

*Electronic Supporting Information*

**Electrochemical screening of selected  $\beta$  - blockers at the polarized liquid – liquid interface**

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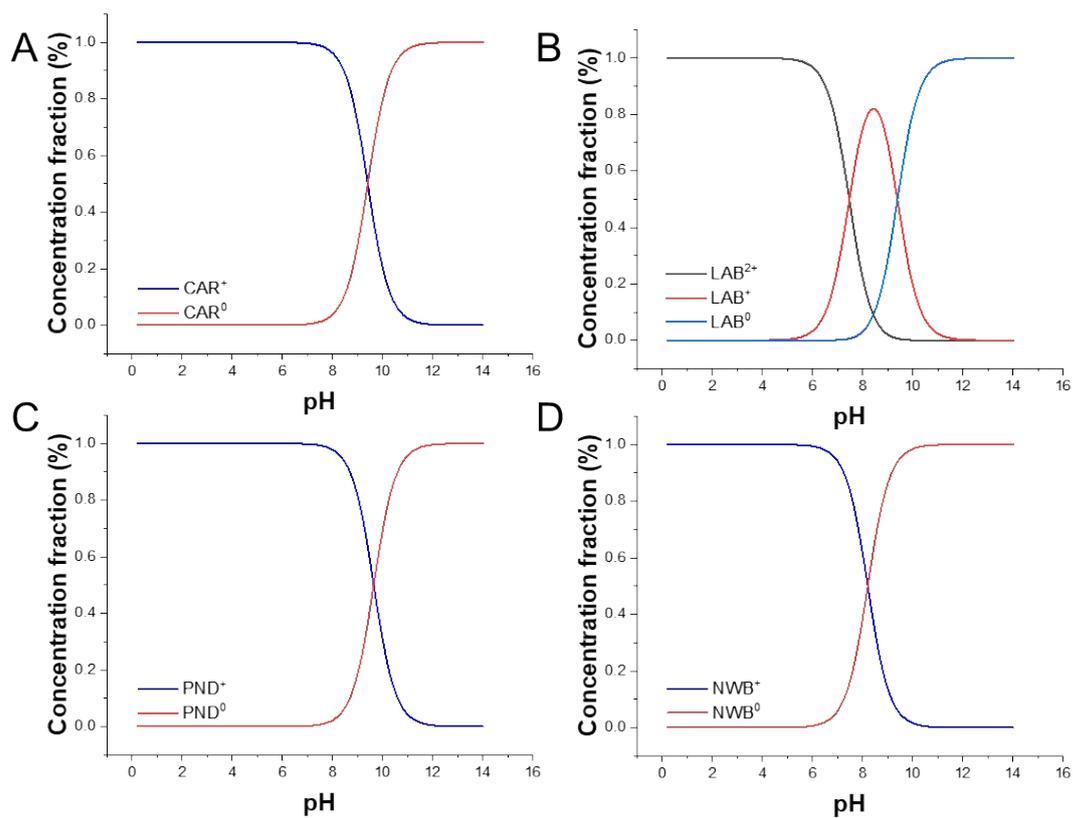
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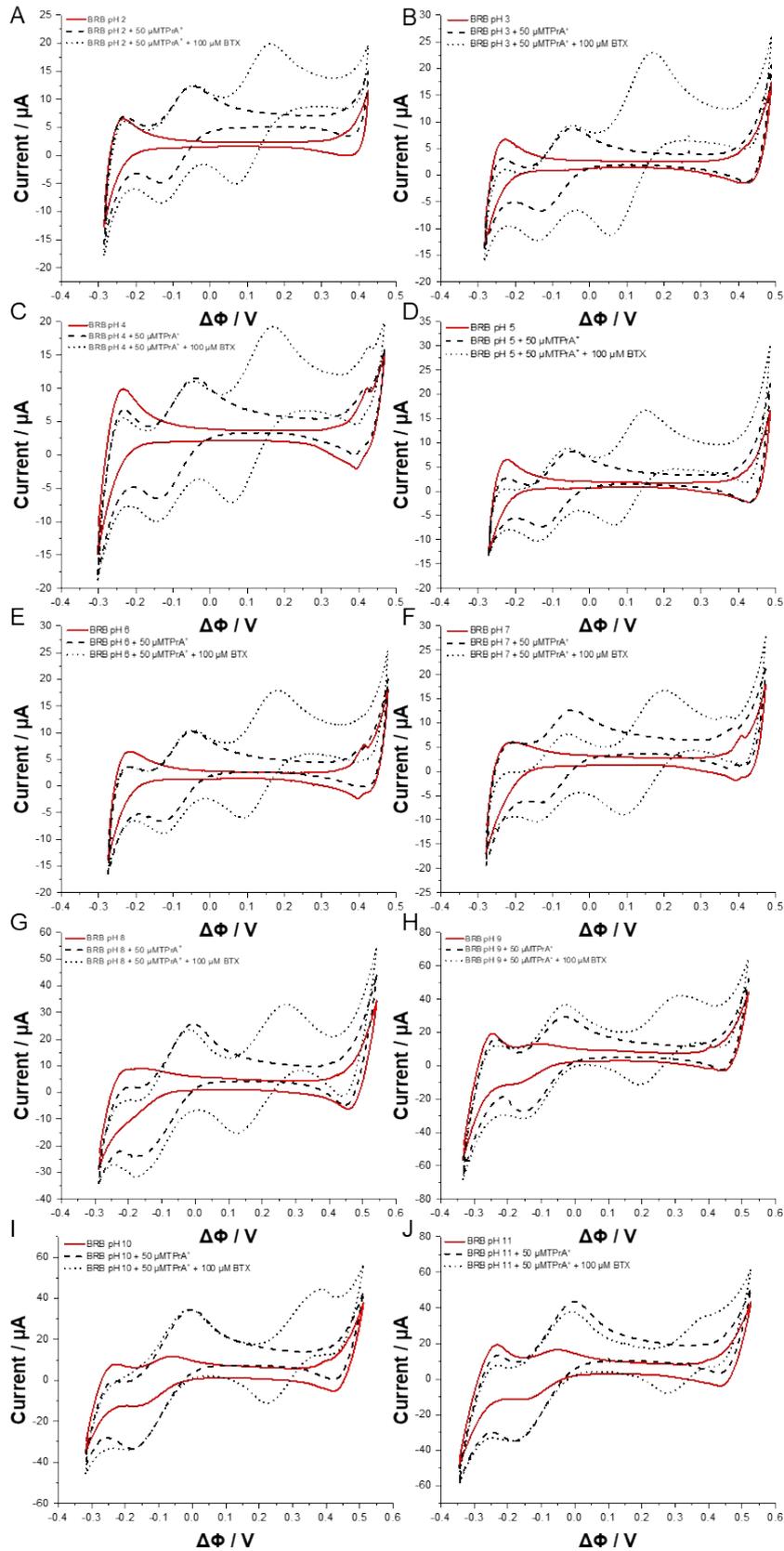
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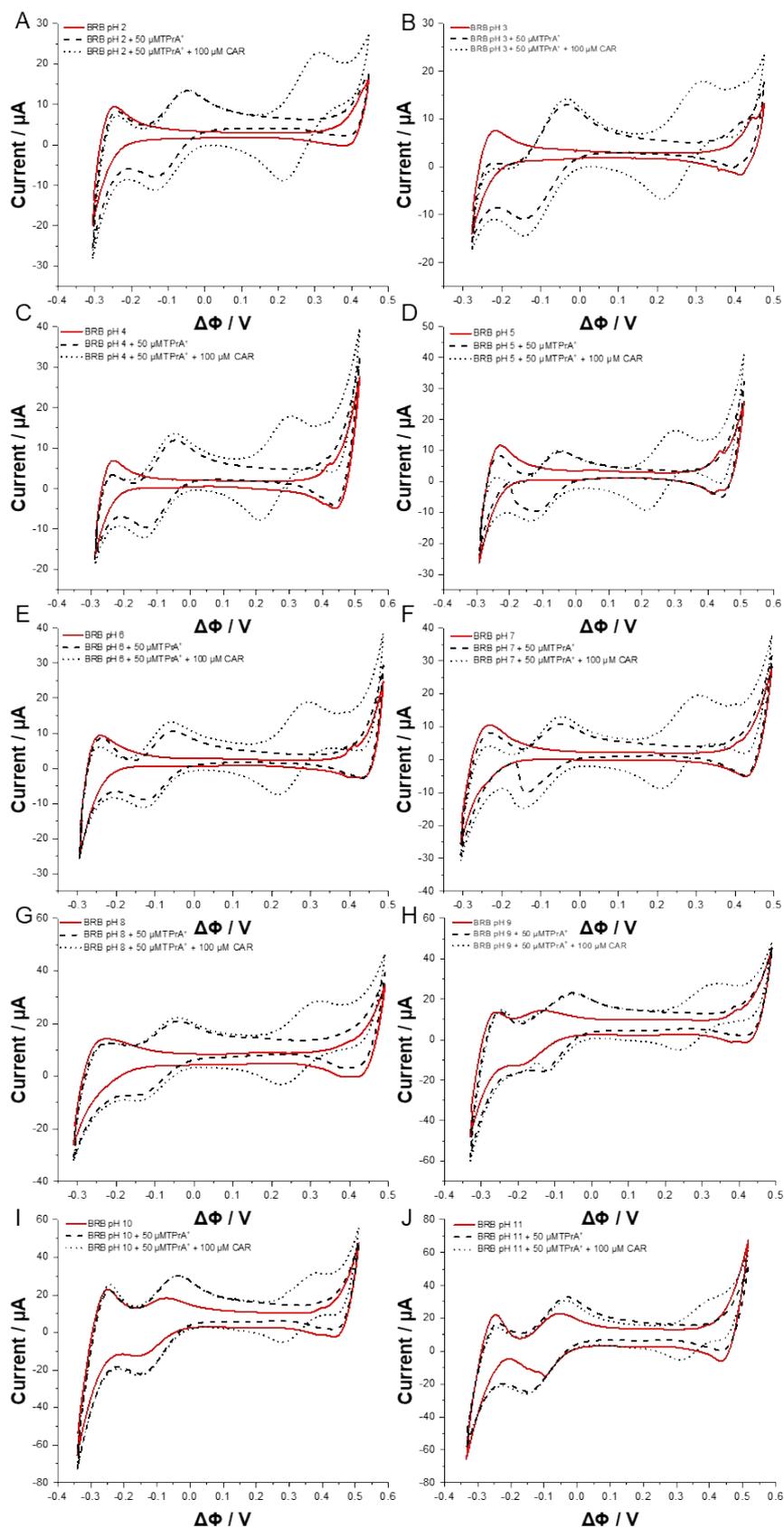
**Figure S1** Concentration fraction diagrams for selected  $\beta$ -blockers, A – CAR; B – LAB; C – PND; D – NVB. For the pKa values for each  $\beta$ -blockers see Table 1 from the main text of the manuscript.

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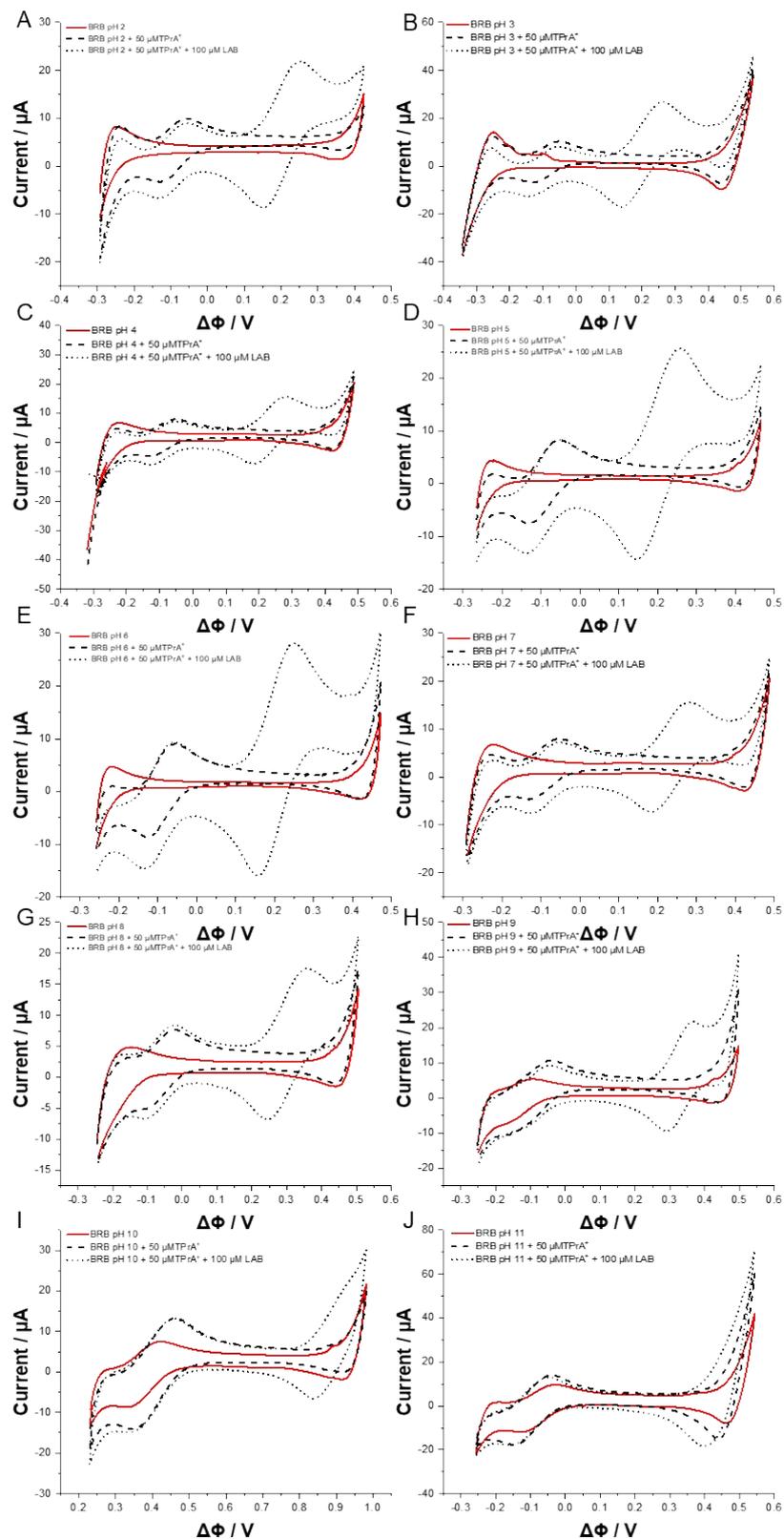
**Figure S2** Cyclic voltammograms (CVs) recorded at different pH of the aqueous phase for betaxolol. Conditions: BRB solutions in pH range 2-11; the scan rate was  $20 \text{ mV} \cdot \text{s}^{-1}$ ,  $[\text{BTX}] = 100 \text{ } \mu\text{M}$  and  $[\text{TPrA}^+] = 50 \text{ } \mu\text{M}$ .

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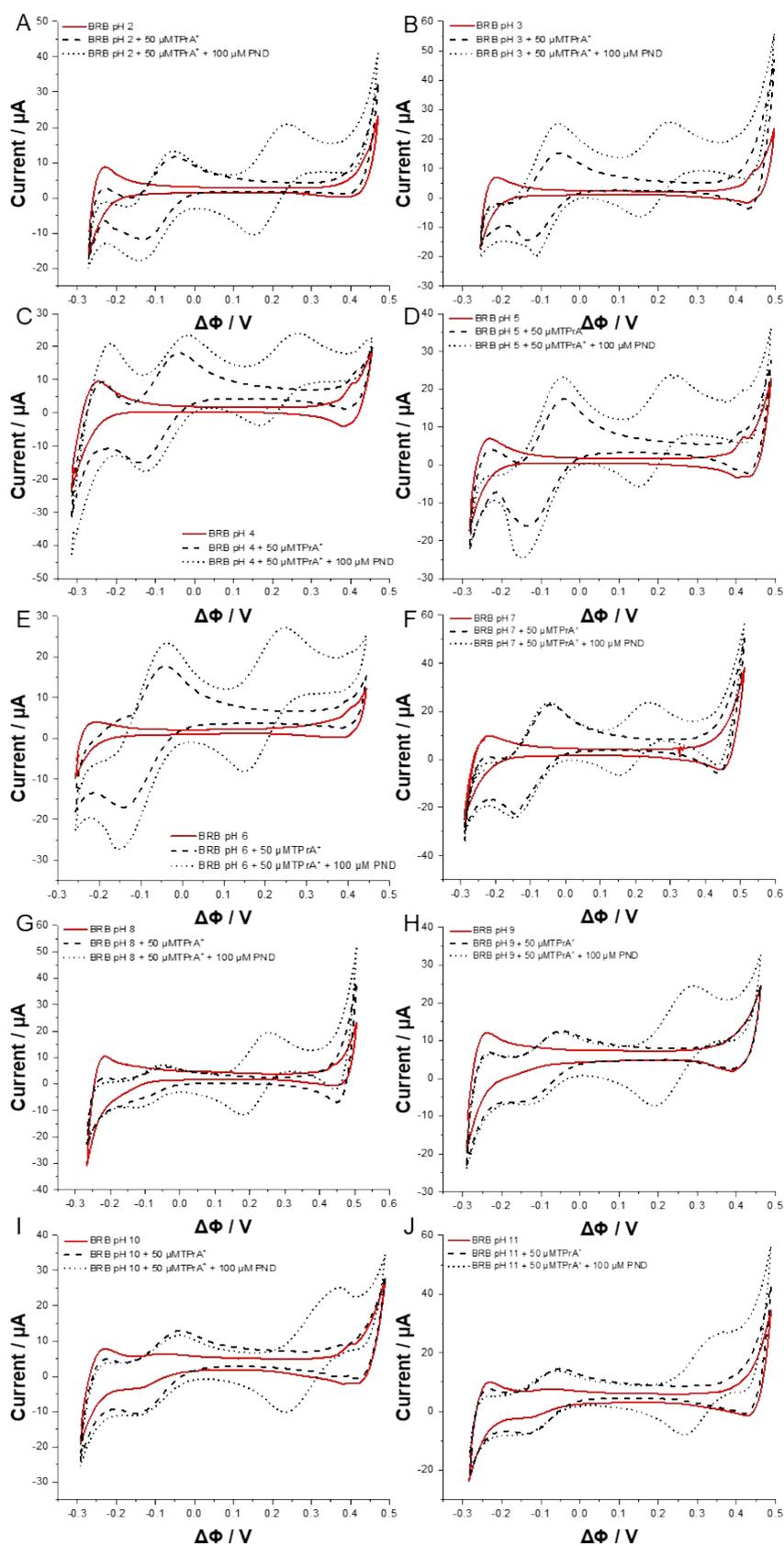
**Figure S3** Cyclic voltammograms (CVs) recorded at different pH of the aqueous phase for carteolol. Conditions: BRB solutions in pH range 2-11; the scan rate was  $20 \text{ mV}\cdot\text{s}^{-1}$ ,  $[\text{CAR}] = 100 \text{ }\mu\text{M}$  and  $[\text{TPrA}^+] = 50 \text{ }\mu\text{M}$ .

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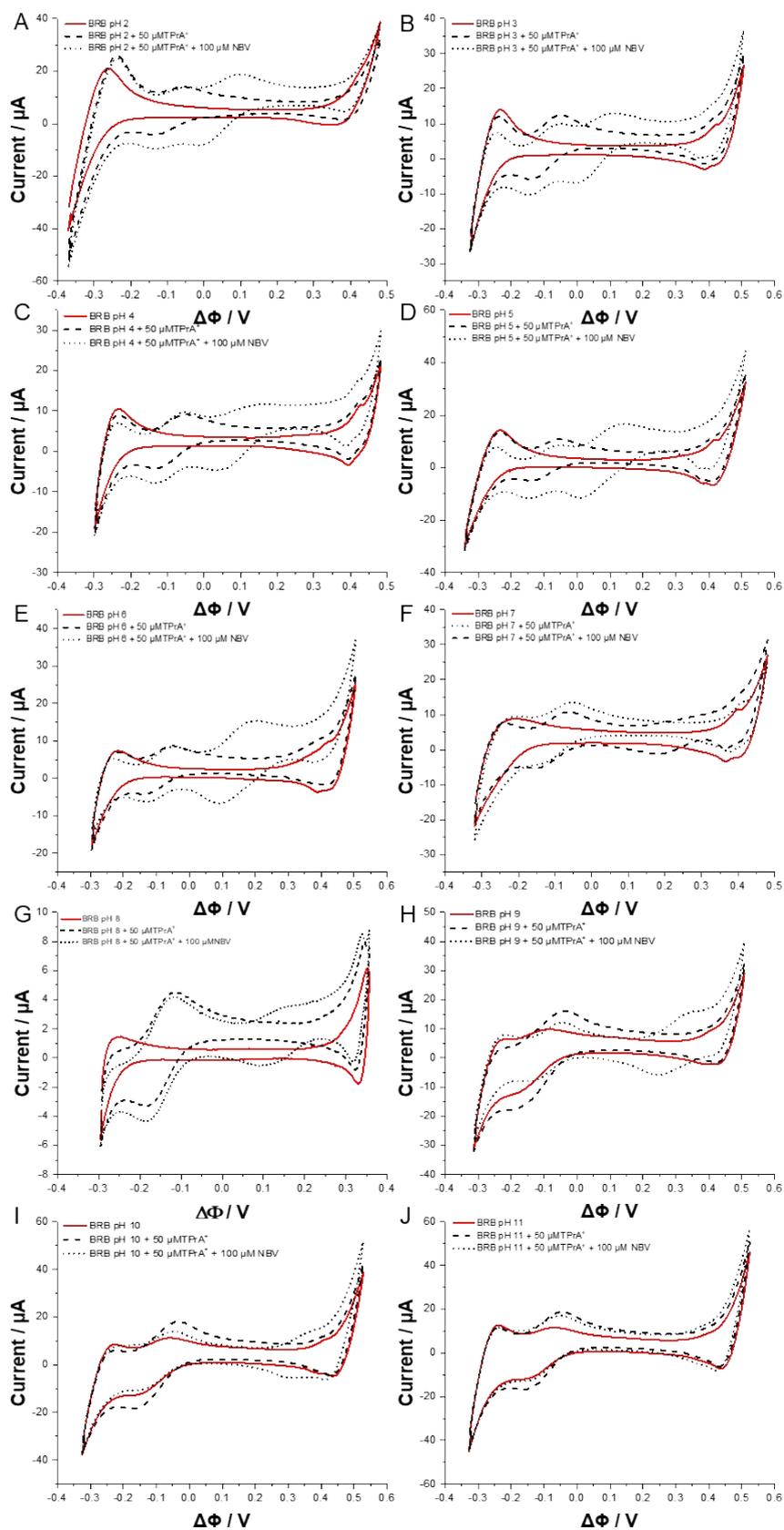
**Figure S4** Cyclic voltammograms (CVs) recorded at different pH of the aqueous phase for labetalol. Conditions: BRB solutions in pH range 2-11; the scan rate was  $20 \text{ mV} \cdot \text{s}^{-1}$ ,  $[\text{LAB}] = 100 \text{ } \mu\text{M}$  and  $[\text{TPrA}^+] = 50 \text{ } \mu\text{M}$ .

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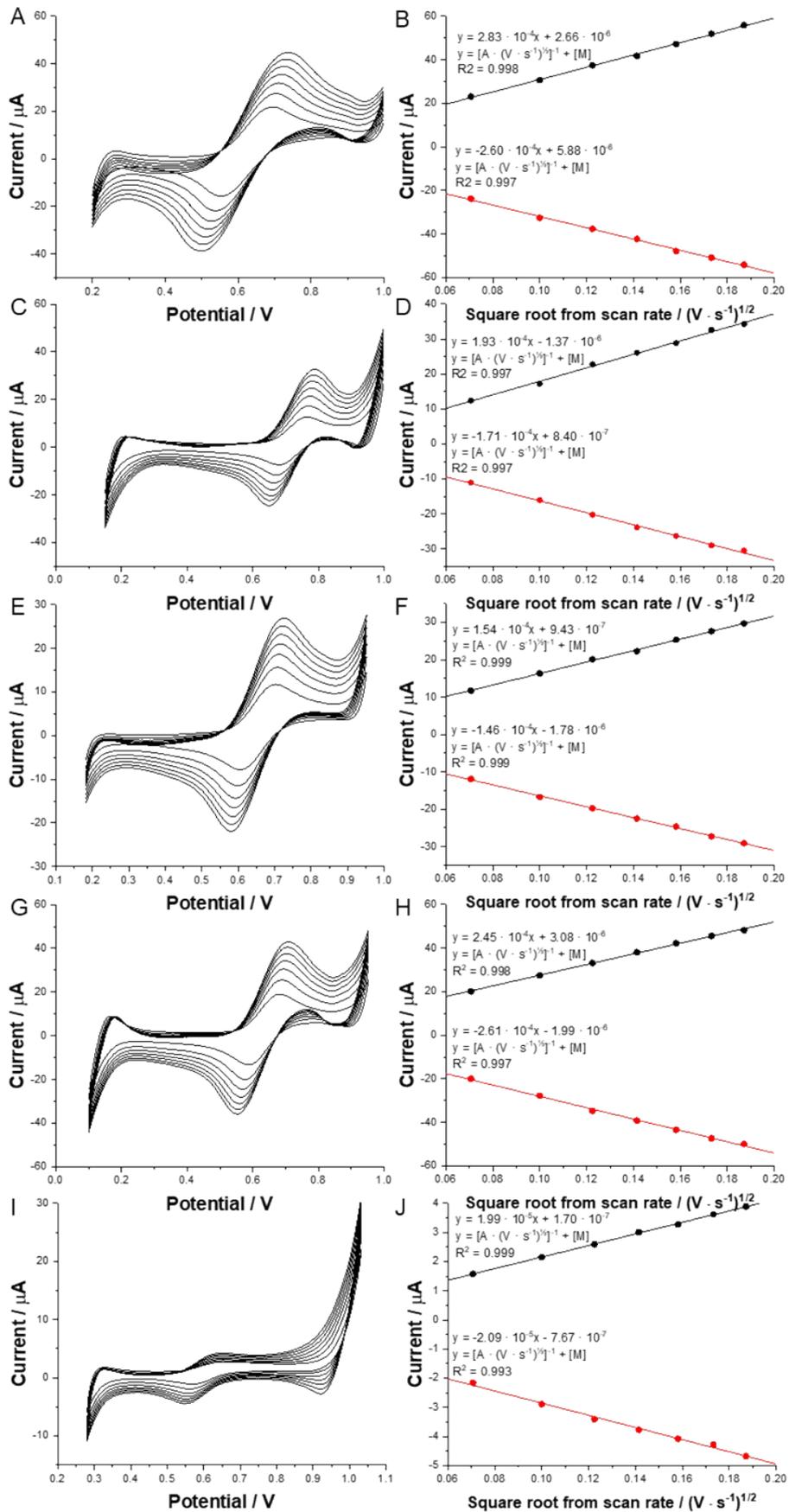
**Figure S5** Cyclic voltammograms (CVs) recorded at different pH of the aqueous phase for pindolol. Conditions: BRB solutions in pH range 2-11; the scan rate was  $20 \text{ mV}\cdot\text{s}^{-1}$ ,  $[\text{PND}] = 100 \text{ }\mu\text{M}$  and  $[\text{TPrA}^+] = 50 \text{ }\mu\text{M}$ .

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**Figure S5** Cyclic voltammograms (CVs) recorded at different pH of the aqueous phase for nebevivolol. Conditions: BRB solutions in pH range 2-11; the scan rate was  $20 \text{ mV}\cdot\text{s}^{-1}$ ,  $[\text{NBV}] = 100 \text{ }\mu\text{M}$  and  $[\text{TPrA}^+] = 50 \text{ }\mu\text{M}$ .

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**Figure S7** Cyclic voltammograms recorded at different scan rates (5; 10; 15; 20; 25; 30 and 35 mVs<sup>-1</sup>) for selected  $\beta$ -blockers (A – betaxolol, C – carteolol, E – labetalol, G – pindolol, I – nebivolol). The dependency between positive and negative current is plotted in function of the square root of the scan rate with linear fit equations placed next to the corresponding voltammograms. The aqueous phase was 10 mM NaCl and [ $\beta$ -blockers] = 200  $\mu$ M.