



Figure 1. The structure (ORTEP, 40% probability) of [Cr(CO)₅-CNCN] with atomic numbering scheme and important molecular parameters. Averaged bond lengths are given for the *cis* Cr-C and C-O groups.

further borne out by the $\nu_{\text{NC,CO,CN}}$ i.r. patterns and a strikingly low isocyanide ¹³C resonance { [²H₈]tetrahydrofuran, δ 212.6 (CO), 200.0 (CrCN), 125.7 (NCN) p.p.m. } as well as

§ ¹³C-Labeling in (2) of the isocyanide-carbon causes the 1952 cm⁻¹ band only (!) to shift to lower wavenumbers.

by recent calculations showing CNCN to be a much better π -acceptor than CO.⁷

We thank Dr. G. Liehr for the intensity data collection, and the Deutsche Forschungsgemeinschaft and the Fonds der Chemischen Industrie for financial support.

Received, 9th October 1981; Com. 1195

References

- 1 W. A. Hofmann, *Liebigs Ann. Chem.*, 1867, **144**, 117; J. Thiele, *ibid.*, 1898, **303**, 57; H. Staudinger and O. Kupfer, *Ber. Dtsch. Chem. Ges.*, 1912, **45**, 501.
- 2 R. B. King, *Inorg. Chem.*, 1967, **6**, 25; J. F. Guttenberger, *Chem. Ber.*, 1968, **101**, 403.
- 3 W. P. Fehlhammer, P. Buraças, and K. Bartel, *Angew. Chem., Int. Ed. Engl.*, 1977, **16**, 707; B. Weinberger and W. P. Fehlhammer, *ibid.*, 1980, **19**, 480.
- 4 W. P. Fehlhammer and F. Degel, *Angew. Chem., Int. Ed. Engl.*, 1979, **18**, 75.
- 5 This complex was prepared by a standard method: cf. W. P. Fehlhammer, W. A. Herrmann, and K. Öfele, in 'Handbuch der Präparativen Anorganischen Chemie,' 3rd edn., ed. G. Brauer, Enke Verlag, Stuttgart, West Germany, 1981, Vol. III.
- 6 W. P. Fehlhammer, F. Degel, and H. Stolzenberg, *Angew. Chem., Int. Ed. Engl.*, 1981, **20**, 214.
- 7 J. Y. Saillard, personal communication.