

Vibrational study of hydrotris(pyrazolyl)borato complexes of rhenium(I) tricarbonyl

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The Fourier transform infrared and Raman spectra of the complexes hydrotris(pyrazolyl)borato rhenium tricarbonyl [TpRe(CO)₃] and hydrotris(3,5-dimethylpyrazolyl)borato rhenium tricarbonyl [Tp*Re(CO)₃] and their ligand salts NaTp and KTp* have been recorded. From the vibrational assignment the better donor ability of the hydrotris(pyrazolyl)borato in comparison with the cyclopentadienyl ligand coordinated to the Re(CO)₃ fragment was deduced. The vibrational assignment was completed with a normal coordinate analysis based on a simplified model. The frequencies of $\nu(\text{Re-N})$ and $\nu(\text{B-N})$ were located at about 370 and 770 cm⁻¹, respectively. The corresponding force constants were proposed equal to 1.25 and 3.9 m dyn Å⁻¹. © 1995.