MICROWAVE SPECTRA AND GEOMETRIES OF PtCO AND PdCO

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Pure rotational spectra of several isotopomers of PtCO and PdCO have been observed in the frequency range 6-20 GHz, using a cavity pulsed jet Fourier transform microwave spectrometer. The samples were prepared by laser ablation of Pt or Pd metal in the presence of 1-1.5% CO contained in the Ar backing gas of the jet. Assignments were confirmed from the isotopic dependence of the spectra, including, where appropriate, spin-rotation and nuclear quadrupole hyperfine patterns. Structures of both molecules have been determined, and will be discussed in the context of those of other metal carbonyls.