

Photochemical Reactions of $\text{Re}(\text{CO})_5\text{Br}$ with $\text{Ph}_2\text{P}(\text{S})(\text{CH}_2)_n\text{P}(\text{S})\text{Ph}_2$ ($n = 1, 2, 3$)

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The complexes *fac*- $[\text{Re}(\text{CO})_3\text{Br}\{\text{Ph}_2\text{P}(\text{S})(\text{CH}_2)_n\text{P}(\text{S})\text{Ph}_2\}]$ [**1a**, $n = 1$; **2a**, $n = 2$; **3a**, $n = 3$] and $[\text{Re}_2(\text{CO})_8\text{Br}_2\{\mu\text{-Ph}_2\text{P}(\text{S})(\text{CH}_2)_n\text{P}(\text{S})\text{Ph}_2\}]$ [**1b**, $n = 1$; **2b**, $n = 2$; **3b**, $n = 3$] have been prepared by the photochemical reaction of $\text{Re}(\text{CO})_5\text{Br}$ with $\text{Ph}_2\text{P}(\text{S})(\text{CH}_2)_n\text{P}(\text{S})\text{Ph}_2$. The products have been characterized by elemental analysis, mass spectroscopy, FT-IR and ^{31}P - ^1H -NMR spectrometry. The results suggest *cis*-chelate bidentate coordination of the ligand in *fac*-**1a**–**3a** and *cis*-bridging bidentate coordination of the ligand between two metals in **1b**–**3b**.

Key words: Diphosphines, Metal Carbonyls