

# Synthesis and Spectroscopic Properties of 1,2-Diiminetricarbonylrhenium(I)chloride Complexes with Aliphatic Diimines (or 1,4-Diaza-1,3-butadienes) as Ligands

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Z. Naturforsch. **54 b**, 341–344 (1999); received December 11, 1998

Charge Transfer, Rhenium Complexes, 1,4-Diaza-1,3-butadienes, Solvatochromism

Re(1,2-diimine)(CO)<sub>3</sub>Cl complexes with the aliphatic bidentate ligands diiminosuccinodinitrile (DISN), benzilbisanile (BEAN), bisacetylisanile (BABA), and benzildiimine (BEDIM) are reported. The compounds show Re(I) to  $\pi^*$ (diimine) metal-to-ligand charge transfer (MLCT) absorptions in the visible spectral region. The energy of these MLCT-transitions decreases in the series BABA > BEDIM > BEAN > DISN, depending on the  $\pi^*$  acceptor properties of the coordinated diimine ligands. The maxima of these CT bands undergo a solvent-dependent shift (negative solvatochromism), which indicates a partial charge redistribution in the excited state. The compounds are not photoluminescent at room temperature and 77 K.

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