THE ν_1 BAND AND MOLECULAR PROPERTIES OF CHLOROSYL FLUORIDE, FClO

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Rotationally resolved spectra of FClO have been obtained for the first time employing the *in situ* hydrolysis of ClF_3. The molecule has also been proposed as an intermediate in several reactions involving ClF, Cl_2O, and ClF_3O. At present, the ClO stretching band centered near 1037.7 cm^{-1} for $F^{35}ClO$ has been recorded with a resolution of 0.003 cm^{-1}, and its analysis is under way. Strong a-type and much weaker b-type lines have been assigned. Transitions with quantum numbers larger than 70 and 20 for J and K_a, respectively, enabled the determination of precise spectroscopic constants. The derived properties, such as molecular structure and force field, will be discussed in relation to *ab initio* results and data from related molecules, for example $FClO_n$, with n = 0, 2, 3.