

Transition Metals Complexes with Helical 2,2'-Bipyridine Ligands

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2,2'-Bipyridine (bipy) derivatives are widely used N,N' -bidentate ligands in coordination chemistry, giving access to a great variety of complexes.¹ The luminescence properties of d^6 transition metal pyridyl complexes have been increasingly studied for the development of new metal-based luminescent materials and sensing probes.² Many of these complexes exhibit room temperature phosphorescence from triplet metal-to-ligand and therefore find applications as electroswitchable emissive systems,³ a cellular imaging agents,⁴ chromophores for photoredox chemistry,⁵ etc.

It would therefore be of great interest to develop chiral analogues in order to benefit from the chiral version of emission, namely circularly polarized luminescence, which may potentially be used in cryptography or for 3D-displays.⁶

Herein we report synthesis of series of novel chiral complexes of various metals (Cu, Re, etc.) with helical ligands containing bipyridine moiety (Fig. 1). Photochemical and photophysical properties of prepared complexes will be studied in both racemic and optical pure form.

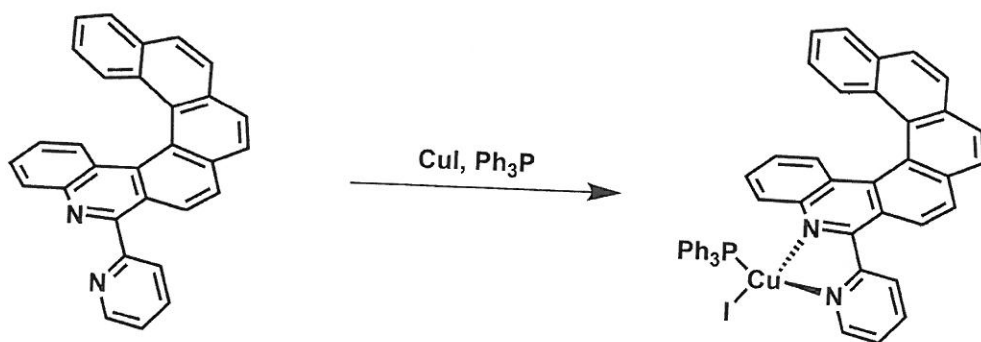


Figure 1

References

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