

MICROWAVE SPECTROSCOPY OF OXAZOLE AND ISOXAZOLE

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Oxazole and isoxazole (C₃H₃NO) are isomers of five membered ring molecules with two hetero-atoms, nitrogen and oxygen. Some amino acids contains five membered ring structure. Previous microwave spectroscopic studies were carried out in the low frequency region ^{a b c d e f} and it is desirable to have information for future interstellar detection. In this study, pure rotational spectroscopy was carried out by using conventional microwave spectroscopy and chirp-pulse Fourier-transform spectroscopy with a waveguide cell. Up to 340 GHz was observed at room temperature. Previous molecular constants made assignment straightforward and detailed analysis using Watson's Hamiltonian will be reported.

^aW. C. Mackrodt, A. Wardley, P. A. Curnuck, N. L. Owen, J. Sheridan, *Chem. Commun. (London)*, 692 (1966).

^bO.L. Stiefvater, P. Nösberger and J. Sheridan, *Chem. Phys. Lett.* **710**, 11 (2018).

^cO. L. Stiefvater, *J. Chem. Phys.* **63**, 2560 (1975).

^dA. Kumar, J. Sheridan, O. L. Stiefvater, *Z. Naturforsch.* **33a**, 145 (1978).

^eA. Kumar, J. Sheridan, O. L. Stiefvater, *Z. Naturforsch.* **33a**, 549 (1978).

^fU. Spoerel, H. Dreizler, and W. Stahl, E. Kraka, D. Cremer, *J. Phys. Chem.* **100**, 14298 (1996).