

Species Tag:	13002	Name:	CH
Version:	2		Methylidyne
Date:	Feb. 2010		X $^2\Pi$ states
Contributor:	B.J. Drouin		v = 0,1
Lines Listed:	508	Q(300.0)=	120.8419
Freq. (GHz) <	9929	Q(225.0)=	91.3640
Max. J:	12	Q(150.0)=	61.9974
LOGSTR0=	-9.5	Q(75.00)=	32.9221
LOGSTR1=	-6.9	Q(37.50)=	18.8471
Isotope Corr.:	0.	Q(18.75)=	12.1999
Egy. ( $\text{cm}^{-1}$ ) >	0.0	Q(9.375)=	8.9599
$\mu_a$ =	1.46	A=	
$\mu_b$ =		B=	425476.2460
$\mu_c$ =		C=	

A fit to a Hund's case (b) Hamiltonian utilized extensive data for  $v = 0$  for the fine structure band, and rotational transitions (1) Ziurys and Turner *Ap. J.* 292, L25, 1985; (2) McCarthy et al. *Proc. Nat. Acad. Sci. U.S.A.* 103(33) 12263-12268, 2006; (3) Brazier and Brown *J. Chem. Phys.* 78(3) 1608-1610, 1983; (4) McCarthy et al. *Proc. Nat. Acad. Sci. U.S.A.* 103(33) 12263-12268, 2006; (5) Bogey et al. *Chem. Phys. Lett.* 100, 105, 1983; Amano *Ap. J.* 531:L161-L164, 2000; (6) Davidson et al. *Ap. J.* 546(1) 330-337, 2001. A small amount of  $v = 1$  fine structure data (Jackson et al. *J. Molec. Spectrosc.* 247, 128-139, 2007) was combined with infrared measurements of Bernath *J. Chem. Phys.* 86(9) 4838-4842, 1987 and found to reproduce the LMR calculations (also in Jackson et al. *J. Molec. Spectrosc.* 247, 128-139, 2007) well for  $v = 1$  rotational transitions. The dipole moment was taken from D. J. Phelps and F. W. Dalby, 1966, *Phys. Rev. Lett.* **16**, 3.