

SUPPLEMENTARY INFORMATION

Carbon Quantum Dots Modified Carbon Paste Electrode Based Sensor for Selective and Sensitive Determination of Adrenaline

S. Sharath Shankar^{ab*}, Rayamarakkar M. Shereema^a, Vishnu Ramachandran^b, Sruthi T.V^b, V.B. Sameer Kumar^b, and R.B.Rakhi^{a*}.

^aChemical Sciences & Technology Division (CSTD), CSIR-National Institute for Interdisciplinary Science & Technology (CSIR-NIIST), Trivandrum 695019, INDIA.

^bDepartment of Biochemistry & Molecular Biology, Central University of Kerala, Periyar 671316, INDIA.

**e-mail: sharathshankar82@gmail.com, rakhiraghavanbaby@niist.res.in*

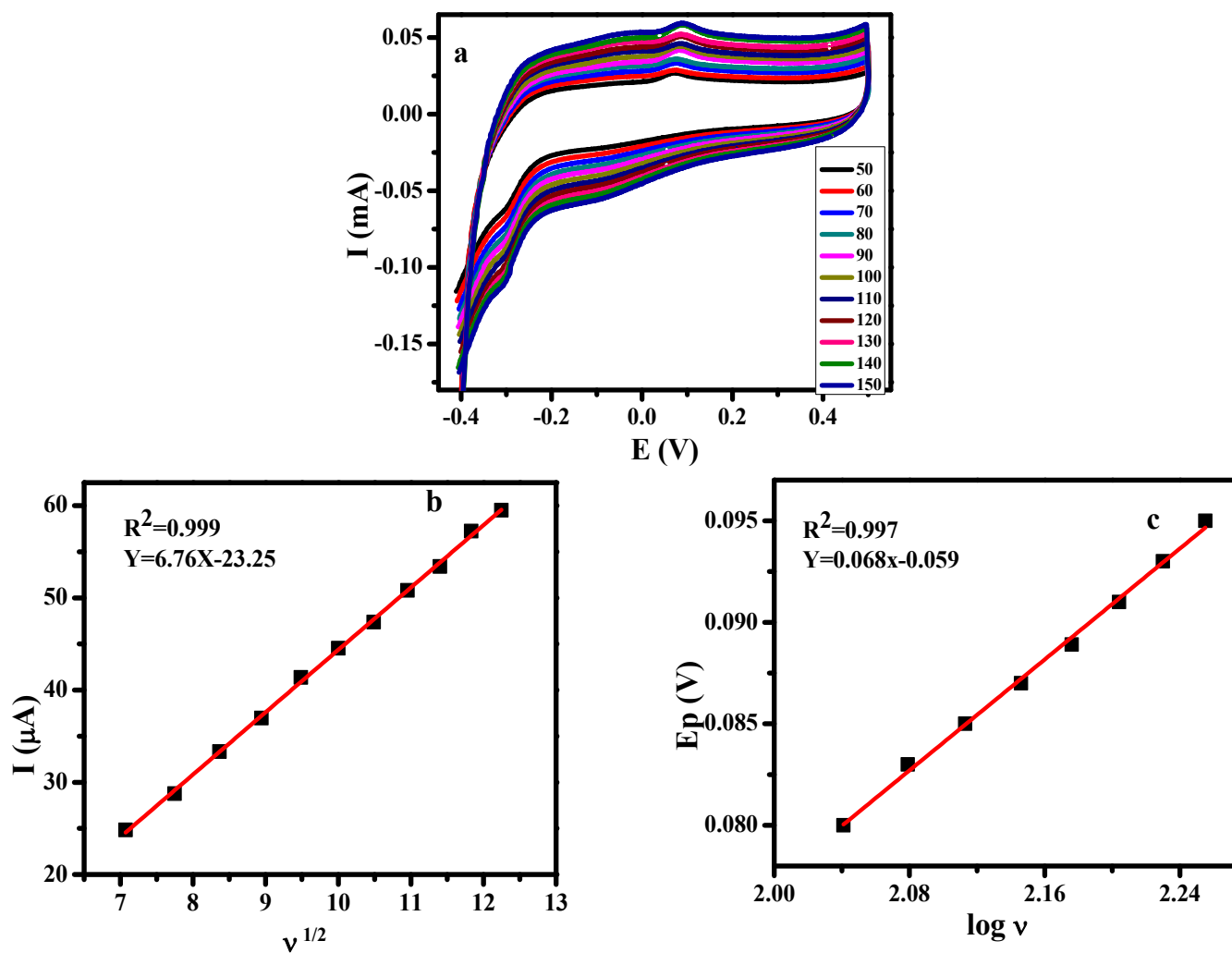


Figure S1(a): Cyclic voltammograms of oxidation of 1 μM adrenaline in PBS of pH 7.4 at various scan rates (50 to 150 mV/s) on CQDs/CPE **(b)** Plot of I_p vs $v^{1/2}$ **(c)** Plot of E_p vs $\log v$.

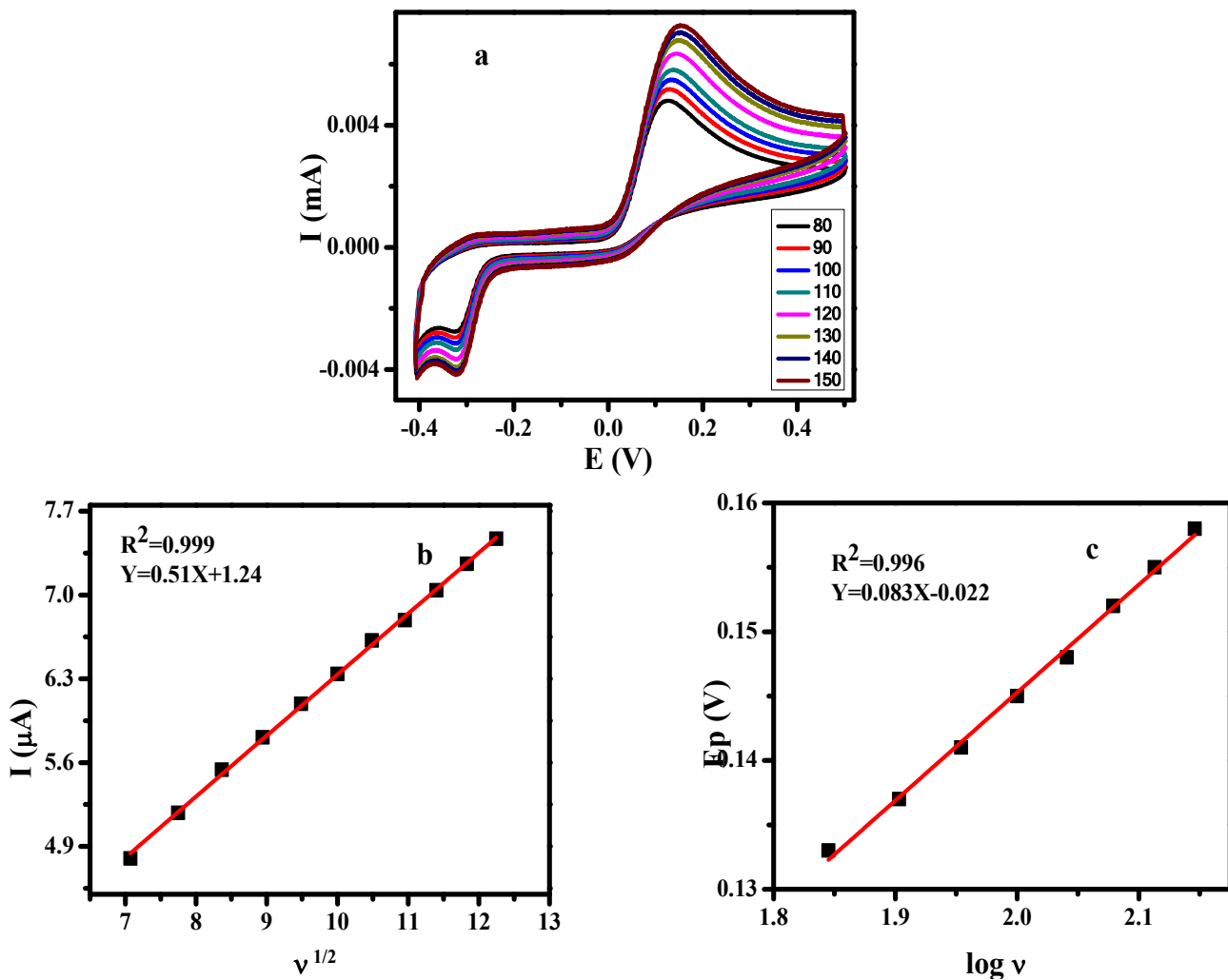


Figure S2 (a): Cyclic voltammograms of oxidation of 1 μM adrenaline in PBS of pH 7.4 at various scan rates (80 to 150 mV/s) at BCPE **(b)** Plot of I_p vs $v^{1/2}$ **(c)** Plot of E_p vs $\log v$.

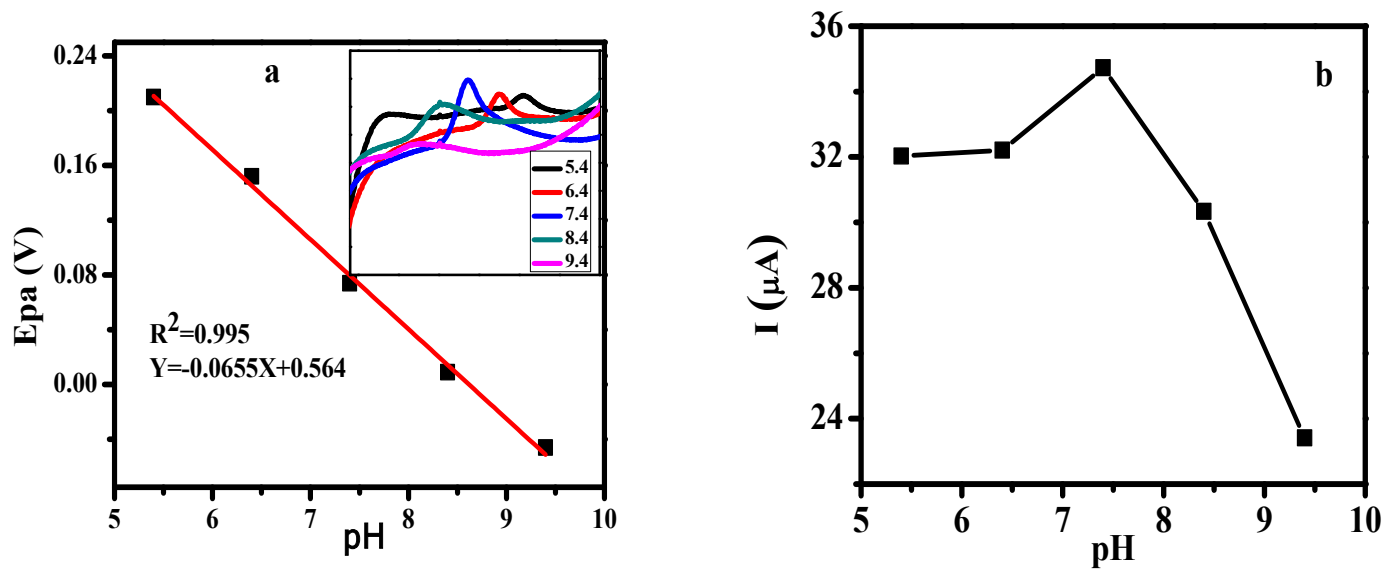


Figure S3 (a): Plot of E_{pa} vs pH (**inset**) Oxidation peak of 1 μ M AD in PBS of different pH with scan rate of 50 mV/s (**b**) Plot of I_{pa} vs pH.

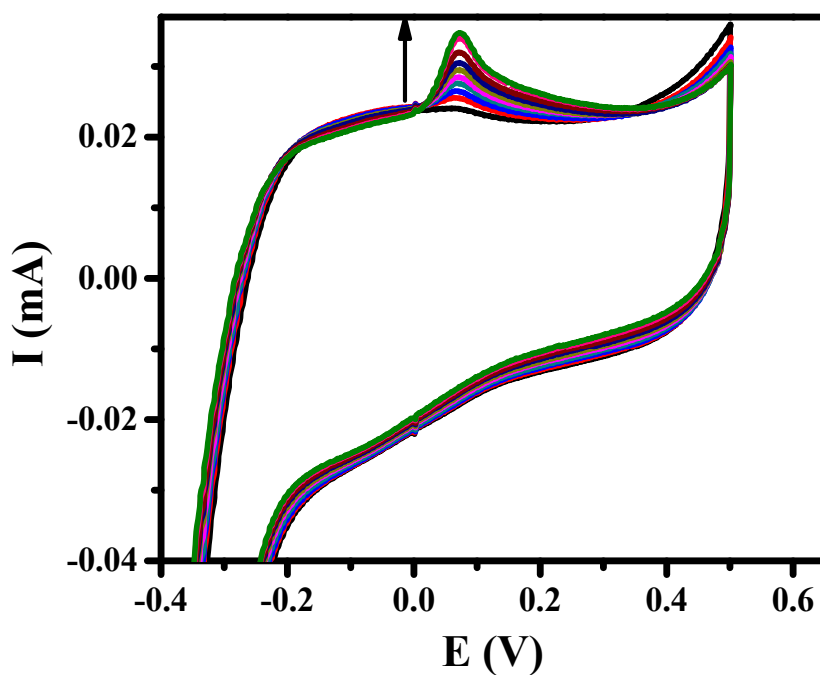


Figure S4: Cyclic voltammograms of AD with different concentrations (0.1 to 8 μ M) on CQDs/CPE in pH 7.4 PBS.

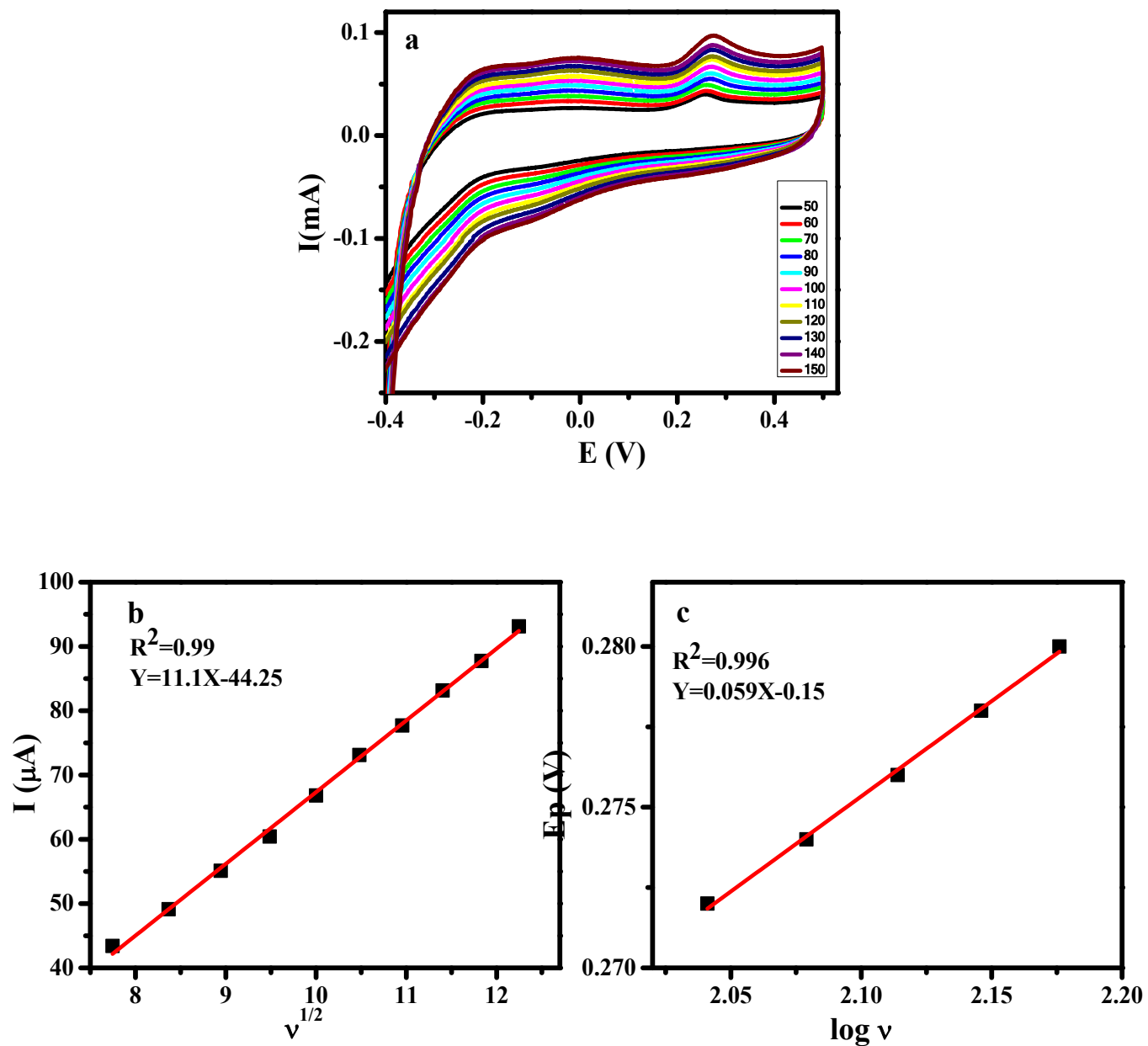


Figure S5 (a): Cyclic voltammograms of oxidation of 1 μM serotonin in PBS of pH 7.4 with various scan rates (50 to 150 mV/s) on CQDs/CPE (b) Plot of I_p vs $v^{1/2}$ (c) Plot of E_p vs $\log v$.

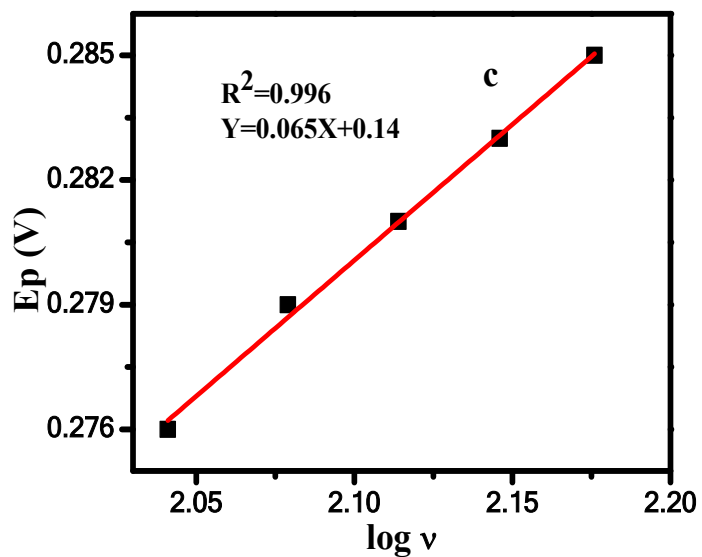
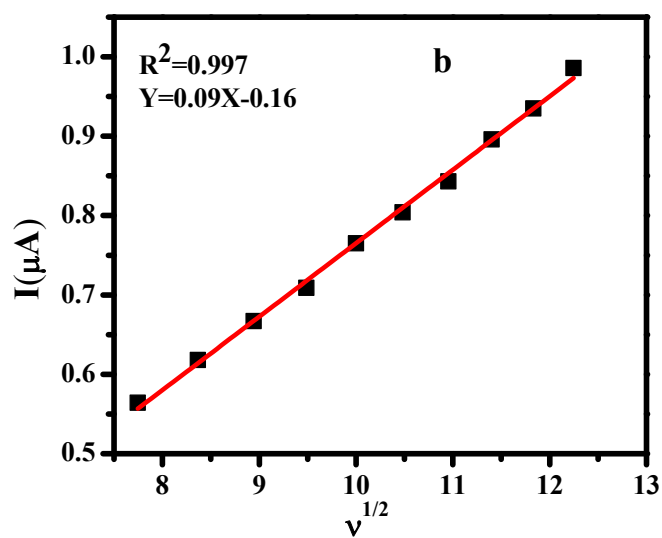
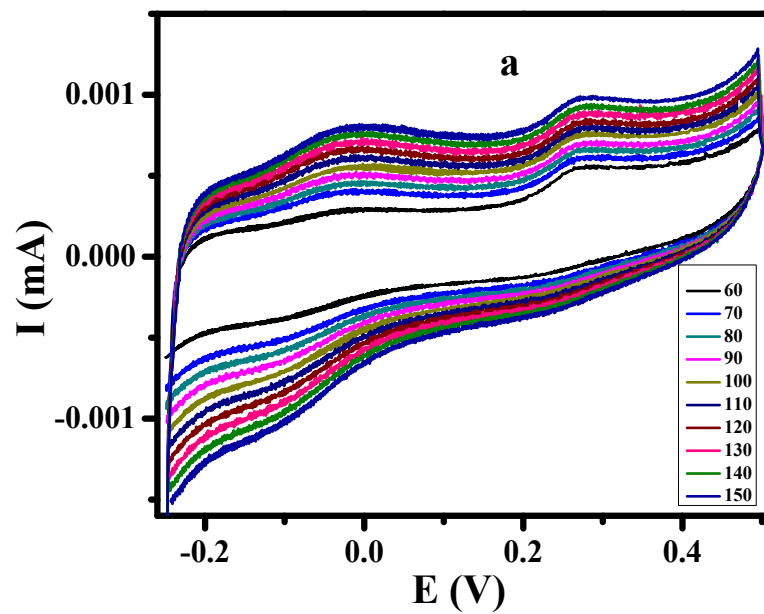


Figure S6 (a): Cyclic voltammograms of oxidation of adrenaline (10^{-6} M) at various scan rates (60 to 150 mV/s) at CPE **(b)** Plot of I_p vs $v^{1/2}$ **(c)** Plot of E_p vs $\log v$.

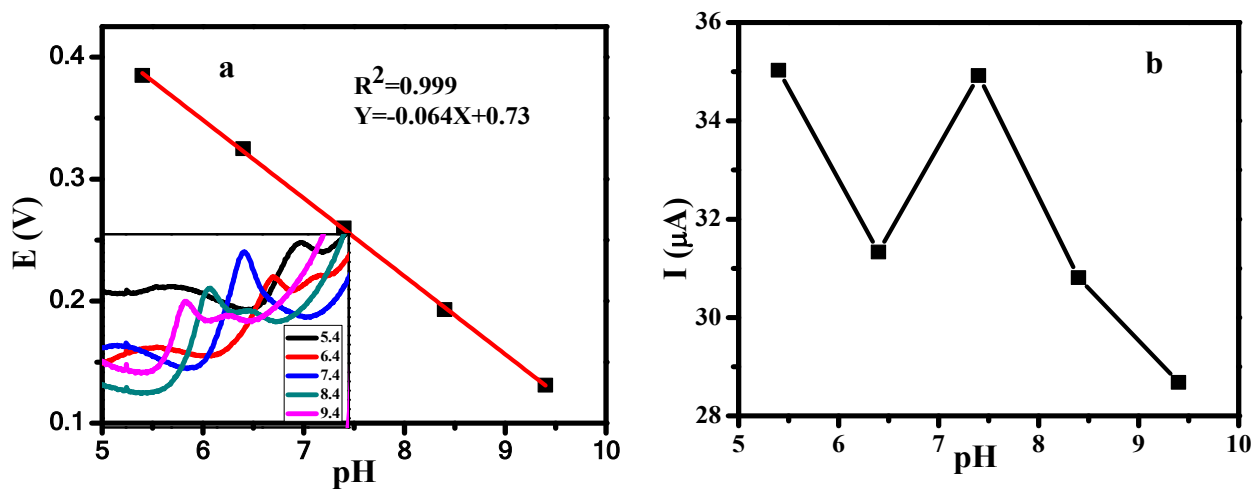


Figure S7 (a): Plot of E_p vs pH (inset) Electrochemical oxidation peaks of 10 μM 5-HT in PBS of pH varies from 5.4-9.4 (b) Plot of I_{pa} vs pH.

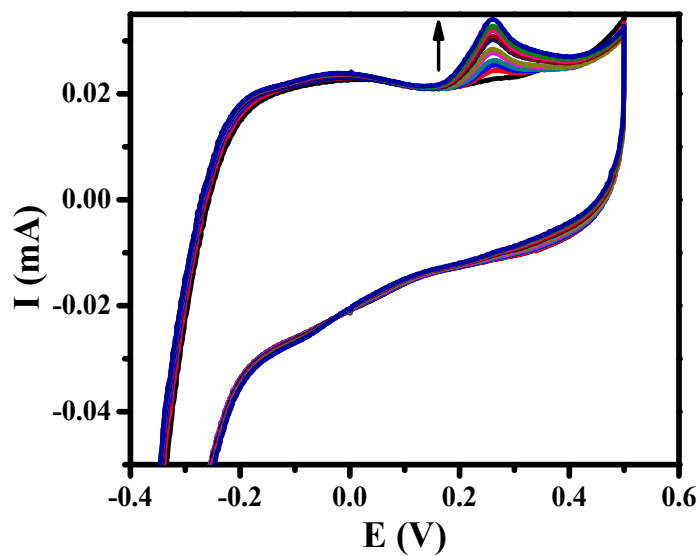


Figure S8: Cyclic voltammograms of 5-HT of different concentrations (1 to 100 μM) in pH 7.4 PBS on CQDs/CPE with a scan rate of 50 mV/s.

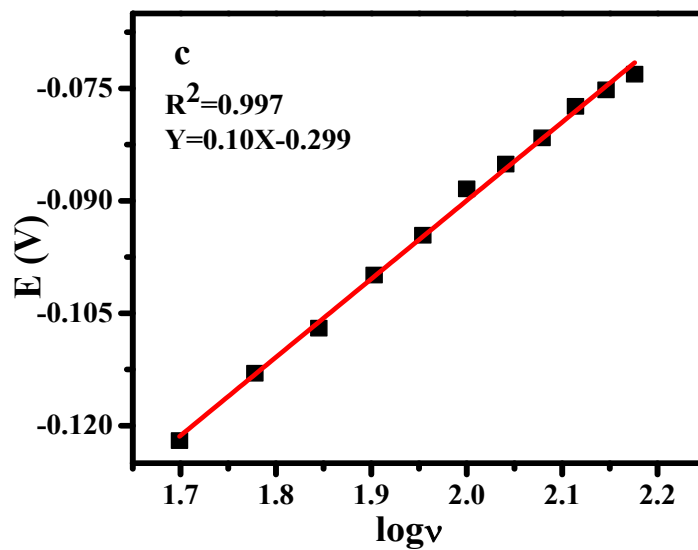
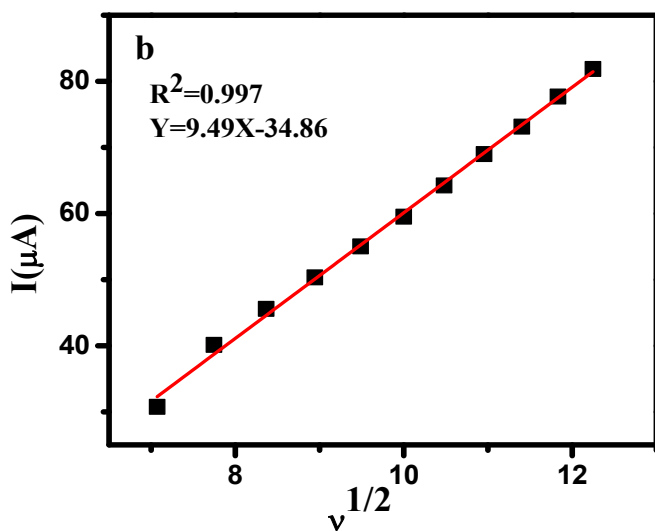
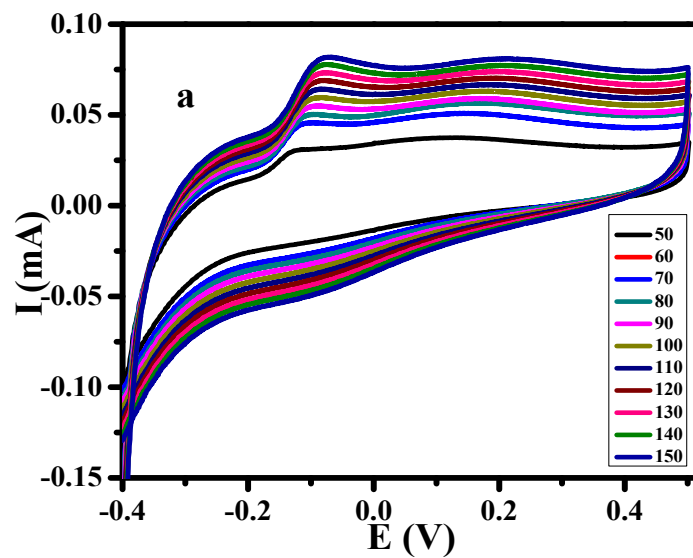


Figure S9 (a): Cyclic voltammograms of oxidation of ascorbic acid (10^{-6} M) at various scan rates (50 to 150 mV/s) at CQDs/CPE **(b)** Plot of I_p vs $v^{1/2}$ **(c)** Plot of E_p vs $\log v$.

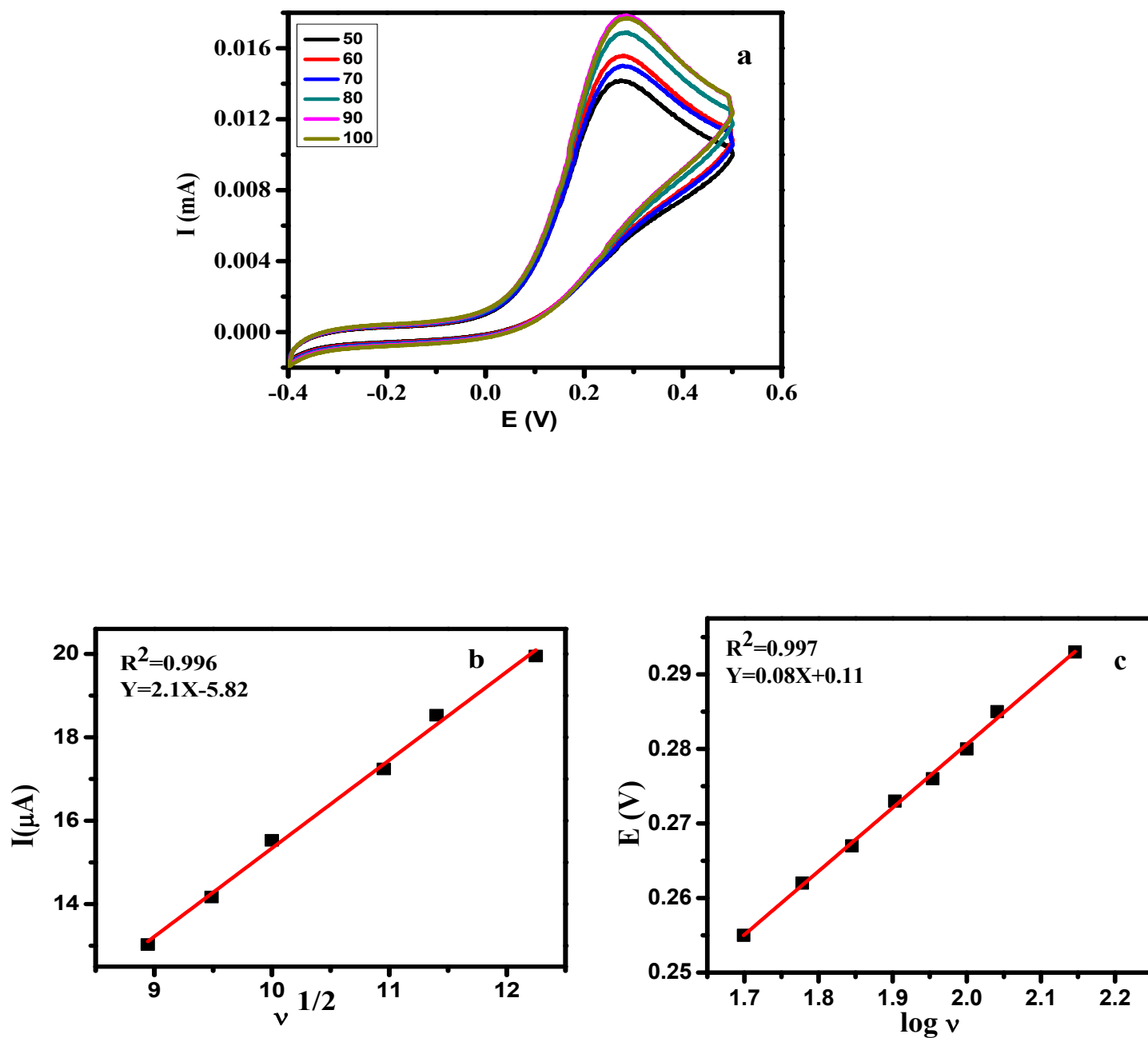


Figure S10 (a): Cyclic voltammograms of oxidation of ascorbic acid (10^{-6} M) at various scan rates (50 to 100 mV/s) at BCPE **(b)** Plot of I_p vs $v^{1/2}$ **(c)** Plot of E_p vs $\log v$.

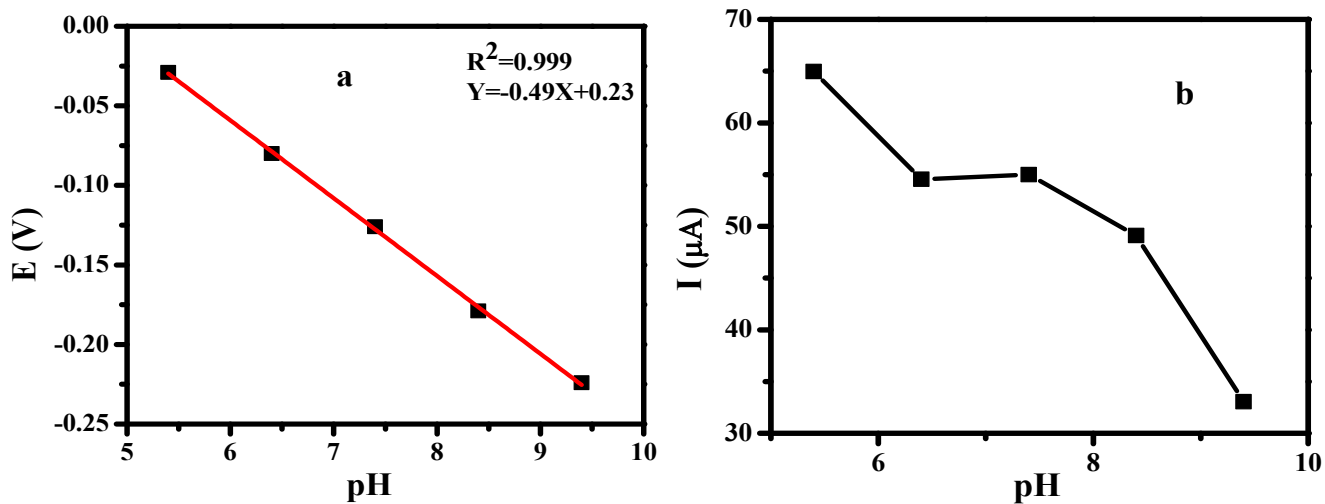


Figure S11 (a): Plot of E_p vs pH **(b)** Plot of I_{pa} vs pH

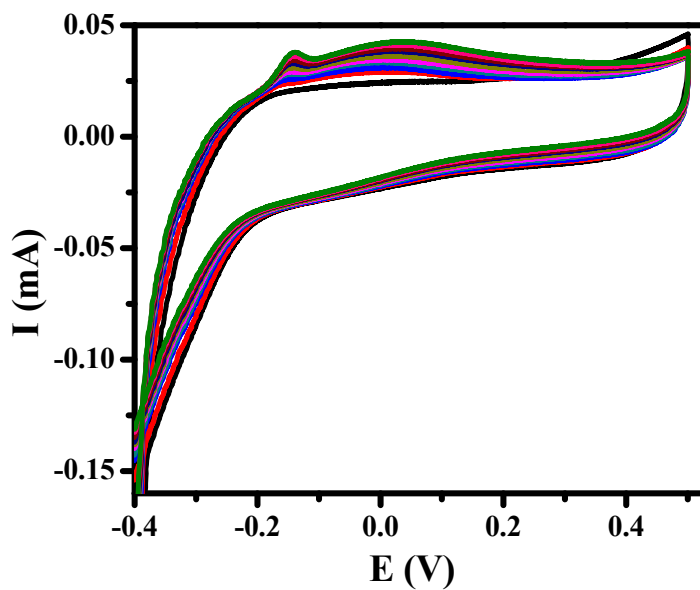


Figure S12: Cyclic voltammograms of different concentrations of AA (5 to 100 μM) on CQDs/CPE in pH 7.4 PBS.