

OH, ν = 0

Hydroxy, X ²Π_i, ν = 0

Species tag	017507	Lines Listed	1028
Version	1*	Frequency / GHz	<50000
Date of Entry	Feb. 2023	Max. <i>J</i>	26
Contributor	H. S. P. Müller	log STR0	-25.0
Details on the fit are given in (1) A. Baudry, K. T. Wong, S. Etoka, A. M. S. Richards, H. S. P. Müller, F. Herpin, T. Danilovich, M. Gray, S. Wallström, D. Gobrecht, T. Khouri, L. Decin, C. A. Gottlieb, K. M. Menten, W. Homan, T. J. Millar, M. Montarges, B. Pimpanuwat, J. M. C. Plane, and P. Kervella, 2023, <i>Astron. Astrophys.</i> 674, Art. No. A125. The parameter set and the line list are largely based on the extensive isotopic invariant fit by (2) B. J. Drouin, 2013, <i>J. Phys. Chem. A</i> 117, 10076, which, in turn, was the basis for the entries in the JPL catalog. The files were retrieved from the JPL catalog archive. We thank B. J. Drouin for the availability of the files. Two poorly determined parameters were omitted, and high-<i>J</i> Λ-doubling transitions were added from astronomical observations in (1) and in (3) T. Khouri, L. Velilla-Prieto, E. De Beck, W. H. T. Vlemmings, H. Olofsson, B. Lankhaar, J. H. Black, and A. Baudry, 2019, <i>Astron. Astrophys.</i> 623, Art. No. L1. These data show systematic deviations with respect to the calculation in the JPL catalog. Please note: The quantum numbers in the CDMS entry are Hund's case (b) quanta as always. They are <i>N</i>, <i>A</i> with parity, <i>v</i>, <i>J</i> + 0.5, and <i>F</i>. <i>N</i> + 0.5 = <i>J</i> refers to $\Pi_{3/2}$ throughout, and <i>N</i> – 0.5 = <i>J</i> to the higher lying $\Pi_{1/2}$. Thus, Hund's case (b) quanta are reasonable throughout. The very extensive data set is described with references in (2). We provide here references for the Λ-doubling transitions and the various types of rotational and spin-flip transitions in <i>v</i> = 0. Λ-doubling transitions with microwave accuracy were reported by (4) J. L. Destombes and C. Marlière, 1975, <i>Chem. Phys. Lett.</i> 34, 532, by (5) J. L. Destombes, G. Journel, C. Marlière, and F. Rohart, 1975, <i>C. R. Seances Acad. Sci., Ser. B</i> 280, 809, by (6) W. L. Meerts and A. Dymanus, 1973, <i>Chem. Phys. Lett.</i> 23, 45, by (7) J. J. ter Meulen, W. L. Meerts, G. W. van Mierlo, and A. Dymanus, 1976, <i>Phys. Rev. Lett.</i> 36, 1031, by (8) J. J. ter Meulen and A. Dymanus, 1972, <i>Astrophys. J.</i> 172, L21, by (9) B. L. Lev, E. R. Meyer, E. R. Hudson, B. C. Sawyer, J. L. Bohn, and J. Ye, 2006, <i>Phys. Rev.</i> 74, Art. No. 061402, by (10) E. R. Hudson, H. J. Lewandowski, B. C. Sawyer, and J. Ye, 2006, <i>Phys. Rev. Lett.</i> 96, Art. No. 143004, by (11) H. E. Radford, 1968, <i>Rev. Sci. Instr.</i> 39, 1687, by (12) W. L. Meerts and A. Dymanus, 1975, <i>Can. J. Phys.</i> 53, 2123, by (13) J. A. Ball, D. F. Dickinson, C. A. Gottlieb, H. E. Radford, 1970, <i>Astron. J.</i> 75, 762, by (14) K. R. German, 1975, <i>J. Chem. Phys.</i> 63, 5252, by (15) R. L. Poynter and R. A. Beaudet, 1968, <i>Phys. Rev. Lett.</i> 21, 305, by (16) J. J. ter Meulen, 1976, <i>PhD Thesis</i>, by	log STR1	-25.0	
	Isotope Corr.		
	Egy / cm ⁻¹	0.0	
	μ_a / D	1.6552	
	μ_b / D		
	μ_c / D		
	<i>A</i> / MHz		
	<i>B</i> / MHz	555661.54	
	<i>C</i> / MHz		
	Q(3000.)	1124.1256	
	Q(2500.)	869.7149	
	Q(2000.)	648.8509	
	Q(1500.)	458.1936	
	Q(1000.)	291.9613	
	Q(500.0)	139.9991	
	Q(300.0)	81.4940	
	Q(225.0)	60.2961	
	Q(150.0)	40.1443	
	Q(75.00)	22.7535	
	Q(37.50)	17.0337	
	Q(18.75)	16.0037	
	Q(9.375)	15.9294	
	Q(5.000)	15.8680	
	Q(2.725)	15.7594	
	detected in ISM/CSM	yes	

