A MOLECULE WITH A ROTATING CAP: THE ROTATIONAL SPECTRUM OF TETRAFLUOROMETHANE-PYRIDINE

WALTHER CAMINATI, ASSIMO MARIS, *Dipartimento di Chimica "G. Ciamician" dell'Università, Via Selmi 2, I-40126 Bologna, Italy*; B. VELINO, *Dipartimento di Chimica Fisica e Inorganica dell'Università, Viale Risorgimento 4, I-40136 Bologna, Italy*; L. B. FAVERO, *Istituto per lo Studio dei Materiali Nanostrutturati (ISMN, Sezione di Bologna), CNR, Via Gobetti 101, I-40129 Bologna, Italy*.

The rotational spectrum of pyridine-tetrafluoromethane has been investigated by molecular beam Fourier transform microwave spectroscopy in a supersonic expansion. The CF_4 moiety is positionated as a cap over the pyridine nitrogen, and it is freely rotating. For this reason, in the m=0 state, only the pyridine ring is rotating along the a-axis, and the value of rotational constant A' is coinciding with that of the constant A of pyridine. The N$\cdots$C$_{CF4}$ distance is 3.33(2) Å. The dissociaton energy has been estimated, from the centrifugal distortion, to be ca. 10 kJ/mol.