Synthesis and Luminescence of $Rh^{III}(phpy)_2(S \cup E)$ Complexes with $phpy^- = Deprotonated 2$ -Phenylpyridine and $S \cup E^- = Diethyldithiocarbamate,$ 2-Pyridinethiolate and 2-Quinoline-thiolate

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Complexes of the general composition $Rh^{III}(phpy)_2(S \cup E)$ with $phpy^- = 2-(2-pyridyl)phenyl and <math>S \cup E^- =$ diethyldithiocarbamate, 2-pyridinethiolate and 2-quinolinethiolate were prepared and characterized.

The complexes with $S \cup E^-$ = diethyldithiocarbamate and 2-pyridinethiolate show a low-temperature luminescence which originates from a phpy $\pi\pi^*$ intraligand triplet. For the complex with $S \cup E^-$ = 2-quinolinethiolate (or thiooxinate) the lowest-energy excited state is of the quinolinethiolate intraligand type. This complex displays a fluorescence as well as a phosphorescence under ambient conditions.

Key words: Electronic Spectra, Luminescence, Rhodium Complexes, Thiolate Complexes