Electrochemistry of chloramphenicol on laser-induced graphene electrodes and its voltammetric determination in honey

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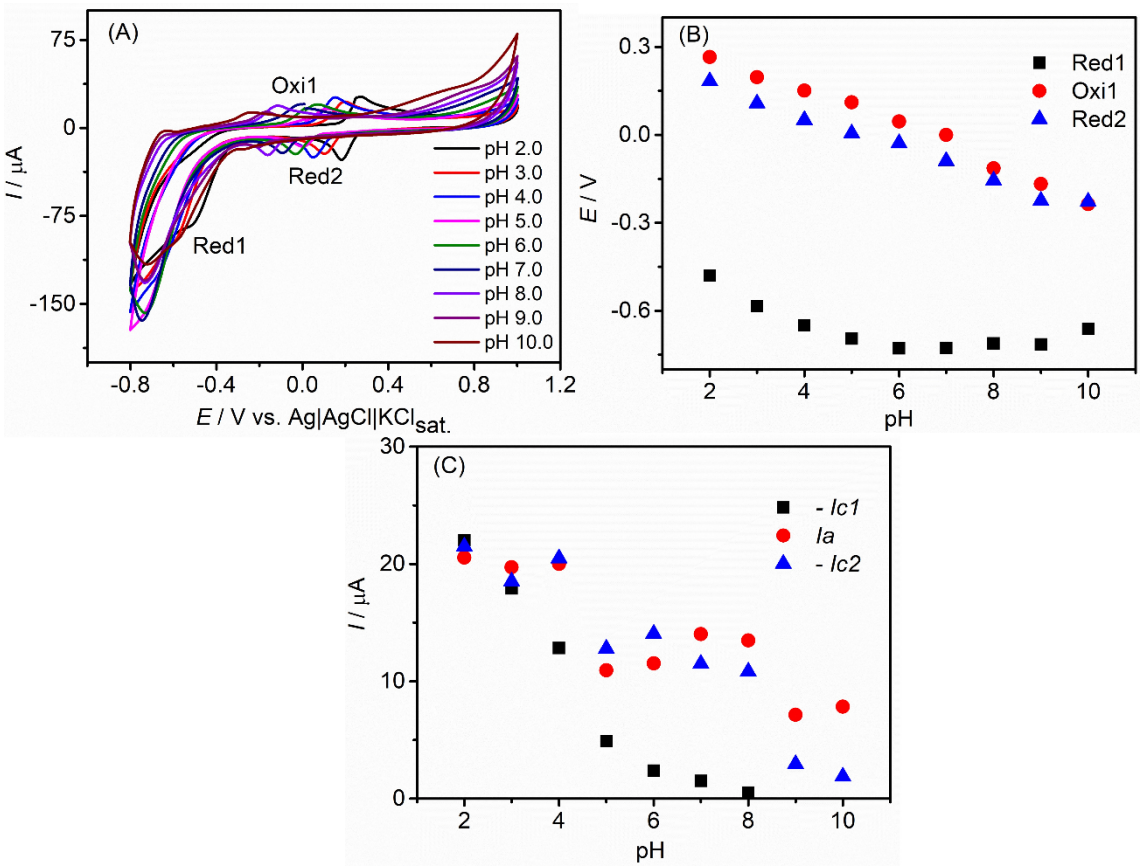

Figure S1. (A) Cyclic voltammetric recordings for CAP (0.5 mmol L^{-1}) in 0.12 mol L^{-1} BR buffer solution (pH range from 2.0 to 10.0). (B) pH influence at peak potential (E_p) and (C) pH influence at peak current (I_p). Conditions: step potential, 5 mV scan rate, 50 mV s^{-1}.

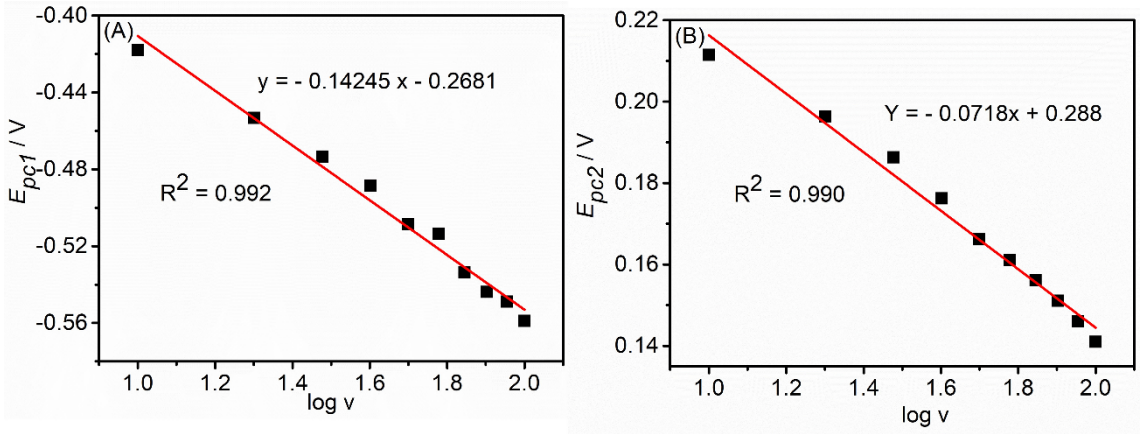

Figure S2. (A and B) Relationship between peak potential (E_p) and log v.

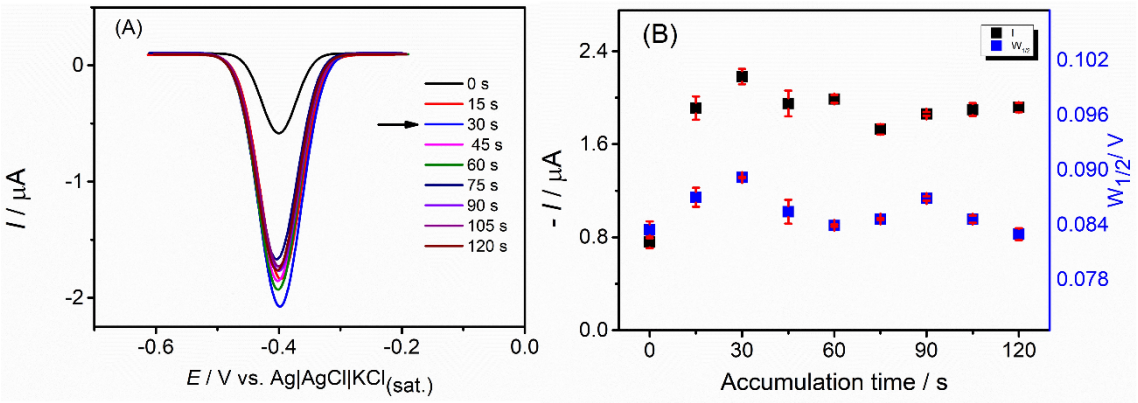

Figure S3. (A) Baseline-corrected DPV responses recorded for 50 µmol L^{-1} of CAP in 0.12 mol L^{-1} BR buffer as function of accumulation time. (B) Peak currents (black squares) and peak width half height (blue squares) as function of accumulation time. Conditions: Step potential, 5 mV; modulation amplitude, 60 mV; modulation time, 50 ms; interval time, 0.5 s.

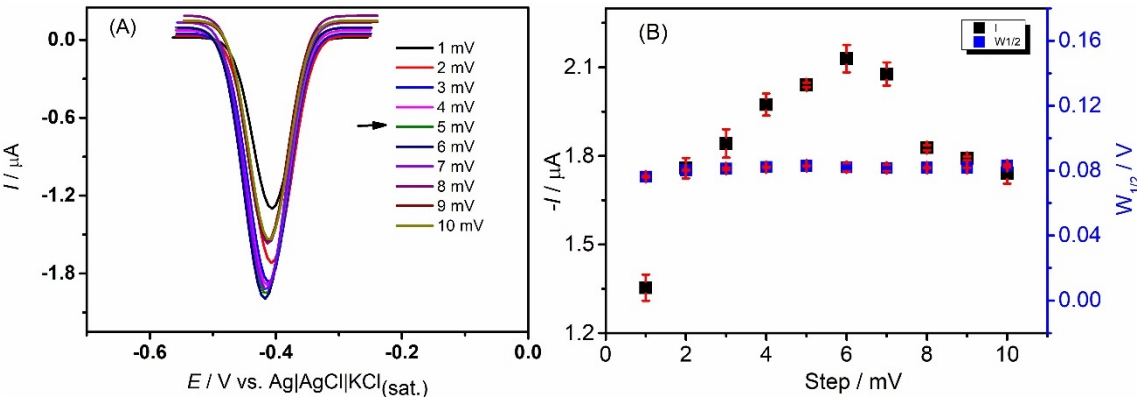

Figure S4. (A) Baseline-corrected DPV voltammograms obtained for 50 µmol L^{-1} of CAP in 0.12 mol L^{-1} BR buffer as function of step potential. (B) Peak currents (black squares) and peak width half height (blue squares) as function of step potential. Conditions: accumulation time, 30 s; modulation amplitude, 60 mV; modulation time, 50 ms and interval time, 0.5 s.

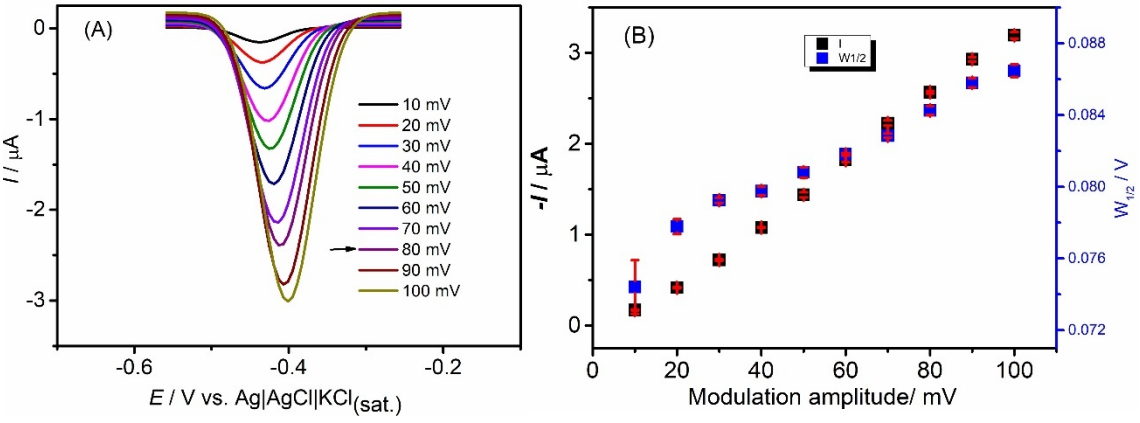

Figure S5. (**A**) Baseline- corrected DPV responses recorded for 50 µmol L^{-1} of CAP in 0.12 mol L^{-1} BR buffer as function of modulation amplitude. (**B**) Peak currents (black squares) and peak width half height (blue squares) as function of modulation amplitude. Conditions: accumulation time, 30 s; step potential, 5 mV; modulation time, 50 ms s and interval time, 0.5 s.

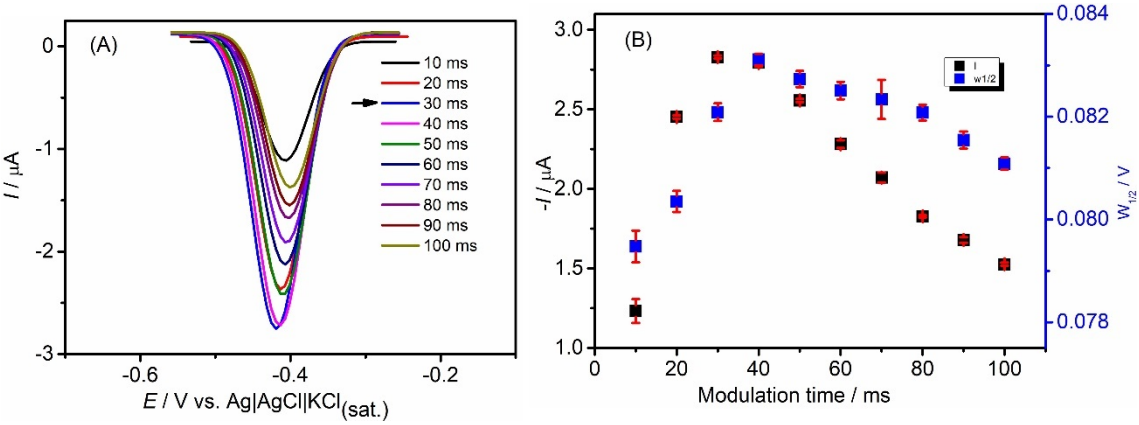

Figure S6. (**A**) DPV (corrected baseline) measures for 50 µmol L^{-1} of CAP in 0.12 mol L^{-1} BR buffer as function of modulation time. (**B**) Peak currents (black squares) and peak width half height (blue squares) as function of modulation time. Conditions: accumulation time, 30 s; step potential, 5 mV; modulation amplitude, 80 mV s and interval time, 0.5 s.

Table S1.

Selection of the DPV parameters for the determination of CAP.

Parameters	Studied interval	Selected condition/value
Supporting electrolyte	BR buffer (pH 2.0-10)	BR (pH 2.0)
Step potential	1–10 mV	5 mV
Modulation amplitude	10 – 100 mV	80 mV
Modulation time	10-100 ms	30 ms
Accumulation time	0 – 120 s	30 s

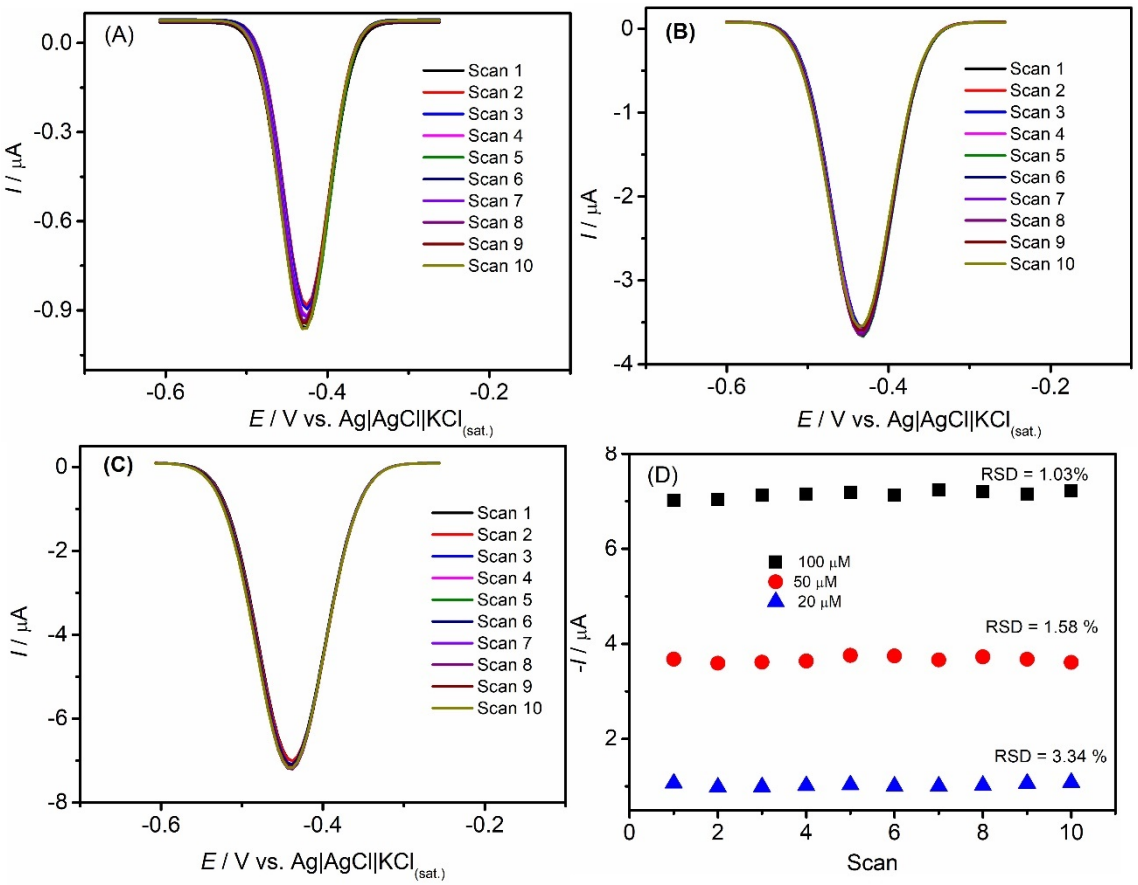

Figure S7. Repeatability data obtained from successive scan (n = 10) for CAP solution containing: (A) 20; (B) 50 and (C) 100 µmol L^{-1}. Conditions: Table S1.

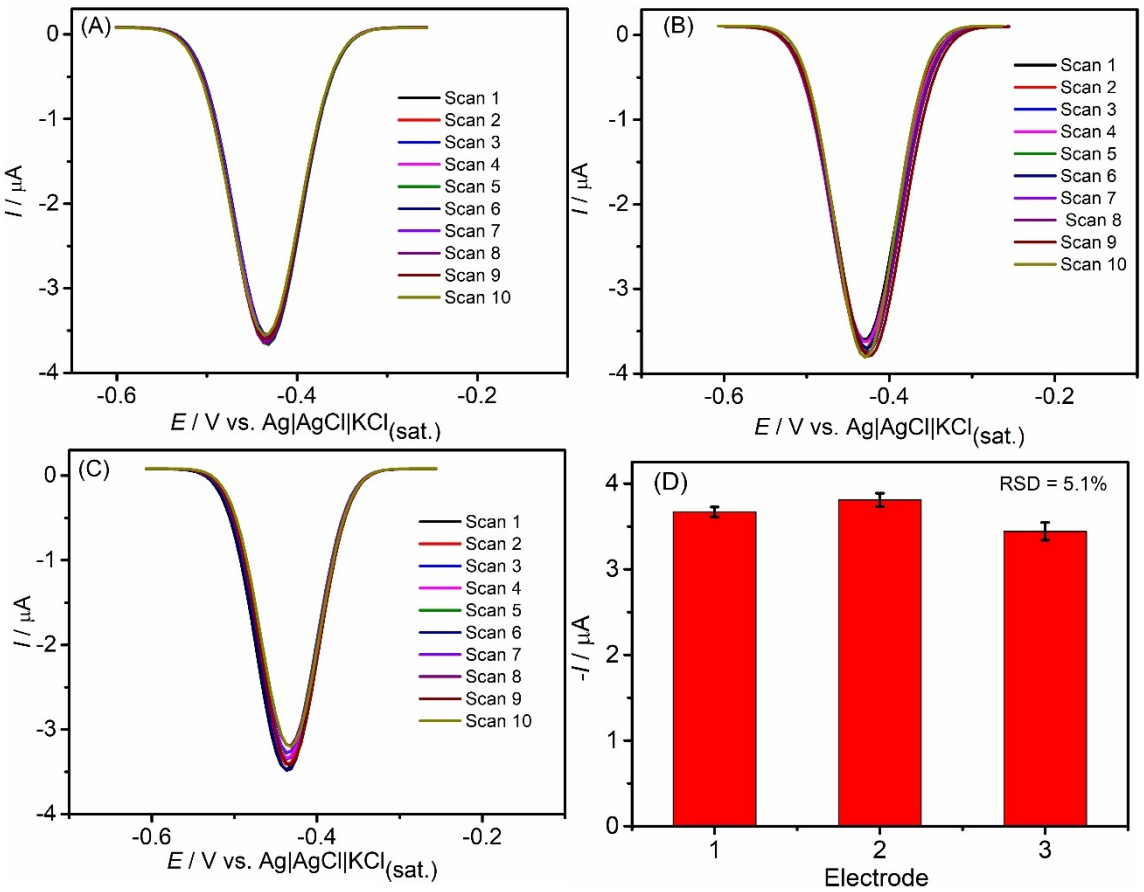

Figure S8. Reproducibility data obtained from successive scan (n = 10) for CAP solution containing 50 µmol L^{-1} at three different electrodes. Conditions: table S1.

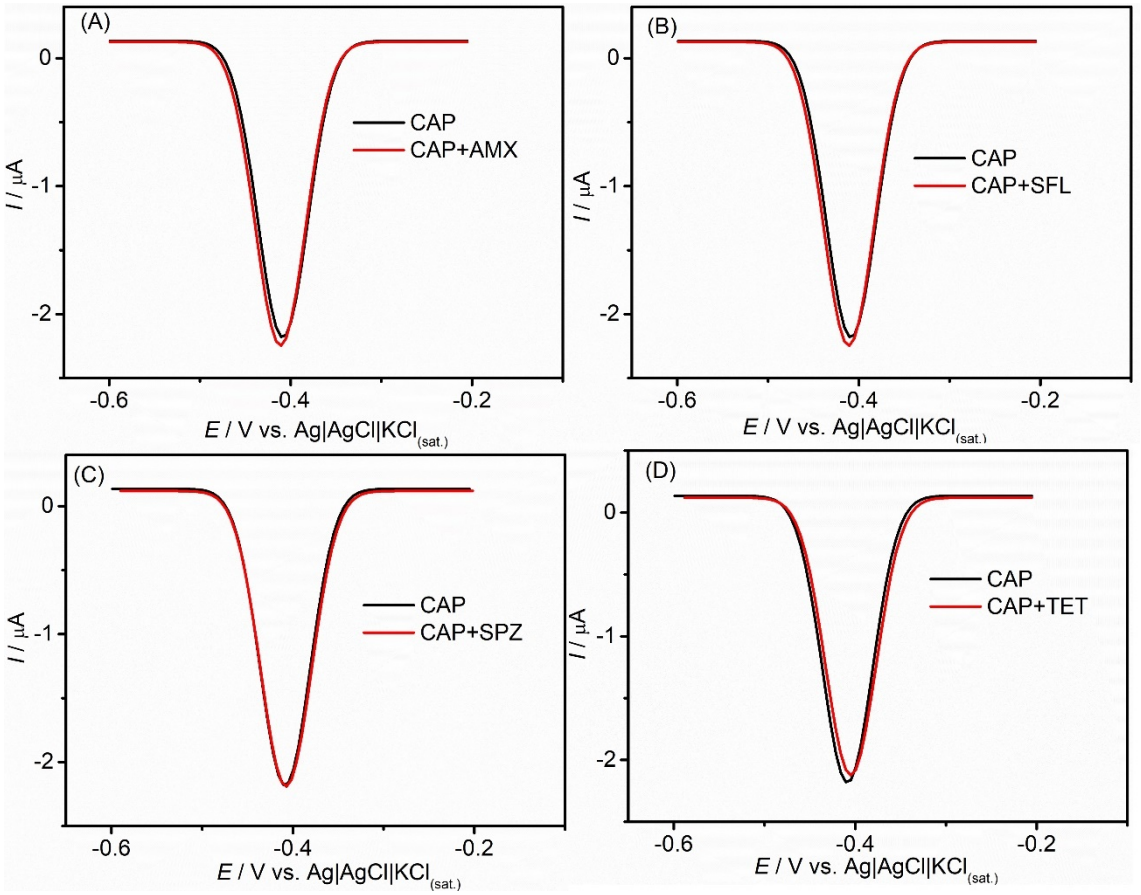

Figure S9. Baseline-corrected DPV voltammograms obtained for CAP 50 µmol L^{-1} and the equimolar mixture (50 µmol L^{-1}) of CAP and interferents (A) AMX; (B) SFL; (C) SFZ and (D) TET under optimized instrumental conditions.

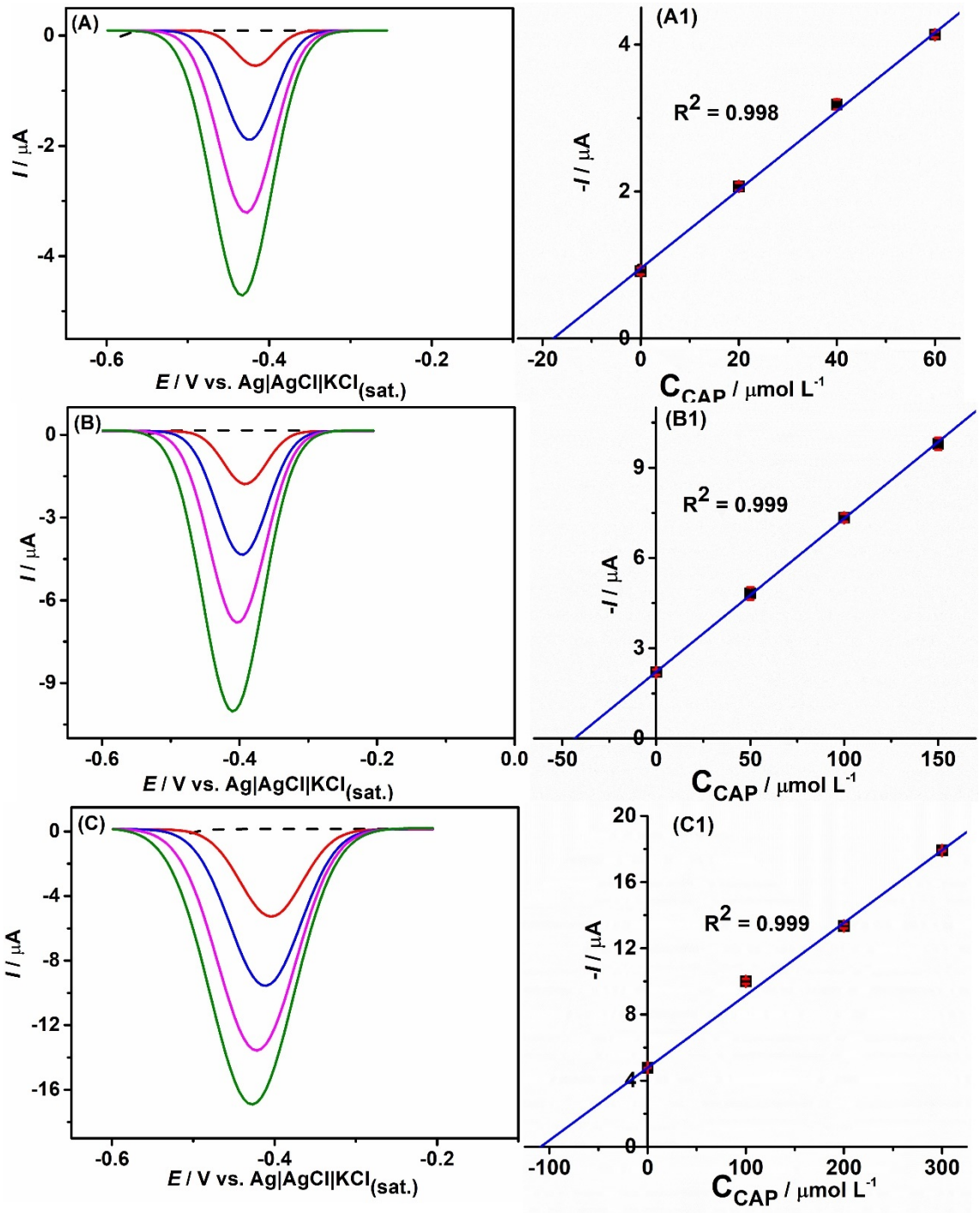

Figure S10. Baseline-corrected DPV responses obtained (n =3) for CAP detection in honey sample spiked with a standard solution resulting (**A**), (**B**) and (**C**) in the final concentration in the cell of 20 (**A**), 50 (**B**) and 100 (**C**) µmol L^{-1} followed by three additions of standard solutions. Respective calibration curves are presented beside each DPV scans. In all plots the 1st scan shows blanks; 2nd scan corresponds to sample; 3rd, 4th and 5th scans show the addition of standard solution of CAP. Optimized conditions in Table S1.