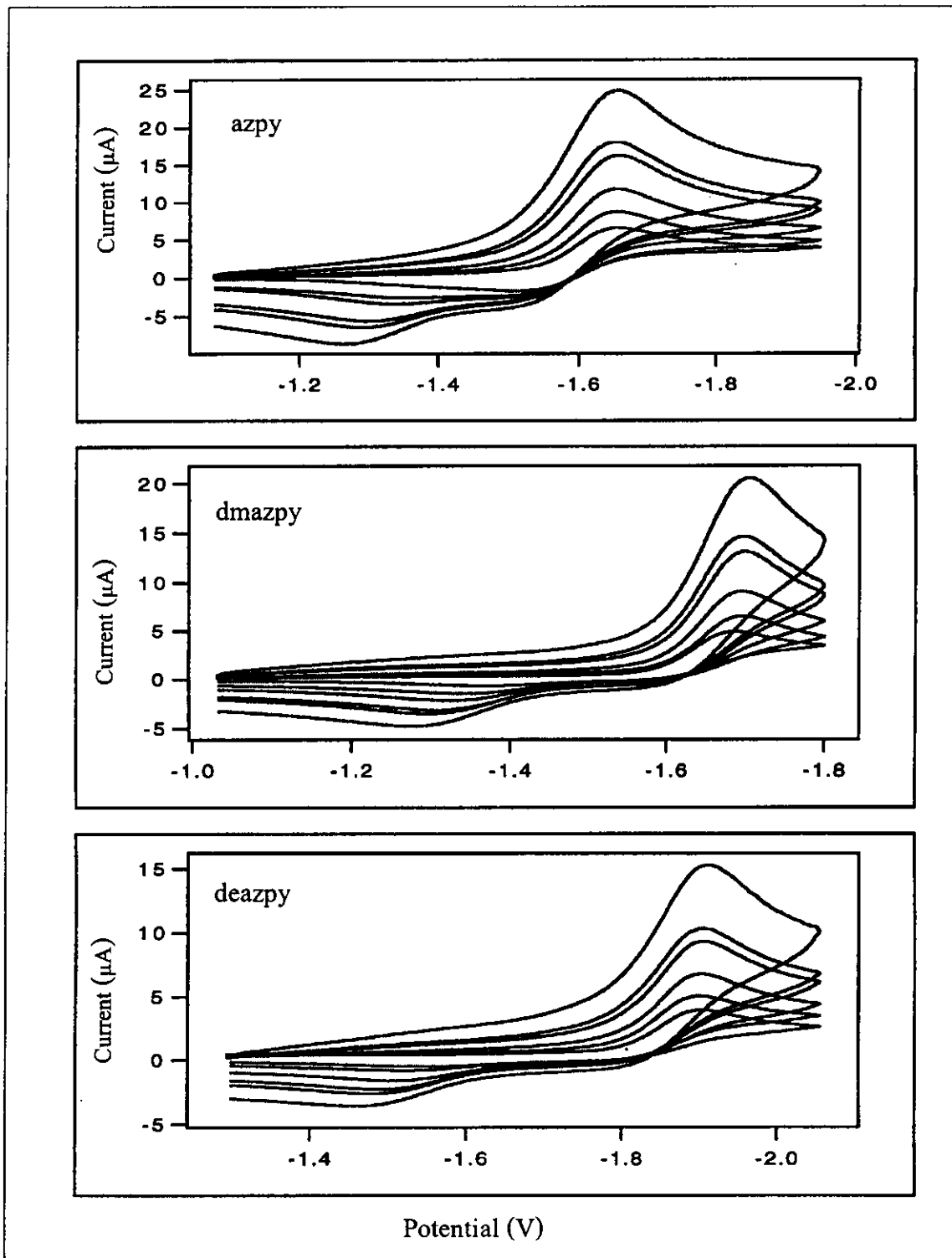
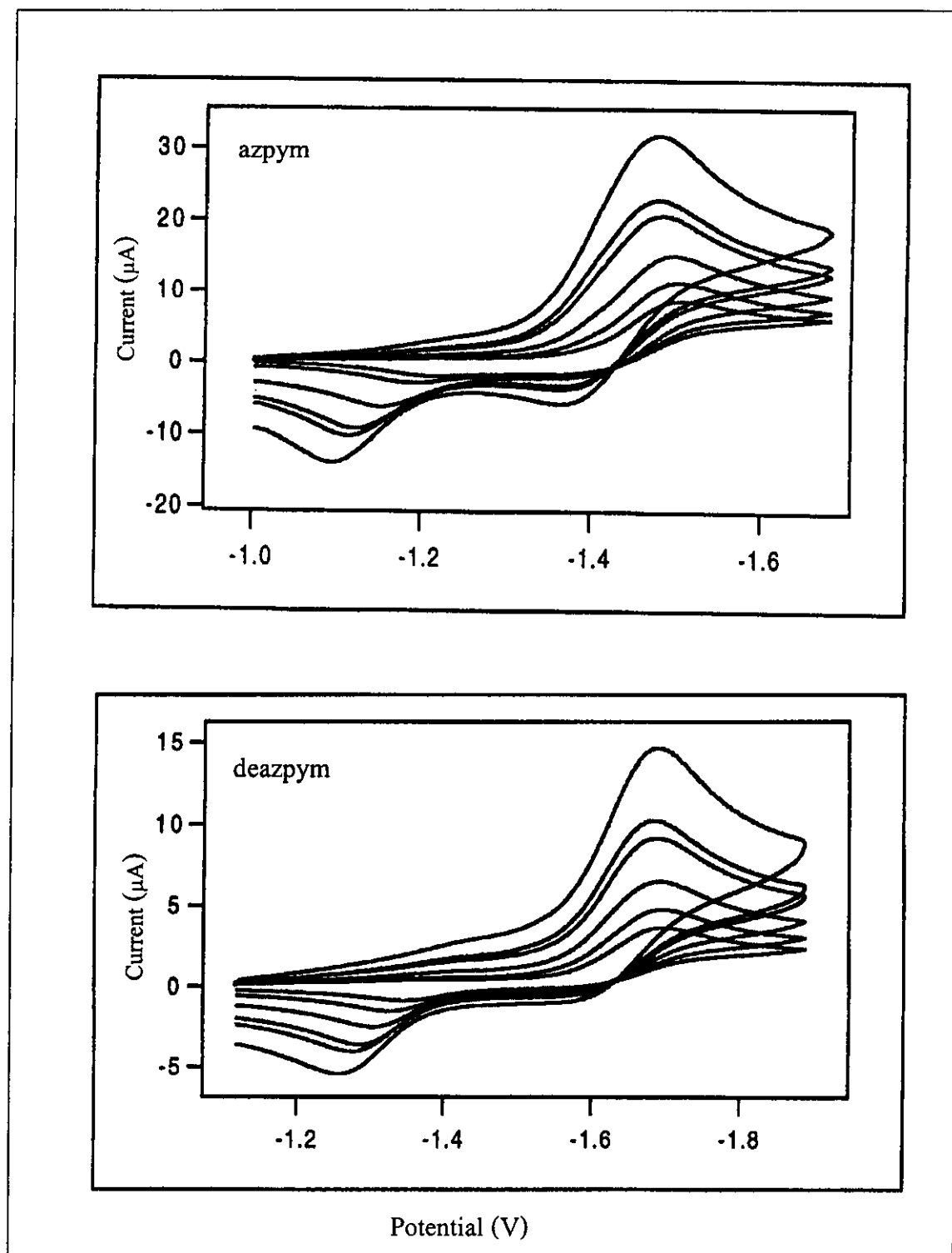


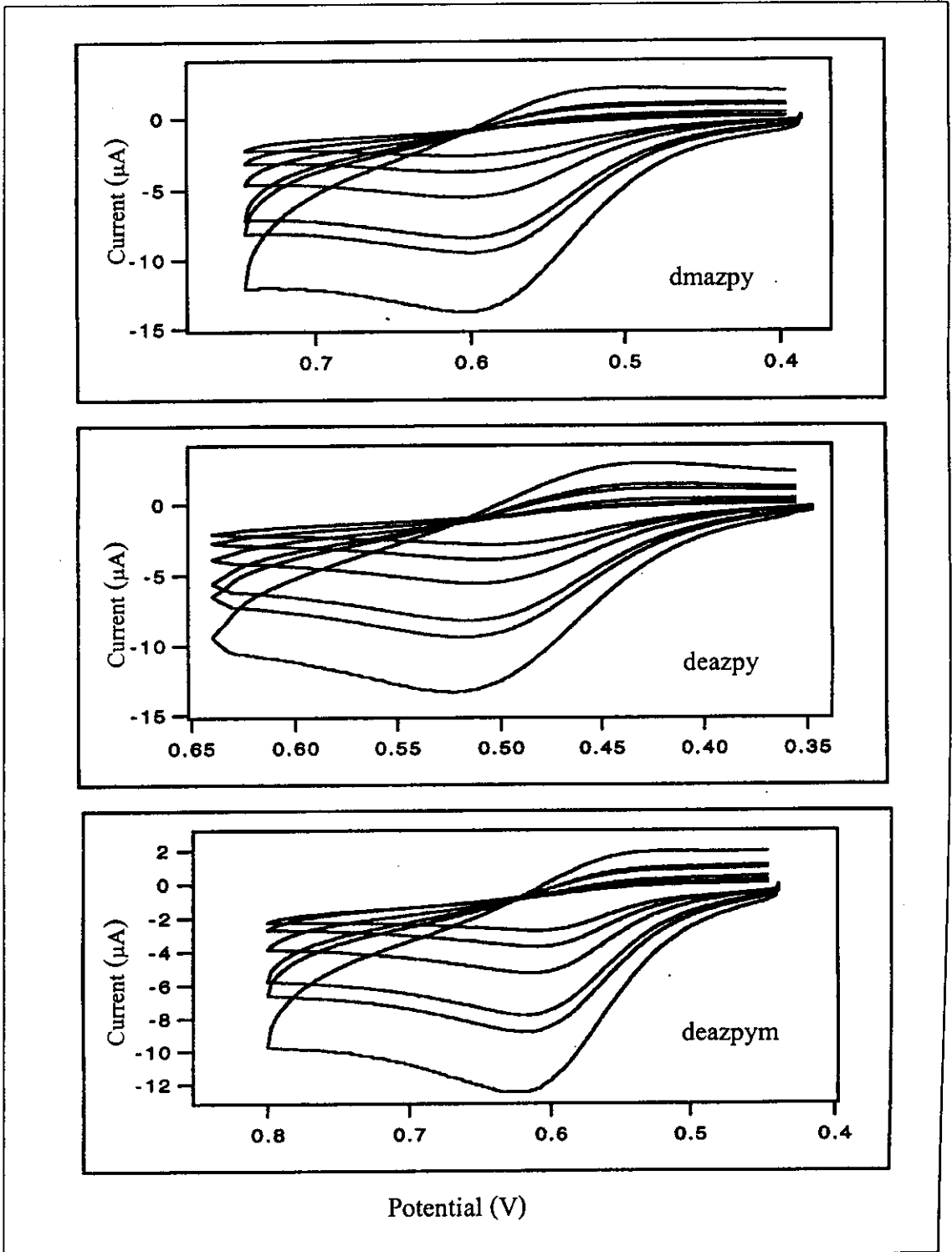
# Appendix



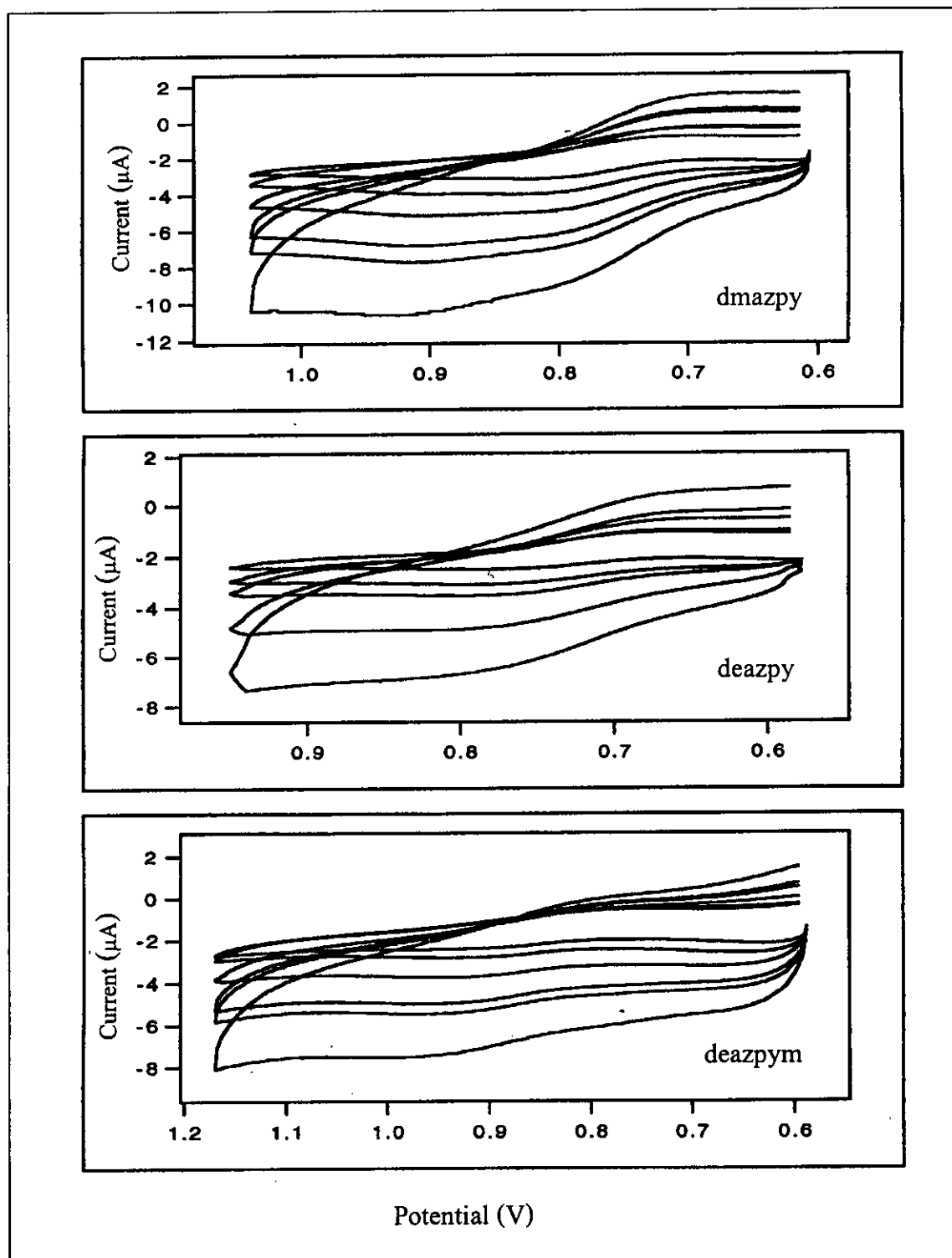
**Figure 80** Cyclic voltammogram of ligands in reduction range (azpy, dmazpy and deazpy) with various scan rates (50-1000 mV/s)



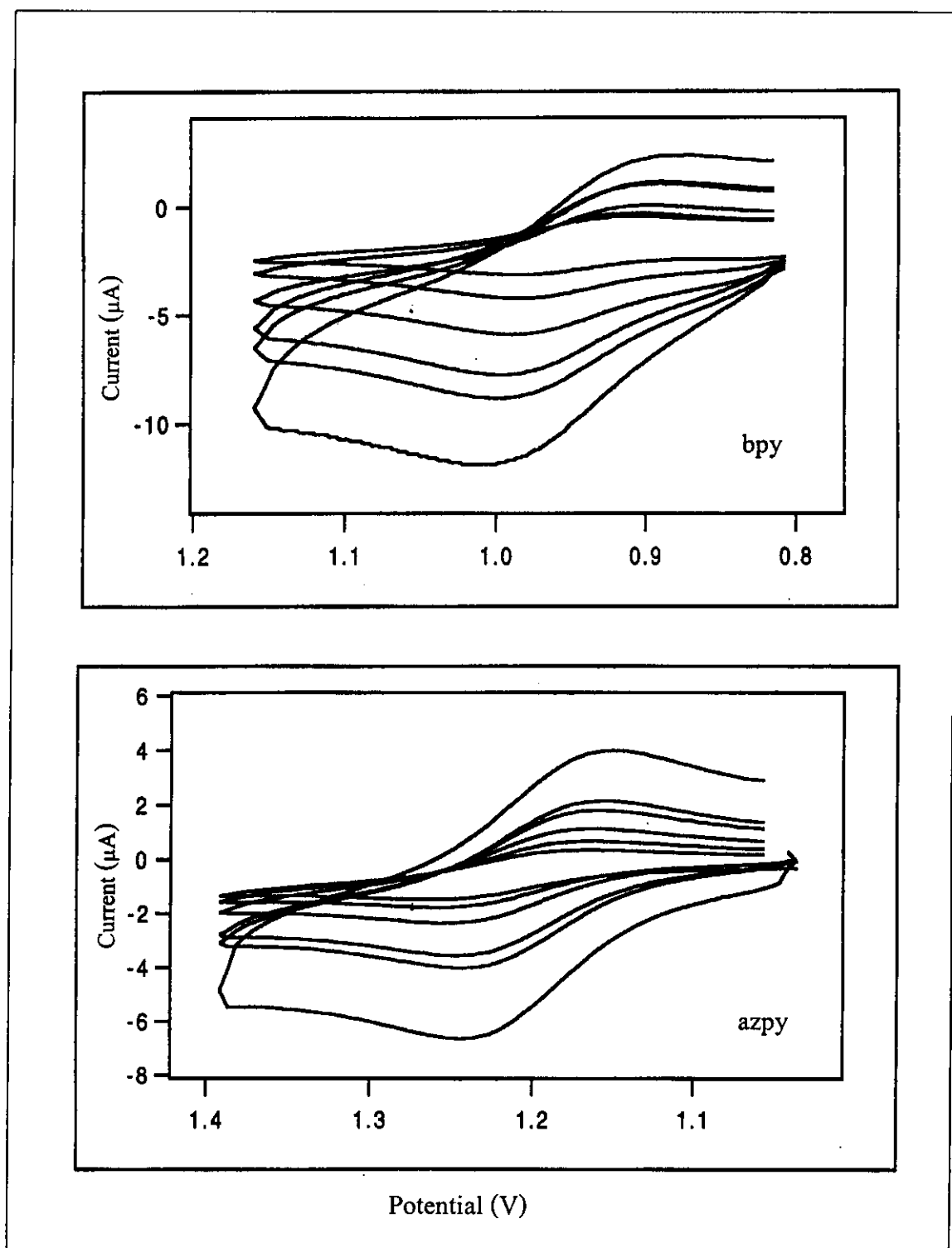
**Figure 81** Cyclic voltammogram of ligands in reduction range (azpym and deazpym) with various scan rates (50-1000 mV/s)



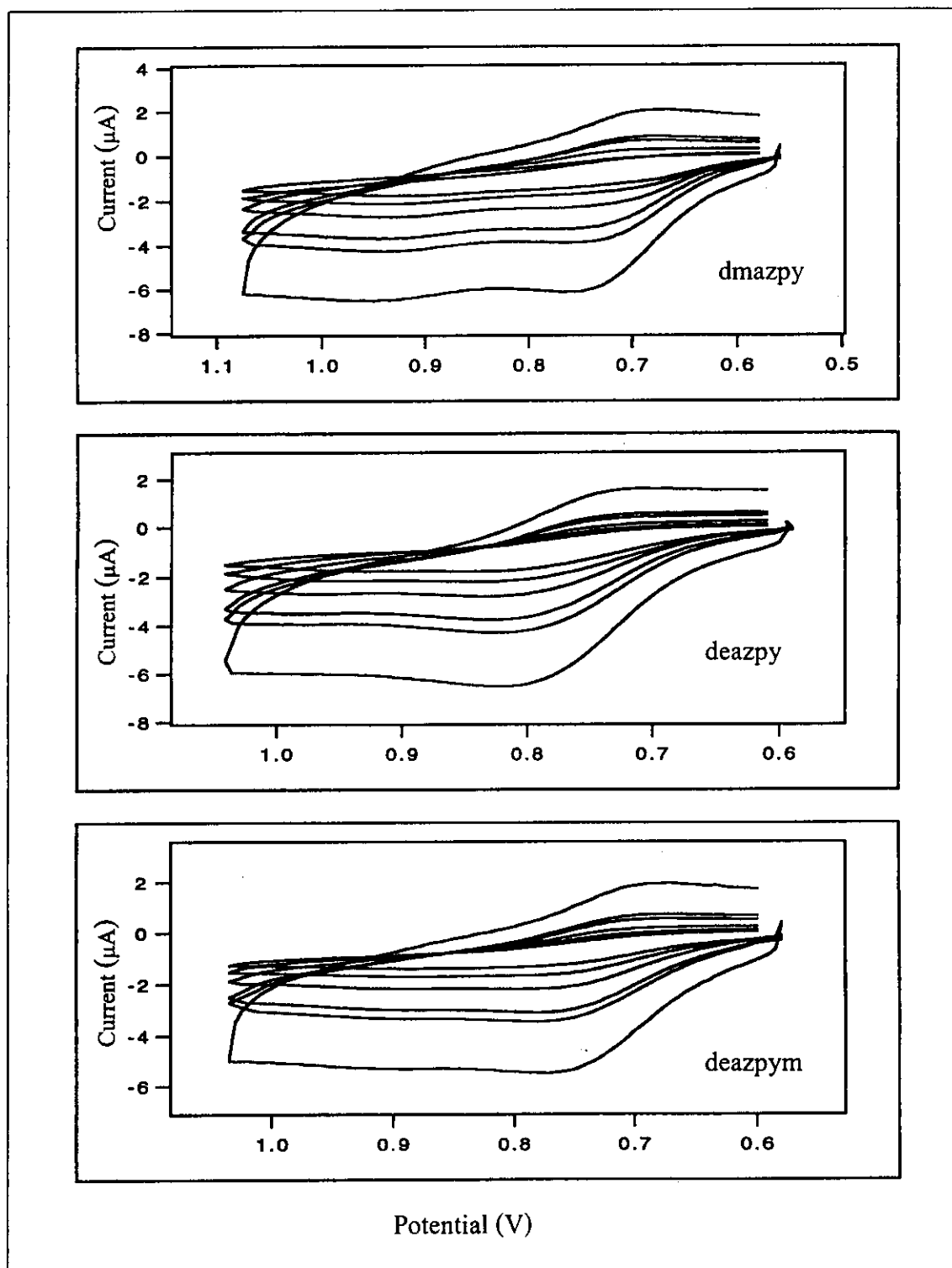
**Figure 82** Cyclic voltammogram of ligands in the range 0.4 - 0.7 V (dmazpy, deazpy and deazpym) with various scan rates (50-1000 mV/s)



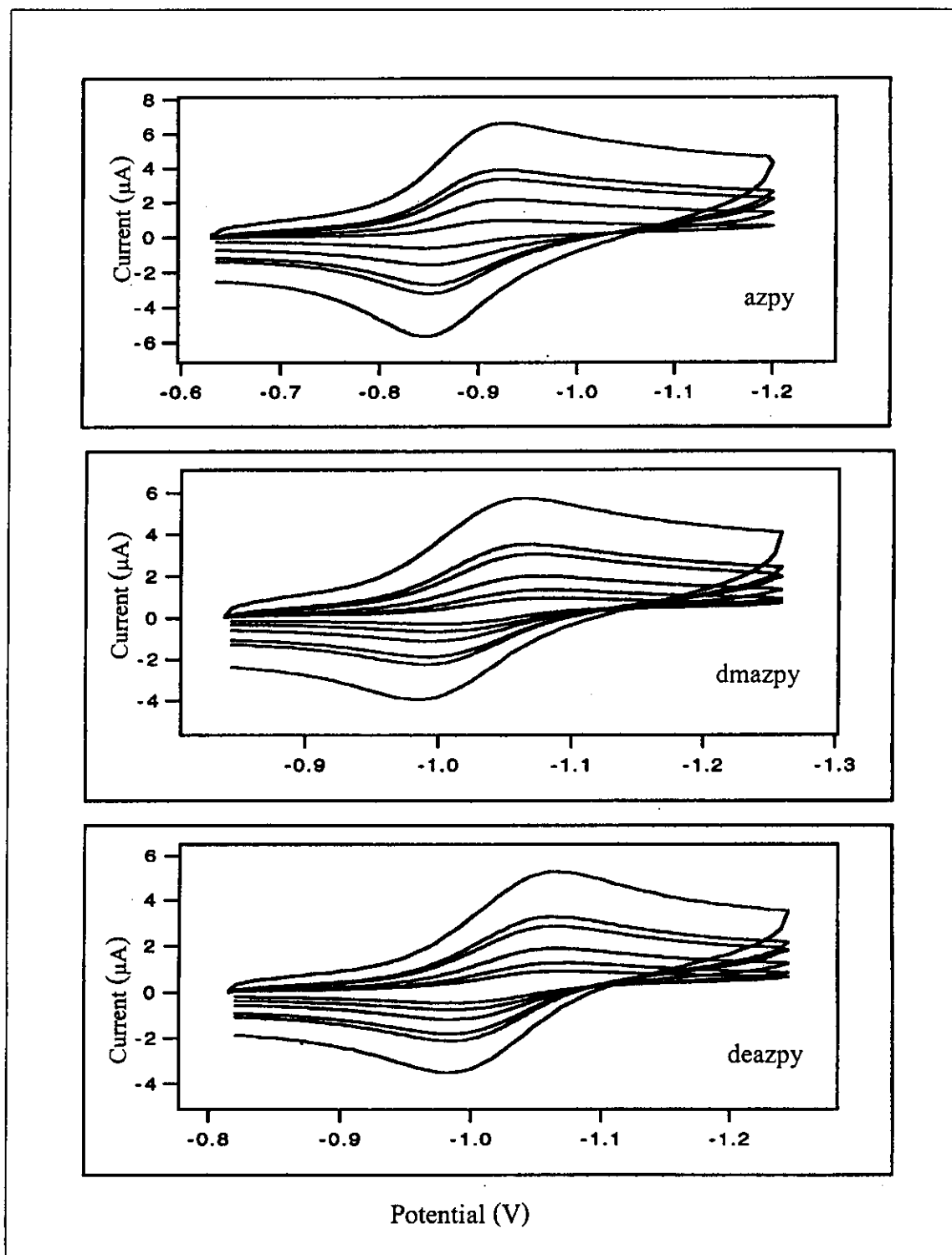
**Figure 83** Cyclic voltammogram of ligands in the range 0.75 - 1.15 V (dmazpy, deazpy and deazpym) with various scan rates (50-1000 mV/s)



**Figure 84** Cyclic voltammogram of Ru(II/III) couple in oxidation range of  $[\text{Ru}(\text{bpy})_2\text{L}]^{2+}$  (L = bpy and azpy) by varying scan rates (50-1000 mV/s)

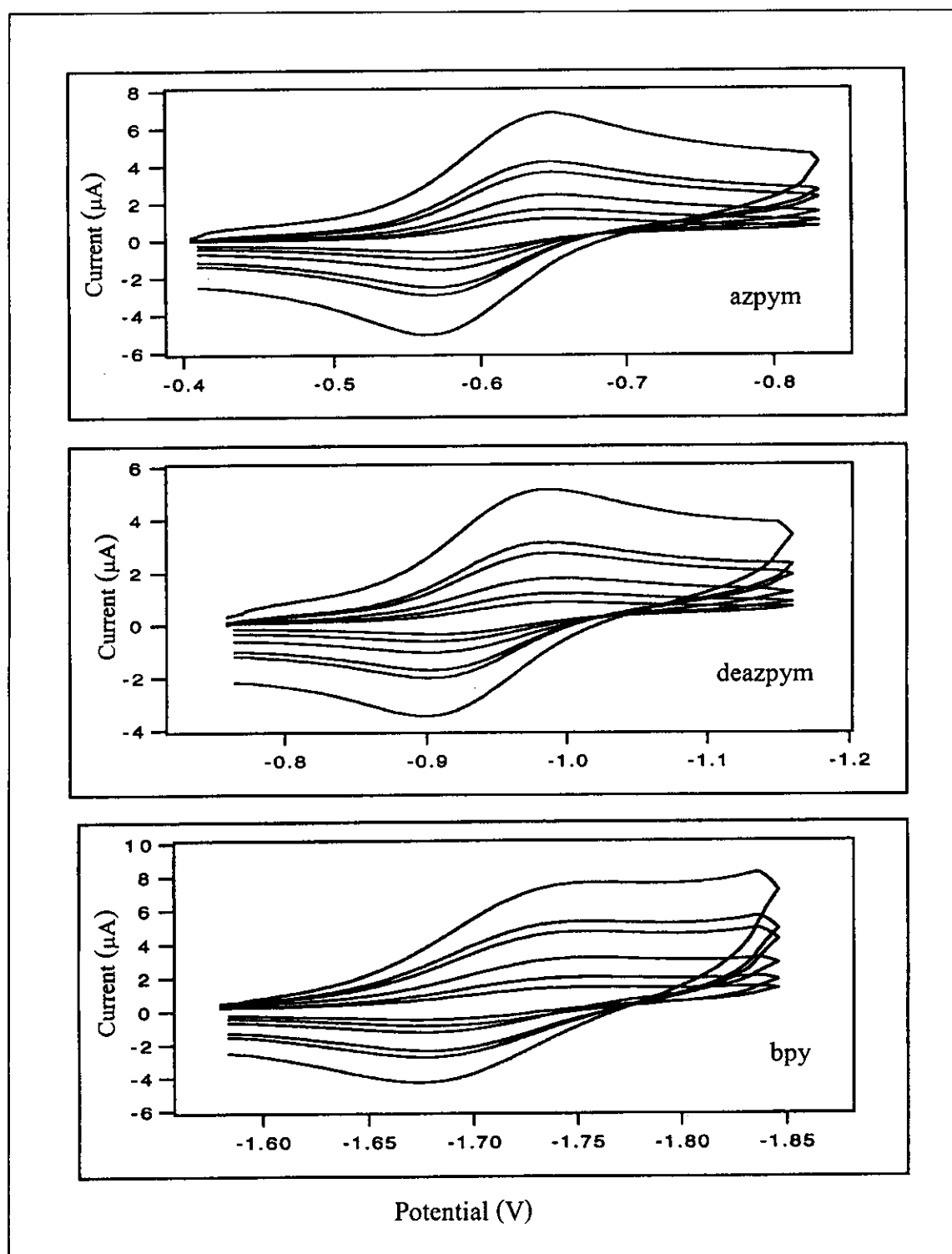


**Figure 85** Cyclic voltammogram of ligand with substituents in oxidation range for  $[\text{Ru}(\text{bpy})_2\text{L}]^{2+}$  ( $\text{L} = \text{dmazpy}$ ,  $\text{deazpy}$  and  $\text{deazpym}$ ) by varying scan rates (50-1000 mV/s)

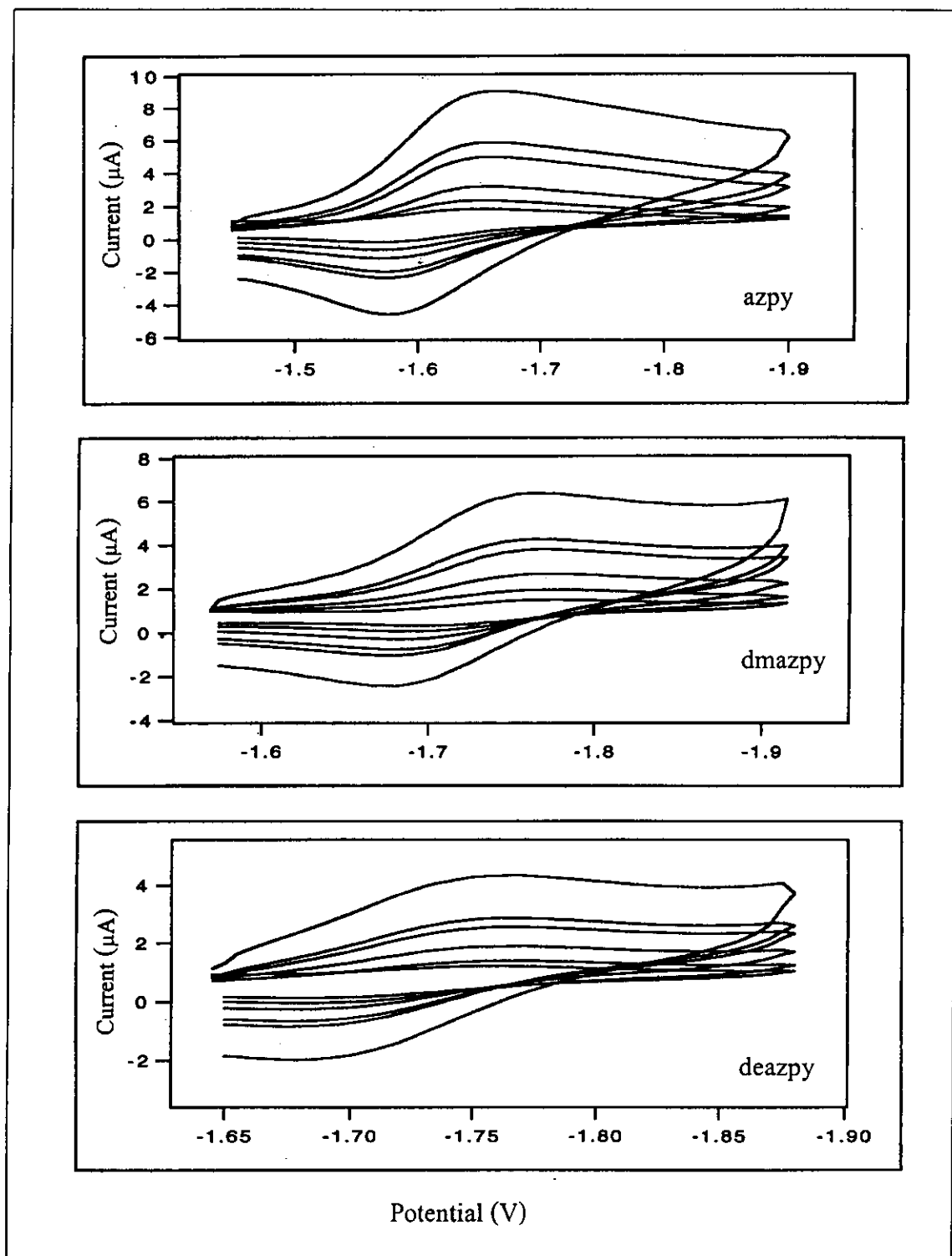


**Figure 86** Cyclic voltammogram of couple I in reduction range of  $[\text{Ru}(\text{bpy})_2\text{L}]^{2+}$  ( $\text{L} = \text{azpy}$ ,  $\text{dmazpy}$  and  $\text{deazpy}$ ) by varying scan rates (50-1000 mV/s)

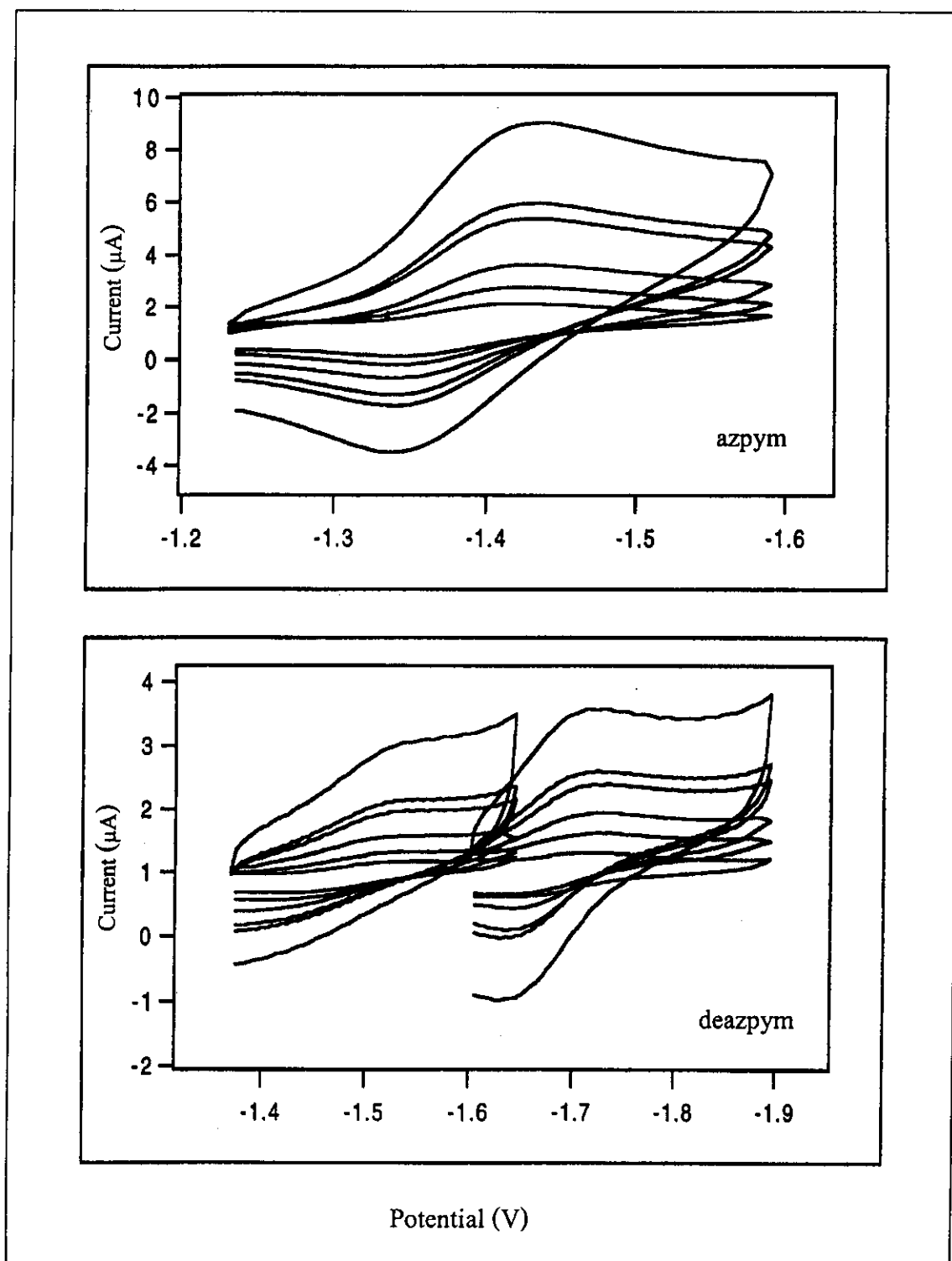




**Figure 87** Cyclic voltammogram of couple I in reduction range of  $[\text{Ru}(\text{bpy})_2\text{L}]^{2+}$  ( $\text{L} = \text{azpym}$ ,  $\text{deazpym}$  and  $\text{bpy}$ ) by varying scan rates (50-1000 mV/s)



**Figure 88** Cyclic voltammogram of couple II in reduction range of  $[\text{Ru}(\text{bpy})_2\text{L}]^{2+}$  ( $\text{L} = \text{azpy}$ ,  $\text{dmazpy}$  and  $\text{deazpy}$ ) by varying scan rates (50-1000 mV/s)



**Figure 89** Cyclic voltammogram of couple II in reduction range of  $[\text{Ru}(\text{bpy})_2\text{L}]^{2+}$  ( $\text{L} = \text{azpym}$  and  $\text{deazpym}$ ) by varying scan rates (50-1000 mV/s)