

ROTATIONAL SPECTROSCOPY OF 1,1-DIFLUOROPROP-2-YNYL RADICAL,  $F_2C-C\equiv C-H$

LU KANG, and STEWART E. NOVICK, *Department of Chemistry, Wesleyan University, Middletown, CT 06459.*

The rotational spectra of 1,1-difluoroprop-2-ynyl radical,  $F_2C-C\equiv C-H$ , a fluorine analog of the propargyl radical, have been recorded by Fourier transform microwave (FTMW) spectroscopy.  $N = 1 - 0$  to  $4 - 3$ ,  $a$  type transitions for  $K_a = 0, 1$ , and  $2$ , were measured between 6.5 and 26.5 GHz. The spectroscopic constants, including fine and hyperfine constants, were precisely determined. These constants are in good agreement with those predicted by a density functional theory *ab initio* calculation.