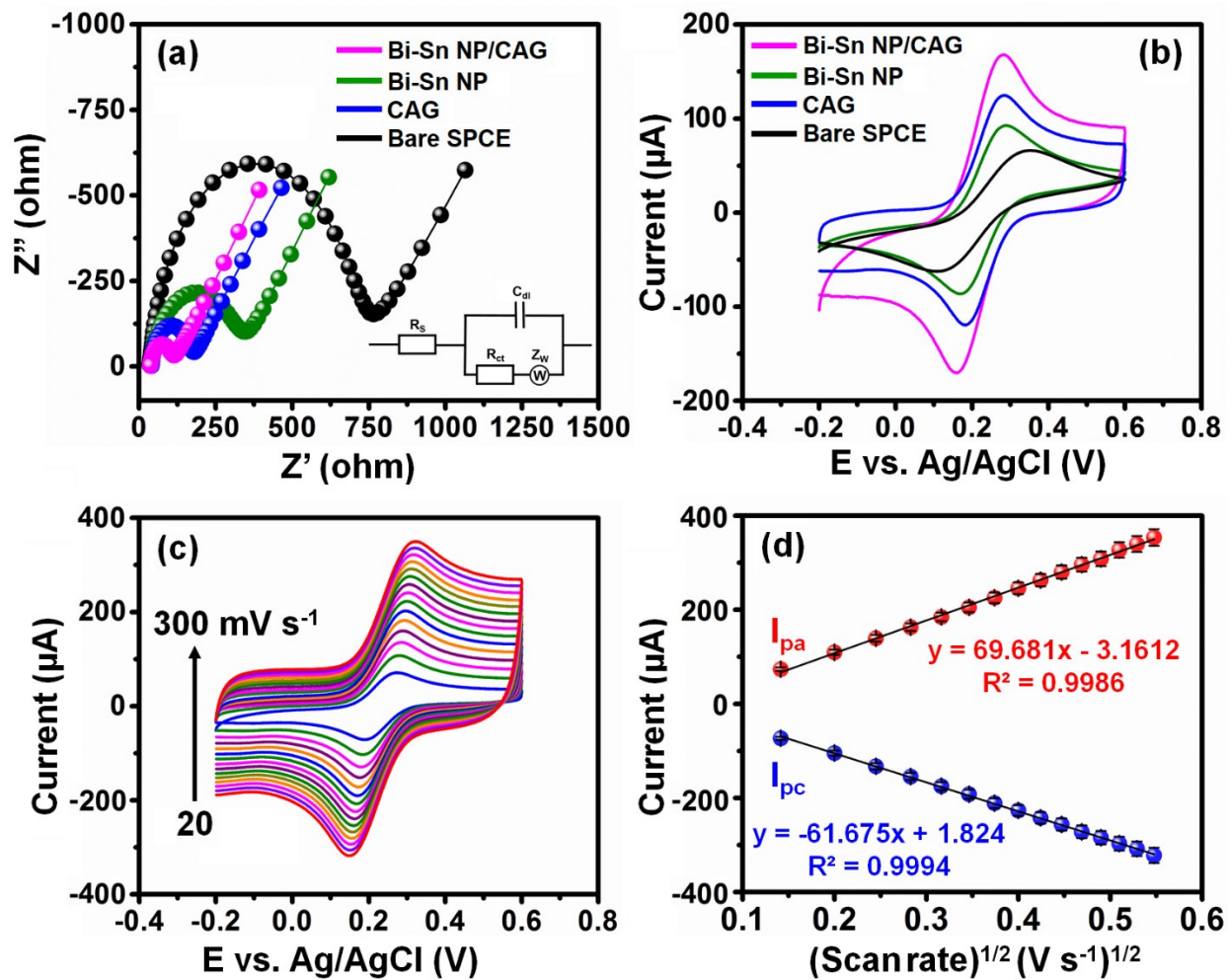


Figure S3. The results obtained in 5.0 mM $[\text{Fe}(\text{CN})_6]^{3-/4-}$ containing 0.1 M KCl solution; (a) Nyquist plot, (b) CV's of bare SPCE, CAG, Bi-Sn NP, and Bi-Sn NP/CAG/SPCEs, (c) Different scan rate applied for Bi-Sn NP/CAG/SPCE, and (d) Corresponding calibration plot between current value obtained vs square root of scan rate.

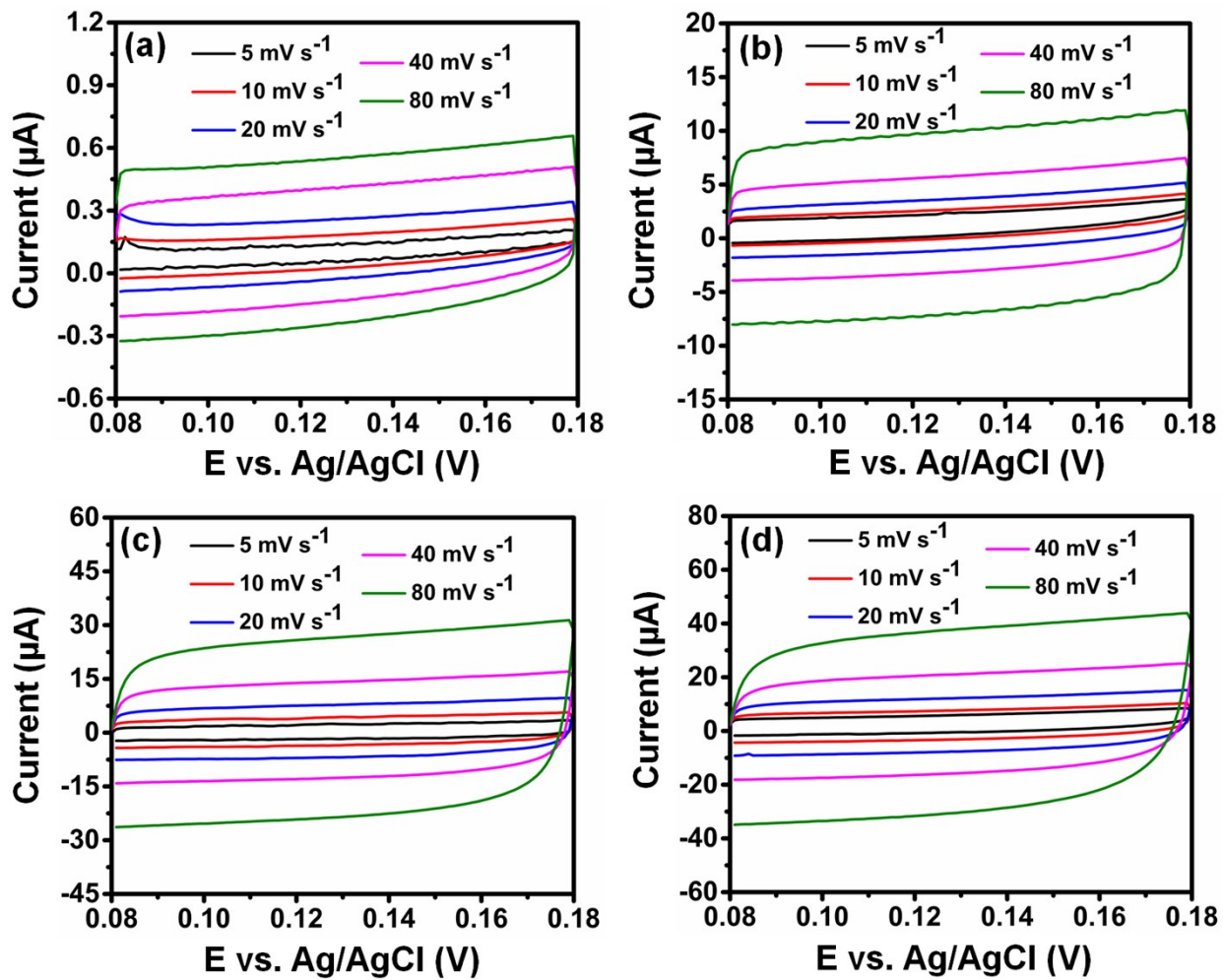


Figure S4. (a-d) CV curves of bare SPCE, CAG, Bi-Sn NP, and Bi-Sn NP/CAG modified SPCEs at scan rate of 5, 10, 20, 40 and 80 mV s^{-1} in 1.0 M of KOH solution.

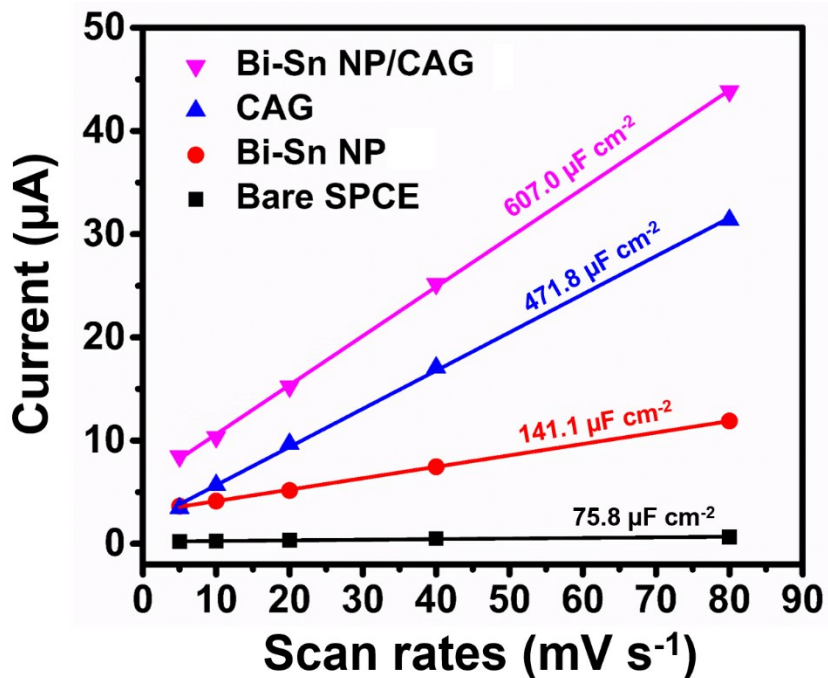


Figure S5. ECSA of bare SPCE, CAG, Bi-Sn NP, and Bi-Sn NP/CAG modified SPCEs.

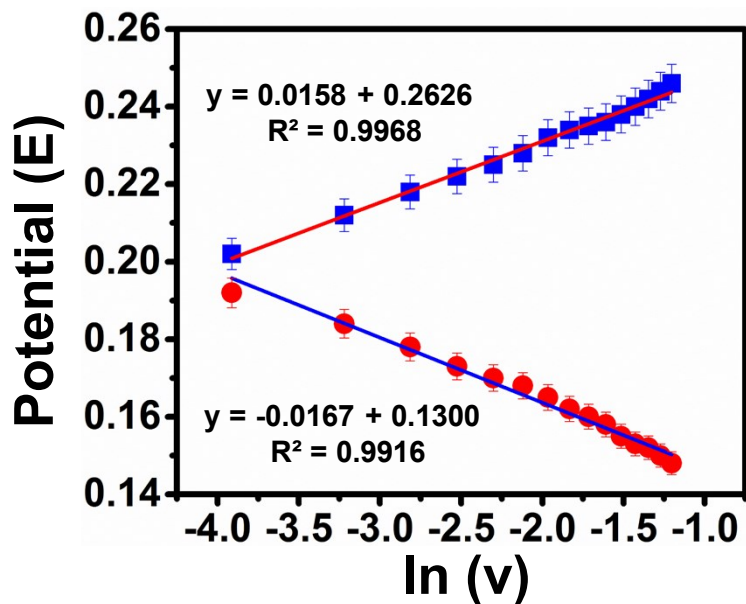


Figure S6. The plot for the dependence of the oxidation and reduction peak potential of DA on natural logarithm of scan rate.

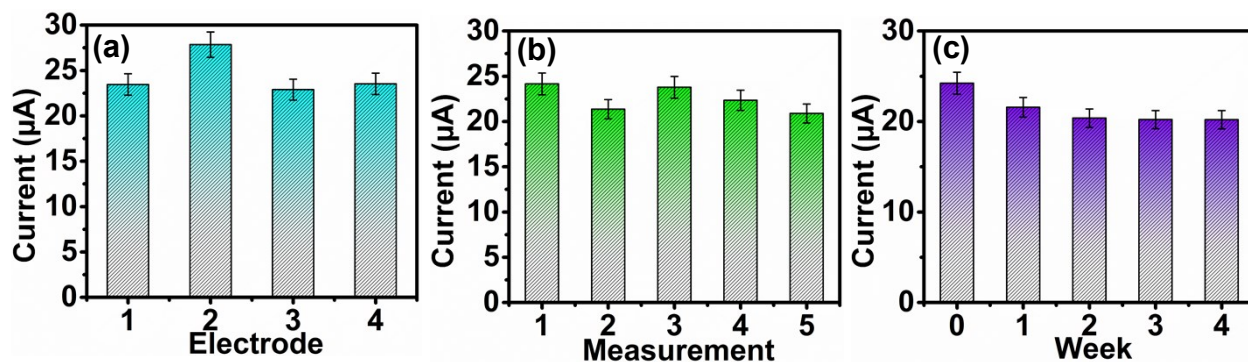


Figure S7. (a) Reproducibility, (b) Repeatability, and (c) Stability study of Bi-Sn NP/CAG/SPCE in N_2 -saturated 0.1 M PB (pH 7.0) containing 50 μ M DA at scan rate of 50 $mV s^{-1}$.

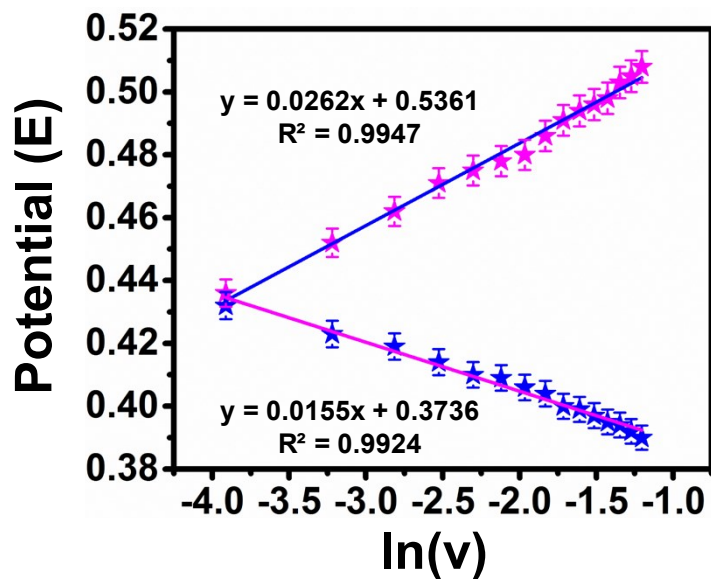


Figure S8. The plot for the dependence of the oxidation and reduction peak potential of CLZ on natural logarithm of scan rate.

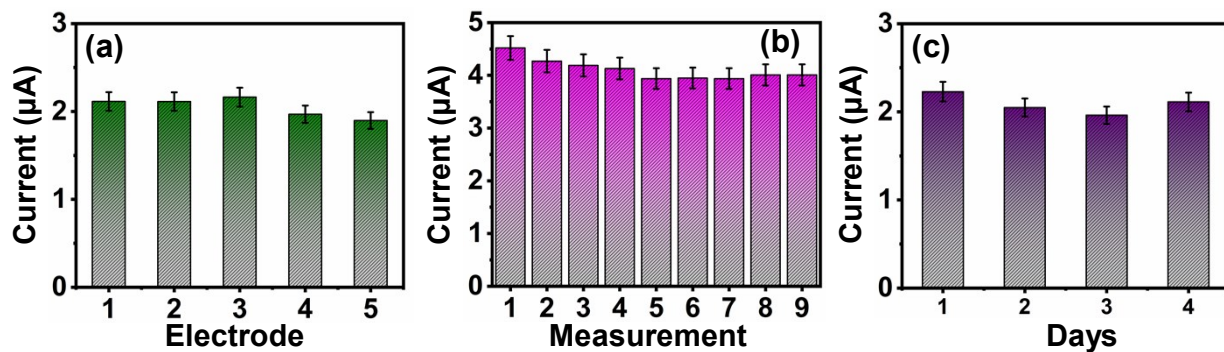


Figure S9. (a) Reproducibility, (b) Repeatability, and (c) Stability study of Bi-Sn NP/CAG/SPCE in N_2 -saturated 0.1 M PB (pH 7.0) containing 50 μM CLZ at scan rate of 50 mV s^{-1} .

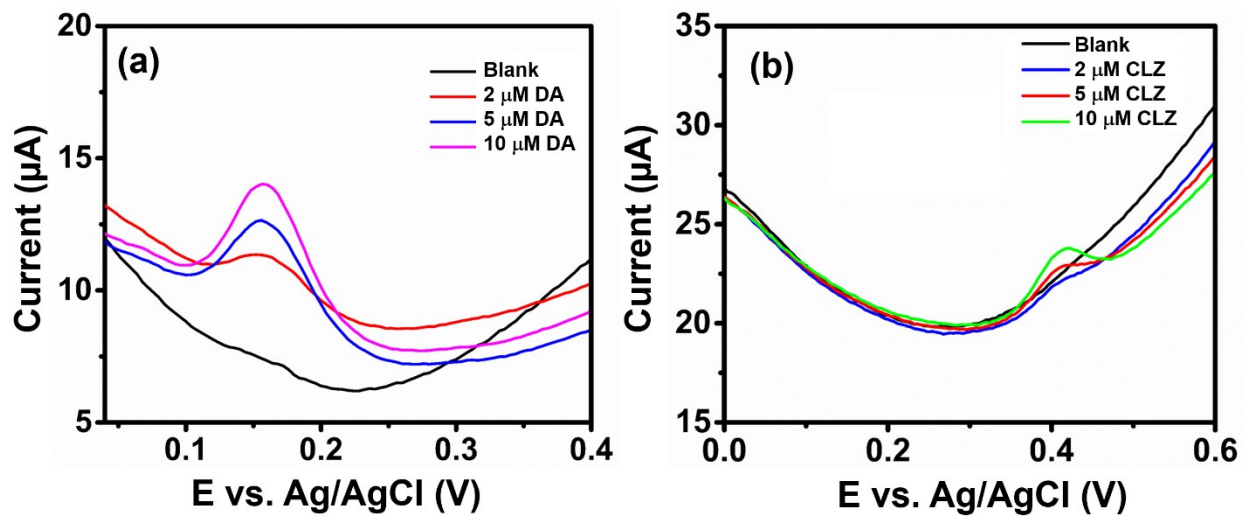


Figure S10. Real samples of (a) DA, and (b) CLZ study in rat brain region sample at Bi-Sn NP/CAG/SPCE.