THE MICROWAVE STUDIES OF GUAIACOL (2-METHOXYPHENOL) ISOTOPOLOGUES AND VAN DER WAALS COMPLEXES

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The microwave spectrum of one conformer of guaiacol, 2-methoxyphenol, was recorded in the 12-21 GHz range. Fifty two rotational transitions were fitted to the lowest energy ab initio structure computed with Hatree-Fock method using the 6-311++G(d,p) basis set. The fitted rotational constants are: A= 2607.0664(6) MHz, B= 1560.7967(2) MHz, C= 982.8721(1) MHz. Microwave spectra were recorded for each of seven unique ^{13}C isotopomers and the deuterated hydroxyl isotopomer. Quantum chemical calculations and the spectral analysis indicate that the observed conformer is the $anti - syn$ form of guaiacol. Progress on the assignment of the Argon-guaiacol complex and water-guaiacol complex will also be presented.