OXYGEN-18 STUDIES OF HOCO AND HONO FORMATION

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Using isotopically-enriched samples of $H_2^{18}O$ and $C^{18}O$, the singly- and doubly-substituted ^{18}O isotopic species of both *cis* and *trans* isomers of HOCO and HONO have been studied by FT microwave spectroscopy. Although both molecules appear to be formed by simple bimolecular reactions involving the OH radical in our discharge source, the relative abundances of different ^{18}O isotopic species suggest that only HONO undergoes extensive oxygen atom exchange, in agreement with earlier studies[a]. More accurate molecular structures have also been derived for isomers of both molecules from this and other new ($HO^{13}CO$) isotopic data.

[a] G. D. Greenblatt and C. J. Howard, J. Phys. Chem. **93**, 1035-1042 (1989)