A REINVESTIGATION OF THE ELECTRONIC PROPERTIES OF 2-BROMOPYRIDINE WITH HIGH-RESOLUTION MICROWAVE SPECTROSCOPY

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The rotational spectrum of 2-bromopyridine (C₅H₄BrN) was reinvestigated in the frequency range of 10-15.5 GHz by high-resolution Fourier transform microwave (FTMW) spectroscopy. The new observations of ¹⁴N hyperfine splittings in previously studied transitions belonging to both bromine isotopologues (C₅H₄⁷⁹BrN and C₅H₄⁸¹BrN) led to improved measurements of the rotational constants and bromine nuclear quadrupole coupling constants. The full nuclear quadrupole coupling (NQC) tensor of ¹⁴N was resolved for the first time, in addition to five centrifugal distortion constants. A comparison of the two ¹⁴N NQC tensors of C₅H₄⁷⁹BrN and C₅H₄⁸¹BrN will be presented.