Rhenium and technetium complexes with tridentate S,N,O ligands derived from benzoylhydrazine

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Abstract: A potentially tridentate ligand with an S,N,O donor set, H_2L, is formed by the reaction of N-[(diethylaminothiocarbonyl)benzimidoyl chloride with benzoylhydrazine. Reactions of H_2L with $(NBu_4)[MOCl_4]$ complexes (M = Re, Tc) give five-coordinate, neutral oxo complexes of the composition [MOCl(L)]. Mixed-ligand complexes of rhenium(V) containing the tridentate L^{2-} ligand and bidentate N,N-dialkyl-N?-benzoylthioureato ligands (R_2btu^-) are formed in high yields when $(NBu_4)[ReOCl_4]$ is treated with mixtures of H_2L and HR_2btu. Another approach to the mixed-ligand products is the reaction of [ReOCl(L)] with an equivalent amount of HR_2btu. ?? 2009 Elsevier Ltd. All rights reserved.
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