

# 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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