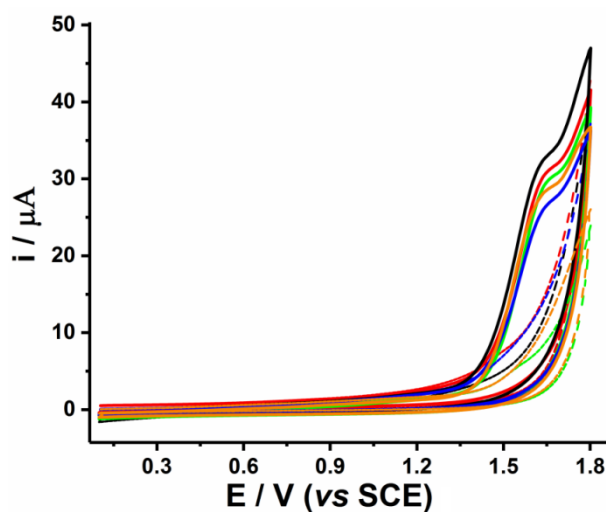


## Supplementary Information

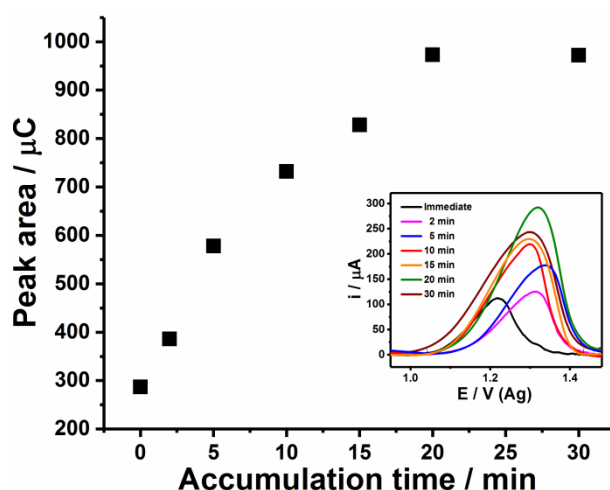
### A simple method to detect the stimulant modafinil in authentic saliva using a carbon-nanotube screen-printed electrode with adsorptive stripping voltammetry.

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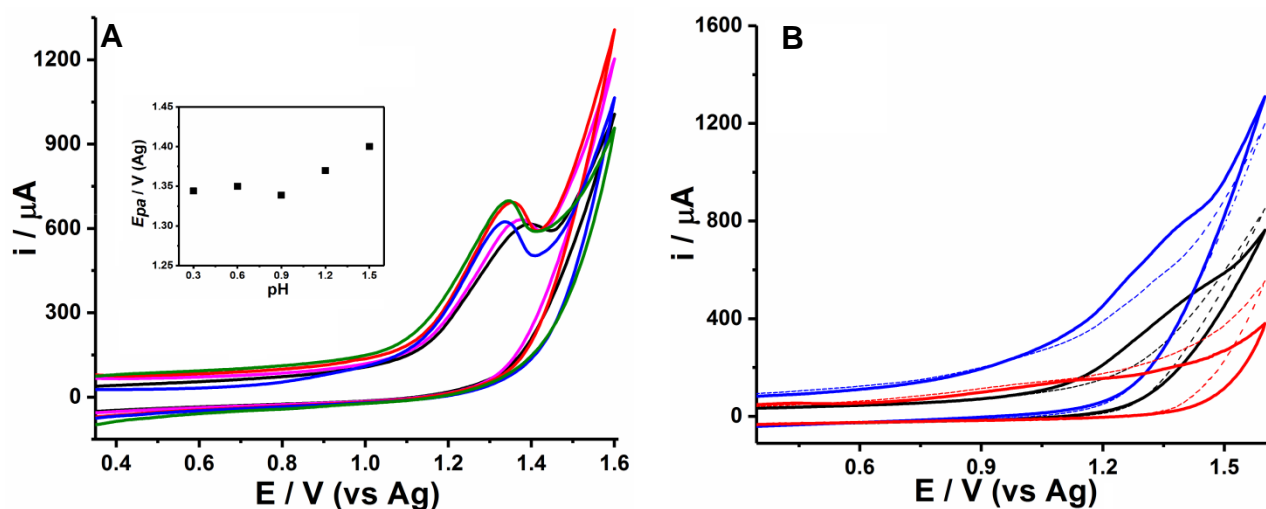
#### 1. Electrochemical behavior of Modafinil



**Fig. S1.** Voltammograms recorded at various pH values in 0.1 M phosphates solutions pH 2.0 (black-lines), pH 3.0 (red-lines), pH 4.0 (green-lines), pH 5.0 (orange-lines) and pH 6.0 (blue-lines). All voltammograms were recorded in electrolyte before (dashed-lines) and after addition of 1.0 mM modafinil (solid-lines). All potential scans were started at +0.1 V in the positive-going direction with a scan rate of  $50 \text{ mV s}^{-1}$ .

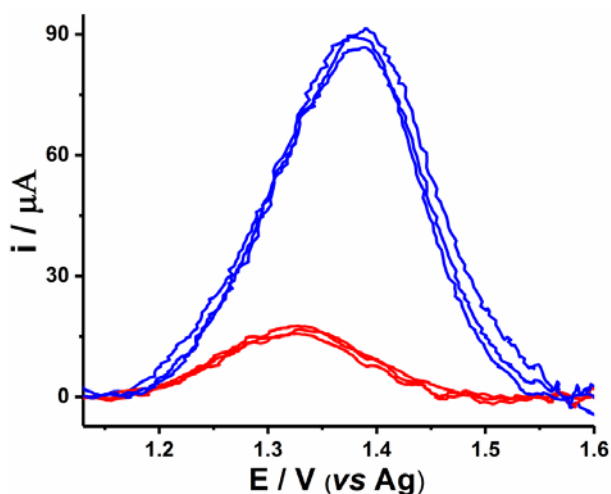


**Fig. S2:** The responses of oxidation peak area as a function of accumulation time in 1.0 mM modafinil in 0.1 M  $\text{H}_2\text{SO}_4$ . Inset is the polynomial (order 4)-corrected curves obtained from the voltammograms recorded using AdSVs recorded on SPE-CNT at  $50 \text{ mV s}^{-1}$ .



**Fig. S3.** (A) Voltammograms recorded at various pH values with 1.0 mM modafinil in 0.02 to 0.50 M H<sub>2</sub>SO<sub>4</sub> pH 0.3 (green-line), pH 0.6 (red-line), pH 0.9 (blue-line), pH 1.2 (pink-line) and pH 1.5 (black-line). All potential scans were started at +0.35 V in the positive-going direction with a scan rate of 50 mV s<sup>-1</sup>. Accumulation time of 20 min. Inset is plot of  $E_{pa}$  vs pH. (B). Voltammograms recorded at various pH values in 0.1 M PBS pH 3.0 (black-lines), pH 7.0 (blue-lines) and pH 8.0 (red-lines). All voltammograms were recorded in electrolyte before (dashed-lines) and after addition of 1.0 mM modafinil (solid-lines). Accumulation time of 20 min. All potential scans were started at +0.35 V in the positive-going direction with a scan rate of 50 mV s<sup>-1</sup>.

## 2. Detection of modafinil in human saliva samples.



**Fig. S4.** AdSWVs recorded (corrected background current) in 0.1 M H<sub>2</sub>SO<sub>4</sub> at six independent SPE-CNT electrodes for detection (in triplicate) of 7.5 (red lines) and 50 μM (blue lines) modafinil after accumulation time of 20 min in authentic saliva. Amplitude of 50 mV, frequency of 70 Hz and potential step of 2 mV.