

Molecular Constants (cm^{-1}) of the $A(v) \ ^3\Sigma_u^+$ state of the $^{16}\text{O}_2$.

v	T_0	$T(v)$	B	$10^5 D$	λ	$10^3 \gamma$	$10^4 \lambda_D$
4	37910.318	37913.628(4)	0.827629(58)	0.639(13)	-4.965(5)	0.19(24)	
5	38546.383	38549.675(2)	0.803528(20)	0.706(3)	-4.938(2)	-0.03(9)	
6	39138.680	39141.937(8)	0.77627(10)	0.811(21)	-4.886(7)	-0.17(44)	
7	39681.411	39684.684(2)	0.744614(23)	1.003(4)	-4.912(3)	-2.14(10)	-0.48(12)
8	40166.899	40170.224(2)	0.706467(22)	1.297(4)	-4.993(2)	-3.87(10)	-0.72(11)
9	40584.739	40588.187(4)	0.658533(43)	1.887(7)	-5.185(5)	-7.79(23)	-2.37(22)
10	40920.506	40924.313(18)	0.59482(16)	3.345(25)	-5.733(19)	-15.5(9)	-8.5(8)
11	41154.045	41159.08(19)	0.4928(56)	3.3(30)	-7.74(10)	-121.(54)	

Molecular constants (cm^{-1}) of the $c(v) \ ^1\Sigma_u^-$ Level of $^{16}\text{O}_2$, cm^{-1}

v	T_0	B_v	$D_v, 10^{-5}$
6	36829.072(10)	0.79233(04)	0.636(14)
7	37409.697(08)	0.76874(03)	0.701(11)
8	37954.315(08)	0.74359(02)	0.776(03)
9	38461.462(04)	0.71700(01)	0.882(02)
10	38929.888(08)	0.68813(02)	0.938(06)
11	39358.189(04)	0.65757(01)	1.108(02)
12	39745.244(05)	0.62442(01)	1.270(03)
13	40089.937(03)	0.58857(01)	1.458(02)
14	40391.394(02)	0.54974(01)	1.775(02)
15	40648.696(16)	0.50704(08)	2.188(15)
16	40860.646(15)	0.45908(07)	3.04(3)

Molecular constants (cm^{-1}) of the $A' \ ^3\Delta_u$ state of $^{16}\text{O}_2$

v	T_0	B	$10^5 D$	A	λ_A	γ	RMS
5	38006.456(12)	0.81533(14)	0.607(51)	-73.141(13)	-0.0917(61)	0.0469(82)	0.018
6	38621.654(04)	0.79001(04)	0.766(07)	-72.211(06)	-0.0898(34)	0.0791(29)	0.010
7	39191.003(07)	0.76084(08)	0.885(18)	-70.994(08)	-0.0992(39)	0.1238(39)	0.016
8	39708.607(09)	0.72699(09)	1.106(18)	-69.406(09)	-0.1484(48)	0.2154(51)	0.022
9	40167.072(16)	0.68618(24)	1.398(67)	-67.228(25)	-0.2264(13)	0.353(14)	0.032
10	40557.298(41)	0.6360(17)	2.007(37)	-64.296(45)	-0.429(20)	0.669(34)	0.035

References:

1. *Fourier Transform Spectroscopy of the Herzberg I Bands of O₂*, K. Yoshino, J.E. Murray, J.R. Esmond, Y. Sun and W.H. Parkinson, A.P. Thorne, R.C.M. Learner and G. Cox, *Can. J. Phys.* **72**, 1101-1108 (1994).
2. *Fourier Transform Spectroscopy and Cross Section Measurements of the Herzberg II Bands of O₂ at 295 K*, K. Yoshino, J.R. Esmond, W.H. Parkinson, A.P. Thorne, R.C.M. Learner and G. Cox, *J. Chem. Phys.* **111**, 2960-2967 (1999).
3. *Fourier Transform Spectroscopy and Cross Section Measurements of the Herzberg III Bands of O₂ at 295 K*, K. Yoshino, J. R. Esmond, W. H. Parkinson, A. P. Thorne, R. C. M. Learner, G. Cox, and A. S. -C. Cheung, *J. Chem. Phys.* **112**, 9791-9801 (2000).