COMPLETE INFRARED SPECTROSCOPIC CHARACTERIZATION OF PHENOL-BORANE-TRIMETHYLAMINE DIHYDROGEN-BONDED COMPLEX IN THE GAS PHASE

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The gas phase vibrational spectrum in the B-H and the O-H stretching regions is presented for the (di)hydrogen-bonded complex between phenol and borane-trimethylamine. Appearance of three transitions for the B-H stretching region indicates the lowering of the local symmetry of the BH_3 group in borane-trimethylamine due to its interaction with phenol. Further, the shift in the O-H stretching frequency indicates that phenol is hydrogen bonded to borane-trimethylamine. The two sets of data unequivocally establish the formation of OH-HB dihydrogen-bonded complex between phenol and borane-trimethylamine.