Species Tag:	143001	Name:	IO
Version:	1		Iodine monoxide, $v = 0 - 4$
Date:	May 2011		
Contributor:	E. A. Cohen		$X_1\,^2\Pi_{3/2}$ and $X_2\,^2\Pi_{1/2}$ states
	B. J. Drouin		
Lines Listed:	8833	Q(300.0)=	7724.2610
Freq. (GHz) <	2057	Q(225.0)=	5641.2543
Max. J:	102.5	Q(150.0)=	3721.0395
LOGSTR0=	-11.0	Q(75.00)=	1867.1783
LOGSTR1=	-9.0	Q(37.50)=	943.6820
Isotope Corr.:	-0.000	Q(18.75)=	482.1681
Egy. (cm^{-1}) >	0.0	Q(9.375)=	251.6880
μ_a =	2.	A=	
μ_b =		B=	10108.36
μ_c =		C=	

The spectrum was calculated from a combined fit of rotational spectra of two isotopic species $^{127}I^{16,18}O$ as well as available radio frequency Λ doublet spectra. The fit is described by C.E. Miller, E.A. Cohen, J. Chem. Phys. 115(4) 6459-6470, 2001. The dipole moment is from the ESR measurements of C.R. Byfleet, A. Carrington and D.K. Russell, Mol. Phys. 20, 271, 1971. The partition function includes vibrational levels up to $v = 13$ and rotational levels up to $J = 159.5$. The intensity cutoff is set low enough to include transitions of the $^2\Pi_{1/2}$ state, which are weak at 300 K. As a result, many excited vibrational state transition are also included in the prediction.