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Supplementary material

Voltammetric Determination of Active Pharmaceutical Ingredients Using Screen-Printed Electrodes

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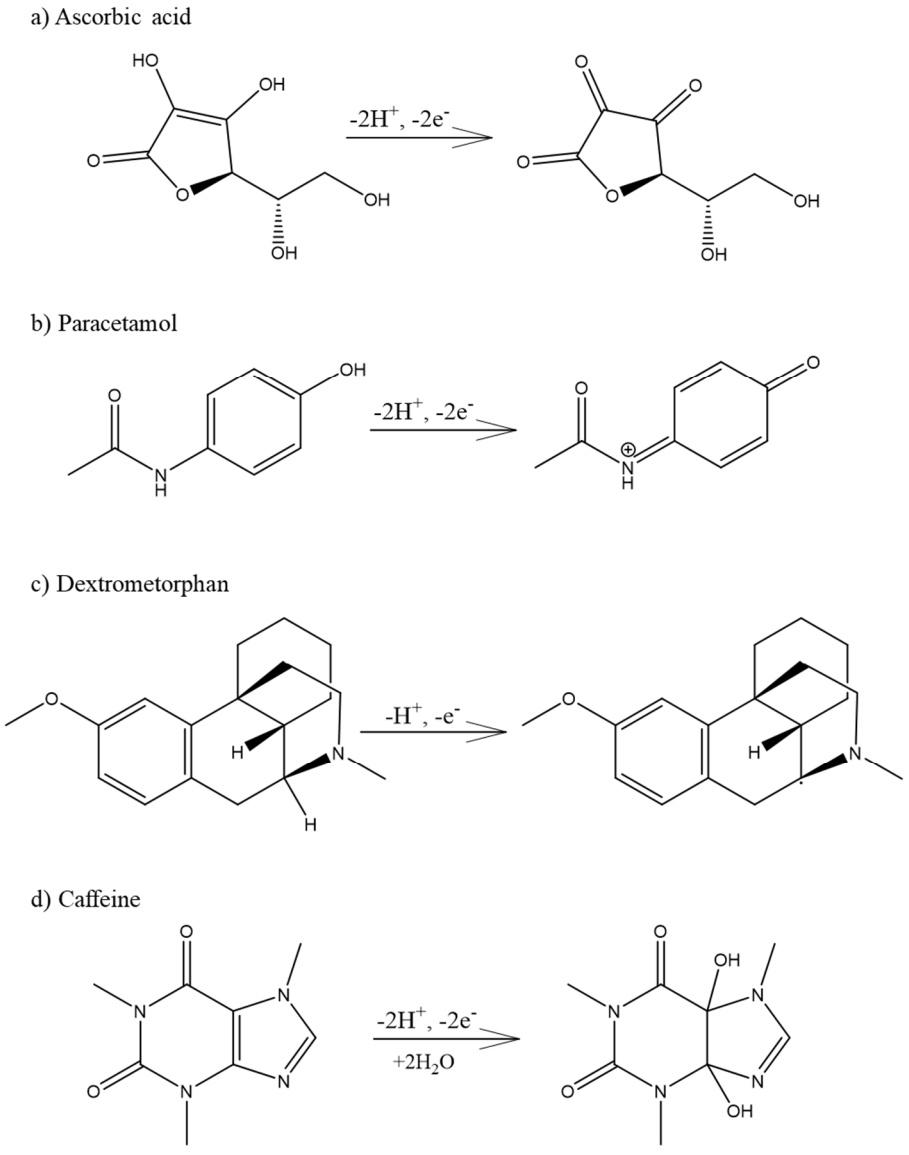

Figure S1. Oxidation reactions for (**a**) ascorbic acid [27], (**b**) paracetamol [28], **(c)** dextrometorphan [28], and (**d**) caffeine [29].

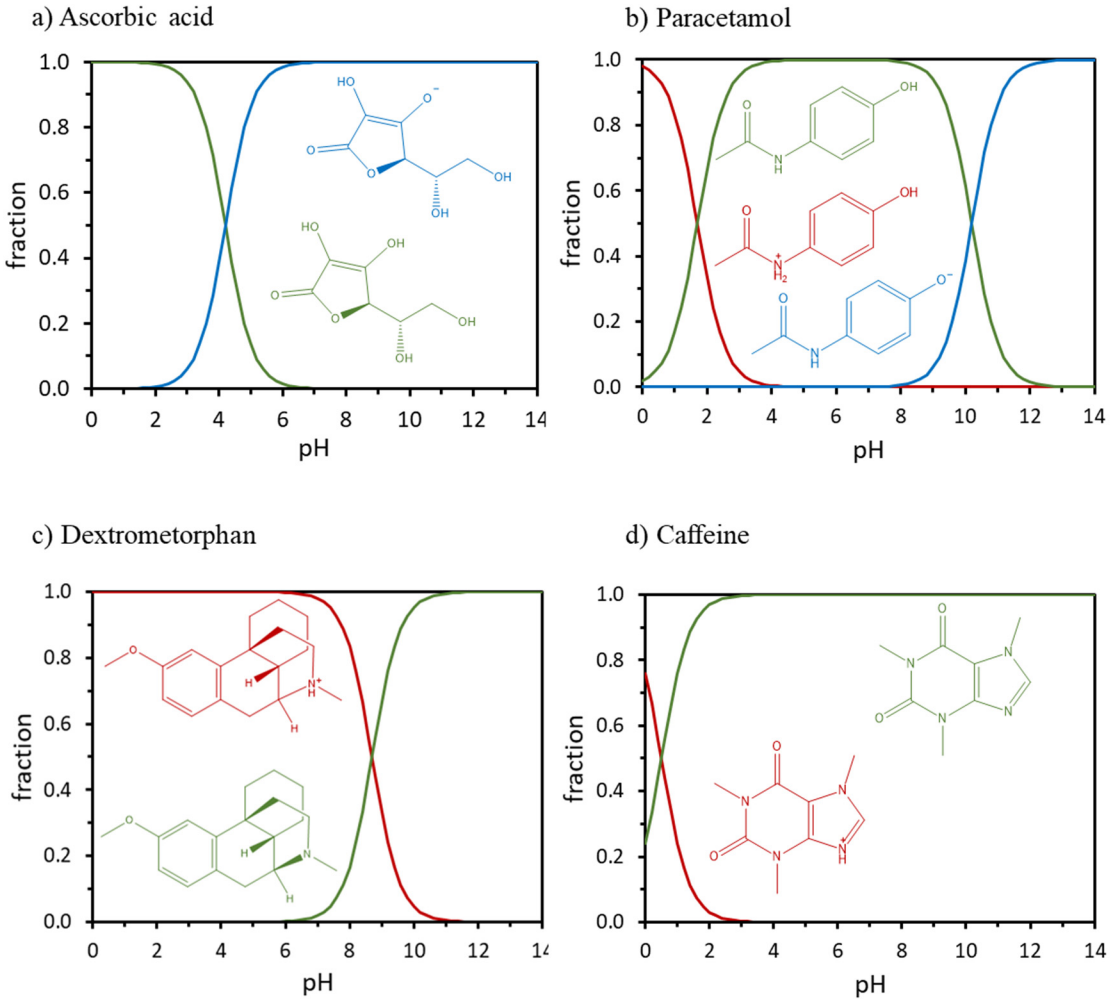

Figure S2. Species distribution diagram as a function of pH for (**a**) ascorbic acid, (**b**) paracetamol, (**c**) dextrametorphan and (**d**) caffeine. Cationic, neutral and anionic forms are depicted in red, green and blue, respectively.

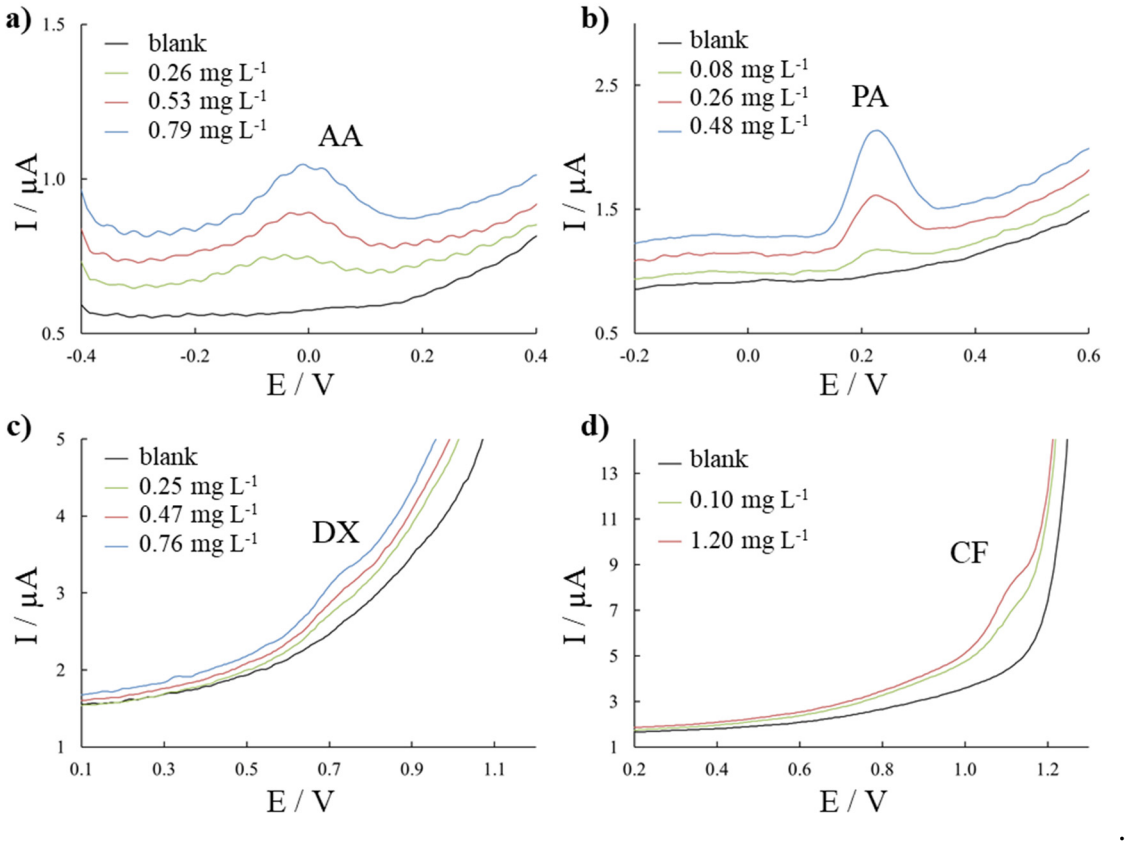

Figure S3. DP voltammograms for low concentrations of (**a**) ascorbic acid, (**b**) paracetamol, (**c**) dextrametorphan and (**d**) caffeine. Measurements were carried out in 0.1 mol L^{-1} acetic/acetate buffer pH 5.00 using a SPCE.

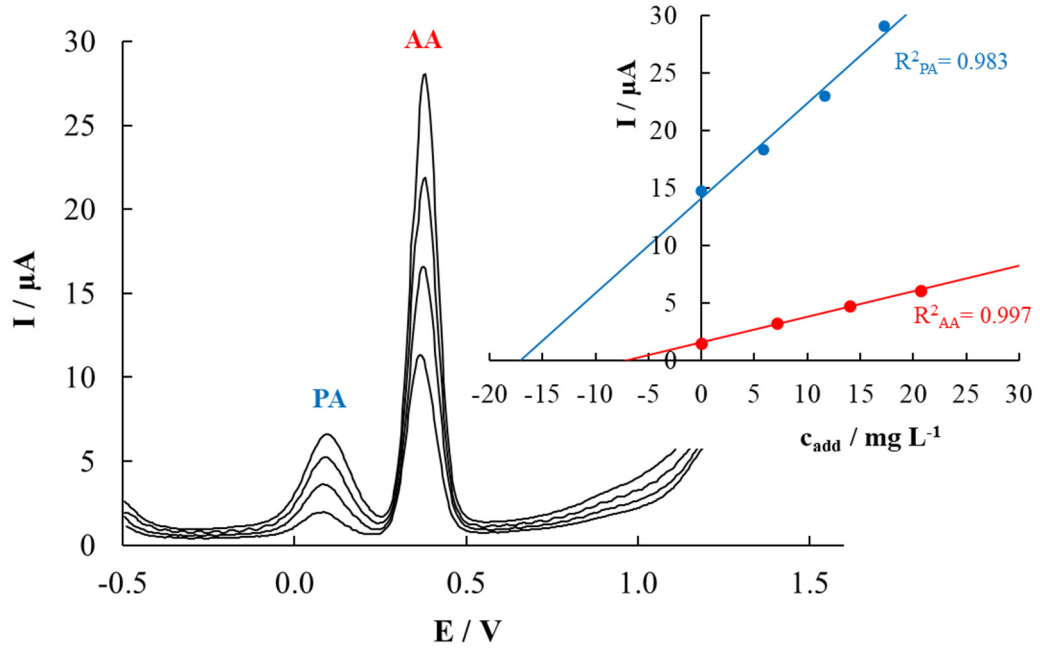

Figure S4. DP voltammograms for the simultaneous determination of ascorbic acid and paracetamol in Frenadol® Complex. Measurements were carried out in 0.1 mol L^{-1} acetic/acetate buffer pH 5.00 using a SPCE. Inset: standard addition calibration plot.

Table S1. Summary of E *vs.* pH plots obtained from relevant data published in [30].

Substance	Plot of E (V) *vs.* pH				Comments
	pH range	Slope (V)	Intercept	R^2	
AA	2.0–5.0	−0.062	0.47	0.940	Compatible with a $2H^+$, $2e^-$ process (slope ideally −0.059 V) starting from the protonated form of AA
	5.0–8.0	−0.026	0.30	0.947	Compatible with a $1H^+$, $2e^-$ process (slope ideally −0.029 V) starting from the deprotonated form of AA
PA	3.0–10.0	−0.050	0.67	0.997	Compatible with a 2H+, $2e^-$ process (slope ideally −0.059 V)
CF	4.0–10.0	−0.011	1.37	0.957	Too low slope for a 2H+, $2e^-$ process (ideally −0.059 V)

References

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