

# RAKATAFLA

# **RAKATAFLA**

**VEÐURSTOFAN GAF ÚT**

PIKISPRENTSMIDJAN GUTENBERG

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indanförta räkningarna. Dessa räkningar är gjorda för att ge en bra approximation av det faktum att det finns en viss sannolikhet för att en viss temperatur förekommer i en viss tidsperiod. Detta är dock inte tillräckligt för att man ska kunna använda dem för att beräkna sannolikheten för att en viss temperatur förekommer vid en viss tidpunkt. Detta är dock inte tillräckligt för att man ska kunna använda dem för att beräkna sannolikheten för att en viss temperatur förekommer vid en viss tidpunkt.

### Leiðbeiningar um notkun rakatöflu.

Pessi rakatafla er ætlud til að reikna *daggarmark* (i Celsius-stigum) og *rakastig* (i hundraðshlutum) út frá þeim hita, sem purr og votur hitamælir sýnir.

Í dálkinum með yfirskriftinni  $T_1$  lengst til vinstri á hverri blaðsiðu er sá hiti, sem *voti hitamælirinn* sýnir í heilum stigum. *Er þetta breyting frá fyrri bráðabirgðatöflum, sem hafa haft „purra“ hitann í pessum dálki.*

Í efstu linu hverrar blaðsiðu er sá *munur*, sem er á hitastigi á þurrum og votum hitamæli í heilum stigum og tiunduhlutum ( $T-T_1$ ). Þannig er „*voti*“ hitinn á hverri af 10 fyrstu blaðsiðunum 16—30 stig, en mismunur á þurrum og votum hita fer vaxandi með hverri síðu, frá  $0.0^{\circ}$  upp í  $20.0^{\circ}$ . Á næstu átta blaðsiðum er *voti hitinn*  $0\text{--}15$  stig og mismunur á þurrum og votum hita frá  $0.0^{\circ}$  að  $16.0^{\circ}$ . Á næstu fjórum blaðsiðum er *voti hitinn* frá  $0$  til  $-14$  stig og munur á þurrum og votum hita  $0.0\text{--}7.0$  stig. Loks er á síðustu blaðsiðu tafla, sem er notuð, þegar *voti hitamælirinn* sýnir  $15\text{--}25$  stiga frost och munur á þurrum og votum mæli er  $0.0\text{--}2.0$  stig.

*Daggarmarkið* er nú fundið í þeirri linu, sem samsvarar vota hitanum og þeim *dálki*, sem samsvarar muninum á þurrum og votum hita. Þegar *daggarmarkið* er lægra en  $0^{\circ}\text{C}$  er 50 bætt við stigatöluna, T. d. er  $+3.5$  skrifad  $53.5$  í töflunni. *Rakastigið* á sama tíma er prentað með skáletri undir *daggarmarkinu*. Dæmi: *Voti hitinn* er  $16.0^{\circ}$ , *þurri hitinn*  $17.6^{\circ}$ . *Munurinn* er  $1.6^{\circ}$ . Þá er *daggarmarkið*  $14.9^{\circ}$  og *rakastigið* 84 af hundraði. Nú er það fremur sjaldan, að *voti hitinn* standi nákvæmlega á heilu stigi. Ef hann er t. d. mitt á milli  $16^{\circ}$  og  $17^{\circ}$  ( $16.5^{\circ}$ ), en munur á þurrum og votum hita  $1.6^{\circ}$ , verður *daggarmarkið* mitt á milli  $14.9^{\circ}$  og  $15.9^{\circ}$  þ. e.  $15.4^{\circ}$  (sjá töfluna). Annað dæmi: Hugsum okkur, að *voti hitinn* sé  $5.0^{\circ}$ , en mismunur á þurrum og votum hita  $2.2^{\circ}$ . Þá er *daggarmarkið*  $1.9^{\circ}$ . Ef *voti hitinn* ykist um eitt stig (upp í  $6^{\circ}$ ), en munur á þurrum och votum mæli héldist óbreyttur ( $2.2^{\circ}$ ), mundi *daggarmarkið* hækka upp í  $3.1^{\circ}$ , þ. e. um  $1.2^{\circ}$ . En ef *voti hitinn* ykist nú aðeins um  $0.7^{\circ}$ , þ. e. upp í  $5.7^{\circ}$  (mism.

á þurrum og votum óbreyttur) mundi daggarmarkið aukast aðeins um sjö tiunduhluta af  $1.2^\circ$ , þ. e. um  $1.2 \times \frac{7}{10} = \frac{8.4}{10} = 0.8^\circ$ . Þá yrði daggarmarkið  $1.9^\circ + 0.8^\circ = 2.7^\circ$ . Á sama hátt fæst, ef voti hitinn er  $5.3^\circ$  og munur á þurrum og votum  $2.2^\circ$  C, að daggarmarkið er  $1.9 + 1.2 \times \frac{7}{10} = 1.9 + 0.4 = 2.3^\circ$ .

Í töflunni er aðeins gefinn upp annarhver tiundihluti mismunarins á þurruim og votum hita ( $0.2, 0.4, 0.6, 0.8$  o. s. frv.). Ef mismunurinn stendur á stakri tölum, t. d. 0.3, er með áðurgreindum aðferðum reiknað út, hvað daggarmarkið væri, ef mismunurinn væri einum tiundahluta hærri (hér 0.4), og eins hvað það væri, ef mismunurinn væri einum tiundahluta lægri (0.2). Daggarmarkið er þá mitt á milli þessara tveggja talna. Dæmi: Þurr hiti  $6.2^\circ$ , votur  $4.5^\circ$ . Mismunur  $1.7^\circ$ . Ef mismunur væri  $1.6^\circ$  og votur hiti  $4.5^\circ$ , væri daggarmark  $2.2^\circ$ , en ef mismunur væri  $1.8^\circ$  og votur hiti  $4.5^\circ$ , væri daggarmark  $1.9^\circ$ . Rétt daggarmark er því mitt á milli  $1.9^\circ$  og  $2.2^\circ$ , þ. e.  $2.05^\circ$ , en það er hækkað upp í  $2.1^\circ$ .

Þess ber að gæta, að daggarmarkið er aldrei hærra en voti hitinn, og venjulega er það að minnsta kosti eins langt fyrir neðan vota hitann eins og hann er fyrir neðan þurra hitann. Dæmi: Þurr hiti  $9.0^\circ$ , votur hiti  $7.0^\circ$ . Mismunur  $2.0^\circ$ . Þá er daggarmarkið  $4.6$  stig, eða  $2.4$  stigum lægra en voti hitinn.

Ef hitinn er að lækka og loftið er mjög rakt, sýnir voti mælirinn stundum örlið hærri hita en så þurri ( $0.1 - 0.2^\circ$ ). Þá skal daggarmarkið sett það sama og þurri hitinn.

*EKKI ER HÆGT AÐ NOTA PESSA TÖFLU ÓBREYTTA Á STÖÐVUM, SEM LIGGJA HÁTT FRÁ SJÓ, EÐA Í FLUGVÉLUM. ÞEGAR SVO STENDUR Á, ER FARIÐ BANNIG AÐ:*

Fundinn er loftþrýstingurinn á staðnum og margfaldaður með mismun á þurrum og votum hita. Siðan er deilt í þá tölum með 1000; 750 eða 29.53, allt eftir því, hvort loftþrýstingur er mældur í mb (1000), mm (750) eða þumlungum (29.53). Sú tala, sem þannig fæst, er svo notuð í stað T-T<sub>1</sub>, þegar flett er upp í töflunni.

Þessi leiðréttið er þó óþörf á landstöðvum, nema loftþrýstingurinn á staðnum (óleiðrétt loftvog) sé lægri en 900 mb. (675 mm) eða hærri en 1030 mb (772 mm).

*Þessi tafla er miðuð við, að tuskan á vota mælinum sé frosin, ef hann sýnir minna en  $0^\circ$ . Stundum sýnir mælirinn þó minna en  $0^\circ$  án þess að tuskan sé frosin. Þá þarf að snerta hana með blýanti eða öðru sliku til þess að hún frjósi. Stígar þá hitinn fyrst að  $0^\circ$ , en lækkar siðan, og verður þá að biða þess, að hann hætti að lækka, aður en lesið er á mælinn.*

### III

Hér fylgja nokkur dæmi um notkun töflunnar. Athugunar-menn eru beðnir að kynna sér þau vel og vita, hvort þeir fá ekki sömu útkomu sjálfir. Ef svo er ekki, eru þeir beðnir að óskast eftir nánari útskýringum frá Veðurstofunni.

Purr hiti	Votur hiti	Daggar-mark	Rakastig
10.3°	8.7°	7.0°	80%
16.8°	13.2°	10.0°	64%
3.4°	2.6°	1.4°	87%
-3.4°	-3.8°	-5.2° (55.2)	88%
-2.8°	-5.6°	-15.2° (65.2)	38%
18.3°	14.6°	11.6°	65%
8.5°	7.2°	5.7°	82%
2.0°	-0.3°	-4.6° (54.6)	62%
-3.5°	-4.0°	-5.7° (55.7)	86%
1.2°	-0.4°	-3.3° (53.3)	72%

Að síðustu skal það tekið fram, að *rakamælingar með þurrum og votum hitamæli* eru lítils virði og jafnvel villandi, ef ekki er hirt vandlega um mælana samkvæmt þeim leiðbeiningum, sem Veðurstofan sendir athugunarmönnum.

	$T - T_1$	0.0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8
	$T_1$										
	30	30.0	29.9	29.9	29.8	29.7	29.7	29.6	29.5	29.5	29.4
	100	98	97	95	94	92	91	90	88	87	
	29	29.0	28.9	28.9	28.8	28.7	28.7	28.6	28.5	28.4	28.4
	100	98	97	95	94	92	91	89	88	87	
	28	28.0	27.9	27.9	27.8	27.7	27.6	27.6	27.5	27.4	27.3
	100	98	97	95	94	92	91	89	88	86	
	27	27.0	26.9	26.9	26.8	26.7	26.6	26.5	26.5	26.4	26.3
	100	98	97	95	94	92	90	89	87	86	
	26	26.0	25.9	25.8	25.8	25.7	25.6	25.5	25.4	25.4	25.3
	100	98	97	95	93	92	90	89	87	86	
	25	25.0	24.9	24.8	24.7	24.7	24.6	24.5	24.4	24.3	24.2
	100	98	97	95	93	92	90	89	87	85	
	24	24.0	23.9	23.8	23.7	23.7	23.6	23.5	23.4	23.3	23.2
	100	98	97	95	93	92	90	88	87	85	
	23	23.0	22.9	22.8	22.7	22.6	22.5	22.4	22.3	22.2	22.1
	100	98	97	95	93	91	90	88	86	85	
	22	22.0	21.9	21.8	21.7	21.6	21.5	21.4	21.3	21.2	21.1
	100	98	96	95	93	91	89	88	86	85	
	21	21.0	20.9	20.8	20.7	20.6	20.5	20.4	20.3	20.2	20.0
	100	98	96	95	93	91	89	88	86	84	
	20	20.0	19.9	19.8	19.7	19.6	19.4	19.3	19.2	19.1	19.0
	100	98	96	94	93	91	89	87	86	84	
	19	19.0	18.9	18.8	18.7	18.5	18.4	18.3	18.2	18.1	17.9
	100	98	96	94	92	90	89	87	85	83	
	18	18.0	17.9	17.8	17.6	17.5	17.4	17.3	17.1	17.0	16.9
	100	98	96	94	92	90	88	87	85	83	
	17	17.0	16.9	16.8	16.6	16.5	16.3	16.2	16.1	15.9	15.8
	100	98	96	94	92	90	88	86	84	82	
	16	16.0	15.9	15.7	15.6	15.4	15.3	15.2	15.0	14.9	14.7
	100	98	96	94	92	90	88	86	84	82	

	T-T <sub>1</sub>	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8
	T <sub>1</sub>										
	<b>30</b>	29.3	29.3	29.2	29.1	29.1	29.0	28.9	28.9	28.8	28.7
		85	84	83	81	80	79	78	76	75	74
	<b>29</b>	28.3	28.2	28.2	28.1	28.0	28.0	27.9	27.8	27.7	27.7
		85	84	82	81	80	78	77	76	75	74
	<b>28</b>	27.3	27.2	27.1	27.0	27.0	26.9	26.8	26.7	26.7	26.6
		85	83	82	81	79	78	77	76	74	73
	<b>27</b>	26.2	26.1	26.1	26.0	25.9	25.8	25.8	25.7	25.6	25.5
		85	83	82	80	79	78	76	75	74	73
	<b>26</b>	25.2	25.1	25.0	24.9	24.9	24.8	24.7	24.6	24.5	24.4
		84	83	81	80	79	77	76	75	74	72
	<b>25</b>	24.1	24.1	24.0	23.9	23.8	23.7	23.6	23.5	23.4	23.3
		84	82	81	80	78	77	76	74	73	72
	<b>24</b>	23.1	23.0	22.9	22.8	22.7	22.6	22.5	22.4	22.3	22.2
		84	82	81	79	78	76	75	74	72	71
	<b>23</b>	22.0	21.9	21.8	21.7	21.6	21.5	21.4	21.3	21.2	21.1
		83	82	80	79	77	76	75	73	72	71
	<b>22</b>	21.0	20.9	20.8	20.7	20.6	20.5	20.4	20.3	20.2	20.0
		83	81	80	78	77	75	74	73	71	70
	<b>21</b>	19.9	19.8	19.7	19.6	19.5	19.4	19.3	19.2	19.0	18.9
		82	81	79	78	76	75	73	72	71	69
	<b>20</b>	18.9	18.8	18.7	18.5	18.4	18.3	18.2	18.0	17.9	17.8
		82	81	79	77	76	74	72	71	70	69
	<b>19</b>	17.8	17.7	17.6	17.4	17.3	17.2	17.1	16.9	16.8	16.7
		82	80	78	77	75	74	72	71	69	68
	<b>18</b>	16.7	16.6	16.5	16.3	16.2	16.1	15.9	15.8	15.6	15.5
		81	79	78	76	75	73	72	70	69	67
	<b>17</b>	15.7	15.5	15.4	15.2	15.1	15.0	14.8	14.7	14.5	14.4
		81	79	77	76	74	72	71	69	68	66
	<b>16</b>	14.6	14.4	14.3	14.1	14.0	13.8	13.7	13.5	13.4	13.2
		80	78	77	75	73	72	70	68	67	65

$T - T_1$	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8
$T_1$										
30	28.7	28.6	28.5	28.4	28.4	28.3	28.2	28.2	28.1	28.0
	73	71	70	69	68	67	66	65	64	63
29	27.6	27.5	27.4	27.4	27.3	27.2	27.1	27.1	27.0	26.9
	72	71	70	69	68	67	66	65	64	62
28	26.5	26.4	26.4	26.3	26.2	26.1	26.0	26.0	25.9	25.8
	72	71	70	68	67	66	65	64	63	62
27	25.4	25.3	25.3	25.2	25.1	25.0	24.9	24.8	24.8	24.7
	71	70	69	68	67	66	65	63	62	61
26	24.3	24.2	24.2	24.1	24.0	23.9	23.8	23.7	23.6	23.6
	71	70	69	67	66	65	64	63	62	61
25	23.2	23.2	23.4	23.0	22.9	22.8	22.7	22.6	22.5	22.4
	70	69	68	67	66	64	63	62	61	60
24	22.1	22.0	22.0	21.9	21.8	21.7	21.6	21.5	21.4	21.3
	70	69	67	66	65	64	63	62	60	59
23	21.0	20.9	20.8	20.7	20.6	20.5	20.4	20.3	20.2	20.1
	69	68	67	65	64	63	62	61	60	58
22	19.9	19.8	19.7	19.6	19.5	19.4	19.3	19.2	19.0	18.9
	69	67	66	65	64	62	61	60	59	58
21	18.8	18.7	18.6	18.5	18.3	18.2	18.1	18.0	17.9	17.7
	68	67	65	64	63	61	60	59	58	57
20	17.7	17.6	17.4	17.3	17.2	17.0	16.9	16.8	16.7	16.5
	67	66	65	63	62	61	59	58	57	56
19	16.5	16.4	16.3	16.1	16.0	15.9	15.7	15.6	15.4	15.3
	66	65	64	62	61	60	58	57	56	55
18	15.4	15.2	15.1	15.0	14.8	14.7	14.5	14.4	14.2	14.1
	65	64	63	61	61	59	57	56	55	54
17	14.2	14.1	13.9	13.8	13.6	13.5	13.3	13.2	13.0	12.8
	65	63	62	60	59	58	56	55	54	53
16	13.0	12.9	12.7	12.5	12.4	12.2	12.0	11.9	11.7	11.5
	64	62	61	59	58	57	55	54	53	51

$T - T_1$	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.4	7.6	7.8
<b><math>T_1</math></b>										
<b>30</b>	28.0	27.9	27.8	27.7	27.7	27.6	27.5	27.4	27.4	27.3
	62	61	60	59	58	57	56	55	55	54
<b>29</b>	26.8	26.8	26.7	26.6	26.5	26.5	26.4	26.3	26.2	26.1
	61	60	60	55	58	57	56	55	54	53
<b>28</b>	25.7	25.6	25.6	25.5	25.4	25.3	25.2	25.1	25.1	25.0
	61	60	59	58	57	56	55	54	53	52
<b>27</b>	24.6	24.5	24.4	24.3	24.2	24.2	24.1	24.0	23.9	23.8
	60	59	58	57	56	55	54	53	53	52
<b>26</b>	23.5	23.4	23.3	23.2	23.1	23.0	22.9	22.8	22.7	22.6
	60	59	58	57	56	55	54	53	52	51
<b>25</b>	22.3	22.2	22.1	22.0	21.9	21.8	21.7	21.6	21.5	21.4
	59	58	57	55	55	54	53	52	51	50
<b>24</b>	21.2	21.0	20.9	20.8	20.7	20.6	20.5	20.4	20.3	20.2
	58	57	56	55	54	53	52	51	50	49
<b>23</b>	20.0	19.9	19.8	19.7	19.5	19.4	19.3	19.2	19.1	19.0
	57	56	55	54	53	52	51	50	49	48
<b>22</b>	18.8	18.7	18.6	18.5	18.3	18.2	18.1	18.0	17.8	17.7
	56	55	54	53	52	51	50	49	48	47
<b>21</b>	17.6	17.5	17.4	17.2	17.1	17.0	16.9	16.7	16.6	16.5
	56	54	53	52	51	50	49	48	47	46
<b>20</b>	16.4	16.2	16.1	16.0	15.8	15.7	15.6	15.4	15.3	15.1
	55	54	52	51	50	49	48	47	46	45
<b>19</b>	15.2	15.0	14.9	14.7	14.6	14.4	14.3	14.1	14.0	13.8
	53	52	51	50	49	48	47	46	45	44
<b>18</b>	13.9	13.8	13.6	13.5	13.3	13.1	13.0	12.8	12.6	12.5
	53	51	50	49	48	47	46	45	44	43
<b>17</b>	12.7	12.5	12.3	12.2	12.0	11.8	11.6	11.5	11.3	11.1
	51	50	49	48	47	46	45	44	43	41
<b>16</b>	11.3	11.2	11.0	10.8	10.6	10.4	10.2	10.1	9.9	9.7
	50	49	48	47	45	44	43	42	41	40

$T - T_1$	8.0	8.2	8.4	8.6	8.8	9.0	9.2	9.4	9.6	9.8
$T_1$										
30	27.2 53	27.2 52	27.1 51	27.0 50	26.9 50	26.9 49	26.8 48	26.7 47	26.6 46	26.5 46
29	26.1 52	26.0 51	25.9 50	25.8 50	25.7 49	25.7 48	25.6 47	25.5 46	25.4 46	25.3 45
28	24.9 51	24.8 51	24.7 50	24.6 49	24.6 48	24.5 47	24.4 47	24.3 46	24.2 45	24.1 44
27	23.7 51	23.6 50	23.5 49	23.4 48	23.3 47	23.3 47	23.2 46	23.1 45	23.0 44	22.9 43
26	22.5 50	22.4 49	22.3 48	22.2 47	22.1 47	22.0 46	21.9 45	21.8 44	21.7 43	21.6 42
25	21.3 49	21.2 48	21.1 47	21.0 47	20.9 46	20.8 45	20.7 44	20.6 43	20.5 42	20.4 42
24	20.1 48	20.0 47	19.9 46	19.8 46	19.7 45	19.6 44	19.4 43	19.3 42	19.2 41	19.1 41
23	18.9 47	18.8 46	18.6 46	18.5 45	18.4 44	18.3 43	18.2 42	18.0 41	17.9 40	17.8 40
22	17.6 46	17.5 45	17.3 45	17.2 44	17.1 43	17.0 42	16.8 41	16.7 40	16.6 39	16.4 39
21	16.3 45	16.2 44	16.0 44	15.9 43	15.8 42	15.6 41	15.5 40	15.3 39	15.2 38	15.1 38
20	15.0 44	14.9 43	14.7 42	14.6 41	14.4 41	14.3 40	14.1 39	14.0 38	13.8 37	13.7 36
19	13.7 43	13.5 42	13.4 41	13.2 40	13.1 39	12.9 38	12.7 38	12.6 37	12.4 36	12.2 35
18	12.3 42	12.1 41	12.0 40	11.8 39	11.6 38	11.5 37	11.3 36	11.1 35	10.9 35	10.7 34
17	10.9 40	10.7 40	10.5 39	10.3 38	10.2 37	10.0 36	9.8 35	9.6 34	9.4 33	9.2 32
16	9.5 39	9.3 38	9.1 37	8.9 36	8.7 35	8.5 34	8.2 33	8.0 32	7.8 32	7.6 31

	T-T <sub>1</sub>	10.0	10.2	10.4	10.6	10.8	11.0	11.2	11.4	11.6	11.8
	T <sub>1</sub>										
30	26.5	26.4	26.3	26.2	26.1	26.1	26.0	25.9	25.8	25.7	
	45	44	44	43	42	41	41	40	39	39	
29	25.3	25.2	25.1	25.0	24.9	24.8	24.8	24.7	24.6	24.5	
	44	43	43	42	41	41	40	39	39	38	
28	24.0	24.0	23.9	23.8	23.7	23.6	23.5	23.4	23.3	23.2	
	43	43	42	41	41	40	39	39	38	37	
27	22.8	22.7	22.6	22.5	22.4	22.3	22.2	22.1	22.0	21.9	
	43	42	41	40	40	39	38	38	37	36	
26	21.5	21.4	21.3	21.2	21.1	21.0	20.9	20.8	20.7	20.6	
	42	41	40	40	39	38	38	37	36	35	
25	20.3	20.2	20.1	20.0	19.8	19.7	19.6	19.5	19.4	19.3	
	41	40	39	39	38	37	37	36	35	35	
24	19.0	18.9	18.8	18.7	18.5	18.4	18.3	18.2	18.0	17.9	
	40	39	38	38	37	36	36	35	34	34	
23	17.7	17.5	17.4	17.3	17.2	17.0	16.9	16.8	16.6	16.5	
	39	38	37	37	36	35	34	34	33	33	
22	16.3	16.2	16.0	15.9	15.8	15.6	15.5	15.3	15.2	15.1	
	38	37	36	36	35	34	33	33	32	31	
21	14.9	14.8	14.6	14.5	14.3	14.2	14.0	13.9	13.7	13.6	
	37	36	35	34	34	33	32	32	31	30	
20	13.5	13.3	13.2	13.1	12.9	12.7	12.5	12.4	12.2	12.0	
	35	35	34	33	32	32	31	30	30	29	
19	12.0	11.9	11.7	11.5	11.4	11.2	11.0	10.8	10.6	10.4	
	34	33	33	32	31	30	30	29	28	28	
18	10.5	10.3	10.2	10.0	9.8	9.6	9.4	9.3	9.0	8.8	
	33	32	31	31	30	29	28	28	27	26	
17	9.0	8.8	8.6	8.4	8.2	7.9	7.7	7.5	7.3	7.0	
	31	31	30	29	28	27	27	26	25	25	
16	7.4	7.1	6.9	6.7	6.4	6.2	6.0	5.7	5.5	5.2	
	30	29	28	27	27	26	25	24	24	23	

$T = T_1$	12.0	12.2	12.4	12.6	12.8	13.0	13.2	13.4	13.6	13.8	
$T_1$	30	25.7	25.6	25.5	25.4	25.3	25.3	25.2	25.1	25.0	24.9
30	38	37	37	36	36	35	35	34	33	33	33
29	24.4	24.3	24.2	24.2	24.1	24.0	23.9	23.8	23.7	23.6	23.6
28	23.1	23.0	22.9	22.9	22.8	22.7	22.6	22.5	22.4	22.3	22.3
27	21.8	21.7	21.6	21.5	21.4	21.3	21.2	21.1	21.0	20.9	20.9
26	20.5	20.4	20.3	20.2	20.1	20.0	19.9	19.8	19.7	19.5	19.5
25	19.2	19.0	18.9	18.8	18.7	18.6	18.5	18.3	18.2	18.1	18.1
24	17.8	17.7	17.5	17.4	17.3	17.2	17.0	16.9	16.8	16.7	16.7
23	16.4	16.2	16.1	16.0	15.8	15.7	15.5	15.4	15.3	15.1	15.1
22	14.9	14.8	14.6	14.5	14.3	14.2	14.0	13.9	13.7	13.6	13.6
21	13.4	13.3	13.1	13.0	12.8	12.6	12.5	12.3	12.1	12.0	12.0
20	11.9	11.7	11.5	11.3	11.2	11.0	10.8	10.6	10.4	10.2	10.2
19	10.2	10.1	9.9	9.7	9.5	9.3	9.1	8.9	8.7	8.5	8.5
18	8.6	8.4	8.2	7.9	7.7	7.5	7.3	7.0	6.8	6.6	6.6
17	6.8	6.6	6.3	6.1	5.9	5.6	5.4	5.1	4.9	4.6	4.6
16	5.0	4.7	4.4	4.2	3.9	3.6	3.3	3.0	2.7	2.4	2.4
	22	22	21	20	20	19	19	18	17	17	17

$T - T_1$	14.0	14.2	14.4	14.6	14.8	15.0	15.2	15.4	15.6	15.8
$T_1$	30	32	31	31	30	30	29	29	28	28
29	23.5	23.4	23.3	23.3	23.2	23.1	23.0	22.9	22.8	22.7
28	22.2	22.1	22.0	21.9	21.8	21.7	21.6	21.5	21.4	21.3
27	20.8	20.7	20.6	20.5	20.4	20.3	20.2	20.1	20.0	19.9
26	19.4	19.3	19.2	19.1	19.0	18.9	18.8	18.6	18.5	18.4
25	18.0	17.9	17.7	17.6	17.5	17.4	17.2	17.1	17.0	16.9
24	16.5	16.4	16.2	16.1	16.0	15.8	15.7	15.6	15.4	15.3
23	15.0	14.8	14.7	14.6	14.4	14.3	14.1	14.0	13.8	13.6
22	13.4	13.2	13.1	12.9	12.8	12.6	12.4	12.3	12.1	12.0
21	11.8	11.6	11.4	11.2	11.0	10.9	10.7	10.5	10.3	10.1
20	10.0	9.9	9.7	9.5	9.3	9.1	8.9	8.7	8.5	8.2
19	8.2	8.0	7.8	7.6	7.4	7.1	6.9	6.7	6.4	6.2
18	6.3	6.1	5.8	5.6	5.3	5.1	4.8	4.6	4.3	4.0
17	4.3	4.0	3.8	3.5	3.2	2.9	2.6	2.3	2.0	1.7
16	2.1	1.8	1.5	1.2	0.8	0.5	0.2	50.2	50.6	51.0
	16	16	15	15	14	14	13	13	12	12

$T - T_1$  16.0 16.2 16.4 16.6 16.8 17.0 17.2 17.4 17.6 17.8

$T_1$

30	24.0 27	23.9 27	23.8 26	23.7 26	23.6 26	23.5 25	23.4 25	23.3 24	23.3 24	23.2 24
29	22.6 27	22.5 26	22.4 26	22.3 25	22.2 25	22.1 24	22.0 24	21.9 24	21.8 23	21.7 23
28	21.2 26	21.1 25	21.0 25	20.9 25	20.8 24	20.7 24	20.6 23	20.5 23	20.4 22	20.2 22
27	19.8 25	19.6 24	19.5 24	19.4 24	19.3 23	19.2 23	19.1 22	19.0 22	18.8 22	18.7 21
26	18.3 24	18.1 24	18.0 23	17.9 23	17.8 22	17.7 22	17.5 21	17.4 21	17.3 21	17.1 20
25	16.7 23	16.6 23	16.5 22	16.3 22	16.2 21	16.0 21	15.9 20	15.8 20	15.6 20	15.5 19
24	15.1 22	15.0 22	14.9 21	14.7 21	14.6 20	14.4 20	14.3 19	14.1 19	14.0 19	13.8 18
23	13.5 21	13.3 21	13.2 20	13.0 20	12.9 19	12.7 19	12.5 18	12.3 18	12.2 18	12.0 17
22	11.8 20	11.6 19	11.4 19	11.2 18	11.0 18	10.9 18	10.7 17	10.5 17	10.3 16	10.1 16
21	10.0 18	9.8 18	9.6 18	9.4 17	9.2 17	9.0 16	8.8 16	8.5 16	8.3 15	8.1 15
20	8.0 17	7.8 17	7.6 16	7.4 16	7.1 15	6.9 15	6.7 15	6.4 14	6.2 14	6.0 13
19	6.0 16	5.7 15	5.5 15	5.2 14	5.0 14	4.7 14	4.4 13	4.2 13	3.9 13	3.6 12
18	3.8 14	3.5 14	3.2 13	2.9 13	2.6 13	2.3 12	2.0 12	1.7 11	1.3 11	1.0 11
17	1.4 13	1.0 12	0.7 12	0.4 12	50.0 11	50.4 11	50.8 10	51.1 10	51.5 10	51.9 9
16	51.4 11	51.8 10	52.2 10	52.6 10	53.0 9					

$T - T_1$	18.0	18.2	18.4	18.6	18.8	19.0	19.2	19.4	19.6	19.8	20.0
$T_1$											
30	23.1	23.0	22.9	22.8	22.7	22.6	22.5	22.4	22.3	22.2	22.1
	23	23	23	22	22	21	21	20	20	20	19
29	21.6	21.5	21.4	21.3	21.2	21.1	21.0	20.9	20.8	20.7	20.6
	22	22	22	21	21	20	20	20	19	19	19
28	20.1	20.0	19.9	19.8	19.7	19.6	19.5	19.4	19.2	19.1	19.0
	22	21	21	20	20	20	19	19	19	18	18
27	18.6	18.5	18.4	18.2	18.1	18.0	17.9	17.8	17.6	17.5	17.4
	21	20	20	20	19	19	18	18	18	17	17
26	17.0	16.9	16.8	16.6	16.5	16.4	16.2	16.1	16.0	15.8	15.7
	20	19	19	19	18	18	18	17	17	17	16
25	15.3	15.2	15.1	14.9	14.8	14.6	14.5	14.3	14.2	14.0	13.9
	19	18	18	18	17	17	17	16	16	16	15
24	13.6	13.5	13.3	13.2	13.0	12.9	12.7	12.5	12.4	12.2	12.0
	18	17	17	17	16	16	16	15	15	15	14
23	11.8	11.7	11.5	11.3	11.1	10.9	10.8	10.6	10.4	10.2	10.0
	17	16	16	16	15	15	14	14	14	14	13
22	9.9	9.7	9.5	9.3	9.1	8.9	8.7	8.5	8.3	8.1	7.9
	16	15	15	14	14	14	13	13	13	12	12
21	7.9	7.7	7.4	7.2	7.0	6.8	6.5	6.3	6.0	5.8	5.5
	14	14	14	13	13	12	12	12	11	11	11
20	5.7	5.5	5.2	4.9	4.7	4.4	4.2	3.9	3.6	3.3	3.0
	13	13	12	12	12	11	11	11	10	10	10
19	3.3	3.0	2.7	2.4	2.1	1.8	1.5	1.2			
	12	11	11	11	10	10	10	9			
18	0.7	0.3	50.0	50.4							
	10	10	10	9							

	T-T <sub>1</sub>	0.0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8
	T <sub>1</sub>	15	14	13	12	11	10	9	8	7	6
15	15.0	14.9	14.7	14.6	14.4	14.3	14.1	14.0	13.8	13.7	13.7
14	100	98	96	94	91	89	87	85	83	81	81
14	14.0	13.9	13.7	13.5	13.4	13.2	13.1	12.9	12.7	12.6	12.6
14	100	98	96	93	91	89	87	85	83	81	81
13	13.0	12.8	12.7	12.5	12.3	12.2	12.0	11.8	11.7	11.5	11.5
13	100	98	95	93	91	89	87	84	82	80	80
12	12.0	11.8	11.7	11.5	11.3	11.1	10.9	10.8	10.6	10.4	10.4
12	100	98	95	93	91	88	86	84	82	80	80
11	11.0	10.8	10.6	10.5	10.3	10.1	9.9	9.7	9.5	9.3	9.3
11	100	98	95	93	90	88	86	83	81	79	79
10	10.0	9.8	9.6	9.4	9.2	9.0	8.8	8.6	8.4	8.2	8.2
10	100	97	95	92	90	87	85	83	81	78	78
9	9.0	8.8	8.6	8.4	8.2	8.0	7.7	7.5	7.3	7.1	7.1
9	100	97	95	92	90	87	85	82	80	78	78
8	8.0	7.8	7.6	7.3	7.1	6.9	6.6	6.4	6.2	5.9	5.9
8	100	97	95	92	89	86	84	82	79	77	77
7	7.0	6.8	6.5	6.3	6.1	5.8	5.6	5.3	5.1	4.8	4.8
7	100	97	94	92	89	86	83	81	78	76	76
6	6.0	5.8	5.5	5.3	5.0	4.7	4.5	4.2	3.9	3.6	3.6
6	100	97	94	91	88	85	83	80	77	75	75
5	5.0	4.7	4.5	4.2	3.9	3.6	3.4	3.1	2.8	2.5	2.5
5	100	97	94	91	88	85	82	79	77	74	74
4	4.0	3.7	3.5	3.2	2.9	2.6	2.3	1.9	1.6	1.3	1.3
4	100	97	94	90	87	84	81	78	76	73	73
3	3.0	2.7	2.4	2.1	1.8	1.4	1.1	0.8	0.5	0.1	0.1
3	100	97	93	90	87	83	80	77	74	72	72
2	2.0	1.7	1.4	1.1	0.7	0.4	0.0	0.4	0.7	1.1	1.1
2	100	97	93	90	86	83	80	76	73	70	70
1	1.0	0.7	0.3	50.0	50.4	50.8	51.1	51.5	51.9	52.4	52.4
1	100	96	93	89	85	82	79	75	72	69	69
0	0.0	50.4	50.7	51.1	51.5	51.9	52.3	52.8	53.2	53.6	53.6
0	100	96	92	89	85	81	78	74	71	67	67

	T-T <sub>1</sub>	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8
	T <sub>1</sub>										
	15	13.5	13.4	13.2	13.0	12.9	12.7	12.5	12.4	12.2	12.0
		80	78	76	74	72	71	69	68	66	64
	14	12.4	12.2	12.1	11.9	11.7	11.6	11.4	11.2	11.0	10.8
		79	77	75	73	72	70	68	67	65	63
	13	11.3	11.1	10.9	10.8	10.6	10.4	10.2	10.0	9.8	9.6
		78	76	75	73	71	69	67	66	64	62
	12	10.2	10.0	9.8	9.6	9.4	9.2	9.0	8.8	8.6	8.4
		78	76	74	72	70	68	66	65	63	61
	11	9.1	8.9	8.7	8.5	8.3	8.0	7.8	7.6	7.4	7.2
		77	75	73	71	69	67	65	64	62	60
	10	8.0	7.7	7.5	7.3	7.1	6.8	6.6	6.4	6.1	5.9
		76	74	72	70	68	66	64	62	60	58
	9	6.8	6.6	6.4	6.1	5.9	5.6	5.4	5.1	4.9	4.6
		75	73	71	69	67	65	63	61	59	57
	8	5.7	5.4	5.2	4.9	4.7	4.4	4.1	3.8	3.6	3.3
		74	72	70	68	66	63	61	59	58	56
	7	4.6	4.3	4.0	3.8	3.5	3.2	2.9	2.6	2.3	1.9
		73	71	69	67	64	62	60	58	56	54
	6	3.4	3.1	2.8	2.5	2.2	1.9	1.5	1.2	0.9	0.6
		72	70	68	65	63	60	58	56	54	52
	5	2.2	1.9	1.5	1.2	0.9	0.6	0.2	50.2	50.5	50.9
		71	69	66	64	61	59	57	55	53	50
	4	1.0	0.6	0.3	0.0	50.4	50.8	51.2	51.6	52.0	52.4
		70	67	65	62	60	57	55	53	51	48
	3	50.3	50.6	51.0	51.4	51.8	52.2	52.6	53.0	53.5	53.9
		69	66	63	61	58	55	53	51	48	46
	2	51.5	51.9	52.3	52.7	53.2	53.6	54.0	54.5	55.0	55.5
		67	64	62	59	56	54	51	49	46	44
	1	52.8	53.2	53.7	54.1	54.5	55.0	55.5	56.1	56.6	57.2
		66	63	60	57	54	51	49	46	44	41
	0	54.0	54.5	55.0	55.5	56.0	56.6	57.1	57.7	58.4	59.0
		64	61	58	55	52	49	47	44	41	39

	$T - T_1$	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8
$T_1$											
15		11.9 63	11.7 61	11.5 60	11.3 58	11.1 57	11.0 55	10.8 54	10.6 53	10.4 52	10.2 50
14		10.6 61	10.5 60	10.3 59	10.1 57	9.9 56	9.7 54	9.5 53	9.3 52	9.1 50	8.9 49
13		9.4 61	9.2 59	9.0 57	8.8 56	8.6 54	8.4 53	8.2 52	8.0 50	7.7 49	7.5 47
12		8.2 59	8.0 58	7.7 56	7.5 55	7.3 53	7.1 51	6.8 50	6.6 49	6.4 47	6.1 46
11		6.9 58	6.7 56	6.5 55	6.2 53	6.0 52	5.7 50	5.5 49	5.2 47	5.0 46	4.7 44
10		5.6 57	5.4 55	5.1 53	4.9 52	4.6 50	4.3 48	4.1 47	3.8 45	3.5 44	3.2 42
9		4.3 55	4.0 54	3.8 52	3.5 50	3.2 48	2.9 47	2.6 45	2.3 44	2.0 42	1.7 41
8		3.0 54	2.7 52	2.4 50	2.1 48	1.8 47	1.4 45	1.1 43	0.8 42	0.5 40	0.1 39
7		1.6 52	1.3 50	1.0 48	0.6 47	0.3 45	0.1 43	50.4 42	50.8 40	51.2 38	51.6 37
6		0.2 50	50.2 48	50.6 46	50.9 45	51.3 43	51.7 41	52.1 39	52.6 38	53.0 36	53.4 34
5		51.3 48	51.7 46	52.1 44	52.5 42	53.0 41	53.4 39	53.8 37	54.3 35	54.8 34	55.3 32
4		52.8 46	53.2 44	53.7 42	54.1 40	54.6 38	55.1 36	55.6 35	56.1 33	56.7 31	57.2 29
3		54.4 44	54.9 41	55.4 40	55.9 38	56.4 36	57.0 34	57.6 32	58.2 30	58.8 28	59.4 26
2		56.0 41	56.6 39	57.2 37	57.8 35	58.4 33	59.0 31	59.7 29	60.4 27	61.1 25	61.9 23
1		57.8 39	58.4 37	59.0 34	59.7 33	60.4 30	61.2 28	61.9 26	62.7 24	63.6 22	64.5 20
0		59.7 36	60.4 34	61.1 32	61.9 29	62.7 27	63.6 24	64.5 23	65.5 21	66.6 19	67.7 17

	T-T <sub>1</sub>	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.4	7.6	7.8
<b>T<sub>1</sub></b>											
1.0	<b>15.1</b>	10.0	9.9	9.7	9.5	9.3	9.1	8.9	8.7	8.5	8.2
P.E.	49	48	46	45	44	43	42	41	40	39	
1.0	<b>14.1</b>	8.8	8.7	8.5	8.3	8.1	7.8	7.6	7.4	7.2	6.9
P.E.	47	46	45	44	43	42	40	39	38	37	
1.0	<b>13.1</b>	8.7	8.3	7.1	6.8	6.6	6.4	6.1	5.9	5.6	5.4
P.E.	46	45	43	42	41	40	39	38	36	35	
1.0	<b>12.1</b>	8.5	5.9	5.6	5.4	5.1	4.9	4.6	4.3	4.1	3.8
P.E.	44	43	42	41	39	38	37	36	35	34	
1.0	<b>11.1</b>	8.4	4.4	4.2	3.9	3.6	3.3	3.0	2.7	2.4	2.1
P.E.	42	41	40	39	38	36	35	34	33	32	
1.0	<b>10.1</b>	8.2	2.9	2.6	2.3	2.0	1.7	1.4	1.0	0.7	0.4
P.E.	41	40	38	37	36	34	33	32	31	30	
1.0	<b>9.1</b>	8.1	1.4	1.0	0.7	0.4	50.0	50.4	50.7	51.1	51.5
P.E.	39	38	37	35	34	32	31	29	28	27	
1.0	<b>8.1</b>	50.3	50.7	51.0	51.4	51.8	52.3	52.7	53.1	53.6	54.0
P.E.	37	36	34	33	32	30	29	28	26	25	
1.0	<b>7.1</b>	52.0	52.4	52.8	53.3	53.7	54.2	54.6	55.1	55.6	56.2
P.E.	35	34	32	31	29	28	26	25	24	23	
1.0	<b>6.1</b>	53.8	54.3	54.8	55.3	55.8	56.3	56.9	57.5	58.1	58.7
P.E.	33	31	30	28	27	25	24	23	21	20	
1.0	<b>5.1</b>	55.8	56.3	56.8	57.4	58.0	58.6	59.3	60.0	60.7	61.5
P.E.	30	29	27	26	24	23	21	20	18	17	
1.0	<b>4.1</b>	57.8	58.4	59.0	59.7	60.4	61.2	62.0	62.8	63.7	64.6
P.E.	27	26	24	23	21	20	18	17	16	14	
1.0	<b>3.1</b>	60.1	60.9	61.7	62.5	63.3	64.2	65.2	66.2	67.3	68.6
P.E.	24	23	21	20	18	16	15	14	12	11	
1.0	<b>2.1</b>	62.7	63.6	64.5	65.5	66.6	67.7	69.0	70.4		
P.E.	21	20	18	17	15	13	12	10			
1.0	<b>1.1</b>	65.5	66.6	67.8	69.1	70.6	72.2	75.0	77.8		
P.E.	18	16	15	13	11	10	9	8			
1.0	<b>0.1</b>	69.0	70.4	72.0	73.8	76.1	78.0	81.0	84.0		
P.E.	15	13	11	9	7	5	3	2			





T-T<sub>c</sub> 12.0 12.2 12.4 12.6 12.8 13.0 13.2 13.4 13.6 13.8

T<sub>1</sub>

$T = T_0 + 14.0 + 14.2 + 14.4 + 14.6 + 14.8 + 15.0 + 15.2 + 15.4 + 15.6 + 15.8 + 16.0$

$T_1$

$+ 15.0 + 50.3 + 50.7 + 51.0 + 51.4 + 51.8 + 52.2 + 52.7 + 53.1 + 53.5 + 54.0 + 54.4$   
 $+ 14 + 13 + 13 + 13 + 12 + 12 + 11 + 11 + 10 + 10 + 9$

$+ 14 + 53.0 + 53.4 + 53.8 + 54.3 + 54.8 + 55.3 + 55.8 + 56.3 + 56.8 + 57.3 + 57.8$   
 $+ 13 + 13 + 12 + 12 + 11 + 10 + 10 + 9 + 9 + 9$

$+ 13 + 56.0 + 56.5 + 57.1 + 57.7 + 58.3 + 58.9 + 59.5 + 59.8 + 59.8 + 59.8 + 59.8$   
 $+ 12 + 11 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10$

the first 12 terms of the series were used to calculate the value of  $T$ . The last term was omitted because it did not contribute significantly to the total value of  $T$ .

The value of  $T$  was calculated to be 59.8. This value is close to the value of 60.0 which is the average of the values of  $T$  obtained by the two methods.

$T - T_1$	0.0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8
<b><math>T_1</math></b>										
— 0	50.0	50.3	50.6	51.0	51.3	51.6	52.0	52.3	52.7	53.1
— 100	96	93	89	86	82	79	76	73	70	
— 1	51.2	51.5	51.8	52.2	52.6	52.9	53.3	53.7	54.1	54.5
— 99	95	92	88	84	81	77	74	71	68	
— 2	52.3	52.6	53.0	53.4	53.8	54.2	54.6	55.0	55.5	56.0
— 98	94	90	86	83	79	75	72	69	65	
— 3	53.4	53.8	54.2	54.6	55.0	55.5	56.0	56.4	56.9	57.4
— 97	93	89	85	81	77	73	70	66	63	
— 4	54.6	55.0	55.4	55.9	56.3	56.8	57.3	57.8	58.3	58.9
— 96	92	88	84	79	75	72	68	64	60	
— 5	55.7	56.2	56.6	57.1	57.6	58.1	58.7	59.2	59.8	60.4
— 95	91	86	82	78	73	69	65	62	58	
— 6	56.8	57.3	57.8	58.3	58.9	59.4	60.0	60.6	61.3	62.0
— 94	90	85	80	76	71	67	63	59	55	
— 7	57.9	58.4	59.0	59.5	60.1	60.7	61.4	62.1	62.8	63.6
— 93	88	84	79	74	69	64	60	56	52	
— 8	59.0	59.6	60.2	60.8	61.5	62.2	62.9	63.7	64.5	65.3
— 92	87	82	77	72	66	62	57	53	48	
— 9	60.1	60.7	61.4	62.1	62.8	63.6	64.4	65.2	66.1	67.2
— 92	86	81	75	70	64	59	54	50	45	
— 10	61.2	61.9	62.6	63.4	64.2	65.0	65.9	66.9	68.0	69.1
— 91	85	79	73	67	61	56	51	46	41	
— 11	62.4	63.1	63.9	64.7	65.6	66.5	67.6	68.7	69.9	71.2
— 90	84	77	71	65	59	53	48	43	37	
— 12	63.5	64.3	65.1	66.0	67.0	68.1	69.2	70.4	71.8	73.4
— 89	82	76	69	63	56	50	45	39	33	
— 13	64.6	65.5	66.4	67.4	68.5	69.7	71.0	72.4	74.0	76.0
— 88	81	74	67	60	53	47	41	35	29	
— 14	65.7	66.7	67.7	68.8	70.0	71.4	72.8	74.4	76.4	78.8
	87	80	72	65	57	50	43	37	30	24





	<b>T=T<sub>1</sub></b>	<b>6.0</b>	<b>6.2</b>	<b>6.4</b>	<b>6.6</b>	<b>6.8</b>	<b>7.0</b>	
<b>T<sub>1</sub></b>								
0.0	<b>64.6</b>	65.5	66.5	67.5	68.6	69.8		
	<b>22</b>	20	19	16	14	13		
1.0	<b>68.0</b>	69.1	70.4	71.8	73.4			
	<b>19</b>	16	15	13	10			
2.0	<b>72.2</b>	73.8						
	<b>13</b>	11						

Table 1. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 22$  K.

Table 2. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 19$  K.

Table 3. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 13$  K.

Table 4. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 11$  K.

Table 5. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 10$  K.

Table 6. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 7.0$  K.

Table 7. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 6.8$  K.

Table 8. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 6.6$  K.

Table 9. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 6.4$  K.

Table 10. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 6.2$  K.

Table 11. The values of  $\Delta E_{\text{exc}}$  (eV) for the first excited state of the  $\text{C}_2$  molecule at different temperatures. The values of  $\Delta E_{\text{exc}}$  are given for the following conditions: (1)  $T = T_1$ ; (2)  $T = 0$ ,  $T_1 = 6.0$  K.

$T - T_1$	0.0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0
$T_1$											
—15	66.8 86	67.8 78	68.9 70	70.2 62	71.6 54	73.0 46	74.8 39	76.8 33	79.2 26	82.4 19	86.4 12
—16	67.9 86	69.0 77	70.4 68	71.8 60	73.2 51	75.0 43	77.0 35	79.4 28	82.6 21	86.8 13	
—17	69.0 85	70.2 75	71.6 66	73.0 57	74.8 48	76.8 39	79.4 31	82.4 23	86.6 15		
—18	70.1 84	71.4 74	73.0 64	74.6 54	76.6 44	79.0 34	82.0 26	86.0 18			
—19	71.2 83	72.6 72	74.2 62	76.2 51	78.4 41	81.4 30	85.2 21				
—20	72.3 82	73.8 71	75.6 59	77.8 48	80.6 36	84.0 25	89.4 16				
—21	73.4 81	75.2 69	77.2 57	79.8 43	83.0 32	87.6 20					
—22	74.4 81	76.4 67	78.8 54	81.6 41	85.6 27						
—23	75.6 80	77.6 65	80.4 51	83.8 37	88.6 22						
—24	76.6 79	79.0 64	82.0 48	86.0 33							
—25	77.6 78	80.2 62	83.8 45	88.6 29							