Version:	1		CH3COCH3
Date:	March 2008		Acetone gs,
Contributor:	B. J. Drouin		AA, EE, EA, AE

Lines Listed:	61834	Q(300.0)=	15502961
Freq. (GHz) <	1000	Q(225.0)=	5262424
Max. J:	70	Q(150.0)=	1434525
LOGSTR0=	-10.0	Q(75.00)=	134593
LOGSTR1=	-8.0	Q(37.50)=	59894
Isotope Corr.:	0.0	Q(18.75)=	21225
Egy. $(cm^{-1}) >$	0.0	Q(9.375)=	8247
$\mu_a =$		A=	10165.216
$\mu_b =$	2.93	B=	8515.165
$\mu_c =$		C=	4910.199

The data set used is compiled from

Peter, R., Dreizler, H. 1965, Z. Naturforsch., 20a, 301 Vacherand J.M., van Eijck, B.P., Burie, J. Demaison, J. 1986, J. Mol. Spec. 118, 355. Oldag, F., & Sutter, D. H., 1992, Z. Naturforsch., 47a, 527. White, W.F. 1975, NASA Tech. Note D-7904, 121. Groner P., Albert S., Herbst E., DeLucia F.C., Lovas F.J., Drouin, B.J., Pearson, J.C., (2002) Ap. J. Supp. 142: 145-151.

The v designations separate vibrational levels and torsional sub-levels as follows:

	v'	v
AA	0	0
EE	0	1
EA	2	1
AE	1	1

Note that the EE and EA states are treated as l-doubling pairs. The lines were fit to a Hamiltonian that included terms up to the sixth power in angular momentum. Dependence on K expected from an IAM treatment was incorporated using both Energy and B+C Fourier series with fixed ratios of sine and cosine terms in $2\pi\rho_a K/3$. The quality of the fit was, on the average, about 1.6 experimental uncertainty. The EE and EA states have both b and c type lines, while the AA and AE states have only b type lines.

The full vibration-torsion-rotation partition function, including corrections for states not included in the compilation, is utilized for this catalog entry. The rotational partitioning is from Groner et al (2002).