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4'-(Oxodiphenylphosphino)-2,2':6',2"-terpyridine - crystal structure and complexes of cobalt(II) and cobalt(III)

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The complex $[\text{Co}(\text{2})(\text{2})](2+)$ ($\text{2} = 4'-(\text{oxodiphenylphosphino})-2,2':6',2''\text{-terpyridine}$) has been prepared either by the direct reaction of **2** with Co(II) or by careful oxidation of $[\text{Co}(\text{1})(\text{2})](2+)$ ($\text{1} = 4'-(\text{diphenylphosphino})-2,2':6',2''\text{-terpyridine}$). Further oxidation with H_2O_2 leads to $[\text{Co}(\text{2})(\text{2})](3+)$. The ^1H -NMR spectra of the paramagnetic and diamagnetic $[\text{Co}(\text{2})(\text{2})](2+)$ and $[\text{Co}(\text{2})(\text{2})](3+)$ are reported. The crystal structure of ligand **1** has been determined; in the solid-state, **1** exhibits extensive intermolecular π - π stacking.

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