

*Supporting Information*

**3D-printing for forensic chemistry: Voltammetric determination of cocaine on additively manufactured graphene-polylactic acid electrodes**

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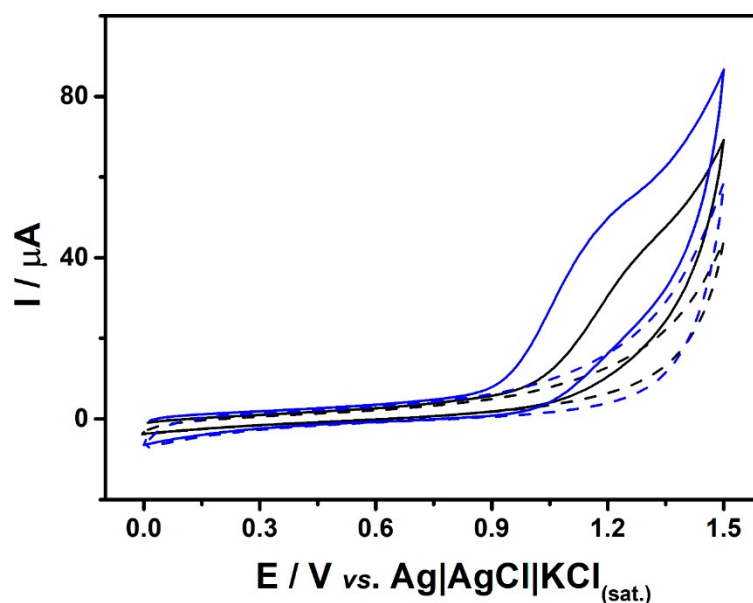
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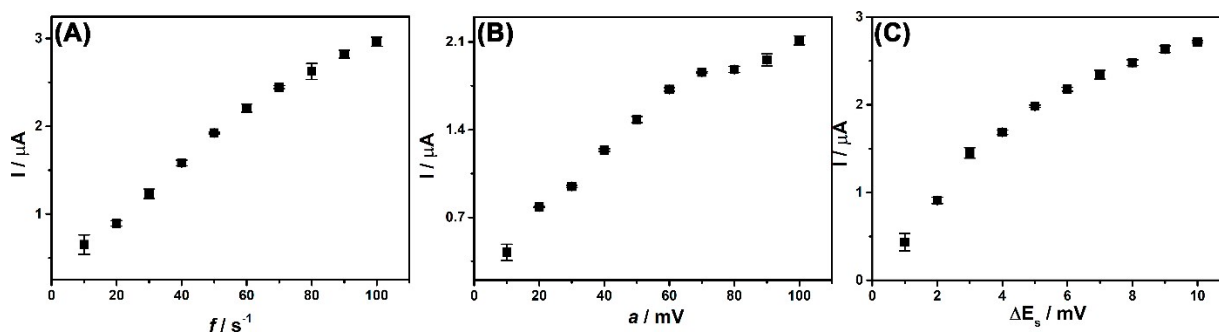
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**Figure S1.** Cyclic voltammograms obtained for 1 mmol L<sup>-1</sup> cocaine in 0.1 mol L<sup>-1</sup> phosphate buffer (pH = 7.0), using electrochemically treated G-PLA electrode (blue line) and electrochemically C-PLA electrode (blue line) and respective blank signals (dashed lines). The G-PLA electrode was treated applying +1.76 V (*vs.* Ag|AgCl|KCl<sub>sat.</sub>) for 900 s and -1.76 V (*vs.* Ag|AgCl|KCl<sub>sat.</sub>) for 50 s in 0.1 mol L<sup>-1</sup> phosphate buffer (pH = 7.4). The C-PLA electrode was electrochemically treated applying +1.4 V (*vs.* Ag|AgCl|KCl<sub>sat.</sub>) for 200 s followed by -1.0 V (*vs.* Ag|AgCl|KCl<sub>sat.</sub>) for 200 s in 0.5 mol L<sup>-1</sup> NaOH. Scan rate: 50 mV s<sup>-1</sup>; Step potential: 5 mV.



**Figure S2.** Relation between current peak ( $I$ ) of  $100 \mu\text{mol L}^{-1}$  cocaine ( $n=3$ ) and **(A)** frequency ( $f$ ), **(B)** amplitude ( $a$ ) and **(C)** step potential ( $\Delta E_s$ ). SWV parameters kept constant were:  $\Delta E_s = 5 \text{ mV}$  and  $f = 60 \text{ s}^{-1}$  and  $a = 60 \text{ mV}$ .

**Table S1.** Peak current, potential response of cocaine in the presence of interfering species, using the data of Figure 3.

<b>Interfering species</b>	<b>Peak current / <math>\mu\text{A}</math></b>	<b>Peak potential / V</b>	<b>Recovery / %</b>
<b>COC</b>	0.65	1.11	100
<b>PAR</b>	0.41	1.13	64
<b>CAF</b>	0.63	1.11	97
<b>PRO</b>	0.61	1.12	94
<b>PHE</b>	0.35	1.09	54
<b>LID</b>	0.31	1.09	47
<b>BEN</b>	0.42	1.09	65
<b>LEV</b>	0.22	1.11	34