

THE MICROWAVE SPECTRUM OF PIPERONAL: DESIGNING AND TESTING A NEW HEATED NOZZLE ASSEMBLY

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A modular heated nozzle assembly with an open source external temperature control unit was designed for use in a new broadband microwave spectrometer under construction at Missouri University of Science and Technology. The first version of the heated source was tested using MS&T's existing cp-FTMW. As an initial proof of concept, the microwave spectrum of molecular piperonal was collected in the 5.5 to 18.75 GHz region. The parent isotopologues of two conformers, s-cis- and s-trans-piperonal, were observed and an analysis of the ^{13}C substituted species are ongoing.