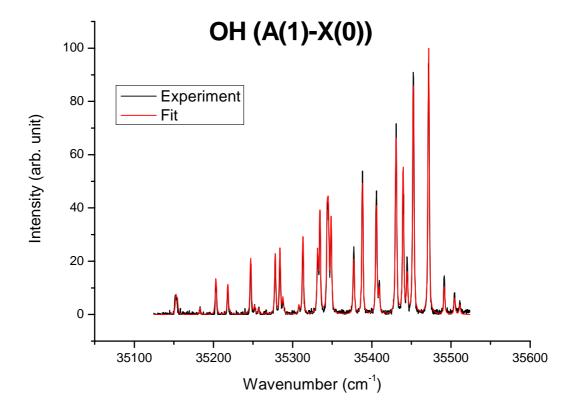
## Molecular constants of diatomic molecules

The following pages are copies from the book Constants of Diatomic Molecules by Huber and Herzberg, containing information about the most common diatomic molecules of interest in combustion.

For each molecule there is information in a large number of columns. The parameters  $T_e$ ,  $\omega_e$ ,  $\omega_e x_e$ ,  $B_e$ ,  $D_e$ , and  $v_{oo}$  are given in the unit cm<sup>-1</sup> (which is a way to express energy). The column with references needs no attention for the course exercises.



State	₹.	٠,	*.*.	8.	a <sub>e</sub>	D <sub>e</sub> (10 <sup>-4</sup> cm <sup>-1</sup> )	۰. (۱)	Observed Transition	References
NH	1	u = 0.94016		. 0				Design. You	
	-			D <sub>0</sub> ≤ 3.47 eV*	I.	P (1).6	3) eV°	 ed states: (21)(44)(46	MAR 1977 A
12.	83160	2672.6	2 71.2	14.390°	0.621	16.0 <sup>d</sup>	1.1163	d* + c, " v 39512.26	
1,	(43744)	[2122.6,]	z f	14.537 <sup>eh1</sup>	0.5933	[22.0] <sup>k</sup>		d* + b, R 61619.60 c* + b, R 22106.62	(55)*
	0.050000		1.5	14.557	0.593	[22.0]	1.1106	c' + a, R 22106.62	2 (4)* (26)* 2 (1)(2)* (5) (14)*
) <sub>6</sub>	29807.4"	3231.2	z 98.6	16.6745°P1	0.7454	[17.80]9	1.03698	A <sup>r</sup> ↔ x. * * 29776.76	(14).
12+	21202	3352.4	z 74.24 t	16.705 <sup>u</sup>	0.591	16.0°	1.0360	b*→x. * 21238	z (45)
14	(12566)×		Z (68)Y	[16.439]1	0.66	[16.2]	1.034	(a-X) 12589 <sup>E</sup>	
35-	0	3282.27	z 78.3 <sub>5</sub>	16.6993ª	0.6490	[17.097]b	1.0362	Rotation sp. c' Pundamental b. in ma	(48)(54)
State	Τ.					-		1	1
State	٠,	٠.	*.×.	8.	α,	D <sub>e</sub> (10 <sup>-6</sup> cm <sup>-1</sup> )	r. (Å)	Observed Transition	References
CI	1		02280					Design. You	
	•	μ = 6.46219 Theoretical Franck-Cond	work (24)(4	D <sub>0</sub> = 7.7 <sub>6</sub> ev <sup>a</sup> 6)(48)(50)(63) 21a)(53), and	. RKR poten	P. = 14.1 <sub>7</sub> tial curve )(44).	ev <sup>b</sup> e (15)(44)(	53).	SEP 1975 A
201	65258.19°		z 14.203 <sup>d</sup>	1.3052	0.0208	5.8	1.4137	J→A, R 55667.14	z (8)•
2 <sub>0</sub> (r)	[61969.7] <sup>f</sup>	1		[1.520]	200		[1.310]	H+B, R 35140.84	
2 <sub>4</sub>	[61655.0]Eh 60095.641	1239.50	2 12.75	[1.085]6	0.0187		[1.551]	G+B, R 34826.1 <sub>0</sub> 6	No. 1 4445 No. 244
5.4	59151.1 <sub>R</sub>	1681.43		1.3834	0.00643 <sup>k</sup>	7	1.3732	P → A. R 50563.8 <sub>0</sub> *	7411
2 <sub>0</sub> 1	54486.34	1.5		sente -	2000/02/PG-5		DESTRUCTION OF THE PARTY OF THE	E → A, R 49842.4 <sub>7</sub> E ← X, R 58959.55	2 (8)* (47)
4 <sub>E</sub> (+)		1004.71	z 8.7 <sub>8</sub>	1.162 <sup>m</sup>	0.013	7	1.498	D+A, R 44838.08 D+X, R 53955.46	
25.	(32400) <sup>n</sup> 25752.0	2163.9°	z 20.2°	1.973°	0.023*'	[6.6]	1.150	e es	
	2000	[Por a comp	rehensive re	view of molecu	lar data on	the B-X	system in-	B-A, V 16680.46	(31)(54)* (1)* (2)* 2 (4a)(5)(7)
2a1	9245.28°		z 12.60gt	of references	prior to 1 0.01708 <sup>u</sup>			BP ↔ X, Q V <sub>R</sub> 25797.84	(9)(32)(54)
		[For a usef	'ul compilati	on of molecular	data on t	he A-X ev	1.2333 stem and a	A"←×, * R 9117.39*	2 (3) • (3a) (4b)(7)(9) (16) • (25)
21.	0	bibliograph	y of referen	ces prior to 19	0.01736 <sub>9</sub> a	6.40 <sup>b</sup> ·	1.1716,	IR fundamental b. Kicrowave sp. C	(62)(70) (66)(71)
							_	ESR sp. d'	(41)(73)
State	7.	٠.	",×,	8,	a,	D <sub>e</sub>	r,	Observed Transition	ns References
C		-				(10 <sup>-4</sup> cm <sup>-1</sup> )	(X)	Design. You	1100000000000
	н	u = 0.9297		Do - 3.465 ev		P. = 10.64	· evb		AUG 1975 A
		. several w	nessigned ab	sorption bande	above 8000	00 cm <sup>-1</sup> .		Į.	(26)
		Rydberg e	eries joinin				-		
d 2 <sub>E</sub> *	[74373] [65945]	Rydberg e	eries joinin		03030 - 8/	(n - 0.09)*		6  G+X. 72960	(26)*
d 2 <sub>1</sub> *	[65945] [65625]	Rydberg e	eries joinin	[12.17]* [12.6]*	03030 - 8/	n - 0.09)*,	[1.221]	G+x. 72960 P+x. R 64531.5 <sup>f</sup>	2 (26)•
d 2r* 2c 2c	[65945]	Rydberg a	eries joinin	[12.17]*	03030 - 8/	(n - 0,09)*,		G+ x. 72960 P+ x. R 64531.5 <sup>f</sup> E+ x. R 64211.7 <sup>f</sup> D+ B. V 33282.8 <sup>f</sup>	(26)* 2 (26)* 2 (26)* 2 (26)*
6 2 <sub>E</sub> * 2 <sub>E</sub> 2 <sub>E</sub>	[65945] [65625]	Rydberg e	eries joinin	[12.17] <sup>6</sup> [12.6] <sup>E</sup>	0.7185	[15.55]*	[1.221] [1.20] [1.15]	G+ x, 72960 P+ x, R 64531.5 E+ x, R 64211.7 D+ B, Y 33282.8 D+ x, 56981.0	(26)* I (26)* I (26)* I (26)* I (26)* I (26)*
2 E 2 E 2 E 2 E 2 E 2 E 2 E 2 E 2 E 2 E	[65945] [65625] [60394] <sup>h</sup>	Rydberg e		[12.17]* [12.6]& [13.7]&			[1.221] [1.20] [1.15]	G+ x, 72960 F+ x, R 64531.5 <sup>f</sup> E+ x, R 64211.7 <sup>f</sup> D+ B, Y 33282.8 <sup>f</sup> D+ x, 56981.0 <sup>f</sup> C <sup>0</sup> + x, V <sub>R</sub> 31778.1 <sup>f</sup>	(26)* 1 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (21)(1)(10)*
d 2 <sub>L</sub> * 2 <sub>E</sub> 2 <sub>D</sub> 1 2 <sub>L</sub> *	[65945] [65625] [60394] <sup>h</sup> 31801.5	2840.2 [1794.9]P	2 125.961	[12.17] <sup>6</sup> [12.6] <sup>6</sup> [13.7] <sup>8</sup> [14.603 <sup>3k</sup>	0.7185 <sup>£</sup>	[15.55] <sup>m</sup> [22.2] <sup>s</sup>	[1.221] [1.20] [1.15] 1.1143 [1.1975]	G+ x. 72960 F+ x. R 64531.5 <sup>f</sup> E+ x. R 64211.7 <sup>f</sup> D+ B. Y 33282.8 <sup>f</sup> D+ x. 58981.0 <sup>f</sup> C <sup>0</sup> + x.° V <sub>R</sub> 31778.1 <sup>f</sup> B <sup>t</sup> → x.° R 25698.2 <sup>f</sup>	(26)* 2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (1)(3)(10)* (26)* 2 (2)*(3)(10)*(25)*
d 2 <sub>L</sub> * 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 4 <sub>L</sub> *	[65945] [65625] [60394] <sup>h</sup> 31801.5	2840.2 [1794.9]P	z 125.9 <sub>6</sub> 1 z	[12.17]* [12.6]* [13.7]*  14.603 <sup>3</sup> k  [12.645] <sup>qk</sup> 14.934 <sup>vk</sup>	0.7185 <sup>£</sup> F 0.697	[15.55]**	[1.221] [1.20] [1.15] 1.1143 [1.1975] 1.1019	G+ x. 72960 F+ x. R 64511.5f E+ x. R 64211.7f D+ B. V 33282.8f D+ x. 59981.0f C <sup>0</sup> ↔ x. ° V <sub>K</sub> 31778.1f B <sup>1</sup> ↔ x. ° R 25698.2f x <sup>x</sup> ↔ x. ° V 23217.5f	(26)* 2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (11(1)(10)* (26)* 2 (12)* (31)* (10)* (25)* 2 (31)* (31)* (10)* (25)*
d 2 <sub>L</sub> * 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 4 <sub>L</sub> *	[65945] [65625] [60394] <sup>h</sup> 31801.5 (26044) 23189.8 <sup>u</sup>	2840.2 [1794.9] <sup>P</sup> 2930.7 (3145)	z 125.9 <sub>6</sub> 1 z z 96.65	[12.17]* [12.6]* [13.7]*  14.603 <sup>3</sup> k  [12.645] <sup>qk</sup> 14.934 <sup>vk</sup>	0.7185 <sup>£</sup>	[15.55]** [22.2]** 15.4**	[1.221] [1.20] [1.15] 1.1143 [1.1975] 1.1019 (1.08 <sub>5</sub> )	G+ x, 72960 P+ x, 8 64211.7 E+ x, 8 64211.7 D+ B, 7 33282.8 D+ x, 59981.0 C <sup>0</sup> + x, ° v <sub>K</sub> 31778.1 B <sup>1</sup> + x, ° v 23217.5 5985 <sup>y</sup>	2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (16)* 2 (11(1)(10)* (26)* 2 (17)* (10)* (22)* 2 (11(1)(10)* (10)* (22)* 2 (11(1)(10)* (10)* (26)* (10)* (26)*
6 22 26 20 20 20 20 20 20 20 20 20 20 20 20 20	(65945) (65625) (60394) <sup>h</sup> 31801.5 (26044) 23189.8 <sup>u</sup> (5844)	2840.2 [1794.9] <sup>P</sup> 2930.7 (3145)	z 125.96 <sup>1</sup> z z 96.65 (72)	[12.17] <sup>6</sup> [12.6] <sup>6</sup> [13.7] <sup>8</sup> 14.603 <sup>3</sup> k [12.645] <sup>9</sup> k 14.934 <sup>9</sup> k (15.4)	0.7185 <sup>£</sup> F 0.697 (0.55)	[15.55] <sup>m</sup> [22.2] <sup>s</sup>	[1.221] [1.20] [1.15] 1.1143 [1.1975] 1.1019	G+ x. 72960 F+ x. R 64511.5f E+ x. R 64211.7f D+ B. V 33282.8f D+ x. 59981.0f C <sup>0</sup> ↔ x. ° V <sub>K</sub> 31778.1f B <sup>1</sup> ↔ x. ° R 25698.2f x <sup>x</sup> ↔ x. ° V 23217.5f	(26)*  2 (26)*  2 (26)*  2 (26)*  2 (26)*  2 (21)*  (10)* (25)*  2 (3)*  (10)* (25)*  (12)*  (12)*  (19)*
d 2 <sub>L</sub> * 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 4 <sub>L</sub> *	(65945) (65625) (60394) <sup>h</sup> 31801.5 (26044) 23189.8 <sup>u</sup> (5844) 0 <sup>±</sup>	2840.2 [1794.9] <sup>P</sup> 2930.7 (3145) 2858.5	z 125.9 <sub>6</sub> <sup>1</sup> z z 96.65 (72) z 63.0 <sub>2</sub>	[12.17]* [12.6]E [13.7]E 14.603JK [12.645]QK 14.93VX (15.4) 14.457**b*K	0.7185 <sup>£</sup> F 0.697 (0.55) 0.534	[15.55]** [22.2]** 15.4** 14.5	[1.221] [1.20] [1.15] 1.1143 [1.1975] 1.1019 (1.08 <sub>5</sub> ) 1.1199	G+ x, 72960 F+ x, R 64211,5 E+ x, R 64211,7 D+ B, Y 33282,8 D+ x, 59981.0 C^+ + x, 0 R 25698.2 A^x + x, 0 R 25698.2 A 5985Y A doubling sp. 4 Ab initio calculation	(26)• 2 (26)• 2 (26)• 2 (26)• 2 (26)• 2 (10)(10)• (26)• 2 (1)(10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (27)• (10)• (27)•
d 2 <sub>L</sub> * 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 2 2 <sub>L</sub> * 2 <sub>L</sub> * 2 <sub>L</sub> *	(65945) (65625) (60394) <sup>h</sup> 31801.5 (26044) 23189.8 <sup>u</sup> (5844)	2840.2 [1794.9] <sup>P</sup> 2930.7 (3145)	z 125.96 <sup>1</sup> z z 96.65 (72)	[12.17] <sup>6</sup> [12.6] <sup>6</sup> [13.7] <sup>8</sup> 14.603 <sup>3</sup> k [12.645] <sup>9</sup> k 14.934 <sup>9</sup> k (15.4)	0.7185 <sup>£</sup> F 0.697 (0.55)	[15.55]** [22.2]** 15.4**	[1.221] [1.20] [1.15] 1.1143 [1.1975] 1.1019 (1.08 <sub>5</sub> ) 1.1199	G+ x. 72960 F+ x. R 64511.5 F+ x. R 64511.5 F+ x. R 64211.7 D+ B, y 33282.8 D+ x. 58981.0 C^0 + x. V_R 31778.1 B + x. R 25698.2 A x ← x. V 23217.5  A doubling sp. A Ab initio calculation Observed True	2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (1)()(10)* (26)* 2 (1)()(10)* (27)* (10)* (25)* (10)*
d 2 <sub>L</sub> * 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 2 <sub>E</sub> 4 <sub>L</sub> *	(65945) (65625) (60394) <sup>h</sup> 31801.5 (26044) 23189.8 <sup>u</sup> (5844) 0 <sup>±</sup>	2840.2 [1794.9] <sup>P</sup> 2930.7 (3145) 2858.5	z 125.9 <sub>6</sub> <sup>1</sup> z z 96.65 (72) z 63.0 <sub>2</sub>	[12.17]* [12.6]E [13.7]E 14.603JK [12.645]QK 14.93VX (15.4) 14.457**b*K	0.7185 <sup>£</sup> F 0.697 (0.55) 0.534	[15.55] <sup>2</sup> [22.2] <sup>8</sup> 15.4 <sup>4</sup> 14.5	[1.221] [1.20] [1.15] 1.1143 [1.1975] 1.1019 (1.08 <sub>5</sub> ) 1.1199	G+ x. 72960 F+ X. R 64531.5 F+ X. R 64211.7 D+ B. Y 33282.8 D+ X. 58981.0 C <sup>0</sup> ← x. Y <sub>R</sub> 31778.1 B <sup>1</sup> ← x. P 25698.2 A <sup>X</sup> ← x. Y 23217.5 A doubling sp. A ΔE initis calculation	(26)• 2 (26)• 2 (26)• 2 (26)• 2 (26)• 2 (10)(10)• (26)• 2 (1)(10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (10)• (27)• (27)• (10)• (27)•
2 L * 2 L *	(65945) (65625) (60394) <sup>h</sup> 31801.5 (26044) 23189.8 <sup>u</sup> (5844) 0 <sup>t</sup>	2840.2 [1794.9]P 2930.7 (3145) 2858.5	z 125.9 <sub>6</sub> <sup>1</sup> z z 96.65 (72) z 63.0 <sub>2</sub>	[12.17]* [12.6]6 [13.7]6 14.603]k [12.645]qk 14.934°k (15.4) 14.657*'b'k	0.7185 <sup>£</sup> F 0.697 (0.55) 0.534	[15.55] <sup>2</sup> [22.2] <sup>8</sup> 15.4 <sup>4</sup> 14.5	[1.221] [1.20] [1.15]  1.114) [1.1975]  1.1019 (1.08 <sub>5</sub> ) 1.1199	G+ x. 72960 r+ x. 8 64511.5 r+ x. 8 64511.5 r+ x. 8 64511.5 D+ x. 9392.6 D+ x. 9392.6 D+ x. 9392.6 D+ x. 9892.6 x 4 + x. 9 x 25698.2 A 4 + x. 9 x 23217.5 A doubling sp. 4 Ab initis calculation Design.	z (26)* z (26)* z (26)* z (26)* z (26)* z (10)* z (10)* z (11)* z (11)
2 t 2 t 2 t 2 t 2 t 2 t 2 t 2 t 2 t 2 t	(6594) (65625) (60594)h 31801.5 (26044) 23189.8 <sup>4</sup> 0 <sup>1</sup>	2840.2 [1794.9]P 2930.7 (3145) 2858.5	z 125,96 <sup>1</sup> z z 96.65 (72) z 63,02	[12.17]* [12.6]6 [13.7]6 14.603 jk [12.645]qk 14.934 vk (15.4) 14.455 qk Be	0.7185 <sup>t</sup> r 0.697 (0.55) 0.534	[15.55] <sup>a</sup> [22.2] <sup>a</sup> 15.4 <sup>a</sup> 14.5	[1.221] [1.20] [1.15] 1.1143 [1.1975] 1.1019 (1.08 <sub>5</sub> ) 1.1199 [1.01] (1.08 <sub>5</sub> ) 1.1199	G+ x. 72960 P+ x. R 64511.5 E+ x. R 64511.5 E+ x. R 64511.5 D+ x. 9382.6 D+ x. 93981.0 C C C C C C C C C C C C C C C C C C C	z (26)* z (26)* z (26)* z (26)* z (26)* z (10)* z (10)* z (11)* z (11)
22° 20° 1 22° 22° 20° 20° 20° 20° 20° 20° 20° 20°	(65945) (65625) (6094)h 11801.5 (26044) 23189.8 <sup>4</sup> 0 <sup>4</sup> Te	2840.2 [1794.9]P 2930.7 (3145) 2858.5	z 125.9 <sub>6</sub> <sup>1</sup> z z 96.65 (72) z 63.0 <sub>2</sub>	[12.17]* [12.6]6 [13.7]6 14.603]k [12.645]qk 14.934°k (15.4) 14.657*'b'k	0.7185 <sup>£</sup> F 0.697 (0.55) 0.534	[15.55] <sup>2</sup> [22.2] <sup>8</sup> 15.4 <sup>4</sup> 14.5	[1.221] [1.20] [1.20] [1.15] 1.1143 [1.1975] 1.1019 (1.08 <sub>5</sub> ) 1.1199  [1.01] [1.08 <sub>5</sub> ] [1.1199	G+ x. 72960 P+ x. R 64511.5f E+ x. R 64211.7f D+ B. Y 33282.8f D+ x. 59981.0f C <sup>0</sup> ↔ x. ° v <sub>R</sub> 11778.1f B <sup>1</sup> ↔ x. ° v 23217.5f x <sup>x</sup> ↔ x. ° v 23217.5f A doubling sp. a. Ab initic calculation Design.  Observed Tr. Design.	2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (16)* 2 (11)* 2 (11)* 2 (11)* (10)* (26)* 2 (11)* (10)* (26)* (10)*
2 <sub>2</sub> t 2 <sub></sub>	(65945) (65625) (6094)h 11801.5 (26044) 23189.8 <sup>4</sup> 0 <sup>4</sup> Te	2840.2 [1794.9]P 2930.7 (3145) 2858.5	z 125,96 <sup>1</sup> z z 96.65 (72) z 63,02	[12.17]* [12.6]6 [13.7]6 14.603 jk [12.645]qk 14.934 vk (15.4) 14.455 qk Be	0.7185 <sup>t</sup> r 0.697 (0.55) 0.534	[15.55] <sup>a</sup> [22.2] <sup>a</sup> 15.4 <sup>a</sup> 14.5	[1.221] [1.20] [1.15] 1.1143 [1.1975] 1.1019 (1.08 <sub>5</sub> ) 1.1199  r, (1.08 <sub>5</sub> ) 1.1199	G+ x. 72960 F+ x. R 64511.5f E+ x. R 64511.7f D+ B. Y 33282.8f D+ x. 59981.0f C <sup>0</sup> → x. <sup>0</sup> R 25698.2f x <sup>x</sup> ← x. <sup>0</sup> R 25698.2f x <sup>x</sup> ← x. <sup>0</sup> V 23217.5f A doubling sp. <sup>a</sup> Ab initic calculation Design.  Observed Tr Design.  Q → B. R 192 B → E.F. B + x. <sup>b</sup> R 1	2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (11(3))(10)* (26)* 2 (11(3))(10)* (26)* 2 (11(3))(10)* (10)* (25)* (10)* (25)* (10)* (
2	(65945) (65625) (60594) <sup>h</sup> 31801.5 (26044) 23189.8 <sup>u</sup> (5844) of T <sub>e</sub> (1642.8 <sup>b</sup> 20163) [1642.8 <sup>b</sup> 2017] [174]	2846.2 [1794.9]P 2930.7 (3145) 2858.5	z 125,96 <sup>1</sup> z z 96.65 (72) z 63,02	[12.17]* [12.6]E [13.7]E 14.603]K [12.645]qk 14.93q*x (15.4) 14.457*'b'k  Be [(16.3)] 26.705 e	0.7185 <sup>t</sup> r 0.697 (0.55) 0.534	[15.55] <sup>a</sup> [22.2] <sup>a</sup> 15.4 <sup>a</sup> 14.5	$ \begin{bmatrix} 1,221 \\ 1,20 \\ 1,15 \end{bmatrix} $ $ 1,1149 $ $ [1,1975] $ $ 1,1019 $ $ (1,085) $ $ 1,1199 $ $ r_{i}$ $ r_{i}$ $ 1,119 $ $ r_{i}$	G+ x, 72960 P+ x, 8 64511.5 E+ x, 8 64511.5 E+ x, 8 64511.5 D+ x, 5991.0 D+ x, 5991.0 C C C C C C C C C C C C C C C C C C C	z (26)* z (26)* z (26)* z (26)* z (26)* z (26)* z (10)(10)* (27)* z (11)* z (21)* z (2
22. 22. 22. 22. 24. 22. 24. 25. 26. 26. 26. 26. 26. 26. 26. 26. 26. 26	(6594) (65625) (6054) 31801.5 (26044) 23189.8 <sup>4</sup> (5844) of T <sub>e</sub> (163) (1642.8 <sup>b</sup> 20082.3 <sup>m</sup> 210082.3 <sup>m</sup>	2840.2 [1794.9]P 2930.7 (3145) 2858.5 "e	z 125.9 <sub>6</sub> <sup>1</sup> z y 6.65 (72) z 63.0 <sub>2</sub> w <sub>e</sub> x <sub>e</sub>	[12.17]* [12.6]E [13.7]E 14.603IX [12.645] <sup>9</sup> K 14.934 <sup>9</sup> X (15.4) 14.457 <sup>4</sup> 'b'X  B <sub>e</sub> [(16.3)] 26.70 <sub>5</sub> e B <sub>4</sub> = 6.24 <sup>K</sup>	0.7185 <sup>4</sup> r 0.697 (0.55) 0.534   2.781 <sup>d</sup> 1.818 <sup>m</sup>	[15.55] <sup>a</sup> [22.2] <sup>a</sup> 15.4 <sup>a</sup> 14.5  De (10 <sup>-2</sup> ce	[1.221] [1.20] [1.20] [1.14] [1.1975] 1.1019 (1.08 <sub>5</sub> ) 1.1199  r <sub>4</sub> [1.1 r <sub>4</sub> = 2 1.0	G+ x. 72960 P+ x. 8 64511.5 E+ x. 8 64511.5 E+ x. 8 64511.5 D+ x. 96981.0 D+ x. 96981.0 Cn + x. 9 x. 1178.1 E + x. 8 7 25698.2 A x ← x. 9 x 2327.5 A doubling sp. 4 Ab initio calculation  Design.  Observed Tri Design.  Observed Tri Design.  P+B, R B+ x. h R 1 .31, k E+B, t Y 227.0 Cx ← x. t R	2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (11(3)(10)* (10)* (26)* 2 (11(3)(10)* (10)* (26)* 2 (11(10)* (10)* (26)* (10)* (26)* (10)* (26)* (10)* (26)* (10)* (26)* (10)* (26)* (10)* (26)* (10)* (26)* (10)* (26)* (10)* (26)* (10)* (26)* (10)*
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	(6594) (65625] (66525] (6034) 31801.5 (26044) 23189.8 <sup>4</sup> (5844) 0 <sup>1</sup> Te (3844) 0 <sup>1</sup> (5844) 0 <sup>2</sup> 2189.8 <sup>1</sup> (5844) 0 <sup>2</sup> 2189.8 <sup>1</sup> 2189.8 <sup>1</sup> 2189.8 <sup>1</sup> 2189.8 <sup>2</sup> 2189.8 <sup>3</sup> 2189.8 <sup>3</sup>	2846.2 [1794.9]P 2930.7 (3145) 2858.5 "e	z 125.9 <sub>6</sub> <sup>1</sup> z 96.65 (72) z 63.0 <sub>2</sub> w <sub>e</sub> x <sub>e</sub> 83.406 <sup>c</sup>	[12.17]* [12.6]* [13.7]* 14.60]* [12.645]* 14.994* (15.4) 14.457**b*  B <sub>e</sub> [(16.3)] 26.70 <sub>5</sub> e  B <sub>4</sub> = 6.24* 32.68**	0.7185 <sup>4</sup> r 0.697 (0.55) 0.534   2.781 <sup>d</sup> 1.818 <sup>m</sup>	[15.55] <sup>3</sup> [22.2] <sup>5</sup> 15.4 <sup>4</sup> 14.5  De (10 <sup>-2</sup> cs	$ \begin{bmatrix} 1.221 \\ 1.20 \\ 1.120 \\ 1.143 \end{bmatrix} $ $ 1.1143 $ $ [1.1975] $ $ 1.1019 $ $ (1.08_5) $ $ 1.1199 $ $ r_4 = 1 $ $ 1.0 $ $ r_4 = 2 $ $ 1.0 $ $ 1.0 $	G+ x, 72960 P+ x, R 64531.5 E+ x, R 64531.5 E+ x, R 64531.5 D+ x, Sep81.0 D+ x, Sep81.0 D+ x, Sep81.0 Sep8.0 Sep8	2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (26)* 2 (11(3))(10)* (10)* (25)* 2 (11(3))(10)* (10)* (25)* 2 (11(1))(10)* (10)* (25)* (10)* (25)* (10)* (25)* (10)* (25)* (10)* (25)* (10)* (25)* (10)* (25)* (10)* (25)* (10)* (26)* (10)* (26)* (10)* (10)* (10)* (10)* (10)* (10)* (10)* (10)* (10)* (11)* (10)* (10)* (11)* (11)* (11)* (12)* (11)* (12)*
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	(65945) [65625] [65625] [60394] 11801.5 (26044) 23189.8  T.  13844) 0  T.  2189.8  218911 [13844] 218911 [1382.3 21898.8 218911 [1382.3 21898.8 21898.8 21898.8 21898.8 21898.8 21898.8 218988.8 218988.8 218988.8 218988.8	2840.2 [1794.9]P 2930.7 (3145) 2858.5 We 2939.52 2858.5	z 125.96 <sup>1</sup> z z 96.65 (72) z 63.02  we'xe  83.406 <sup>C</sup> 130.5 <sup>E</sup> 69.524 <sup>OP</sup>	[12.17]* [12.6]E [13.7]E 14.603Jk [12.645]Qk 14.934Vk (15.4) 14.457*'b'k  Be [(16.3)] 26.705 e  Bu = 6.24K 32.68m 31.3629 P	0.7185 <sup>t</sup> r 0.697 (0.55) 0.534  2.781 <sup>d</sup> 1.818 <sup>m</sup> 1.6647 1.1845 <sup>c</sup>	[15.55] <sup>2</sup> [22.2] <sup>8</sup> 15.4 <sup>4</sup> 14.5  De (10 <sup>-2</sup> cs [1.2] <sup>3</sup> [2.28 2.23] <sup>3</sup> 1.62:	(1.221) [1.20] [1.20] [1.15] 1.1143 [1.1975] 1.1019 (1.08 <sub>5</sub> ) 1.1199  F <sub>4</sub> = 1  F <sub>4</sub> = 2  F <sub>4</sub> = 1  1.0  F <sub>4</sub> = 2	G+ x. 72960 P+ x. 8 64511.5 E+ x. 8 64511.5 E+ x. 8 64511.5 D+ x. 9991.0 Cn + x.° v <sub>K</sub> 91778.1 E <sup>1</sup> → x.° R 25698.2 x ← x.° v 29217.5 A doubling sp.* Ab initic calculation  Observed Tri Design.  Q→B, R B'→E,P B'+ x. h R 1 315 K E+B, L 279 C*← x. t R Werner b. S'279 C*← x. t R Werner b. S'279 C*← x. t R Werner b. S'282 Lyman b. 41444 Quadrupole*	z (26)* z (26)* z (26)* z (26)* z (26)* z (26)* z (11(1)(10)* (26)* z (11(1)(10)* (26)* z (11(1)(10)* z (11)*
2 <sub>L</sub> . 2 <sub>E</sub>	(65945) [65625] [65625] [60394] 11801.5 (26044) 23189.8  T.  13844) 0  T.  2189.8  218911 [13844] 218911 [1382.3 21898.8 218911 [1382.3 21898.8 21898.8 21898.8 21898.8 21898.8 21898.8 218988.8 218988.8 218988.8 218988.8	2840.2 [1794.9]P 2930.7 (3145) 2858.5 We 2842] 2939.52 199]I 588.9 <sup>m</sup> 143.77	z 125.96 <sup>1</sup> z 2 96.65 (72) z 63.0 <sub>2</sub> w <sub>e</sub> x <sub>e</sub> 83.406 <sup>c</sup> 130.5 <sup>a</sup> 69.524 <sup>op</sup> 20.888 <sup>b</sup>	[12.17]* [12.6]E [13.7]E 14.603Jk [12.645]qk 14.934vx (15.4) 14.457*'b'k  Be  [(16.3)] 26.705 Bu = 6.24k 32.68m 31.3629 20.015u <sup>C</sup>	0.7185 <sup>t</sup> r 0.697 (0.55) 0.534  2.781 <sup>d</sup> 1.818 <sup>m</sup> 1.6647 1.1845 <sup>c</sup>	[15.55] <sup>2</sup> [22.2] <sup>8</sup> 15.4 <sup>4</sup> 14.5  De (10 <sup>-2</sup> cs [1.2] <sup>3</sup> [2.28 2.23] <sup>3</sup> 1.62:	(1.221) [1.20] [1.20] [1.15] 1.1143 [1.1975] 1.1019 (1.08 <sub>5</sub> ) 1.1199  F <sub>4</sub> = 1  F <sub>4</sub> = 2  F <sub>4</sub> = 1  1.0  F <sub>4</sub> = 2	G+ x. 72960 P+ x. 8 64511.5 E+ x. 8 64211.7 D+ B. Y 33282.8 D+ x. 59981.0 C <sup>n</sup> → x. ° v <sub>R</sub> 31778.1 E <sup>t</sup> → x. ° R 25698.2 x <sup>x</sup> ← x. ° V 23217.5  Ab initic calculation  Observed Tru Design.  Q→ B. R B'→ E.P B' + x. h R 1 .315 k P+ B. L R 3279 C <sup>n</sup> ← x. t R Werner b. Spec B ← x.	z (26)* z (26)* z (26)* z (26)* z (26)* z (26)* z (11(1)(10)* (25)* z (11(1)(10)* (25)* z (11(1)(10)* (25)* z (11(1)(10)* (26)* z (11(1)(10)* (12)* (12)* (12)* (12)* (12)* (12)* (12)* (12)* (12)* (12)* (12)* (12)* (12)* (12)* (12)* (12)* (13)* (14)* (15)* (14)* (15)* (15)* (16)* (15)* (16)* (15)* (16)* (16)* (16)* (17)* (17)* (17)* (18)* (1
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	(65945) [65625] [65625] [60394] 11801.5 (26044) 23189.8  T.  13844) 0  T.  2189.8  218911 [13844] 218911 [1382.3 21898.8 218911 [1382.3 21898.8 21898.8 21898.8 21898.8 21898.8 21898.8 218988.8 218988.8 218988.8 218988.8	2840.2 [1794.9]P 2930.7 (3145) 2858.5 We 2842] 2939.52 199]I 588.9 <sup>m</sup> 143.77	z 125.96 <sup>1</sup> z 2 96.65 (72) z 63.0 <sub>2</sub> w <sub>e</sub> x <sub>e</sub> 83.406 <sup>c</sup> 130.5 <sup>a</sup> 69.524 <sup>op</sup> 20.888 <sup>b</sup>	[12.17]* [12.6]E [13.7]E 14.603Jk [12.645]qk 14.934vx (15.4) 14.457*'b'k  Be  [(16.3)] 26.705 Bu = 6.24k 32.68m 31.3629 20.015u <sup>C</sup>	0.7185 <sup>t</sup> r 0.697 (0.55) 0.534  2.781 <sup>d</sup> 1.818 <sup>m</sup> 1.6647 1.1845 <sup>c</sup>	[15.55] <sup>2</sup> [22.2] <sup>8</sup> 15.4 <sup>4</sup> 14.5  De (10 <sup>-2</sup> cs [1.2] <sup>3</sup> [2.28 2.23] <sup>3</sup> 1.62:	(1.221) [1.20] [1.20] [1.15] 1.1143 [1.1975] 1.1019 (1.08 <sub>5</sub> ) 1.1199  F <sub>4</sub> = 1  F <sub>4</sub> = 2  F <sub>4</sub> = 1  1.0  F <sub>4</sub> = 2	G+ x. 72960 P+ x. 8 64511.5 E+ x. 8 64511.5 E+ x. 8 64511.5 D+ x. 9991.0 Cn + x.° v <sub>K</sub> 91778.1 E <sup>1</sup> → x.° R 25698.2 x ← x.° v 29217.5 A doubling sp.* Ab initic calculation  Observed Tri Design.  Q→B, R B'→E,P B'+ x. h R 1 315 K E+B, L 279 C*← x. t R Werner b. S'279 C*← x. t R Werner b. S'279 C*← x. t R Werner b. S'282 Lyman b. 41444 Quadrupole*	(26)

1	State T.			·ex.	В.	B. α.	D.	г.	Observed :	References	
							(10-4cm-1)	r. (Å)	Design.	¥00	
	01	Н	μ = 0.94808		D <sub>0</sub> - 4.392 •v*		.P. = 12.9 <sub>0</sub>		°£* mee (112	)(113)(118).	MAY 1977 J
С	25.	89459-1	1232.9	z 19.1	4.247 <sup>cd</sup>	0.078	2	2.046,	C° → A, n R		(20)(42)(64)
D	2 2-	(82130)	(2954)	9	[[15.2179]f			[1.0809]		81759.78 Z	(106)
	s <sup>E</sup> .	69774	[660.0]	z 1	[5.086] <sup>jd</sup>	k	[9.29]*	[1.8698]	B→A, <sup>®</sup> R	35965.5 Z	(16)(20)()) (42)* (59)* (64)* (73)
٨	25.	32684.1	3178.86	z 92.91,n	17.358 <sup>opqd</sup>	0.7868	[20.39]	1.0121	x <sup>t</sup> ↔x, <sup>u</sup> R	32402.3gh 2	(3)(57)(64)
z	2n 1	ov	3737.76,	z 84.881,	18.910g xd	0.72429	19.38t	0.96966	1 + 3 a.	126.23	(69a)(90)

State	т.	٠.		wexe	В,	a,	D <sub>e</sub>	r.	Observed	Transitions	References
					)(		(10 <sup>-6</sup> cm <sup>-1</sup> )	(X)	Design.	*00	
02											
p.	[87510]	Group of	six 1	ine-lik	e features sin	ilar to F+	x.		F * + X.	86720	(17)(17))*
<sub>F</sub> 3 <sub>liu</sub>	(85868) (85780) (85689)	[2008] [2000] [2001]	H d	v=1 iffuse	[1.434] [1.398] [1.352]		[11] [6:0] [5:3]	[1.212] 1.228] 1.249]	F ← X,	86085.0 Z 85992.6 Z 85902.3 Z	(136)(151) (173)•
ε 3 <sub>Σ</sub> -	(79883)	[2547]		р	ь		100		E ← X, R	80369 <sup>b</sup>	(6)* (17) (150)(17))*
f lr c	76091	1927	1	9.0	1.7034	0.020	*	1.113	f+b, V	63141.5 Z	(84)
		100000							fex, V	76262.45	(84)(111)*
D ()E') &	(75260)	1957	1	9.7	1.73 <sup>h</sup>	0.025	1	1.10	D+ X, V	(75450)	(84)(111)* (173)*
e ( <sup>1</sup> 4 <sub>2u</sub> ) e ( <sup>3</sup> 4 <sub>2u</sub> )	(75254) (74915)	[1830]	H	3		ffuse line	1	(1.119)	* } - a, v	67499.6 <sup>k</sup> 2 67272 <sup>k</sup> H	(84)(118) (146)(152)
4 (10g) c (3ng)	(69180) (65530)	[1860] [1840]		ž n					(c ← x)	69320 <sup>m</sup> 65670 <sup>m</sup>	(192) (150)(171)
3 3r-	49793.28	709.31°	Z 1	0.65°	0.81902 <sup>opq</sup>	0.012060	4.55°	1.60426	a ← X, at R Schumann-R	49)58.15 Z unge b.	(5)*(7)*(21)* (78)* (96)* (115)(168)
A <sup>3</sup> ε <sub>u</sub> *	35397.8	799.07	2 1	2.16*	0.9106	0.01416	4.75	1.5215	(A→b) <sup>C</sup> (A→a) <sup>C</sup> A↔x, de R Herrberg	(21886) (27125) 35007.1 <sub>5</sub> Z	(16)• (22)• (89)•
۸. ک <sub>ان</sub>	(34690) <sup>f</sup>	(850)€	{ 2	20)6	(0.96)h	(0.026 <sub>2</sub> ) <sup>h</sup>		(1.48)	(A'→a)° A'←X,13 R Herzberg	(34320)€	(19)•
c lr	33057-3	794.29	2 1	2.736 <sup>k</sup>	0.9155	0.0139 <sub>1</sub> k	[7-4]	1.5174	c → a. f c ← X. R Kersberg	(24782) 32664.1 Z	(188) (19)• (87)
b 1 <sub>I</sub> *	13195.1	1432.77*	Z 1	4.00ª	1.400)7*	0.01820 <sup>8</sup>	5.351 <sup>b</sup>	1.22558		5238.5 13120.91 <sup>f</sup> z ic oxygen b.	(40)
1 1 6	7918.1	[1483.50]	2 (1	12.91	1.4264	0.0171	[4.86]	1.2156	a6 ↔ x. he R IR atnosp	7882.39 Z	(10)•
x 3r-	0	1580.193	2 1	11.98,1	[1.4376766] <sup>]</sup> B <sub>e</sub> = 1.44563	0.01593 kt	[4.839]34	1,20752		n induced)	(12a)(75a; (142)
									Rotation	(antation	(94)(105)
									(fine str	ientation mo ucture) sp. mo	(120)(159)
		1							Raman sp.	P	(38) * (124) (162) *
									EPR sp.		(25)(1)8)(154

State	τ.	•		•.x.	В.	α	D.	r.	Observed '	ransitions	References
							(10-6 <sub>cm</sub> -1)	(党)	Design.	*00	
$C_2$		μ = 6.00000 Theoretic			00 = 6.21 eva		P 12.15 29)(35)(49				JUL 1976
r lau	[75456.9]	[1557.5]	2	1	1.645	0.019	6	1.307	F+ X, R	74532.9 Z	(51)*
6 34E	[73183.6]°	[1458.06]	z		1.5238	0.0170	6.6	1.3579	g- a. 2	71649.6 Z	(51)*
1 32-	71045.8	1360.5	z	14.8	1.448 <sup>d</sup>	0.040*	10	1.393	fea. R	70188.4 Z	(51)*
E 12.	55034.7	1671.50	2	40.02f	1.7897	0.03875	8.3 <sup>h</sup>	1.2529	E-A.1 V	46668.3 Z	(10)-
D lr.	43239.44	1829.57	2	13.94	1.83323	0.0196	7.325	1.2380	Dee X. K	43226.74 2	(2)* (11) (46)
· 30 €	40796.65	1106.56	z	39.260 <sup>m</sup>	1.1922	0.0242	6.3 <sup>n</sup>	1.5351		39806.46 2	(7)-
c. 10		Prelimin	ary o	onstante	from perturb	ations in C	Ingi see (	40).			
c lag	34261.3	1809.1	z	15.81 <sup>p</sup>	1.7834	0.0180P	6.8	1.2552	C+A. VR	25969.19 Z -d'Azambuja	(1)(3)(8)
a 30 g	20022.50 <sup>r</sup>	1788.22	z	16.440	1.7527	0.01608 <sup>u</sup>	6.74 Y	1.2661	dea. Va	19378.44 Z	(6)* (25) (42)* (45)
د <sup>ا</sup> ۲۰	13312.1	1961.6 <sup>y</sup>		13.7	1.87 <sup>y</sup>			1.23	(d+ X)X		
1 1 <sub>5</sub>	8391.00	1608.35	2	12.078	1.616)4	0.01686	6.442	1.31843	Phillips	8268.16 Z	(18)
P 32-	6434.2,	1470.4	z	11.1°c,	1.4985,4	0.01634*	6.22	1.35928		5532.7 2	(17)*
, 3 <sub>0</sub>	716.2,6		z	11.67	1.63246h'	0.01661	6.44	1.31190		77760256	
r 1r.		1854.71	z	13.3401	1.6198	0.0176,1"	6.921	1.2425,			

State	7.	٠.	- 1	-,×,	В.	a.	D.	r.	Observed Transitions		References
						(10 <sup>-6</sup> cm <sup>-1</sup> )	(L)	Design.	¥00		
N <sub>2</sub>											
, J <sub>E</sub>	66272.47	1516.88	z	12.181	1.4733	0.0166 <sub>6</sub> °	(5.56)	1.2784	B'→B, R "Y" bands,	a 6545.5 (Z)	(32)(36) (182)
	198000								B' + X, R	65852.35 Z	(30)* (35) (66)* (149) (155)
¥ 3 <sub>6</sub> u	59808	1501.4	(Z)	11.6					W ← B. R. Wu-Benesch	b.	(102)(124) (131)(157)
	20			261					W+X, f R Saum-Bener	59380 ich b.	(123)* (155
8 ) <sub>L</sub> e	59619.35	1733.39	2	14.122h	1.637451	0.01791	[5.9]	1.21260		9552.0, Z	(29)(196)
										59306.81 Z	(40)
4 3E"	50203.63	1460.64	2	13.872n	1.45460	0.0180P	[6.15]	1.2866	AQ ++ X, R R	49754.78 Z	(29)(70)(85)
x 1r*	0	2358.57	2	14.324°	1.998241	0.0173186	[5.76]	1.09768	Rotvibr.	t and rot. sp	
								V- 1887	- press	are induced	(14)(59)(6); (86)(135) (141)(181)
				- 1					- el. f	ield induced	(185)
									Raman spec	trau	(20)(134)
				- 1					Mol. beam	agn. reson. Y	

State	т.	*.	"exe	8,	a <sub>e</sub>	D <sub>e</sub>	re	Observed '	Transitions	References
			1			(10 <sup>-6</sup> cm <sup>-1</sup> )	(X)	Design.	Y00	
NO	)									
C <sup>2</sup> 0 <sub>r</sub> 3pt	52126ª	2395 <sup>b</sup>	15 <sup>b</sup>	2.000bc	0.030	l í	1.062	cc → A, d	6172	(45)(117)* (187)*
								C <sup>C</sup> ←→ X, ef v	52251 52371	(1)* (3)(4)* (6)(30)(42)* (90)(117)* (144)
b ( <sup>4</sup> E <sup>-</sup> )	(48680)	1206€	н 15					b→a, v	10395 10375 10350 & H 10323 10300 10272	(18)•(19)•
B <sup>2</sup> Gr	45942.6 <sup>h</sup> 45913.6	1039.8 <sup>1</sup> 1037.2 <sup>1</sup>	z 8.3 <sub>2</sub> <sup>1</sup> z 7.7 <sub>0</sub> <sup>1</sup>	1.1521	0.012	4.9	1.4167	B <sup>m</sup> ← x, nf g	45392.1° z 45481.7° z	(1)*(2)*(6)* (3)(15)(18)* (24)(31)(37) (42)* (73)* (52)(90)(127
L <sup>2</sup> I* 306 L ( <sup>4</sup> B <sub>1</sub> )	43965.7 (38440)	2374.31	z 16.106 <sup>р</sup> н 11	1.9965 <sup>qrs</sup>	0.01915 <sup>Q</sup>	5.4	1.0634	T bands	44080.5 44200.2 z (38000)	(1)* (3)(8) (24)(37)(46) (127) (48)(66)
x <sup>2</sup> ur	119.82 <sup>8</sup>	1904.04 <sub>0</sub> 1904.20 <sub>4</sub>	Z 14.100 <sup>2</sup> Z 14.075 <sup>2</sup>	[1.72016] <sup>c</sup> [1.67195] <sup>cd</sup>	0.0182	[10.2 <sub>3</sub> ]° [0.5 <sub>4</sub> ]°	1.15077	1/1 ← 1/1 ·*	119.73 <sup>f</sup> z	(148)
							- 17	4-2	sp. i	(63)

State	т.	*.	"exe	B <sub>e</sub>	a.	D.	r,	Observed	Transitions	References
		1				(10 <sup>-6</sup> cm <sup>-1</sup> )	(%)	Design.	¥00	
CC	)	R								
14	65928	1094.0	10.20	1.257	0.017	1	1.399	D+ X, R	65391 <sup>a</sup>	(43)* (96) (109)
1	65084.40	1092.22	z 10.70 <sub>4</sub> b	1.2705°	0.01848 <sup>d</sup>	D2 - 9.0	1.3911	I <sup>e</sup> ← X. R	64546.26 2	(39)* (95)
10	65075.77	1518.24	2 19.40 <sup>f</sup>	1,61156	0.02325	7.331	1.2)5)	AJ + x . KE R	64748.48 <sup>m</sup> z	(6))* (109)
)Σ-	64230.24	1117.72	z 10.686 <sup>n</sup>	1.2836°	0.01753 <sup>p</sup>	6.77 <sup>q</sup>	1.3840	e + a, F R Herman b.	15231.6	(19) • (26)
								e = X. R	63704.8 <sub>5</sub> Z	(23)* (96)
341	61120.1	1171.94	z 10.635 <sup>t</sup>	1.3108 <sup>u</sup>	0.01782 <sup>V</sup>	6.59 <sup>q</sup>	1.3696	d → a, r R Triplet b.	12148.7	(13)(29)(76
50,000								d + x, R	60621.9 <sup>t</sup> Z	(71)(109)*
, ) <sub>L</sub> ,	55825.49	1228.60	2 10.468 <sup>x</sup>	1.3446 <sup>y</sup>	0.01892	6.41 <sup>q</sup>	1.3523	Asundi b.	6982.4	(1)(11)(14
2.								a'← x, R Hopfield-2	55355.6 Z Sirge b.	(23)* (96)
• <sup>3</sup> 0,	48686.70ª	1743.41	14.36	1.69124 <sup>c</sup>	0.01904 <sup>d</sup>	6.36°	1.20574	af + x, E R	48473.22 <sup>b</sup>	(20)* (104)
x 1 <sub>L</sub> .	0	2169.81358	z 13.28831h	1.931280871	0.01750441	6.1214, k	1.1283234	Rotvibr.	sp.mn.	3.557
				1		3.5		3-0		(45)(48)(129
				1				2-00		(139)
		1:						1-0 <sup>p</sup>		(26)(41)
							l	Rotation :		
				1				2237	IR sp. q	(25)
									el. reson.	(24)(@5)(1)-
		1		i		1	1		magn. reson.	