

## ROTATIONAL SPECTRUM OF TRYPTOPHAN

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The rotational spectrum of the natural amino acid tryptophan has been observed using a recently constructed LA-MB-FTMW spectrometer, specifically designed to optimize the detection of heavier molecules at a lower frequency range. Independent analyses of the rotational spectra of individual conformers have conducted to a definitive identification of two different conformers of tryptophan, with one of the observed conformers never reported before. The experimental values of the <sup>14</sup>N nuclear quadrupole coupling constants have been found capital in the discrimination of the conformers. Both observed conformers are stabilized by a O-H ··· N hydrogen bond in the side chain and a N-H ··· π interaction forming a chain that reinforces the strength of hydrogen bonds through cooperative effects.

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