

## Supporting Information

### Synthesis and photoluminescence properties of rhenium(I) complexes based on 2,2',6,2'-terpyridine derivatives with hole-transporting units

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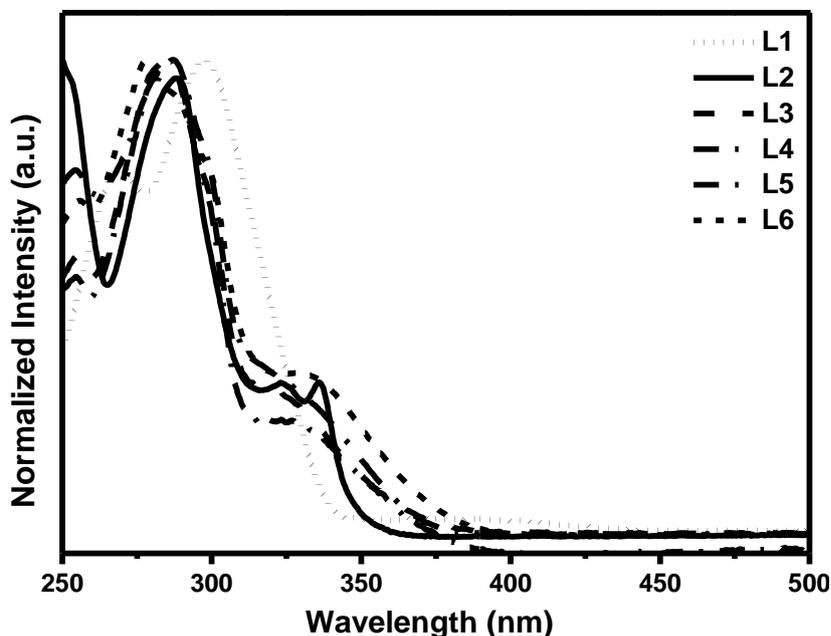
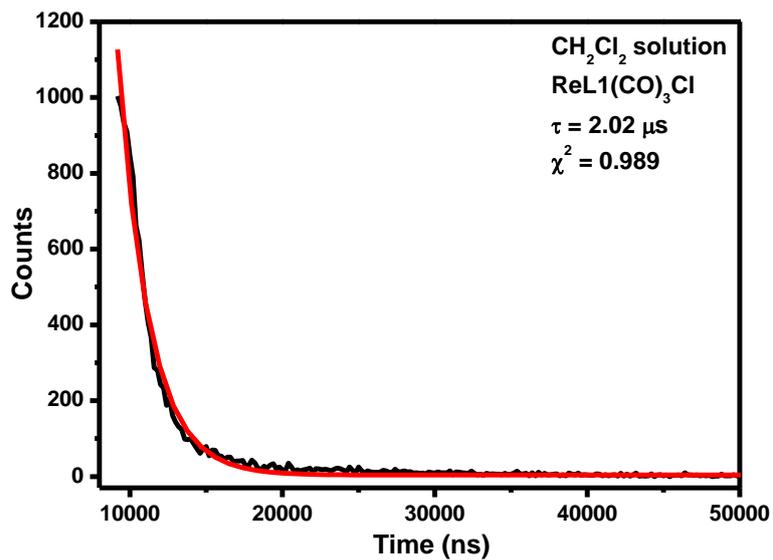


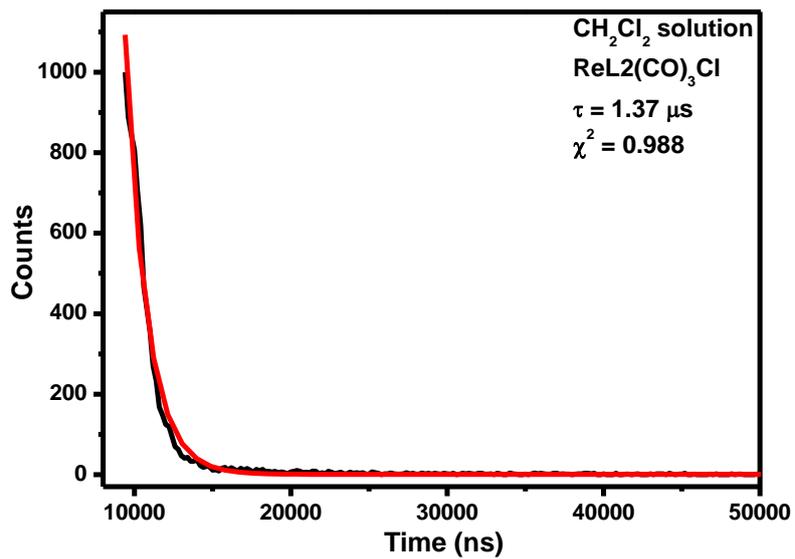
Fig. S1 Normalized absorption spectra of the ligands L1 - L6 in CH<sub>2</sub>Cl<sub>2</sub> solutions at room temperature.

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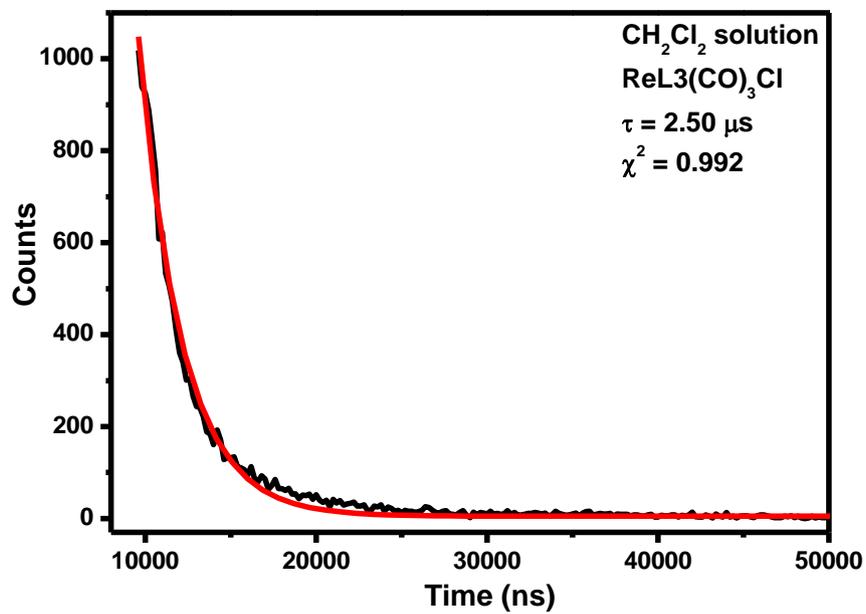


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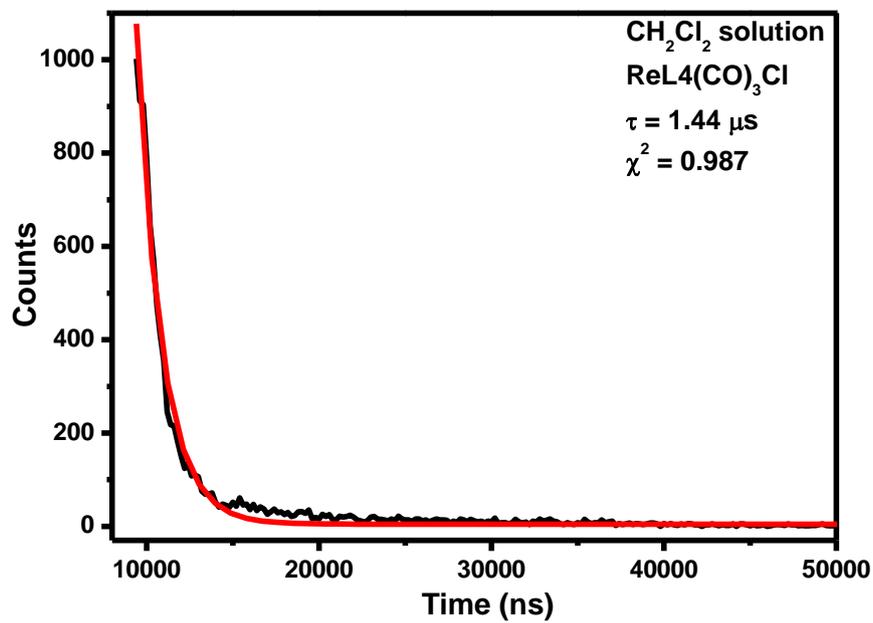
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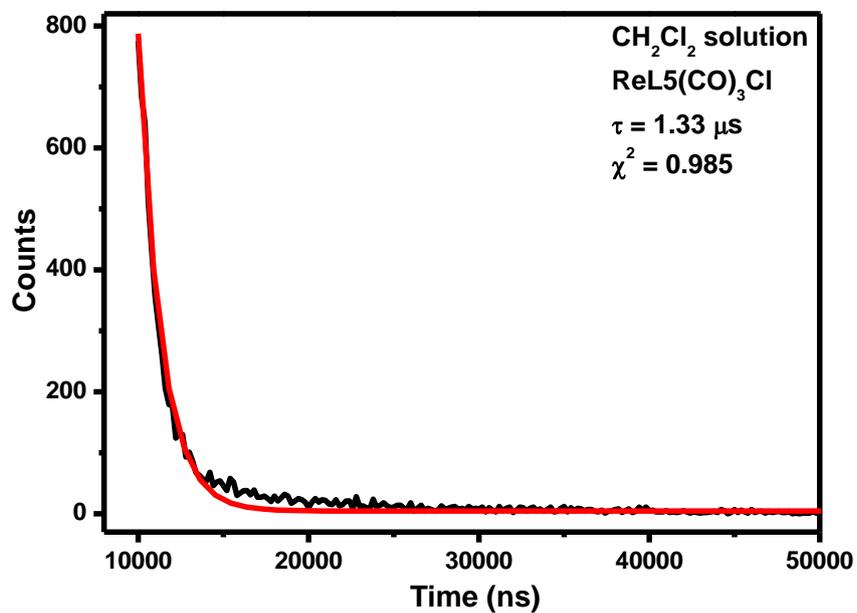


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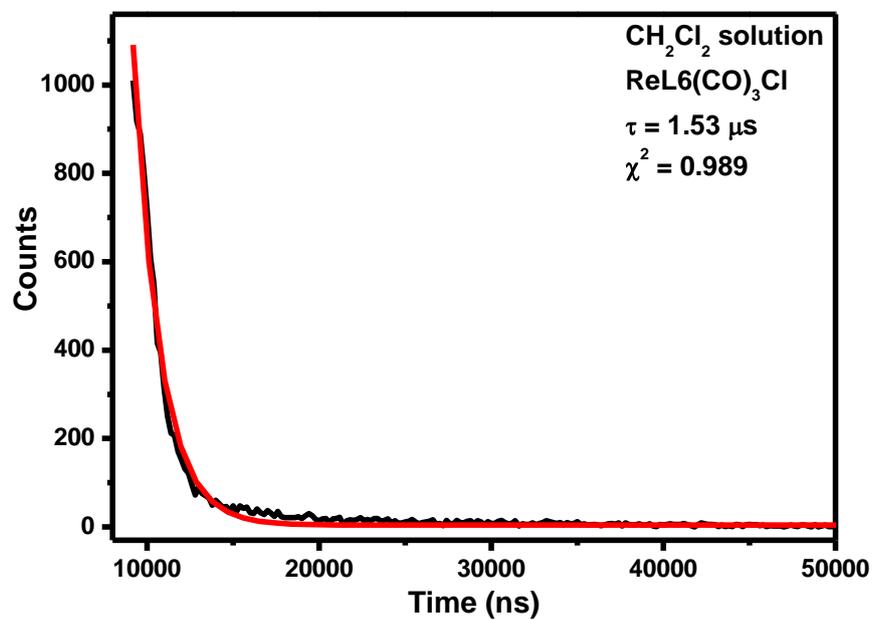
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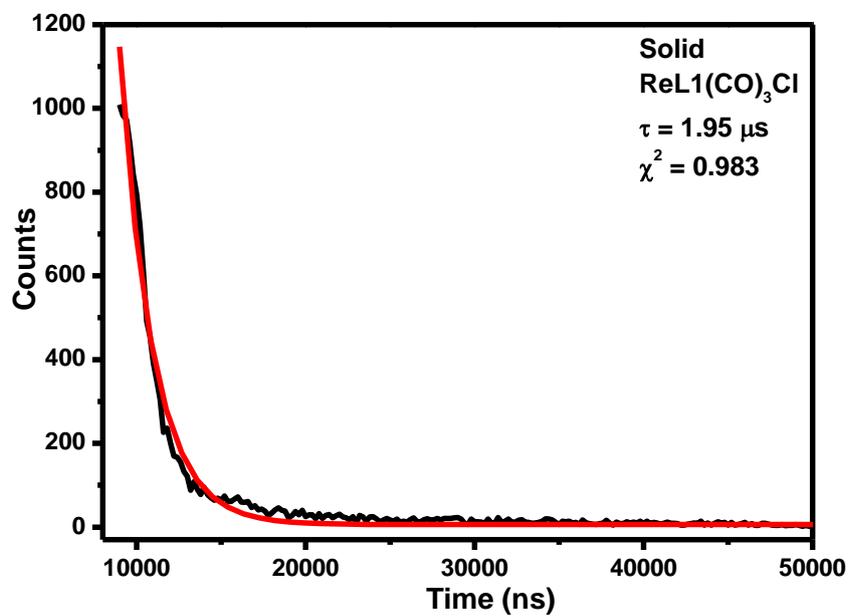
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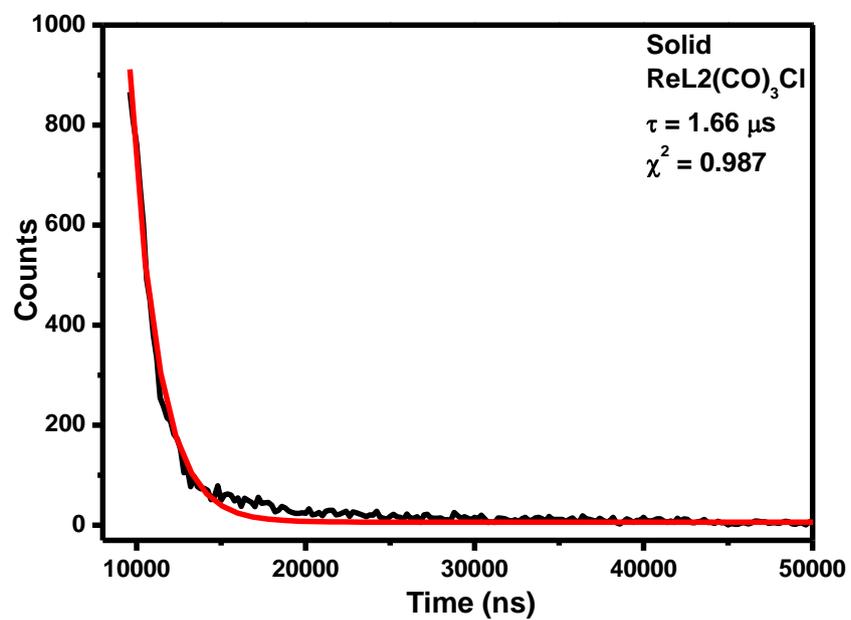
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**Fig. S2** Photoluminescence lifetimes of Re(I) complexes in CH<sub>2</sub>Cl<sub>2</sub> solution at room temperature. The excitation wavelength is 468 nm, and the emission is monitored at emission maxima.

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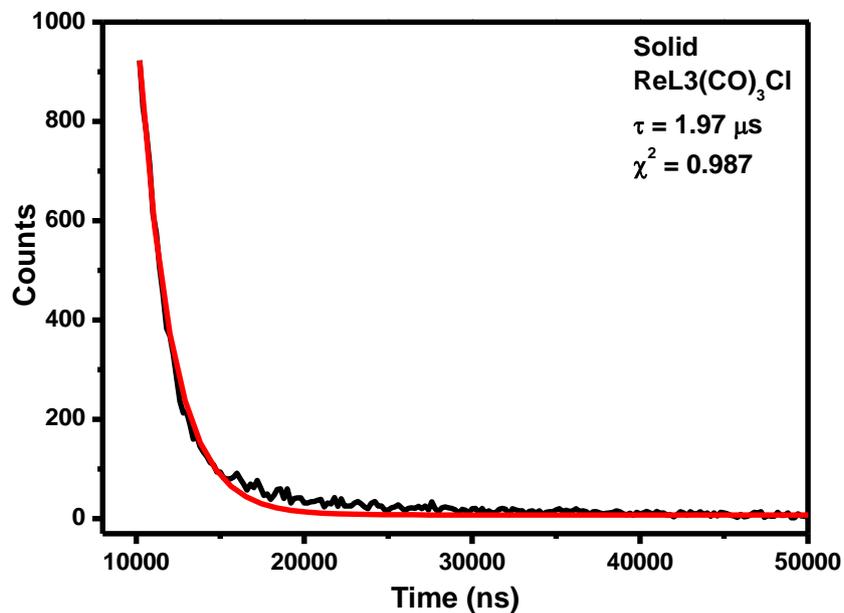


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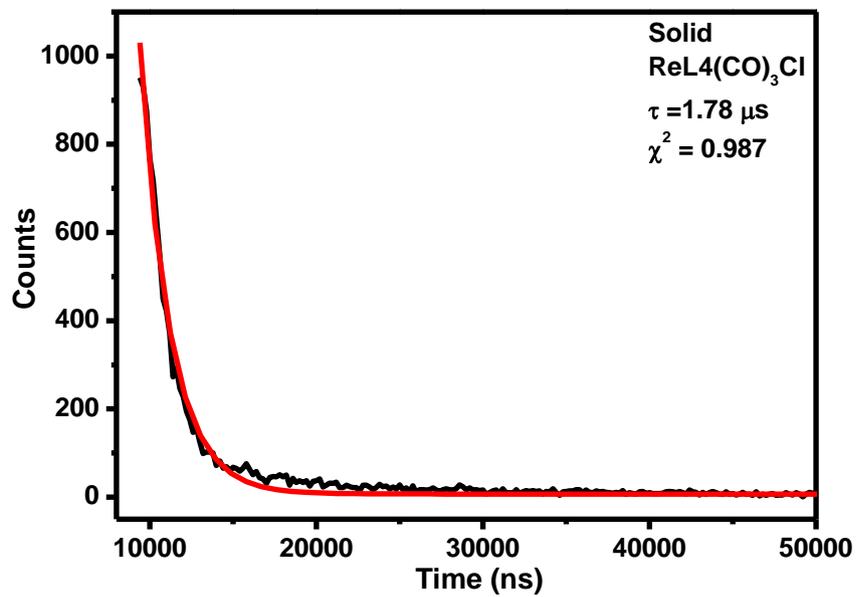


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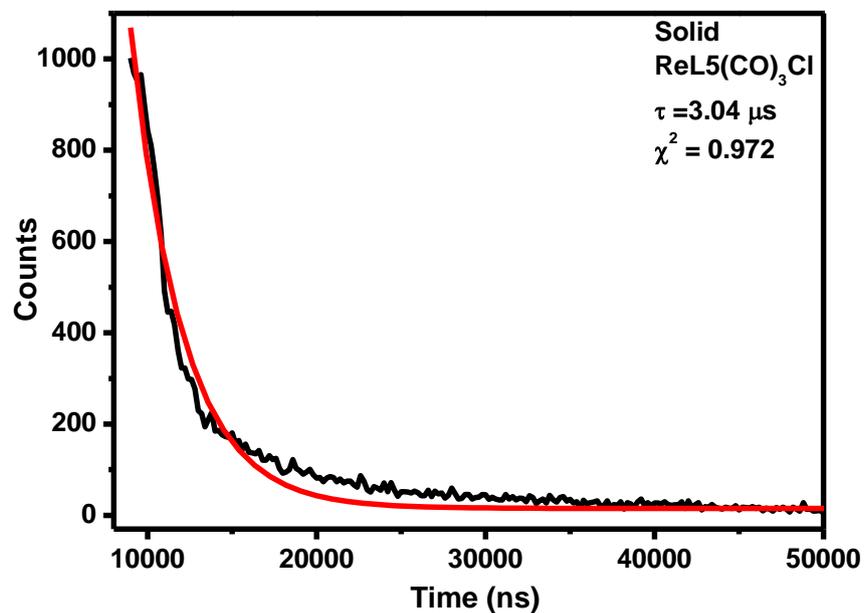


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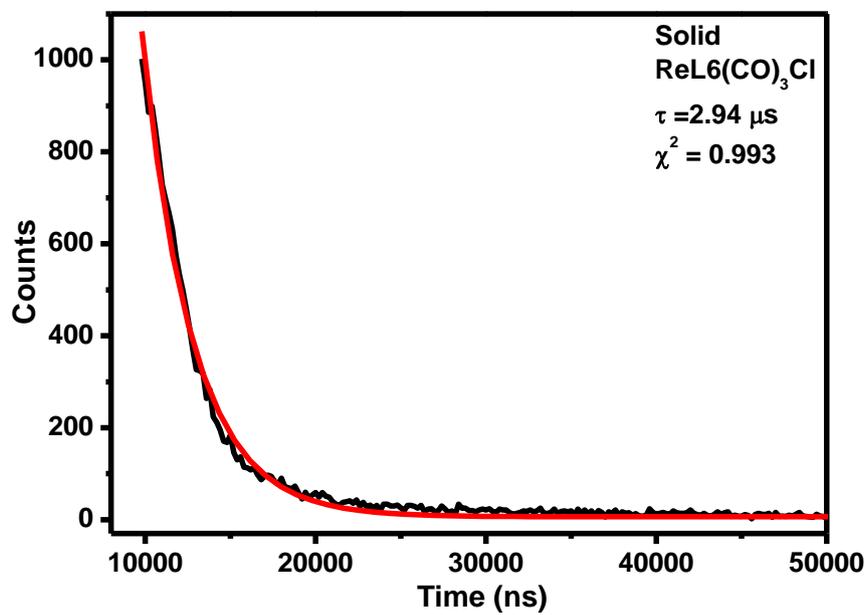


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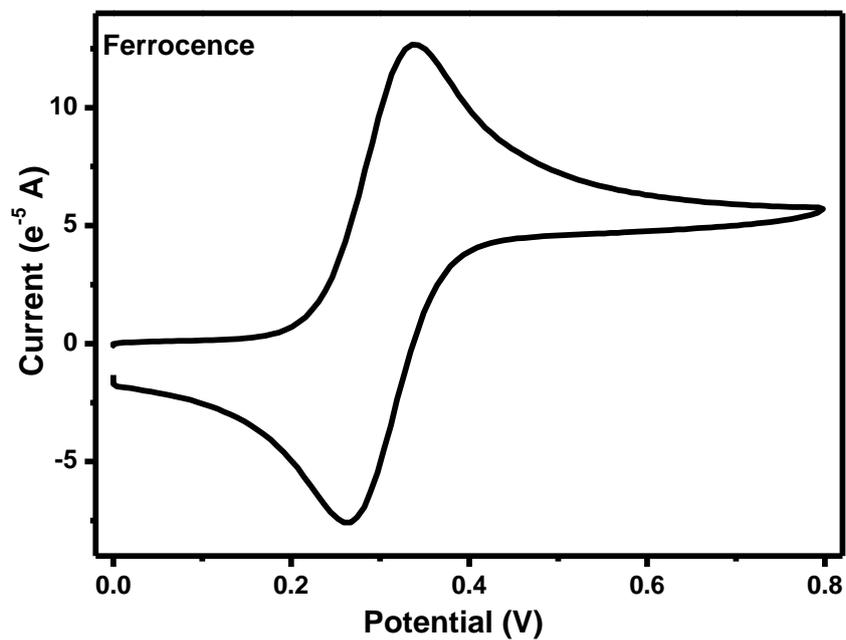
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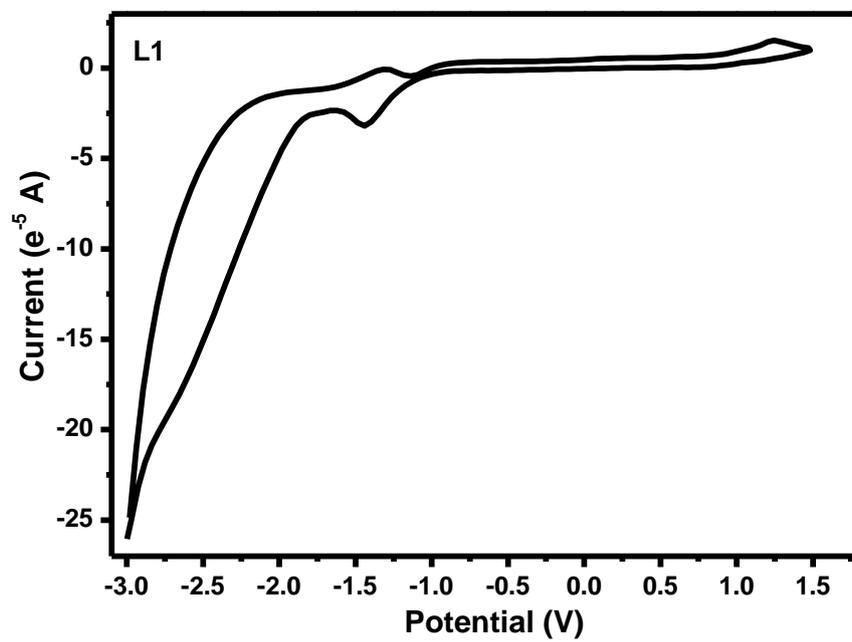
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**Fig. S3** Photoluminescence lifetimes of Re(I) complexes in solid at room temperature. The excitation wavelength is 468 nm, and the emission is monitored at emission maxima.

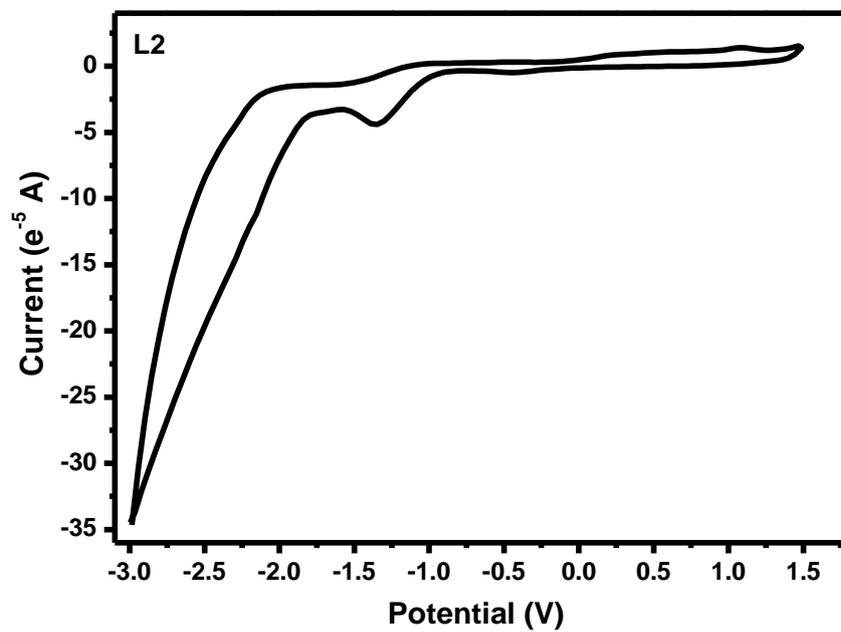
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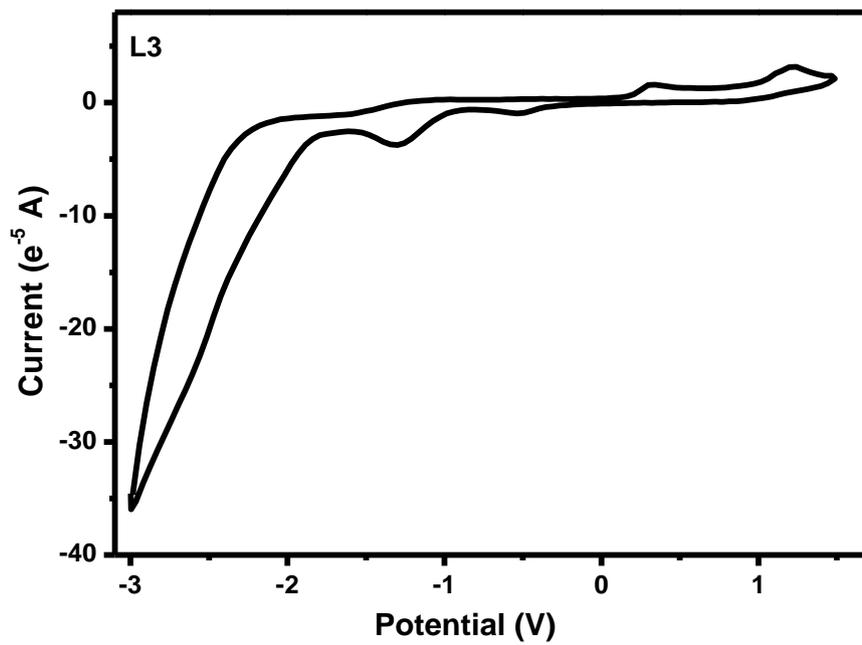


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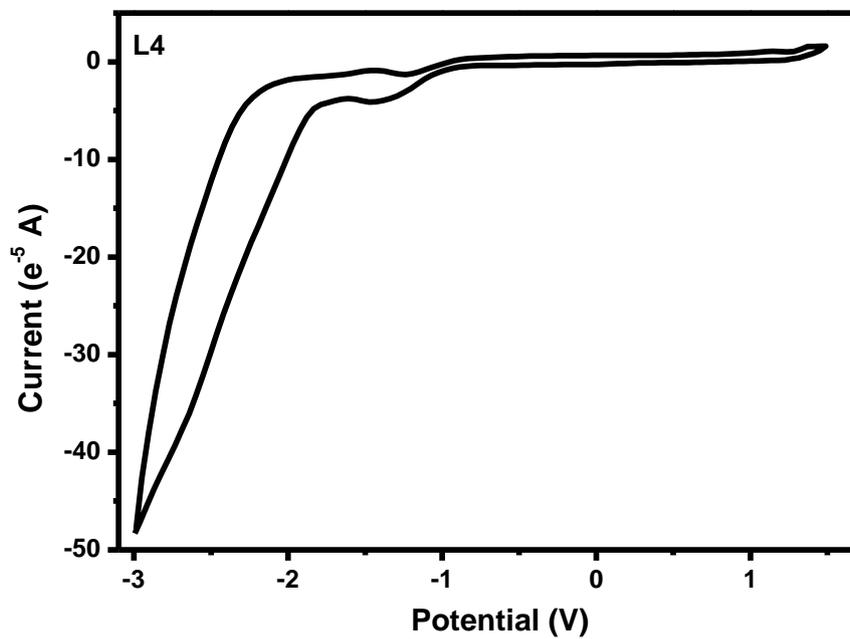


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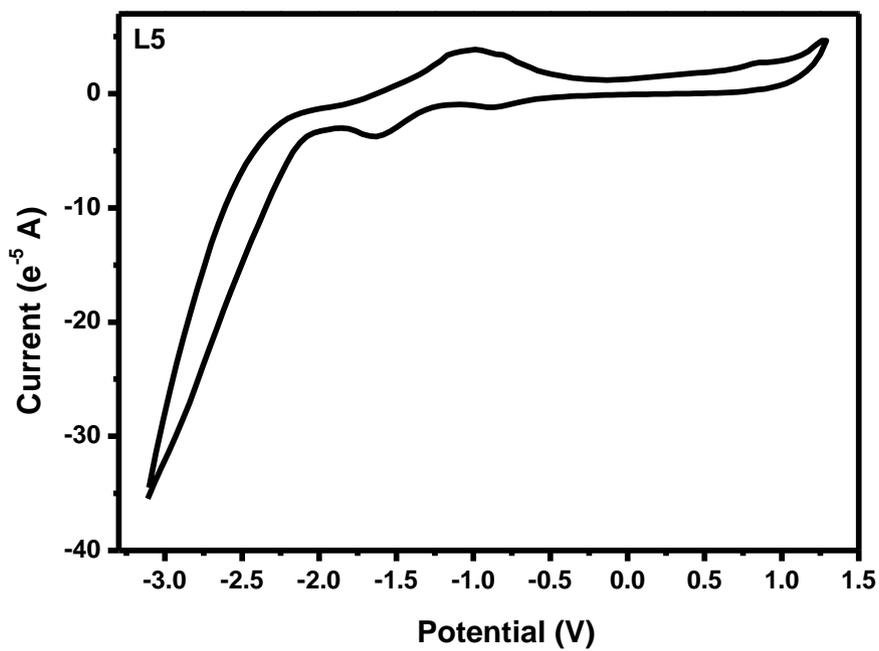


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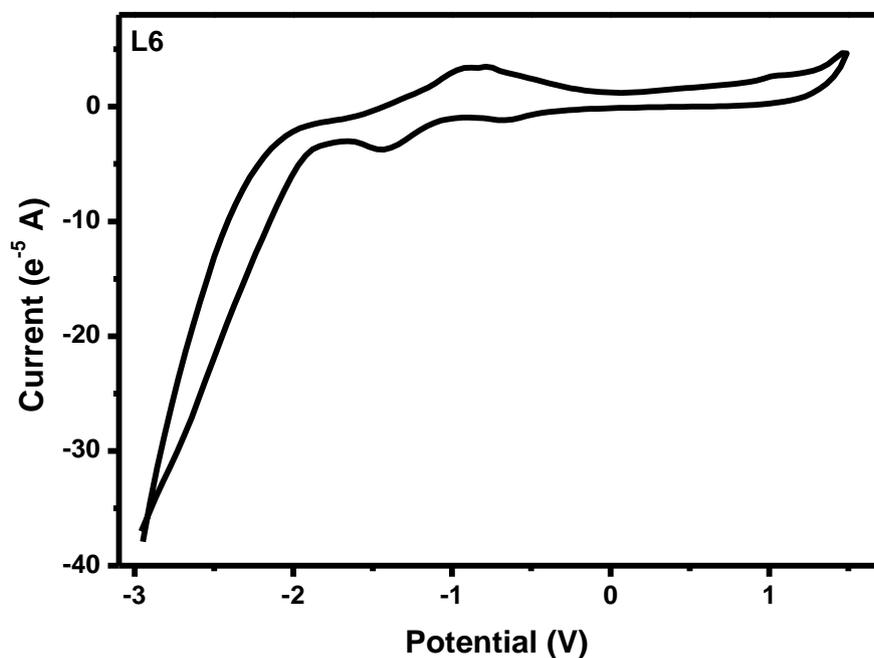


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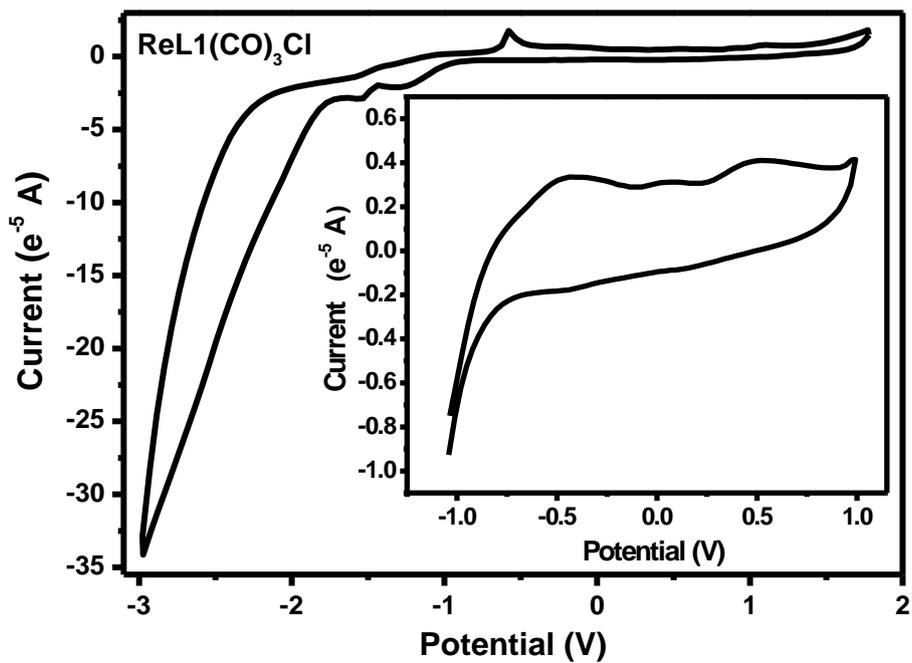
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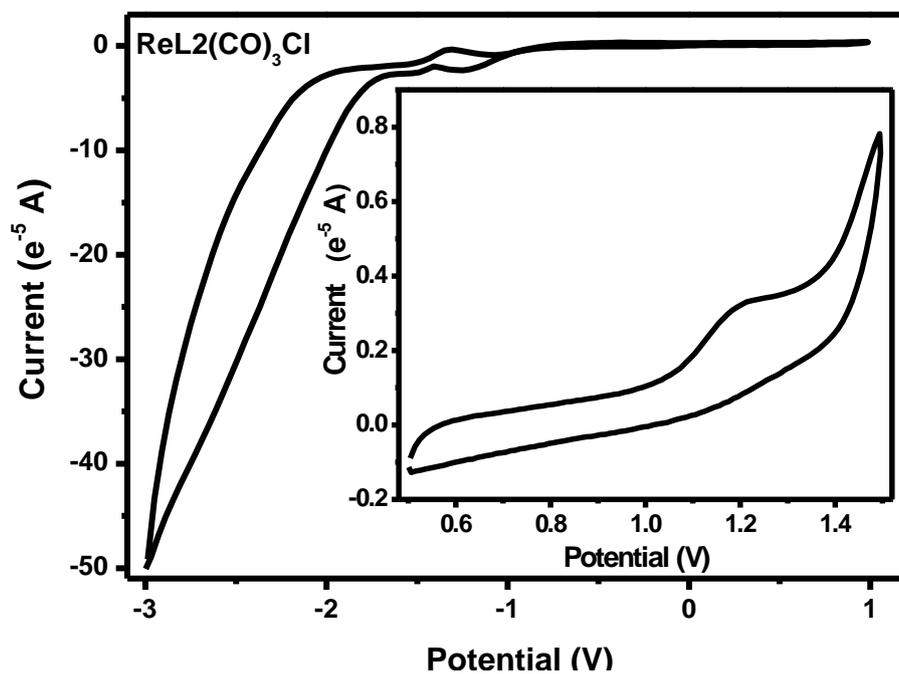


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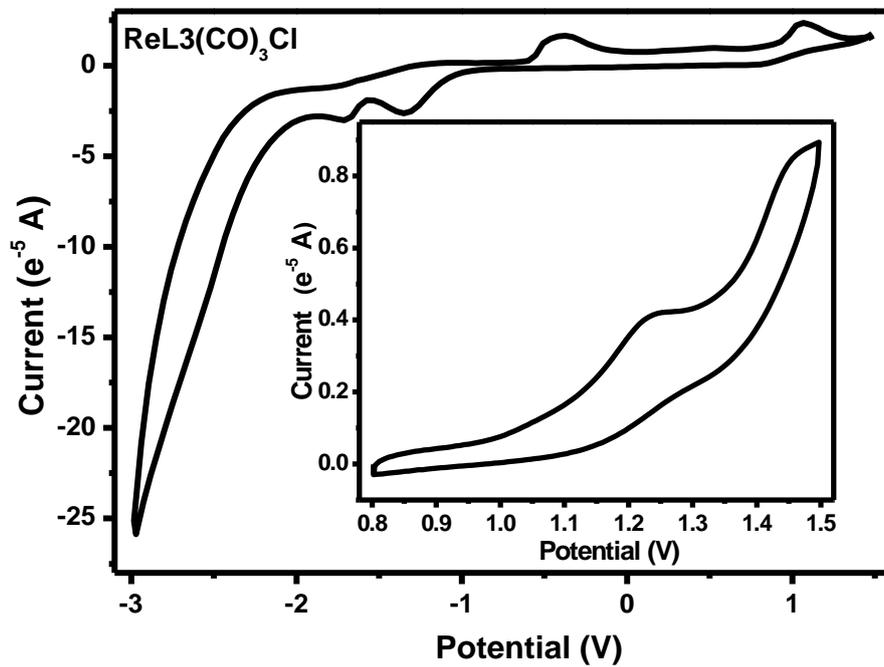


5 Fig. S4 Cyclic voltammograms for forrence and ligands L1 – L6 ( $5 \times 10^{-4}$  M) measured in  $\text{CH}_2\text{Cl}_2$  solutions (vs SCE) of  $(\text{Bu}_4\text{N})\text{PF}_6$  (0.1 M) at a sweep rate of 0.1 V/s. A Pt metal and a Pt mesh were used as the working electrode and the counter electrode, respectively.

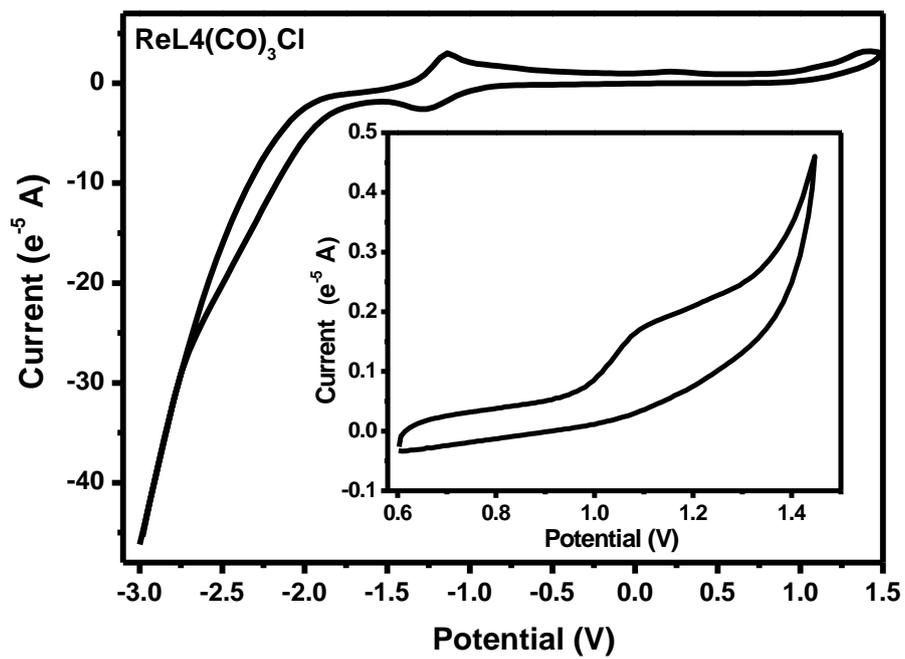




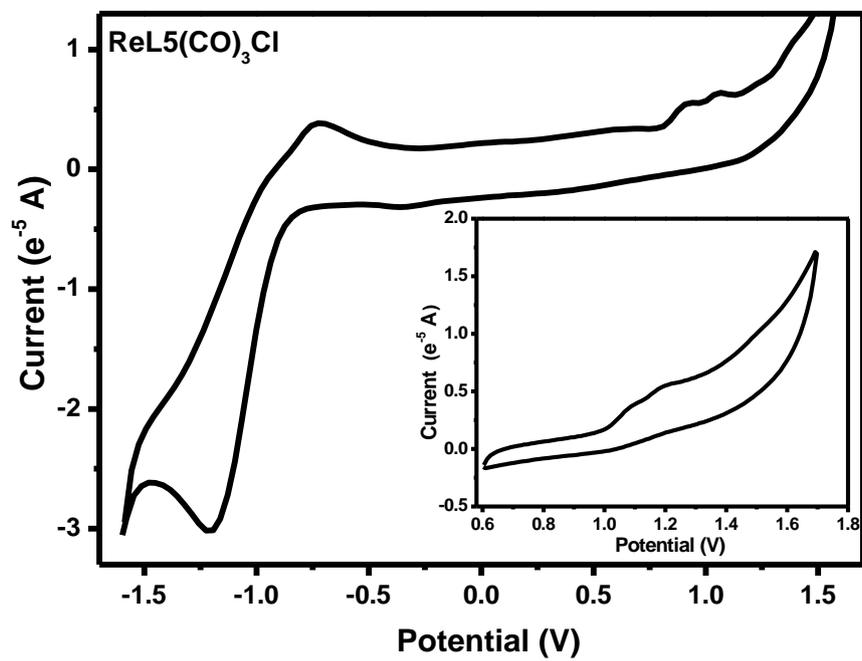
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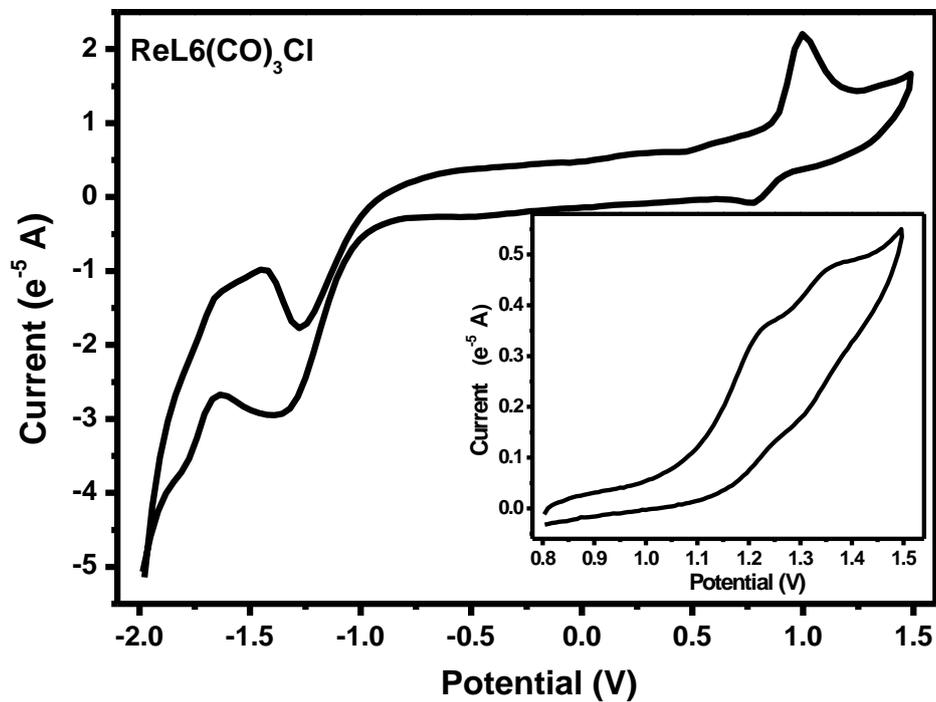
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**Fig. S5** Cyclic voltammograms for complexes  $\text{ReL1(CO)}_3\text{Cl}$  –  $\text{ReL6(CO)}_3\text{Cl}$  ( $5 \times 10^{-4}$  M) measured in  $\text{CH}_2\text{Cl}_2$  solutions of  $(\text{Bu}_4\text{N})\text{PF}_6$  (0.1 M) at a sweep rate of 0.1 V/s. Inserted figures are the parts of the oxidation of  $\text{Re(I)}$ . A Pt metal and a Pt mesh were used as the working electrode and the counter electrode, respectively.

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