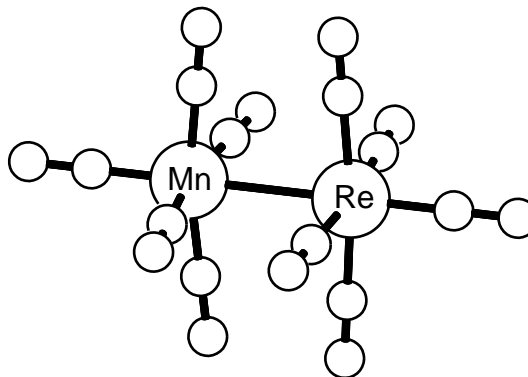


# MICROWAVE ROTATIONAL SPECTRA FOR A DINUCLEAR COMPLEX - MANGANESE RHENIUM DECACARBONYL <sup>a</sup>

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This appears to be the first microwave measurement of the rotational spectrum of a transition metal - dinuclear complex. Rotational transitions in the 4-7 GHz range were measured using a Flygare-Balle type, pulsed-beam Fourier transform spectrometer for manganese-rhenium decacarbonyl [(CO)<sub>5</sub>-Mn-Re-(CO)<sub>5</sub>]. Due to the 3 Å separation of the metal atoms the B-rotational constants are close to 200 MHz. This resulted in weak transitions above 4 GHz. Quadrupole hyperfine structure due to Rhenium was partially resolved on some of the observed transitions. In the present work transitions have been measured from J=11-12 through J=14-15 and indicate that this complex is a symmetric top. Rhenium quadrupole coupling parameters and rotational constants will be reported.



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