Species Tag:	37005	Name:	DCl^+
Version:	2		Chloroniumyl cation
Date:	Dec. 2016		$v = 1 \leftarrow 0$
Contributors:	B. J. Drouin		$^2\Pi_{1/2} \leftarrow ^2 \Pi_{3/2}$
			$^2\Sigma \leftarrow ^2 \Pi$
Lines Listed:	779	Q(300.0)=	90.9282
Freq. (GHz) <	86000	Q(225.0)=	67.2334
Max. J:	40	Q(150.0)=	45.4749
LOGSTR0=	-8.0	Q(75.00)=	24.7062
LOGSTR1=	-10.0	Q(37.50)=	14.5767
Isotope Corr.:	-0.611	Q(18.75)=	9.9131
Egy. (cm^{-1}) >	0.0	Q(9.375)=	8.2563
μ_0 =	1.0	A=	
μ' =	0.1959	B=	293443.75
μ_{el} =	0.13	C=	

The work of H. Gupta, B. J. Drouin, & J. C. Pearson, 2012, ApJ, **751**, L38 and the optical spectra in W. D. Sheasley, 1972, Ph.D. Dissertation, The Ohio State University; Ann Arbor, MI. is expanded to include vibrational data from Doménech, Drouin, Cernicharo *et al.* ApJL 833 L32 (2016). The transition dipole moments are assumed to be the same as the main isotopologue for infrared (μ' and optical (μ_{el}) are calculated by A. Pradhan *et al.* 1991, J. Chem. Phys, **95**, 9010. The magnetic dipole, which predicts fine structure transitions in the mid and far-ir was taken to be 1 Bohr magneton. The state identifiers v = 20 and v = 21 refer to the ground and first excited vibrational levels, respectively. The $^2\Sigma$ ground vibrational state has a state identifier of 60. There is no hyperfine splitting included.

state identifier (v)	state	HFS
20	$^2\Pi$ v = 0	no
21	$^2\Pi$ v = 1	no
50	$^2\Sigma$ v = 0	no