

# Supporting Information for: "Linear voltammetry with non-triangular waveforms: New opportunities in electroanalysis"

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The following sections contain the full-scale figures of the voltammograms presented in the paper; Figure S1 corresponds to Figure 2 of the paper, Figure S2 corresponds to Figure 3 of the paper, Figure S3 corresponds to Figure 5 of the paper, and Figure S4 corresponds to Figure 7 of the paper. Figure S1 shows that the peak currents obtained by the semi-circular potential wave is greatly amplified at  $\theta_{shift} = 0$  while the peak current is suppressed at all other  $\theta_{shift}$  values. In Figure S2 it is clear that the peak height of the semi-circular total current approaches infinity at a  $\theta_{shift}$  of  $-8$  and  $0$ , which are the formal potentials of species  $B$  and  $A$  respectively. In Figure S3, the semi-circular total peak current goes to infinity at  $\theta_{shift} = -4$ , then decreases in intensity and approaches infinity again at  $\theta_{shift} = 0$ , which again are the formal potentials of species  $B$  and  $A$ . Therefore the formal potential of the individual species can be estimated from voltammograms when the formal potential difference is significant enough. Figure S4, however, shows the semi-circular peak current approaches infinity at  $\theta_{shift} = -2$ ,  $\theta_{shift} = -1$ , and  $\theta_{shift} = 0$  and can thus only give an estimate of the region at which the formal potential of individual species might be observed.

Although the voltammograms can give a very good initial estimate of the formal potential of individual species, it is important to confirm it by plotting the peak heights against the corresponding  $\theta_{shift}$  values at which they are observed as in Figure 4, 6, and 8 of the paper.

# S1 Single species triangular versus semi-circular potential sweeps

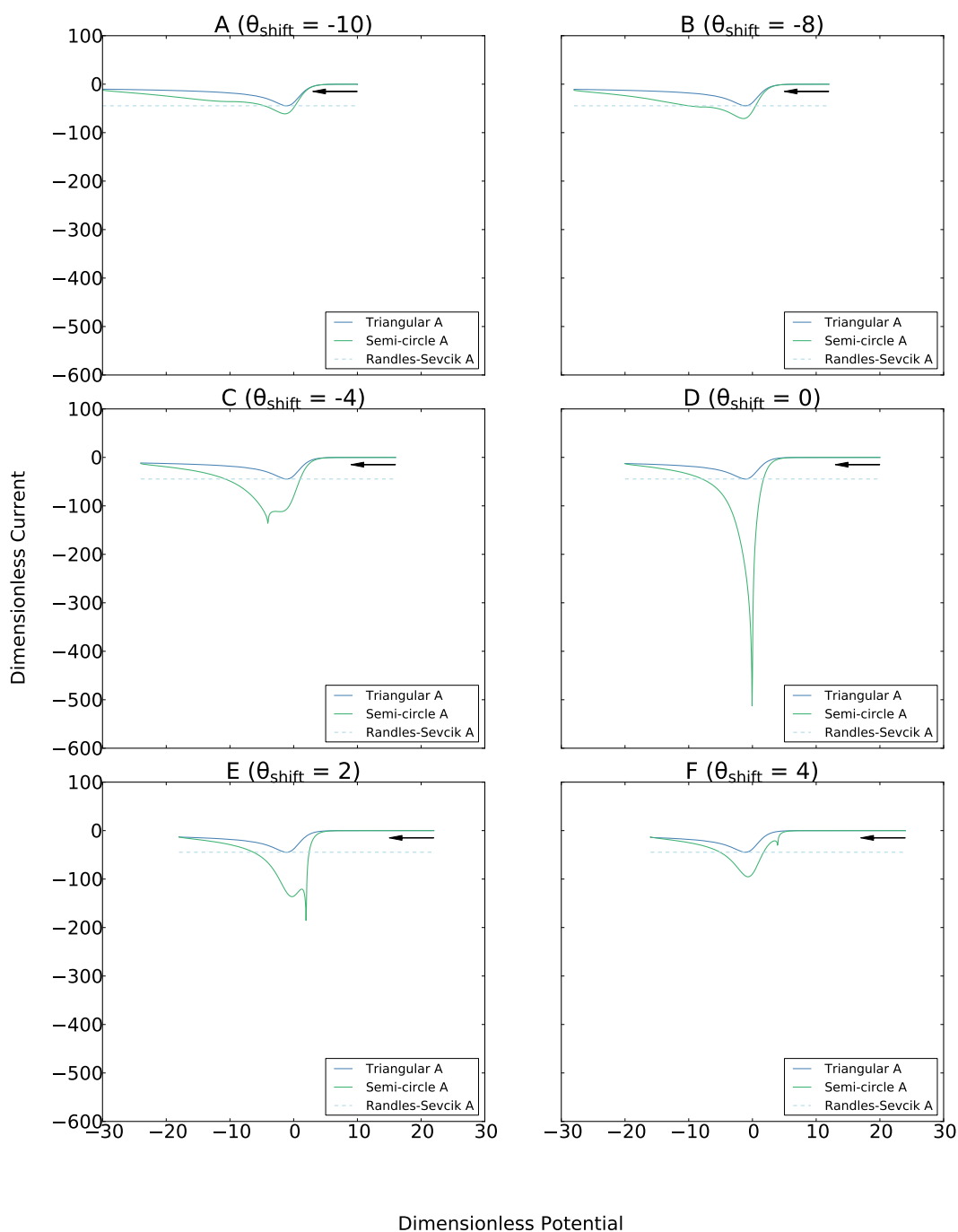


Figure S1: Full scale figure of the voltammograms shown in Figure 2 of the paper.

## S2 Two species with formal potential difference of -8 dimensionless units

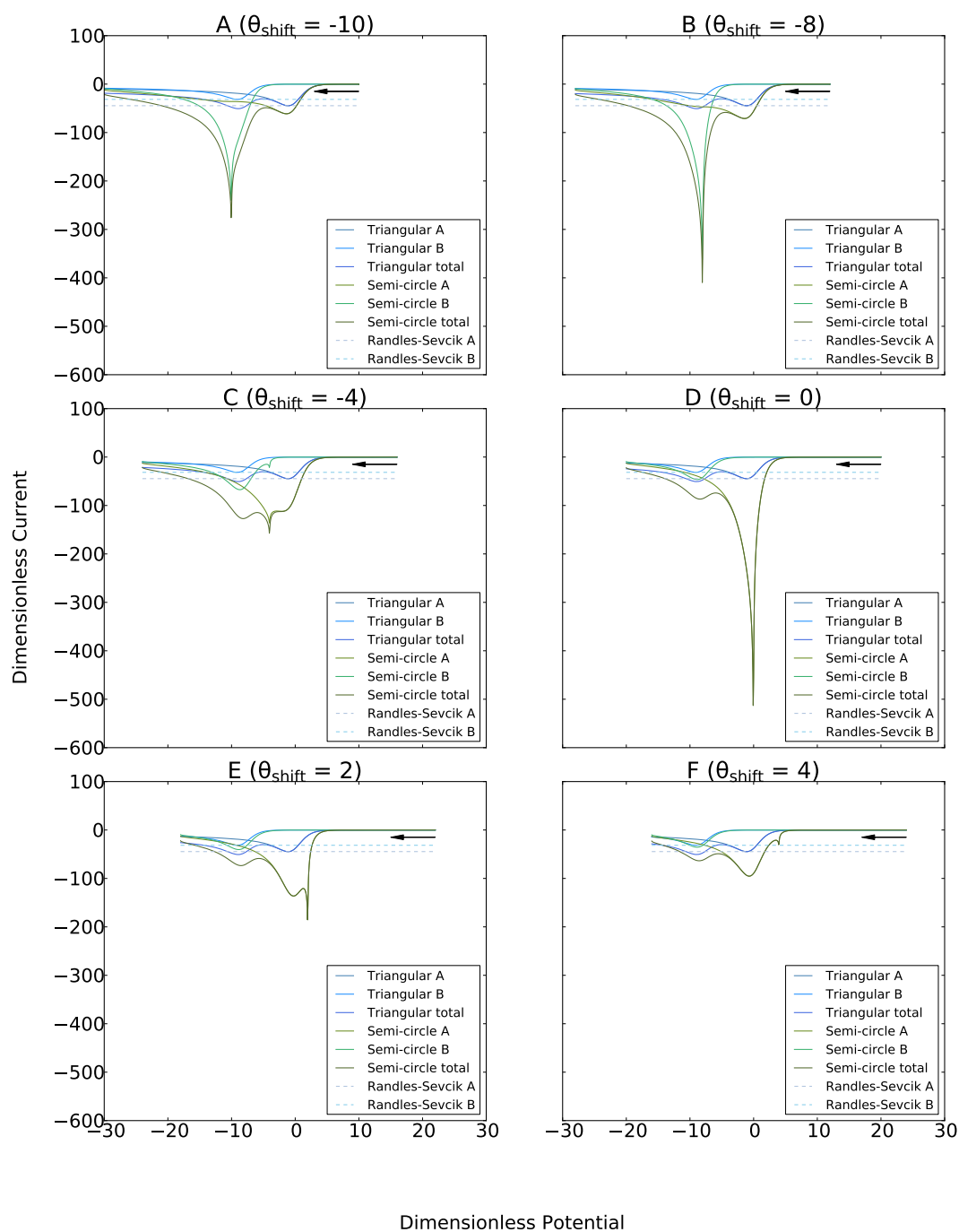


Figure S2: Full scale figure of the voltammograms shown in Figure 3 of the paper.

### S3 Two species with formal potential difference of -4 dimensionless units

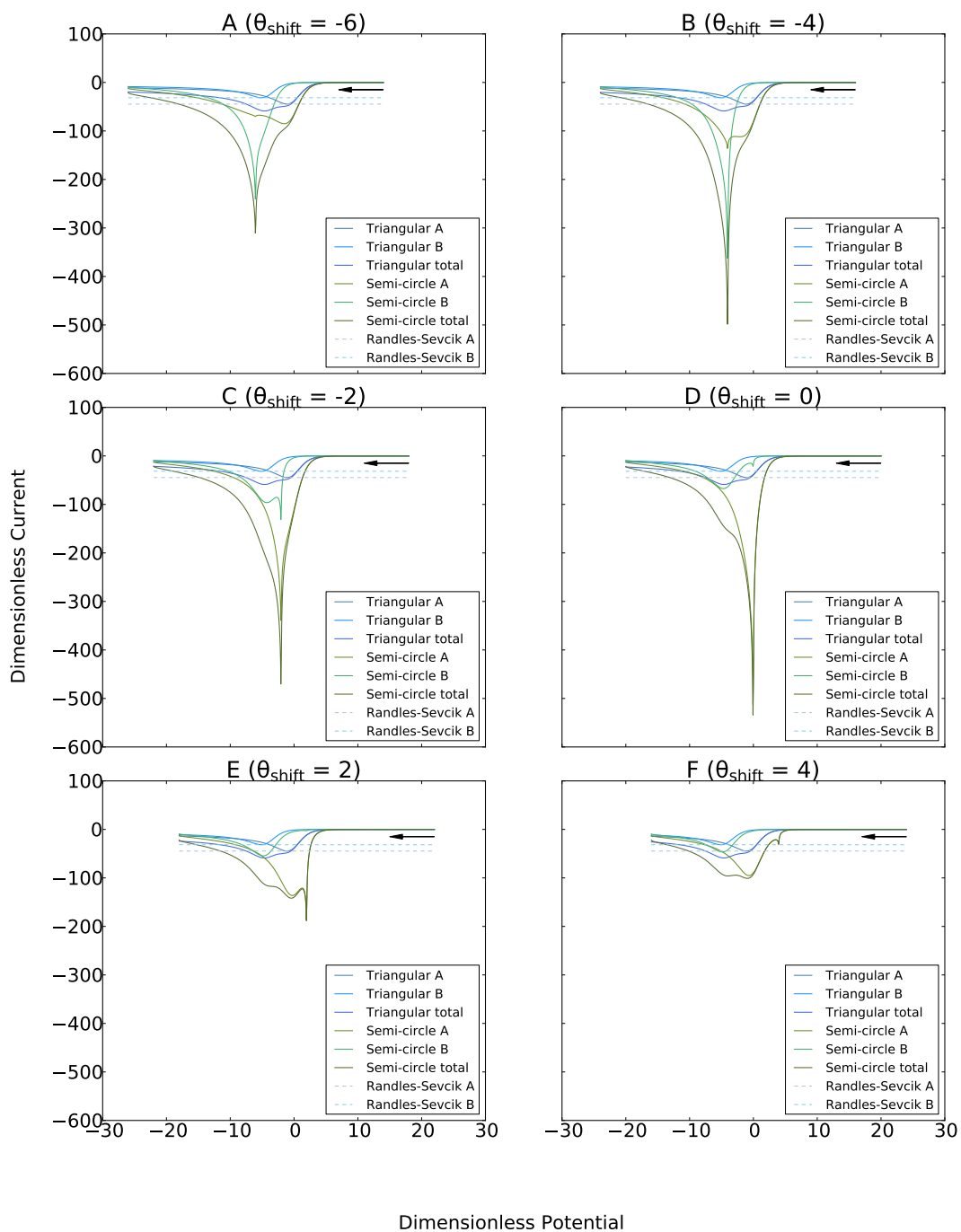


Figure S3: Full scale figure of the voltammograms shown in Figure 5 of the paper.

# S4 Two species with formal potential difference of -2 dimensionless units

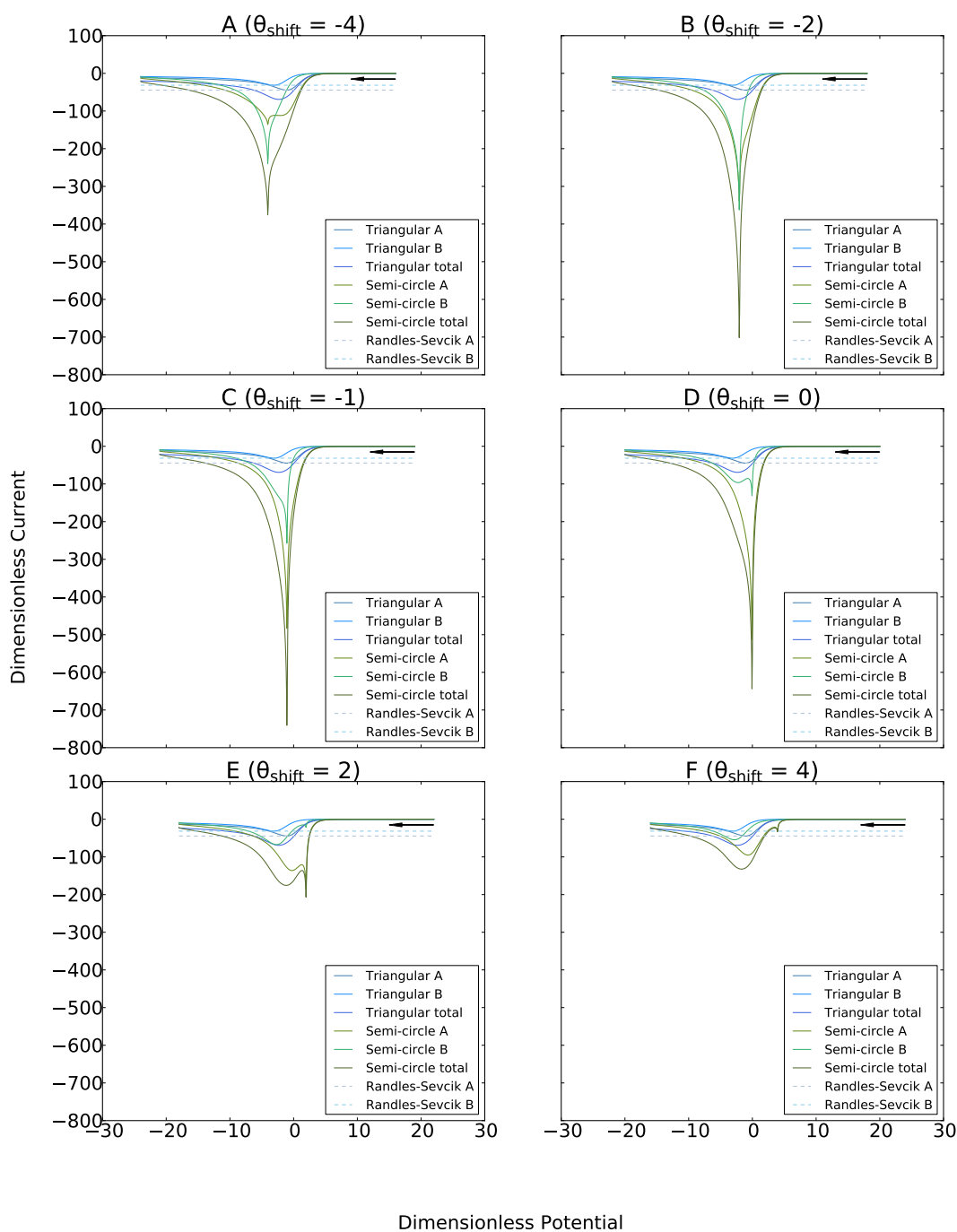


Figure S4: Full scale figure of the voltammograms shown in Figure 7 of the paper.