

## **Supplementary Material**

*Edward Scott Goudreau, MSc. Thesis, The University of New Brunswick, 2016*

This document contains spectroscopic line lists that were used or assigned as part of the MSc. thesis of Edward Scott Goudreau, completed at the University of New Brunswick in 2016. Tables S.1 to S.22 contain the lines and combination differences used in the multi-state fitting described in chapter 4.9 of the thesis and correspond to those listed in thesis table 4.9.1. S.23 to S.28 contain the full line lists for the bands corresponding to the combination differences lists S.17 to S.22, and contain the lines that were used to construct these combination differences as well as lines that were not used. S.23 contains a line list for the Q-branch of the  $252\text{ cm}^{-1}$  band which was not used in the fitting. The data in tables S.1 to S.9 were taken from Refs. [1-5], although only the lines used in the present work are listed.

Each line is presented as a series of quantum numbers (upper state  $J, K_a, K_c$ , lower state  $J, K_a, K_c$ ) followed by the frequency and the observed minus calculated value (Obs-Calc), where the observed value is the listed frequency and the calculated value is from the final multi-state fitting (constants given in thesis table 4.9.2). For listed combination differences, the upper and lower state quantum numbers refer to a rotational interval in the lower vibrational state. Obs-Calc values are not given for tables S.23 to S.29 since these lines were not used directly in the fitting.

## Table of Contents

Table of Contents .....	ii
S.1 - Pure rotation line list for the $0^0$ vibrational state of malonaldehyde (from Baughcum <i>et al.</i> [1]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.05 MHz. .....	1
S.2 - Pure rotation line list for the $0^1$ vibrational state of malonaldehyde (from Baughcum <i>et al.</i> [1]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.05 MHz. .....	3
S.3 - Pure rotation line list for the $0^0$ vibrational state of malonaldehyde (from Turner <i>et al.</i> [2]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.2 MHz. .....	5
S.4 - Pure rotation line list for the $0^1$ vibrational state of malonaldehyde (from Turner <i>et al.</i> [2]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.2 MHz. .....	6
S.5 - Pure rotation line list for the $0^0$ vibrational state of malonaldehyde (from Firth <i>et al.</i> [3]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.3 MHz. .....	7
S.6 - Pure rotation line list for the $0^1$ vibrational state of malonaldehyde (from Firth <i>et al.</i> [3]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.3 MHz. .....	9
S.7 - Pure rotation line list for the $0^0$ vibrational state of malonaldehyde (from Baba <i>et al.</i> [4]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.043 MHz. .....	11
S.8 - Pure rotation line list for the $0^1$ vibrational state of malonaldehyde (from Baba <i>et al.</i> [4]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.043 MHz. .....	12

S.9 - Tunnelling rotation ( $0^0 \rightarrow 0^1$ ) line list of malonaldehyde (from Baba <i>et al.</i> [4]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.043 MHz. .....	13
S.10 - Pure rotation line list for the $241 \text{ cm}^{-1}$ vibrational state of malonaldehyde (from Rowe [5]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.05 MHz. .....	14
S.11 - Pure rotation line list for the $390 \text{ cm}^{-1}$ vibrational state of malonaldehyde (from Rowe [5]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.05 MHz. .....	15
S.12 - Pure rotation line list for the $405 \text{ cm}^{-1}$ vibrational state of malonaldehyde (from Rowe [5]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.05 MHz. .....	16
S.13 - Vibration-rotation line list for the $220 \text{ cm}^{-1}$ band ( $0^1 \rightarrow 241 \text{ cm}^{-1}$ ) of malonaldehyde used in the multi-state fitting. All lines were weighted using an uncertainty of $0.0002 \text{ cm}^{-1}$ . .....	17
S.14 - Vibration-rotation line list for the $241 \text{ cm}^{-1}$ band ( $0^0 \rightarrow 241 \text{ cm}^{-1}$ ) of malonaldehyde used in the multi-state fitting. All lines were weighted using an uncertainty of $0.0002 \text{ cm}^{-1}$ . .....	74
S.15 - Vibration-rotation line list for the $384 \text{ cm}^{-1}$ band ( $0^1 \rightarrow 405 \text{ cm}^{-1}$ ) of malonaldehyde used in the multi-state fitting. All lines were weighted using an uncertainty of $0.0002 \text{ cm}^{-1}$ . .....	115
S.16 - Vibration-rotation line list for the $390 \text{ cm}^{-1}$ band ( $0^0 \rightarrow 390 \text{ cm}^{-1}$ ) of malonaldehyde used in the multi-state fitting. All lines were weighted using an uncertainty of $0.0002 \text{ cm}^{-1}$ . .....	151
S.17 - Lower state combination difference list for the $282 \text{ cm}^{-1}$ band ( $0^0 \rightarrow 282 \text{ cm}^{-1}$ ) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of $0.00028 \text{ cm}^{-1}$ . .....	186

S.18 - Lower state combination difference list for the 506 cm <sup>-1</sup> band (0 <sup>1</sup> → 527 cm <sup>-1</sup> ) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of 0.00028 cm <sup>-1</sup> . .....	188
S.19 - Lower state combination difference list for the 512 cm <sup>-1</sup> band (0 <sup>0</sup> → 512 cm <sup>-1</sup> ) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of 0.00028 cm <sup>-1</sup> . .....	191
S.20 - Lower state combination difference list for the 766 cm <sup>-1</sup> band (0 <sup>0</sup> → 766 cm <sup>-1</sup> ) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of 0.00028 cm <sup>-1</sup> . .....	199
S.21 - Lower state combination difference list for the 964 cm <sup>-1</sup> band (0 <sup>1</sup> → 986 cm <sup>-1</sup> ) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of 0.00028 cm <sup>-1</sup> . .....	205
S.22 - Lower state combination difference list for the 999 cm <sup>-1</sup> band (0 <sup>0</sup> → 999 cm <sup>-1</sup> ) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of 0.00028 cm <sup>-1</sup> . .....	208
S.23 - Vibration-rotation line list for the 282 cm <sup>-1</sup> band (0 <sup>0</sup> → 282 cm <sup>-1</sup> ) of malonaldehyde. .....	211
S.24 - Vibration-rotation line list for the 506 cm <sup>-1</sup> band (0 <sup>1</sup> → 527 cm <sup>-1</sup> ) of malonaldehyde. .....	215
S.25 - Vibration-rotation line list for the 512 cm <sup>-1</sup> band (0 <sup>0</sup> → 512 cm <sup>-1</sup> ) of malonaldehyde. .....	220
S.26 - Vibration-rotation line list for the 766 cm <sup>-1</sup> band (0 <sup>0</sup> → 766 cm <sup>-1</sup> ) of malonaldehyde. .....	236
S.27 - Vibration-rotation line list for the 964 cm <sup>-1</sup> band (0 <sup>1</sup> → 986 cm <sup>-1</sup> ) of malonaldehyde. .....	248

S.28 - Vibration-rotation line list for the $999\text{ cm}^{-1}$ band ( $0^0 \rightarrow 999\text{ cm}^{-1}$ ) of malonaldehyde.	253
S.29 - Vibration-rotation line list for the $252\text{ cm}^{-1}$ band ( $0^1 \rightarrow 273\text{ cm}^{-1}$ ) of malonaldehyde.	259
References	262

S.1 - Pure rotation line list for the  $0^0$  vibrational state of malonaldehyde (from Baughcum *et al.* [1]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.05 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
2	1	2	1	0	1	20046.91	-0.01
2	2	0	1	1	1	35149.13	0.03
2	2	1	1	1	0	32905.81	0.02
3	2	2	2	1	1	39714.33	0.02
4	0	4	3	1	3	29214.07	-0.01
4	1	4	3	0	3	32033.80	0.00
4	3	2	4	2	3	28920.12	0.03
4	4	1	4	3	2	38070.98	0.04
5	0	5	4	1	4	36806.13	-0.01
5	1	4	4	2	3	36412.25	-0.02
5	1	5	4	0	4	38150.27	0.01
5	3	3	5	2	4	30808.85	0.03
5	4	1	5	3	2	36481.26	0.04
5	4	2	5	3	3	38105.78	0.03
6	1	5	6	0	6	33636.86	0.02
6	2	4	5	3	3	36673.77	-0.02
6	2	5	6	1	6	36779.36	0.04
6	3	4	6	2	5	33691.27	0.03
6	4	2	6	3	3	34377.42	0.04
6	4	3	6	3	4	38497.61	0.03
7	2	5	7	1	6	27656.86	0.02
7	3	5	7	2	6	37605.58	0.04
7	4	3	7	3	4	31481.88	0.05
7	4	4	7	3	5	39517.36	0.02
7	6	1	7	5	2	59359.65	0.02
7	7	0	7	6	1	70650.98	0.00
8	2	6	8	1	7	35663.82	0.00
8	4	4	8	3	5	28637.60	0.03
9	3	6	9	2	7	29060.96	0.02
9	4	5	9	3	6	27018.57	0.04
10	3	7	10	2	8	36556.64	0.02
10	4	6	10	3	7	27608.80	0.03
10	5	5	10	4	6	38289.84	0.06
11	4	7	11	3	8	30954.51	0.02
11	5	6	11	4	7	34930.51	0.05
12	4	8	12	3	9	37085.89	0.03
12	5	7	12	4	8	33223.68	0.05
12	6	7	12	5	8	58060.72	-0.07
13	5	8	13	4	9	34148.14	0.03

13	6	8	13	5	9	59093.84	0.06
13	7	6	13	6	7	64043.66	0.07
13	7	7	13	6	8	67363.28	-0.16
14	3	12	13	2	11	112669.05	-0.11
14	5	9	14	4	10	38165.36	0.03
14	5	10	14	4	11	63590.98	-0.13
14	6	9	14	5	10	61115.25	0.03
14	7	7	14	6	8	60321.30	0.09
15	4	11	15	3	12	64120.49	-0.05
15	6	9	15	5	10	39245.89	0.06
15	6	10	15	5	11	64244.18	-0.13
15	7	9	15	6	10	67278.68	-0.02
16	4	13	16	3	14	85616.22	-0.03
16	6	11	16	5	12	68473.72	-0.01
17	7	11	17	6	12	70501.64	-0.07
17	8	9	17	7	10	67132.48	0.05
17	9	8	17	8	9	85728.14	-0.18
18	8	10	18	7	11	61573.93	0.06
19	6	13	19	5	14	63071.91	-0.15
21	7	14	21	6	15	61420.15	0.06
21	9	12	21	8	13	67260.96	-0.06
22	8	15	22	7	16	87713.42	-0.15
22	9	13	22	8	14	61388.81	0.01
22	9	14	22	8	15	86246.54	-0.21
22	10	12	22	9	13	85640.21	-0.13
23	8	15	23	7	16	60180.30	-0.09
23	9	14	23	8	15	57493.70	-0.09
24	6	18	24	5	19	109614.66	-0.04
25	10	15	25	9	16	66543.25	0.01
26	9	17	26	8	18	67726.12	-0.01
26	10	16	26	9	17	62833.28	0.11
27	10	17	27	9	18	62848.87	0.14
28	10	18	28	9	19	67127.75	0.11
29	11	18	29	10	19	68156.16	0.16

S.2 - Pure rotation line list for the  $0^1$  vibrational state of malonaldehyde (from Baughcum *et al.* [1]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.05 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
2	1	1	2	0	2	8654.64	0.01
2	1	2	1	0	1	19995.75	0.01
2	2	0	1	1	1	35113.15	0.03
2	2	1	1	1	0	32921.36	0.03
3	2	2	2	1	1	39687.86	0.04
3	3	1	3	2	2	28110.86	0.04
4	0	4	3	1	3	28952.22	0.01
4	1	4	3	0	3	31902.35	0.01
4	3	2	4	2	3	29116.58	0.03
4	4	0	4	3	1	38021.49	0.05
4	4	1	4	3	2	38440.32	0.06
5	0	5	4	1	4	36528.90	0.01
5	1	5	4	0	4	37959.72	0.00
5	2	4	5	1	5	31002.93	0.00
5	3	3	5	2	4	30935.54	0.03
5	4	1	5	3	2	36940.90	0.07
5	4	2	5	3	3	38463.72	0.05
6	1	5	6	0	6	33229.81	-0.02
6	2	4	5	3	3	35681.24	-0.06
6	2	5	6	1	6	36568.38	-0.01
6	3	4	6	2	5	33721.37	0.01
6	4	2	6	3	3	34925.43	0.06
6	4	3	6	3	4	38819.61	0.03
7	2	5	7	1	6	27172.74	-0.03
7	3	5	7	2	6	37520.17	0.03
7	4	3	7	3	4	32092.07	0.07
7	4	4	7	3	5	39769.24	0.05
8	2	6	8	1	7	35043.45	-0.04
8	4	4	8	3	5	29205.70	0.05
8	6	2	8	5	3	59387.80	0.03
9	3	6	9	2	7	28545.62	-0.01
9	4	5	9	3	6	27396.63	0.03
10	3	7	10	2	8	35767.05	-0.01
10	4	6	10	3	7	27659.48	0.02
10	5	5	10	4	6	39195.78	0.05
10	6	4	10	5	5	56718.99	0.15
11	3	9	11	2	10	60366.27	0.02
11	4	7	11	3	8	30582.42	0.00
11	5	6	11	4	7	35723.34	0.05



12	4	8	12	3	9	36274.22	0.00
12	5	7	12	4	8	33695.45	0.03
13	5	8	13	4	9	34127.83	0.03
13	6	8	13	5	9	59444.11	-0.19
13	7	6	13	6	7	65207.84	-0.03
14	3	12	13	2	11	112010.79	-0.06
14	5	9	14	4	10	37557.67	0.03
14	6	9	14	5	10	61268.57	0.06
14	7	8	14	6	9	67743.57	-0.13
15	4	11	15	3	12	62837.52	0.18
15	6	9	15	5	10	39780.36	0.04
15	6	10	15	5	11	64165.72	0.00
17	5	12	17	4	13	62495.50	0.04
17	8	9	17	7	10	68987.84	-0.10
18	4	14	18	3	15	87725.37	-0.06
18	8	10	18	7	11	63630.45	-0.09
19	6	13	19	5	14	61063.76	0.15
19	9	11	19	8	12	86224.65	-0.23
20	6	14	20	5	15	71473.63	0.04
21	9	12	21	8	13	69803.25	0.00
22	7	15	22	6	16	69458.66	-0.04
22	9	14	22	8	15	86702.98	-0.13
23	8	15	23	7	16	58469.16	0.00
23	9	14	23	8	15	59076.70	-0.08
24	8	16	24	7	17	67108.06	-0.02
24	9	15	24	8	16	57364.64	-0.01
25	10	15	25	9	16	69187.87	-0.13
26	9	17	26	8	18	65513.01	-0.01
26	10	16	26	9	17	64549.73	0.00
27	10	17	27	9	18	63139.16	0.01
28	10	18	28	9	19	65817.01	-0.11
29	11	18	29	10	19	69910.07	-0.01

S.3 - Pure rotation line list for the  $0^0$  vibrational state of malonaldehyde (from Turner *et al.* [2]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.2 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
10	2	9	9	1	8	78637.52	0.12
11	8	3	11	7	4	80384.93	0.04
11	8	4	11	7	5	80415.53	0.06
12	4	8	11	5	7	84764.76	0.03
13	1	12	13	0	13	83491.80	-0.55
19	5	14	19	4	15	83038.58	0.12
19	9	10	19	8	11	78877.22	0.12
20	7	14	20	6	15	83555.55	0.10
21	6	15	21	5	16	83714.28	0.28
23	7	16	23	6	17	82955.63	0.11
25	8	17	25	7	18	80889.27	0.27
35	13	22	35	12	23	78851.96	0.44

S.4 - Pure rotation line list for the  $0^1$  vibrational state of malonaldehyde (from Turner *et al.* [2]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.2 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
9	3	7	8	2	6	84555.89	0.08
11	2	10	10	1	9	84768.19	0.03
12	0	12	11	1	11	84581.59	0.00
13	8	6	13	7	7	79909.32	0.12
18	9	9	18	8	10	84546.78	0.11
21	8	14	21	7	15	82921.38	0.12
32	11	21	32	10	22	79834.56	-0.50
36	13	23	36	12	24	80790.45	0.11

S.5 - Pure rotation line list for the  $0^0$  vibrational state of malonaldehyde (from Firth *et al.* [3]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.3 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
21	16	5	20	15	6	352805.6	-0.2
21	16	6	20	15	5	352805.6	-0.2
24	17	7	23	16	8	389819.2	-0.4
24	17	8	23	16	7	389819.2	-0.4
24	21	3	23	20	4	433554.9	-0.2
24	21	4	23	20	3	433554.9	-0.2
24	22	2	23	21	3	444505.9	0.4
24	22	3	23	21	2	444505.9	0.4
25	20	5	24	19	6	431358.7	-0.4
25	20	6	24	19	5	431358.7	-0.4
25	21	4	24	20	5	442241.5	-0.4
25	21	5	24	20	4	442241.5	-0.4
26	14	12	25	13	13	373369.3	-0.4
26	14	13	25	13	12	373355.5	-0.4
26	16	10	25	15	11	395980.5	0.5
26	16	11	25	15	10	395992.0	0.7
26	20	6	25	19	7	440048.8	-0.2
26	20	7	25	19	6	440048.8	-0.2
28	14	14	27	13	15	389892.5	0.1
28	14	15	27	13	14	389756.6	0.4
29	17	12	28	16	13	432751.9	0.3
29	17	13	28	16	12	432751.9	-0.3
30	17	14	29	16	13	441212.8	0.0
30	25	5	29	24	6	529460.8	-0.7
30	25	6	29	24	5	529460.8	-0.7
30	29	1	29	28	2	573144.1	-0.2
30	29	2	29	28	1	573144.1	-0.2
31	28	3	30	27	4	570908.0	-0.2
31	28	4	30	27	3	570908.0	-0.2
33	15	18	32	14	19	442372.7	0.6
33	26	7	32	25	8	566402.8	-0.3
33	26	8	32	25	7	566402.8	-0.3
34	26	8	33	25	9	575054.1	0.0
34	26	9	33	25	8	575054.1	0.0
34	33	1	33	32	2	651558.4	-0.2
34	33	2	33	32	1	651558.4	-0.2
34	34	0	33	33	1	662502.9	0.7
34	34	1	33	33	0	662502.9	0.7
36	30	6	35	29	7	636070.8	0.5

36	30	7	35	29	6	636070.8	0.5
37	23	14	36	22	15	567645.2	-0.1
37	23	15	36	22	14	567645.2	-0.1
38	23	15	37	22	16	576098.0	0.2
38	23	16	37	22	15	576098.0	0.2
38	28	10	37	27	11	631452.2	-0.4
38	28	11	37	27	10	631452.2	-0.4
39	31	8	38	30	9	672877.4	-0.5
39	31	9	38	30	8	672877.4	-0.5
40	19	22	39	18	21	546542.6	-0.3
40	35	5	39	34	6	725201.6	0.4
40	35	6	39	34	5	725201.6	0.4
41	19	22	40	18	23	554068.7	1.4
43	10	33	42	11	32	364798.3	0.2
43	40	3	42	39	4	805660.5	-0.5
43	40	4	42	39	3	805660.5	-0.5
46	10	36	45	11	35	384623.9	0.6
46	34	12	45	33	13	765654.8	-0.3
46	34	13	45	33	12	765654.8	-0.3
47	24	23	46	23	24	662225.0	0.3
47	38	9	46	37	10	817868.0	-0.8
47	38	10	46	37	9	817868.0	-0.8
49	27	22	48	26	23	713536.8	-1.8
49	27	23	48	26	22	713536.8	-1.8

S.6 - Pure rotation line list for the  $0^1$  vibrational state of malonaldehyde (from Firth *et al.* [3]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.3 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
21	16	5	20	15	6	352896.0	0.1
21	16	6	20	15	5	352896.0	0.1
24	17	7	23	16	8	389881.0	-0.1
24	17	8	23	16	7	389881.0	-0.1
24	20	4	23	19	5	422978.9	0.1
24	20	5	23	19	4	422978.9	0.1
24	21	3	23	20	4	433970.7	-0.1
24	21	4	23	20	3	433970.7	-0.1
25	13	12	24	12	13	353118.9	0.7
25	13	13	24	12	12	353047.9	0.5
25	21	4	24	20	5	442659.8	0.0
25	21	5	24	20	4	442659.8	0.0
26	15	11	25	14	12	384579.0	0.7
26	20	6	25	19	7	440329.4	-0.3
26	20	7	25	19	6	440329.4	-0.3
26	25	1	25	24	2	495252.0	0.0
26	25	2	25	24	1	495252.0	0.0
29	17	12	28	16	13	432712.6	-0.1
29	17	13	28	16	12	432712.6	0.0
30	17	13	29	16	14	441176.9	0.2
30	17	14	29	16	13	441176.9	0.4
30	29	1	29	28	2	573887.8	-0.5
30	29	2	29	28	1	573887.8	-0.5
33	15	18	32	14	19	441963.0	-0.1
33	15	19	32	14	18	441099.4	0.5
33	26	7	32	25	8	567142.8	0.0
33	26	8	32	25	7	567142.8	0.0
33	31	2	32	30	3	621929.8	0.2
33	31	3	32	30	2	621929.8	0.2
34	24	10	33	23	11	553749.3	-0.5
34	24	11	33	23	10	553749.3	-0.5
34	26	8	33	25	9	575829.2	-0.3
34	26	9	33	25	8	575829.2	-0.3
35	25	10	34	24	11	573464.0	0.2
35	25	11	34	24	10	573464.0	0.2
36	24	12	35	23	13	571011.5	-0.5
36	24	13	35	23	12	571011.5	-0.5
36	30	6	35	29	7	637185.7	0.5
36	30	7	35	29	6	637185.7	0.5

37	23	14	36	22	15	568437.9	-0.1
37	23	15	36	22	14	568437.9	-0.1
38	22	16	37	21	17	565689.8	0.2
38	22	17	37	21	16	565689.8	0.2
38	23	15	37	22	16	576985.6	0.3
38	23	16	37	22	15	576985.6	0.3
38	27	11	37	26	12	621559.3	-0.4
38	27	12	37	26	11	621559.3	-0.4
39	22	17	38	21	18	574153.5	0.2
39	22	18	38	21	17	574153.5	0.2
40	21	19	39	20	20	571049.2	-0.4
40	21	20	39	20	19	571049.2	-0.1
41	33	8	40	32	9	713736.6	-0.3
41	33	9	40	32	8	713736.6	-0.3
41	40	1	40	39	2	789935.1	-0.2
41	40	2	40	39	1	789935.1	-0.2
43	41	2	42	40	3	818424.2	0.9
43	41	3	42	40	2	818424.2	0.9
46	41	5	45	40	6	845015.1	1.0
46	41	6	45	40	5	845015.1	1.0
49	35	14	48	34	15	805700.8	-1.2
49	35	15	48	34	14	805700.8	-1.2
50	39	11	49	38	12	858558.5	-0.9
50	39	12	49	38	11	858558.5	-0.9

S.7 - Pure rotation line list for the  $0^0$  vibrational state of malonaldehyde (from Baba *et al.* [4]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.043 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
35	32	3	34	31	4	649276.91	0.03
35	32	4	34	31	3	649276.91	0.03
37	30	7	36	29	8	644706.77	-0.01
37	30	8	36	29	7	644706.77	-0.01
39	35	4	38	34	5	716598.15	-0.03
39	35	5	38	34	4	716598.15	-0.03
40	28	12	39	27	13	648633.01	0.11
40	28	13	39	27	12	648633.01	0.11
40	37	3	39	36	4	747085.49	0.09
40	37	4	39	36	3	747085.49	0.09
42	26	16	41	25	17	643633.55	0.07
42	26	17	41	25	16	643633.55	0.07
42	36	6	41	35	7	753307.25	-0.11
42	36	7	41	35	6	753307.25	-0.11
43	30	13	42	29	14	696253.91	0.09
43	30	14	42	29	13	696253.91	0.09
43	33	10	42	32	11	729091.64	0.03
43	33	11	42	32	10	729091.64	0.03
44	25	19	43	24	20	649267.14	-0.09
44	25	20	43	24	19	649267.14	-0.09
44	31	13	43	30	14	715758.51	0.09
44	31	14	43	30	13	715758.51	0.09
45	28	17	44	27	18	691235.53	-0.08
45	28	18	44	27	17	691235.53	-0.08
45	29	16	44	28	17	702290.63	-0.01
45	29	17	44	28	16	702290.63	-0.01



S.8 - Pure rotation line list for the  $0^1$  vibrational state of malonaldehyde (from Baba *et al.* [4]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.043 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
33	33	0	32	32	1	643733.19	-0.08
33	33	1	32	32	0	643733.19	-0.08
35	32	3	34	31	4	650328.99	0.02
35	32	4	34	31	3	650328.99	0.02
36	31	5	35	30	6	648137.83	0.02
36	31	6	35	30	5	648137.83	0.02
36	36	0	35	35	1	702626.16	-0.08
36	36	1	35	35	0	702626.16	-0.08
38	29	9	37	28	10	643626.12	0.02
38	29	10	37	28	9	643626.12	0.02
38	38	0	37	37	1	741869.57	-0.05
38	38	1	37	37	0	741869.57	-0.05
39	33	6	38	32	7	696243.69	0.04
39	33	7	38	32	6	696243.69	0.04
39	36	3	38	35	4	728970.69	0.17
39	36	4	38	35	3	728970.69	0.17
40	34	6	39	33	7	715933.31	0.06
40	34	7	39	33	6	715933.31	0.06
41	32	9	40	31	10	702760.62	-0.05
41	32	10	40	31	9	702760.62	-0.05
42	26	16	41	25	17	644914.57	0.06
42	26	17	41	25	16	644914.57	0.06
43	35	8	42	34	9	753163.96	0.01
43	35	9	42	34	8	753163.96	0.01
44	32	12	43	31	13	728923.47	-0.15
44	32	13	43	31	12	728923.47	-0.15
45	30	15	44	29	16	715446.20	-0.10
45	30	16	44	29	15	715446.20	-0.10
50	29	21	49	28	22	747201.19	0.09
50	29	22	49	28	21	747201.19	0.09
50	30	20	49	29	21	758539.49	0.02
50	30	21	49	29	20	758539.49	0.02

S.9 - Tunnelling rotation ( $0^0 \rightarrow 0^1$ ) line list of malonaldehyde (from Baba *et al.* [4]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.043 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
9	2	8	8	2	7	715904.98	-0.06
10	0	10	9	0	9	715990.25	0.03
10	10	0	10	10	1	647871.55	-0.01
10	10	1	10	10	0	647871.55	-0.01
11	5	7	10	5	6	741391.96	-0.07
12	2	10	11	2	9	741583.84	0.01
12	12	0	12	12	1	648338.22	0.01
12	12	1	12	12	0	648338.22	0.01
13	2	12	12	2	11	741063.45	0.04
14	1	13	13	1	12	747218.48	0.04
15	15	0	15	15	1	649230.64	0.06
15	15	1	15	15	0	649230.64	0.06
18	14	4	18	14	5	643859.91	0.02
18	14	5	18	14	4	643859.91	0.02
19	15	4	19	15	5	643956.77	-0.06
19	15	5	19	15	4	643956.77	-0.06
19	18	1	19	18	2	649008.34	0.04
19	18	2	19	18	1	649008.34	0.04
21	20	1	21	20	2	649811.95	0.06
21	20	2	21	20	1	649811.95	0.06
23	19	4	23	19	5	644769.67	-0.04
23	19	5	23	19	4	644769.67	-0.04
24	20	4	24	20	5	645092.74	-0.02
24	20	5	24	20	4	645092.74	-0.02
25	23	2	25	23	3	649688.29	-0.04
25	23	3	25	23	2	649688.29	-0.04
29	26	3	29	26	4	649824.98	-0.08
29	26	4	29	26	3	649824.98	-0.08
32	26	6	32	26	7	644613.53	0.01
32	26	7	32	26	6	644613.53	0.01
34	27	7	34	27	8	643608.21	0.03
34	27	8	34	27	7	643608.21	0.03
35	30	5	35	30	6	649992.80	0.08
35	30	6	35	30	5	649992.80	0.08
40	32	8	40	32	9	648267.06	-0.03
40	32	9	40	32	8	648267.06	-0.03

S.10 - Pure rotation line list for the 241 cm<sup>-1</sup> vibrational state of malonaldehyde (from Rowe [5]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.05 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
2	0	2	1	1	1	12037.73	0.01
2	1	2	1	0	1	20038.10	0.05
2	2	0	1	1	1	35153.02	0.07
2	2	1	2	1	2	19377.20	0.04
2	2	1	1	1	0	32956.19	0.04
3	1	2	3	0	3	12563.28	0.03
3	2	1	3	1	2	13631.37	0.03
3	2	2	2	1	1	39745.49	0.02
3	3	0	3	2	1	26191.00	0.05
3	3	1	3	2	2	28085.27	0.03
4	1	4	3	0	3	31990.30	0.05
4	2	3	4	1	4	26188.87	0.04
4	3	2	4	2	3	29094.65	0.02
4	4	0	4	3	1	37979.52	0.04
4	4	1	4	3	2	38401.30	0.08
5	0	5	4	1	4	36650.68	0.03
5	2	3	5	1	4	16296.49	0.02
5	3	3	5	2	4	30919.93	0.01
5	4	1	5	3	2	36892.33	0.05
5	4	2	5	3	3	38424.92	-0.07
6	3	4	6	2	5	33714.70	0.02
6	4	3	6	3	4	38783.53	0.01
8	4	4	8	3	5	29142.93	0.03
9	4	5	9	3	6	27351.52	0.01
10	3	7	10	2	8	35841.33	0.06
10	4	6	10	3	7	27646.18	0.03

S.11 - Pure rotation line list for the 390 cm<sup>-1</sup> vibrational state of malonaldehyde (from Rowe [5]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.05 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
3	1	3	2	0	2	26132.22	0.02
3	2	2	3	1	3	22210.33	0.04
3	2	2	2	1	1	39687.86	-0.01
3	3	1	3	2	2	27850.24	0.03
4	0	4	3	1	3	29195.38	0.01
4	1	3	4	0	4	18492.09	0.00
4	3	1	4	2	2	23988.60	0.04
4	3	2	4	2	3	28890.54	0.03
4	4	0	4	3	1	37601.17	0.03
5	0	5	4	1	4	36788.21	0.02
5	1	5	4	0	4	38140.01	0.02
5	2	4	5	1	5	31054.11	0.01
5	3	3	5	2	4	30767.22	0.03
5	4	1	5	3	2	36469.70	0.04
5	4	2	5	3	3	38078.79	0.05
6	1	5	6	0	6	33526.74	0.02
6	2	4	6	1	5	20905.54	0.00
6	2	5	6	1	6	36686.50	0.03
6	3	3	6	2	4	20504.64	0.03
6	4	2	6	3	3	34380.07	0.05
7	2	5	7	1	6	27547.60	-0.03
7	3	5	7	2	6	37525.66	0.03
7	4	4	7	3	5	39474.26	0.05
8	2	6	8	1	7	35524.14	0.00
8	3	5	8	2	6	23656.36	0.01
8	4	4	8	3	5	28651.45	0.04
9	3	6	9	2	7	28944.11	0.00
9	4	5	9	3	6	27011.48	0.04
10	3	7	10	2	8	36393.98	0.02
10	4	6	10	3	7	27560.53	-0.01
10	5	5	10	4	6	38325.76	0.05

S.12 - Pure rotation line list for the 405 cm<sup>-1</sup> vibrational state of malonaldehyde (from Rowe [5]) used in the multi-state fitting. All lines were weighted using an uncertainty of 0.05 MHz.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (MHz)	Obs-Calc (MHz)
2	1	2	1	0	1	20004.22	-0.01
2	2	0	1	1	1	35087.20	0.04
2	2	1	1	1	0	32888.74	0.02
3	0	3	2	1	2	20831.53	0.01
4	1	4	3	0	3	31942.25	0.02
4	3	2	4	2	3	29013.97	0.02
5	0	5	4	1	4	36610.50	0.02
5	1	4	5	0	5	25504.71	-0.02
5	1	4	4	2	3	35973.91	-0.01
5	1	5	4	0	4	38019.23	0.01
5	3	2	5	2	3	22079.60	0.02
6	2	4	6	1	5	20714.21	0.01
6	2	5	6	1	6	36539.48	0.04
6	3	3	6	2	4	20676.07	0.02
6	3	4	6	2	5	33645.69	0.03
6	4	3	6	3	4	38670.03	0.02
7	2	5	7	1	6	27221.97	0.02
7	3	4	7	2	5	20953.20	0.00
7	3	5	7	2	6	37461.95	0.04
7	4	3	7	3	4	31894.16	0.03
7	4	4	7	3	5	39633.12	0.03
8	2	6	8	1	7	35107.01	-0.01
8	3	5	8	2	6	23520.09	0.00
8	4	4	8	3	5	29022.14	0.02
9	3	6	9	2	7	28597.45	0.01
9	4	5	9	3	6	27256.98	0.02
10	4	6	10	3	7	27589.27	-0.01
10	5	5	10	4	6	38920.55	0.05

S.13 - Vibration-rotation line list for the 220 cm<sup>-1</sup> band (0<sup>1</sup> → 241 cm<sup>-1</sup>) of malonaldehyde used in the multi-state fitting. All lines were weighted using an uncertainty of 0.0002 cm<sup>-1</sup>.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )	Obs-Calc (cm <sup>-1</sup> )
1	0	1	2	0	2	218.91819	-0.00019
2	1	2	3	1	3	218.71745	-0.00022
3	0	3	2	0	2	220.28203	-0.00005
3	0	3	4	0	4	218.44735	0.00012
3	1	2	2	1	1	220.41261	0.00016
3	1	2	4	1	3	218.25539	0.00000
3	2	1	2	2	0	220.38421	0.00000
3	2	1	4	2	2	218.24134	0.00004
3	2	2	2	2	1	220.33291	0.00013
3	2	2	4	2	3	218.34932	0.00008
4	0	4	3	0	3	220.51288	0.00009
4	0	4	5	0	5	218.23030	0.00013
4	1	3	3	1	2	220.70571	-0.00005
4	1	3	5	1	4	217.99191	0.00002
4	1	4	3	1	3	220.48008	0.00002
4	1	4	5	1	5	218.24807	-0.00004
4	2	2	3	2	1	220.71886	-0.00018
4	2	2	5	2	3	217.91698	-0.00004
4	2	3	3	2	2	220.61028	0.00009
4	2	3	5	2	4	218.08757	0.00004
4	3	2	3	3	1	220.64284	-0.00016
4	4	1	4	4	0	219.47921	0.00007
4	4	1	5	4	2	218.02412	0.00008
5	0	5	4	0	4	220.73683	-0.00002
5	0	5	6	0	6	218.01309	-0.00008
5	1	4	4	1	3	220.97703	0.00002
5	1	4	6	1	5	217.75577	-0.00004
5	1	5	6	1	6	218.02172	0.00005
5	2	3	4	2	2	221.05183	0.00001
5	2	3	6	2	4	217.60900	-0.00006
5	2	4	4	2	3	220.87969	0.00012
5	3	2	4	3	1	220.97892	-0.00003
5	3	2	6	3	3	217.65530	-0.00005
5	4	1	4	4	0	220.94123	-0.00005
5	4	1	6	4	2	217.72082	-0.00014
5	5	0	5	5	1	219.48213	-0.00006
5	5	0	6	5	1	217.73692	0.00014
6	0	6	5	0	5	220.96234	-0.00002
6	0	6	7	0	7	217.79483	0.00002

6	1	5	5	1	4	221.22207	-0.00005
6	1	5	7	1	6	217.53999	-0.00012
6	1	6	5	1	5	220.95367	-0.00002
6	1	6	7	1	7	217.79845	-0.00002
6	2	4	7	2	5	217.32486	-0.00007
6	2	5	5	2	4	221.13990	-0.00004
6	2	5	7	2	6	217.59527	-0.00007
6	3	3	7	3	4	217.31613	0.00010
6	3	4	5	3	3	221.23260	-0.00004
6	4	2	7	4	3	217.40866	0.00006
6	4	3	5	4	2	221.24329	-0.00002
6	4	3	7	4	4	217.43560	0.00008
6	5	2	7	5	3	217.44299	0.00002
6	6	0	6	6	1	219.48556	0.00012
6	6	0	7	6	1	217.45108	0.00010
6	6	1	6	6	0	219.48556	0.00013
6	6	1	7	6	2	217.45108	0.00006
7	0	7	6	0	6	221.19081	0.00002
7	0	7	8	0	8	217.57588	0.00007
7	1	6	6	1	5	221.44812	0.00000
7	1	6	8	1	7	217.33124	0.00000
7	1	7	6	1	6	221.18711	0.00007
7	1	7	8	1	8	217.57726	-0.00004
7	2	5	8	2	6	217.07023	0.00001
7	2	6	8	2	7	217.36270	-0.00020
7	3	4	8	3	5	216.98603	0.00001
7	3	5	8	3	6	217.20485	0.00003
7	4	3	6	4	2	221.57652	0.00001
7	4	3	8	4	4	217.08013	0.00002
7	4	4	6	4	3	221.54923	0.00009
7	4	4	8	4	5	217.14425	-0.00009
7	5	2	6	5	1	221.53977	0.00004
7	5	2	8	5	3	217.14086	0.00002
7	5	3	6	5	2	221.53819	0.00004
7	5	3	8	5	4	217.14659	-0.00012
7	6	1	7	6	2	219.49152	-0.00006
7	6	1	8	6	2	217.15818	0.00002
7	7	0	7	7	1	219.48925	0.00004
7	7	0	8	7	1	217.16527	-0.00012
7	7	1	7	7	0	219.48925	0.00004
7	7	1	8	7	2	217.16527	-0.00012
8	1	7	9	1	8	217.12088	0.00002
8	1	8	7	1	7	221.41992	0.00005
8	1	8	9	1	9	217.35738	-0.00008
8	2	6	7	2	5	221.93301	-0.00016
8	2	7	7	2	6	221.63616	0.00000

8	2	7	9	2	8	217.13682	0.00001
8	3	5	7	3	4	222.01742	-0.00008
8	3	5	9	3	6	216.67816	-0.00001
8	3	6	9	3	7	216.95298	-0.00001
8	4	4	7	4	3	221.91905	-0.00008
8	4	5	9	4	6	216.85981	0.00009
8	5	3	9	5	4	216.83175	0.00003
8	5	4	7	5	3	221.84769	-0.00005
8	5	4	9	5	5	216.84931	-0.00003
8	6	3	9	6	4	216.86348	-0.00003
8	7	1	8	7	2	219.49597	-0.00013
8	7	1	9	7	2	216.87428	0.00006
8	7	2	8	7	1	219.49597	-0.00012
8	7	2	9	7	3	216.87428	0.00003
8	8	0	8	8	1	219.49319	-0.00029
8	8	0	9	8	1	216.88034	0.00016
8	8	1	8	8	0	219.49319	-0.00029
8	8	1	9	8	2	216.88034	0.00016
9	0	9	8	0	8	221.65335	-0.00012
9	0	9	10	0	10	217.13845	0.00003
9	1	8	8	1	7	221.89224	0.00003
9	1	8	10	1	9	216.90763	0.00004
9	2	7	8	2	6	222.17211	0.00003
9	2	7	10	2	8	216.63931	0.00006
9	3	6	8	3	5	222.34102	-0.00003
9	3	6	10	3	7	216.39993	0.00000
9	3	7	8	3	6	222.06088	-0.00011
9	3	7	10	3	8	216.71222	-0.00007
9	4	5	8	4	4	222.27921	0.00001
9	4	5	10	4	6	216.38968	0.00002
9	4	6	10	4	7	216.58476	-0.00007
9	5	4	8	5	3	222.17829	0.00000
9	5	4	10	5	5	216.50937	0.00008
9	5	5	8	5	4	222.16022	-0.00005
9	5	5	10	5	6	216.55308	0.00007
9	6	3	8	6	2	222.14242	-0.00016
9	6	3	10	6	4	216.56258	-0.00003
9	6	4	8	6	3	222.14146	-0.00005
9	6	4	10	6	5	216.56640	0.00005
9	7	2	8	7	1	222.12587	0.00012
9	7	2	10	7	3	216.58108	-0.00002
9	7	3	8	7	2	222.12586	0.00015
9	8	1	9	8	2	219.50118	0.00007
9	8	2	9	8	1	219.50118	0.00007
9	9	0	9	9	1	219.49834	0.00008
9	9	0	10	9	1	216.59549	0.00010



9	9	1	9	9	0	219.49834	0.00008
9	9	1	10	9	2	216.59549	0.00010
10	1	9	11	1	10	216.69259	0.00005
10	1	10	9	1	9	221.88641	0.00002
10	1	10	11	1	11	216.92062	-0.00005
10	2	8	9	2	7	222.39273	0.00001
10	2	8	11	2	9	216.43840	0.00003
10	2	9	9	2	8	222.11253	-0.00009
10	2	9	11	2	10	216.69575	-0.00001
10	3	7	9	3	6	222.63612	0.00004
10	3	7	11	3	8	216.15517	-0.00013
10	3	8	9	3	7	222.31727	-0.00005
10	3	8	11	3	9	216.48093	0.00000
10	4	6	9	4	5	222.64439	-0.00001
10	4	7	9	4	6	222.44469	-0.00002
10	4	7	11	4	8	216.32183	0.00004
10	5	5	9	5	4	222.51848	0.00011
10	5	5	11	5	6	216.16997	0.00013
10	5	6	9	5	5	222.47350	-0.00006
10	5	6	11	5	7	216.26099	0.00016
10	6	4	9	6	3	222.45921	-0.00008
10	6	4	11	6	5	216.25649	0.00019
10	6	5	9	6	4	222.45549	0.00004
10	6	5	11	6	6	216.26741	0.00001
10	7	3	9	7	2	222.43512	-0.00020
10	7	4	9	7	3	222.43512	-0.00003
10	7	4	11	7	5	216.28609	-0.00006
10	8	2	9	8	1	222.42047	0.00005
10	8	2	11	8	3	216.29898	-0.00002
10	8	3	9	8	2	222.42047	0.00006
10	8	3	11	8	4	216.29898	-0.00005
10	9	1	9	9	0	222.40949	0.00003
10	9	1	10	9	2	219.50656	-0.00003
10	9	1	11	9	2	216.30675	0.00009
10	9	2	9	9	1	222.40949	0.00003
10	9	2	10	9	1	219.50656	-0.00003
10	9	2	11	9	3	216.30675	0.00009
10	10	0	10	10	1	219.50375	0.00021
10	10	1	10	10	0	219.50375	0.00021
11	0	11	10	0	10	222.12058	-0.00007
11	0	11	12	0	12	216.70345	-0.00002
11	1	10	10	1	9	222.35161	0.00000
11	1	10	12	1	11	216.47689	0.00002
11	1	11	10	1	10	222.12058	0.00002
11	1	11	12	1	12	216.70345	-0.00005
11	2	9	10	2	8	222.60973	-0.00001

11	2	9	12	2	10	216.23434	0.00000
11	2	10	10	2	9	222.34803	-0.00025
11	2	10	12	2	11	216.47825	0.00004
11	3	8	10	3	7	222.89820	-0.00006
11	3	8	12	3	9	215.94126	-0.00003
11	3	9	10	3	8	222.56558	-0.00006
11	3	9	12	3	10	216.25649	-0.00003
11	4	7	10	4	6	222.99675	0.00003
11	4	7	12	4	8	215.75240	0.00002
11	4	8	10	4	7	222.72558	-0.00011
11	4	8	12	4	9	216.07120	-0.00002
11	5	6	10	5	5	222.87783	0.00000
11	5	6	12	5	7	215.81692	-0.00006
11	5	7	10	5	6	222.78439	0.00000
11	5	7	12	5	8	215.97630	0.00002
11	6	5	10	6	4	222.78439	-0.00006
11	6	5	12	6	6	215.93980	0.00003
11	6	6	10	6	5	222.77306	0.00002
11	6	6	12	6	7	215.96801	-0.00002
11	7	4	10	7	3	222.74915	-0.00009
11	7	4	12	7	5	215.98641	-0.00004
11	7	5	12	7	6	215.98876	0.00000
11	8	3	10	8	2	222.72944	-0.00019
11	8	3	12	8	4	216.00599	0.00008
11	8	4	10	8	3	222.72944	-0.00016
11	8	4	12	8	5	216.00599	-0.00003
11	9	2	10	9	1	222.71564	-0.00008
11	9	2	12	9	3	216.01671	-0.00008
11	9	3	10	9	2	222.71564	-0.00008
11	9	3	12	9	4	216.01671	-0.00008
11	10	1	10	10	0	222.70496	-0.00004
11	10	1	11	10	2	219.51248	-0.00004
11	10	1	12	10	2	216.02335	0.00006
11	10	2	10	10	1	222.70496	-0.00004
11	10	2	11	10	1	219.51248	-0.00004
11	10	2	12	10	3	216.02335	0.00006
11	11	0	11	11	1	219.50936	0.00007
11	11	1	11	11	0	219.50936	0.00007
12	0	12	11	0	11	222.35551	0.00003
12	0	12	13	0	13	216.48709	0.00000
12	1	11	11	1	10	222.58517	0.00003
12	1	12	11	1	11	222.35551	0.00006
12	1	12	13	1	13	216.48709	-0.00001
12	2	10	11	2	9	222.83141	-0.00003
12	2	10	13	2	11	216.02605	-0.00002
12	2	11	11	2	10	222.58375	0.00001

12	2	11	13	2	12	216.26170	-0.00012
12	3	9	11	3	8	223.13043	-0.00004
12	3	9	13	3	10	215.74514	0.00005
12	3	10	11	3	9	222.80843	0.00005
12	3	10	13	3	11	216.03674	-0.00002
12	4	8	11	4	7	223.32292	0.00016
12	4	8	13	4	9	215.48187	0.00010
12	4	9	11	4	8	222.99545	-0.00003
12	5	7	11	5	6	223.25314	0.00007
12	5	7	13	5	8	215.46534	0.00003
12	5	8	11	5	7	223.08917	0.00002
12	5	8	13	5	9	215.70243	0.00003
12	6	6	11	6	5	223.12200	0.00002
12	6	6	13	6	7	215.60826	0.00001
12	6	7	11	6	6	223.09284	-0.00002
12	6	7	13	6	8	215.67062	-0.00002
12	7	5	11	7	4	223.06845	0.00001
12	7	5	13	7	6	215.68244	-0.00001
12	7	6	11	7	5	223.06604	-0.00002
12	7	6	13	7	7	215.68924	-0.00001
12	8	4	11	8	3	223.04235	-0.00005
12	8	5	11	8	4	223.04235	0.00006
12	9	3	11	9	2	223.02486	0.00002
12	9	3	13	9	4	215.72559	0.00003
12	9	4	11	9	3	223.02486	0.00003
12	9	4	13	9	5	215.72559	0.00002
12	10	2	11	10	1	223.01147	-0.00010
12	10	2	13	10	3	215.73451	-0.00012
12	10	3	11	10	2	223.01147	-0.00010
12	10	3	13	10	4	215.73451	-0.00012
12	11	1	11	11	0	223.00118	0.00014
12	11	1	12	11	2	219.51892	0.00003
12	11	1	13	11	2	215.74037	0.00011
12	11	2	11	11	1	223.00118	0.00014
12	11	2	12	11	1	219.51892	0.00003
12	11	2	13	11	3	215.74037	0.00011
12	12	0	12	12	1	219.51563	0.00007
12	12	0	13	12	1	215.74372	0.00003
12	12	1	12	12	0	219.51563	0.00007
12	12	1	13	12	2	215.74372	0.00003
13	0	13	12	0	12	222.59111	0.00002
13	0	13	14	0	14	216.27147	0.00001
13	1	12	12	1	11	222.82002	-0.00009
13	1	12	14	1	13	216.04618	0.00006
13	1	13	12	1	12	222.59111	0.00003
13	1	13	14	1	14	216.27147	0.00001

13	2	11	12	2	10	223.05897	-0.00001
13	2	11	14	2	12	215.81509	0.00003
13	3	10	12	3	9	223.34580	0.00005
13	3	10	14	3	11	215.55179	0.00003
13	3	11	12	3	10	223.04778	-0.00004
13	3	11	14	3	12	215.81995	0.00002
13	4	9	12	4	8	223.61505	-0.00003
13	4	9	14	4	10	215.24790	0.00001
13	4	10	12	4	9	223.25487	0.00001
13	5	8	12	5	7	223.62912	0.00006
13	5	8	14	5	9	215.13307	0.00001
13	5	9	12	5	8	223.38469	0.00005
13	5	9	14	5	10	215.44112	0.00004
13	6	7	12	6	6	223.47697	0.00008
13	6	7	14	6	8	215.25931	0.00002
13	6	8	12	6	7	223.41247	0.00002
13	6	8	14	6	9	215.37847	0.00002
13	7	6	12	7	5	223.39456	0.00000
13	7	6	14	7	7	215.37076	-0.00001
13	7	7	12	7	6	223.38748	-0.00006
13	7	7	14	7	8	215.38846	0.00008
13	8	5	12	8	4	223.35905	-0.00014
13	8	5	14	8	6	215.41237	-0.00008
13	8	6	14	8	7	215.41377	-0.00008
13	9	4	12	9	3	223.33709	0.00003
13	9	4	14	9	5	215.43271	0.00001
13	9	5	12	9	4	223.33709	0.00004
13	9	5	14	9	6	215.43271	-0.00006
13	10	3	12	10	2	223.32076	0.00003
13	10	3	14	10	4	215.44498	0.00007
13	10	4	12	10	3	223.32076	0.00003
13	10	4	14	10	5	215.44498	0.00007
13	11	2	12	11	1	223.30795	0.00002
13	11	3	12	11	2	223.30795	0.00002
13	12	1	12	12	0	223.29753	-0.00002
13	12	1	13	12	2	219.52575	0.00006
13	12	1	14	12	2	215.45757	0.00000
13	12	2	12	12	1	223.29753	-0.00002
13	12	2	13	12	1	219.52575	0.00006
13	12	2	14	12	3	215.45757	0.00000
13	13	0	13	13	1	219.52240	0.00011
13	13	0	14	13	1	215.46083	0.00015
13	13	1	13	13	0	219.52240	0.00011
13	13	1	14	13	2	215.46083	0.00015
14	0	14	13	0	13	222.82748	0.00003
14	0	14	15	0	15	216.05661	0.00002

14	1	14	13	1	13	222.82748	0.00003
14	1	14	15	1	15	216.05661	0.00002
14	2	12	13	2	11	223.29093	0.00008
14	2	12	15	2	13	215.60293	0.00014
14	2	13	13	2	12	223.05599	0.00007
14	2	13	15	2	14	215.83178	0.00015
14	3	11	13	3	10	223.55952	0.00008
14	3	11	15	3	12	215.35363	-0.00006
14	3	12	13	3	11	223.28575	0.00001
14	3	12	15	3	13	215.60491	-0.00001
14	4	10	13	4	9	223.87106	0.00009
14	4	10	15	4	11	215.04495	0.00005
14	4	11	13	4	10	223.50580	0.00002
14	4	11	15	4	12	215.38099	0.00000
14	5	9	13	5	8	223.98675	-0.00016
14	5	9	15	5	10	214.83282	-0.00004
14	5	10	13	5	9	223.66880	-0.00002
14	6	8	13	6	7	223.85181	0.00001
14	6	8	15	6	9	214.89909	-0.00004
14	6	9	13	6	8	223.72845	-0.00001
14	6	9	15	6	10	215.09489	0.00001
14	7	7	13	7	6	223.73052	0.00005
14	7	7	15	7	8	215.04734	0.00007
14	7	8	13	7	7	223.71215	-0.00007
14	7	8	15	7	9	215.08781	0.00001
14	8	6	13	8	5	223.68065	-0.00005
14	8	6	15	8	7	215.11043	0.00007
14	8	7	13	8	6	223.67924	-0.00002
14	8	7	15	8	8	215.11439	-0.00004
14	9	5	13	9	4	223.65262	-0.00005
14	9	6	13	9	5	223.65262	0.00002
14	10	4	13	10	3	223.63268	0.00003
14	10	4	15	10	5	215.15393	0.00002
14	10	5	13	10	4	223.63268	0.00003
14	10	5	15	10	6	215.15393	0.00001
14	11	3	13	11	2	223.61714	-0.00003
14	11	4	13	11	3	223.61714	-0.00003
14	12	2	13	12	1	223.60472	-0.00001
14	12	2	15	12	3	215.17086	0.00001
14	12	3	13	12	2	223.60472	-0.00001
14	12	3	15	12	4	215.17086	0.00001
14	13	1	13	13	0	223.59459	0.00007
14	13	1	14	13	2	219.53294	0.00003
14	13	1	15	13	2	215.17526	0.00004
14	13	2	13	13	1	223.59459	0.00007
14	13	2	14	13	1	219.53294	0.00003

14	13	2	15	13	3	215.17526	0.00004
15	0	15	14	0	14	223.06457	0.00001
15	0	15	16	0	16	215.84250	0.00002
15	1	14	14	1	13	223.29304	-0.00004
15	1	14	16	1	15	215.61769	0.00003
15	1	15	14	1	14	223.06457	0.00001
15	1	15	16	1	16	215.84250	0.00002
15	2	13	14	2	12	223.52555	0.00004
15	2	13	16	2	14	215.39022	0.00001
15	2	14	14	2	13	223.29304	0.00005
15	2	14	16	2	15	215.61769	0.00000
15	3	12	14	3	11	223.77950	0.00007
15	3	12	16	3	13	215.15023	0.00000
15	3	13	14	3	12	223.52323	-0.00004
15	4	11	14	4	10	224.09633	0.00006
15	4	11	16	4	12	214.85780	-0.00001
15	4	12	14	4	11	223.75080	0.00005
15	4	12	16	4	13	215.16400	0.00024
15	5	10	14	5	9	224.31337	0.00004
15	5	10	16	5	11	214.57106	0.00000
15	5	11	14	5	10	223.94122	0.00005
15	5	11	16	5	12	214.95632	-0.00001
15	6	9	14	6	8	224.24032	0.00001
15	6	10	14	6	9	224.03732	0.00004
15	6	10	16	6	11	214.82276	-0.00004
15	7	8	14	7	7	224.08051	-0.00002
15	7	8	16	7	9	214.70732	0.00000
15	7	9	14	7	8	224.03848	0.00006
15	7	9	16	7	10	214.79009	-0.00002
15	8	7	16	8	8	214.80246	0.00002
15	9	6	14	9	5	223.97193	-0.00010
15	9	6	16	9	7	214.84061	0.00002
15	9	7	14	9	6	223.97193	0.00016
15	10	5	14	10	4	223.94758	0.00002
15	10	5	16	10	6	214.86141	-0.00001
15	10	6	14	10	5	223.94758	0.00003
15	11	4	14	11	3	223.92898	0.00004
15	11	4	16	11	5	214.87472	0.00005
15	11	5	14	11	4	223.92898	0.00005
15	11	5	16	11	6	214.87472	0.00004
15	12	3	14	12	2	223.91412	0.00002
15	12	3	16	12	4	214.88345	0.00003
15	12	4	14	12	3	223.91412	0.00002
15	12	4	16	12	5	214.88345	0.00003
15	13	2	14	13	1	223.90193	-0.00004
15	13	2	15	13	3	219.54431	0.00002

15	13	2	16	13	3	214.88924	-0.00003
15	13	3	14	13	2	223.90193	-0.00004
15	13	3	15	13	2	219.54431	0.00002
15	13	3	16	13	4	214.88924	-0.00003
15	14	1	14	14	0	223.89177	-0.00018
15	14	1	15	14	2	219.54061	0.00007
15	14	1	16	14	2	214.89305	-0.00016
15	14	2	14	14	1	223.89177	-0.00018
15	14	2	15	14	1	219.54061	0.00007
15	14	2	16	14	3	214.89305	-0.00016
15	15	0	15	15	1	219.53700	-0.00023
15	15	1	15	15	0	219.53700	-0.00023
16	0	16	15	0	15	223.30240	-0.00002
16	0	16	17	0	17	215.62917	0.00005
16	1	15	15	1	14	223.53082	-0.00001
16	1	15	17	1	16	215.40450	0.00003
16	1	16	15	1	15	223.30240	-0.00002
16	1	16	17	1	17	215.62917	0.00005
16	2	15	15	2	14	223.53082	0.00002
16	2	15	17	2	16	215.40450	0.00001
16	3	13	15	3	12	224.00645	0.00000
16	3	13	17	3	14	214.94319	-0.00001
16	3	14	15	3	13	223.76102	-0.00001
16	3	14	17	3	15	215.17811	-0.00007
16	4	12	15	4	11	224.30640	0.00002
16	4	12	17	4	13	214.67156	0.00009
16	4	13	15	4	12	223.99223	0.00005
16	4	13	17	4	14	214.94960	0.00003
16	5	11	15	5	10	224.60143	0.00000
16	5	11	17	5	12	214.34829	0.00001
16	5	12	15	5	11	224.20266	0.00001
16	5	12	17	5	13	214.72977	0.00004
16	6	10	17	6	11	214.21418	0.00005
16	6	11	15	6	10	224.33590	0.00003
16	6	11	17	6	12	214.56386	-0.00002
16	7	9	15	7	8	224.44968	0.00006
16	7	10	15	7	9	224.36339	-0.00001
16	7	10	17	7	11	214.49860	0.00000
16	8	8	15	8	7	224.34337	0.00007
16	8	8	17	8	9	214.48557	-0.00001
16	8	9	15	8	8	224.33220	0.00004
16	8	9	17	8	10	214.51080	-0.00014
16	9	7	15	9	6	224.29585	0.00017
16	9	7	17	9	8	214.54017	0.00008
16	9	8	15	9	7	224.29485	0.00004
16	9	8	17	9	9	214.54253	0.00004

16	10	6	15	10	5	224.26567	-0.00001
16	10	6	17	10	7	214.56724	0.00009
16	10	7	15	10	6	224.26567	0.00003
16	10	7	17	10	8	214.56724	-0.00006
16	11	5	15	11	4	224.24342	0.00004
16	11	5	17	11	6	214.58402	0.00002
16	11	6	15	11	5	224.24342	0.00004
16	11	6	17	11	7	214.58402	0.00002
16	12	4	15	12	3	224.22584	0.00007
16	12	4	17	12	5	214.59516	-0.00002
16	12	5	15	12	4	224.22584	0.00007
16	12	5	17	12	6	214.59516	-0.00002
16	13	3	15	13	2	224.21140	-0.00004
16	13	3	17	13	4	214.60277	0.00003
16	13	4	15	13	3	224.21140	-0.00004
16	13	4	17	13	5	214.60277	0.00003
16	14	2	15	14	1	224.19952	-0.00010
16	14	2	16	14	3	219.55240	0.00011
16	14	2	17	14	3	214.60794	0.00003
16	14	3	15	14	2	224.19952	-0.00010
16	14	3	16	14	2	219.55240	0.00011
16	14	3	17	14	4	214.60794	0.00003
16	15	1	16	15	2	219.54851	-0.00007
16	15	1	17	15	2	214.61159	0.00004
16	15	2	16	15	1	219.54851	-0.00007
16	15	2	17	15	3	214.61159	0.00004
16	16	0	16	16	1	219.54537	-0.00005
16	16	1	16	16	0	219.54537	-0.00005
17	0	17	16	0	16	223.54101	0.00000
17	0	17	18	0	18	215.41653	0.00001
17	1	17	16	1	16	223.54101	0.00000
17	1	17	18	1	18	215.41653	0.00001
17	2	15	16	2	14	223.99967	-0.00008
17	2	15	18	2	16	214.96592	0.00006
17	2	16	16	2	15	223.76933	0.00000
17	2	16	18	2	17	215.19220	0.00019
17	3	14	18	3	15	214.73434	-0.00001
17	4	13	16	4	12	224.51702	0.00003
17	4	13	18	4	14	214.47894	0.00001
17	4	14	16	4	13	224.23180	-0.00009
17	4	14	18	4	15	214.73721	-0.00002
17	5	12	16	5	11	224.85039	0.00008
17	5	13	16	5	12	224.45523	-0.00017
17	5	13	18	5	14	214.51080	0.00041
17	6	11	16	6	10	224.98652	0.00011
17	6	12	18	6	13	214.31831	0.00001



17	7	10	16	7	9	224.83887	0.00003
17	7	10	18	7	11	213.98400	-0.00004
17	7	11	16	7	10	224.68369	-0.00002
17	7	11	18	7	12	214.21664	0.00003
17	8	9	16	8	8	224.68970	0.00002
17	8	10	16	8	9	224.66325	0.00006
17	8	10	18	8	11	214.20974	0.00001
17	9	8	18	9	9	214.23505	-0.00002
17	9	9	18	9	10	214.24135	-0.00009
17	10	7	16	10	6	224.58730	-0.00004
17	10	7	18	10	8	214.27084	0.00010
17	11	6	16	11	5	224.56069	0.00002
17	11	6	18	11	7	214.29197	0.00003
17	11	7	16	11	6	224.56069	0.00003
17	11	7	18	11	8	214.29197	0.00000
17	12	5	16	12	4	224.53984	-0.00002
17	12	5	18	12	6	214.30591	-0.00006
17	12	6	16	12	5	224.53984	-0.00002
17	12	6	18	12	7	214.30591	-0.00006
17	13	4	16	13	3	224.52307	0.00003
17	13	5	16	13	4	224.52307	0.00003
17	14	3	16	14	2	224.50917	0.00001
17	14	3	18	14	4	214.32211	0.00000
17	14	4	16	14	3	224.50917	0.00001
17	14	4	18	14	5	214.32211	0.00000
17	15	2	16	15	1	224.49751	-0.00013
17	15	2	17	15	3	219.56072	0.00010
17	15	3	16	15	2	224.49751	-0.00013
17	15	3	17	15	2	219.56072	0.00010
17	16	1	17	16	2	219.55676	-0.00024
17	16	2	17	16	1	219.55676	-0.00024
17	17	0	17	17	1	219.55412	0.00003
17	17	1	17	17	0	219.55412	0.00003
18	0	18	17	0	17	223.78031	-0.00003
18	0	18	19	0	19	215.20471	0.00004
18	1	17	17	1	16	224.00846	-0.00015
18	1	17	19	1	18	214.98026	-0.00001
18	1	18	17	1	17	223.78031	-0.00003
18	1	18	19	1	19	215.20471	0.00004
18	2	16	17	2	15	224.23853	0.00001
18	2	16	19	2	17	214.75453	0.00005
18	2	17	17	2	16	224.00846	-0.00015
18	2	17	19	2	18	214.98026	-0.00001
18	3	15	17	3	14	224.47414	-0.00004
18	3	15	19	3	16	214.52476	-0.00004
18	3	16	17	3	15	224.23853	0.00017

18	3	16	19	3	17	214.75453	-0.00001
18	4	14	17	4	13	224.73531	-0.00011
18	4	14	19	4	15	214.28002	0.00002
18	4	15	17	4	14	224.47112	0.00001
18	4	15	19	4	16	214.52608	0.00003
18	5	13	17	5	12	225.06877	0.00013
18	5	13	19	5	14	213.97736	0.00005
18	5	14	17	5	13	224.70200	0.00000
18	5	14	19	5	15	214.29591	0.00000
18	6	12	17	6	11	225.31152	0.00006
18	6	12	19	6	13	213.66798	0.00004
18	6	13	17	6	12	224.89651	0.00004
18	6	13	19	6	14	214.08469	-0.00011
18	7	11	17	7	10	225.23914	0.00012
18	7	11	19	7	12	213.62811	-0.00003
18	7	12	19	7	13	213.94684	0.00001
18	8	10	17	8	9	225.05184	-0.00012
18	8	10	19	8	11	213.80748	0.00003
18	8	11	19	8	12	213.91226	-0.00003
18	9	10	17	9	9	224.95301	0.00004
18	9	10	19	9	11	213.93876	-0.00001
18	10	8	19	10	9	213.97158	-0.00004
18	10	9	17	10	8	224.91254	0.00012
18	10	9	19	10	10	213.97302	-0.00001
18	11	7	17	11	6	224.88099	-0.00004
18	11	7	19	11	8	213.99822	-0.00006
18	11	8	17	11	7	224.88099	-0.00001
18	11	8	19	11	9	213.99822	-0.00014
18	12	6	17	12	5	224.85655	0.00002
18	12	6	19	12	7	214.01572	0.00008
18	12	7	17	12	6	224.85655	0.00002
18	12	7	19	12	8	214.01572	0.00008
18	13	5	17	13	4	224.83683	-0.00002
18	13	5	19	13	6	214.02746	-0.00004
18	13	6	17	13	5	224.83683	-0.00002
18	13	6	19	13	7	214.02746	-0.00004
18	14	4	17	14	3	224.82070	0.00003
18	14	4	19	14	5	214.03575	0.00001
18	14	5	17	14	4	224.82070	0.00003
18	14	5	19	14	6	214.03575	0.00001
18	15	3	17	15	2	224.80725	0.00004
18	15	3	19	15	4	214.04143	-0.00014
18	15	4	17	15	3	224.80725	0.00004
18	15	4	19	15	5	214.04143	-0.00014
18	16	2	17	16	1	224.79596	-0.00007
18	16	2	18	16	3	219.56934	0.00010

18	16	2	19	16	3	214.04581	-0.00002
18	16	3	17	16	2	224.79596	-0.00007
18	16	3	18	16	2	219.56934	0.00010
18	16	3	19	16	4	214.04581	-0.00002
18	17	1	19	17	2	214.04914	-0.00005
18	17	2	19	17	3	214.04914	-0.00005
18	18	0	18	18	1	219.56315	-0.00007
18	18	0	19	18	1	214.05223	0.00007
18	18	1	18	18	0	219.56315	-0.00007
18	18	1	19	18	2	214.05223	0.00007
19	0	19	18	0	18	224.02050	0.00011
19	0	19	20	0	20	214.99359	0.00002
19	1	18	18	1	17	224.24859	-0.00002
19	1	18	20	1	19	214.76926	0.00001
19	1	19	18	1	18	224.02050	0.00011
19	1	19	20	1	20	214.99359	0.00002
19	2	17	18	2	16	224.47818	0.00002
19	2	17	20	2	18	214.54386	0.00013
19	2	18	18	2	17	224.24859	-0.00001
19	2	18	20	2	19	214.76926	0.00001
19	3	16	18	3	15	224.71195	0.00006
19	3	16	20	3	17	214.31538	0.00020
19	3	17	18	3	16	224.47818	0.00008
19	3	17	20	3	18	214.54386	0.00010
19	4	15	18	4	14	224.96191	0.00001
19	4	15	20	4	16	214.07683	0.00004
19	4	16	18	4	15	224.71064	0.00010
19	5	14	18	5	13	225.27385	0.00002
19	5	14	20	5	15	213.79737	0.00001
19	5	15	18	5	14	224.94493	0.00002
19	5	15	20	5	16	214.08469	0.00023
19	6	13	18	6	12	225.59414	0.00002
19	6	13	20	6	14	213.45635	0.00001
19	6	14	18	6	13	225.15927	-0.00012
19	6	14	20	6	15	213.86111	-0.00001
19	7	12	18	7	11	225.63074	0.00009
19	7	12	20	7	13	213.30104	0.00000
19	7	13	18	7	12	225.29668	-0.00001
19	7	13	20	7	14	213.69060	-0.00011
19	8	11	18	8	10	225.43478	0.00008
19	8	11	20	8	12	213.44268	0.00003
19	8	12	18	8	11	225.32448	-0.00010
19	8	12	20	8	13	213.62187	-0.00006
19	9	10	18	9	9	225.30375	0.00005
19	9	10	20	9	11	213.60136	-0.00001
19	9	11	18	9	10	225.28757	0.00009

19	9	11	20	9	12	213.63583	0.00013
19	10	9	18	10	8	225.24307	0.00001
19	10	9	20	10	10	213.66885	-0.00004
19	10	10	18	10	9	225.24159	0.00000
19	10	10	20	10	11	213.67260	-0.00002
19	11	8	20	11	9	213.70274	0.00005
19	11	9	18	11	8	225.20465	0.00003
19	12	7	18	12	6	225.17593	0.00000
19	12	7	20	12	8	213.72406	0.00001
19	12	8	18	12	7	225.17593	0.00000
19	12	8	20	12	9	213.72406	0.00000
19	13	6	18	13	5	225.15295	-0.00007
19	13	6	20	13	7	213.73858	0.00001
19	13	7	18	13	6	225.15295	-0.00007
19	13	7	20	13	8	213.73858	0.00001
19	14	5	18	14	4	225.13422	-0.00001
19	14	5	20	14	6	213.74869	0.00000
19	14	6	18	14	5	225.13422	-0.00001
19	14	6	20	14	7	213.74869	0.00000
19	15	4	18	15	3	225.11866	0.00005
19	15	4	20	15	5	213.75591	0.00004
19	15	5	18	15	4	225.11866	0.00005
19	15	5	20	15	6	213.75591	0.00004
19	16	3	18	16	2	225.10551	-0.00005
19	16	3	20	16	4	213.76101	-0.00007
19	16	4	18	16	3	225.10551	-0.00005
19	16	4	20	16	5	213.76101	-0.00007
19	17	2	19	17	3	219.57810	-0.00005
19	17	3	19	17	2	219.57810	-0.00005
19	18	1	19	18	2	219.57479	-0.00018
19	18	2	19	18	1	219.57479	-0.00018
19	19	0	19	19	1	219.57321	0.00039
19	19	1	19	19	0	219.57321	0.00039
20	0	20	19	0	19	224.26123	0.00007
20	0	20	21	0	21	214.78324	0.00001
20	1	19	19	1	18	224.48935	0.00002
20	1	19	21	1	20	214.55894	-0.00002
20	1	20	19	1	19	224.26123	0.00007
20	1	20	21	1	21	214.78324	0.00001
20	2	18	19	2	17	224.71856	-0.00004
20	2	18	21	2	19	214.33359	-0.00005
20	2	19	19	2	18	224.48935	0.00002
20	2	19	21	2	20	214.55894	-0.00002
20	3	17	21	3	18	214.10600	0.00015
20	3	18	19	3	17	224.71856	-0.00002
20	3	18	21	3	19	214.33359	-0.00006

20	4	16	19	4	15	225.19418	-0.00009
20	4	16	21	4	17	213.87122	-0.00004
20	4	17	19	4	16	224.95062	0.00011
20	4	17	21	4	18	214.10600	-0.00008
20	5	15	19	5	14	225.48167	0.00007
20	5	15	21	5	16	213.60997	0.00013
20	5	16	19	5	15	225.18606	0.00002
20	5	16	21	5	17	213.87477	-0.00005
20	6	14	19	6	13	225.83535	-0.00006
20	6	14	21	6	15	213.27335	-0.00001
20	6	15	19	6	14	225.41340	0.00001
20	6	15	21	6	16	213.64465	-0.00001
20	7	13	19	7	12	225.99374	-0.00008
20	7	13	21	7	14	213.01437	0.00010
20	7	14	19	7	13	225.58482	0.00001
20	8	12	19	8	11	225.83715	-0.00007
20	8	12	21	8	13	213.07223	-0.00006
20	8	13	19	8	12	225.64851	0.00005
20	8	13	21	8	14	213.34188	-0.00003
20	9	11	21	9	12	213.26444	-0.00008
20	9	12	19	9	11	225.62420	0.00001
20	9	12	21	9	13	213.33425	-0.00004
20	10	10	19	10	9	225.57861	-0.00009
20	10	10	21	10	11	213.36100	-0.00001
20	10	11	19	10	10	225.57481	0.00004
20	10	11	21	10	12	213.37023	0.00001
20	11	10	19	11	9	225.53180	0.00005
20	11	10	21	11	11	213.40551	-0.00007
20	12	8	19	12	7	225.49826	0.00001
20	12	8	21	12	9	213.43093	-0.00003
20	12	9	19	12	8	225.49826	0.00002
20	12	9	21	12	10	213.43093	-0.00008
20	13	7	19	13	6	225.47154	-0.00010
20	13	7	21	13	8	213.44837	-0.00023
20	13	8	19	13	7	225.47154	-0.00010
20	13	8	21	13	9	213.44837	-0.00023
20	14	6	19	14	5	225.44998	0.00005
20	14	6	21	14	7	213.46086	-0.00002
20	14	7	19	14	6	225.44998	0.00005
20	14	7	21	14	8	213.46086	-0.00002
20	15	5	21	15	6	213.46953	-0.00006
20	15	6	21	15	7	213.46953	-0.00006
20	16	4	19	16	3	225.41671	-0.00008
20	16	4	20	16	5	219.59578	0.00006
20	16	5	19	16	4	225.41671	-0.00008
20	16	5	20	16	4	219.59578	0.00006

20	17	3	19	17	2	225.40417	0.00000
20	17	3	20	17	4	219.59110	-0.00002
20	17	4	19	17	3	225.40417	0.00000
20	17	4	20	17	3	219.59110	-0.00002
20	18	2	20	18	3	219.58703	-0.00028
20	18	3	20	18	2	219.58703	-0.00028
20	19	1	20	19	2	219.58448	-0.00002
20	19	2	20	19	1	219.58448	-0.00002
21	0	21	20	0	20	224.50270	0.00004
21	0	21	22	0	22	214.57363	0.00001
21	1	20	20	1	19	224.73077	0.00000
21	1	20	22	1	21	214.34948	0.00008
21	1	21	20	1	20	224.50270	0.00004
21	1	21	22	1	22	214.57363	0.00001
21	2	19	20	2	18	224.95975	-0.00005
21	2	19	22	2	20	214.12423	0.00001
21	2	20	20	2	19	224.73077	0.00000
21	2	20	22	2	21	214.34948	0.00008
21	3	18	20	3	17	225.19139	-0.00004
21	3	18	22	3	19	213.89701	0.00005
21	3	19	20	3	18	224.95975	-0.00004
21	3	19	22	3	20	214.12423	0.00000
21	4	17	20	4	16	225.43047	0.00000
21	4	17	22	4	18	213.66468	0.00001
21	5	16	20	5	15	225.69859	0.00001
21	5	16	22	5	17	213.41512	0.00003
21	5	17	20	5	16	225.42640	-0.00024
21	5	17	22	5	18	213.66633	0.00005
21	6	15	20	6	14	226.04684	0.00001
21	6	16	20	6	15	225.66072	-0.00043
21	6	16	22	6	17	213.43298	-0.00001
21	7	14	20	7	13	226.31599	-0.00002
21	7	14	22	7	15	212.77231	0.00004
21	7	15	20	7	14	225.86009	0.00001
21	7	15	22	7	16	213.21787	0.00012
21	8	13	20	8	12	226.24762	0.00002
21	8	13	22	8	14	212.71657	0.00007
21	8	14	20	8	13	225.96309	0.00000
21	8	14	22	8	15	213.07473	-0.00001
21	9	12	20	9	11	226.03465	0.00001
21	9	12	22	9	13	212.90912	0.00001
21	9	13	22	9	14	213.03747	0.00001
21	10	11	20	10	10	225.92153	0.00001
21	10	12	20	10	11	225.91181	0.00002
21	11	10	20	11	9	225.86337	-0.00012
21	11	11	22	11	12	213.10600	-0.00003

21	12	9	20	12	8	225.82365	-0.00006
21	12	9	22	12	10	213.13613	-0.00002
21	12	10	20	12	9	225.82365	-0.00001
21	13	8	20	13	7	225.79287	-0.00001
21	13	8	22	13	9	213.15734	-0.00008
21	13	9	20	13	8	225.79287	0.00000
21	13	9	22	13	10	213.15734	-0.00009
21	14	7	20	14	6	225.76788	0.00000
21	14	7	22	14	8	213.17215	-0.00004
21	14	8	20	14	7	225.76788	0.00000
21	14	8	22	14	9	213.17215	-0.00004
21	15	6	20	15	5	225.74713	-0.00001
21	15	6	22	15	7	213.18259	-0.00006
21	15	7	20	15	6	225.74713	-0.00001
21	15	7	22	15	8	213.18259	-0.00006
21	16	5	20	16	4	225.72972	-0.00003
21	16	5	22	16	6	213.19016	-0.00004
21	16	6	20	16	5	225.72972	-0.00003
21	16	6	22	16	7	213.19016	-0.00004
21	17	4	20	17	3	225.71515	-0.00001
21	17	4	22	17	5	213.19574	-0.00006
21	17	5	20	17	4	225.71515	-0.00001
21	17	5	22	17	6	213.19574	-0.00006
21	18	3	21	18	4	219.60023	0.00002
21	18	3	22	18	4	213.20019	0.00002
21	18	4	21	18	3	219.60023	0.00002
21	18	4	22	18	5	213.20019	0.00002
21	19	2	21	19	3	219.59666	-0.00005
21	19	2	22	19	3	213.20421	0.00008
21	19	3	21	19	2	219.59666	-0.00005
21	19	3	22	19	4	213.20421	0.00008
21	20	1	21	20	2	219.59423	-0.00013
21	20	1	22	20	2	213.20783	-0.00004
21	20	2	21	20	1	219.59423	-0.00013
21	20	2	22	20	3	213.20783	-0.00004
21	21	0	21	21	1	219.59353	0.00013
21	21	0	22	21	1	213.21191	-0.00010
21	21	1	21	21	0	219.59353	0.00013
21	21	1	22	21	2	213.21191	-0.00010
22	0	22	21	0	21	224.74489	0.00001
22	0	22	23	0	23	214.36480	0.00003
22	1	21	21	1	20	224.97291	0.00001
22	1	21	23	1	22	214.14059	0.00002
22	1	22	21	1	21	224.74489	0.00001
22	1	22	23	1	23	214.36480	0.00003
22	2	20	21	2	19	225.20174	0.00001

22	2	20	23	2	21	213.91554	0.00004
22	2	21	21	2	20	224.97291	0.00000
22	2	21	23	2	22	214.14059	0.00002
22	3	20	21	3	19	225.20174	0.00001
22	3	20	23	3	21	213.91554	0.00005
22	4	18	21	4	17	225.66911	-0.00004
22	4	19	21	4	18	225.43252	-0.00008
22	4	19	23	4	20	213.68867	0.00003
22	5	17	21	5	16	225.92444	-0.00006
22	5	17	23	5	18	213.21556	0.00010
22	5	18	21	5	17	225.66742	0.00000
22	5	18	23	5	19	213.45838	-0.00012
22	6	16	21	6	15	226.24648	-0.00005
22	6	16	23	6	17	212.92940	0.00006
22	6	17	21	6	16	225.90520	0.00003
22	6	17	23	6	18	213.22425	-0.00001
22	7	16	21	7	15	226.12393	0.00002
22	7	16	23	7	17	212.99710	0.00001
22	8	14	21	8	13	226.64452	0.00004
22	8	14	23	8	15	212.39397	0.00009
22	8	15	23	8	16	212.82157	-0.00005
22	9	13	21	9	12	226.43049	-0.00003
22	9	13	23	9	14	212.53758	-0.00014
22	9	14	21	9	13	226.29444	0.00001
22	9	14	23	9	15	212.74861	0.00004
22	10	12	23	10	13	212.71830	-0.00010
22	10	13	21	10	12	226.25199	0.00007
22	10	13	23	10	14	212.76276	-0.00011
22	11	11	21	11	10	226.19973	-0.00004
22	11	11	23	11	12	212.79883	-0.00009
22	11	12	21	11	11	226.19743	-0.00004
22	11	12	23	11	13	212.80427	-0.00005
22	12	11	21	12	10	226.15244	0.00003
22	12	11	23	12	12	212.83966	-0.00008
22	13	9	21	13	8	226.11684	-0.00004
22	13	9	23	13	10	212.86484	-0.00003
22	13	10	21	13	9	226.11684	-0.00003
22	13	10	23	13	11	212.86484	-0.00006
22	14	8	21	14	7	226.08814	-0.00005
22	14	9	21	14	8	226.08814	-0.00005
22	15	7	21	15	6	226.06439	-0.00007
22	15	7	23	15	8	212.89491	-0.00005
22	15	8	21	15	7	226.06439	-0.00007
22	15	8	23	15	9	212.89491	-0.00005
22	16	6	21	16	5	226.04449	-0.00005
22	16	6	23	16	7	212.90382	-0.00009



22	16	7	21	16	6	226.04449	-0.00005
22	16	7	23	16	8	212.90382	-0.00009
22	17	5	21	17	4	226.02779	0.00004
22	17	5	23	17	6	212.91046	-0.00003
22	17	6	21	17	5	226.02779	0.00004
22	17	6	23	17	7	212.91046	-0.00003
22	18	4	21	18	3	226.01362	-0.00003
22	18	4	22	18	5	219.61352	-0.00009
22	18	4	23	18	5	212.91527	-0.00005
22	18	5	21	18	4	226.01362	-0.00003
22	18	5	22	18	4	219.61352	-0.00009
22	18	5	23	18	6	212.91527	-0.00005
22	19	3	21	19	2	226.00190	-0.00017
22	19	3	22	19	4	219.60956	0.00009
22	19	3	23	19	4	212.91989	-0.00005
22	19	4	21	19	3	226.00190	-0.00017
22	19	4	22	19	3	219.60956	0.00009
22	19	4	23	19	5	212.91989	-0.00005
22	20	2	22	20	3	219.60649	0.00015
22	20	3	22	20	2	219.60649	0.00015
23	0	23	22	0	22	224.98780	-0.00001
23	0	23	24	0	24	214.15654	-0.00011
23	1	22	22	1	21	225.21576	0.00000
23	1	22	24	1	23	213.93248	0.00002
23	1	23	22	1	22	224.98780	-0.00001
23	1	23	24	1	24	214.15654	-0.00011
23	2	21	22	2	20	225.44438	0.00002
23	2	21	24	2	22	213.70744	0.00000
23	2	22	22	2	21	225.21576	0.00000
23	2	22	24	2	23	213.93248	0.00002
23	3	20	22	3	19	225.67479	-0.00001
23	3	20	24	3	21	213.48076	-0.00008
23	3	21	22	3	20	225.44438	0.00001
23	3	21	24	3	22	213.70744	0.00000
23	4	19	22	4	18	225.90942	-0.00009
23	4	19	24	4	20	213.25095	0.00003
23	4	20	22	4	19	225.67479	0.00003
23	4	20	24	4	21	213.48076	-0.00007
23	5	18	22	5	17	226.15689	0.00000
23	5	18	24	5	19	213.01306	0.00003
23	6	17	22	6	16	226.45222	0.00001
23	6	17	24	6	18	212.74620	0.00005
23	6	18	22	6	17	226.14756	0.00021
23	6	18	24	6	19	213.01725	0.00001
23	7	16	22	7	15	226.82546	0.00002
23	7	16	24	7	17	212.39903	0.00003

23	7	17	22	7	16	226.37871	0.00002
23	7	17	24	7	18	212.78355	0.00005
23	8	15	22	8	14	227.00790	0.00005
23	9	14	22	9	13	226.84537	0.00000
23	9	14	24	9	15	212.16400	-0.00013
23	9	15	22	9	14	226.62134	0.00012
23	9	15	24	9	16	212.47076	0.00000
23	10	13	22	10	12	226.64108	0.00004
23	10	14	24	10	15	212.46163	0.00002
23	11	12	22	11	11	226.54202	0.00001
23	11	12	24	11	13	212.48807	-0.00008
23	11	13	24	11	14	212.50072	-0.00003
23	12	11	22	12	10	226.48512	-0.00010
23	12	11	24	12	12	212.53984	-0.00002
23	12	12	24	12	13	212.54115	0.00006
23	13	10	22	13	9	226.44380	-0.00006
23	13	10	24	13	11	212.57066	-0.00006
23	13	11	22	13	10	226.44380	-0.00002
23	14	9	24	14	10	212.59163	-0.00003
23	14	10	24	14	11	212.59163	-0.00004
23	15	8	22	15	7	226.38357	-0.00034
23	15	8	24	15	9	212.60628	-0.00013
23	15	9	22	15	8	226.38357	-0.00034
23	15	9	24	15	10	212.60628	-0.00013
23	16	7	22	16	6	226.36103	-0.00017
23	16	7	24	16	8	212.61688	-0.00007
23	16	8	22	16	7	226.36103	-0.00017
23	16	8	24	16	9	212.61688	-0.00007
23	17	6	22	17	5	226.34197	-0.00003
23	17	6	24	17	7	212.62462	0.00001
23	17	7	22	17	6	226.34197	-0.00003
23	17	7	24	17	8	212.62462	0.00001
23	18	5	22	18	4	226.32564	-0.00007
23	18	6	22	18	5	226.32564	-0.00007
23	19	4	22	19	3	226.31223	-0.00008
23	19	5	22	19	4	226.31223	-0.00008
23	20	3	22	20	2	226.30114	-0.00014
23	20	3	23	20	4	219.61881	0.00003
23	20	4	22	20	3	226.30114	-0.00014
23	20	4	23	20	3	219.61881	0.00003
23	21	2	23	21	3	219.61596	-0.00017
23	21	3	23	21	2	219.61596	-0.00017
23	22	1	23	22	2	219.61519	0.00014
23	22	2	23	22	1	219.61519	0.00014
23	23	0	23	23	1	219.61596	0.00017
23	23	1	23	23	0	219.61596	0.00017

24	0	24	23	0	23	225.23147	0.00003
24	0	24	25	0	25	213.94932	0.00004
24	1	23	23	1	22	225.45930	-0.00001
24	1	23	25	1	24	213.72511	0.00005
24	1	24	23	1	23	225.23147	0.00003
24	1	24	25	1	25	213.94932	0.00004
24	2	22	23	2	21	225.68770	-0.00001
24	2	22	25	2	23	213.50006	0.00000
24	2	23	23	2	22	225.45930	-0.00001
24	2	23	25	2	24	213.72511	0.00005
24	3	21	23	3	20	225.91764	-0.00001
24	3	22	23	3	21	225.68770	0.00000
24	3	22	25	3	23	213.50006	0.00000
24	4	21	23	4	20	225.91764	-0.00001
24	4	21	25	4	22	213.27335	0.00006
24	5	19	25	5	20	212.80973	0.00015
24	5	20	23	5	19	226.15087	0.00008
24	5	20	25	5	21	213.04476	0.00015
24	6	19	23	6	18	226.38912	0.00013
24	6	19	25	6	20	212.81120	-0.00003
24	7	17	25	7	18	212.23518	0.00008
24	7	18	23	7	17	226.62723	0.00003
24	7	18	25	7	19	212.57453	-0.00002
24	8	16	23	8	15	227.32579	-0.00005
24	8	16	25	8	17	211.88354	-0.00009
24	8	17	23	8	16	226.83077	0.00000
24	8	17	25	8	18	212.35491	0.00001
24	9	15	23	9	14	227.26454	0.00002
24	9	15	25	9	16	211.80979	0.00015
24	9	16	25	9	17	212.20636	0.00003
24	10	14	23	10	13	227.02716	0.00006
24	10	14	25	10	15	212.01294	-0.00002
24	10	15	25	10	16	212.16571	-0.00006
24	11	14	23	11	13	226.87873	0.00003
24	12	12	23	12	11	226.82224	0.00008
24	12	12	25	12	13	212.23691	-0.00022
24	12	13	23	12	12	226.82084	0.00001
24	12	13	25	12	14	212.24032	0.00006
24	13	11	23	13	10	226.77390	-0.00012
24	13	12	23	13	11	226.77390	-0.00002
24	13	12	25	13	13	212.27487	-0.00012
24	14	10	23	14	9	226.73634	-0.00006
24	14	10	25	14	11	212.29945	-0.00009
24	14	11	23	14	10	226.73634	-0.00005
24	14	11	25	14	12	212.29945	-0.00010
24	15	9	23	15	8	226.70557	-0.00003

24	15	10	23	15	9	226.70557	-0.00003
24	16	8	23	16	7	226.67978	-0.00003
24	16	8	25	16	9	212.32917	-0.00006
24	16	9	23	16	8	226.67978	-0.00003
24	16	9	25	16	10	212.32917	-0.00006
24	17	7	23	17	6	226.65796	0.00000
24	17	7	25	17	8	212.33799	-0.00010
24	17	8	23	17	7	226.65796	0.00000
24	17	8	25	17	9	212.33799	-0.00010
24	18	6	23	18	5	226.63908	-0.00011
24	18	6	25	18	7	212.34309	-0.00022
24	18	7	23	18	6	226.63908	-0.00011
24	18	7	25	18	8	212.34309	-0.00022
24	19	5	23	19	4	226.62388	-0.00008
24	19	5	25	19	6	212.35042	-0.00024
24	19	6	23	19	5	226.62388	-0.00008
24	19	6	25	19	7	212.35042	-0.00024
24	20	4	23	20	3	226.61096	-0.00001
24	20	5	23	20	4	226.61096	-0.00001
24	21	3	25	21	4	212.35887	-0.00016
24	21	4	25	21	5	212.35887	-0.00016
25	0	25	24	0	24	225.47582	0.00004
25	0	25	26	0	26	213.74271	0.00003
25	1	24	24	1	23	225.70338	-0.00016
25	1	24	26	1	25	213.51836	0.00001
25	1	25	24	1	24	225.47582	0.00004
25	1	25	26	1	26	213.74271	0.00003
25	2	23	24	2	22	225.93176	0.00003
25	2	23	26	2	24	213.29332	-0.00004
25	2	24	24	2	23	225.70338	-0.00016
25	2	24	26	2	25	213.51836	0.00001
25	3	22	24	3	21	226.16128	-0.00001
25	3	22	26	3	23	213.06697	-0.00009
25	3	23	24	3	22	225.93176	0.00002
25	3	23	26	3	24	213.29332	-0.00004
25	4	21	24	4	20	226.39361	-0.00006
25	4	21	26	4	22	212.83843	0.00000
25	4	22	24	4	21	226.16128	0.00002
25	4	22	26	4	23	213.06697	-0.00010
25	5	20	24	5	19	226.63282	-0.00003
25	5	20	26	5	21	212.60511	0.00004
25	5	21	24	5	20	226.39361	0.00002
25	5	21	26	5	22	212.83843	0.00001
25	6	19	24	6	18	226.89338	-0.00003
25	6	19	26	6	20	212.35887	0.00006
25	6	20	24	6	19	226.63090	0.00009

25	6	20	26	6	21	212.60576	-0.00008
25	7	18	24	7	17	227.22602	0.00002
25	7	18	26	7	19	212.06576	-0.00017
25	7	19	24	7	18	226.87191	-0.00002
25	7	19	26	7	20	212.36847	0.00005
25	8	17	24	8	16	227.59458	0.00001
25	8	17	26	8	18	211.69372	0.00001
25	8	18	24	8	17	227.09499	-0.00003
25	8	18	26	8	19	212.13709	-0.00007
25	9	16	24	9	15	227.66509	-0.00003
25	9	16	26	9	17	211.49252	0.00006
25	9	17	24	9	16	227.24157	0.00008
25	9	17	26	9	18	211.95610	-0.00013
25	10	15	24	10	14	227.43572	0.00002
25	10	15	26	10	16	211.63479	-0.00001
25	10	16	24	10	15	227.27156	-0.00003
25	10	16	26	10	17	211.87871	-0.00005
25	11	14	24	11	13	227.25325	-0.00009
25	11	14	26	11	15	211.83631	-0.00009
25	11	15	24	11	14	227.22391	0.00002
25	11	15	26	11	16	211.89222	0.00004
25	12	13	24	12	12	227.16427	0.00005
25	12	13	26	12	14	211.92981	-0.00007
25	12	14	24	12	13	227.16082	-0.00005
25	12	14	26	12	15	211.93722	-0.00009
25	13	12	24	13	11	227.10761	-0.00006
25	13	12	26	13	13	211.97655	0.00005
25	14	11	24	14	10	227.06456	-0.00004
25	14	11	26	14	12	212.00587	-0.00006
25	14	12	24	14	11	227.06456	-0.00002
25	14	12	26	14	13	212.00587	-0.00011
25	15	10	24	15	9	227.02963	-0.00001
25	15	11	24	15	10	227.02963	-0.00001
25	16	9	24	16	8	227.00043	-0.00003
25	16	9	26	16	10	212.04061	-0.00002
25	16	10	24	16	9	227.00043	-0.00003
25	16	10	26	16	11	212.04061	-0.00002
25	17	8	24	17	7	226.97570	0.00002
25	17	8	26	17	9	212.05078	-0.00005
25	17	9	24	17	8	226.97570	0.00002
25	17	9	26	17	10	212.05078	-0.00005
25	18	7	24	18	6	226.95387	-0.00010
25	18	7	26	18	8	212.05548	-0.00001
25	18	8	24	18	7	226.95387	-0.00010
25	18	8	26	18	9	212.05548	-0.00001
25	20	5	24	20	4	226.92184	-0.00010

25	20	5	26	20	6	212.06977	-0.00011
25	20	6	24	20	5	226.92184	-0.00010
25	20	6	26	20	7	212.06977	-0.00011
25	21	4	24	21	3	226.90970	0.00006
25	21	4	26	21	5	212.07411	0.00002
25	21	5	24	21	4	226.90970	0.00006
25	21	5	26	21	6	212.07411	0.00002
25	22	3	24	22	2	226.89993	-0.00015
25	22	3	26	22	4	212.07838	-0.00007
25	22	4	24	22	3	226.89993	-0.00015
25	22	4	26	22	5	212.07838	-0.00007
26	0	26	25	0	25	225.72085	0.00004
26	0	26	27	0	27	213.53676	0.00003
26	1	25	25	1	24	225.94848	0.00003
26	1	25	27	1	26	213.31204	0.00000
26	1	26	25	1	25	225.72085	0.00004
26	1	26	27	1	27	213.53676	0.00003
26	2	24	25	2	23	226.17643	0.00001
26	2	24	27	2	25	213.08729	-0.00002
26	2	25	25	2	24	225.94848	0.00003
26	2	25	27	2	26	213.31204	0.00000
26	3	24	25	3	23	226.17643	0.00001
26	3	24	27	3	25	213.08729	-0.00002
26	4	23	25	4	22	226.40529	0.00009
26	4	23	27	4	24	212.86107	-0.00002
26	5	21	25	5	20	226.87442	0.00003
26	5	21	27	5	22	212.40075	0.00014
26	5	22	25	5	21	226.63723	0.00011
26	6	20	27	6	21	212.15929	0.00000
26	6	21	25	6	20	226.87321	0.00003
26	6	21	27	6	22	212.40075	-0.00014
26	7	19	25	7	18	227.42867	0.00008
26	7	19	27	7	20	211.88696	0.00006
26	7	20	25	7	19	227.11476	-0.00005
26	7	20	27	7	21	212.16400	0.00016
26	8	18	27	8	19	211.52982	0.00007
26	8	19	25	8	18	227.35019	0.00003
26	8	19	27	8	20	211.92624	-0.00005
26	9	17	25	9	16	228.02760	0.00035
26	9	17	27	9	18	211.22245	0.00002
26	9	18	25	9	17	227.53117	0.00001
26	9	18	27	9	19	211.71987	-0.00002
26	10	16	25	10	15	227.86270	0.00036
26	10	16	27	10	17	211.25926	-0.00003
26	10	17	25	10	16	227.60079	0.00000
26	10	17	27	10	18	211.60380	-0.00004

26	11	15	25	11	14	227.63002	-0.00012
26	11	15	27	11	16	211.48653	-0.00003
26	11	16	25	11	15	227.57012	0.00000
26	11	16	27	11	17	211.59117	-0.00002
26	12	14	25	12	13	227.51274	-0.00002
26	12	14	27	12	15	211.61613	0.00003
26	12	15	25	12	14	227.50476	-0.00001
26	12	15	27	12	16	211.63261	-0.00007
26	13	14	25	13	13	227.44447	0.00002
26	13	14	27	13	15	211.67725	-0.00002
26	14	12	25	14	11	227.39571	-0.00009
26	14	13	25	14	12	227.39571	-0.00003
26	14	13	27	14	14	211.71073	-0.00002
26	15	11	25	15	10	227.35610	-0.00006
26	15	11	27	15	12	211.73436	-0.00001
26	15	12	25	15	11	227.35610	-0.00006
26	15	12	27	15	13	211.73436	-0.00002
26	16	10	25	16	9	227.32314	-0.00006
26	16	10	27	16	11	211.75099	-0.00007
26	16	11	25	16	10	227.32314	-0.00006
26	16	11	27	16	12	211.75099	-0.00007
26	17	9	25	17	8	227.29513	-0.00006
26	17	9	27	17	10	211.76262	-0.00011
26	17	10	25	17	9	227.29513	-0.00006
26	17	10	27	17	11	211.76262	-0.00011
26	18	8	25	18	7	227.26993	0.00000
26	18	8	27	18	9	211.76577	-0.00003
26	18	9	25	18	8	227.26993	0.00000
26	18	9	27	18	10	211.76577	-0.00003
26	19	7	25	19	6	227.25182	0.00011
26	19	7	27	19	8	211.77983	-0.00009
26	19	8	25	19	7	227.25182	0.00011
26	19	8	27	19	9	211.77983	-0.00009
26	20	6	25	20	5	227.23422	-0.00002
26	20	6	27	20	7	211.78455	0.00004
26	20	7	25	20	6	227.23422	-0.00002
26	20	7	27	20	8	211.78455	0.00004
26	21	5	25	21	4	227.21973	-0.00010
26	21	6	25	21	5	227.21973	-0.00010
26	22	4	25	22	3	227.20826	-0.00002
26	22	5	25	22	4	227.20826	-0.00002
26	23	3	25	23	2	227.19968	0.00008
26	23	3	27	23	4	211.79763	-0.00008
26	23	4	25	23	3	227.19968	0.00008
26	23	4	27	23	5	211.79763	-0.00008
27	0	27	26	0	26	225.96663	0.00003

27	0	27	28	0	28	213.33161	0.00006
27	1	26	26	1	25	226.19401	-0.00001
27	1	26	28	1	27	213.10720	0.00003
27	1	27	26	1	26	225.96663	0.00003
27	1	27	28	1	28	213.33161	0.00006
27	2	25	26	2	24	226.42174	-0.00003
27	2	25	28	2	26	212.88189	0.00015
27	2	26	26	2	25	226.19401	-0.00001
27	2	26	28	2	27	213.10720	0.00003
27	3	24	26	3	23	226.65050	-0.00001
27	3	24	28	3	25	212.65567	-0.00001
27	3	25	26	3	24	226.42174	-0.00003
27	3	25	28	3	26	212.88189	0.00015
27	4	23	26	4	22	226.88142	-0.00003
27	4	23	28	4	24	212.42765	0.00001
27	4	24	26	4	23	226.65050	-0.00002
27	4	24	28	4	25	212.65567	-0.00001
27	5	22	26	5	21	227.11668	-0.00009
27	5	22	28	5	23	212.19622	-0.00007
27	5	23	26	5	22	226.88142	0.00006
27	5	23	28	5	24	212.42765	-0.00002
27	6	21	26	6	20	227.36253	0.00010
27	6	21	28	6	22	211.95807	-0.00001
27	7	20	26	7	19	227.64274	-0.00002
27	7	20	28	7	21	211.69929	0.00001
27	8	19	26	8	18	228.01719	-0.00003
27	8	19	28	8	20	211.37197	0.00001
27	8	20	28	8	21	211.71987	0.00002
27	9	18	28	9	19	211.00137	0.00003
27	9	19	28	9	20	211.49522	-0.00025
27	10	17	26	10	16	228.28789	-0.00002
27	10	17	28	10	18	210.90721	0.00004
27	10	18	26	10	17	227.91893	0.00002
27	10	18	28	10	19	211.34352	0.00007
27	11	16	26	11	15	228.02760	-0.00016
27	11	16	28	11	17	211.11723	-0.00004
27	11	17	26	11	16	227.91463	-0.00012
27	11	17	28	11	18	211.29636	0.00003
27	12	15	26	12	14	227.86999	-0.00001
27	12	15	28	12	16	211.29261	0.00002
27	12	16	26	12	15	227.85197	-0.00013
27	12	16	28	12	17	211.32730	-0.00004
27	13	14	26	13	13	227.78732	0.00007
27	13	14	28	13	15	211.37078	-0.00005
27	13	15	26	13	14	227.78509	-0.00023
27	13	15	28	13	16	211.37523	0.00009



27	14	13	26	14	12	227.73021	-0.00001
27	14	13	28	14	14	211.41336	0.00009
27	14	14	26	14	13	227.73021	0.00015
27	15	12	26	15	11	227.68524	-0.00006
27	15	12	28	15	13	211.44105	-0.00003
27	15	13	26	15	12	227.68524	-0.00005
27	15	13	28	15	14	211.44105	-0.00006
27	16	11	26	16	10	227.64807	-0.00007
27	16	11	28	16	12	211.46023	-0.00015
27	16	12	26	16	11	227.64807	-0.00007
27	16	12	28	16	13	211.46023	-0.00015
27	17	10	26	17	9	227.61653	-0.00004
27	17	10	28	17	11	211.47359	-0.00010
27	17	11	26	17	10	227.61653	-0.00004
27	17	11	28	17	12	211.47359	-0.00010
27	18	9	26	18	8	227.58670	-0.00007
27	18	9	28	18	10	211.47359	0.00002
27	18	10	26	18	9	227.58670	-0.00007
27	18	10	28	18	11	211.47359	0.00002
27	19	8	26	19	7	227.56768	-0.00025
27	19	8	28	19	9	211.49388	-0.00005
27	19	9	26	19	8	227.56768	-0.00025
27	19	9	28	19	10	211.49388	-0.00005
27	20	7	26	20	6	227.54785	-0.00005
27	20	7	28	20	8	211.49866	-0.00003
27	20	8	26	20	7	227.54785	-0.00005
27	20	8	28	20	9	211.49866	-0.00003
27	21	6	28	21	7	211.50296	-0.00010
27	21	7	28	21	8	211.50296	-0.00010
27	22	5	26	22	4	227.51754	0.00001
27	22	5	27	22	6	219.66121	-0.00011
27	22	6	26	22	5	227.51754	0.00001
27	22	6	27	22	5	219.66121	-0.00011
27	23	4	26	23	3	227.50680	-0.00002
27	23	4	27	23	5	219.65766	-0.00005
27	23	4	28	23	5	211.51150	-0.00012
27	23	5	26	23	4	227.50680	-0.00002
27	23	5	27	23	4	219.65766	-0.00005
27	23	5	28	23	6	211.51150	-0.00012
27	24	3	26	24	2	227.49908	-0.00006
27	24	4	26	24	3	227.49908	-0.00006
28	0	28	27	0	27	226.21298	0.00000
28	0	28	29	0	29	213.12711	0.00003
28	1	27	27	1	26	226.43997	0.00004
28	1	27	29	1	28	212.90256	-0.00001
28	1	28	27	1	27	226.21298	0.00000

28	1	28	29	1	29	213.12711	0.00003
28	2	26	27	2	25	226.66784	0.00009
28	2	26	29	2	27	212.67751	0.00000
28	2	27	27	2	26	226.43997	0.00004
28	2	27	29	2	28	212.90256	-0.00001
28	3	25	27	3	24	226.89608	-0.00004
28	3	25	29	3	26	212.45068	-0.00003
28	3	26	27	3	25	226.66784	0.00009
28	3	26	29	3	27	212.67751	0.00000
28	4	24	27	4	23	227.12641	0.00003
28	4	24	29	4	25	212.22294	-0.00001
28	4	25	27	4	24	226.89608	-0.00004
28	4	25	29	4	26	212.45068	-0.00003
28	5	24	27	5	23	227.12641	-0.00007
28	5	24	29	5	25	212.22294	-0.00003
28	6	22	27	6	21	227.60214	-0.00005
28	6	23	27	6	22	227.36011	0.00004
28	6	23	29	6	24	211.99240	-0.00009
28	7	21	27	7	20	227.86726	0.00002
28	7	21	29	7	22	211.50601	0.00019
28	7	22	27	7	21	227.59953	-0.00009
28	7	22	29	7	23	211.75655	-0.00012
28	8	21	27	8	20	227.84389	-0.00011
28	8	21	29	8	22	211.51643	0.00047
28	9	19	27	9	18	228.60023	-0.00006
28	9	19	29	9	20	210.82159	0.00008
28	9	20	27	9	19	228.07141	0.00003
28	9	20	29	9	21	211.28032	-0.00001
28	10	18	29	10	19	210.59614	-0.00004
28	10	19	27	10	18	228.22373	-0.00002
28	10	19	29	10	20	211.09811	0.00000
28	11	18	27	11	17	228.25434	-0.00001
28	11	18	29	11	19	211.01090	-0.00004
28	12	16	27	12	15	228.23944	-0.00003
28	12	17	27	12	16	228.20180	0.00002
28	12	17	29	12	18	211.02309	0.00000
28	13	16	27	13	15	228.13001	-0.00006
28	13	16	29	13	17	211.07098	0.00003
28	14	14	29	14	15	211.11336	-0.00016
28	14	15	27	14	14	228.06782	0.00005
28	14	15	29	14	16	211.11442	-0.00012
28	15	14	29	15	15	211.14624	-0.00002
28	16	12	27	16	11	227.97532	-0.00006
28	16	12	29	16	13	211.16843	-0.00004
28	16	13	27	16	12	227.97532	-0.00005
28	16	13	29	16	14	211.16843	-0.00005

28	17	11	27	17	10	227.93977	-0.00009
28	17	12	27	17	11	227.93977	-0.00009
28	18	10	27	18	9	227.90404	-0.00006
28	18	10	29	18	11	211.17809	-0.00013
28	18	11	27	18	10	227.90404	-0.00006
28	18	11	29	18	12	211.17809	-0.00013
28	21	7	29	21	8	211.21682	-0.00009
28	21	8	29	21	9	211.21682	-0.00009
28	23	5	29	23	6	211.22511	0.00001
28	23	6	29	23	7	211.22511	0.00001
28	24	4	29	24	5	211.22989	0.00009
28	24	5	29	24	6	211.22989	0.00009
28	26	2	29	26	3	211.24279	-0.00010
28	26	3	29	26	4	211.24279	-0.00010
29	0	29	28	0	28	226.46014	0.00006
29	0	29	30	0	30	212.92342	0.00009
29	1	28	28	1	27	226.68724	-0.00001
29	1	28	30	1	29	212.69869	0.00002
29	1	29	28	1	28	226.46014	0.00006
29	1	29	30	1	30	212.92342	0.00009
29	2	27	28	2	26	226.91413	-0.00004
29	2	27	30	2	28	212.47338	0.00000
29	2	28	28	2	27	226.68724	-0.00001
29	2	28	30	2	29	212.69869	0.00002
29	3	26	28	3	25	227.14223	-0.00008
29	3	26	30	3	27	212.24787	0.00001
29	3	27	28	3	26	226.91413	-0.00004
29	3	27	30	3	28	212.47338	0.00000
29	4	25	28	4	24	227.37196	-0.00001
29	4	25	30	4	26	212.01856	-0.00005
29	4	26	28	4	25	227.14223	-0.00008
29	4	26	30	4	27	212.24787	0.00000
29	5	24	28	5	23	227.60470	-0.00011
29	5	24	30	5	25	211.78852	0.00009
29	5	25	28	5	24	227.37196	-0.00003
29	5	25	30	5	26	212.01856	-0.00007
29	6	23	28	6	22	227.84390	-0.00003
29	6	23	30	6	24	211.55365	-0.00002
29	6	24	30	6	25	211.78852	-0.00002
29	7	22	28	7	21	228.09910	0.00000
29	7	22	30	7	23	211.30883	0.00003
29	7	23	28	7	22	227.84255	-0.00007
29	7	23	30	7	24	211.55739	0.00007
29	8	21	30	8	22	211.03144	0.00004
29	8	22	28	8	21	228.08699	-0.00017
29	8	22	30	8	23	211.31301	-0.00018

29	9	20	28	9	19	228.81684	0.00029
29	9	20	30	9	21	210.66527	-0.00006
29	10	19	28	10	18	229.05056	0.00003
29	10	19	30	10	20	210.33515	0.00001
29	10	20	28	10	19	228.51463	-0.00006
29	10	20	30	10	21	210.86561	0.00034
29	11	18	28	11	17	228.88505	0.00003
29	11	18	30	11	19	210.35895	0.00015
29	11	19	28	11	18	228.58521	0.00002
29	11	19	30	11	20	210.73793	0.00001
29	12	17	28	12	16	228.62610	-0.00001
29	12	17	30	12	18	210.59876	0.00012
29	12	18	28	12	17	228.55185	-0.00003
29	12	18	30	12	19	210.72241	-0.00008
29	13	16	28	13	15	228.48925	0.00000
29	13	16	30	13	17	210.74413	0.00000
29	13	17	28	13	16	228.47850	-0.00008
29	14	15	30	14	16	210.81072	0.00000
29	14	16	30	14	17	210.81322	0.00002
29	15	14	28	15	13	228.35210	-0.00002
29	15	14	30	15	15	210.84947	0.00005
29	15	15	28	15	14	228.35210	0.00006
29	16	13	28	16	12	228.30493	-0.00011
29	16	13	30	16	14	210.87513	-0.00002
29	16	14	28	16	13	228.30493	-0.00011
29	16	14	30	16	15	210.87513	-0.00004
29	17	12	28	17	11	228.26511	-0.00002
29	17	13	28	17	12	228.26511	-0.00002
29	18	11	28	18	10	228.22130	-0.00009
29	18	11	30	18	12	210.87948	-0.00010
29	18	12	28	18	11	228.22130	-0.00009
29	18	12	30	18	13	210.87948	-0.00010
29	19	10	28	19	9	228.20543	0.00001
29	19	10	30	19	11	210.92062	0.00003
29	19	11	28	19	10	228.20543	0.00001
29	19	11	30	19	12	210.92062	0.00003
29	20	9	28	20	8	228.17952	0.00002
29	20	9	30	20	10	210.92567	0.00000
29	20	10	28	20	9	228.17952	0.00002
29	20	10	30	20	11	210.92567	0.00000
29	21	8	30	21	9	210.93028	0.00001
29	21	9	30	21	10	210.93028	0.00001
29	22	7	28	22	6	228.13915	-0.00010
29	22	7	30	22	8	210.93425	0.00000
29	22	8	28	22	7	228.13915	-0.00010
29	22	8	30	22	9	210.93425	0.00000

29	23	6	28	23	5	228.12409	0.00002
29	23	6	30	23	7	210.93810	-0.00001
29	23	7	28	23	6	228.12409	0.00002
29	23	7	30	23	8	210.93810	-0.00001
29	24	5	28	24	4	228.11215	0.00006
29	24	5	30	24	6	210.94230	-0.00005
29	24	6	28	24	5	228.11215	0.00006
29	24	6	30	24	7	210.94230	-0.00005
29	25	4	30	25	5	210.94741	-0.00008
29	25	5	30	25	6	210.94741	-0.00008
30	0	30	29	0	29	226.70784	-0.00001
30	0	30	31	0	31	212.72027	-0.00003
30	1	29	29	1	28	226.93473	-0.00006
30	1	29	31	1	30	212.49545	-0.00001
30	1	30	29	1	29	226.70784	-0.00001
30	1	30	31	1	31	212.72027	-0.00003
30	2	28	29	2	27	227.16190	-0.00001
30	2	28	31	2	29	212.26995	0.00000
30	2	29	29	2	28	226.93473	-0.00006
30	2	29	31	2	30	212.49545	-0.00001
30	3	27	29	3	26	227.38899	0.00005
30	3	27	31	3	28	212.04362	-0.00004
30	3	28	29	3	27	227.16190	-0.00001
30	3	28	31	3	29	212.26995	0.00000
30	4	26	29	4	25	227.61811	-0.00003
30	4	27	29	4	26	227.38899	0.00004
30	4	27	31	4	28	212.04362	-0.00004
30	5	25	29	5	24	227.85001	0.00001
30	5	25	31	5	26	211.58489	0.00006
30	5	26	29	5	25	227.61811	-0.00005
30	5	26	31	5	27	211.80739	-0.00007
30	6	24	29	6	23	228.08705	0.00000
30	6	25	29	6	24	227.85001	-0.00014
30	6	25	31	6	26	211.58489	-0.00004
30	7	23	31	7	24	211.10970	-0.00006
30	7	24	29	7	23	228.08611	-0.00005
30	7	24	31	7	25	211.35159	-0.00016
30	8	22	29	8	21	228.62155	0.00003
30	8	22	31	8	23	210.84658	0.00004
30	8	23	29	8	22	228.32982	0.00017
30	8	23	31	8	24	211.10443	-0.00004
30	9	21	29	9	20	229.00742	-0.00002
30	9	21	31	9	22	210.51271	0.00000
30	9	22	29	9	21	228.57520	0.00032
30	10	20	31	10	21	210.12425	-0.00002
30	10	21	29	10	20	228.79213	-0.00004

30	10	21	31	10	22	210.64306	0.00006
30	11	19	29	11	18	229.31789	0.00009
30	11	19	31	11	20	210.01322	0.00002
30	11	20	29	11	19	228.90393	-0.00004
30	11	20	31	11	21	210.47915	-0.00001
30	12	18	29	12	17	229.03490	-0.00013
30	12	19	29	12	18	228.89951	-0.00004
30	12	19	31	12	20	210.42873	0.00003
30	13	17	29	13	16	228.85317	-0.00015
30	13	17	31	13	18	210.41628	-0.00006
30	13	18	29	13	17	228.83018	-0.00005
30	13	18	31	13	19	210.45912	-0.00003
30	14	16	29	14	15	228.75684	-0.00006
30	14	16	31	14	17	210.50380	-0.00010
30	14	17	29	14	16	228.75417	-0.00002
30	14	17	31	14	18	210.50963	0.00001
30	15	16	29	15	15	228.69010	0.00006
30	15	16	31	15	17	210.55096	-0.00008
30	16	14	29	16	13	228.63728	0.00002
30	16	14	31	16	15	210.58021	-0.00005
30	16	15	29	16	14	228.63728	0.00003
30	16	15	31	16	16	210.58021	-0.00010
30	17	13	29	17	12	228.59249	0.00005
30	17	13	31	17	14	210.59950	0.00002
30	17	14	29	17	13	228.59249	0.00006
30	17	14	31	17	15	210.59950	0.00002
30	18	12	29	18	11	228.53812	-0.00009
30	18	12	31	18	13	210.57788	-0.00016
30	18	13	29	18	12	228.53812	-0.00009
30	18	13	31	18	14	210.57788	-0.00016
30	19	11	29	19	10	228.52678	-0.00007
30	19	12	29	19	11	228.52678	-0.00007
30	20	10	29	20	9	228.49753	-0.00001
30	20	10	31	20	11	210.63839	0.00001
30	20	11	29	20	10	228.49753	-0.00001
30	20	11	31	20	12	210.63839	0.00001
30	21	9	29	21	8	228.47283	0.00000
30	21	9	31	21	10	210.64306	-0.00006
30	21	10	29	21	9	228.47283	0.00000
30	21	10	31	21	11	210.64306	-0.00006
30	22	8	31	22	9	210.64709	0.00004
30	22	9	31	22	10	210.64709	0.00004
30	23	7	31	23	8	210.65074	0.00012
30	23	8	31	23	9	210.65074	0.00012
30	25	5	31	25	6	210.65880	-0.00009
30	25	6	31	25	7	210.65880	-0.00009

30	27	3	31	27	4	210.67215	0.00004
30	27	4	31	27	5	210.67215	0.00004
30	28	2	31	28	3	210.68207	0.00022
30	28	3	31	28	4	210.68207	0.00022
31	0	31	30	0	30	226.95634	0.00005
31	0	31	32	0	32	212.51800	0.00002
31	1	30	30	1	29	227.18302	0.00003
31	1	30	32	1	31	212.29292	0.00001
31	1	31	30	1	30	226.95634	0.00005
31	1	31	32	1	32	212.51800	0.00002
31	2	29	30	2	28	227.40969	-0.00001
31	2	29	32	2	30	212.06713	-0.00004
31	2	30	30	2	29	227.18302	0.00003
31	2	30	32	2	31	212.29292	0.00001
31	3	28	30	3	27	227.63768	-0.00001
31	3	28	32	3	29	211.84064	0.00003
31	3	29	30	3	28	227.40969	-0.00001
31	3	29	32	3	30	212.06713	-0.00004
31	4	27	30	4	26	227.86470	-0.00004
31	4	27	32	4	28	211.61325	0.00001
31	4	28	30	4	27	227.63768	-0.00002
31	4	28	32	4	29	211.84064	0.00003
31	5	26	30	5	25	228.09581	-0.00001
31	5	26	32	5	27	211.38022	0.00005
31	5	27	30	5	26	227.86470	-0.00006
31	5	27	32	5	28	211.61325	0.00001
31	6	25	30	6	24	228.33119	-0.00002
31	6	25	32	6	26	211.14862	0.00006
31	7	24	30	7	23	228.57521	-0.00032
31	7	24	32	7	25	210.90956	0.00001
31	8	23	30	8	22	228.84496	0.00002
31	8	23	32	8	24	210.65539	0.00001
31	8	24	30	8	23	228.57197	-0.00007
31	8	24	32	8	25	210.91196	-0.00006
31	9	22	30	9	21	229.19473	0.00001
31	9	22	32	9	23	210.35119	-0.00011
31	9	23	30	9	22	228.81943	0.00004
31	9	23	32	9	24	210.67551	0.00013
31	10	21	30	10	20	229.60775	-0.00024
31	10	21	32	10	22	209.95379	0.00007
31	11	20	30	11	19	229.72189	-0.00003
31	11	20	32	11	21	209.70195	0.00002
31	11	21	30	11	20	229.20841	0.00001
31	11	21	32	11	22	210.23515	0.00006
31	12	19	30	12	18	229.46724	0.00000
31	12	19	32	12	20	209.83672	0.00005

31	12	20	30	12	19	229.24110	-0.00012
31	12	20	32	12	21	210.14508	0.00006
31	13	18	30	13	17	229.23085	-0.00003
31	13	18	32	13	19	210.07310	-0.00006
31	13	19	30	13	18	229.18360	-0.00020
31	13	19	32	13	20	210.15457	-0.00006
31	14	17	30	14	16	229.10937	-0.00003
31	14	17	32	14	18	210.19149	0.00000
31	14	18	30	14	17	229.10303	-0.00009
31	15	16	30	15	15	229.03193	-0.00011
31	15	16	32	15	17	210.24886	-0.00001
31	15	17	32	15	18	210.25021	-0.00007
31	16	15	30	16	14	228.97222	0.00000
31	16	15	32	16	16	210.28360	0.00003
31	17	14	30	17	13	228.92182	-0.00004
31	17	14	32	17	15	210.30518	-0.00006
31	17	15	30	17	14	228.92182	-0.00004
31	17	15	32	17	16	210.30518	-0.00007
31	18	13	30	18	12	228.85446	-0.00005
31	18	13	32	18	14	210.27419	-0.00017
31	18	14	30	18	13	228.85446	-0.00005
31	18	14	32	18	15	210.27419	-0.00017
31	19	12	30	19	11	228.85018	-0.00002
31	19	12	32	19	13	210.34523	-0.00004
31	19	13	30	19	12	228.85018	-0.00002
31	19	13	32	19	14	210.34523	-0.00004
31	21	10	30	21	9	228.78938	0.00004
31	21	10	32	21	11	210.35537	-0.00004
31	21	11	30	21	10	228.78938	0.00004
31	21	11	32	21	12	210.35537	-0.00004
31	22	9	30	22	8	228.76541	-0.00006
31	22	10	30	22	9	228.76541	-0.00006
31	23	8	30	23	7	228.74521	0.00004
31	23	8	32	23	9	210.36256	-0.00005
31	23	9	30	23	8	228.74521	0.00004
31	23	9	32	23	10	210.36256	-0.00005
31	24	7	30	24	6	228.72836	0.00005
31	24	7	32	24	8	210.36601	0.00011
31	24	8	30	24	7	228.72836	0.00005
31	24	8	32	24	9	210.36601	0.00011
31	25	6	30	25	5	228.71506	0.00015
31	25	6	32	25	7	210.36978	0.00006
31	25	7	30	25	6	228.71506	0.00015
31	25	7	32	25	8	210.36978	0.00006
31	26	5	30	26	4	228.70502	-0.00004
31	26	6	30	26	5	228.70502	-0.00004



31	27	4	30	27	3	228.69903	0.00009
31	27	4	32	27	5	210.38116	0.00006
31	27	5	30	27	4	228.69903	0.00009
31	27	5	32	27	6	210.38116	0.00006
31	28	3	30	28	2	228.69674	-0.00005
31	28	4	30	28	3	228.69674	-0.00005
32	0	32	31	0	31	227.20545	0.00005
32	0	32	33	0	33	212.31651	0.00017
32	1	31	31	1	30	227.43181	0.00000
32	1	31	33	1	32	212.09102	-0.00001
32	1	32	31	1	31	227.20545	0.00005
32	1	32	33	1	33	212.31651	0.00017
32	2	30	31	2	29	227.65821	0.00006
32	2	30	33	2	31	211.86497	-0.00004
32	2	31	31	2	30	227.43181	0.00000
32	2	31	33	2	32	212.09102	-0.00001
32	3	29	31	3	28	227.88526	0.00019
32	3	29	33	3	30	211.63819	0.00002
32	3	30	31	3	29	227.65821	0.00006
32	3	30	33	3	31	211.86497	-0.00004
32	4	28	31	4	27	228.10246	-0.00007
32	4	29	31	4	28	227.88526	0.00019
32	4	29	33	4	30	211.63819	0.00002
32	5	28	31	5	27	228.10464	0.00005
32	5	28	33	5	29	211.41031	-0.00005
32	6	27	31	6	26	228.34207	-0.00009
32	6	27	33	6	28	211.18271	0.00004
32	7	25	33	7	26	210.70853	-0.00005
32	7	26	31	7	25	228.57618	-0.00027
32	7	26	33	7	27	210.94574	-0.00014
32	8	24	31	8	23	229.07600	-0.00001
32	8	24	33	8	25	210.46007	-0.00019
32	8	25	31	8	24	228.80826	-0.00004
32	8	25	33	8	26	210.70997	-0.00003
32	9	23	31	9	22	229.39202	-0.00003
32	9	23	33	9	24	210.17823	0.00009
32	9	24	31	9	23	229.06064	-0.00010
32	9	24	33	9	25	210.46829	0.00009
32	10	23	31	10	22	229.30998	-0.00022
32	10	23	33	10	24	210.22304	-0.00005
32	11	22	31	11	21	229.49775	0.00000
32	11	22	33	11	23	210.00474	0.00003
32	12	20	31	12	19	229.91327	0.00013
32	12	20	33	12	21	209.45991	0.00007
32	12	21	31	12	20	229.57302	-0.00013
32	12	21	33	12	22	209.87424	0.00005

32	13	19	31	13	18	229.62697	-0.00020
32	13	20	31	13	19	229.53707	-0.00005
32	13	20	33	13	21	209.85428	-0.00010
32	14	18	31	14	17	229.46949	-0.00001
32	14	18	33	14	19	209.87086	-0.00010
32	14	19	31	14	18	229.45559	-0.00004
32	14	19	33	14	20	209.89711	-0.00002
32	15	17	31	15	16	229.37791	-0.00002
32	15	17	33	15	18	209.94406	0.00014
32	15	18	31	15	17	229.37629	-0.00009
32	15	18	33	15	19	209.94716	-0.00006
32	16	17	33	16	18	209.98510	-0.00004
32	17	15	31	17	14	229.25345	-0.00007
32	17	16	31	17	15	229.25345	-0.00006
32	18	14	31	18	13	229.17084	-0.00006
32	18	14	33	18	15	209.96931	-0.00009
32	18	15	31	18	14	229.17084	-0.00006
32	18	15	33	18	16	209.96931	-0.00009
32	19	13	31	19	12	229.17557	-0.00001
32	19	13	33	19	14	210.05678	-0.00003
32	19	14	31	19	13	229.17557	-0.00001
32	19	14	33	19	15	210.05678	-0.00003
32	20	12	31	20	11	229.13843	-0.00002
32	20	12	33	20	13	210.06198	-0.00007
32	20	13	31	20	12	229.13843	-0.00002
32	20	13	33	20	14	210.06198	-0.00007
32	22	10	31	22	9	229.08045	0.00010
32	22	10	33	22	11	210.07096	-0.00002
32	22	11	31	22	10	229.08045	0.00010
32	22	11	33	22	12	210.07096	-0.00002
32	23	9	31	23	8	229.05722	0.00000
32	23	10	31	23	9	229.05722	0.00000
32	24	8	31	24	7	229.03768	0.00000
32	24	8	33	24	9	210.07679	-0.00003
32	24	9	31	24	8	229.03768	0.00000
32	24	9	33	24	10	210.07679	-0.00003
32	25	7	31	25	6	229.02172	0.00003
32	25	7	33	25	8	210.08002	0.00006
32	25	8	31	25	7	229.02172	0.00003
32	25	8	33	25	9	210.08002	0.00006
32	26	6	31	26	5	229.00947	0.00014
32	26	6	33	26	7	210.08403	0.00005
32	26	7	31	26	6	229.00947	0.00014
32	26	7	33	26	8	210.08403	0.00005
32	27	5	31	27	4	229.00062	-0.00012
32	27	5	33	27	6	210.08938	-0.00004

32	27	6	31	27	5	229.00062	-0.00012
32	27	6	33	27	7	210.08938	-0.00004
32	28	4	31	28	3	228.99604	-0.00011
32	28	4	33	28	5	210.09672	-0.00011
32	28	5	31	28	4	228.99604	-0.00011
32	28	5	33	28	6	210.09672	-0.00011
32	29	3	33	29	4	210.10663	-0.00010
32	29	4	33	29	5	210.10663	-0.00010
33	0	33	32	0	32	227.45520	0.00005
33	0	33	34	0	34	212.11538	-0.00002
33	1	32	32	1	31	227.68126	0.00001
33	1	32	34	1	33	211.88978	-0.00001
33	1	33	32	1	32	227.45520	0.00005
33	1	33	34	1	34	212.11538	-0.00002
33	2	31	32	2	30	227.90717	-0.00003
33	2	31	34	2	32	211.66344	0.00000
33	2	32	32	2	31	227.68126	0.00001
33	2	32	34	2	33	211.88978	-0.00001
33	3	30	32	3	29	228.13357	0.00000
33	3	30	34	3	31	211.43627	-0.00002
33	3	31	32	3	30	227.90717	-0.00003
33	3	31	34	3	32	211.66344	0.00000
33	4	30	32	4	29	228.13357	0.00000
33	4	30	34	4	31	211.43627	-0.00002
33	5	28	32	5	27	228.58756	0.00009
33	5	28	34	5	29	210.97890	-0.00001
33	6	27	32	6	26	228.82168	0.00005
33	6	27	34	6	28	210.76846	0.00002
33	7	26	34	7	27	210.50665	-0.00004
33	7	27	34	7	28	210.71869	-0.00016
33	8	25	32	8	24	229.31200	-0.00005
33	8	25	34	8	26	210.26264	0.00003
33	8	26	34	8	27	210.50811	0.00004
33	9	24	32	9	23	229.60269	-0.00007
33	9	24	34	9	25	209.99526	0.00004
33	10	23	32	10	22	229.99936	0.00019
33	10	23	34	10	24	209.65562	0.00008
33	10	24	32	10	23	229.55768	0.00004
33	10	24	34	10	25	210.02039	-0.00003
33	11	22	32	11	21	230.37221	0.00002
33	11	22	34	11	23	209.25012	0.00002
33	11	23	34	11	24	209.78596	0.00016
33	12	21	32	12	20	230.35057	-0.00009
33	12	21	34	12	22	209.11546	0.00005
33	13	20	32	13	19	230.04694	-0.00013
33	13	20	34	13	21	209.32883	0.00012

33	13	21	34	13	22	209.56170	0.00014
33	15	18	32	15	17	229.72868	-0.00004
33	15	18	34	15	19	209.63450	-0.00005
33	15	19	32	15	18	229.72519	0.00012
33	15	19	34	15	20	209.64189	0.00000
33	16	17	32	16	16	229.65111	-0.00012
33	16	17	34	16	18	209.68368	0.00004
33	16	18	32	16	17	229.65111	0.00023
33	17	16	32	17	15	229.58742	-0.00011
33	17	16	34	17	17	209.71138	-0.00009
33	17	17	32	17	16	229.58742	-0.00009
33	17	17	34	17	18	209.71138	-0.00016
33	18	15	32	18	14	229.48822	-0.00011
33	18	16	32	18	15	229.48822	-0.00011
33	19	14	32	19	13	229.50313	0.00000
33	19	14	34	19	15	209.76793	0.00010
33	19	15	32	19	14	229.50313	0.00000
33	19	15	34	19	16	209.76793	0.00010
33	20	13	32	20	12	229.46147	-0.00001
33	20	13	34	20	14	209.77305	0.00008
33	20	14	32	20	13	229.46147	-0.00001
33	20	14	34	20	15	209.77305	0.00008
33	21	12	32	21	11	229.42673	0.00010
33	21	12	34	21	13	209.77829	0.00008
33	21	13	32	21	12	229.42673	0.00010
33	21	13	34	21	14	209.77829	0.00008
33	22	11	32	22	10	229.39650	0.00005
33	22	11	34	22	12	209.78206	0.00001
33	22	12	32	22	11	229.39650	0.00005
33	22	12	34	22	13	209.78206	0.00001
33	23	10	32	23	9	229.37038	0.00008
33	23	10	34	23	11	209.78482	-0.00001
33	23	11	32	23	10	229.37038	0.00008
33	23	11	34	23	12	209.78482	-0.00001
33	24	9	32	24	8	229.34800	0.00009
33	24	9	34	24	10	209.78714	0.00001
33	24	10	32	24	9	229.34800	0.00009
33	24	10	34	24	11	209.78714	0.00001
33	25	8	32	25	7	229.32930	0.00012
33	25	8	34	25	9	209.78945	-0.00011
33	25	9	32	25	8	229.32930	0.00012
33	25	9	34	25	10	209.78945	-0.00011
33	26	7	34	26	8	209.79260	-0.00007
33	26	8	34	26	9	209.79260	-0.00007
33	27	6	32	27	5	229.30308	0.00013
33	27	6	34	27	7	209.79706	0.00003

33	27	7	32	27	6	229.30308	0.00013
33	27	7	34	27	8	209.79706	0.00003
33	28	5	32	28	4	229.29566	-0.00012
33	28	6	32	28	5	229.29566	-0.00012
33	29	4	34	29	5	209.81167	-0.00002
33	29	5	34	29	6	209.81167	-0.00002
33	30	3	34	30	4	209.82321	0.00011
33	30	4	34	30	5	209.82321	0.00011
34	0	34	33	0	33	227.70557	0.00002
34	0	34	35	0	35	211.91518	0.00003
34	1	33	33	1	32	227.93129	0.00000
34	1	33	35	1	34	211.68918	0.00001
34	1	34	33	1	33	227.70557	0.00002
34	1	34	35	1	35	211.91518	0.00003
34	2	32	33	2	31	228.15686	0.00004
34	2	32	35	2	33	211.46245	0.00002
34	2	33	33	2	32	227.93129	0.00000
34	2	33	35	2	34	211.68918	0.00001
34	3	31	35	3	32	211.23501	0.00010
34	3	32	33	3	31	228.15686	0.00004
34	3	32	35	3	33	211.46245	0.00002
34	4	30	33	4	29	228.60956	-0.00002
34	4	30	35	4	31	211.00646	0.00000
34	4	31	35	4	32	211.23501	0.00010
34	5	29	33	5	28	228.84010	0.00011
34	5	29	35	5	30	210.77683	0.00001
34	5	30	33	5	29	228.60956	-0.00002
34	5	30	35	5	31	211.00646	0.00000
34	6	29	33	6	28	228.84010	-0.00004
34	6	29	35	6	30	210.77683	0.00001
34	7	28	33	7	27	229.06728	-0.00013
34	7	28	35	7	29	210.54640	-0.00004
34	8	26	35	8	27	210.06291	-0.00009
34	8	27	33	8	26	229.30490	-0.00017
34	8	27	35	8	28	210.30418	-0.00003
34	9	25	33	9	24	229.82482	0.00016
34	9	25	35	9	26	209.80553	0.00011
34	9	26	33	9	25	229.55079	0.00018
34	9	26	35	9	27	210.06645	0.00001
34	10	24	33	10	23	230.18206	0.00021
34	10	25	33	10	24	229.80144	-0.00004
34	10	25	35	10	26	209.81989	0.00000
34	11	23	33	11	22	230.61499	-0.00009
34	11	23	35	11	24	209.08772	0.00008
34	11	24	35	11	25	209.57558	0.00003
34	12	22	33	12	21	230.75420	0.00006

34	12	23	33	12	22	230.19592	-0.00001
34	12	23	35	12	24	209.37622	0.00002
34	13	21	33	13	20	230.48985	-0.00031
34	13	21	35	13	22	208.93911	0.00012
34	13	22	33	13	21	230.23016	-0.00008
34	13	22	35	13	23	209.27947	0.00006
34	14	20	33	14	19	230.22536	-0.00008
34	14	20	35	14	21	209.18975	0.00004
34	14	21	33	14	20	230.16778	0.00002
34	14	21	35	14	22	209.28527	0.00002
34	15	19	33	15	18	230.08551	-0.00016
34	15	19	35	15	20	209.31893	-0.00006
34	15	20	33	15	19	230.07743	-0.00004
34	15	20	35	15	21	209.33464	0.00002
34	16	18	35	16	19	209.37969	0.00016
34	16	19	33	16	18	229.99494	-0.00014
34	16	19	35	16	20	209.38135	-0.00005
34	17	18	33	17	17	229.92398	-0.00001
34	17	18	35	17	19	209.41164	-0.00008
34	18	16	33	18	15	229.80779	-0.00009
34	18	16	35	18	17	209.35790	0.00002
34	18	17	33	18	16	229.80779	-0.00008
34	18	17	35	18	18	209.35790	0.00001
34	19	15	35	19	16	209.47838	0.00008
34	19	16	35	19	17	209.47838	0.00008
34	20	14	35	20	15	209.48323	0.00003
34	20	15	35	20	16	209.48323	0.00003
34	21	13	33	21	12	229.74767	0.00016
34	21	13	35	21	14	209.48877	0.00012
34	21	14	33	21	13	229.74767	0.00016
34	21	14	35	21	15	209.48877	0.00012
34	22	12	33	22	11	229.71396	0.00013
34	22	12	35	22	13	209.49251	0.00002
34	22	13	33	22	12	229.71396	0.00013
34	22	13	35	22	14	209.49251	0.00002
34	23	11	33	23	10	229.68449	0.00004
34	23	11	35	23	12	209.49503	0.00003
34	23	12	33	23	11	229.68449	0.00004
34	23	12	35	23	13	209.49503	0.00003
34	24	10	33	24	9	229.65901	0.00000
34	24	10	35	24	11	209.49671	-0.00009
34	24	11	33	24	10	229.65901	0.00000
34	24	11	35	24	12	209.49671	-0.00009
34	25	9	33	25	8	229.63751	0.00014
34	25	9	35	25	10	209.49853	0.00004
34	25	10	33	25	9	229.63751	0.00014

34	25	10	35	25	11	209.49853	0.00004
34	26	8	33	26	7	229.61959	0.00007
34	26	8	35	26	9	209.50079	0.00013
34	26	9	33	26	8	229.61959	0.00007
34	26	9	35	26	10	209.50079	0.00013
34	27	7	33	27	6	229.60560	0.00004
34	27	7	35	27	8	209.50397	0.00008
34	27	8	33	27	7	229.60560	0.00004
34	27	8	35	27	9	209.50397	0.00008
34	28	6	33	28	5	229.59567	0.00002
34	28	6	35	28	7	209.50865	-0.00009
34	28	7	33	28	6	229.59567	0.00002
34	28	7	35	28	8	209.50865	-0.00009
34	29	5	35	29	6	209.51550	-0.00028
34	29	6	35	29	7	209.51550	-0.00028
35	0	35	34	0	34	227.95664	0.00005
35	0	35	36	0	36	211.71560	0.00005
35	1	34	34	1	33	228.18193	0.00000
35	1	34	36	1	35	211.48911	-0.00006
35	1	35	34	1	34	227.95664	0.00005
35	1	35	36	1	36	211.71560	0.00005
35	2	33	36	2	34	211.26192	-0.00005
35	2	34	34	2	33	228.18193	0.00000
35	2	34	36	2	35	211.48911	-0.00006
35	3	32	34	3	31	228.63222	-0.00003
35	3	32	36	3	33	211.03399	-0.00002
35	3	33	36	3	34	211.26192	-0.00005
35	4	31	34	4	30	228.85843	-0.00001
35	4	31	36	4	32	210.80515	-0.00002
35	4	32	34	4	31	228.63222	-0.00003
35	4	32	36	4	33	211.03399	-0.00002
35	5	30	34	5	29	229.08663	-0.00005
35	5	30	36	5	31	210.57517	-0.00003
35	5	31	34	5	30	228.85843	-0.00001
35	5	31	36	5	32	210.80515	-0.00002
35	6	29	34	6	28	229.33895	0.00004
35	6	29	36	6	30	210.34386	0.00001
35	6	30	34	6	29	229.08663	-0.00006
35	6	30	36	6	31	210.57517	-0.00003
35	7	28	34	7	27	229.54854	-0.00002
35	7	28	36	7	29	210.11425	-0.00004
35	7	29	34	7	28	229.28925	-0.00004
35	7	29	36	7	30	210.34386	-0.00001
35	8	27	36	8	28	209.85996	0.00000
35	8	28	36	8	29	210.11860	0.00009
35	9	26	34	9	25	230.05438	0.00006

35	9	26	36	9	27	209.61084	0.00006
35	9	27	36	9	28	209.86491	-0.00005
35	10	25	34	10	24	230.37602	0.00000
35	10	25	36	10	26	209.32456	0.00006
35	10	26	34	10	25	230.04344	-0.00010
35	10	26	36	10	27	209.62019	0.00005
35	11	24	34	11	23	230.81303	-0.00003
35	11	24	36	11	25	208.94310	0.00004
35	11	25	36	11	26	209.37113	0.00003
35	12	23	36	12	24	208.58488	0.00003
35	12	24	34	12	23	230.48393	-0.00023
35	12	24	36	12	25	209.14799	0.00000
35	13	22	34	13	21	230.94422	-0.00009
35	13	22	36	13	23	208.56288	0.00014
35	13	23	34	13	22	230.56251	-0.00006
35	13	23	36	13	24	209.01054	0.00006
35	14	21	34	14	20	230.63103	-0.00010
35	14	21	36	14	22	208.82059	0.00000
35	14	22	34	14	21	230.52351	-0.00008
35	15	20	34	15	19	230.45079	-0.00006
35	15	20	36	15	21	208.99447	-0.00005
35	15	21	34	15	20	230.43317	-0.00007
35	15	21	36	15	22	209.02637	0.00019
35	16	19	34	16	18	230.34480	-0.00008
35	16	19	36	16	20	209.07169	-0.00006
35	16	20	36	16	21	209.07634	0.00037
35	17	18	34	17	17	230.26310	-0.00026
35	17	18	36	17	19	209.10931	0.00005
35	17	19	34	17	18	230.26310	-0.00007
35	18	17	34	18	16	230.13019	-0.00022
35	18	17	36	18	18	209.05174	-0.00020
35	18	18	34	18	17	230.13019	-0.00020
35	18	18	36	18	19	209.05174	-0.00021
35	19	16	34	19	15	230.16533	0.00002
35	19	16	36	19	17	209.18834	0.00008
35	19	17	34	19	16	230.16533	0.00002
35	19	17	36	19	18	209.18834	0.00008
35	20	15	34	20	14	230.11304	-0.00005
35	20	15	36	20	16	209.19279	0.00003
35	20	16	34	20	15	230.11304	-0.00005
35	20	16	36	20	17	209.19279	0.00003
35	21	14	34	21	13	230.07020	0.00021
35	21	14	36	21	15	209.19862	0.00023
35	21	15	34	21	14	230.07020	0.00021
35	21	15	36	21	16	209.19862	0.00023
35	22	13	36	22	14	209.20242	0.00019



35	22	14	36	22	15	209.20242	0.00019
35	23	12	36	23	13	209.20460	0.00011
35	23	13	36	23	14	209.20460	0.00011
35	24	11	34	24	10	229.97110	0.00007
35	24	11	36	24	12	209.20591	0.00014
35	24	12	34	24	11	229.97110	0.00007
35	24	12	36	24	13	209.20591	0.00014
35	25	10	34	25	9	229.94651	0.00021
35	25	10	36	25	11	209.20670	0.00000
35	25	11	34	25	10	229.94651	0.00021
35	25	11	36	25	12	209.20670	0.00000
35	26	9	34	26	8	229.92543	-0.00003
35	26	9	36	26	10	209.20797	0.00007
35	26	10	34	26	9	229.92543	-0.00003
35	26	10	36	26	11	209.20797	0.00007
35	27	8	34	27	7	229.90881	0.00024
35	27	8	36	27	9	209.21010	0.00014
35	27	9	34	27	8	229.90881	0.00024
35	27	9	36	27	10	209.21010	0.00014
36	0	36	35	0	35	228.20838	0.00014
36	1	35	37	1	36	211.28972	0.00000
36	1	36	35	1	35	228.20838	0.00014
36	2	34	35	2	33	228.65763	-0.00001
36	2	34	37	2	35	211.06196	-0.00005
36	2	35	37	2	36	211.28972	0.00000
36	3	33	35	3	32	228.88229	-0.00003
36	3	33	37	3	34	210.83347	-0.00006
36	3	34	35	3	33	228.65763	-0.00001
36	3	34	37	3	35	211.06196	-0.00005
36	4	32	35	4	31	229.10764	-0.00014
36	4	32	37	4	33	210.60422	-0.00003
36	4	33	35	4	32	228.88229	-0.00003
36	4	33	37	4	34	210.83347	-0.00006
36	5	31	35	5	30	229.33486	-0.00007
36	5	31	37	5	32	210.37392	0.00000
36	5	32	35	5	31	229.10764	-0.00014
36	5	32	37	5	33	210.60422	-0.00003
36	6	30	35	6	29	229.56594	0.00007
36	6	30	37	6	31	210.14219	-0.00002
36	6	31	35	6	30	229.33486	-0.00007
36	6	31	37	6	32	210.37392	0.00000
36	7	30	35	7	29	229.56594	-0.00007
36	7	30	37	7	31	210.14219	-0.00002
36	8	28	35	8	27	230.03411	0.00002
36	8	28	37	8	29	209.71621	-0.00022
36	8	29	35	8	28	229.79255	-0.00015

36	8	29	37	8	30	209.90932	-0.00007
36	9	27	35	9	26	230.28877	-0.00008
36	9	27	37	9	28	209.41164	0.00011
36	9	28	35	9	27	230.03571	0.00011
36	9	28	37	9	29	209.65745	0.00002
36	10	26	35	10	25	230.58421	0.00005
36	10	26	37	10	27	209.14167	-0.00008
36	10	27	35	10	26	230.28479	-0.00016
36	10	27	37	10	28	209.42022	0.00001
36	11	25	35	11	24	230.98953	-0.00011
36	11	25	37	11	26	208.79653	0.00008
36	11	26	35	11	25	230.53681	0.00001
36	11	26	37	11	27	209.17006	0.00006
36	12	25	35	12	24	230.75778	-0.00003
36	13	24	35	13	23	230.88092	-0.00009
36	14	23	35	14	22	230.87519	-0.00008
36	14	23	37	14	24	208.69313	0.00012
36	15	21	35	15	20	230.82743	-0.00005
36	15	21	37	15	22	208.65713	-0.00006
36	15	22	37	15	23	208.71812	0.00009
36	16	20	35	16	19	230.69882	-0.00009
36	16	20	37	16	21	208.75887	-0.00024
36	16	21	35	16	20	230.69409	-0.00001
36	16	21	37	16	22	208.76829	0.00004
36	17	19	37	17	20	208.80422	-0.00006
36	17	20	35	17	19	230.60533	0.00009
36	17	20	37	17	21	208.80542	0.00012
36	18	18	37	18	19	208.74590	-0.00003
36	18	19	37	18	20	208.74590	-0.00007
36	19	17	35	19	16	230.50033	-0.00001
36	19	17	37	19	18	208.89776	0.00006
36	19	18	35	19	17	230.50033	-0.00001
36	19	18	37	19	19	208.89776	0.00005
36	20	16	35	20	15	230.44193	0.00003
36	20	16	37	20	17	208.90158	0.00001
36	20	17	35	20	16	230.44193	0.00003
36	20	17	37	20	18	208.90158	0.00001
36	21	15	35	21	14	230.39474	0.00062
36	21	15	37	21	16	208.90820	0.00079
36	21	16	35	21	15	230.39474	0.00062
36	21	16	37	21	17	208.90820	0.00079
36	22	14	35	22	13	230.35284	0.00023
36	22	14	37	22	15	208.91156	0.00029
36	22	15	35	22	14	230.35284	0.00023
36	22	15	37	22	16	208.91156	0.00029
36	23	13	35	23	12	230.31614	0.00005

36	23	14	35	23	13	230.31614	0.00005
36	25	11	35	25	10	230.25603	0.00007
36	25	12	35	25	11	230.25603	0.00007
36	26	10	35	26	9	230.23224	0.00029
36	26	11	35	26	10	230.23224	0.00029
36	27	9	35	27	8	230.21212	0.00016
36	27	10	35	27	9	230.21212	0.00016
37	0	37	36	0	36	228.46067	0.00016
37	0	37	38	0	38	211.31834	0.00004
37	1	36	36	1	35	228.68469	-0.00018
37	1	36	38	1	37	211.09077	-0.00005
37	1	37	36	1	36	228.46067	0.00016
37	1	37	38	1	38	211.31834	0.00004
37	2	35	38	2	36	210.86239	-0.00008
37	2	36	36	2	35	228.68469	-0.00018
37	2	36	38	2	37	211.09077	-0.00005
37	3	34	36	3	33	229.13278	-0.00003
37	3	34	38	3	35	210.63332	-0.00009
37	3	35	38	3	36	210.86239	-0.00008
37	4	33	36	4	32	229.35748	-0.00004
37	4	33	38	4	34	210.40361	0.00001
37	4	34	36	4	33	229.13278	-0.00003
37	4	34	38	4	35	210.63332	-0.00009
37	5	32	36	5	31	229.58370	-0.00002
37	5	32	38	5	33	210.17286	0.00001
37	5	33	36	5	32	229.35748	-0.00004
37	5	33	38	5	34	210.40361	0.00001
37	6	31	36	6	30	229.81279	0.00004
37	6	31	38	6	32	209.94081	-0.00002
37	6	32	36	6	31	229.58370	-0.00002
37	6	32	38	6	33	210.17286	0.00001
37	7	30	36	7	29	230.05026	0.00000
37	7	30	38	7	31	209.70718	0.00000
37	7	31	36	7	30	229.81279	0.00003
37	7	31	38	7	32	209.94081	-0.00002
37	8	29	38	8	30	209.47351	0.00006
37	8	30	36	8	29	230.05438	-0.00005
37	8	30	38	8	31	209.70718	-0.00005
37	9	28	36	9	27	230.52598	-0.00004
37	9	28	38	9	29	209.19449	-0.00007
37	9	29	36	9	28	230.27848	0.00005
37	9	29	38	9	30	209.47717	0.00009
37	10	27	36	10	26	230.80339	-0.00011
37	10	27	38	10	28	208.94999	0.00000
37	10	28	36	10	27	230.52598	-0.00028
37	10	28	38	10	29	209.21854	-0.00010

37	11	26	36	11	25	231.16681	-0.00015
37	11	26	38	11	27	208.63689	-0.00004
37	11	27	36	11	26	230.78005	-0.00002
37	11	27	38	11	28	208.97034	0.00005
37	12	25	36	12	24	231.63539	-0.00040
37	12	25	38	12	26	208.20006	0.00001
37	12	26	36	12	25	231.01917	0.00003
37	12	26	38	12	27	208.72199	0.00007
37	13	24	36	13	23	231.78700	-0.00008
37	13	24	38	13	25	207.93431	0.00016
37	13	25	38	13	26	208.51649	0.00011
37	14	23	36	14	22	231.51479	-0.00011
37	14	23	38	14	24	208.04103	0.00015
37	14	24	36	14	23	231.21899	0.00002
37	15	22	36	15	21	231.22016	-0.00013
37	15	22	38	15	23	208.30245	0.00008
37	15	23	36	15	22	231.15042	-0.00026
37	16	21	36	16	20	231.05858	-0.00090
37	16	22	36	16	21	231.04899	0.00002
37	17	20	36	17	19	230.95150	-0.00016
37	17	20	38	17	21	208.49616	0.00004
37	17	21	38	17	22	208.49859	0.00013
37	19	18	36	19	17	230.83797	-0.00033
37	19	18	38	19	19	208.60639	-0.00032
37	19	19	36	19	18	230.83797	-0.00032
37	19	19	38	19	20	208.60639	-0.00034
37	20	17	36	20	16	230.77291	0.00003
37	20	17	38	20	18	208.60969	0.00005
37	20	18	36	20	17	230.77291	0.00003
37	20	18	38	20	19	208.60969	0.00005
37	21	16	36	21	15	230.71893	-0.00108
37	21	17	36	21	16	230.71893	-0.00108
37	22	15	36	22	14	230.67417	0.00004
37	22	16	36	22	15	230.67417	0.00004
37	23	14	36	23	13	230.63363	-0.00004
37	23	15	36	23	14	230.63363	-0.00004
37	24	13	36	24	12	230.59802	0.00014
37	24	14	36	24	13	230.59802	0.00014
37	25	12	36	25	11	230.56648	0.00010
37	25	13	36	25	12	230.56648	0.00010
37	28	9	36	28	8	230.49640	-0.00032
37	28	10	36	28	9	230.49640	-0.00032
38	0	38	37	0	37	228.71342	0.00006
38	0	38	39	0	39	211.12060	0.00002
38	1	37	37	1	36	228.93714	0.00002
38	1	37	39	1	38	210.89227	-0.00011

38	1	38	37	1	37	228.71342	0.00006
38	1	38	39	1	39	211.12060	0.00002
38	2	36	37	2	35	229.16034	-0.00003
38	2	36	39	2	37	210.66328	-0.00002
38	2	37	37	2	36	228.93714	0.00002
38	2	37	39	2	38	210.89227	-0.00011
38	3	35	37	3	34	229.38364	-0.00003
38	3	35	39	3	36	210.43355	0.00001
38	3	36	37	3	35	229.16034	-0.00003
38	3	36	39	3	37	210.66328	-0.00002
38	4	34	39	4	35	210.20310	-0.00003
38	4	35	37	4	34	229.38364	-0.00003
38	4	35	39	4	36	210.43355	0.00001
38	5	33	37	5	32	229.83296	0.00010
38	5	33	39	5	34	209.97190	0.00000
38	5	34	39	5	35	210.20310	-0.00003
38	6	32	37	6	31	230.06053	-0.00002
38	6	32	39	6	33	209.73966	0.00013
38	6	33	37	6	32	229.83296	0.00010
38	6	33	39	6	34	209.97190	0.00000
38	7	31	37	7	30	230.29305	0.00014
38	7	31	39	7	32	209.50563	0.00003
38	7	32	37	7	31	230.06053	-0.00003
38	7	32	39	7	33	209.73966	0.00013
38	8	30	37	8	29	230.57553	0.00024
38	8	31	37	8	30	230.29305	-0.00006
38	8	31	39	8	32	209.50563	0.00001
38	9	29	37	9	28	230.76316	-0.00010
38	9	29	39	9	30	209.04136	0.00009
38	9	30	37	9	29	230.51583	-0.00006
38	9	30	39	9	31	209.27032	-0.00008
38	10	28	37	10	27	231.03021	0.00008
38	10	28	39	10	29	208.74422	0.00013
38	10	29	37	10	28	230.76750	-0.00001
38	10	29	39	10	30	209.00295	0.00001
38	11	28	39	11	29	208.77049	0.00007
38	12	26	39	12	27	208.05885	0.00001
38	12	27	37	12	26	231.27105	0.00003
38	12	27	39	12	28	208.51821	0.00002
38	13	25	37	13	24	232.13175	-0.00011
38	13	25	39	13	26	207.70277	0.00010
38	13	26	37	13	25	231.46997	-0.00006
38	13	26	39	13	27	208.28969	0.00004
38	14	24	37	14	23	231.97647	0.00022
38	14	24	39	14	25	207.66627	0.00030
38	14	25	37	14	24	231.55087	-0.00006

38	14	25	39	14	26	208.14458	0.00013
38	15	23	39	15	24	207.92715	0.00017
38	15	24	37	15	23	231.50799	-0.00017
38	15	24	39	15	25	208.11207	0.00014
38	16	22	37	16	21	231.42915	0.00021
38	16	22	39	16	23	208.11083	0.00013
38	16	23	37	16	22	231.40685	-0.00012
38	16	23	39	16	24	208.14806	0.00001
38	17	22	37	17	21	231.29893	-0.00010
38	17	22	39	17	23	208.18930	0.00011
38	18	21	37	18	20	231.12188	-0.00016
38	18	21	39	18	22	208.13342	0.00002
38	19	19	37	19	18	231.17934	-0.00013
38	19	19	39	19	20	208.31541	0.00007
38	19	20	37	19	19	231.17934	-0.00011
38	19	20	39	19	21	208.31541	0.00002
38	22	16	37	22	15	230.99723	0.00007
38	22	17	37	22	16	230.99723	0.00007
38	23	15	37	23	14	230.95266	0.00018
38	23	16	37	23	15	230.95266	0.00018
38	24	14	37	24	13	230.91286	0.00008
38	24	15	37	24	14	230.91286	0.00008
38	26	12	37	26	11	230.84670	0.00002
38	26	13	37	26	12	230.84670	0.00002
38	27	11	37	27	10	230.81985	-0.00013
38	27	12	37	27	11	230.81985	-0.00013
39	0	39	38	0	38	228.96682	0.00004
39	0	39	40	0	40	210.92337	-0.00003
39	1	38	38	1	37	229.18985	0.00001
39	1	38	40	1	39	210.69431	-0.00001
39	1	39	38	1	38	228.96682	0.00004
39	1	39	40	1	40	210.92337	-0.00003
39	2	37	38	2	36	229.41235	0.00002
39	2	37	40	2	38	210.46432	-0.00005
39	2	38	38	2	37	229.18985	0.00001
39	2	38	40	2	39	210.69431	-0.00001
39	3	36	38	3	35	229.63483	0.00001
39	3	36	40	3	37	210.23382	-0.00001
39	3	37	38	3	36	229.41235	0.00002
39	3	37	40	3	38	210.46432	-0.00005
39	4	35	38	4	34	229.85789	0.00000
39	4	35	40	4	36	210.00275	0.00003
39	4	36	38	4	35	229.63483	0.00001
39	4	36	40	4	37	210.23382	-0.00001
39	5	34	38	5	33	230.08227	0.00004
39	5	34	40	5	35	209.77087	-0.00005

39	5	35	38	5	34	229.85789	0.00000
39	5	35	40	5	36	210.00275	0.00003
39	6	33	38	6	32	230.30871	-0.00003
39	6	33	40	6	34	209.53837	0.00022
39	6	34	38	6	33	230.08227	0.00004
39	6	34	40	6	35	209.77087	-0.00005
39	7	32	38	7	31	230.53900	0.00000
39	7	32	40	7	33	209.30401	0.00002
39	7	33	38	7	32	230.30871	-0.00003
39	7	33	40	7	34	209.53837	0.00022
39	8	31	38	8	30	230.77771	0.00002
39	8	31	40	8	32	209.06798	0.00004
39	8	32	38	8	31	230.53900	-0.00004
39	8	32	40	8	33	209.30401	0.00002
39	9	30	38	9	29	230.98571	-0.00010
39	9	30	40	9	31	208.83064	-0.00014
39	9	31	38	9	30	230.78116	0.00001
39	9	31	40	9	32	209.06798	-0.00008
39	10	29	40	10	30	208.63537	0.00033
39	10	30	38	10	29	231.00790	0.00012
39	10	30	40	10	31	208.83601	0.00003
39	11	28	38	11	27	231.55986	-0.00009
39	11	28	40	11	29	208.26389	-0.00005
39	11	29	38	11	28	231.26131	0.00029
39	11	29	40	11	30	208.56830	0.00032
39	12	27	38	12	26	231.95551	-0.00009
39	12	27	40	12	28	207.90021	-0.00011
39	12	28	38	12	27	231.51615	-0.00016
39	12	28	40	12	29	208.31690	-0.00016
39	13	26	38	13	25	232.41295	-0.00017
39	13	26	40	13	27	207.52477	0.00006
39	14	25	38	14	24	232.41932	-0.00023
39	14	25	40	14	26	207.33104	0.00013
39	14	26	38	14	25	231.86790	-0.00016
39	14	26	40	14	27	207.89146	0.00001
39	15	24	38	15	23	232.07535	-0.00030
39	15	24	40	15	25	207.53476	0.00009
39	15	25	38	15	24	231.86051	-0.00005
39	15	25	40	15	26	207.82011	0.00011
39	16	23	38	16	22	231.81072	-0.00021
39	16	23	40	16	24	207.76807	0.00007
39	16	24	38	16	23	231.76699	-0.00010
39	16	24	40	16	25	207.83828	0.00024
39	17	22	38	17	21	231.65705	-0.00030
39	17	22	40	17	23	207.86695	0.00004
39	17	23	38	17	22	231.65099	-0.00013

39	17	23	40	17	24	207.87779	0.00008
39	18	21	38	18	20	231.46256	-0.00020
39	20	19	38	20	18	231.44198	-0.00006
39	20	19	40	20	20	208.02354	0.00016
39	20	20	38	20	19	231.44198	-0.00006
39	20	20	40	20	21	208.02354	0.00015
39	21	18	38	21	17	231.37713	-0.00034
39	21	19	38	21	18	231.37713	-0.00034
39	22	17	38	22	16	231.32199	0.00020
39	22	18	38	22	17	231.32199	0.00020
39	23	16	40	23	17	208.03524	0.00020
39	23	17	40	23	18	208.03524	0.00020
39	24	15	38	24	14	231.22879	0.00007
39	24	16	38	24	15	231.22879	0.00007
39	25	14	38	25	13	231.18961	0.00001
39	25	14	40	25	15	208.03186	0.00009
39	25	15	38	25	14	231.18961	0.00001
39	25	15	40	25	16	208.03186	0.00009
39	26	13	38	26	12	231.15488	-0.00006
39	26	14	38	26	13	231.15488	-0.00006
39	27	12	38	27	11	231.12417	-0.00042
39	27	13	38	27	12	231.12417	-0.00042
39	28	11	38	28	10	231.09781	-0.00077
39	28	12	38	28	11	231.09781	-0.00077
40	0	40	39	0	39	229.22077	0.00004
40	0	40	41	0	41	210.72669	0.00003
40	1	39	39	1	38	229.44298	0.00002
40	1	39	41	1	40	210.49642	-0.00005
40	1	40	39	1	39	229.22077	0.00004
40	1	40	41	1	41	210.72669	0.00003
40	2	38	39	2	37	229.66456	-0.00002
40	2	38	41	2	39	210.26543	-0.00007
40	2	39	39	2	38	229.44298	0.00002
40	2	39	41	2	40	210.49642	-0.00005
40	3	37	39	3	36	229.88623	0.00005
40	3	37	41	3	38	210.03404	-0.00001
40	3	38	39	3	37	229.66456	-0.00002
40	3	38	41	3	39	210.26543	-0.00007
40	4	36	39	4	35	230.10836	0.00002
40	4	36	41	4	37	209.80209	-0.00007
40	4	37	39	4	36	229.88623	0.00005
40	4	37	41	4	38	210.03404	-0.00001
40	5	35	39	5	34	230.33173	0.00003
40	5	35	41	5	36	209.56978	0.00004
40	5	36	39	5	35	230.10836	0.00002
40	5	36	41	5	37	209.80209	-0.00007



40	6	34	39	6	33	230.55696	-0.00013
40	6	34	41	6	35	209.33654	0.00001
40	6	35	39	6	34	230.33173	0.00003
40	6	35	41	6	36	209.56978	0.00004
40	7	33	39	7	32	230.78570	-0.00006
40	7	33	41	7	34	209.10219	0.00008
40	7	34	39	7	33	230.55696	-0.00013
40	7	34	41	7	35	209.33654	0.00001
40	8	32	41	8	33	208.86602	0.00010
40	8	33	39	8	32	230.78570	-0.00007
40	8	33	41	8	34	209.10219	0.00008
40	9	31	39	9	30	231.27403	-0.00001
40	9	31	41	9	32	208.62739	-0.00024
40	9	32	39	9	31	231.02071	0.00009
40	9	32	41	9	33	208.86602	0.00006
40	10	30	39	10	29	231.48338	0.00004
40	10	30	41	10	31	208.39078	0.00020
40	10	31	39	10	30	231.23471	-0.00001
40	10	31	41	10	32	208.62860	0.00004
40	11	29	41	11	30	208.23827	-0.00039
40	11	30	39	11	29	231.50003	-0.00001
40	11	30	41	11	31	208.34083	0.00005
40	12	28	41	12	29	207.68653	-0.00012
40	12	29	39	12	28	231.75713	-0.00026
40	12	29	41	12	30	208.11595	-0.00015
40	13	27	41	13	28	207.38541	0.00011
40	14	26	41	14	27	207.04978	0.00022
40	14	27	41	14	28	207.65272	0.00008
40	15	25	41	15	26	207.14100	0.00064
40	15	26	41	15	27	207.53940	-0.00004
40	16	24	41	16	25	207.40743	0.00027
40	16	25	41	16	26	207.53103	0.00013
40	17	23	41	17	24	207.54294	0.00015
40	17	24	41	17	25	207.56465	0.00010
40	18	22	41	18	23	207.51668	0.00000
40	18	23	41	18	24	207.51819	-0.00009
40	19	22	39	19	21	231.87277	-0.00014
40	20	20	39	20	19	231.78034	-0.00026
40	20	21	39	20	20	231.78034	-0.00024
40	21	19	39	21	18	231.70903	-0.00027
40	21	20	39	21	19	231.70903	-0.00027
40	22	18	39	22	17	231.64835	0.00025
40	22	19	39	22	18	231.64835	0.00025
40	23	17	39	23	16	231.59420	0.00016
40	23	18	39	23	17	231.59420	0.00016
40	24	16	39	24	15	231.54566	-0.00007

40	24	17	39	24	16	231.54566	-0.00007
40	25	15	39	25	14	231.50212	-0.00033
40	25	16	39	25	15	231.50212	-0.00033
40	26	14	39	26	13	231.46346	-0.00035
40	26	15	39	26	14	231.46346	-0.00035
41	0	41	40	0	40	229.47521	0.00006
41	0	41	42	0	42	210.53013	-0.00003
41	1	40	40	1	39	229.69636	-0.00002
41	1	40	42	1	41	210.29854	-0.00001
41	1	41	40	1	40	229.47521	0.00006
41	1	41	42	1	42	210.53013	-0.00003
41	2	39	40	2	38	229.91697	-0.00003
41	2	39	42	2	40	210.06645	0.00007
41	2	40	40	2	39	229.69636	-0.00002
41	2	40	42	2	41	210.29854	-0.00001
41	3	38	40	3	37	230.13764	0.00002
41	3	38	42	3	39	209.83391	0.00000
41	3	39	40	3	38	229.91697	-0.00003
41	3	39	42	3	40	210.06645	0.00007
41	4	37	40	4	36	230.35877	-0.00002
41	4	37	42	4	38	209.60117	-0.00002
41	4	38	40	4	37	230.13764	0.00002
41	4	38	42	4	39	209.83391	0.00000
41	5	36	40	5	35	230.58109	-0.00005
41	5	36	42	5	37	209.36813	0.00002
41	5	37	40	5	36	230.35877	-0.00002
41	5	37	42	5	38	209.60117	-0.00002
41	6	35	40	6	34	230.80543	0.00002
41	6	35	42	6	36	209.13445	0.00004
41	6	36	40	6	35	230.58109	-0.00005
41	6	36	42	6	37	209.36813	0.00002
41	7	34	40	7	33	231.03268	0.00000
41	7	34	42	7	35	208.89980	0.00008
41	7	35	40	7	34	230.80543	0.00002
41	7	35	42	7	36	209.13445	0.00004
41	8	33	40	8	32	231.26483	0.00004
41	8	33	42	8	34	208.66353	0.00005
41	8	34	40	8	33	231.03268	-0.00001
41	8	34	42	8	35	208.89980	0.00008
41	9	32	40	9	31	231.50647	0.00002
41	9	32	42	9	33	208.42528	0.00022
41	9	33	40	9	32	231.26483	-0.00004
41	9	33	42	9	34	208.66353	0.00003
41	10	31	42	10	32	208.18456	0.00004
41	10	32	40	10	31	231.51119	0.00000
41	11	30	42	11	31	207.94805	0.00021

41	11	31	42	11	32	208.19354	0.00009
41	12	29	42	12	30	207.70778	-0.00027
41	12	30	42	12	31	207.91186	0.00023
41	13	29	42	13	30	207.65995	-0.00001
42	0	42	41	0	41	229.72998	0.00004
42	0	42	43	0	43	210.33340	0.00001
42	1	41	43	1	42	210.09993	-0.00003
42	1	42	41	1	41	229.72998	0.00004
42	1	42	43	1	43	210.33340	0.00001
42	2	40	41	2	39	230.16944	0.00004
42	2	40	43	2	41	209.86638	-0.00004
42	2	41	43	2	42	210.09993	-0.00003
42	3	39	41	3	38	230.38887	-0.00005
42	3	39	43	3	40	209.63292	0.00002
42	3	40	41	3	39	230.16944	0.00004
42	3	40	43	3	41	209.86638	-0.00004
42	4	38	41	4	37	230.60907	0.00001
42	4	38	43	4	39	209.39935	-0.00001
42	4	39	41	4	38	230.38887	-0.00005
42	4	39	43	4	40	209.63292	0.00002
42	5	37	41	5	36	230.83040	0.00004
42	5	37	43	5	38	209.16566	0.00002
42	5	38	41	5	37	230.60907	0.00001
42	5	38	43	5	39	209.39935	-0.00001
42	6	36	41	6	35	231.05368	0.00016
42	6	36	43	6	37	208.93132	-0.00017
42	6	37	41	6	36	230.83040	0.00004
42	6	37	43	6	38	209.16566	0.00002
42	7	35	41	7	34	231.27954	0.00006
42	7	35	43	7	36	208.69661	0.00008
42	7	36	41	7	35	231.05368	0.00016
42	7	36	43	7	37	208.93132	-0.00017
42	8	34	41	8	33	231.50973	0.00000
42	8	35	41	8	34	231.27954	0.00006
42	8	35	43	8	36	208.69661	0.00008
42	9	33	41	9	32	231.74692	-0.00029
42	9	33	43	9	34	208.22204	0.00004
42	9	34	41	9	33	231.50973	-0.00002
42	10	32	43	10	33	207.98126	0.00016
42	10	33	41	10	32	231.74794	0.00000
42	10	33	43	10	34	208.22204	-0.00007
42	11	32	43	11	33	207.98320	0.00012
42	12	30	43	12	31	207.48404	0.00069
42	13	30	43	13	31	207.45707	0.00091
43	0	43	42	0	42	229.98493	0.00004
43	0	43	44	0	44	210.13457	-0.00005

43	1	42	42	1	41	230.20347	0.00008
43	1	42	44	1	43	209.89918	-0.00004
43	1	43	42	1	42	229.98493	0.00004
43	1	43	44	1	44	210.13457	-0.00005
43	2	41	42	2	40	230.42143	-0.00005
43	2	41	44	2	42	209.66440	-0.00007
43	2	42	42	2	41	230.20347	0.00008
43	2	42	44	2	43	209.89918	-0.00004
43	3	40	42	3	39	230.63983	0.00003
43	3	40	44	3	41	209.43005	-0.00006
43	3	41	42	3	40	230.42143	-0.00005
43	3	41	44	3	42	209.66440	-0.00007
43	4	39	42	4	38	230.85887	0.00004
43	4	39	44	4	40	209.19596	0.00003
43	4	40	42	4	39	230.63983	0.00003
43	4	40	44	4	41	209.43005	-0.00006
43	5	38	42	5	37	231.07908	0.00000
43	5	38	44	5	39	208.96175	0.00002
43	5	39	42	5	38	230.85887	0.00004
43	5	39	44	5	40	209.19596	0.00003
43	6	37	42	6	36	231.30123	0.00006
43	6	37	44	6	38	208.72730	0.00005
43	6	38	42	6	37	231.07908	0.00000
43	6	38	44	6	39	208.96175	0.00002
43	7	36	42	7	35	231.52589	0.00000
43	7	36	44	7	37	208.49222	0.00008
43	7	37	42	7	36	231.30123	0.00006
43	7	37	44	7	38	208.72730	0.00005
43	8	35	42	8	34	231.75478	0.00023
43	8	35	44	8	36	208.25618	0.00027
43	8	36	42	8	35	231.52589	0.00000
43	8	36	44	8	37	208.49222	0.00008
43	9	34	42	9	33	231.98933	0.00001
43	9	34	44	9	35	208.01794	0.00001
43	9	35	42	9	34	231.75478	0.00022
43	9	35	44	9	36	208.25618	0.00027
43	10	34	44	10	35	208.01794	-0.00003
44	0	44	43	0	43	230.23959	0.00008
44	0	44	45	0	45	209.92227	-0.00009
44	1	43	43	1	42	230.45615	0.00009
44	1	43	45	1	44	209.69139	-0.00009
44	1	44	43	1	43	230.23959	0.00008
44	1	44	45	1	45	209.92227	-0.00009
44	2	42	43	2	41	230.67264	-0.00001
44	2	42	45	2	43	209.45764	-0.00009
44	2	43	43	2	42	230.45615	0.00009

44	2	43	45	2	44	209.69139	-0.00009
44	3	41	43	3	40	230.88971	-0.00003
44	3	42	43	3	41	230.67264	-0.00001
44	3	42	45	3	43	209.45764	-0.00009
44	4	40	43	4	39	231.10767	-0.00002
44	4	40	45	4	41	208.98955	-0.00003
44	4	41	43	4	40	230.88971	-0.00003
44	5	39	43	5	38	231.32692	-0.00001
44	5	39	45	5	40	208.75560	0.00020
44	5	40	43	5	39	231.10767	-0.00002
44	5	40	45	5	41	208.98955	-0.00003
44	6	38	43	6	37	231.54801	0.00003
44	6	38	45	6	39	208.52102	0.00007
44	6	39	43	6	38	231.32692	-0.00001
44	6	39	45	6	40	208.75560	0.00020
44	7	37	43	7	36	231.77169	0.00009
44	7	37	45	7	38	208.28595	0.00002
44	7	38	43	7	37	231.54801	0.00003
44	7	38	45	7	39	208.52102	0.00007
44	8	37	43	8	36	231.77169	0.00009
44	8	37	45	8	38	208.28595	0.00002
45	0	45	44	0	44	230.49209	0.00002
45	0	45	46	0	46	209.80131	0.00011
45	1	44	44	1	43	230.70650	-0.00001
45	1	44	46	1	45	209.45057	-0.00006
45	1	45	44	1	44	230.49209	0.00002
45	1	45	46	1	46	209.80131	0.00011
45	2	43	44	2	42	230.92172	-0.00003
45	2	43	46	2	44	209.23752	-0.00010
45	2	44	44	2	43	230.70650	-0.00001
45	2	44	46	2	45	209.45057	-0.00006
45	3	42	44	3	41	231.13783	0.00002
45	3	42	46	3	43	209.00926	-0.00007
45	3	43	44	3	42	230.92172	-0.00003
45	3	43	46	3	44	209.23752	-0.00010
45	4	41	44	4	40	231.35487	0.00000
45	4	41	46	4	42	208.77774	0.00000
45	4	42	44	4	41	231.13783	0.00002
45	4	42	46	4	43	209.00926	-0.00007
45	5	40	46	5	41	208.54494	0.00001
45	5	41	44	5	40	231.35487	0.00000
45	5	41	46	5	42	208.77774	0.00000
45	6	39	44	6	38	231.79346	-0.00002
45	6	39	46	6	40	208.31138	0.00005
45	6	40	46	6	41	208.54494	0.00001
45	7	38	44	7	37	232.01617	0.00003

45	7	38	46	7	39	208.07702	0.00004
45	7	39	44	7	38	231.79346	-0.00002
45	7	39	46	7	40	208.31138	0.00005
45	8	37	44	8	36	232.24222	0.00002
45	8	37	46	8	38	207.84170	0.00009
45	8	38	44	8	37	232.01617	0.00003
45	8	38	46	8	39	208.07702	0.00003
45	9	36	44	9	35	232.47322	0.00003
45	9	37	44	9	36	232.24222	0.00002
45	9	37	46	9	38	207.84170	0.00009
45	10	36	44	10	35	232.47322	0.00000
46	0	46	45	0	45	230.73104	-0.00001
46	0	46	47	0	47	209.58294	-0.00007
46	1	45	45	1	44	230.94994	0.00005
46	1	45	47	1	46	209.43961	0.00008
46	1	46	45	1	45	230.73104	-0.00001
46	1	46	47	1	47	209.58294	-0.00007
46	2	44	47	2	45	208.96781	-0.00014
46	2	45	45	2	44	230.94994	0.00005
46	2	45	47	2	46	209.43961	0.00008
46	3	43	47	3	44	208.77491	-0.00010
46	3	44	47	3	45	208.96781	-0.00014
46	4	42	47	4	43	208.55465	-0.00003
46	4	43	47	4	44	208.77491	-0.00010
46	5	42	47	5	43	208.55465	-0.00003
47	0	47	46	0	46	231.06114	0.00009
47	0	47	48	0	48	209.38598	-0.00004
47	1	47	46	1	46	231.06114	0.00009
47	1	47	48	1	48	209.38598	-0.00004
47	2	45	48	2	46	209.08583	0.00015
47	3	44	48	3	45	208.48029	-0.00015
47	3	45	48	3	46	209.08583	0.00015
47	4	44	48	4	45	208.48029	-0.00015
48	0	48	47	0	47	231.29396	0.00002
48	1	48	47	1	47	231.29396	0.00002

S.14 - Vibration-rotation line list for the 241 cm<sup>-1</sup> band (0<sup>0</sup> → 241 cm<sup>-1</sup>) of malonaldehyde used in the multi-state fitting. All lines were weighted using an uncertainty of 0.0002 cm<sup>-1</sup>.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )	Obs-Calc (cm <sup>-1</sup> )
1	1	1	0	0	0	241.49892	0.00038
2	2	0	1	1	1	242.22951	-0.00003
3	0	3	2	1	2	241.75004	0.00004
3	3	0	2	2	1	242.85406	0.00006
4	0	4	3	1	3	242.02065	-0.00008
4	2	3	3	1	2	242.56773	0.00030
4	4	1	3	3	0	243.50443	0.00003
5	0	5	4	1	4	242.27030	-0.00012
5	4	1	4	3	2	243.79592	0.00029
5	4	1	6	5	2	237.66570	-0.00010
5	4	2	6	5	1	237.66313	0.00003
5	5	0	4	4	1	244.16716	0.00012
5	5	0	6	6	1	237.31416	-0.00028
5	5	1	6	6	0	237.31416	-0.00024
6	1	6	5	0	5	242.52574	0.00000
6	1	6	7	0	7	239.33879	-0.00005
6	2	4	5	3	3	242.24083	-0.00005
6	3	4	5	2	3	243.46322	0.00021
6	4	3	7	5	2	237.35691	0.00020
6	5	1	5	4	2	244.44861	0.00006
6	5	1	7	6	2	237.01145	-0.00015
6	5	2	7	6	1	237.01145	0.00022
6	6	0	5	5	1	244.82901	-0.00035
6	6	0	7	7	1	236.66485	-0.00002
6	6	1	5	5	0	244.82901	-0.00031
6	6	1	7	7	0	236.66485	-0.00002
7	0	7	6	1	6	242.73318	-0.00031
7	0	7	8	1	8	239.10131	0.00035
7	1	6	6	2	5	242.87252	0.00010
7	1	6	8	2	7	238.81605	0.00011
7	6	1	6	5	2	245.10765	-0.00068
7	6	1	8	7	2	236.35994	-0.00001
7	6	2	6	5	1	245.10765	-0.00027
7	6	2	8	7	1	236.35994	0.00004
7	7	0	6	6	1	245.49315	0.00005
7	7	0	8	8	1	236.01678	0.00009
7	7	1	6	6	0	245.49315	0.00005
7	7	1	8	8	0	236.01678	0.00009
8	0	8	9	1	9	238.86925	0.00004

8	1	8	9	0	9	238.87049	0.00004
8	2	7	9	1	8	238.64737	0.00019
8	4	5	7	3	4	244.39594	-0.00004
8	5	3	9	6	4	236.40801	-0.00007
8	5	4	7	4	3	244.96750	0.00047
8	5	4	9	6	3	236.39840	-0.00027
8	6	3	9	7	2	236.05344	-0.00002
8	7	1	9	8	2	235.71008	0.00017
8	7	2	9	8	1	235.71008	0.00018
8	8	0	7	7	1	246.15806	-0.00010
8	8	0	9	9	1	235.36998	0.00010
8	8	1	7	7	0	246.15806	-0.00009
8	8	1	9	9	0	235.36998	0.00010
9	0	9	8	1	8	243.17869	0.00006
9	0	9	10	1	10	238.63591	-0.00024
9	1	8	8	2	7	243.37698	0.00006
9	1	8	10	2	9	238.38408	-0.00012
9	1	9	8	0	8	243.17982	0.00001
9	2	7	10	3	8	238.02139	0.00008
9	5	4	10	6	5	236.11644	-0.00018
9	6	3	8	5	4	245.65902	0.00008
9	8	1	8	7	2	246.43362	0.00002
9	8	1	10	9	2	235.06121	-0.00009
9	8	2	8	7	1	246.43362	0.00002
9	8	2	10	9	1	235.06121	-0.00009
9	9	0	8	8	1	246.82452	0.00001
9	9	0	10	10	1	234.72428	-0.00016
9	9	1	8	8	0	246.82452	0.00001
9	9	1	10	10	0	234.72428	-0.00016
10	0	10	11	1	11	238.40228	0.00008
10	1	10	9	0	9	243.39925	-0.00012
10	1	10	11	0	11	238.40228	-0.00009
10	2	8	9	3	7	243.72021	0.00006
10	2	9	9	1	8	243.62304	0.00005
10	2	9	11	1	10	238.16220	0.00002
10	3	8	9	2	7	243.95272	-0.00011
10	4	7	9	3	6	244.58936	-0.00009
10	6	4	9	5	5	245.93458	0.00011
10	7	4	11	8	3	235.09199	0.00012
10	8	2	9	7	3	246.70617	-0.00017
10	8	2	11	9	3	234.75103	-0.00001
10	8	3	9	7	2	246.70617	-0.00012
10	8	3	11	9	2	234.75103	0.00000
10	9	1	9	8	2	247.09814	-0.00009
10	9	1	11	10	2	234.41418	0.00007
10	9	2	9	8	1	247.09814	-0.00009



10	9	2	11	10	1	234.41418	0.00007
10	10	0	9	9	1	247.49228	0.00011
10	10	1	9	9	0	247.49228	0.00011
11	0	11	10	1	10	243.61825	-0.00013
11	0	11	12	1	12	238.16765	0.00013
11	1	11	10	0	10	243.61825	-0.00029
11	1	11	12	0	12	238.16765	0.00007
11	2	9	10	3	8	243.99181	0.00001
11	2	9	12	3	10	237.64084	-0.00018
11	3	8	10	4	7	243.86258	-0.00001
11	5	6	10	4	7	246.07261	0.00040
11	6	5	10	5	6	246.21895	-0.00020
11	7	4	10	6	5	246.58353	0.00015
11	8	3	10	7	4	246.97572	-0.00010
11	8	3	12	9	4	234.43920	-0.00015
11	8	4	12	9	3	234.43920	-0.00012
11	9	2	10	8	3	247.36933	-0.00004
11	9	2	12	10	3	234.10189	-0.00013
11	9	3	10	8	2	247.36933	-0.00003
11	9	3	12	10	2	234.10189	-0.00013
11	10	1	10	9	2	247.76430	0.00016
11	10	1	12	11	2	233.76845	0.00013
11	10	2	10	9	1	247.76430	0.00016
11	10	2	12	11	1	233.76845	0.00013
11	11	0	10	10	1	248.16116	0.00002
11	11	0	12	12	1	233.43768	-0.00002
11	11	1	10	10	0	248.16116	0.00002
11	11	1	12	12	0	233.43768	-0.00002
12	0	12	11	1	11	243.83724	0.00014
12	1	11	13	2	12	237.68599	0.00009
12	1	12	11	0	11	243.83724	0.00009
12	2	11	13	1	12	237.68695	-0.00015
12	3	10	11	2	9	244.29381	0.00022
12	4	9	11	3	8	244.73584	0.00000
12	6	7	11	5	6	246.30403	-0.00021
12	7	6	11	6	5	246.82752	-0.00012
12	7	6	13	8	5	234.46933	0.00005
12	8	4	13	9	5	234.12650	-0.00009
12	8	5	11	7	4	247.24020	-0.00018
12	8	5	13	9	4	234.12650	0.00008
12	9	3	11	8	4	247.63746	-0.00003
12	9	3	13	10	4	233.78825	-0.00010
12	9	4	11	8	3	247.63746	0.00000
12	9	4	13	10	3	233.78825	-0.00010
12	10	2	11	9	3	248.03382	0.00018
12	10	2	13	11	3	233.45437	-0.00009

12	10	3	11	9	2	248.03382	0.00019
12	10	3	13	11	2	233.45437	-0.00009
12	11	1	11	10	2	248.43148	0.00013
12	11	1	13	12	2	233.12401	0.00007
12	11	2	11	10	1	248.43148	0.00013
12	11	2	13	12	1	233.12401	0.00007
12	12	0	11	11	1	248.83134	-0.00007
12	12	0	13	13	1	232.79624	-0.00017
12	12	1	11	11	0	248.83134	-0.00007
12	12	1	13	13	0	232.79624	-0.00017
13	0	13	12	1	12	244.05508	-0.00006
13	0	13	14	1	14	237.69609	-0.00007
13	1	12	12	2	11	244.26468	0.00010
13	1	12	14	2	13	237.44902	-0.00015
13	1	13	12	0	12	244.05508	-0.00008
13	1	13	14	0	14	237.69609	-0.00008
13	2	11	12	3	10	244.46569	0.00003
13	2	12	12	1	11	244.26586	0.00016
13	3	10	12	4	9	244.56090	-0.00007
13	3	10	14	4	11	236.85670	-0.00005
13	4	10	12	3	9	244.84283	-0.00005
13	4	10	14	3	11	237.00869	0.00002
13	5	9	12	4	8	245.55094	-0.00004
13	6	7	12	5	8	246.88558	0.00016
13	6	7	14	7	8	234.60122	-0.00058
13	7	6	12	6	7	247.11928	-0.00010
13	8	5	12	7	6	247.50371	0.00030
13	10	3	12	9	4	248.30053	0.00021
13	10	3	14	11	4	233.13878	-0.00016
13	10	4	12	9	3	248.30053	0.00021
13	10	4	14	11	3	233.13878	-0.00016
13	11	2	12	10	3	248.69918	0.00001
13	11	2	14	12	3	232.80841	0.00005
13	11	3	12	10	2	248.69918	0.00001
13	11	3	14	12	2	232.80841	0.00005
13	12	1	12	11	2	249.09985	-0.00002
13	12	1	14	13	2	232.48106	0.00007
13	12	2	12	11	1	249.09985	-0.00002
13	12	2	14	13	1	232.48106	0.00007
13	13	0	12	12	1	249.50301	0.00004
13	13	0	14	14	1	232.15650	-0.00001
13	13	1	12	12	0	249.50301	0.00004
13	13	1	14	14	0	232.15650	-0.00001
14	0	14	13	1	13	244.27243	-0.00010
14	0	14	15	1	15	237.45956	0.00003
14	1	13	13	2	12	244.48101	0.00024

14	1	13	15	2	14	237.21196	0.00043
14	1	14	13	0	13	244.27243	-0.00010
14	1	14	15	0	15	237.45956	0.00003
14	2	12	15	3	13	236.95763	-0.00004
14	2	13	13	1	12	244.48101	-0.00019
14	3	11	15	4	12	236.66027	0.00025
14	3	12	13	2	11	244.69757	0.00002
14	3	12	15	2	13	236.96281	0.00012
14	4	11	13	3	10	244.98545	0.00034
14	4	11	15	3	12	236.73525	0.00017
14	5	10	15	4	11	236.70421	0.00001
14	6	8	13	5	9	247.32027	0.00005
14	7	7	13	6	8	247.40278	-0.00005
14	7	8	15	8	7	233.83617	0.00004
14	8	6	15	9	7	233.50030	-0.00009
14	8	7	13	7	6	247.74819	0.00006
14	8	7	15	9	6	233.49775	-0.00020
14	9	5	15	10	6	233.15717	-0.00009
14	9	6	15	10	5	233.15717	0.00002
14	10	4	13	9	5	248.56378	-0.00003
14	10	4	15	11	5	232.82214	0.00024
14	10	5	13	9	4	248.56378	0.00000
14	10	5	15	11	4	232.82214	0.00024
14	11	3	13	10	4	248.96435	0.00001
14	11	3	15	12	4	232.49110	0.00005
14	11	4	13	10	3	248.96435	0.00002
14	11	4	15	12	3	232.49110	0.00005
14	12	2	13	11	3	249.36606	0.00006
14	12	2	15	13	3	232.16386	0.00015
14	12	3	13	11	2	249.36606	0.00006
14	12	3	15	13	2	232.16386	0.00015
14	13	1	15	14	2	231.83941	-0.00004
14	13	2	15	14	1	231.83941	-0.00004
14	14	0	13	13	1	250.17586	0.00003
14	14	0	15	15	1	231.51817	0.00016
14	14	1	13	13	0	250.17586	0.00003
14	14	1	15	15	0	231.51817	0.00016
15	0	15	14	1	14	244.48933	0.00006
15	0	15	16	1	16	237.22242	0.00015
15	1	14	14	2	13	244.69615	0.00001
15	1	14	16	2	15	236.97321	0.00007
15	1	15	14	0	14	244.48933	0.00006
15	1	15	16	0	16	237.22242	0.00015
15	2	13	14	3	12	244.90273	-0.00001
15	2	14	14	1	13	244.69615	-0.00016
15	2	14	16	1	15	236.97321	0.00001

15	3	12	14	4	11	245.08413	-0.00028
15	3	12	16	4	13	236.44320	0.00026
15	4	11	14	5	10	245.06375	0.00051
15	4	11	16	5	12	236.01369	-0.00018
15	4	12	14	3	11	245.15625	-0.00013
15	5	10	16	6	11	235.19961	-0.00007
15	5	11	16	4	12	236.34344	-0.00018
15	8	7	14	7	8	248.02037	0.00009
15	8	7	16	9	8	233.18984	0.00013
15	8	8	14	7	7	247.98126	-0.00001
15	9	6	14	8	7	248.41915	0.00007
15	9	6	16	10	7	232.84057	0.00002
15	9	7	14	8	6	248.41650	0.00017
15	10	5	16	11	6	232.50357	0.00001
15	10	6	16	11	5	232.50357	0.00002
15	11	4	14	10	5	249.22659	0.00007
15	11	5	14	10	4	249.22659	0.00008
15	12	3	14	11	4	249.62935	-0.00024
15	12	3	16	13	4	231.84447	-0.00022
15	12	4	14	11	3	249.62935	-0.00024
15	12	4	16	13	3	231.84447	-0.00022
15	13	2	14	12	3	250.03408	-0.00006
15	13	3	14	12	2	250.03408	-0.00006
15	14	1	14	13	2	250.44070	-0.00012
15	14	2	14	13	1	250.44070	-0.00012
15	15	0	14	14	1	250.84984	-0.00014
15	15	1	14	14	0	250.84984	-0.00014
16	0	16	15	1	15	244.70543	0.00007
16	0	16	17	1	17	236.98434	-0.00005
16	1	15	15	2	14	244.91088	0.00007
16	1	15	17	2	16	236.73414	0.00010
16	1	16	15	0	15	244.70543	0.00007
16	1	16	17	0	17	236.98434	-0.00005
16	2	15	15	1	14	244.91088	0.00001
16	2	15	17	1	16	236.73414	0.00007
16	3	14	15	2	13	245.11888	0.00009
16	3	14	17	2	15	236.48183	0.00006
16	4	13	17	3	14	236.22976	-0.00006
16	5	12	15	4	11	245.71396	-0.00016
16	5	12	17	4	13	236.03226	0.00024
16	6	11	15	5	10	246.48237	0.00009
16	6	11	17	5	12	236.16453	0.00002
16	7	10	15	6	9	247.46397	-0.00038
16	8	9	15	7	8	248.18684	-0.00015
16	8	9	17	9	8	232.86325	0.00008
16	9	8	15	8	7	248.66261	0.00005

16	9	8	17	10	7	232.52257	0.00017
16	10	6	17	11	7	232.18408	-0.00008
16	10	7	15	9	6	249.07864	-0.00017
16	10	7	17	11	6	232.18408	-0.00001
16	11	5	15	10	6	249.48539	0.00005
16	11	5	17	12	6	231.85183	0.00006
16	11	6	15	10	5	249.48539	0.00007
16	11	6	17	12	5	231.85183	0.00007
16	12	4	15	11	5	249.89019	-0.00016
16	12	5	15	11	4	249.89019	-0.00016
16	13	3	15	12	4	250.29625	0.00014
16	13	3	17	14	4	231.19982	-0.00002
16	13	4	15	12	3	250.29625	0.00014
16	13	4	17	14	3	231.19982	-0.00002
16	14	2	15	13	3	250.70373	0.00014
16	14	2	17	15	3	230.87876	-0.00005
16	14	3	15	13	2	250.70373	0.00014
16	14	3	17	15	2	230.87876	-0.00005
16	15	1	15	14	2	251.11334	0.00007
16	15	1	17	16	2	230.56072	0.00006
16	15	2	15	14	1	251.11334	0.00007
16	15	2	17	16	1	230.56072	0.00006
16	16	0	15	15	1	251.52562	0.00020
16	16	0	17	17	1	230.24520	-0.00001
16	16	1	15	15	0	251.52562	0.00020
16	16	1	17	17	0	230.24520	-0.00001
17	0	17	16	1	16	244.92072	-0.00008
17	0	17	18	1	18	236.74584	-0.00005
17	1	16	16	2	15	245.12490	0.00008
17	1	16	18	2	17	236.49449	0.00019
17	1	17	16	0	16	244.92072	-0.00008
17	1	17	18	0	18	236.74584	-0.00005
17	2	15	18	3	16	236.24080	0.00024
17	2	16	16	1	15	245.12490	0.00006
17	2	16	18	1	17	236.49449	0.00018
17	3	14	16	4	13	245.53136	0.00002
17	3	14	18	4	15	235.97826	0.00010
17	4	13	16	5	12	245.67307	0.00002
17	4	13	18	5	14	235.66378	-0.00005
17	5	13	16	4	12	245.84288	0.00019
17	5	13	18	4	14	235.75265	0.00020
17	6	12	18	5	13	235.72568	-0.00003
17	7	11	16	6	10	247.47378	0.00023
17	8	9	18	9	10	232.59295	-0.00001
17	9	8	18	10	9	232.20849	0.00002
17	10	7	16	9	8	249.33045	0.00009

17	10	7	18	11	8	231.86390	-0.00014
17	10	8	18	11	7	231.86390	0.00012
17	11	6	16	10	7	249.74035	-0.00003
17	11	6	18	12	7	231.53027	0.00016
17	11	7	16	10	6	249.74035	0.00005
17	11	7	18	12	6	231.53027	0.00018
17	12	5	18	13	6	231.20165	-0.00007
17	12	6	18	13	5	231.20165	-0.00007
17	13	4	16	12	5	250.55531	-0.00008
17	13	5	16	12	4	250.55531	-0.00008
17	14	3	16	13	4	250.96389	-0.00005
17	14	4	16	13	3	250.96389	-0.00005
17	15	2	16	14	3	251.37418	-0.00018
17	15	3	16	14	2	251.37418	-0.00018
17	16	1	16	15	2	251.78692	-0.00010
17	16	2	16	15	1	251.78692	-0.00010
17	17	0	16	16	1	252.20212	-0.00002
17	17	0	18	18	1	229.61092	0.00000
17	17	1	16	16	0	252.20212	-0.00002
17	17	1	18	18	0	229.61092	0.00000
18	0	18	17	1	17	245.13570	0.00010
18	0	18	19	1	19	236.50694	0.00018
18	1	17	19	2	18	236.25395	0.00004
18	1	18	17	0	17	245.13570	0.00010
18	1	18	19	0	19	236.50694	0.00018
18	2	16	19	3	17	235.99943	0.00012
18	2	17	19	1	18	236.25395	0.00004
18	3	16	19	2	17	235.99943	-0.00001
18	4	14	17	5	13	245.92032	0.00048
18	5	14	17	4	13	246.00430	0.00001
18	5	14	19	4	15	235.49133	0.00010
18	6	12	19	7	13	234.11176	0.00027
18	6	13	17	5	12	246.49717	0.00007
18	8	10	17	7	11	248.89166	-0.00025
18	8	11	19	9	10	232.19512	0.00022
18	9	9	17	8	10	249.17067	-0.00022
18	9	10	17	8	9	249.10967	0.00024
18	10	9	17	9	8	249.57140	-0.00002
18	11	7	19	12	8	231.20735	-0.00002
18	11	8	19	12	7	231.20735	0.00002
18	12	6	17	11	7	250.40221	0.00003
18	12	7	17	11	6	250.40221	0.00004
18	13	5	17	12	6	250.81174	0.00000
18	13	5	19	14	6	230.55320	-0.00018
18	13	6	17	12	5	250.81174	0.00001
18	13	6	19	14	5	230.55320	-0.00018

18	14	4	19	15	5	230.23224	-0.00019
18	14	5	19	15	4	230.23224	-0.00019
18	15	3	17	14	4	251.63318	0.00009
18	15	3	19	16	4	229.91465	-0.00003
18	15	4	17	14	3	251.63318	0.00009
18	15	4	19	16	3	229.91465	-0.00003
18	16	2	17	15	3	252.04649	0.00003
18	16	2	19	17	3	229.59983	0.00002
18	16	3	17	15	2	252.04649	0.00003
18	16	3	19	17	2	229.59983	0.00002
18	17	1	17	16	2	252.46207	-0.00002
18	17	1	19	18	2	229.28766	0.00000
18	17	2	17	16	1	252.46207	-0.00002
18	17	2	19	18	1	229.28766	0.00000
18	18	0	17	17	1	252.88022	0.00007
18	18	0	19	19	1	228.97805	0.00000
18	18	1	17	17	0	252.88022	0.00007
18	18	1	19	19	0	228.97805	0.00000
19	0	19	20	1	20	236.26696	-0.00006
19	1	18	18	2	17	245.55094	0.00004
19	1	19	20	0	20	236.26696	-0.00006
19	2	17	20	3	18	235.75728	-0.00002
19	2	18	18	1	17	245.55094	0.00004
19	3	16	18	4	15	245.95580	0.00009
19	3	16	20	4	17	235.49728	-0.00004
19	3	17	20	2	18	235.75728	-0.00007
19	4	15	18	5	14	246.14688	0.00007
19	4	16	20	3	17	235.49853	-0.00003
19	5	14	18	6	13	246.21476	0.00021
19	5	15	18	4	14	246.18711	0.00014
19	8	11	20	9	12	232.10277	-0.00015
19	9	11	18	8	10	249.28827	-0.00002
19	10	9	18	9	10	249.81883	0.00015
19	11	8	20	12	9	230.88369	-0.00015
19	11	9	20	12	8	230.88369	0.00001
19	12	7	18	11	8	250.65247	-0.00005
19	12	7	20	13	8	230.55320	0.00014
19	12	8	18	11	7	250.65247	0.00001
19	12	8	20	13	7	230.55320	0.00014
19	13	6	18	12	7	251.06480	-0.00006
19	13	6	20	14	7	230.22770	-0.00013
19	13	7	18	12	6	251.06480	-0.00006
19	13	7	20	14	6	230.22770	-0.00013
19	14	5	20	15	6	229.90660	-0.00011
19	14	6	20	15	5	229.90660	-0.00011
19	15	4	20	16	5	229.58922	0.00019

19	15	5	20	16	4	229.58922	0.00019
19	16	3	18	15	4	252.30361	0.00002
19	16	3	20	17	4	229.27438	-0.00002
19	16	4	18	15	3	252.30361	0.00002
19	16	4	20	17	3	229.27438	-0.00002
19	17	2	20	18	3	228.96262	0.00006
19	17	3	20	18	2	228.96262	0.00006
19	18	1	18	17	2	253.13852	0.00005
19	18	1	20	19	2	228.65333	-0.00001
19	18	2	18	17	1	253.13852	0.00005
19	18	2	20	19	1	228.65333	-0.00001
19	19	0	18	18	1	253.55947	0.00003
19	19	0	20	20	1	228.34655	-0.00006
19	19	1	18	18	0	253.55947	0.00003
19	19	1	20	20	0	228.34655	-0.00006
20	0	20	19	1	19	245.56322	-0.00003
20	0	20	21	1	21	236.02674	0.00008
20	1	19	19	2	18	245.76301	0.00003
20	1	20	19	0	19	245.56322	-0.00003
20	1	20	21	0	21	236.02674	0.00008
20	2	18	21	3	19	235.51464	0.00007
20	2	19	19	1	18	245.76301	0.00003
20	3	17	19	4	16	246.16518	0.00008
20	3	18	21	2	19	235.51464	0.00005
20	4	17	19	3	16	246.16629	0.00004
20	5	16	19	4	15	246.38129	-0.00008
20	5	16	21	4	17	234.99201	0.00012
20	7	14	19	6	13	247.34534	0.00020
20	9	11	21	10	12	231.30650	-0.00013
20	10	10	19	9	11	250.05876	0.00008
20	10	11	19	9	10	250.02096	0.00008
20	11	10	19	10	9	250.47536	0.00024
20	12	8	19	11	9	250.89854	-0.00001
20	12	9	19	11	8	250.89854	0.00018
20	13	7	19	12	8	251.31454	0.00009
20	13	8	19	12	7	251.31454	0.00010
20	14	6	19	13	7	251.72855	-0.00005
20	14	6	21	15	7	229.57935	-0.00003
20	14	7	19	13	6	251.72855	-0.00005
20	14	7	21	15	6	229.57935	-0.00003
20	15	5	19	14	6	252.14272	-0.00013
20	15	5	21	16	6	229.26162	-0.00007
20	15	6	19	14	5	252.14272	-0.00013
20	15	6	21	16	5	229.26162	-0.00007
20	16	4	19	15	5	252.55831	0.00005
20	16	4	21	17	5	228.94705	-0.00018



20	16	5	19	15	4	252.55831	0.00005
20	16	5	21	17	4	228.94705	-0.00018
20	17	3	19	16	4	252.97532	-0.00011
20	17	3	21	18	4	228.63569	0.00001
20	17	4	19	16	3	252.97532	-0.00011
20	17	4	21	18	3	228.63569	0.00001
20	18	2	19	17	3	253.39482	0.00015
20	18	3	19	17	2	253.39482	0.00015
20	19	1	21	20	2	228.02049	-0.00003
20	19	2	21	20	1	228.02049	-0.00003
20	20	0	19	19	1	254.24026	0.00024
20	20	0	21	21	1	227.71666	0.00004
20	20	1	19	19	0	254.24026	0.00024
20	20	1	21	21	0	227.71666	0.00004
21	0	21	20	1	20	245.77613	0.00001
21	0	21	22	1	22	235.78579	0.00009
21	1	20	20	2	19	245.97450	0.00010
21	1	20	22	2	21	235.52894	-0.00002
21	1	21	20	0	20	245.77613	0.00001
21	1	21	22	0	22	235.78579	0.00009
21	2	19	20	3	18	246.17335	-0.00001
21	2	19	22	3	20	235.27128	0.00010
21	2	20	20	1	19	245.97450	0.00010
21	2	20	22	1	21	235.52894	-0.00002
21	3	18	20	4	17	246.37318	-0.00037
21	3	19	20	2	18	246.17335	-0.00003
21	3	19	22	2	20	235.27128	0.00009
21	5	16	20	6	15	246.74284	0.00047
21	5	16	22	6	17	234.43920	0.00010
21	5	17	20	4	16	246.58141	-0.00020
21	6	15	20	7	14	246.68743	-0.00017
21	8	13	20	7	14	250.39061	0.00037
21	9	12	20	8	13	250.05000	-0.00006
21	10	11	22	11	12	230.59429	0.00012
21	10	12	20	9	11	250.21208	0.00004
21	11	10	20	10	11	250.71408	-0.00011
21	11	10	22	12	11	230.23612	-0.00004
21	11	11	20	10	10	250.70516	-0.00025
21	12	9	20	11	10	251.13965	-0.00016
21	12	9	22	13	10	229.90049	0.00017
21	13	8	20	12	9	251.56000	-0.00013
21	13	9	20	12	8	251.56000	-0.00009
21	14	7	20	13	8	251.97711	-0.00011
21	14	7	22	15	8	229.25047	-0.00008
21	14	8	20	13	7	251.97711	-0.00012
21	14	8	22	15	7	229.25047	-0.00008

21	15	6	22	16	7	228.93259	-0.00012
21	15	7	22	16	6	228.93259	-0.00012
21	16	5	20	15	6	252.81039	0.00004
21	16	5	22	17	6	228.61833	-0.00001
21	16	6	20	15	5	252.81039	0.00004
21	16	6	22	17	5	228.61833	-0.00001
21	17	4	20	16	5	253.22864	0.00006
21	17	4	22	18	5	228.30692	-0.00012
21	17	5	20	16	4	253.22864	0.00006
21	17	5	22	18	4	228.30692	-0.00012
21	18	3	20	17	4	253.64850	-0.00014
21	18	3	22	19	4	227.99850	-0.00003
21	18	4	20	17	3	253.64850	-0.00014
21	18	4	22	19	3	227.99850	-0.00003
21	19	2	20	18	3	254.07082	0.00001
21	19	2	22	20	3	227.69260	-0.00004
21	19	3	20	18	2	254.07082	0.00001
21	19	3	22	20	2	227.69260	-0.00004
21	20	1	20	19	2	254.49526	0.00007
21	20	2	20	19	1	254.49526	0.00007
21	21	0	20	20	1	254.92189	0.00001
21	21	0	22	22	1	227.08808	0.00008
21	21	1	20	20	0	254.92189	0.00001
21	21	1	22	22	0	227.08808	0.00008
22	0	22	21	1	21	245.98825	-0.00007
22	0	22	23	1	23	235.54421	0.00009
22	1	21	21	2	20	246.18533	0.00015
22	1	22	21	0	21	245.98825	-0.00007
22	1	22	23	0	23	235.54421	0.00009
22	2	20	21	3	19	246.38268	0.00002
22	2	20	23	3	21	235.02732	0.00018
22	2	21	21	1	20	246.18533	0.00015
22	3	19	23	4	20	234.76569	-0.00008
22	3	20	21	2	19	246.38268	0.00001
22	3	20	23	2	21	235.02732	0.00018
22	4	18	21	5	17	246.78084	-0.00009
22	4	19	21	3	18	246.58141	-0.00006
22	4	19	23	3	20	234.76569	-0.00016
22	5	18	21	4	17	246.78450	0.00001
22	6	17	21	5	16	247.01322	-0.00006
22	7	16	21	6	15	247.40145	0.00018
22	8	15	21	7	14	248.26026	0.00001
22	9	13	21	8	14	250.46434	0.00049
22	10	12	21	9	13	250.55916	0.00036
22	10	13	21	9	12	250.36176	0.00001
22	10	13	23	11	12	230.24366	-0.00001

22	11	11	21	10	12	250.94596	-0.00017
22	11	12	21	10	11	250.92341	0.00015
22	12	10	21	11	11	251.37582	-0.00003
22	13	9	23	14	10	229.24350	0.00025
22	13	10	23	14	9	229.24350	0.00025
22	14	9	21	13	8	252.22237	0.00011
22	15	7	21	14	8	252.64101	-0.00003
22	15	7	23	16	8	228.60214	-0.00002
22	15	8	21	14	7	252.64101	-0.00004
22	15	8	23	16	7	228.60214	-0.00002
22	17	5	21	16	6	253.47938	0.00017
22	17	5	23	18	6	227.97652	-0.00017
22	17	6	21	16	5	253.47938	0.00017
22	17	6	23	18	5	227.97652	-0.00017
22	18	4	21	17	5	253.90025	-0.00003
22	18	4	23	19	5	227.66849	-0.00001
22	18	5	21	17	4	253.90025	-0.00003
22	18	5	23	19	4	227.66849	-0.00001
22	19	3	21	18	4	254.32312	-0.00012
22	19	4	21	18	3	254.32312	-0.00012
22	20	2	21	19	3	254.74837	0.00007
22	20	2	23	21	3	227.06016	-0.00012
22	20	3	21	19	2	254.74837	0.00007
22	20	3	23	21	2	227.06016	-0.00012
22	21	1	21	20	2	255.17551	-0.00004
22	21	1	23	22	2	226.75920	-0.00004
22	21	2	21	20	1	255.17551	-0.00004
22	21	2	23	22	1	226.75920	-0.00004
22	22	0	21	21	1	255.60516	0.00012
22	22	1	21	21	0	255.60516	0.00012
23	0	23	22	1	22	246.19996	0.00007
23	0	23	24	1	24	235.30190	-0.00005
23	1	22	22	2	21	246.39529	-0.00002
23	1	22	24	2	23	235.04259	0.00005
23	1	23	22	0	22	246.19996	0.00007
23	1	23	24	0	24	235.30190	-0.00005
23	2	21	22	3	20	246.59131	-0.00002
23	2	21	24	3	22	234.78247	0.00002
23	2	22	22	1	21	246.39529	-0.00002
23	2	22	24	1	23	235.04259	0.00005
23	3	20	22	4	19	246.78848	0.00011
23	3	20	24	4	21	234.52019	-0.00007
23	3	21	22	2	20	246.59131	-0.00002
23	3	21	24	2	22	234.78247	0.00002
23	4	19	22	5	18	246.98688	0.00003
23	4	19	24	5	20	234.25358	0.00030

23	4	20	22	3	19	246.78848	0.00004
23	4	20	24	3	21	234.52019	-0.00010
23	5	18	22	6	17	247.18083	-0.00008
23	5	18	24	6	19	233.97259	0.00000
23	5	19	22	4	18	246.98830	-0.00008
23	6	17	24	7	18	233.62751	0.00026
23	6	18	24	5	19	233.98313	-0.00006
23	7	17	22	6	16	247.50898	0.00033
23	7	17	24	6	18	233.73644	-0.00016
23	9	14	22	8	15	250.98864	0.00044
23	10	13	22	9	14	250.84736	0.00019
23	11	12	22	10	13	251.17718	0.00007
23	11	12	24	12	13	229.59444	-0.00005
23	11	13	22	10	12	251.12156	-0.00021
23	13	10	22	12	11	252.03797	-0.00012
23	13	10	24	14	11	228.91283	-0.00014
23	13	11	24	14	10	228.91283	-0.00011
23	14	9	22	13	10	252.46359	-0.00001
23	14	9	24	15	10	228.58883	0.00007
23	14	10	24	15	9	228.58883	0.00005
23	15	8	22	14	9	252.88527	0.00003
23	15	8	24	16	9	228.27015	0.00000
23	15	9	22	14	8	252.88527	0.00002
23	15	9	24	16	8	228.27015	0.00000
23	16	7	22	15	8	253.30626	0.00024
23	16	7	24	17	8	227.95547	-0.00018
23	16	8	22	15	7	253.30626	0.00024
23	16	8	24	17	7	227.95547	-0.00018
23	17	6	22	16	7	253.72716	-0.00001
23	17	6	24	18	7	227.64467	0.00000
23	17	7	22	16	6	253.72716	-0.00001
23	17	7	24	18	6	227.64467	0.00000
23	18	5	22	17	6	254.14942	-0.00005
23	18	5	24	19	6	227.33676	-0.00001
23	18	6	22	17	5	254.14942	-0.00005
23	18	6	24	19	5	227.33676	-0.00001
23	19	4	22	18	5	254.57354	0.00014
23	19	4	24	20	5	227.03164	-0.00006
23	19	5	22	18	4	254.57354	0.00014
23	19	5	24	20	4	227.03164	-0.00006
23	20	3	22	19	4	254.99929	0.00004
23	20	3	24	21	4	226.72980	0.00000
23	20	4	22	19	3	254.99929	0.00004
23	20	4	24	21	3	226.72980	0.00000
23	21	2	22	20	3	255.42704	-0.00014
23	21	3	22	20	2	255.42704	-0.00014

23	22	1	22	21	2	255.85730	-0.00002
23	22	2	22	21	1	255.85730	-0.00002
23	23	0	22	22	1	256.28927	-0.00015
23	23	1	22	22	0	256.28927	-0.00015
24	0	24	23	1	23	246.41092	0.00011
24	1	23	23	2	22	246.60486	0.00007
24	1	23	25	2	24	234.79854	0.00013
24	1	24	23	0	23	246.41092	0.00011
24	2	22	23	3	21	246.79936	0.00000
24	2	22	25	3	23	234.53706	-0.00006
24	2	23	23	1	22	246.60486	0.00007
24	2	23	25	1	24	234.79854	0.00013
24	3	22	23	2	21	246.79936	0.00000
24	3	22	25	2	23	234.53706	-0.00006
24	4	20	23	5	19	247.19224	0.00044
24	4	21	23	3	20	246.99478	-0.00009
24	4	21	25	3	22	234.27373	-0.00030
24	5	20	23	4	19	247.19224	-0.00020
24	6	19	23	5	18	247.39789	-0.00011
24	6	19	25	5	20	233.73488	0.00005
24	7	18	23	6	17	247.65472	0.00006
24	7	18	25	6	19	233.46878	-0.00011
24	8	17	23	7	16	248.17431	-0.00004
24	9	16	25	10	15	229.45912	-0.00003
24	10	14	23	9	15	251.19327	-0.00018
24	10	15	23	9	14	250.45962	0.00010
24	10	15	25	11	14	229.53157	-0.00019
24	12	13	23	11	12	251.81814	-0.00013
24	13	12	25	14	11	228.58192	0.00001
24	15	9	23	14	10	253.12577	-0.00002
24	15	9	25	16	10	227.93675	0.00000
24	15	10	23	14	9	253.12577	-0.00003
24	15	10	25	16	9	227.93675	0.00000
24	16	8	23	15	9	253.54933	0.00014
24	16	8	25	17	9	227.62186	-0.00012
24	16	9	23	15	8	253.54933	0.00013
24	16	9	25	17	8	227.62186	-0.00012
24	17	7	25	18	8	227.31086	-0.00017
24	17	8	25	18	7	227.31086	-0.00017
24	18	6	23	17	7	254.39622	0.00015
24	18	6	25	19	7	227.00329	-0.00008
24	18	7	23	17	6	254.39622	0.00015
24	18	7	25	19	6	227.00329	-0.00008
24	19	5	23	18	6	254.82098	-0.00018
24	19	5	25	20	6	226.69870	-0.00002
24	19	6	23	18	5	254.82098	-0.00018

24	19	6	25	20	5	226.69870	-0.00002
24	20	4	23	19	5	255.24786	-0.00010
24	20	5	23	19	4	255.24786	-0.00010
24	21	3	23	20	4	255.67674	0.00003
24	21	3	25	22	4	226.09629	-0.00003
24	21	4	23	20	3	255.67674	0.00003
24	21	4	25	22	3	226.09629	-0.00003
24	22	2	23	21	3	256.10752	-0.00019
24	22	2	25	23	3	225.79938	0.00015
24	22	3	23	21	2	256.10752	-0.00019
24	22	3	25	23	2	225.79938	0.00015
24	23	1	23	22	2	256.54015	0.00000
24	23	2	23	22	1	256.54015	0.00000
24	24	0	23	23	1	256.97502	-0.00010
24	24	0	25	25	1	225.21118	0.00019
24	24	1	23	23	0	256.97502	-0.00010
24	24	1	25	25	0	225.21118	0.00019
25	0	25	24	1	24	246.62100	-0.00008
25	0	25	26	1	26	234.81579	0.00002
25	1	24	24	2	23	246.81364	0.00002
25	1	24	26	2	25	234.55364	-0.00002
25	1	25	24	0	24	246.62100	-0.00008
25	1	25	26	0	26	234.81579	0.00002
25	2	23	24	3	22	247.00669	-0.00005
25	2	23	26	3	24	234.29108	-0.00008
25	2	24	24	1	23	246.81364	0.00002
25	2	24	26	1	25	234.55364	-0.00002
25	3	22	24	4	21	247.20067	-0.00002
25	3	22	26	4	23	234.02701	-0.00008
25	3	23	24	2	22	247.00669	-0.00005
25	3	23	26	2	24	234.29108	-0.00008
25	4	21	24	5	20	247.39611	0.00009
25	4	21	26	5	22	233.75964	0.00008
25	4	22	24	3	21	247.20067	-0.00004
25	4	22	26	3	23	234.02701	-0.00009
25	5	20	24	6	19	247.59241	0.00000
25	5	20	26	6	21	233.48460	-0.00007
25	5	21	24	4	20	247.39611	-0.00017
25	5	21	26	4	22	233.75964	-0.00003
25	6	19	24	7	18	247.77471	0.00020
25	7	18	24	8	17	247.82321	-0.00025
25	8	18	24	7	17	248.21816	0.00016
25	10	15	24	9	16	251.63048	0.00004
25	10	16	24	9	15	250.38885	0.00003
25	11	14	24	10	15	251.66880	0.00012
25	12	13	24	11	14	252.05357	-0.00031

25	13	12	24	12	13	252.49538	0.00018
25	13	12	26	14	13	228.25071	-0.00006
25	13	13	24	12	12	252.49190	-0.00020
25	14	11	24	13	12	252.93203	-0.00006
25	14	12	24	13	11	252.93203	0.00002
25	15	10	24	14	11	253.36241	0.00000
25	15	11	24	14	10	253.36241	-0.00002
25	16	9	24	15	10	253.78887	-0.00006
25	16	9	26	17	10	227.28678	-0.00007
25	16	10	24	15	9	253.78887	-0.00009
25	16	10	26	17	9	227.28678	-0.00007
25	17	8	24	16	9	254.21441	-0.00002
25	17	9	24	16	8	254.21441	-0.00002
25	18	7	24	17	8	254.64001	0.00005
25	18	8	24	17	7	254.64001	0.00005
25	19	6	24	18	7	255.06649	0.00006
25	19	6	26	20	7	226.36412	-0.00002
25	19	7	24	18	6	255.06649	0.00006
25	19	7	26	20	6	226.36412	-0.00002
25	20	5	24	19	6	255.49420	-0.00016
25	20	5	26	21	6	226.06543	-0.00003
25	20	6	24	19	5	255.49420	-0.00016
25	20	6	26	21	5	226.06543	-0.00003
25	21	4	24	20	5	255.92391	-0.00016
25	21	4	26	22	5	225.76217	0.00000
25	21	5	24	20	4	255.92391	-0.00016
25	21	5	26	22	4	225.76217	0.00000
25	22	3	24	21	4	256.35626	-0.00001
25	22	3	26	23	4	225.46596	0.00018
25	22	4	24	21	3	256.35626	-0.00001
25	22	4	26	23	3	225.46596	0.00018
25	23	2	24	22	3	256.78868	-0.00016
25	23	2	26	24	3	225.17133	0.00000
25	23	3	24	22	2	256.78868	-0.00016
25	23	3	26	24	2	225.17133	0.00000
25	24	1	24	23	2	257.22433	-0.00020
25	24	1	26	25	2	224.87882	-0.00005
25	24	2	24	23	1	257.22433	-0.00020
25	24	2	26	25	1	224.87882	-0.00005
26	0	26	25	1	25	246.83074	0.00003
26	0	26	27	1	27	234.57179	0.00001
26	1	25	25	2	24	247.02183	0.00003
26	1	26	25	0	25	246.83074	0.00003
26	1	26	27	0	27	234.57179	0.00001
26	2	24	25	3	23	247.21351	0.00003
26	2	24	27	3	25	234.04447	-0.00012

26	2	25	25	1	24	247.02183	0.00003
26	3	23	25	4	22	247.40586	-0.00007
26	3	23	27	4	24	233.77965	0.00015
26	3	24	25	2	23	247.21351	0.00003
26	3	24	27	2	25	234.04447	-0.00012
26	4	22	25	5	21	247.59973	0.00011
26	4	22	27	5	23	233.51139	-0.00006
26	4	23	25	3	22	247.40586	-0.00008
26	4	23	27	3	24	233.77965	0.00015
26	5	22	25	4	21	247.59973	0.00000
26	5	22	27	4	23	233.51139	-0.00011
26	6	20	25	7	19	247.98529	0.00014
26	7	20	25	6	19	248.00925	0.00010
26	8	18	25	9	17	247.85410	-0.00005
26	9	18	25	8	17	249.01736	0.00034
26	11	16	25	10	15	251.45613	0.00011
26	12	15	25	11	14	252.19896	-0.00012
26	13	14	25	12	13	252.70710	-0.00001
26	14	13	25	13	12	253.15856	0.00014
26	15	11	25	14	12	253.59465	-0.00006
26	15	11	27	16	12	227.26625	0.00004
26	15	12	25	14	11	253.59465	-0.00007
26	15	12	27	16	11	227.26625	0.00004
26	16	10	27	17	11	226.95046	0.00010
26	16	11	25	15	10	254.02487	-0.00015
26	16	11	27	17	10	226.95046	0.00010
26	17	9	25	16	10	254.45310	-0.00025
26	17	10	25	16	9	254.45310	-0.00025
26	18	8	25	17	9	254.88097	0.00000
26	18	9	25	17	8	254.88097	0.00000
26	19	7	25	18	8	255.30919	0.00011
26	19	8	25	18	7	255.30919	0.00011
26	20	6	25	19	7	255.73831	-0.00002
26	20	6	27	21	7	225.73234	-0.00009
26	20	7	25	19	6	255.73831	-0.00002
26	20	7	27	21	6	225.73234	-0.00009
26	21	5	25	20	6	256.16921	0.00002
26	21	6	25	20	5	256.16921	0.00002
26	22	4	25	21	5	256.60310	-0.00005
26	22	4	27	23	5	225.13064	0.00004
26	22	5	25	21	4	256.60310	-0.00005
26	22	5	27	23	4	225.13064	0.00004
26	23	3	25	22	4	257.03546	0.00007
26	23	4	25	22	3	257.03546	0.00007
26	24	2	27	25	3	224.54495	-0.00012
26	24	3	27	25	2	224.54495	-0.00012



26	25	1	25	24	2	257.91028	0.00005
26	25	1	27	26	2	224.25513	-0.00005
26	25	2	25	24	1	257.91028	0.00005
26	25	2	27	26	1	224.25513	-0.00005
26	26	0	25	25	1	258.35035	-0.00003
26	26	0	27	27	1	223.96687	-0.00012
26	26	1	25	25	0	258.35035	-0.00003
26	26	1	27	27	0	223.96687	-0.00012
27	0	27	26	1	26	247.03969	0.00000
27	0	27	28	1	28	234.32717	-0.00003
27	1	26	26	2	25	247.22931	-0.00003
27	1	26	28	2	27	234.06237	0.00001
27	1	27	26	0	26	247.03969	0.00000
27	1	27	28	0	28	234.32717	-0.00003
27	2	25	26	3	24	247.41960	0.00003
27	2	25	28	3	26	233.79740	0.00002
27	2	26	26	1	25	247.22931	-0.00003
27	2	26	28	1	27	234.06237	0.00001
27	3	24	26	4	23	247.61060	0.00005
27	3	24	28	4	25	233.53133	0.00006
27	3	25	26	2	24	247.41960	0.00003
27	3	25	28	2	26	233.79740	0.00002
27	4	23	26	5	22	247.80259	0.00000
27	4	23	28	5	24	233.26258	0.00004
27	4	24	26	3	23	247.61060	0.00005
27	4	24	28	3	25	233.53133	0.00006
27	5	22	26	6	21	247.99624	-0.00013
27	5	22	28	6	23	232.98871	0.00002
27	5	23	26	4	22	247.80259	-0.00004
27	5	23	28	4	24	233.26258	0.00002
27	6	21	26	7	20	248.18942	0.00008
27	6	21	28	7	22	232.70383	0.00018
27	7	20	26	8	19	248.34757	0.00002
27	7	20	28	8	21	232.37609	0.00017
27	8	19	26	9	18	248.27121	0.00016
27	11	16	26	10	17	252.32319	0.00038
27	12	15	26	11	16	252.50703	-0.00017
27	13	14	28	14	15	227.58989	0.00011
27	14	13	26	13	14	253.38029	0.00017
27	15	12	26	14	13	253.82217	-0.00014
27	15	12	28	16	13	226.92935	0.00000
27	15	13	26	14	12	253.82217	-0.00011
27	15	13	28	16	12	226.92935	-0.00001
27	16	11	26	15	12	254.25783	-0.00003
27	16	11	28	17	12	226.61249	-0.00011
27	16	12	28	17	11	226.61249	-0.00011

27	17	10	26	16	11	254.68874	-0.00011
27	17	11	26	16	10	254.68874	-0.00011
27	18	9	26	17	10	255.11897	0.00003
27	18	10	26	17	9	255.11897	0.00003
27	19	8	26	18	9	255.54890	-0.00007
27	19	9	26	18	8	255.54890	-0.00007
27	20	7	26	19	8	255.98003	0.00023
27	20	7	28	21	8	225.39959	-0.00002
27	20	8	26	19	7	255.98003	0.00023
27	20	8	28	21	7	225.39959	-0.00002
27	21	6	26	20	7	256.41187	-0.00014
27	21	7	26	20	6	256.41187	-0.00014
27	22	5	26	21	6	256.84860	0.00003
27	22	5	28	23	6	224.79373	0.00005
27	22	6	26	21	5	256.84860	0.00003
27	22	6	28	23	5	224.79373	0.00005
27	23	4	26	22	5	257.27968	-0.00005
27	23	4	28	24	5	224.50082	0.00017
27	23	5	26	22	4	257.27968	-0.00005
27	23	5	28	24	4	224.50082	0.00017
27	24	3	26	23	4	257.71740	0.00015
27	24	3	28	25	4	224.20959	-0.00001
27	24	4	26	23	3	257.71740	0.00015
27	24	4	28	25	3	224.20959	-0.00001
27	25	2	26	24	3	258.15625	-0.00013
27	25	2	28	26	3	223.92048	0.00002
27	25	3	26	24	2	258.15625	-0.00013
27	25	3	28	26	2	223.92048	0.00002
27	26	1	26	25	2	258.59735	0.00006
27	26	2	26	25	1	258.59735	0.00006
28	0	28	27	1	27	247.24800	-0.00003
28	0	28	29	1	29	234.08210	0.00009
28	1	27	27	2	26	247.43626	0.00005
28	1	27	29	2	28	233.81583	0.00003
28	1	28	27	0	27	247.24800	-0.00003
28	1	28	29	0	29	234.08210	0.00009
28	2	26	27	3	25	247.62515	0.00013
28	2	26	29	3	27	233.54960	0.00002
28	2	27	27	1	26	247.43626	0.00005
28	2	27	29	1	28	233.81583	0.00003
28	3	25	27	4	24	247.81448	-0.00006
28	3	25	29	4	26	233.28235	-0.00004
28	3	26	27	2	25	247.62515	0.00013
28	3	26	29	2	27	233.54960	0.00002
28	4	24	27	5	23	248.00503	-0.00002
28	4	24	29	5	25	233.01300	0.00007

28	4	25	27	3	24	247.81448	-0.00006
28	4	25	29	3	26	233.28235	-0.00004
28	5	24	27	4	23	248.00503	-0.00003
28	5	24	29	4	25	233.01300	0.00006
28	6	22	27	7	21	248.39034	0.00012
28	6	23	27	5	22	248.19787	0.00007
28	7	22	27	6	21	248.39531	0.00007
28	7	22	29	6	23	232.45861	0.00005
28	8	21	27	7	20	248.62261	0.00031
28	8	21	29	7	22	232.17549	-0.00012
28	11	18	27	10	17	251.30130	0.00019
28	12	16	27	11	17	252.76173	0.00034
28	13	15	27	12	16	253.14247	0.00033
28	13	16	27	12	15	253.09547	0.00008
28	14	15	27	13	14	253.59099	0.00023
28	15	13	27	14	14	254.04463	-0.00013
28	15	14	27	14	13	254.04463	0.00007
28	16	13	27	15	12	254.48441	0.00002
28	17	11	27	16	12	254.92081	0.00015
28	17	12	27	16	11	254.92081	0.00014
28	18	10	27	17	11	255.35378	0.00008
28	18	10	29	19	11	225.65431	-0.00001
28	18	11	27	17	10	255.35378	0.00008
28	18	11	29	19	10	225.65431	-0.00001
28	19	9	27	18	10	255.78602	0.00004
28	19	9	29	20	10	225.35138	0.00000
28	19	10	27	18	9	255.78602	0.00004
28	19	10	29	20	9	225.35138	0.00000
28	20	8	29	21	9	225.06775	0.00019
28	20	9	29	21	8	225.06775	0.00019
28	21	7	27	20	8	256.65243	-0.00002
28	21	7	29	22	8	224.74854	-0.00033
28	21	8	27	20	7	256.65243	-0.00002
28	21	8	29	22	7	224.74854	-0.00033
28	22	6	27	21	7	257.09304	0.00009
28	22	7	27	21	6	257.09304	0.00009
28	23	5	27	22	6	257.52177	0.00003
28	23	5	29	24	6	224.16268	-0.00007
28	23	6	27	22	5	257.52177	0.00003
28	23	6	29	24	5	224.16268	-0.00007
28	24	4	27	23	5	257.96030	-0.00013
28	24	4	29	25	5	223.87243	-0.00004
28	24	5	27	23	4	257.96030	-0.00013
28	24	5	29	25	4	223.87243	-0.00004
28	25	3	27	24	4	258.40063	0.00012
28	25	3	29	26	4	223.58412	-0.00001

28	25	4	27	24	3	258.40063	0.00012
28	25	4	29	26	3	223.58412	-0.00001
28	26	2	27	25	3	258.84234	0.00007
28	26	3	27	25	2	258.84234	0.00007
28	27	1	27	26	2	259.28593	0.00021
28	27	1	29	28	2	223.01257	-0.00001
28	27	2	27	26	1	259.28593	0.00021
28	27	2	29	28	1	223.01257	-0.00001
28	28	0	27	27	1	259.73074	-0.00002
28	28	1	27	27	0	259.73074	-0.00002
29	0	29	28	1	28	247.45570	-0.00003
29	0	29	30	1	30	233.83617	-0.00007
29	1	28	28	2	27	247.64235	-0.00009
29	1	28	30	2	29	233.56863	-0.00001
29	1	29	28	0	28	247.45570	-0.00003
29	1	29	30	0	30	233.83617	-0.00007
29	2	27	28	3	26	247.82973	-0.00010
29	2	27	30	3	28	233.30128	0.00012
29	2	28	28	1	27	247.64235	-0.00009
29	2	28	30	1	29	233.56863	-0.00001
29	3	26	28	4	25	248.01772	-0.00018
29	3	26	30	4	27	233.03293	0.00003
29	3	27	28	2	26	247.82973	-0.00010
29	3	27	30	2	28	233.30128	0.00012
29	4	25	28	5	24	248.20697	0.00009
29	4	26	28	3	25	248.01772	-0.00018
29	4	26	30	3	27	233.03293	0.00003
29	5	24	28	6	23	248.39729	0.00009
29	5	25	28	4	24	248.20697	0.00008
29	6	23	28	7	22	248.58985	0.00034
29	6	23	30	7	24	232.20679	-0.00021
29	6	24	28	5	23	248.39729	-0.00005
29	7	22	28	8	21	248.77581	0.00008
29	7	23	28	6	22	248.59159	-0.00014
29	8	21	28	9	20	248.88923	0.00006
29	9	20	28	10	19	248.62727	0.00009
29	12	17	28	11	18	253.06153	0.00000
29	13	16	28	12	17	253.35627	-0.00020
29	15	14	28	14	15	254.26153	-0.00007
29	16	13	28	15	14	254.70881	-0.00001
29	17	12	28	16	13	255.14855	0.00002
29	17	12	30	18	13	225.62097	0.00000
29	17	13	28	16	12	255.14855	0.00000
29	17	13	30	18	12	225.62097	0.00000
29	18	11	28	17	12	255.58504	0.00002
29	18	12	28	17	11	255.58504	0.00002

29	19	10	28	18	11	256.01979	-0.00016
29	19	10	30	20	11	225.01098	-0.00006
29	19	11	28	18	10	256.01979	-0.00016
29	19	11	30	20	10	225.01098	-0.00006
29	20	9	28	19	10	256.45471	0.00000
29	20	10	28	19	9	256.45471	0.00000
29	21	8	28	20	9	256.89047	0.00005
29	21	8	30	22	9	224.40737	-0.00009
29	21	9	28	20	8	256.89047	0.00005
29	21	9	30	22	8	224.40737	-0.00009
29	22	7	28	21	8	257.33686	0.00010
29	22	7	30	23	8	224.11451	-0.00014
29	22	8	28	21	7	257.33686	0.00010
29	22	8	30	23	7	224.11451	-0.00014
29	23	6	28	22	7	257.76141	0.00007
29	23	6	30	24	7	223.82315	-0.00003
29	23	7	28	22	6	257.76141	0.00007
29	23	7	30	24	6	223.82315	-0.00003
29	24	5	28	23	6	258.20139	0.00000
29	24	5	30	25	6	223.53366	-0.00004
29	24	6	28	23	5	258.20139	0.00000
29	24	6	30	25	5	223.53366	-0.00004
29	25	4	28	24	5	258.64258	0.00003
29	25	5	28	24	4	258.64258	0.00003
29	26	3	28	25	4	259.08528	0.00001
29	26	4	28	25	3	259.08528	0.00001
29	27	2	28	26	3	259.52959	-0.00003
29	27	2	30	28	3	222.67643	0.00004
29	27	3	28	26	2	259.52959	-0.00003
29	27	3	30	28	2	222.67643	0.00004
29	28	1	28	27	2	259.97551	-0.00002
29	28	2	28	27	1	259.97551	-0.00002
29	29	0	28	28	1	260.42289	-0.00001
29	29	1	28	28	0	260.42289	-0.00001
30	0	30	29	1	29	247.66279	0.00001
30	0	30	31	1	31	233.58992	0.00005
30	1	29	29	2	28	247.84803	0.00001
30	1	30	29	0	29	247.66279	0.00001
30	1	30	31	0	31	233.58992	0.00005
30	2	28	29	3	27	248.03382	-0.00016
30	2	29	29	1	28	247.84803	0.00001
30	3	27	29	4	26	248.22058	-0.00005
30	3	27	31	4	28	232.78289	0.00010
30	3	28	29	2	27	248.03382	-0.00016
30	4	26	29	5	25	248.40804	-0.00008
30	4	27	29	3	26	248.22058	-0.00005

30	4	27	31	3	28	232.78289	0.00010
30	5	25	29	6	24	248.59673	-0.00009
30	5	25	31	6	26	232.23708	-0.00007
30	5	26	29	4	25	248.40804	-0.00008
30	6	25	29	5	24	248.59673	-0.00015
30	6	25	31	5	26	232.23708	-0.00009
30	7	24	31	6	25	231.95683	-0.00002
30	8	23	29	7	22	248.98932	0.00001
30	8	23	31	7	24	231.66843	-0.00006
30	9	22	29	8	21	249.24515	0.00037
30	10	21	29	9	20	249.77394	-0.00017
30	11	20	29	10	19	250.92128	-0.00004
30	12	18	29	11	19	253.43861	-0.00027
30	12	19	29	11	18	252.34939	-0.00038
30	13	18	29	12	17	253.36724	-0.00022
30	14	17	31	15	16	226.24220	0.00002
30	15	16	29	14	15	254.47013	-0.00003
30	15	16	31	16	15	225.91418	-0.00002
30	16	14	31	17	15	225.59281	-0.00010
30	16	15	31	17	14	225.59281	-0.00009
30	17	13	29	16	14	255.37221	0.00014
30	17	13	31	18	14	225.27908	-0.00008
30	17	14	29	16	13	255.37221	0.00007
30	17	14	31	18	13	225.27908	-0.00008
30	18	12	29	17	13	255.81266	-0.00003
30	18	12	31	19	13	224.97156	0.00011
30	18	13	29	17	12	255.81266	-0.00003
30	18	13	31	19	12	224.97156	0.00011
30	19	11	29	18	12	256.25071	0.00003
30	19	11	31	20	12	224.66952	0.00004
30	19	12	29	18	11	256.25071	0.00003
30	19	12	31	20	11	224.66952	0.00004
30	20	10	29	19	11	256.68777	-0.00015
30	20	10	31	21	11	224.40576	0.00007
30	20	11	29	19	10	256.68777	-0.00015
30	20	11	31	21	10	224.40576	0.00007
30	21	9	29	20	10	257.12589	0.00002
30	21	9	31	22	10	224.06413	-0.00008
30	21	10	29	20	9	257.12589	0.00002
30	21	10	31	22	9	224.06413	-0.00008
30	22	8	29	21	9	257.58048	0.00005
30	22	9	29	21	8	257.58048	0.00005
30	23	7	29	22	8	257.99851	0.00010
30	23	7	31	24	8	223.48197	0.00006
30	23	8	29	22	7	257.99851	0.00010
30	23	8	31	24	7	223.48197	0.00006

30	24	6	29	23	7	258.44006	0.00002
30	24	6	31	25	7	223.19329	0.00003
30	24	7	29	23	6	258.44006	0.00002
30	24	7	31	25	6	223.19329	0.00003
30	25	5	29	24	6	258.88242	0.00000
30	25	5	31	26	6	222.90664	0.00004
30	25	6	29	24	5	258.88242	0.00000
30	25	6	31	26	5	222.90664	0.00004
30	26	4	29	25	5	259.32615	-0.00007
30	26	4	31	27	5	222.62167	-0.00012
30	26	5	29	25	4	259.32615	-0.00007
30	26	5	31	27	4	222.62167	-0.00012
30	27	3	29	26	4	259.77170	0.00012
30	27	4	29	26	3	259.77170	0.00012
30	28	2	29	27	3	260.21866	0.00021
30	28	2	31	29	3	222.05700	0.00002
30	28	3	29	27	2	260.21866	0.00021
30	28	3	31	29	2	222.05700	0.00002
30	29	1	29	28	2	260.66675	0.00000
30	29	2	29	28	1	260.66675	0.00000
30	30	0	29	29	1	261.11636	0.00003
30	30	1	29	29	0	261.11636	0.00003
31	0	31	30	1	30	247.86918	-0.00001
31	0	31	32	1	32	233.34290	-0.00002
31	1	30	30	2	29	248.05302	0.00008
31	1	30	32	2	31	233.07260	0.00009
31	1	31	30	0	30	247.86918	-0.00001
31	1	31	32	0	32	233.34290	-0.00002
31	2	29	30	3	28	248.23747	-0.00001
31	2	29	32	3	30	232.80259	0.00007
31	2	30	30	1	29	248.05302	0.00008
31	2	30	32	1	31	233.07260	0.00009
31	3	28	30	4	27	248.42279	0.00007
31	3	28	32	4	29	232.53222	0.00015
31	3	29	30	2	28	248.23747	-0.00001
31	3	29	32	2	30	232.80259	0.00007
31	4	27	30	5	26	248.60878	0.00001
31	4	27	32	5	28	232.26012	0.00003
31	4	28	30	3	27	248.42279	0.00007
31	4	28	32	3	29	232.53222	0.00015
31	5	26	30	6	25	248.79594	0.00006
31	5	26	32	6	27	231.98516	0.00009
31	5	27	30	4	26	248.60878	0.00001
31	5	27	32	4	28	232.26012	0.00003
31	6	25	32	7	26	231.70460	-0.00003
31	6	26	30	5	25	248.79594	0.00004

31	6	26	32	5	27	231.98516	0.00008
31	7	24	30	8	23	249.17328	-0.00005
31	7	24	32	8	25	231.41368	-0.00007
31	8	23	30	9	22	249.34820	0.00010
31	8	23	32	9	24	231.09278	-0.00032
31	9	22	32	10	23	230.64971	-0.00008
31	12	19	30	11	20	253.92836	-0.00005
31	13	18	30	12	19	253.83744	-0.00024
31	14	17	30	13	18	254.21185	0.00003
31	14	17	32	15	18	225.92292	0.00016
31	15	16	32	16	17	225.57977	-0.00004
31	16	15	32	17	16	225.25136	0.00001
31	16	16	32	17	15	225.25136	0.00003
31	17	14	30	16	15	255.59084	0.00008
31	18	13	32	19	14	224.62830	0.00008
31	18	14	32	19	13	224.62830	0.00008
31	19	12	32	20	13	224.32688	0.00012
31	19	13	32	20	12	224.32688	0.00012
31	20	11	30	19	12	256.91815	0.00003
31	20	11	32	21	12	224.07480	0.00019
31	20	12	30	19	11	256.91815	0.00003
31	20	12	32	21	11	224.07480	0.00019
31	21	10	30	20	11	257.35861	-0.00007
31	21	10	32	22	11	223.71903	-0.00005
31	21	11	30	20	10	257.35861	-0.00007
31	21	11	32	22	10	223.71903	-0.00005
31	22	9	30	21	10	257.82400	0.00004
31	22	9	32	23	10	223.42877	0.00006
31	22	10	30	21	9	257.82400	0.00004
31	22	10	32	23	9	223.42877	0.00006
31	23	8	30	22	9	258.23280	-0.00001
31	23	8	32	24	9	223.13901	0.00004
31	23	9	30	22	8	258.23280	-0.00001
31	23	9	32	24	8	223.13901	0.00004
31	24	7	30	23	8	258.67633	0.00005
31	24	7	32	25	8	222.85132	0.00013
31	24	8	30	23	7	258.67633	0.00005
31	24	8	32	25	7	222.85132	0.00013
31	25	6	30	24	7	259.11998	-0.00007
31	25	7	30	24	6	259.11998	-0.00007
31	26	5	30	25	6	259.56491	-0.00016
31	26	6	30	25	5	259.56491	-0.00016
31	27	4	30	26	5	260.01150	-0.00003
31	27	5	30	26	4	260.01150	-0.00003
31	28	3	30	27	4	260.45967	0.00020
31	28	3	32	29	4	221.71876	-0.00001



31	28	4	30	27	3	260.45967	0.00020
31	28	4	32	29	3	221.71876	-0.00001
31	29	2	30	28	3	260.90890	0.00011
31	29	2	32	30	3	221.43938	-0.00003
31	29	3	30	28	2	260.90890	0.00011
31	29	3	32	30	2	221.43938	-0.00003
31	30	1	30	29	2	261.35936	-0.00002
31	30	1	32	31	2	221.16101	-0.00006
31	30	2	30	29	1	261.35936	-0.00002
31	30	2	32	31	1	221.16101	-0.00006
31	31	0	30	30	1	261.81109	0.00002
31	31	0	32	32	1	220.88352	0.00008
31	31	1	30	30	0	261.81109	0.00002
31	31	1	32	32	0	220.88352	0.00008
32	0	32	31	1	31	248.07496	-0.00001
32	0	32	33	1	33	233.09537	-0.00001
32	1	31	31	2	30	248.25716	-0.00006
32	1	31	33	2	32	232.82351	-0.00005
32	1	32	31	0	31	248.07496	-0.00001
32	1	32	33	0	33	233.09537	-0.00001
32	2	30	31	3	29	248.44036	0.00002
32	2	30	33	3	31	232.55237	0.00006
32	2	31	31	1	30	248.25716	-0.00006
32	2	31	33	1	32	232.82351	-0.00005
32	3	29	31	4	28	248.62407	-0.00013
32	3	29	33	4	30	232.28061	-0.00016
32	3	30	31	2	29	248.44036	0.00002
32	3	30	33	2	31	232.55237	0.00006
32	4	28	31	5	27	248.80876	-0.00006
32	4	28	33	5	29	232.00790	0.00000
32	4	29	31	3	28	248.62407	-0.00013
32	4	29	33	3	30	232.28061	-0.00016
32	5	27	31	6	26	248.99448	0.00009
32	5	27	33	6	28	231.73229	-0.00003
32	5	28	31	4	27	248.80876	-0.00006
32	5	28	33	4	29	232.00790	0.00000
32	6	27	31	5	26	248.99448	0.00008
32	6	27	33	5	28	231.73229	-0.00003
32	7	26	31	6	25	249.18169	0.00014
32	8	24	31	9	23	249.56281	0.00019
32	8	25	31	7	24	249.37230	-0.00003
32	8	25	33	7	26	231.16448	0.00022
32	9	23	31	10	22	249.66137	0.00025
32	9	24	31	8	23	249.58882	0.00027
32	9	24	33	8	25	230.86845	0.00006
32	10	23	33	9	24	230.59288	-0.00004

32	14	18	33	15	19	225.60087	0.00003
32	14	19	31	13	18	254.29154	0.00025
32	15	18	31	14	17	254.86182	0.00012
32	15	18	33	16	17	225.23515	-0.00001
32	16	16	33	17	17	224.90926	0.00005
32	16	17	31	15	16	255.34114	0.00012
32	16	17	33	17	16	224.90926	0.00008
32	17	15	33	18	16	224.59248	-0.00014
32	17	16	31	16	15	255.80489	-0.00009
32	17	16	33	18	15	224.59248	-0.00014
32	18	14	31	17	15	256.25596	-0.00002
32	18	14	33	19	15	224.28386	-0.00005
32	18	15	31	17	14	256.25596	-0.00004
32	18	15	33	19	14	224.28386	-0.00005
32	19	13	31	18	14	256.70153	-0.00020
32	19	13	33	20	14	223.98296	-0.00002
32	19	14	31	18	13	256.70153	-0.00020
32	19	14	33	20	13	223.98296	-0.00002
32	20	12	31	19	13	257.14519	0.00004
32	20	13	31	19	12	257.14519	0.00004
32	21	11	31	20	12	257.58899	0.00023
32	21	11	33	22	12	223.37204	-0.00004
32	21	12	31	20	11	257.58899	0.00023
32	21	12	33	22	11	223.37204	-0.00004
32	22	10	33	23	11	223.08330	0.00015
32	22	11	33	23	10	223.08330	0.00015
32	23	9	31	22	10	258.46450	0.00010
32	23	9	33	24	10	222.79435	-0.00001
32	23	10	31	22	9	258.46450	0.00010
32	23	10	33	24	9	222.79435	-0.00001
32	24	8	31	23	9	258.91007	0.00006
32	24	8	33	25	9	222.50758	0.00009
32	24	9	31	23	8	258.91007	0.00006
32	24	9	33	25	8	222.50758	0.00009
32	25	7	31	24	8	259.35535	0.00000
32	25	7	33	26	8	222.22271	0.00006
32	25	8	31	24	7	259.35535	0.00000
32	25	8	33	26	7	222.22271	0.00006
32	26	6	31	25	7	259.80169	-0.00004
32	26	6	33	27	7	221.93965	-0.00011
32	26	7	31	25	6	259.80169	-0.00004
32	26	7	33	27	6	221.93965	-0.00011
32	27	5	31	26	6	260.24951	0.00007
32	27	6	31	26	5	260.24951	0.00007
32	28	4	31	27	5	260.69846	-0.00008
32	28	4	33	29	5	221.37910	0.00002

32	28	5	31	27	4	260.69846	-0.00008
32	28	5	33	29	4	221.37910	0.00002
32	29	3	31	28	4	261.14888	-0.00011
32	29	3	33	30	4	221.10081	-0.00005
32	29	4	31	28	3	261.14888	-0.00011
32	29	4	33	30	3	221.10081	-0.00005
32	30	2	31	29	3	261.60076	0.00008
32	30	2	33	31	3	220.82382	0.00011
32	30	3	31	29	2	261.60076	0.00008
32	30	3	33	31	2	220.82382	0.00011
32	31	1	31	30	2	262.05373	0.00026
32	31	1	33	32	2	220.54734	0.00000
32	31	2	31	30	1	262.05373	0.00026
32	31	2	33	32	1	220.54734	0.00000
32	32	0	31	31	1	262.50721	0.00008
32	32	0	33	33	1	220.27149	0.00009
32	32	1	31	31	0	262.50721	0.00008
32	32	1	33	33	0	220.27149	0.00009
33	0	33	32	1	32	248.28019	0.00009
33	0	33	34	1	34	232.84717	-0.00009
33	1	32	32	2	31	248.46082	-0.00003
33	1	32	34	2	33	232.57415	0.00014
33	1	33	32	0	32	248.28019	0.00009
33	1	33	34	0	34	232.84717	-0.00009
33	2	31	34	3	32	232.30169	0.00017
33	2	32	32	1	31	248.46082	-0.00003
33	2	32	34	1	33	232.57415	0.00014
33	3	30	32	4	29	248.82504	0.00001
33	3	30	34	4	31	232.02898	0.00010
33	3	31	34	2	32	232.30169	0.00017
33	4	29	32	5	28	249.00841	0.00015
33	4	30	32	3	29	248.82504	0.00001
33	4	30	34	3	31	232.02898	0.00010
33	5	28	32	6	27	249.19230	-0.00007
33	5	28	34	6	29	231.47894	0.00001
33	5	29	32	4	28	249.00841	0.00015
33	6	27	32	7	26	249.37780	0.00010
33	6	28	32	5	27	249.19230	-0.00007
33	6	28	34	5	29	231.47894	0.00001
33	7	26	32	8	25	249.56460	-0.00005
33	7	26	34	8	27	230.91057	-0.00008
33	7	27	32	6	26	249.37780	0.00003
33	8	25	32	9	24	249.74970	-0.00007
33	8	25	34	9	26	230.60777	-0.00003
33	10	23	32	11	22	249.80892	0.00012
33	14	19	32	13	20	254.64118	-0.00023

33	14	19	34	15	20	225.29219	-0.00035
33	15	18	34	16	19	224.90580	-0.00026
33	16	18	32	15	17	255.53994	0.00027
33	17	16	32	16	17	256.01716	-0.00011
33	18	15	34	19	16	223.93874	0.00011
33	18	16	34	19	15	223.93874	0.00011
33	19	14	34	20	15	223.63807	-0.00016
33	19	15	34	20	14	223.63807	-0.00016
33	20	13	32	19	14	257.36867	-0.00018
33	20	13	34	21	14	223.40816	0.00019
33	20	14	32	19	13	257.36867	-0.00018
33	20	14	34	21	13	223.40816	0.00019
33	21	12	34	22	13	223.02337	0.00024
33	21	13	34	22	12	223.02337	0.00024
33	22	11	32	21	12	258.30816	0.00034
33	22	11	34	23	12	222.73587	0.00003
33	22	12	32	21	11	258.30816	0.00034
33	22	12	34	23	11	222.73587	0.00003
33	23	10	32	22	11	258.69351	0.00047
33	23	10	34	24	11	222.44817	0.00009
33	23	11	32	22	10	258.69351	0.00047
33	23	11	34	24	10	222.44817	0.00009
33	24	9	32	23	10	259.14089	-0.00024
33	24	9	34	25	10	222.16224	0.00009
33	24	10	32	23	9	259.14089	-0.00024
33	24	10	34	25	9	222.16224	0.00009
33	25	8	32	24	9	259.58829	0.00005
33	25	8	34	26	9	221.87847	0.00018
33	25	9	32	24	8	259.58829	0.00005
33	25	9	34	26	8	221.87847	0.00018
33	26	7	32	25	8	260.03644	0.00030
33	26	7	34	27	8	221.59646	0.00004
33	26	8	32	25	7	260.03644	0.00030
33	26	8	34	27	7	221.59646	0.00004
33	27	6	32	26	7	260.48535	0.00013
33	27	6	34	28	7	221.31632	-0.00004
33	27	7	32	26	6	260.48535	0.00013
33	27	7	34	28	6	221.31632	-0.00004
33	28	5	32	27	6	260.93562	0.00001
33	28	5	34	29	6	221.03798	0.00005
33	28	6	32	27	5	260.93562	0.00001
33	28	6	34	29	5	221.03798	0.00005
33	29	4	34	30	5	220.76090	0.00001
33	29	5	34	30	4	220.76090	0.00001
33	30	3	32	29	4	261.84015	-0.00004
33	30	4	32	29	3	261.84015	-0.00004

33	31	2	32	30	3	262.29423	0.00006
33	31	3	32	30	2	262.29423	0.00006
33	32	1	32	31	2	262.74902	0.00000
33	32	1	34	33	2	219.93522	-0.00016
33	32	2	32	31	1	262.74902	0.00000
33	32	2	34	33	1	219.93522	-0.00016
33	33	0	32	32	1	263.20453	0.00002
33	33	1	32	32	0	263.20453	0.00002
34	0	34	33	1	33	248.48456	-0.00003
34	0	34	35	1	35	232.59856	0.00001
34	1	33	33	2	32	248.66377	-0.00006
34	1	33	35	2	34	232.32397	0.00010
34	1	34	33	0	33	248.48456	-0.00003
34	1	34	35	0	35	232.59856	0.00001
34	2	32	33	3	31	248.84413	0.00001
34	2	32	35	3	33	232.05023	0.00010
34	2	33	33	1	32	248.66377	-0.00006
34	2	33	35	1	34	232.32397	0.00010
34	3	31	33	4	30	249.02526	0.00001
34	3	31	35	4	32	231.77654	0.00011
34	3	32	33	2	31	248.84413	0.00001
34	3	32	35	2	33	232.05023	0.00010
34	4	30	33	5	29	249.20708	-0.00004
34	4	31	33	3	30	249.02526	0.00001
34	4	31	35	3	32	231.77654	0.00011
34	5	29	33	6	28	249.38979	-0.00001
34	5	29	35	6	30	231.22510	0.00015
34	5	30	33	4	29	249.20708	-0.00004
34	6	28	33	7	27	249.57369	0.00014
34	6	29	33	5	28	249.38979	-0.00001
34	6	29	35	5	30	231.22510	0.00015
34	7	28	33	6	27	249.57369	0.00011
34	8	27	33	7	26	249.75923	-0.00009
34	8	27	35	7	28	230.65726	-0.00015
34	9	25	33	10	24	250.11151	0.00000
34	9	26	33	8	25	249.95099	0.00018
34	10	24	33	11	23	250.14593	0.00012
34	10	25	33	9	24	250.17127	-0.00004
34	12	23	33	11	22	251.51606	0.00012
34	16	19	35	17	18	224.22386	0.00010
34	17	17	35	18	18	223.90310	0.00002
34	17	18	35	18	17	223.90310	0.00003
34	18	16	33	17	17	256.68115	0.00025
34	18	16	35	19	17	223.59233	-0.00016
34	18	17	33	17	16	256.68115	0.00009
34	18	17	35	19	16	223.59233	-0.00017

34	19	15	33	18	16	257.13731	-0.00001
34	19	16	33	18	15	257.13731	-0.00002
34	20	14	33	19	15	257.58899	-0.00003
34	20	14	35	21	15	223.07124	0.00000
34	20	15	33	19	14	257.58899	-0.00003
34	20	15	35	21	14	223.07124	-0.00001
34	21	13	33	20	14	258.04051	0.00026
34	21	13	35	22	14	222.67222	0.00002
34	21	14	33	20	13	258.04051	0.00025
34	21	14	35	22	13	222.67222	0.00002
34	22	12	33	21	13	258.54623	0.00013
34	22	12	35	23	13	222.38694	0.00014
34	22	13	33	21	12	258.54623	0.00013
34	22	13	35	23	12	222.38694	0.00014
34	23	11	33	22	12	258.91860	0.00005
34	23	11	35	24	12	222.10003	-0.00010
34	23	12	33	22	11	258.91860	0.00005
34	23	12	35	24	11	222.10003	-0.00010
34	24	10	33	23	11	259.36957	0.00006
34	24	10	35	25	11	221.81529	0.00010
34	24	11	33	23	10	259.36957	0.00006
34	24	11	35	25	10	221.81529	0.00010
34	25	9	33	24	10	259.81859	-0.00004
34	25	9	35	26	10	221.53255	0.00022
34	25	10	33	24	9	259.81859	-0.00004
34	25	10	35	26	9	221.53255	0.00022
34	27	7	33	26	8	260.71899	0.00016
34	27	7	35	28	8	220.97268	0.00010
34	27	8	33	26	7	260.71899	0.00016
34	27	8	35	28	7	220.97268	0.00010
34	28	6	35	29	7	220.69531	-0.00003
34	28	7	35	29	6	220.69531	-0.00003
34	29	5	35	30	6	220.41911	-0.00043
34	29	6	35	30	5	220.41911	-0.00043
34	31	3	33	30	4	262.53267	-0.00045
34	31	4	33	30	3	262.53267	-0.00045
35	0	35	34	1	34	248.68843	-0.00001
35	0	35	36	1	36	232.34922	-0.00005
35	1	34	34	2	33	248.86618	0.00003
35	1	34	36	2	35	232.07309	-0.00005
35	1	35	34	0	34	248.68843	-0.00001
35	1	35	36	0	36	232.34922	-0.00005
35	2	33	34	3	32	249.04499	-0.00006
35	2	33	36	3	34	231.79816	-0.00002
35	2	34	34	1	33	248.86618	0.00003
35	2	34	36	1	35	232.07309	-0.00005

35	3	32	34	4	31	249.22479	-0.00006
35	3	33	34	2	32	249.04499	-0.00006
35	3	33	36	2	34	231.79816	-0.00002
35	4	31	34	5	30	249.40526	-0.00013
35	4	31	36	5	32	231.24778	-0.00013
35	4	32	34	3	31	249.22479	-0.00006
35	5	30	34	6	29	249.58660	-0.00009
35	5	30	36	6	31	230.97041	-0.00002
35	5	31	34	4	30	249.40526	-0.00013
35	5	31	36	4	32	231.24778	-0.00013
35	6	29	34	7	28	249.76893	0.00000
35	6	29	36	7	30	230.68943	-0.00003
35	6	30	34	5	29	249.58660	-0.00010
35	6	30	36	5	31	230.97041	-0.00002
35	7	28	34	8	27	249.95252	0.00000
35	7	28	36	8	29	230.40249	-0.00026
35	7	29	34	6	28	249.76893	-0.00001
35	7	29	36	6	30	230.68943	-0.00003
35	8	27	34	9	26	250.13731	-0.00012
35	8	27	36	9	28	230.10630	0.00014
35	8	28	36	7	29	230.40249	-0.00037
35	9	26	34	10	25	250.31499	-0.00010
35	10	25	34	11	24	250.39576	-0.00020
35	10	25	36	11	26	229.38689	-0.00009
35	11	24	34	12	23	250.14255	-0.00024
35	16	19	36	17	20	223.87527	0.00001
35	18	17	34	17	18	256.88531	0.00012
35	19	16	34	18	17	257.34848	-0.00012
35	19	16	36	20	17	222.94609	0.00000
35	19	17	34	18	16	257.34848	-0.00016
35	19	17	36	20	16	222.94609	-0.00001
35	20	15	34	19	16	257.80544	0.00002
35	20	16	34	19	15	257.80544	0.00002
35	21	14	34	20	15	258.26165	0.00028
35	21	14	36	22	15	222.31947	0.00026
35	21	15	34	20	14	258.26165	0.00028
35	21	15	36	22	14	222.31947	0.00026
35	22	13	34	21	14	258.78074	0.00004
35	22	13	36	23	14	222.03604	0.00005
35	22	14	34	21	13	258.78074	0.00004
35	22	14	36	23	13	222.03604	0.00005
35	23	12	34	22	13	259.14088	0.00014
35	23	13	34	22	12	259.14088	0.00014
35	24	11	36	25	12	221.46664	0.00004
35	24	12	36	25	11	221.46664	0.00004
35	25	10	34	24	11	260.04644	0.00004

35	25	10	36	26	11	221.18483	0.00003
35	25	11	34	24	10	260.04644	0.00004
35	25	11	36	26	10	221.18483	0.00003
35	26	9	34	25	10	260.49782	-0.00006
35	26	10	34	25	9	260.49782	-0.00006
35	27	8	34	26	9	260.94990	-0.00026
35	27	8	36	28	9	220.62739	0.00007
35	27	9	34	26	8	260.94990	-0.00026
35	27	9	36	28	8	220.62739	0.00007
35	28	7	34	27	8	261.40348	-0.00004
35	28	8	34	27	7	261.40348	-0.00004
36	0	36	35	1	35	248.89166	0.00001
36	0	36	37	1	37	232.09940	-0.00002
36	1	35	35	2	34	249.06773	-0.00009
36	1	35	37	2	36	231.82187	0.00005
36	1	36	35	0	35	248.89166	0.00001
36	1	36	37	0	37	232.09940	-0.00002
36	2	34	35	3	33	249.24515	-0.00020
36	2	34	37	3	35	231.54566	-0.00003
36	2	35	35	1	34	249.06773	-0.00009
36	2	35	37	1	36	231.82187	0.00005
36	3	33	35	4	32	249.42376	-0.00008
36	3	34	35	2	33	249.24515	-0.00020
36	3	34	37	2	35	231.54566	-0.00003
36	4	32	35	5	31	249.60311	0.00001
36	4	32	37	5	33	230.99359	0.00004
36	4	33	35	3	32	249.42376	-0.00008
36	5	31	35	6	30	249.78300	-0.00007
36	5	31	37	6	32	230.71549	0.00007
36	5	32	35	4	31	249.60311	0.00001
36	5	32	37	4	33	230.99359	0.00004
36	6	30	35	7	29	249.96382	-0.00004
36	6	31	35	5	30	249.78300	-0.00007
36	6	31	37	5	32	230.71549	0.00007
36	7	29	35	8	28	250.14593	0.00011
36	7	29	37	8	30	230.14762	0.00003
36	7	30	35	6	29	249.96382	-0.00004
36	8	29	35	7	28	250.14593	0.00003
36	8	29	37	7	30	230.14762	-0.00002
36	9	27	35	10	26	250.51045	-0.00018
36	9	28	35	8	27	250.33061	0.00009
36	10	27	35	9	26	250.52453	-0.00028
36	16	21	35	15	20	256.06089	-0.00003
36	17	20	35	16	19	256.59639	-0.00004
36	18	19	35	17	18	257.08464	0.00023
36	19	17	35	18	18	257.55511	0.00007



36	19	18	35	18	17	257.55511	-0.00002
36	20	16	35	19	17	258.01745	-0.00037
36	20	17	35	19	16	258.01745	-0.00038
36	21	15	35	20	16	258.47869	-0.00046
36	21	16	35	20	15	258.47869	-0.00046
36	22	14	35	21	15	259.01133	0.00040
36	22	15	35	21	14	259.01133	0.00039
36	23	13	35	22	14	259.35970	0.00032
36	23	14	35	22	13	259.35970	0.00032
36	24	12	35	23	13	259.81763	0.00015
36	24	13	35	23	12	259.81763	0.00015
36	25	11	35	24	12	260.27164	0.00020
36	25	12	35	24	11	260.27164	0.00020
36	26	10	35	25	11	260.72510	0.00008
36	26	11	35	25	10	260.72510	0.00008
36	27	9	35	26	10	261.17922	0.00006
36	27	10	35	26	9	261.17922	0.00006
36	28	8	35	27	9	261.63357	-0.00065
36	28	9	35	27	8	261.63357	-0.00065
37	0	37	38	1	38	231.84889	-0.00009
37	1	36	36	2	35	249.26884	-0.00001
37	1	36	38	2	37	231.56975	-0.00017
37	1	37	38	0	38	231.84889	-0.00009
37	2	35	38	3	36	231.29266	0.00000
37	2	36	36	1	35	249.26884	-0.00001
37	2	36	38	1	37	231.56975	-0.00017
37	3	34	36	4	33	249.62226	0.00002
37	3	34	38	4	35	231.01600	0.00004
37	3	35	38	2	36	231.29266	0.00000
37	4	33	36	5	32	249.80024	-0.00002
37	4	34	36	3	33	249.62226	0.00002
37	4	34	38	3	35	231.01600	0.00004
37	5	32	38	6	33	230.46025	0.00027
37	5	33	36	4	32	249.80024	-0.00002
37	6	31	36	7	30	250.15844	0.00009
37	6	31	38	7	32	230.17827	-0.00001
37	6	32	38	5	33	230.46025	0.00027
37	7	30	36	8	29	250.33871	-0.00003
37	7	30	38	8	31	229.89194	0.00009
37	7	31	36	6	30	250.15844	0.00009
37	7	31	38	6	32	230.17827	-0.00001
37	8	29	36	9	28	250.52059	0.00007
37	8	29	38	9	30	229.59791	0.00003
37	8	30	36	7	29	250.33871	-0.00007
37	8	30	38	7	31	229.89194	0.00007
37	9	28	36	10	27	250.70239	-0.00011

37	11	26	36	12	25	250.88458	-0.00024
38	0	38	37	1	37	249.29612	-0.00004
38	0	38	39	1	39	231.59799	0.00001
38	1	37	37	2	36	249.46921	-0.00001
38	1	37	39	2	38	231.31744	0.00001
38	1	38	37	0	37	249.29612	-0.00004
38	1	38	39	0	39	231.59799	0.00001
38	2	36	37	3	35	249.64399	-0.00007
38	2	36	39	3	37	231.03914	0.00002
38	2	37	37	1	36	249.46921	-0.00001
38	2	37	39	1	38	231.31744	0.00001
38	3	35	37	4	34	249.82013	0.00005
38	3	36	37	2	35	249.64399	-0.00007
38	3	36	39	2	37	231.03914	0.00002
38	4	34	37	5	33	249.99690	0.00000
38	4	35	37	3	34	249.82013	0.00005
38	5	33	37	6	32	250.17439	0.00004
38	5	34	37	4	33	249.99690	0.00000
38	6	32	37	7	31	250.35238	-0.00007
38	6	33	37	5	32	250.17439	0.00004
38	7	31	37	8	30	250.53140	0.00006
38	7	32	37	6	31	250.35238	-0.00007
38	8	30	37	9	29	250.71155	0.00011
38	8	31	37	7	30	250.53140	0.00005
38	9	30	37	8	29	250.71155	-0.00013
38	9	30	39	8	31	229.34239	-0.00014
39	0	39	38	1	38	249.49753	0.00006
39	0	39	40	1	40	231.34634	-0.00008
39	1	38	38	2	37	249.66897	0.00003
39	1	38	40	2	39	231.06425	-0.00012
39	1	39	38	0	38	249.49753	0.00006
39	1	39	40	0	40	231.34634	-0.00008
39	2	37	38	3	36	249.84246	-0.00005
39	2	38	38	1	37	249.66897	0.00003
39	2	38	40	1	39	231.06425	-0.00012
39	3	36	38	4	35	250.01737	0.00000
39	3	36	40	4	37	230.50690	0.00007
39	3	37	38	2	36	249.84246	-0.00005
39	4	35	38	5	34	250.19310	0.00004
39	4	36	38	3	35	250.01737	0.00000
39	4	36	40	3	37	230.50690	0.00007
39	5	34	38	6	33	250.36949	0.00013
39	5	35	38	4	34	250.19310	0.00004
39	6	33	38	7	32	250.54621	0.00002
39	6	33	40	7	34	229.66583	0.00010
39	6	34	38	5	33	250.36949	0.00013

39	7	32	38	8	31	250.72376	0.00009
39	7	32	40	8	33	229.37921	0.00006
39	7	33	38	6	32	250.54621	0.00002
39	7	33	40	6	34	229.66583	0.00010
39	8	31	38	9	30	250.90223	0.00010
39	8	32	38	7	31	250.72376	0.00008
39	8	32	40	7	33	229.37921	0.00006
39	9	30	38	10	29	251.08180	-0.00002
39	9	30	40	10	31	228.78393	0.00007
39	9	31	38	8	30	250.90223	-0.00001
40	0	40	39	1	39	249.69792	-0.00021
40	0	40	41	1	41	231.09427	-0.00001
40	1	39	39	2	38	249.86797	-0.00004
40	1	39	41	2	40	230.81066	-0.00006
40	1	40	39	0	39	249.69792	-0.00021
40	1	40	41	0	41	231.09427	-0.00001
40	2	38	39	3	37	250.04035	-0.00004
40	2	38	41	3	39	230.53079	0.00001
40	2	39	39	1	38	249.86797	-0.00004
40	2	39	41	1	40	230.81066	-0.00006
40	3	37	39	4	36	250.21425	0.00006
40	3	37	41	4	38	230.25200	0.00007
40	3	38	39	2	37	250.04035	-0.00004
40	3	38	41	2	39	230.53079	0.00001
40	4	36	39	5	35	250.38885	0.00001
40	4	36	41	5	37	229.97276	-0.00002
40	4	37	39	3	36	250.21425	0.00006
40	4	37	41	3	38	230.25200	0.00007
40	5	35	39	6	34	250.56407	0.00003
40	5	35	41	6	36	229.69236	0.00007
40	5	36	39	4	35	250.38885	0.00001
40	5	36	41	4	37	229.97276	-0.00002
40	6	34	39	7	33	250.73972	0.00005
40	6	34	41	7	35	229.40943	0.00009
40	6	35	39	5	34	250.56407	0.00003
40	6	35	41	5	36	229.69236	0.00007
40	7	33	39	8	32	250.91568	-0.00012
40	7	33	41	8	34	229.12255	-0.00001
40	7	34	39	6	33	250.73972	0.00005
40	7	34	41	6	35	229.40943	0.00009
40	8	32	39	9	31	251.09254	-0.00015
40	8	33	39	7	32	250.91568	-0.00013
40	8	33	41	7	34	229.12255	-0.00001
40	9	32	39	8	31	251.09254	-0.00020
41	0	41	40	1	40	249.89820	0.00003
41	0	41	42	1	42	230.84160	0.00002

41	1	40	40	2	39	250.06646	0.00002
41	1	41	40	0	40	249.89820	0.00003
41	1	41	42	0	42	230.84160	0.00002
41	2	39	40	3	38	250.23757	-0.00018
41	2	40	40	1	39	250.06646	0.00002
41	3	38	40	4	37	250.41062	0.00000
41	3	38	42	4	39	229.99721	0.00007
41	3	39	40	2	38	250.23757	-0.00018
41	4	37	40	5	36	250.58434	0.00003
41	4	37	42	5	38	229.71767	0.00009
41	4	38	40	3	37	250.41062	0.00000
41	4	38	42	3	39	229.99721	0.00007
41	5	36	40	6	35	250.75857	0.00008
41	5	36	42	6	37	229.43666	0.00004
41	5	37	40	4	36	250.58434	0.00003
41	5	37	42	4	38	229.71767	0.00009
41	6	35	40	7	34	250.93267	-0.00032
41	6	35	42	7	36	229.15333	0.00011
41	6	36	40	5	35	250.75857	0.00008
41	6	36	42	5	37	229.43666	0.00004
41	7	34	40	8	33	251.10779	-0.00005
41	7	35	40	6	34	250.93267	-0.00032
41	7	35	42	6	36	229.15333	0.00011
41	8	33	40	9	32	251.28323	0.00001
41	8	34	40	7	33	251.10779	-0.00005
41	9	32	42	10	33	228.27346	-0.00002
41	9	33	40	8	32	251.28323	-0.00001
41	10	32	42	9	33	228.27346	-0.00016
42	0	42	41	1	41	250.09758	0.00002
42	0	42	43	1	43	230.58835	0.00002
42	1	41	41	2	40	250.26418	-0.00003
42	1	41	43	2	42	230.30171	0.00002
42	1	42	41	0	41	250.09758	0.00002
42	1	42	43	0	43	230.58835	0.00002
42	2	40	41	3	39	250.43464	-0.00004
42	2	40	43	3	41	230.02199	-0.00012
42	2	41	41	1	40	250.26418	-0.00003
42	2	41	43	1	42	230.30171	0.00002
42	3	39	41	4	38	250.60673	-0.00008
42	3	39	43	4	40	229.74301	-0.00004
42	3	40	41	2	39	250.43464	-0.00004
42	3	40	43	2	41	230.02199	-0.00012
42	4	38	41	5	37	250.77972	0.00004
42	4	38	43	5	39	229.46322	0.00003
42	4	39	41	3	38	250.60673	-0.00008
42	4	39	43	3	40	229.74301	-0.00004

42	5	37	41	6	36	250.95284	-0.00008
42	5	37	43	6	38	229.18170	-0.00002
42	5	38	41	4	37	250.77972	0.00004
42	5	38	43	4	39	229.46322	0.00003
42	6	36	41	7	35	251.12632	-0.00001
42	6	37	41	5	36	250.95284	-0.00008
42	6	37	43	5	38	229.18170	-0.00002
42	7	35	41	8	34	251.29989	-0.00005
42	7	36	41	6	35	251.12632	-0.00001
42	8	34	41	9	33	251.47367	-0.00020
42	8	35	41	7	34	251.29989	-0.00005
42	9	34	41	8	33	251.47367	-0.00021
43	0	43	42	1	42	250.29625	-0.00008
43	0	43	44	1	44	230.33444	-0.00007
43	1	42	42	2	41	250.46127	-0.00006
43	1	43	42	0	42	250.29625	-0.00008
43	1	43	44	0	44	230.33444	-0.00007
43	2	41	42	3	40	250.63137	-0.00001
43	2	42	42	1	41	250.46127	-0.00006
43	3	40	42	4	39	250.80295	-0.00008
43	3	40	44	4	41	229.49114	0.00001
43	3	41	42	2	40	250.63137	-0.00001
43	4	39	42	5	38	250.97523	0.00000
43	4	39	44	5	40	229.21088	0.00011
43	4	40	42	3	39	250.80295	-0.00008
43	4	40	44	3	41	229.49114	0.00001
43	5	38	42	6	37	251.14763	0.00004
43	5	39	42	4	38	250.97523	0.00000
43	5	39	44	4	40	229.21088	0.00011
43	6	37	42	7	36	251.31992	-0.00003
43	6	37	44	7	38	228.64398	0.00016
43	6	38	42	5	37	251.14763	0.00004
43	7	36	42	8	35	251.49194	-0.00039
43	7	37	42	6	36	251.31992	-0.00003
43	7	37	44	6	38	228.64398	0.00016
43	8	36	42	7	35	251.49194	-0.00039
43	9	34	42	10	33	251.83763	-0.00011
43	10	34	42	9	33	251.83763	-0.00016
44	0	44	43	1	43	250.49442	-0.00004
44	1	43	43	2	42	250.65780	0.00000
44	1	44	43	0	43	250.49442	-0.00004
44	2	42	43	3	41	250.82837	0.00002
44	2	42	45	3	43	229.53157	0.00010
44	2	43	43	1	42	250.65780	0.00000
44	3	41	43	4	40	250.99990	0.00002
44	3	41	45	4	42	229.24615	-0.00009

44	3	42	43	2	41	250.82837	0.00002
44	3	42	45	2	43	229.53157	0.00010
44	4	40	43	5	39	251.17152	0.00000
44	4	41	43	3	40	250.99990	0.00002
44	4	41	45	3	42	229.24615	-0.00009
44	5	39	43	6	38	251.34299	-0.00002
44	5	40	43	4	39	251.17152	0.00000
44	6	38	43	7	37	251.51432	0.00002
44	6	39	43	5	38	251.34299	-0.00002
44	7	38	43	6	37	251.51432	0.00002
45	0	45	44	1	44	250.69200	0.00005
45	1	44	44	2	43	250.85365	0.00003
45	1	44	46	2	45	229.53393	0.00007
45	1	45	44	0	44	250.69200	0.00005
45	2	43	44	3	42	251.02732	0.00003
45	2	43	46	3	44	229.20176	-0.00012
45	2	44	44	1	43	250.85365	0.00003
45	2	44	46	1	45	229.53393	0.00007
45	3	42	44	4	41	251.19894	0.00010
45	3	43	44	2	42	251.02732	0.00003
45	3	43	46	2	44	229.20176	-0.00012
45	4	41	44	5	40	251.36983	0.00012
45	4	42	44	3	41	251.19894	0.00010
45	5	40	44	6	39	251.54003	-0.00007
45	5	41	44	4	40	251.36983	0.00012
45	6	39	44	7	38	251.71021	0.00015
45	6	40	44	5	39	251.54003	-0.00007
45	7	38	44	8	37	251.87976	0.00008
45	7	39	44	6	38	251.71021	0.00015
45	8	38	44	7	37	251.87976	0.00008
45	9	36	44	10	35	252.21792	-0.00052
45	10	36	44	9	35	252.21792	-0.00053
46	0	46	45	1	45	250.88890	0.00008
46	0	46	47	1	47	229.56966	-0.00008
46	1	45	45	2	44	251.04882	0.00004
46	1	45	47	2	46	229.27677	-0.00001
46	1	46	45	0	45	250.88890	0.00008
46	1	46	47	0	47	229.56966	-0.00008
46	2	44	45	3	43	251.23974	0.00002
46	2	44	47	3	45	228.96944	0.00005
46	2	45	45	1	44	251.04882	0.00004
46	2	45	47	1	46	229.27677	-0.00001
46	3	43	45	4	42	251.40472	-0.00001
46	3	44	45	2	43	251.23974	0.00002
46	3	44	47	2	45	228.96944	0.00005
46	4	42	45	5	41	251.57264	0.00005

46	4	42	47	5	43	228.54404	0.00008
46	4	43	45	3	42	251.40472	-0.00001
46	5	42	45	4	41	251.57264	0.00005
46	5	42	47	4	43	228.54404	0.00008
46	6	40	45	7	39	251.90870	0.00015
46	7	40	45	6	39	251.90870	0.00015
46	8	38	45	9	37	252.24327	-0.00027
46	9	38	45	8	37	252.24327	-0.00027
46	11	35	45	12	34	252.74567	-0.00053
47	0	47	46	1	46	251.08513	0.00007
47	1	46	46	2	45	251.24337	0.00007
47	1	47	46	0	46	251.08513	0.00007
47	2	45	46	3	44	251.36096	-0.00007
47	2	46	46	1	45	251.24337	0.00007
47	3	45	46	2	44	251.36096	-0.00007
47	4	43	46	5	42	251.78865	-0.00010
47	5	42	46	6	41	251.94908	0.00007
47	5	43	46	4	42	251.78865	-0.00010
47	6	41	46	7	40	252.11233	0.00000
47	6	42	46	5	41	251.94908	0.00007
47	7	41	46	6	40	252.11233	0.00000

S.15 - Vibration-rotation line list for the 384 cm<sup>-1</sup> band (0<sup>1</sup> → 405 cm<sup>-1</sup>) of malonaldehyde used in the multi-state fitting. All lines were weighted using an uncertainty of 0.0002 cm<sup>-1</sup>.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )	Obs-Calc (cm <sup>-1</sup> )
5	5	0	4	4	0	386.27775	-0.00023
5	5	1	4	4	1	386.27775	-0.00047
6	3	3	5	2	3	385.76578	0.00011
6	4	3	5	3	3	386.22535	-0.00013
6	5	1	7	6	1	379.13483	-0.00014
6	5	2	5	4	2	386.57198	0.00015
6	5	2	7	6	2	379.13483	0.00014
6	6	0	5	5	0	386.93061	0.00022
6	6	0	7	7	0	378.75852	-0.00025
6	6	1	5	5	1	386.93061	0.00019
6	6	1	7	7	1	378.75852	-0.00025
7	3	4	6	2	4	386.06863	0.00015
7	4	3	6	3	3	386.43924	-0.00006
7	5	2	6	4	2	386.85768	0.00007
7	5	2	8	6	2	378.85227	0.00001
7	6	1	6	5	1	387.22406	0.00007
7	6	1	8	7	1	378.47403	0.00009
7	6	2	8	7	2	378.47403	0.00013
7	7	0	6	6	0	387.58190	0.00012
7	7	0	8	8	0	378.09637	-0.00018
7	7	1	6	6	1	387.58190	0.00012
7	7	1	8	8	1	378.09637	-0.00018
8	2	6	7	1	6	386.54062	-0.00001
8	2	7	7	1	7	386.76004	-0.00020
8	2	7	9	3	7	379.24341	0.00014
8	3	6	7	2	6	386.74512	0.00004
8	4	5	7	3	5	386.87582	0.00012
8	4	5	9	5	5	378.92358	-0.00007
8	5	4	7	4	4	387.16524	-0.00013
8	5	4	9	6	4	378.56788	0.00004
8	6	2	7	5	2	387.51650	-0.00007
8	6	2	9	7	2	378.19047	-0.00022
8	6	3	7	5	3	387.51821	0.00005
8	6	3	9	7	3	378.19047	0.00003
8	7	1	7	6	1	387.87639	0.00008
8	7	2	7	6	2	387.87639	0.00004
8	8	0	7	7	0	388.23220	-0.00004
8	8	0	9	9	0	377.43331	-0.00015
8	8	1	7	7	1	388.23220	-0.00004



8	8	1	9	9	1	377.43331	-0.00015
9	1	8	10	2	8	378.88818	-0.00015
9	2	7	8	1	7	387.03882	0.00012
9	2	7	10	3	7	379.14378	-0.00010
9	3	6	8	2	6	386.82366	-0.00003
9	3	6	10	4	6	379.17519	0.00002
9	3	7	10	4	7	378.80264	0.00022
9	4	6	8	3	6	387.23257	0.00012
9	5	4	8	4	4	387.39503	-0.00003
9	5	4	10	6	4	378.30612	-0.00002
9	6	3	8	5	3	387.80587	0.00006
9	6	3	10	7	3	377.91001	0.00001
9	6	4	8	5	4	387.81234	0.00014
9	7	2	8	6	2	388.17069	0.00001
9	7	2	10	8	2	377.52896	-0.00023
9	7	3	8	6	3	388.17069	-0.00022
9	7	3	10	8	3	377.52896	-0.00020
9	8	1	8	7	1	388.52750	-0.00004
9	8	1	10	9	1	377.14968	-0.00004
9	8	2	8	7	2	388.52750	-0.00005
9	8	2	10	9	2	377.14968	-0.00004
9	9	0	8	8	0	388.88178	0.00000
9	9	0	10	10	0	376.76963	0.00010
9	9	1	8	8	1	388.88178	0.00000
9	9	1	10	10	1	376.76963	0.00010
10	3	7	9	2	7	387.28295	0.00001
10	3	8	9	2	8	387.60426	0.00009
10	4	6	9	3	6	387.25124	0.00021
10	4	7	11	5	7	378.29098	0.00015
10	5	6	9	4	6	387.79123	-0.00002
10	6	4	9	5	4	388.08718	-0.00016
10	6	5	9	5	5	388.10767	0.00009
10	6	5	11	7	5	377.62920	-0.00006
10	7	4	9	6	4	388.46522	0.00014
10	7	4	11	8	4	377.24771	-0.00005
10	8	2	9	7	2	388.82312	0.00015
10	8	2	11	9	2	376.86704	-0.00006
10	8	3	9	7	3	388.82312	0.00011
10	8	3	11	9	3	376.86704	-0.00005
10	9	1	9	8	1	389.17786	0.00005
10	9	1	11	10	1	376.48624	-0.00014
10	9	2	9	8	2	389.17786	0.00005
10	9	2	11	10	2	376.48624	-0.00014
10	10	0	9	9	0	389.53048	0.00007
10	10	0	11	11	0	376.10457	-0.00017
10	10	1	9	9	1	389.53048	0.00007

10	10	1	11	11	1	376.10457	-0.00017
11	1	10	12	2	10	377.95027	0.00009
11	2	9	10	1	9	388.01676	0.00001
11	3	8	12	4	8	378.42223	0.00019
11	4	7	10	3	7	387.60970	0.00010
11	4	7	12	5	7	378.31877	0.00007
11	5	6	10	4	6	387.87037	-0.00003
11	5	6	12	6	6	377.82622	-0.00014
11	6	5	10	5	5	388.35435	0.00000
11	7	4	10	6	4	388.75446	-0.00005
11	7	4	12	8	4	376.96945	0.00016
11	7	5	10	6	5	388.75871	0.00002
11	10	1	10	9	1	389.82736	0.00020
11	10	1	12	11	1	375.82221	0.00000
11	10	2	10	9	2	389.82736	0.00020
11	10	2	12	11	2	375.82221	0.00000
11	11	0	10	10	0	390.17835	0.00023
11	11	1	10	10	1	390.17835	0.00023
12	3	9	11	2	9	388.29514	-0.00005
12	3	10	13	4	10	377.56533	-0.00008
12	4	8	11	3	8	388.02972	-0.00014
12	4	9	11	3	9	388.44411	-0.00007
12	5	7	11	4	7	388.12771	-0.00019
12	5	8	11	4	8	388.49101	0.00006
12	5	8	13	6	8	377.40000	-0.00001
12	6	6	11	5	6	388.59994	-0.00017
12	6	7	11	5	7	388.71539	0.00002
12	7	5	11	6	5	389.03905	-0.00025
12	7	6	11	6	6	389.05224	0.00000
12	7	6	13	8	6	376.69183	0.00010
12	8	4	13	9	4	376.30645	-0.00027
12	8	5	11	7	5	389.41257	-0.00021
12	8	5	13	9	5	376.30645	-0.00015
12	9	3	11	8	3	389.77034	-0.00004
12	9	3	13	10	3	375.92358	0.00016
12	9	4	11	8	4	389.77034	-0.00007
12	9	4	13	10	4	375.92358	0.00017
12	10	2	13	11	2	375.54061	-0.00002
12	10	3	13	11	3	375.54061	-0.00002
12	11	1	11	10	1	390.47558	0.00000
12	11	1	13	12	1	375.15720	0.00000
12	11	2	11	10	2	390.47558	0.00000
12	11	2	13	12	2	375.15720	0.00000
12	12	0	11	11	0	390.82493	0.00003
12	12	0	13	13	0	374.77259	-0.00005
12	12	1	11	11	1	390.82493	0.00003

12	12	1	13	13	1	374.77259	-0.00005
13	1	12	12	0	12	389.04115	0.00025
13	2	11	12	1	11	388.95829	0.00019
13	2	12	12	1	12	389.04115	-0.00007
13	2	12	14	3	12	377.03807	-0.00019
13	3	10	12	2	10	388.80162	0.00013
13	3	11	12	2	11	388.96576	0.00008
13	4	9	12	3	9	388.50781	-0.00002
13	4	9	14	5	9	377.67778	-0.00011
13	5	8	12	4	8	388.43406	0.00015
13	6	7	12	5	7	388.82638	0.00005
13	6	7	14	7	7	376.87376	-0.00005
13	7	6	12	6	6	389.31301	-0.00008
13	7	6	14	8	6	376.42567	-0.00012
13	7	7	14	8	7	376.41761	0.00026
13	8	5	12	7	5	389.70392	0.00016
13	8	6	12	7	6	389.70641	0.00003
13	8	6	14	9	6	376.02925	-0.00033
13	9	4	14	10	4	375.64417	-0.00003
13	9	5	14	10	5	375.64417	-0.00001
13	10	3	12	9	3	390.42157	0.00005
13	10	3	14	11	3	375.26024	0.00003
13	10	4	12	9	4	390.42157	0.00005
13	10	4	14	11	4	375.26024	0.00003
13	11	2	12	10	2	390.77356	0.00008
13	11	2	14	12	2	374.87621	0.00001
13	11	3	12	10	3	390.77356	0.00008
13	11	3	14	12	3	374.87621	0.00001
13	12	1	12	11	1	391.12301	-0.00009
13	12	2	12	11	2	391.12301	-0.00009
13	13	0	12	12	0	391.47081	0.00005
13	13	0	14	14	0	374.10528	-0.00004
13	13	1	12	12	1	391.47081	0.00005
13	13	1	14	14	1	374.10528	-0.00004
14	4	10	15	5	10	377.25604	-0.00016
14	4	11	13	3	11	389.33749	0.00001
14	5	9	13	4	9	388.80319	0.00013
14	5	10	13	4	10	389.28679	0.00006
14	5	10	15	6	10	376.72532	-0.00007
14	6	9	13	5	9	389.38067	0.00034
14	6	9	15	7	9	376.50014	-0.00011
14	7	8	13	6	8	389.64753	-0.00007
14	7	8	15	8	8	376.14434	-0.00014
14	8	7	13	7	7	389.99901	-0.00011
14	8	7	15	9	7	375.75511	-0.00015
14	9	5	15	10	5	375.36693	-0.00006

14	9	6	13	8	6	390.36147	0.00009
14	9	6	15	10	6	375.36693	0.00002
14	10	4	13	9	4	390.71858	-0.00002
14	10	4	15	11	4	374.98130	0.00007
14	10	5	13	9	5	390.71858	-0.00003
14	10	5	15	11	5	374.98130	0.00008
14	11	3	13	10	3	391.07168	0.00006
14	11	3	15	12	3	374.59631	0.00002
14	11	4	13	10	4	391.07168	0.00006
14	11	4	15	12	4	374.59631	0.00002
14	12	2	13	11	2	391.42186	0.00010
14	12	2	15	13	2	374.21082	-0.00015
14	12	3	13	11	3	391.42186	0.00010
14	12	3	15	13	3	374.21082	-0.00015
14	13	1	13	12	1	391.76976	0.00006
14	13	1	15	14	1	373.82467	-0.00004
14	13	2	13	12	2	391.76976	0.00006
14	13	2	15	14	2	373.82467	-0.00004
14	14	0	13	13	0	392.11572	0.00002
14	14	1	13	13	1	392.11572	0.00002
15	0	15	16	1	15	376.07527	0.00012
15	1	14	16	2	14	376.14435	-0.00023
15	1	15	16	2	15	376.07527	0.00014
15	4	11	14	3	11	389.55134	0.00006
15	5	10	14	4	10	389.23976	-0.00003
15	6	9	14	5	9	389.30732	0.00010
15	6	9	16	7	9	376.47733	-0.00015
15	7	8	14	6	8	389.80036	-0.00002
15	8	7	16	9	7	375.48894	-0.00005
15	8	8	16	9	8	375.48414	0.00029
15	9	6	14	8	6	390.65378	0.00007
15	9	6	16	10	6	375.09223	-0.00010
15	9	7	16	10	7	375.09223	0.00021
15	10	5	14	9	5	391.01525	0.00011
15	10	5	16	11	5	374.70378	-0.00016
15	10	6	14	9	6	391.01525	0.00004
15	10	6	16	11	6	374.70378	-0.00014
15	11	4	14	10	4	391.36978	-0.00001
15	11	4	16	12	4	374.31769	0.00004
15	11	5	14	10	5	391.36978	-0.00001
15	11	5	16	12	5	374.31769	0.00004
15	12	3	14	11	3	391.72073	0.00000
15	12	4	14	11	4	391.72073	0.00000
15	13	2	14	12	2	392.06917	0.00004
15	13	2	16	14	2	373.54494	0.00000
15	13	3	14	12	3	392.06917	0.00004

15	13	3	16	14	3	373.54494	0.00000
15	14	1	14	13	1	392.41543	0.00004
15	14	1	16	15	1	373.15739	0.00016
15	14	2	14	13	2	392.41543	0.00004
15	14	2	16	15	2	373.15739	0.00016
15	15	0	14	14	0	392.75964	-0.00006
15	15	0	16	16	0	372.76819	-0.00001
15	15	1	14	14	1	392.75964	-0.00006
15	15	1	16	16	1	372.76819	-0.00001
16	3	13	17	4	13	375.94101	0.00020
16	7	10	17	8	10	375.59248	0.00000
16	8	8	15	7	8	390.53551	0.00005
16	8	9	15	7	9	390.58677	0.00003
16	9	8	15	8	8	390.94800	0.00008
16	9	8	17	10	8	374.81974	-0.00020
16	11	5	15	10	5	391.66765	-0.00008
16	11	6	15	10	6	391.66765	-0.00009
16	12	4	15	11	4	392.01989	0.00011
16	12	4	17	13	4	373.65324	-0.00005
16	12	5	15	11	5	392.01989	0.00011
16	12	5	17	13	5	373.65324	-0.00005
16	13	3	15	12	3	392.36893	-0.00002
16	13	3	17	14	3	373.26633	0.00020
16	13	4	15	12	4	392.36893	-0.00002
16	13	4	17	14	4	373.26633	0.00020
16	14	2	15	13	2	392.71567	0.00006
16	14	2	17	15	2	372.87807	-0.00005
16	14	3	15	13	3	392.71567	0.00006
16	14	3	17	15	3	372.87807	-0.00005
16	15	1	15	14	1	393.06017	-0.00001
16	15	1	17	16	1	372.48899	0.00005
16	15	2	15	14	2	393.06017	-0.00001
16	15	2	17	16	2	372.48899	0.00005
16	16	0	15	15	0	393.40282	0.00004
16	16	0	17	17	0	372.09830	-0.00009
16	16	1	15	15	1	393.40282	0.00004
16	16	1	17	17	1	372.09830	-0.00009
17	3	14	16	2	14	390.71701	-0.00002
17	3	14	18	4	14	375.46802	0.00009
17	4	14	16	3	14	390.72170	0.00025
17	5	12	18	6	12	376.09523	-0.00016
17	6	11	16	5	11	390.00070	0.00025
17	6	11	18	7	11	376.05829	0.00010
17	7	10	18	8	10	375.51797	0.00001
17	7	11	16	6	11	390.62970	0.00002
17	8	9	16	7	9	390.77898	-0.00006

17	9	8	16	8	8	391.22643	0.00000
17	9	9	16	8	9	391.23956	0.00002
17	10	7	16	9	7	391.60459	0.00006
17	11	6	16	10	6	391.96520	0.00007
17	11	6	18	12	6	373.76525	0.00000
17	11	7	16	10	7	391.96520	0.00002
17	11	7	18	12	7	373.76525	0.00001
17	12	5	16	11	5	392.31868	0.00000
17	12	6	16	11	6	392.31868	0.00000
17	13	4	16	12	4	392.66902	0.00004
17	13	4	18	14	4	372.98822	-0.00019
17	13	5	16	12	5	392.66902	0.00004
17	13	5	18	14	5	372.98822	-0.00019
17	14	3	16	13	3	393.01625	0.00000
17	14	3	18	15	3	372.59973	-0.00019
17	14	4	16	13	4	393.01625	0.00000
17	14	4	18	15	4	372.59973	-0.00019
17	15	2	16	14	2	393.36120	0.00000
17	15	2	18	16	2	372.21031	-0.00020
17	15	3	16	14	3	393.36120	0.00000
17	15	3	18	16	3	372.21031	-0.00020
17	16	1	16	15	1	393.70405	-0.00001
17	16	1	18	17	1	371.81969	-0.00017
17	16	2	16	15	2	393.70405	-0.00001
17	16	2	18	17	2	371.81969	-0.00017
17	17	0	18	18	0	371.42784	0.00007
17	17	1	18	18	1	371.42784	0.00007
18	2	16	17	1	16	391.27109	0.00011
18	3	16	17	2	16	391.27109	-0.00006
18	3	16	19	4	16	374.88942	0.00014
18	4	14	17	3	14	391.05633	-0.00004
18	4	15	19	5	15	374.99246	-0.00015
18	5	13	17	4	13	390.80881	0.00022
18	5	14	17	4	14	391.08124	0.00001
18	5	14	19	6	14	375.10341	-0.00023
18	6	12	17	5	12	390.45483	0.00037
18	6	13	17	5	13	390.98721	0.00009
18	6	13	19	7	13	375.14236	0.00006
18	7	11	17	6	11	390.48738	-0.00017
18	7	12	17	6	12	391.00054	0.00004
18	7	12	19	8	12	374.99918	0.00013
18	8	11	19	9	11	374.67828	-0.00008
18	9	9	17	8	9	391.49937	0.00003
18	9	10	17	8	10	391.53151	0.00010
18	9	10	19	10	10	374.28514	-0.00010
18	10	9	19	11	9	373.88585	-0.00002

18	11	7	19	12	7	373.49208	0.00002
18	11	8	19	12	8	373.49208	0.00005
18	12	6	17	11	6	392.61712	0.00002
18	12	6	19	13	6	373.10066	0.00003
18	12	7	17	11	7	392.61712	0.00002
18	12	7	19	13	7	373.10066	0.00003
18	13	5	17	12	5	392.96912	0.00005
18	13	5	19	14	5	372.71202	0.00011
18	13	6	17	12	6	392.96912	0.00005
18	13	6	19	14	6	372.71202	0.00011
18	14	4	17	13	4	393.31732	0.00012
18	14	4	19	15	4	372.32265	-0.00011
18	14	5	17	13	5	393.31732	0.00012
18	14	5	19	15	5	372.32265	-0.00011
18	15	3	17	14	3	393.66267	-0.00001
18	15	3	19	16	3	371.93292	-0.00004
18	15	4	17	14	4	393.66267	-0.00001
18	15	4	19	16	4	371.93292	-0.00004
18	16	2	17	15	2	394.00585	-0.00007
18	16	2	19	17	2	371.54203	-0.00010
18	16	3	17	15	3	394.00585	-0.00007
18	16	3	19	17	3	371.54203	-0.00010
18	17	1	17	16	1	394.34697	-0.00008
18	17	1	19	18	1	371.15004	0.00006
18	17	2	17	16	2	394.34697	-0.00008
18	17	2	19	18	2	371.15004	0.00006
18	18	0	17	17	0	394.68606	-0.00006
18	18	0	19	19	0	370.75641	0.00009
18	18	1	17	17	1	394.68606	-0.00006
18	18	1	19	19	1	370.75641	0.00009
19	2	17	18	1	17	391.73287	-0.00012
19	2	17	20	3	17	374.44275	-0.00037
19	3	17	18	2	17	391.73287	-0.00012
19	3	17	20	4	17	374.44275	0.00003
19	4	15	20	5	15	374.71954	-0.00002
19	5	15	20	6	15	374.66176	0.00000
19	6	13	18	5	13	390.96921	0.00009
19	6	14	18	5	14	391.43730	-0.00004
19	7	12	18	6	12	390.80685	0.00002
19	8	11	20	9	11	374.55403	0.00000
19	9	10	18	8	10	391.75513	-0.00004
19	9	11	20	10	11	374.02192	-0.00013
19	10	9	18	9	9	392.18215	0.00003
19	10	10	18	9	10	392.19012	0.00016
19	11	8	18	10	8	392.55680	0.00020
19	11	8	20	12	8	373.22158	0.00017

19	11	9	20	12	9	373.22158	0.00028
19	12	7	18	11	7	392.91473	0.00008
19	12	7	20	13	7	372.82657	0.00004
19	12	8	18	11	8	392.91473	0.00005
19	12	8	20	13	8	372.82657	0.00005
19	13	6	18	12	6	393.26901	0.00001
19	13	6	20	14	6	372.43678	-0.00001
19	13	7	18	12	7	393.26901	0.00001
19	13	7	20	14	7	372.43678	-0.00001
19	14	5	18	13	5	393.61837	0.00007
19	14	5	20	15	5	372.04672	-0.00003
19	14	6	18	13	6	393.61837	0.00007
19	14	6	20	15	6	372.04672	-0.00003
19	15	4	18	14	4	393.96450	-0.00003
19	15	4	20	16	4	371.65619	-0.00021
19	15	5	18	14	5	393.96450	-0.00003
19	15	5	20	16	5	371.65619	-0.00021
19	16	3	18	15	3	394.30837	0.00010
19	16	3	20	17	3	371.26506	-0.00021
19	16	4	18	15	4	394.30837	0.00010
19	16	4	20	17	4	371.26506	-0.00021
19	17	2	18	16	2	394.64974	-0.00004
19	17	2	20	18	2	370.87301	0.00002
19	17	3	18	16	3	394.64974	-0.00004
19	17	3	20	18	3	370.87301	0.00002
19	18	1	18	17	1	394.98913	-0.00002
19	18	1	20	19	1	370.47935	0.00002
19	18	2	18	17	2	394.98913	-0.00002
19	18	2	20	19	2	370.47935	0.00002
19	19	0	18	18	0	395.32636	-0.00002
19	19	0	20	20	0	370.08407	0.00000
19	19	1	18	18	1	395.32636	-0.00002
19	19	1	20	20	1	370.08407	0.00000
20	1	19	19	0	19	392.26165	0.00014
20	2	18	19	1	18	392.19533	0.00008
20	2	19	19	1	19	392.26165	0.00034
20	3	17	19	2	17	392.11416	0.00008
20	3	18	19	2	18	392.19533	0.00010
20	4	17	19	3	17	392.11416	-0.00012
20	6	15	19	5	15	391.89811	0.00024
20	6	15	21	7	15	374.32239	-0.00011
20	7	14	19	6	14	391.81698	0.00019
20	7	14	21	8	14	374.32020	-0.00025
20	8	12	19	7	12	391.41195	0.00009
20	8	13	19	7	13	391.87901	0.00006
20	8	13	21	9	13	374.11684	-0.00002



20	9	12	19	8	12	392.12782	0.00002
20	9	12	21	10	12	373.75961	-0.00015
20	10	10	19	9	10	392.46073	-0.00021
20	10	11	19	9	11	392.48052	0.00006
20	10	11	21	11	11	373.35587	0.00000
20	11	9	19	10	9	392.84935	0.00002
20	11	10	19	10	10	392.85100	0.00000
20	12	8	19	11	8	393.21087	0.00008
20	12	8	21	13	8	372.55410	0.00006
20	12	9	19	11	9	393.21087	-0.00002
20	12	9	21	13	9	372.55410	0.00008
20	13	7	19	12	7	393.56840	-0.00014
20	13	7	21	14	7	372.16323	0.00001
20	13	8	19	12	8	393.56840	-0.00015
20	13	8	21	14	8	372.16323	0.00001
20	14	6	19	13	6	393.91930	-0.00009
20	14	6	21	15	6	371.77206	0.00005
20	14	7	19	13	7	393.91930	-0.00009
20	14	7	21	15	7	371.77206	0.00005
20	15	5	19	14	5	394.26654	-0.00007
20	15	5	21	16	5	371.38090	-0.00003
20	15	6	19	14	6	394.26654	-0.00007
20	15	6	21	16	6	371.38090	-0.00003
20	16	4	19	15	4	394.61096	-0.00006
20	16	4	21	17	4	370.98939	0.00004
20	16	5	19	15	5	394.61096	-0.00006
20	16	5	21	17	5	370.98939	0.00004
20	17	3	19	16	3	394.95294	-0.00009
20	17	3	21	18	3	370.59686	0.00002
20	17	4	19	16	4	394.95294	-0.00009
20	17	4	21	18	4	370.59686	0.00002
20	18	2	19	17	2	395.29280	0.00000
20	18	2	21	19	2	370.20314	0.00001
20	18	3	19	17	3	395.29280	0.00000
20	18	3	21	19	3	370.20314	0.00001
20	19	1	19	18	1	395.63038	0.00000
20	19	1	21	20	1	369.80810	0.00019
20	19	2	19	18	2	395.63038	0.00000
20	19	2	21	20	2	369.80810	0.00019
20	20	0	19	19	0	395.96566	-0.00003
20	20	0	21	21	0	369.41099	-0.00001
20	20	1	19	19	1	395.96566	-0.00003
20	20	1	21	21	1	369.41099	-0.00001
21	2	19	22	3	19	373.55298	-0.00021
21	3	18	20	2	18	392.57884	0.00005
21	3	19	22	4	19	373.55298	0.00013

21	4	18	20	3	18	392.57884	0.00003
21	5	16	20	4	16	392.33696	0.00000
21	6	16	22	7	16	373.88787	0.00017
21	7	14	20	6	14	391.67387	-0.00005
21	7	14	22	8	14	374.64068	-0.00027
21	9	12	20	8	12	392.19161	0.00007
21	9	12	22	10	12	373.59540	0.00003
21	9	13	20	8	13	392.44198	0.00012
21	10	11	20	9	11	392.72707	0.00007
21	10	11	22	11	11	373.10874	0.00020
21	10	12	22	11	12	373.09603	0.00007
21	11	10	20	10	10	393.13856	0.00006
21	11	11	20	10	11	393.14332	0.00020
21	12	9	20	11	9	393.50472	0.00002
21	13	8	20	12	8	393.86739	-0.00002
21	13	8	22	14	8	371.89110	-0.00031
21	13	9	20	12	9	393.86739	-0.00003
21	13	9	22	14	9	371.89110	-0.00030
21	14	7	20	13	7	394.22035	0.00006
21	14	7	22	15	7	371.49857	-0.00011
21	14	8	20	13	8	394.22035	0.00006
21	14	8	22	15	8	371.49857	-0.00011
21	15	6	20	14	6	394.56885	0.00007
21	15	6	22	16	6	371.10665	0.00001
21	15	7	20	14	7	394.56885	0.00007
21	15	7	22	16	7	371.10665	0.00001
21	16	5	20	15	5	394.91410	0.00003
21	16	5	22	17	5	370.71459	0.00013
21	16	6	20	15	6	394.91410	0.00003
21	16	6	22	17	6	370.71459	0.00013
21	17	4	20	16	4	395.25671	-0.00001
21	17	4	22	18	4	370.32157	0.00002
21	17	5	20	16	5	395.25671	-0.00001
21	17	5	22	18	5	370.32157	0.00002
21	18	3	20	17	3	395.59698	-0.00002
21	18	3	22	19	3	369.92785	0.00006
21	18	4	20	17	4	395.59698	-0.00002
21	18	4	22	19	4	369.92785	0.00006
21	19	2	20	18	2	395.93491	-0.00010
21	19	2	22	20	2	369.53260	0.00004
21	19	3	20	18	3	395.93491	-0.00010
21	19	3	22	20	3	369.53260	0.00004
21	20	1	20	19	1	396.27069	-0.00004
21	20	2	20	19	2	396.27069	-0.00004
21	21	0	20	20	0	396.60406	0.00000
21	21	0	22	22	0	368.73717	0.00004

21	21	1	20	20	1	396.60406	0.00000
21	21	1	22	22	1	368.73717	0.00004
22	1	21	21	0	21	393.18574	0.00018
22	2	20	21	1	20	393.12029	0.00001
22	2	20	23	3	20	373.10874	0.00000
22	2	21	21	1	21	393.18574	0.00018
22	3	20	21	2	20	393.12029	0.00003
22	3	20	23	4	20	373.10874	0.00004
22	4	18	23	5	18	373.31868	-0.00008
22	4	19	21	3	19	393.04353	0.00007
22	6	17	21	5	17	392.83422	-0.00001
22	7	16	21	6	16	392.71184	0.00007
22	8	14	23	9	14	374.05743	0.00001
22	8	15	21	7	15	392.65637	0.00001
22	8	15	23	9	15	373.48517	0.00012
22	9	13	21	8	13	392.38338	-0.00003
22	9	14	23	10	14	373.22316	-0.00033
22	10	12	23	11	12	372.86806	0.00006
22	10	13	21	9	13	393.06629	-0.00008
22	10	13	23	11	13	372.83856	0.00004
22	11	11	21	10	11	393.42216	0.00018
22	11	12	21	10	12	393.43374	0.00012
22	11	12	23	12	12	372.42813	0.00019
22	12	10	21	11	10	393.79473	-0.00029
22	12	10	23	13	10	372.01342	-0.00010
22	12	11	21	11	11	393.79596	-0.00005
22	12	11	23	13	11	372.01342	0.00010
22	13	10	21	12	10	394.16548	0.00015
22	13	10	23	14	10	371.62149	-0.00005
22	14	8	21	13	8	394.52074	-0.00004
22	14	8	23	15	8	371.22702	0.00007
22	14	9	21	13	9	394.52074	-0.00004
22	14	9	23	15	9	371.22702	0.00007
22	15	7	21	14	7	394.87091	0.00000
22	15	7	23	16	7	370.83361	-0.00004
22	15	8	21	14	8	394.87091	0.00000
22	15	8	23	16	8	370.83361	-0.00004
22	16	6	21	15	6	395.21730	0.00000
22	16	6	23	17	6	370.44073	0.00005
22	16	7	21	15	7	395.21730	0.00000
22	16	7	23	17	7	370.44073	0.00005
22	17	5	21	16	5	395.56078	0.00003
22	17	5	23	18	5	370.04712	0.00000
22	17	6	21	16	6	395.56078	0.00003
22	17	6	23	18	6	370.04712	0.00000
22	18	4	21	17	4	395.90166	0.00000

22	18	4	23	19	4	369.65327	-0.00012
22	18	5	21	17	5	395.90166	0.00000
22	18	5	23	19	5	369.65327	-0.00012
22	19	3	21	18	3	396.24019	0.00000
22	19	3	23	20	3	369.25814	0.00009
22	19	4	21	18	4	396.24019	0.00000
22	19	4	23	20	4	369.25814	0.00009
22	20	2	21	19	2	396.57624	-0.00019
22	20	2	23	21	2	368.86142	0.00011
22	20	3	21	19	3	396.57624	-0.00019
22	20	3	23	21	3	368.86142	0.00011
22	21	1	21	20	1	396.91016	-0.00008
22	21	1	23	22	1	368.46305	0.00017
22	21	2	21	20	2	396.91016	-0.00008
22	21	2	23	22	2	368.46305	0.00017
22	22	0	21	21	0	397.24137	-0.00012
22	22	0	23	23	0	368.06248	0.00001
22	22	1	21	21	1	397.24137	-0.00012
22	22	1	23	23	1	368.06248	0.00001
23	0	23	24	1	23	372.53557	-0.00005
23	1	23	24	2	23	372.53557	-0.00005
23	3	20	24	4	20	372.75218	-0.00003
23	4	19	22	3	19	393.41703	-0.00011
23	4	19	24	5	19	372.86532	-0.00005
23	4	20	24	5	20	372.75707	0.00027
23	5	18	22	4	18	393.29940	-0.00003
23	5	19	22	4	19	393.41703	0.00001
23	6	17	22	5	17	393.11854	0.00009
23	6	17	24	7	17	373.33080	0.00008
23	6	18	22	5	18	393.30529	0.00005
23	8	15	22	7	15	392.40951	-0.00003
23	8	15	24	9	15	373.83109	-0.00004
23	8	16	22	7	16	393.08187	0.00012
23	9	14	22	8	14	392.59295	0.00004
23	9	14	24	10	14	373.26214	0.00026
23	9	15	24	10	15	372.93865	-0.00010
23	10	13	22	9	13	393.19222	-0.00002
23	11	12	22	10	12	393.69607	-0.00001
23	11	13	24	12	13	372.17081	0.00003
23	12	11	22	11	11	394.07900	0.00000
23	12	11	24	13	11	371.74371	-0.00023
23	12	12	24	13	12	371.74371	0.00031
23	13	10	22	12	10	394.46175	0.00006
23	13	11	22	12	11	394.46176	-0.00012
23	13	11	24	14	11	371.35377	-0.00012
23	14	9	22	13	9	394.82037	-0.00024

23	14	10	22	13	10	394.82037	-0.00025
23	15	8	22	14	8	395.17278	-0.00002
23	15	8	24	16	8	370.56222	0.00012
23	15	9	22	14	9	395.17278	-0.00002
23	15	9	24	16	9	370.56222	0.00012
23	16	7	22	15	7	395.52054	-0.00005
23	16	7	24	17	7	370.16808	0.00000
23	16	8	22	15	8	395.52054	-0.00005
23	16	8	24	17	8	370.16808	0.00000
23	17	6	22	16	6	395.86497	-0.00007
23	17	6	24	18	6	369.77371	0.00021
23	17	7	22	16	7	395.86497	-0.00007
23	17	7	24	18	7	369.77371	0.00021
23	18	5	22	17	5	396.20669	-0.00002
23	18	5	24	19	5	369.38014	0.00013
23	18	6	22	17	6	396.20669	-0.00002
23	18	6	24	19	6	369.38014	0.00013
23	19	4	22	18	4	396.54571	-0.00011
23	19	4	24	20	4	368.98447	0.00001
23	19	5	22	18	5	396.54571	-0.00011
23	19	5	24	20	5	368.98447	0.00001
23	20	3	22	19	3	396.88270	-0.00004
23	20	3	24	21	3	368.58780	0.00008
23	20	4	22	19	4	396.88270	-0.00004
23	20	4	24	21	4	368.58780	0.00008
23	21	2	22	20	2	397.21699	-0.00011
23	21	2	24	22	2	368.18944	0.00001
23	21	3	22	20	3	397.21699	-0.00011
23	21	3	24	22	3	368.18944	0.00001
23	22	1	22	21	1	397.54889	-0.00003
23	22	1	24	23	1	367.78935	0.00005
23	22	2	22	21	2	397.54889	-0.00003
23	22	2	24	23	2	367.78935	0.00005
23	23	0	22	22	0	397.87788	-0.00008
23	23	0	24	24	0	367.38707	0.00007
23	23	1	22	22	1	397.87788	-0.00008
23	23	1	24	24	1	367.38707	0.00007
24	1	23	23	0	23	394.11113	-0.00001
24	2	22	23	1	22	394.04706	-0.00009
24	2	23	23	1	23	394.11113	-0.00001
24	3	21	23	2	21	393.97271	0.00022
24	3	22	23	2	22	394.04706	-0.00009
24	4	20	23	3	20	393.90922	-0.00011
24	4	21	23	3	21	393.97271	0.00028
24	5	19	25	6	19	372.55934	0.00000
24	5	20	23	4	20	393.88480	-0.00002

24	6	18	25	7	18	372.80595	0.00022
24	6	19	25	7	19	372.54219	0.00028
24	7	18	23	6	18	393.64756	-0.00007
24	7	18	25	8	18	372.68112	0.00013
24	8	16	23	7	16	392.89911	-0.00013
24	8	17	23	7	17	393.52694	0.00004
24	8	17	25	9	17	372.75092	-0.00003
24	9	15	23	8	15	392.85535	-0.00004
24	9	16	23	8	16	393.51017	0.00001
24	9	16	25	10	16	372.63496	0.00016
24	10	14	23	9	14	393.38499	0.00015
24	10	15	23	9	15	393.68580	0.00003
24	10	15	25	11	15	372.32148	0.00024
24	11	13	23	10	13	393.95529	0.00021
24	11	13	25	12	13	371.93511	0.00034
24	11	14	23	10	14	394.01421	-0.00005
24	11	14	25	12	14	371.91726	0.00021
24	13	12	23	12	12	394.75657	-0.00011
24	13	12	25	14	12	371.08878	0.00005
24	14	10	23	13	10	395.11946	-0.00001
24	14	10	25	15	10	370.68893	-0.00001
24	14	11	23	13	11	395.11946	-0.00005
24	14	11	25	15	11	370.68893	0.00000
24	15	9	23	14	9	395.47425	-0.00002
24	15	9	25	16	9	370.29214	0.00003
24	15	10	23	14	10	395.47425	-0.00002
24	15	10	25	16	10	370.29214	0.00003
24	16	8	23	15	8	395.82375	-0.00002
24	16	8	25	17	8	369.89690	0.00013
24	16	9	23	15	9	395.82375	-0.00002
24	16	9	25	17	9	369.89690	0.00013
24	17	7	23	16	7	396.16943	-0.00002
24	17	7	25	18	7	369.50067	0.00010
24	17	8	23	16	8	396.16943	-0.00002
24	17	8	25	18	8	369.50067	0.00010
24	18	6	23	17	6	396.51198	-0.00006
24	18	6	25	19	6	369.10773	-0.00001
24	18	7	23	17	7	396.51198	-0.00006
24	18	7	25	19	7	369.10773	-0.00001
24	19	5	23	18	5	396.85164	-0.00011
24	19	5	25	20	5	368.71191	0.00006
24	19	6	23	18	6	396.85164	-0.00011
24	19	6	25	20	6	368.71191	0.00006
24	20	4	23	19	4	397.18959	-0.00004
24	20	4	25	21	4	368.31502	-0.00001
24	20	5	23	19	5	397.18959	-0.00004

24	20	5	25	21	5	368.31502	-0.00001
24	21	3	23	20	3	397.52454	-0.00006
24	21	3	25	22	3	367.91681	-0.00004
24	21	4	23	20	4	397.52454	-0.00006
24	21	4	25	22	4	367.91681	-0.00004
24	22	2	23	21	2	397.85698	-0.00009
24	22	2	25	23	2	367.51693	-0.00004
24	22	3	23	21	3	397.85698	-0.00009
24	22	3	25	23	3	367.51693	-0.00004
24	23	1	23	22	1	398.18666	-0.00014
24	23	1	25	24	1	367.11521	0.00014
24	23	2	23	22	2	398.18666	-0.00014
24	23	2	25	24	2	367.11521	0.00014
24	24	0	23	23	0	398.51341	-0.00007
24	24	0	25	25	0	366.71071	-0.00004
24	24	1	23	23	1	398.51341	-0.00007
24	24	1	25	25	1	366.71071	-0.00004
25	2	23	26	3	23	371.78271	0.00006
25	3	23	26	4	23	371.78271	0.00006
25	5	20	24	4	20	394.25268	0.00005
25	5	21	24	4	21	394.34807	0.00017
25	6	19	24	5	19	394.10888	0.00008
25	6	19	26	7	19	372.30479	-0.00007
25	6	20	26	7	20	372.09026	0.00001
25	7	18	24	6	18	393.87942	-0.00005
25	7	18	26	8	18	372.70289	0.00004
25	8	17	24	7	17	393.44815	-0.00001
25	8	18	24	7	18	393.98706	0.00033
25	9	16	24	8	16	393.19538	0.00004
25	9	16	26	10	16	372.95610	0.00004
25	10	15	26	11	15	372.28551	-0.00013
25	10	16	24	9	16	394.02152	-0.00015
25	10	16	26	11	16	372.05259	-0.00007
25	11	14	24	10	14	394.19141	0.00006
25	11	14	26	12	14	371.70520	0.00011
25	13	12	24	12	12	395.04777	0.00000
25	13	12	26	14	12	370.82683	0.00014
25	14	11	24	13	11	395.41707	0.00005
25	14	11	26	15	11	370.42303	-0.00008
25	14	12	24	13	12	395.41707	-0.00006
25	14	12	26	15	12	370.42303	-0.00006
25	15	10	24	14	10	395.77504	-0.00003
25	15	10	26	16	10	370.02395	0.00009
25	15	11	24	14	11	395.77504	-0.00003
25	15	11	26	16	11	370.02395	0.00009
25	16	9	24	15	9	396.12665	-0.00005

25	16	9	26	17	9	369.62673	-0.00012
25	16	10	24	15	10	396.12665	-0.00005
25	16	10	26	17	10	369.62673	-0.00012
25	17	8	24	16	8	396.47376	-0.00010
25	17	8	26	18	8	369.22813	0.00004
25	17	9	24	16	9	396.47376	-0.00010
25	17	9	26	18	9	369.22813	0.00004
25	18	7	24	17	7	396.81746	-0.00009
25	18	7	26	19	7	368.83672	0.00005
25	18	8	24	17	8	396.81746	-0.00009
25	18	8	26	19	8	368.83672	0.00005
25	19	6	24	18	6	397.15767	-0.00011
25	19	6	26	20	6	368.44030	0.00001
25	19	7	24	18	7	397.15767	-0.00011
25	19	7	26	20	7	368.44030	0.00001
25	20	5	24	19	5	397.49695	-0.00009
25	20	5	26	21	5	368.04346	0.00016
25	20	6	24	19	6	397.49695	-0.00009
25	20	6	26	21	6	368.04346	0.00016
25	21	4	24	20	4	397.83269	-0.00001
25	21	4	26	22	4	367.64515	-0.00001
25	21	5	24	20	5	397.83269	-0.00001
25	21	5	26	22	5	367.64515	-0.00001
25	22	3	24	21	3	398.16580	-0.00009
25	22	3	26	23	3	367.24555	0.00004
25	22	4	24	21	4	398.16580	-0.00009
25	22	4	26	23	4	367.24555	0.00004
25	23	2	24	22	2	398.49633	-0.00007
25	23	2	26	24	2	366.84406	0.00007
25	23	3	24	22	3	398.49633	-0.00007
25	23	3	26	24	3	366.84406	0.00007
25	24	1	24	23	1	398.82385	-0.00008
25	24	1	26	25	1	366.44036	0.00014
25	24	2	24	23	2	398.82385	-0.00008
25	24	2	26	25	2	366.44036	0.00014
25	25	0	24	24	0	399.14795	-0.00009
25	25	0	26	26	0	366.03375	0.00004
25	25	1	24	24	1	399.14795	-0.00009
25	25	1	26	26	1	366.03375	0.00004
26	2	24	25	1	24	394.97540	-0.00017
26	3	23	25	2	23	394.90300	-0.00021
26	3	23	27	4	23	371.42234	0.00017
26	3	24	25	2	24	394.97540	-0.00017
26	4	23	25	3	23	394.90300	-0.00021
26	4	23	27	5	23	371.42234	0.00007
26	5	22	25	4	22	394.81822	0.00022



26	7	20	27	8	20	371.78398	0.00024
26	8	19	25	7	19	394.45645	0.00012
26	8	19	27	9	19	371.92174	-0.00002
26	9	17	25	8	17	393.62225	0.00006
26	9	17	27	10	17	372.72810	0.00009
26	10	17	25	9	17	394.38158	0.00003
26	10	17	27	11	17	371.76935	-0.00019
26	11	15	25	10	15	394.39869	-0.00017
26	11	16	25	10	16	394.61448	0.00012
26	11	16	27	12	16	371.41391	-0.00004
26	12	15	25	11	15	395.00794	0.00012
26	13	13	25	12	13	395.33564	0.00022
26	13	13	27	14	13	370.56827	0.00030
26	13	14	25	12	14	395.33927	-0.00011
26	13	14	27	14	14	370.56701	-0.00001
26	14	13	25	13	13	395.71298	-0.00013
26	14	13	27	15	13	370.15974	0.00004
26	15	11	25	14	11	396.07491	-0.00003
26	15	11	27	16	11	369.75760	0.00009
26	15	12	25	14	12	396.07491	-0.00005
26	15	12	27	16	12	369.75760	0.00009
26	16	10	27	17	10	369.35842	0.00001
26	16	11	27	17	11	369.35842	0.00001
26	17	9	25	16	9	396.77808	-0.00004
26	17	9	27	18	9	368.95568	-0.00002
26	17	10	25	16	10	396.77808	-0.00004
26	17	10	27	18	10	368.95568	-0.00002
26	18	8	25	17	8	397.12308	-0.00004
26	18	8	27	19	8	368.56691	0.00001
26	18	9	25	17	9	397.12308	-0.00004
26	18	9	27	19	9	368.56691	0.00001
26	19	7	25	18	7	397.46360	-0.00002
26	19	7	27	20	7	368.16983	-0.00002
26	19	8	25	18	8	397.46360	-0.00002
26	19	8	27	20	8	368.16983	-0.00002
26	20	6	25	19	6	397.80491	-0.00003
26	20	6	27	21	6	367.77261	0.00001
26	20	7	25	19	7	397.80491	-0.00003
26	20	7	27	21	7	367.77261	0.00001
26	21	5	25	20	5	398.14127	-0.00008
26	21	5	27	22	5	367.37457	0.00014
26	21	6	25	20	6	398.14127	-0.00008
26	21	6	27	22	6	367.37457	0.00014
26	22	4	25	21	4	398.47525	-0.00009
26	22	4	27	23	4	366.97499	0.00004
26	22	5	25	21	5	398.47525	-0.00009

26	22	5	27	23	5	366.97499	0.00004
26	23	3	25	22	3	398.80660	-0.00010
26	23	3	27	24	3	366.57371	-0.00008
26	23	4	25	22	4	398.80660	-0.00010
26	23	4	27	24	4	366.57371	-0.00008
26	24	2	25	23	2	399.13509	-0.00007
26	24	2	27	25	2	366.17066	0.00010
26	24	3	25	23	3	399.13509	-0.00007
26	24	3	27	25	3	366.17066	0.00010
26	25	1	25	24	1	399.46030	-0.00003
26	25	1	27	26	1	365.76471	-0.00009
26	25	2	25	24	2	399.46030	-0.00003
26	25	2	27	26	2	365.76471	-0.00009
26	26	0	25	25	0	399.78154	-0.00010
26	26	0	27	27	0	365.35592	0.00003
26	26	1	25	25	1	399.78154	-0.00010
26	26	1	27	27	1	365.35592	0.00003
27	1	26	28	2	26	370.83625	0.00046
27	2	26	28	3	26	370.83625	0.00046
27	3	24	26	2	24	395.36906	-0.00002
27	4	23	26	3	23	395.28616	-0.00003
27	4	24	26	3	24	395.36906	-0.00002
27	5	22	26	4	22	395.18732	-0.00005
27	5	23	26	4	23	395.28616	-0.00002
27	6	21	26	5	21	395.06184	0.00015
27	6	21	28	7	21	371.34199	-0.00006
27	6	22	28	7	22	371.18529	0.00027
27	7	20	26	6	20	394.88488	-0.00001
27	7	20	28	8	20	371.59764	0.00002
27	8	19	28	9	19	372.08904	-0.00002
27	9	18	26	8	18	394.12997	-0.00002
27	9	18	28	10	18	372.41074	-0.00008
27	10	17	26	9	17	394.04470	0.00004
27	10	17	28	11	17	372.02421	-0.00011
27	11	16	26	10	16	394.57873	-0.00006
27	11	16	28	12	16	371.31612	0.00009
27	12	15	26	11	15	395.20845	0.00007
27	12	15	28	13	15	370.79676	0.00024
27	13	14	28	14	14	370.31353	0.00007
27	13	15	26	12	15	395.62669	-0.00007
27	13	15	28	14	15	370.31097	0.00001
27	14	13	28	15	13	369.89896	-0.00027
27	14	14	28	15	14	369.89896	-0.00007
27	15	12	26	14	12	396.37355	-0.00001
27	15	12	28	16	12	369.49347	0.00019
27	15	13	26	14	13	396.37355	-0.00007

27	15	13	28	16	13	369.49347	0.00020
27	16	11	26	15	11	396.73091	-0.00004
27	16	11	28	17	11	369.09156	-0.00005
27	16	12	26	15	12	396.73091	-0.00005
27	16	12	28	17	12	369.09156	-0.00005
27	17	10	26	16	10	397.08205	-0.00003
27	17	10	28	18	10	368.68302	0.00010
27	17	11	26	16	11	397.08205	-0.00003
27	17	11	28	18	11	368.68302	0.00010
27	18	9	26	17	9	397.42852	-0.00007
27	18	9	28	19	9	368.29868	0.00013
27	18	10	26	17	10	397.42852	-0.00007
27	18	10	28	19	10	368.29868	0.00013
27	19	8	26	18	8	397.76880	-0.00003
27	19	8	28	20	8	367.90079	0.00018
27	19	9	26	18	9	397.76880	-0.00003
27	19	9	28	20	9	367.90079	0.00018
27	20	7	26	19	7	398.11319	-0.00008
27	20	7	28	21	7	367.50313	0.00016
27	20	8	26	19	8	398.11319	-0.00008
27	20	8	28	21	8	367.50313	0.00016
27	21	6	26	20	6	398.45043	-0.00007
27	21	6	28	22	6	367.10474	0.00003
27	21	7	26	20	7	398.45043	-0.00007
27	21	7	28	22	7	367.10474	0.00003
27	22	5	26	21	5	398.78528	-0.00010
27	22	5	28	23	5	366.70541	0.00006
27	22	6	26	21	6	398.78528	-0.00010
27	22	6	28	23	6	366.70541	0.00006
27	23	4	26	22	4	399.11759	-0.00008
27	23	4	28	24	4	366.30465	0.00013
27	23	5	26	22	5	399.11759	-0.00008
27	23	5	28	24	5	366.30465	0.00013
27	24	3	26	23	3	399.44703	-0.00011
27	24	4	26	23	4	399.44703	-0.00011
27	25	2	26	24	2	399.77341	-0.00004
27	25	2	28	26	2	365.49688	0.00008
27	25	3	26	24	3	399.77341	-0.00004
27	25	3	28	26	3	365.49688	0.00008
27	26	1	26	25	1	400.09597	-0.00011
27	26	1	28	27	1	365.08889	0.00001
27	26	2	26	25	2	400.09597	-0.00011
27	26	2	28	27	2	365.08889	0.00001
27	27	0	26	26	0	400.41418	-0.00011
27	27	0	28	28	0	364.67731	0.00002
27	27	1	26	26	1	400.41418	-0.00011

27	27	1	28	28	1	364.67731	0.00002
28	1	27	27	0	27	395.96815	-0.00011
28	2	27	27	1	27	395.96815	-0.00011
28	3	25	27	2	25	395.83540	-0.00002
28	3	25	29	4	25	370.53985	-0.00021
28	4	24	29	5	24	370.63111	0.00009
28	4	25	27	3	25	395.83540	-0.00002
28	4	25	29	5	25	370.53985	-0.00022
28	5	23	27	4	23	395.65821	-0.00018
28	5	24	29	6	24	370.63111	-0.00004
28	6	22	27	5	22	395.54128	-0.00004
28	6	22	29	7	22	370.88303	-0.00017
28	6	23	27	5	23	395.65821	-0.00007
28	7	22	27	6	22	395.54925	0.00002
28	7	22	29	8	22	370.88062	-0.00010
28	8	21	27	7	21	395.40991	-0.00003
28	8	21	29	9	21	371.03505	-0.00023
28	9	20	27	8	20	395.26353	0.00000
28	9	20	29	10	20	371.16532	0.00000
28	10	18	27	9	18	394.39710	0.00006
28	10	18	29	11	18	371.86442	0.00022
28	10	19	27	9	19	395.18072	-0.00008
28	12	16	27	11	16	395.42769	0.00003
28	12	17	27	11	17	395.57917	0.00002
28	12	17	29	13	17	370.52581	-0.00003
28	13	15	27	12	15	395.88983	0.00005
28	13	15	29	14	15	370.06439	0.00009
28	13	16	27	12	16	395.91159	-0.00011
28	13	16	29	14	16	370.05817	-0.00002
28	14	14	27	13	14	396.29622	-0.00008
28	14	15	27	13	15	396.29851	-0.00006
28	14	15	29	15	15	369.64142	0.00000
28	15	13	27	14	13	396.67067	0.00014
28	15	13	29	16	13	369.23137	-0.00002
28	15	14	27	14	14	396.67067	-0.00004
28	15	14	29	16	14	369.23137	0.00002
28	16	12	27	15	12	397.03179	-0.00003
28	16	12	29	17	12	368.82657	0.00002
28	16	13	27	15	13	397.03179	-0.00004
28	16	13	29	17	13	368.82657	0.00002
28	17	11	27	16	11	397.38552	-0.00001
28	17	11	29	18	11	368.40965	0.00029
28	17	12	27	16	12	397.38552	-0.00001
28	17	12	29	18	12	368.40965	0.00029
28	18	10	27	17	10	397.73374	-0.00007
28	18	10	29	19	10	368.03182	0.00007

28	18	11	27	17	11	397.73374	-0.00007
28	18	11	29	19	11	368.03182	0.00007
28	19	9	27	18	9	398.07283	-0.00002
28	19	9	29	20	9	367.63288	0.00020
28	19	10	27	18	10	398.07283	-0.00002
28	19	10	29	20	10	367.63288	0.00020
28	20	8	27	19	8	398.42193	-0.00003
28	20	8	29	21	8	367.23450	0.00000
28	20	9	27	19	9	398.42193	-0.00003
28	20	9	29	21	9	367.23450	0.00000
28	21	7	27	20	7	398.76007	-0.00002
28	21	7	29	22	7	366.83606	0.00002
28	21	8	27	20	8	398.76007	-0.00002
28	21	8	29	22	8	366.83606	0.00002
28	22	6	29	23	6	366.43688	0.00013
28	22	7	29	23	7	366.43688	0.00013
28	23	5	27	22	5	399.42923	-0.00005
28	23	5	29	24	5	366.03616	-0.00006
28	23	6	27	22	6	399.42923	-0.00005
28	23	6	29	24	6	366.03616	-0.00006
28	24	4	27	23	4	399.75978	-0.00008
28	24	4	29	25	4	365.63408	0.00004
28	24	5	27	23	5	399.75978	-0.00008
28	24	5	29	25	5	365.63408	0.00004
28	25	3	27	24	3	400.08731	-0.00007
28	25	3	29	26	3	365.22984	0.00008
28	25	4	27	24	4	400.08731	-0.00007
28	25	4	29	26	4	365.22984	0.00008
28	26	2	27	25	2	400.41136	-0.00005
28	26	2	29	27	2	364.82293	0.00009
28	26	3	27	25	3	400.41136	-0.00005
28	26	3	29	27	3	364.82293	0.00009
28	27	1	27	26	1	400.73114	-0.00013
28	27	1	29	28	1	364.41261	0.00005
28	27	2	27	26	2	400.73114	-0.00013
28	27	2	29	28	2	364.41261	0.00005
28	28	0	27	27	0	401.04591	-0.00006
28	28	0	29	29	0	363.99793	0.00001
28	28	1	27	27	1	401.04591	-0.00006
28	28	1	29	29	1	363.99793	0.00001
29	4	25	28	3	25	396.22225	-0.00013
29	5	24	30	6	24	370.29519	-0.00003
29	5	25	28	4	25	396.22225	-0.00013
29	6	23	28	5	23	396.01731	-0.00006
29	6	23	30	7	23	370.42802	0.00012
29	8	21	28	7	21	395.66673	-0.00012

29	9	20	28	8	20	395.28209	-0.00004
29	9	20	30	10	20	371.49289	0.00006
29	9	21	30	10	21	370.74010	0.00051
29	10	20	28	9	20	395.61756	0.00009
29	10	20	30	11	20	370.77995	0.00019
29	11	18	28	10	18	394.96316	0.00009
29	11	18	30	12	18	371.05343	-0.00015
29	11	19	28	10	19	395.64119	-0.00015
29	12	17	28	11	17	395.61756	-0.00035
29	12	17	30	13	17	370.37156	0.00014
29	12	18	30	13	18	370.27619	0.00003
29	13	16	28	12	16	396.14810	-0.00004
29	14	15	28	13	15	396.58184	0.00002
29	14	16	28	13	16	396.58720	-0.00019
29	15	14	28	14	14	396.96545	0.00010
29	15	14	30	16	14	368.97218	0.00004
29	15	15	30	16	15	368.97218	0.00016
29	16	13	28	15	13	397.33138	-0.00009
29	16	13	30	17	13	368.56342	0.00001
29	16	14	28	15	14	397.33138	-0.00013
29	16	14	30	17	14	368.56342	0.00002
29	17	12	28	16	12	397.68834	0.00007
29	17	12	30	18	12	368.13519	0.00013
29	17	13	28	16	13	397.68834	0.00006
29	17	13	30	18	13	368.13519	0.00013
29	18	11	28	17	11	398.03852	-0.00009
29	18	11	30	19	11	367.76665	0.00001
29	18	12	28	17	12	398.03852	-0.00009
29	18	12	30	19	12	367.76665	0.00001
29	19	10	28	18	10	398.37489	-0.00009
29	19	10	30	20	10	367.36630	0.00015
29	19	11	28	18	11	398.37489	-0.00009
29	19	11	30	20	11	367.36630	0.00015
29	20	9	28	19	9	398.73097	0.00001
29	20	9	30	21	9	366.96737	0.00011
29	20	10	28	19	10	398.73097	0.00001
29	20	10	30	21	10	366.96737	0.00011
29	21	8	28	20	8	399.07004	-0.00004
29	21	8	30	22	8	366.56869	0.00020
29	21	9	28	20	9	399.07004	-0.00004
29	21	9	30	22	9	366.56869	0.00020
29	22	7	28	21	7	399.40700	-0.00004
29	22	7	30	23	7	366.16918	-0.00001
29	22	8	28	21	8	399.40700	-0.00004
29	22	8	30	23	8	366.16918	-0.00001
29	23	6	28	22	6	399.74148	-0.00001

29	23	6	30	24	6	365.76888	-0.00003
29	23	7	28	22	7	399.74148	-0.00001
29	23	7	30	24	7	365.76888	-0.00003
29	24	5	28	23	5	400.07314	-0.00011
29	24	5	30	25	5	365.36732	0.00010
29	24	6	28	23	6	400.07314	-0.00011
29	24	6	30	25	6	365.36732	0.00010
29	25	4	28	24	4	400.40201	-0.00009
29	25	4	30	26	4	364.96372	0.00003
29	25	5	28	24	5	400.40201	-0.00009
29	25	5	30	26	5	364.96372	0.00003
29	26	3	28	25	3	400.72754	-0.00008
29	26	3	30	27	3	364.55792	0.00014
29	26	4	28	25	4	400.72754	-0.00008
29	26	4	30	27	4	364.55792	0.00014
29	27	2	28	26	2	401.04900	-0.00022
29	27	2	30	28	2	364.14883	-0.00001
29	27	3	28	26	3	401.04900	-0.00022
29	27	3	30	28	3	364.14883	-0.00001
29	28	1	28	27	1	401.36588	-0.00013
29	28	1	30	29	1	363.73603	0.00009
29	28	2	28	27	2	401.36588	-0.00013
29	28	2	30	29	2	363.73603	0.00009
29	29	0	28	28	0	401.67658	-0.00011
29	29	0	30	30	0	363.31797	0.00018
29	29	1	28	28	1	401.67658	-0.00011
29	29	1	30	30	1	363.31797	0.00018
30	3	27	29	2	27	396.77030	-0.00017
30	4	26	29	3	26	396.69101	-0.00007
30	4	27	29	3	27	396.77030	-0.00017
30	5	25	29	4	25	396.60009	0.00000
30	5	26	29	4	26	396.69101	-0.00007
30	6	25	29	5	25	396.60009	0.00001
30	7	24	29	6	24	396.49199	0.00002
30	8	22	29	7	22	396.17684	0.00002
30	8	23	29	7	23	396.37461	0.00001
30	8	23	31	9	23	370.13371	0.00002
30	9	22	29	8	22	396.21862	0.00006
30	9	22	31	10	22	370.29931	0.00007
30	10	20	29	9	20	395.36617	-0.00020
30	10	21	29	9	21	396.07356	-0.00005
30	10	21	31	11	21	370.39573	0.00002
30	11	19	29	10	19	395.23893	-0.00001
30	11	20	29	10	20	396.03570	0.00006
30	11	20	31	12	20	370.30842	0.00015
30	12	18	29	11	18	395.78428	0.00000

30	12	19	29	11	19	396.20372	0.00007
30	13	18	29	12	18	396.47914	-0.00012
30	13	18	31	14	18	369.56007	0.00019
30	14	16	29	13	16	396.86067	0.00010
30	14	16	31	15	16	369.13995	-0.00008
30	14	17	29	13	17	396.87344	-0.00007
30	14	17	31	15	17	369.13596	-0.00053
30	15	15	29	14	15	397.25741	0.00006
30	15	16	29	14	16	397.25860	-0.00004
30	15	16	31	16	16	368.71565	0.00007
30	16	14	29	15	14	397.62962	0.00006
30	16	14	31	17	14	368.30234	-0.00003
30	16	15	29	15	15	397.62962	-0.00004
30	16	15	31	17	15	368.30234	-0.00001
30	17	13	29	16	13	397.99002	-0.00005
30	17	13	31	18	13	367.86054	-0.00010
30	17	14	29	16	14	397.99002	-0.00005
30	17	14	31	18	14	367.86054	-0.00010
30	18	12	29	17	12	398.34265	-0.00014
30	18	12	31	19	12	367.50313	-0.00024
30	18	13	29	17	13	398.34265	-0.00014
30	18	13	31	19	13	367.50313	-0.00024
30	19	11	29	18	11	398.67443	-0.00014
30	19	11	31	20	11	367.10114	0.00003
30	19	12	29	18	12	398.67443	-0.00014
30	19	12	31	20	12	367.10114	0.00003
30	20	10	29	19	10	399.04012	-0.00008
30	20	10	31	21	10	366.70135	0.00001
30	20	11	29	19	11	399.04012	-0.00008
30	20	11	31	21	11	366.70135	0.00001
30	21	9	29	20	9	399.38036	-0.00002
30	21	9	31	22	9	366.30226	0.00014
30	21	10	29	20	10	399.38036	-0.00002
30	21	10	31	22	10	366.30226	0.00014
30	22	8	29	21	8	399.71850	-0.00005
30	22	8	31	23	8	365.90294	0.00020
30	22	9	29	21	9	399.71850	-0.00005
30	22	9	31	23	9	365.90294	0.00020
30	23	7	29	22	7	400.05413	-0.00010
30	23	7	31	24	7	365.50272	0.00007
30	23	8	29	22	8	400.05413	-0.00010
30	23	8	31	24	8	365.50272	0.00007
30	24	6	29	23	6	400.38729	0.00000
30	24	6	31	25	6	365.10147	0.00005
30	24	7	29	23	7	400.38729	0.00000
30	24	7	31	25	7	365.10147	0.00005



30	25	5	29	24	5	400.71750	-0.00005
30	25	5	31	26	5	364.69871	0.00008
30	25	6	29	24	6	400.71750	-0.00005
30	25	6	31	26	6	364.69871	0.00008
30	26	4	29	25	4	401.04461	-0.00005
30	26	4	31	27	4	364.29378	0.00003
30	26	5	29	25	5	401.04461	-0.00005
30	26	5	31	27	5	364.29378	0.00003
30	27	3	29	26	3	401.36807	-0.00004
30	27	3	31	28	3	363.88616	-0.00002
30	27	4	29	26	4	401.36807	-0.00004
30	27	4	31	28	4	363.88616	-0.00002
30	28	2	31	29	2	363.47499	-0.00006
30	28	3	31	29	3	363.47499	-0.00006
30	29	1	29	28	1	402.00037	-0.00010
30	29	1	31	30	1	363.05938	0.00017
30	29	2	29	28	2	402.00037	-0.00010
30	29	2	31	30	2	363.05938	0.00017
30	30	0	29	29	0	402.30639	-0.00005
30	30	0	31	31	0	362.63696	0.00007
30	30	1	29	29	1	402.30639	-0.00005
30	30	1	31	31	1	362.63696	0.00007
31	16	16	30	15	16	397.92571	-0.00022
31	16	16	32	17	16	368.04346	-0.00014
31	17	14	30	16	14	398.29058	-0.00005
31	17	14	32	18	14	367.58706	-0.00009
31	17	15	30	16	15	398.29058	-0.00007
31	17	15	32	18	15	367.58706	-0.00009
31	18	13	30	17	13	398.64610	-0.00002
31	18	13	32	19	13	367.24220	0.00007
31	18	14	30	17	14	398.64610	-0.00002
31	18	14	32	19	14	367.24220	0.00007
31	19	12	30	18	12	398.97119	-0.00020
31	19	12	32	20	12	366.83768	-0.00003
31	19	13	30	18	13	398.97119	-0.00020
31	19	13	32	20	13	366.83768	-0.00003
31	20	11	30	19	11	399.34948	-0.00013
31	20	11	32	21	11	366.43688	0.00008
31	20	12	30	19	12	399.34948	-0.00013
31	20	12	32	21	12	366.43688	0.00008
31	21	10	30	20	10	399.69084	-0.00010
31	21	10	32	22	10	366.03684	-0.00017
31	21	11	30	20	11	399.69084	-0.00010
31	21	11	32	22	11	366.03684	-0.00017
31	22	9	30	21	9	400.03034	-0.00010
31	22	9	32	23	9	365.63727	-0.00016

31	22	10	30	21	10	400.03034	-0.00010
31	22	10	32	23	10	365.63727	-0.00016
31	23	8	30	22	8	400.36737	-0.00009
31	23	8	32	24	8	365.23752	0.00004
31	23	9	30	22	9	400.36737	-0.00009
31	23	9	32	24	9	365.23752	0.00004
31	24	7	30	23	7	400.70186	-0.00008
31	24	7	32	25	7	364.83671	0.00003
31	24	8	30	23	8	400.70186	-0.00008
31	24	8	32	25	8	364.83671	0.00003
31	25	6	30	24	6	401.03373	0.00002
31	25	6	32	26	6	364.43466	0.00006
31	25	7	30	24	7	401.03373	0.00002
31	25	7	32	26	7	364.43466	0.00006
31	26	5	30	25	5	401.36236	-0.00016
31	26	5	32	27	5	364.03082	0.00006
31	26	6	30	25	6	401.36236	-0.00016
31	26	6	32	27	6	364.03082	0.00006
31	29	2	30	28	2	402.32530	-0.00006
31	29	2	32	30	2	362.80192	0.00014
31	29	3	30	28	3	402.32530	-0.00006
31	29	3	32	30	3	362.80192	0.00014
31	30	1	30	29	1	402.63475	-0.00010
31	30	1	32	31	1	362.38272	0.00015
31	30	2	30	29	2	402.63475	-0.00010
31	30	2	32	31	2	362.38272	0.00015
32	17	15	31	16	15	398.58957	-0.00008
32	17	15	33	18	15	367.31575	0.00002
32	17	16	31	16	16	398.58957	-0.00014
32	17	16	33	18	16	367.31575	0.00004
32	18	14	31	17	14	398.94826	-0.00009
32	18	14	33	19	14	366.98316	0.00004
32	18	15	31	17	15	398.94826	-0.00009
32	18	15	33	19	15	366.98316	0.00004
32	19	13	31	18	13	399.26559	-0.00015
32	19	13	33	20	13	366.57607	0.00002
32	19	14	31	18	14	399.26559	-0.00015
32	19	14	33	20	14	366.57607	0.00002
32	20	12	31	19	12	399.65910	-0.00001
32	20	12	33	21	12	366.17392	0.00016
32	20	13	31	19	13	399.65910	-0.00001
32	20	13	33	21	13	366.17392	0.00016
32	21	11	31	20	11	400.00157	-0.00011
32	21	11	33	22	11	365.77331	0.00008
32	21	12	31	20	12	400.00157	-0.00011
32	21	12	33	22	12	365.77331	0.00008

32	22	10	31	21	10	400.34254	-0.00009
32	22	10	33	23	10	365.37336	0.00002
32	22	11	31	21	11	400.34254	-0.00009
32	22	11	33	23	11	365.37336	0.00002
32	23	9	31	22	9	400.68103	-0.00010
32	23	9	33	24	9	364.97361	0.00017
32	23	10	31	22	10	400.68103	-0.00010
32	23	10	33	24	10	364.97361	0.00017
32	24	8	31	23	8	401.01698	-0.00015
32	24	8	33	25	8	364.57303	0.00000
32	24	9	31	23	9	401.01698	-0.00015
32	24	9	33	25	9	364.57303	0.00000
32	25	7	31	24	7	401.35044	-0.00009
32	25	7	33	26	7	364.17180	0.00015
32	25	8	31	24	8	401.35044	-0.00009
32	25	8	33	26	8	364.17180	0.00015
32	26	6	31	25	6	401.68104	-0.00010
32	26	6	33	27	6	363.76881	-0.00002
32	26	7	31	25	7	401.68104	-0.00010
32	26	7	33	27	7	363.76881	-0.00002
32	28	4	31	27	4	402.33217	-0.00012
32	28	4	33	29	4	362.95673	0.00014
32	28	5	31	27	5	402.33217	-0.00012
32	28	5	33	29	5	362.95673	0.00014
32	29	3	31	28	3	402.65123	-0.00013
32	29	3	33	30	3	362.54554	0.00003
32	29	4	31	28	4	402.65123	-0.00013
32	29	4	33	30	4	362.54554	0.00003
32	30	2	31	29	2	402.96435	-0.00011
32	30	2	33	31	2	362.12963	0.00017
32	30	3	31	29	3	402.96435	-0.00011
32	30	3	33	31	3	362.12963	0.00017
32	32	0	31	31	0	403.56298	-0.00005
32	32	0	33	33	0	361.27297	0.00015
32	32	1	31	31	1	403.56298	-0.00005
32	32	1	33	33	1	361.27297	0.00015
33	16	17	32	15	17	398.50942	0.00001
33	16	17	34	17	17	367.53447	-0.00007
33	17	16	32	16	16	398.88667	-0.00007
33	17	16	34	18	16	367.04726	-0.00008
33	18	15	32	17	15	399.24924	0.00002
33	18	15	34	19	15	366.72675	0.00019
33	18	16	32	17	16	399.24924	0.00001
33	18	16	34	19	16	366.72675	0.00019
33	19	14	32	18	14	399.55825	-0.00008
33	19	14	34	20	14	366.31641	0.00012

33	19	15	32	18	15	399.55825	-0.00008
33	19	15	34	20	15	366.31641	0.00012
33	20	13	32	19	13	399.96849	-0.00012
33	20	13	34	21	13	365.91244	0.00011
33	20	14	32	19	14	399.96849	-0.00012
33	20	14	34	21	14	365.91244	0.00011
33	21	12	32	20	12	400.31243	-0.00008
33	21	12	34	22	12	365.51093	0.00009
33	21	13	32	20	13	400.31243	-0.00008
33	21	13	34	22	13	365.51093	0.00009
33	22	11	32	21	11	400.65500	-0.00006
33	22	11	34	23	11	365.11051	-0.00001
33	22	12	32	21	12	400.65500	-0.00006
33	22	12	34	23	12	365.11051	-0.00001
33	23	10	32	22	10	400.99510	-0.00007
33	23	10	34	24	10	364.71055	-0.00004
33	23	11	32	22	11	400.99510	-0.00007
33	23	11	34	24	11	364.71055	-0.00004
33	26	7	32	25	7	402.00037	-0.00013
33	26	7	34	27	7	363.50804	0.00003
33	26	8	32	25	8	402.00037	-0.00013
33	26	8	34	27	8	363.50804	0.00003
33	27	6	32	26	6	402.33000	-0.00011
33	27	6	34	28	6	363.10459	-0.00004
33	27	7	32	26	7	402.33000	-0.00011
33	27	7	34	28	7	363.10459	-0.00004
33	29	4	32	28	4	402.97833	-0.00010
33	29	4	34	30	4	362.29051	0.00009
33	29	5	32	28	5	402.97833	-0.00010
33	29	5	34	30	5	362.29051	0.00009
33	30	3	32	29	3	403.29507	-0.00016
33	30	3	34	31	3	361.87776	0.00020
33	30	4	32	29	4	403.29507	-0.00016
33	30	4	34	31	4	361.87776	0.00020
33	31	2	32	30	2	403.60496	-0.00003
33	31	2	34	32	2	361.45895	0.00025
33	31	3	32	30	3	403.60496	-0.00003
33	31	3	34	32	3	361.45895	0.00025
33	32	1	32	31	1	403.90480	-0.00005
33	32	1	34	33	1	361.03118	0.00015
33	32	2	32	31	2	403.90480	-0.00005
33	32	2	34	33	2	361.03118	0.00015
34	17	18	33	16	18	399.18165	-0.00019
34	17	18	35	18	18	366.78270	-0.00001
34	18	16	33	17	16	399.54830	-0.00011
34	18	16	35	19	16	366.47270	-0.00002

34	18	17	33	17	17	399.54830	-0.00014
34	18	17	35	19	17	366.47270	-0.00001
34	20	14	33	19	14	400.27796	-0.00008
34	20	14	35	21	14	365.65275	0.00015
34	20	15	33	19	15	400.27796	-0.00008
34	20	15	35	21	15	365.65275	0.00015
34	21	13	33	20	13	400.62353	0.00018
34	21	13	35	22	13	365.25009	0.00014
34	21	14	33	20	14	400.62353	0.00018
34	21	14	35	22	14	365.25009	0.00014
34	22	12	33	21	12	400.96762	-0.00003
34	22	12	35	23	12	364.84914	0.00010
34	22	13	33	21	13	400.96762	-0.00003
34	22	13	35	23	13	364.84914	0.00010
34	23	11	33	22	11	401.30946	-0.00006
34	23	11	35	24	11	364.44909	0.00011
34	23	12	33	22	12	401.30946	-0.00006
34	23	12	35	24	12	364.44909	0.00011
34	25	9	33	24	9	401.98580	-0.00018
34	25	9	35	26	9	363.64922	0.00014
34	25	10	33	24	10	401.98580	-0.00018
34	25	10	35	26	10	363.64922	0.00014
34	26	8	33	25	8	402.32057	0.00003
34	26	8	35	27	8	363.24845	0.00015
34	26	9	33	25	9	402.32057	0.00003
34	26	9	35	27	9	363.24845	0.00015
34	27	7	33	26	7	402.65237	-0.00007
34	27	7	35	28	7	362.84649	0.00014
34	27	8	33	26	8	402.65237	-0.00007
34	27	8	35	28	8	362.84649	0.00014
34	28	6	33	27	6	402.98119	-0.00011
34	28	6	35	29	6	362.44284	0.00019
34	28	7	33	27	7	402.98119	-0.00011
34	28	7	35	29	7	362.44284	0.00019
34	30	4	33	29	4	403.62700	-0.00013
34	30	4	35	31	4	361.62685	-0.00001
34	30	5	33	29	5	403.62700	-0.00013
34	30	5	35	31	5	361.62685	-0.00001
34	31	3	33	30	3	403.94155	-0.00013
34	31	3	35	32	3	361.21227	0.00001
34	31	4	33	30	4	403.94155	-0.00013
34	31	4	35	32	4	361.21227	0.00001
34	32	2	33	31	2	404.24771	-0.00012
34	32	2	35	33	2	360.79059	0.00022
34	32	3	33	31	3	404.24771	-0.00012
34	32	3	35	33	3	360.79059	0.00022

35	18	17	34	17	17	399.84538	-0.00021
35	18	17	36	19	17	366.22197	0.00005
35	20	15	34	19	15	400.58721	-0.00008
35	20	15	36	21	15	365.39471	-0.00001
35	20	16	34	19	16	400.58721	-0.00008
35	20	16	36	21	16	365.39471	-0.00001
35	21	14	34	20	14	400.93398	-0.00012
35	21	14	36	22	14	364.99057	-0.00007
35	21	15	34	20	15	400.93398	-0.00012
35	21	15	36	22	15	364.99057	-0.00007
35	23	12	34	22	12	401.62402	-0.00009
35	23	12	36	24	12	364.18873	0.00006
35	23	13	34	22	13	401.62402	-0.00009
35	23	13	36	24	13	364.18873	0.00006
35	24	11	34	23	11	401.96532	-0.00015
35	24	11	36	25	11	363.78906	0.00003
35	24	12	34	23	12	401.96532	-0.00015
35	24	12	36	25	12	363.78906	0.00003
35	25	10	34	24	10	402.30444	-0.00006
35	25	10	36	26	10	363.38979	0.00025
35	25	11	34	24	11	402.30444	-0.00006
35	25	11	36	26	11	363.38979	0.00025
35	26	9	34	25	9	402.64112	-0.00011
35	26	9	36	27	9	362.98995	0.00020
35	26	10	34	25	10	402.64112	-0.00011
35	26	10	36	27	10	362.98995	0.00020
35	27	8	34	26	8	402.97551	-0.00002
35	27	8	36	28	8	362.58933	0.00012
35	27	9	34	26	9	402.97551	-0.00002
35	27	9	36	28	9	362.58933	0.00012
35	29	6	34	28	6	403.63543	-0.00015
35	29	6	36	30	6	361.78378	0.00002
35	29	7	34	28	7	403.63543	-0.00015
35	29	7	36	30	7	361.78378	0.00002
35	30	5	34	29	5	403.95997	-0.00013
35	30	5	36	31	5	361.37754	0.00018
35	30	6	34	29	6	403.95997	-0.00013
35	30	6	36	31	6	361.37754	0.00018
35	32	3	34	31	3	404.59180	-0.00010
35	32	3	36	33	3	360.55092	0.00012
35	32	4	34	31	4	404.59180	-0.00010
35	32	4	36	33	4	360.55092	0.00012
36	18	18	35	17	18	400.14058	0.00024
36	18	18	37	19	18	365.97471	0.00016
36	18	19	35	17	19	400.14058	0.00002
36	18	19	37	19	19	365.97471	0.00022

36	20	16	35	19	16	400.89621	-0.00007
36	20	16	37	21	16	365.13888	0.00006
36	20	17	35	19	17	400.89621	-0.00007
36	20	17	37	21	17	365.13888	0.00006
36	21	15	35	20	15	401.24461	-0.00005
36	21	15	37	22	15	364.73312	0.00010
36	21	16	35	20	16	401.24461	-0.00005
36	21	16	37	22	16	364.73312	0.00010
36	22	14	35	21	14	401.59287	-0.00009
36	22	14	37	23	14	364.33042	0.00002
36	22	15	35	21	15	401.59287	-0.00009
36	22	15	37	23	15	364.33042	0.00002
36	23	13	35	22	13	401.93872	-0.00013
36	23	13	37	24	13	363.92986	0.00015
36	23	14	35	22	14	401.93872	-0.00013
36	23	14	37	24	14	363.92986	0.00015
36	24	12	35	23	12	402.28225	-0.00005
36	24	12	37	25	12	363.53025	0.00008
36	24	13	35	23	13	402.28225	-0.00005
36	24	13	37	25	13	363.53025	0.00008
36	25	11	35	24	11	402.62340	-0.00008
36	25	11	37	26	11	363.13114	-0.00007
36	25	12	35	24	12	402.62340	-0.00008
36	25	12	37	26	12	363.13114	-0.00007
36	26	10	35	25	10	402.96236	-0.00014
36	26	10	37	27	10	362.73252	0.00014
36	26	11	35	25	11	402.96236	-0.00014
36	26	11	37	27	11	362.73252	0.00014
36	27	9	35	26	9	403.29924	-0.00009
36	27	9	37	28	9	362.33343	0.00019
36	27	10	35	26	10	403.29924	-0.00009
36	27	10	37	28	10	362.33343	0.00019
36	31	5	35	30	5	404.61819	-0.00018
36	31	5	37	32	5	360.72305	0.00015
36	31	6	35	30	6	404.61819	-0.00018
36	31	6	37	32	6	360.72305	0.00015
37	20	17	36	19	17	401.20493	0.00002
37	20	17	38	21	17	364.88507	0.00002
37	20	18	36	19	18	401.20493	0.00002
37	20	18	38	21	18	364.88507	0.00002
37	22	15	36	21	15	401.90534	-0.00015
37	22	15	38	23	15	364.07353	0.00014
37	22	16	36	21	16	401.90534	-0.00015
37	22	16	38	23	16	364.07353	0.00014
37	23	14	36	22	14	402.25355	-0.00011
37	23	14	38	24	14	363.67227	0.00011

37	23	15	36	22	15	402.25355	-0.00011
37	23	15	38	24	15	363.67227	0.00011
37	24	13	36	23	13	402.59932	-0.00005
37	24	13	38	25	13	363.27276	0.00014
37	24	14	36	23	14	402.59932	-0.00005
37	24	14	38	25	14	363.27276	0.00014
37	25	12	36	24	12	402.94270	-0.00015
37	25	12	38	26	12	362.87423	0.00011
37	25	13	36	24	13	402.94270	-0.00015
37	25	13	38	26	13	362.87423	0.00011
37	26	11	36	25	11	403.28419	-0.00011
37	26	11	38	27	11	362.47623	0.00002
37	26	12	36	25	12	403.28419	-0.00011
37	26	12	38	27	12	362.47623	0.00002
37	27	10	36	26	10	403.62364	-0.00015
37	27	10	38	28	10	362.07851	0.00004
37	27	11	36	26	11	403.62364	-0.00015
37	27	11	38	28	11	362.07851	0.00004
38	21	17	37	20	17	401.86457	-0.00013
38	21	17	39	22	17	364.22332	0.00002
38	21	18	37	20	18	401.86457	-0.00013
38	21	18	39	22	18	364.22332	0.00002
38	22	16	37	21	16	402.21797	0.00017
38	22	16	39	23	16	363.81814	0.00009
38	22	17	37	21	17	402.21797	0.00017
38	22	17	39	23	17	363.81814	0.00009
38	24	14	37	23	14	402.91644	-0.00015
38	24	14	39	25	14	363.01649	0.00006
38	24	15	37	23	15	402.91644	-0.00015
38	24	15	39	25	15	363.01649	0.00006
38	25	13	37	24	13	403.26245	-0.00009
38	25	13	39	26	13	362.61853	0.00020
38	25	14	37	24	14	403.26245	-0.00009
38	25	14	39	26	14	362.61853	0.00020
38	26	12	37	25	12	403.60644	-0.00013
38	26	12	39	27	12	362.22131	0.00003
38	26	13	37	25	13	403.60644	-0.00013
38	26	13	39	27	13	362.22131	0.00003
38	27	11	37	26	11	403.94869	-0.00016
38	27	11	39	28	11	361.82514	0.00024
38	27	12	37	26	12	403.94869	-0.00016
38	27	12	39	28	12	361.82514	0.00024
38	28	10	37	27	10	404.28925	-0.00016
38	28	10	39	29	10	361.42882	0.00000
38	28	11	37	27	11	404.28925	-0.00016
38	28	11	39	29	11	361.42882	0.00000



38	29	9	37	28	9	404.62807	-0.00011
38	29	9	39	30	9	361.03270	0.00005
38	29	10	37	28	10	404.62807	-0.00011
38	29	10	39	30	10	361.03270	0.00005
38	30	8	37	29	8	404.96480	-0.00008
38	30	8	39	31	8	360.63628	0.00035
38	30	9	37	29	9	404.96480	-0.00008
38	30	9	39	31	9	360.63628	0.00035
38	31	7	37	30	7	405.29878	-0.00027
38	31	7	39	32	7	360.23841	0.00032
38	31	8	37	30	8	405.29878	-0.00027
38	31	8	39	32	8	360.23841	0.00032
39	20	19	38	19	19	401.82060	-0.00007
39	20	19	40	21	19	364.38458	-0.00008
39	20	20	38	19	20	401.82060	-0.00009
39	20	20	40	21	20	364.38458	-0.00007
39	21	18	38	20	18	402.17384	-0.00008
39	21	18	40	22	18	363.97155	0.00010
39	21	19	38	20	19	402.17384	-0.00008
39	21	19	40	22	19	363.97155	0.00010
39	26	13	38	25	13	403.92903	-0.00022
39	26	13	40	27	13	361.96775	0.00012
39	26	14	38	25	14	403.92903	-0.00022
39	26	14	40	27	14	361.96775	0.00012
39	27	12	38	26	12	404.27430	-0.00015
39	27	12	40	28	12	361.57279	0.00022
39	27	13	38	26	13	404.27430	-0.00015
39	27	13	40	28	13	361.57279	0.00022
39	28	11	38	27	11	404.61819	-0.00005
39	28	11	40	29	11	361.17854	0.00019
39	28	12	38	27	12	404.61819	-0.00005
39	28	12	40	29	12	361.17854	0.00019
39	29	10	38	28	10	404.96045	-0.00020
39	29	10	40	30	10	360.78485	0.00020
39	29	11	38	28	11	404.96045	-0.00020
39	29	11	40	30	11	360.78485	0.00020
39	30	9	38	29	9	405.30131	-0.00025
39	30	9	40	31	9	360.39121	0.00009
39	30	10	38	29	10	405.30131	-0.00025
39	30	10	40	31	10	360.39121	0.00009
39	31	8	38	30	8	405.64047	-0.00024
39	31	8	40	32	8	359.99762	0.00031
39	31	9	38	30	9	405.64047	-0.00024
39	31	9	40	32	9	359.99762	0.00031
40	22	18	39	21	18	402.84131	0.00007
40	22	18	41	23	18	363.31286	0.00012

40	22	19	39	21	19	402.84131	0.00007
40	22	19	41	23	19	363.31286	0.00012
40	23	17	39	22	17	403.19746	-0.00009
40	23	17	41	24	17	362.90883	0.00009
40	23	18	39	22	18	403.19746	-0.00009
40	23	18	41	24	18	362.90883	0.00009
40	25	15	39	24	15	403.90249	-0.00010
40	25	15	41	26	15	362.11089	0.00013
40	25	16	39	24	16	403.90249	-0.00010
40	25	16	41	26	16	362.11089	0.00013
40	26	14	39	25	14	404.25219	-0.00006
40	26	14	41	27	14	361.71535	0.00008
40	26	15	39	25	15	404.25219	-0.00006
40	26	15	41	27	15	361.71535	0.00008
40	27	13	39	26	13	404.60041	-0.00012
40	27	13	41	28	13	361.32167	0.00018
40	27	14	39	26	14	404.60041	-0.00012
40	27	14	41	28	14	361.32167	0.00018
41	20	21	40	19	21	402.43378	-0.00005
41	20	21	42	21	21	363.89523	-0.00005
41	24	17	40	23	17	403.86826	-0.00007
41	24	17	42	25	17	362.25667	0.00003
41	24	18	40	23	18	403.86826	-0.00007
41	24	18	42	25	18	362.25667	0.00003
41	26	15	40	25	15	404.57537	-0.00013
41	26	15	42	27	15	361.46457	0.00033
41	26	16	40	25	16	404.57537	-0.00013
41	26	16	42	27	16	361.46457	0.00033
41	28	13	40	27	13	405.27752	-0.00010
41	28	13	42	29	13	360.68117	0.00009
41	28	14	40	27	14	405.27752	-0.00010
41	28	14	42	29	14	360.68117	0.00009
42	23	19	41	22	19	403.82513	-0.00008
42	23	19	43	24	19	362.40831	0.00004
42	23	20	41	22	20	403.82513	-0.00008
42	23	20	43	24	20	362.40831	0.00004
42	25	17	41	24	17	404.54277	-0.00016
42	25	17	43	26	17	361.60896	0.00010
42	25	18	41	24	18	404.54277	-0.00016
42	25	18	43	26	18	361.60896	0.00010
42	26	16	41	25	16	404.89882	-0.00010
42	26	16	43	27	16	361.21454	-0.00003
42	26	17	41	25	17	404.89882	-0.00010
42	26	17	43	27	17	361.21454	-0.00003
42	29	13	41	28	13	405.96177	-0.00019
42	29	13	43	30	13	360.04799	0.00024

42	29	14	41	28	14	405.96177	-0.00019
42	29	14	43	30	14	360.04799	0.00024
43	28	15	42	27	15	405.93872	-0.00007
43	28	15	44	29	15	360.18892	0.00018
43	28	16	42	27	16	405.93872	-0.00007
43	28	16	44	29	16	360.18892	0.00018
44	28	16	43	27	16	406.26973	-0.00011
44	28	16	45	29	16	359.94451	0.00007
44	28	17	43	27	17	406.26973	-0.00011
44	28	17	45	29	17	359.94451	0.00007

S.16 - Vibration-rotation line list for the  $390\text{ cm}^{-1}$  band ( $0^0 \rightarrow 390\text{ cm}^{-1}$ ) of malonaldehyde used in the multi-state fitting. All lines were weighted using an uncertainty of  $0.0002\text{ cm}^{-1}$ .

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )	Obs-Calc (cm <sup>-1</sup> )
3	3	1	2	2	1	392.08990	-0.00007
4	3	1	3	2	1	392.34700	0.00005
4	4	0	3	3	0	392.73713	0.00016
4	4	0	5	5	0	387.19777	-0.00001
5	1	4	6	2	4	387.85467	0.00019
5	2	3	6	3	3	387.71547	0.00038
5	3	3	6	4	3	387.25319	-0.00001
5	4	1	6	5	1	386.90583	0.00019
5	4	2	6	5	2	386.90348	-0.00001
5	5	0	4	4	0	393.39151	0.00022
5	5	0	6	6	0	386.53910	0.00011
5	5	1	4	4	1	393.39151	-0.00004
5	5	1	6	6	1	386.53910	0.00014
6	2	4	5	1	4	392.73375	0.00010
6	3	3	7	4	3	387.04232	-0.00017
6	4	2	5	3	2	393.28953	-0.00004
6	4	2	7	5	2	386.61812	-0.00015
6	4	3	7	5	3	386.60824	-0.00007
6	5	1	5	4	1	393.67995	0.00010
6	6	0	7	7	0	385.87983	0.00005
6	6	1	7	7	1	385.87983	0.00005
7	1	7	8	2	7	386.71662	-0.00024
7	2	5	6	1	5	393.17488	-0.00005
7	2	5	8	3	5	387.05375	0.00021
7	2	6	8	3	6	386.72961	-0.00001
7	3	4	6	2	4	393.17260	0.00003
7	3	5	6	2	5	393.45438	-0.00011
7	4	4	6	3	4	393.64756	0.00018
7	4	4	8	5	4	386.30956	0.00000
7	5	3	8	6	3	385.95157	0.00004
7	6	1	8	7	1	385.58560	-0.00003
7	6	2	6	5	2	394.33414	0.00018
7	6	2	8	7	2	385.58560	0.00001
7	7	0	6	6	0	394.69654	0.00006
7	7	0	8	8	0	385.21998	-0.00010
7	7	1	6	6	1	394.69654	0.00006
7	7	1	8	8	1	385.21998	-0.00010
8	1	7	7	0	7	393.84913	-0.00009
8	2	6	9	3	6	386.64337	0.00038

8	2	7	7	1	7	393.87397	0.00012
8	3	5	7	2	5	393.52212	0.00009
8	3	5	9	4	5	386.53086	0.00002
8	3	6	7	2	6	393.85360	-0.00023
8	4	4	7	3	4	393.77923	-0.00008
8	4	4	9	5	4	386.08455	-0.00009
8	5	3	9	6	3	385.66536	0.00020
8	6	2	7	5	2	394.62081	0.00002
8	6	2	9	7	2	385.29209	0.00008
8	7	1	9	8	1	384.92531	-0.00021
8	7	2	9	8	2	384.92531	-0.00020
8	8	0	7	7	0	395.34820	0.00007
8	8	0	9	9	0	384.55987	0.00002
8	8	1	7	7	1	395.34820	0.00007
8	8	1	9	9	1	384.55987	0.00002
9	1	8	10	2	8	385.93400	-0.00012
9	2	7	10	3	7	386.17859	0.00025
9	2	8	10	3	8	385.86837	-0.00012
9	3	6	10	4	6	386.22272	-0.00015
9	3	7	8	2	7	394.27355	0.00007
9	4	5	10	5	5	385.84673	0.00006
9	4	6	8	3	6	394.33252	0.00006
9	4	6	10	5	6	385.68238	0.00005
9	6	3	8	5	3	394.90300	-0.00006
9	7	2	8	6	2	395.27464	0.00075
9	7	2	10	8	2	384.63113	-0.00006
9	7	3	8	6	3	395.27464	0.00047
9	7	3	10	8	3	384.63113	-0.00002
9	8	1	8	7	1	395.63748	0.00023
9	8	1	10	9	1	384.26489	-0.00005
9	8	2	8	7	2	395.63748	0.00023
9	8	2	10	9	2	384.26489	-0.00005
9	9	0	8	8	0	395.99922	0.00004
9	9	1	8	8	1	395.99922	0.00004
10	1	9	9	0	9	394.77170	0.00015
10	1	9	11	2	9	385.45289	0.00006
10	2	8	11	3	8	385.67640	0.00025
10	2	9	9	1	9	394.77617	-0.00001
10	3	8	9	2	8	394.70822	-0.00018
10	3	8	11	4	8	385.45159	0.00006
10	4	6	11	5	6	385.61175	0.00000
10	5	5	9	4	5	394.71387	-0.00005
10	6	4	9	5	4	395.17561	0.00000
10	6	4	11	7	4	384.71142	0.00021
10	6	5	11	7	5	384.70661	0.00013
10	7	3	9	6	3	395.55945	-0.00013

10	7	3	11	8	3	384.33757	-0.00006
10	7	4	9	6	4	395.56077	-0.00012
10	7	4	11	8	4	384.33757	0.00014
10	8	2	9	7	2	395.92541	0.00003
10	8	3	9	7	3	395.92541	-0.00001
10	9	1	9	8	1	396.28797	-0.00002
10	9	2	9	8	2	396.28797	-0.00002
10	10	0	9	9	0	396.64959	-0.00005
10	10	1	9	9	1	396.64959	-0.00005
11	1	10	12	2	10	384.98134	-0.00011
11	2	10	12	3	10	384.96656	0.00023
11	4	8	10	3	8	395.11255	0.00001
11	4	8	12	5	8	384.97938	0.00010
11	5	6	10	4	6	394.93940	0.00007
11	5	6	12	6	6	384.88110	0.00020
11	5	7	10	4	7	395.21525	-0.00007
11	5	7	12	6	7	384.75639	0.00023
11	6	6	12	7	6	384.41455	0.00002
11	7	4	10	6	4	395.84097	-0.00006
11	7	5	10	6	5	395.84594	0.00003
11	8	3	10	7	3	396.21211	0.00014
11	8	4	10	7	4	396.21211	-0.00007
11	10	1	10	9	1	396.93813	0.00001
11	10	1	12	11	1	382.94233	0.00003
11	10	2	10	9	2	396.93813	0.00001
11	10	2	12	11	2	382.94233	0.00003
11	11	0	10	10	0	397.29952	0.00002
11	11	0	12	12	0	382.57611	0.00005
11	11	1	10	10	1	397.29952	0.00002
11	11	1	12	12	1	382.57611	0.00005
12	2	10	13	3	10	384.65970	0.00004
12	3	9	11	2	9	395.39339	-0.00007
12	3	9	13	4	9	384.94531	0.00011
12	4	8	13	5	8	385.03771	0.00014
12	5	7	11	4	7	395.19020	-0.00003
12	5	7	13	6	7	384.65825	-0.00006
12	5	8	11	4	8	395.57171	-0.00009
12	5	8	13	6	8	384.43290	0.00000
12	6	6	11	5	6	395.66249	0.00004
12	6	6	13	7	6	384.15951	0.00009
12	6	7	11	5	7	395.79054	-0.00004
12	6	7	13	7	7	384.12112	0.00023
12	7	5	11	6	5	396.11478	0.00000
12	7	6	13	8	6	383.75307	-0.00031
12	8	4	11	7	4	396.49623	0.00005
12	9	3	11	8	3	396.86278	0.00001

12	9	3	13	10	3	383.01389	0.00023
12	9	4	11	8	4	396.86278	-0.00002
12	9	4	13	10	4	383.01389	0.00023
12	10	2	11	9	2	397.22581	-0.00006
12	10	2	13	11	2	382.64676	0.00007
12	10	3	11	9	3	397.22581	-0.00006
12	10	3	13	11	3	382.64676	0.00007
12	11	1	11	10	1	397.58753	-0.00009
12	11	1	13	12	1	382.28026	0.00005
12	11	2	11	10	2	397.58753	-0.00009
12	11	2	13	12	2	382.28026	0.00005
12	12	0	11	11	0	397.94871	-0.00005
12	12	1	11	11	1	397.94871	-0.00005
13	2	11	14	3	11	384.17071	0.00012
13	3	10	12	2	10	395.89337	0.00013
13	3	10	14	4	10	384.42572	-0.00003
13	3	11	14	4	11	384.13145	-0.00024
13	4	10	12	3	10	395.97135	0.00006
13	4	10	14	5	10	384.17961	-0.00018
13	5	9	14	6	9	384.08923	0.00011
13	6	7	14	7	7	383.90965	0.00001
13	6	8	12	5	8	396.10550	0.00000
13	7	7	12	6	7	396.41484	0.00021
13	8	6	12	7	6	396.77988	0.00009
13	8	6	14	9	6	383.08973	0.00006
13	9	4	12	8	4	397.14796	0.00008
13	9	4	14	10	4	382.71945	0.00021
13	9	5	12	8	5	397.14796	-0.00006
13	9	5	14	10	5	382.71945	0.00023
13	10	3	12	9	3	397.51250	-0.00011
13	10	3	14	11	3	382.35130	0.00008
13	10	4	12	9	4	397.51250	-0.00011
13	10	4	14	11	4	382.35130	0.00008
13	11	2	12	10	2	397.87509	0.00002
13	11	2	14	12	2	381.98418	-0.00008
13	11	3	12	10	3	397.87509	0.00002
13	11	3	14	12	3	381.98418	-0.00008
13	12	1	12	11	1	398.23645	-0.00004
13	12	1	14	13	1	381.61770	0.00010
13	12	2	12	11	2	398.23645	-0.00004
13	12	2	14	13	2	381.61770	0.00010
13	13	0	12	12	0	398.59737	-0.00004
13	13	0	14	14	0	381.25107	0.00012
13	13	1	12	12	1	398.59737	-0.00004
13	13	1	14	14	1	381.25107	0.00012
14	1	13	13	0	13	396.59141	-0.00007

14	2	12	13	1	12	396.50930	0.00005
14	2	13	13	1	13	396.59141	-0.00018
14	3	11	13	2	11	396.37827	-0.00004
14	4	10	13	3	10	396.10708	-0.00007
14	4	10	15	5	10	384.21266	-0.00022
14	4	11	13	3	11	396.41809	0.00000
14	5	9	13	4	9	395.86108	-0.00007
14	5	9	15	6	9	384.17197	0.00012
14	5	10	13	4	10	396.35808	0.00012
14	6	8	13	5	8	396.08674	-0.00001
14	7	7	13	6	7	396.61352	-0.00001
14	7	7	15	8	7	383.19784	0.00006
14	8	6	13	7	6	397.05087	-0.00002
14	8	7	13	7	7	397.06037	-0.00010
14	9	5	13	8	5	397.43070	0.00008
14	9	5	15	10	5	382.42555	-0.00021
14	9	6	15	10	6	382.42555	-0.00013
14	10	4	15	11	4	382.05625	0.00013
14	10	5	15	11	5	382.05625	0.00013
14	11	3	13	10	3	398.16166	0.00002
14	11	3	15	12	3	381.68845	0.00010
14	11	4	13	10	4	398.16166	0.00002
14	11	4	15	12	4	381.68845	0.00009
14	12	2	13	11	2	398.52379	0.00018
14	12	2	15	13	2	381.32132	0.00000
14	12	3	13	11	3	398.52379	0.00018
14	12	3	15	13	3	381.32132	0.00000
14	13	1	13	12	1	398.88472	-0.00002
14	13	1	15	14	1	380.95456	0.00007
14	13	2	13	12	2	398.88472	-0.00002
14	13	2	15	14	2	380.95456	0.00007
14	14	0	13	13	0	399.24541	-0.00004
14	14	0	15	15	0	380.58752	-0.00011
14	14	1	13	13	1	399.24541	-0.00004
14	14	1	15	15	1	380.58752	-0.00011
15	1	14	14	0	14	397.04517	-0.00007
15	1	14	16	2	14	383.13599	-0.00017
15	2	14	14	1	14	397.04517	-0.00011
15	2	14	16	3	14	383.13599	0.00031
15	3	13	14	2	13	396.96673	-0.00023
15	3	13	16	4	13	383.21511	0.00014
15	4	11	14	3	11	396.62770	0.00006
15	4	11	16	5	11	383.70851	-0.00028
15	4	12	14	3	12	396.87052	0.00002
15	4	12	16	5	12	383.30322	0.00022
15	5	11	14	4	11	396.78273	0.00007



15	6	9	14	5	9	396.33436	0.00005
15	6	10	14	5	10	396.80005	0.00007
15	6	10	16	7	10	383.18620	0.00007
15	7	8	14	6	8	396.82569	-0.00004
15	7	9	14	6	9	397.00358	0.00005
15	7	9	16	8	9	382.88092	0.00041
15	8	8	14	7	8	397.34017	-0.00001
15	8	8	16	9	8	382.50964	0.00002
15	9	6	14	8	6	397.70995	-0.00001
15	9	6	16	10	6	382.13366	-0.00010
15	9	7	14	8	7	397.71203	0.00009
15	9	7	16	10	7	382.13366	0.00025
15	10	5	14	9	5	398.08166	0.00005
15	10	5	16	11	5	381.76164	-0.00001
15	10	6	14	9	6	398.08166	-0.00005
15	10	6	16	11	6	381.76164	0.00000
15	11	4	14	10	4	398.44702	-0.00004
15	11	5	14	10	5	398.44702	-0.00005
15	12	3	14	11	3	398.80991	0.00000
15	12	3	16	13	3	381.02488	-0.00013
15	12	4	14	11	4	398.80991	0.00000
15	12	4	16	13	4	381.02488	-0.00013
15	13	2	14	12	2	399.17143	-0.00004
15	13	2	16	14	2	380.65792	0.00006
15	13	3	14	12	3	399.17143	-0.00004
15	13	3	16	14	3	380.65792	0.00006
15	14	1	14	13	1	399.53231	-0.00002
15	14	1	16	15	1	380.29089	0.00005
15	14	2	14	13	2	399.53231	-0.00002
15	14	2	16	15	2	380.29089	0.00005
15	15	0	14	14	0	399.89289	0.00000
15	15	1	14	14	1	399.89289	0.00000
16	1	15	17	2	15	382.67798	-0.00015
16	2	14	15	1	14	397.42110	0.00002
16	2	14	17	3	14	382.75824	0.00011
16	2	15	17	3	15	382.67798	0.00003
16	3	13	17	4	13	382.89167	0.00012
16	3	14	15	2	14	397.42110	-0.00047
16	3	14	17	4	14	382.75437	0.00000
16	4	12	15	3	12	397.13561	0.00017
16	4	12	17	5	12	383.17349	0.00004
16	5	11	15	4	11	396.79560	0.00001
16	5	12	17	6	12	382.91175	0.00015
16	6	10	15	5	10	396.64239	-0.00007
16	6	10	17	7	10	383.25678	0.00037
16	6	11	15	5	11	397.18471	0.00010

16	7	9	15	6	9	397.01989	-0.00002
16	7	9	17	8	9	382.70358	-0.00008
16	7	10	15	6	10	397.31899	-0.00017
16	7	10	17	8	10	382.58185	0.00045
16	8	8	15	7	8	397.56079	-0.00009
16	8	8	17	9	8	382.23701	-0.00006
16	8	9	15	7	9	397.62158	0.00010
16	9	7	15	8	7	397.98417	0.00004
16	9	7	17	10	7	381.84394	-0.00002
16	9	8	17	10	8	381.84294	0.00013
16	10	6	15	9	6	398.36283	-0.00005
16	10	6	17	11	6	381.46823	0.00006
16	10	7	15	9	7	398.36283	-0.00043
16	10	7	17	11	7	381.46823	0.00010
16	11	5	15	10	5	398.73097	-0.00006
16	11	5	17	12	5	381.09731	-0.00017
16	11	6	15	10	6	398.73097	-0.00001
16	11	6	17	12	6	381.09731	-0.00010
16	12	4	15	11	4	399.09557	0.00036
16	12	4	17	13	4	380.72902	0.00017
16	12	5	15	11	5	399.09557	0.00036
16	12	5	17	13	5	380.72902	0.00017
16	13	3	15	12	3	399.45743	-0.00002
16	13	3	17	14	3	380.36104	-0.00013
16	13	4	15	12	4	399.45743	-0.00002
16	13	4	17	14	4	380.36104	-0.00013
16	14	2	15	13	2	399.81855	-0.00008
16	14	2	17	15	2	379.99388	0.00003
16	14	3	15	13	3	399.81855	-0.00008
16	14	3	17	15	3	379.99388	0.00003
16	15	1	15	14	1	400.17935	-0.00007
16	15	1	17	16	1	379.62693	0.00013
16	15	2	15	14	2	400.17935	-0.00007
16	15	2	17	16	2	379.62693	0.00013
16	16	0	15	15	0	400.53962	-0.00006
16	16	0	17	17	0	379.25949	0.00002
16	16	1	15	15	1	400.53962	-0.00006
16	16	1	17	17	1	379.25949	0.00002
17	1	16	18	2	16	382.22047	-0.00008
17	2	16	18	3	16	382.22047	0.00000
17	3	14	18	4	14	382.40896	0.00018
17	3	15	18	4	15	382.29390	0.00018
17	4	13	16	3	13	397.62623	-0.00002
17	4	13	18	5	13	382.63694	0.00013
17	4	14	18	5	14	382.38721	-0.00021
17	5	13	18	6	13	382.47589	0.00008

17	6	11	16	5	11	397.02394	-0.00027
17	6	12	16	5	12	397.59283	-0.00002
17	6	12	18	7	12	382.46540	0.00001
17	7	10	16	6	10	397.22333	-0.00006
17	7	10	18	8	10	382.49430	0.00010
17	7	11	18	8	11	382.27020	0.00002
17	8	9	16	7	9	397.78167	-0.00022
17	8	10	16	7	10	397.90875	0.00008
17	8	10	18	9	10	381.93339	0.00005
17	9	8	16	8	8	398.24989	-0.00014
17	9	9	16	8	9	398.26608	-0.00003
17	9	9	18	10	9	381.55408	-0.00006
17	10	8	16	9	8	398.64217	-0.00007
17	11	6	16	10	6	399.01313	-0.00006
17	11	6	18	12	6	380.80291	-0.00007
17	11	7	16	10	7	399.01313	-0.00006
17	11	7	18	12	7	380.80291	0.00000
17	12	5	16	11	5	399.37923	-0.00003
17	12	5	18	13	5	380.43312	0.00012
17	12	6	16	11	6	399.37923	-0.00004
17	12	6	18	13	6	380.43312	0.00012
17	13	4	16	12	4	399.74237	-0.00014
17	13	4	18	14	4	380.06471	0.00017
17	13	5	16	12	5	399.74237	-0.00014
17	13	5	18	14	5	380.06471	0.00017
17	14	3	16	13	3	400.10418	-0.00002
17	14	3	18	15	3	379.69660	-0.00015
17	14	4	16	13	4	400.10418	-0.00002
17	14	4	18	15	4	379.69660	-0.00015
17	15	2	16	14	2	400.46543	-0.00005
17	15	2	18	16	2	379.32979	0.00010
17	15	3	16	14	3	400.46543	-0.00005
17	15	3	18	16	3	379.32979	0.00010
17	16	1	16	15	1	400.82552	-0.00012
17	16	1	18	17	1	378.96200	-0.00005
17	16	2	16	15	2	400.82552	-0.00012
17	16	2	18	17	2	378.96200	-0.00005
17	17	0	16	16	0	401.18581	-0.00002
17	17	0	18	18	0	378.59467	0.00006
17	17	1	16	16	1	401.18581	-0.00002
17	17	1	18	18	1	378.59467	0.00006
18	1	17	19	2	17	381.76330	0.00002
18	2	16	17	1	16	398.32992	0.00010
18	2	16	19	3	16	381.83420	0.00012
18	2	17	19	3	17	381.76330	0.00005
18	3	15	19	4	15	381.93474	0.00016

18	3	16	17	2	16	398.32992	0.00003
18	4	14	17	3	14	398.10340	-0.00018
18	4	14	19	5	14	382.11638	0.00019
18	5	13	17	4	13	397.85535	0.00012
18	5	13	19	6	13	382.46842	-0.00004
18	5	14	17	4	14	398.12564	0.00003
18	6	12	17	5	12	397.48012	-0.00001
18	6	12	19	7	12	382.66156	0.00003
18	6	13	17	5	13	398.02047	-0.00023
18	7	11	17	6	11	397.47056	-0.00003
18	7	11	19	8	11	382.29722	0.00007
18	7	12	17	6	12	398.01868	-0.00008
18	8	10	17	7	10	397.97504	-0.00001
18	8	10	19	9	10	381.72376	-0.00010
18	8	11	17	7	11	398.20747	0.00002
18	9	9	17	8	9	398.50235	-0.00010
18	10	8	19	11	8	380.88588	-0.00014
18	11	7	17	10	7	399.29303	-0.00001
18	11	7	19	12	7	380.50941	-0.00008
18	11	8	17	10	8	399.29303	-0.00014
18	11	8	19	12	8	380.50941	0.00005
18	12	6	17	11	6	399.66175	-0.00003
18	12	6	19	13	6	380.13757	-0.00008
18	12	7	17	11	7	399.66175	-0.00005
18	12	7	19	13	7	380.13757	-0.00008
18	13	5	17	12	5	400.02643	-0.00004
18	13	5	19	14	5	379.76804	-0.00008
18	13	6	17	12	6	400.02643	-0.00004
18	13	6	19	14	6	379.76804	-0.00008
18	14	4	17	13	4	400.38883	-0.00007
18	14	4	19	15	4	379.39963	0.00001
18	14	5	17	13	5	400.38883	-0.00007
18	14	5	19	15	5	379.39963	0.00001
18	15	3	17	14	3	400.75101	-0.00004
18	15	3	19	16	3	379.03242	-0.00021
18	15	4	17	14	4	400.75101	-0.00004
18	15	4	19	16	4	379.03242	-0.00021
18	16	2	17	15	2	401.11107	-0.00002
18	16	2	19	17	2	378.66448	0.00003
18	16	3	17	15	3	401.11107	-0.00002
18	16	3	19	17	3	378.66448	0.00003
18	17	1	17	16	1	401.47124	-0.00002
18	17	1	19	18	1	378.29660	-0.00022
18	17	2	17	16	2	401.47124	-0.00002
18	17	2	19	18	2	378.29660	-0.00022
18	18	0	17	17	0	401.83127	-0.00007

18	18	0	19	19	0	377.92927	0.00003
18	18	1	17	17	1	401.83127	-0.00007
18	18	1	19	19	1	377.92927	0.00003
19	1	18	18	0	18	398.85868	0.00003
19	1	18	20	2	18	381.30636	0.00010
19	2	17	18	1	17	398.78353	-0.00002
19	2	18	18	1	18	398.85868	0.00003
19	2	18	20	3	18	381.30636	0.00011
19	3	16	18	2	16	398.69309	0.00065
19	3	16	20	4	16	381.46553	-0.00003
19	3	17	18	2	17	398.78353	-0.00005
19	4	16	18	3	16	398.69309	-0.00005
19	5	14	18	4	14	398.36985	0.00000
19	5	15	18	4	15	398.58245	-0.00004
19	5	15	20	6	15	381.56707	0.00016
19	6	13	18	5	13	397.99479	0.00001
19	6	13	20	7	13	382.25111	0.00003
19	6	14	18	5	14	398.46284	-0.00008
19	6	14	20	7	14	381.64538	0.00005
19	7	12	18	6	12	397.78711	-0.00004
19	7	13	18	6	13	398.40686	-0.00005
19	7	13	20	8	13	381.58874	0.00002
19	8	11	18	7	11	398.15405	-0.00001
19	8	12	18	7	12	398.52379	-0.00023
19	8	12	20	9	12	381.34227	-0.00002
19	9	10	18	8	10	398.73350	0.00008
19	9	11	18	8	11	398.81938	-0.00002
19	9	11	20	10	11	380.98158	-0.00001
19	10	9	18	9	9	399.18161	0.00067
19	10	10	20	11	10	380.59687	-0.00005
19	11	9	18	10	9	399.57044	-0.00008
19	11	9	20	12	9	380.21709	-0.00002
19	12	7	18	11	7	399.94243	-0.00001
19	12	7	20	13	7	379.84314	0.00010
19	12	8	18	11	8	399.94243	-0.00006
19	12	8	20	13	8	379.84314	0.00010
19	13	6	18	12	6	400.30906	-0.00002
19	13	6	20	14	6	379.47208	0.00004
19	13	7	18	12	7	400.30906	-0.00002
19	13	7	20	14	7	379.47208	0.00004
19	14	5	18	13	5	400.67244	-0.00011
19	14	5	20	15	5	379.10247	-0.00011
19	14	6	18	13	6	400.67244	-0.00011
19	14	6	20	15	6	379.10247	-0.00011
19	15	4	18	14	4	401.03601	-0.00012
19	15	4	20	16	4	378.73587	0.00002

19	15	5	18	14	5	401.03601	-0.00012
19	15	5	20	16	5	378.73587	0.00002
19	16	3	18	15	3	401.39589	-0.00005
19	16	3	20	17	3	378.36674	-0.00002
19	16	4	18	15	4	401.39589	-0.00005
19	16	4	20	17	4	378.36674	-0.00002
19	17	2	18	16	2	401.75612	-0.00005
19	17	2	20	18	2	377.99878	-0.00006
19	17	3	18	16	3	401.75612	-0.00005
19	17	3	20	18	3	377.99878	-0.00006
19	18	1	18	17	1	402.11620	0.00001
19	18	1	20	19	1	377.63115	0.00009
19	18	2	18	17	2	402.11620	0.00001
19	18	2	20	19	2	377.63115	0.00009
19	19	0	18	18	0	402.47612	-0.00007
19	19	0	20	20	0	377.26331	-0.00005
19	19	1	18	18	1	402.47612	-0.00007
19	19	1	20	20	1	377.26331	-0.00005
20	1	19	19	0	19	399.31166	-0.00004
20	1	19	21	2	19	380.84942	-0.00003
20	2	18	19	1	18	399.23694	-0.00005
20	2	18	21	3	18	380.91391	-0.00034
20	2	19	19	1	19	399.31166	-0.00004
20	2	19	21	3	19	380.84942	-0.00002
20	3	18	19	2	18	399.23694	-0.00006
20	3	18	21	4	18	380.91391	-0.00023
20	4	16	19	3	16	399.03530	-0.00003
20	4	16	21	5	16	381.12652	0.00008
20	5	15	19	4	15	398.86602	-0.00005
20	5	15	21	6	15	381.37308	0.00035
20	5	16	19	4	16	399.04013	0.00010
20	6	14	19	5	14	398.53727	-0.00006
20	6	14	21	7	14	381.76521	0.00010
20	6	15	19	5	15	398.91464	-0.00006
20	6	15	21	7	15	381.20538	0.00035
20	7	13	19	6	13	398.18438	0.00011
20	7	13	21	8	13	381.81342	0.00015
20	8	12	19	7	12	398.35044	-0.00002
20	8	12	21	9	12	381.30872	-0.00006
20	8	13	19	7	13	398.86357	0.00000
20	9	11	21	10	11	380.74832	0.00012
20	9	12	19	8	12	399.10450	-0.00002
20	9	12	21	10	12	380.69474	-0.00027
20	10	10	19	9	10	399.43870	-0.00001
20	10	10	21	11	10	380.31663	-0.00002
20	10	11	19	9	11	399.46281	-0.00001

20	11	9	19	10	9	399.84297	0.00008
20	11	9	21	12	9	379.92711	-0.00004
20	11	10	19	10	10	399.84537	0.00051
20	12	8	21	13	8	379.54929	-0.00016
20	13	7	19	12	7	400.58997	-0.00012
20	13	7	21	14	7	379.17647	-0.00004
20	13	8	19	12	8	400.58997	-0.00013
20	13	8	21	14	8	379.17647	-0.00004
20	14	6	19	13	6	400.95496	0.00000
20	14	6	21	15	6	378.80570	-0.00004
20	14	7	19	13	7	400.95496	0.00000
20	14	7	21	15	7	378.80570	-0.00004
20	15	5	19	14	5	401.32093	0.00015
20	15	5	21	16	5	378.43972	0.00011
20	15	6	19	14	6	401.32093	0.00015
20	15	6	21	16	6	378.43972	0.00011
20	16	4	19	15	4	401.68011	0.00000
20	16	4	21	17	4	378.06906	-0.00001
20	16	5	19	15	5	401.68011	0.00000
20	16	5	21	17	5	378.06906	-0.00001
20	17	3	19	16	3	402.04043	-0.00005
20	17	3	21	18	3	377.70083	0.00010
20	17	4	19	16	4	402.04043	-0.00005
20	17	4	21	18	4	377.70083	0.00010
20	18	2	19	17	2	402.40046	-0.00005
20	18	2	21	19	2	377.33261	-0.00006
20	18	3	19	17	3	402.40046	-0.00005
20	18	3	21	19	3	377.33261	-0.00006
20	19	1	19	18	1	402.76036	-0.00004
20	19	1	21	20	1	376.96469	-0.00006
20	19	2	19	18	2	402.76036	-0.00004
20	19	2	21	20	2	376.96469	-0.00006
20	20	0	19	19	0	403.12034	-0.00003
20	20	0	21	21	0	376.59712	0.00016
20	20	1	19	19	1	403.12034	-0.00003
20	20	1	21	21	1	376.59712	0.00016
21	0	21	22	1	21	380.34318	0.00005
21	1	20	20	0	20	399.76463	-0.00001
21	1	21	22	2	21	380.34318	0.00005
21	2	19	22	3	19	380.45519	-0.00001
21	2	20	20	1	20	399.76463	-0.00001
21	3	18	20	2	18	399.60287	0.00020
21	3	19	22	4	19	380.45519	0.00004
21	4	18	20	3	18	399.60287	0.00008
21	4	18	22	5	18	380.53504	0.00017
21	5	16	20	4	16	399.34671	0.00002

21	5	17	20	4	17	399.49724	-0.00009
21	5	17	22	6	17	380.63674	-0.00012
21	6	15	20	5	15	399.07675	0.00007
21	6	16	20	5	16	399.37098	-0.00004
21	7	14	20	6	14	398.65911	0.00009
21	7	15	20	6	15	399.24924	-0.00013
21	7	15	22	8	15	380.80651	0.00005
21	8	13	20	7	13	398.60025	-0.00001
21	8	13	22	9	13	381.12165	-0.00003
21	8	14	20	7	14	399.22914	0.00003
21	8	14	22	9	14	380.69656	0.00013
21	9	12	20	8	12	399.11164	0.00005
21	9	13	20	8	13	399.40290	0.00002
21	9	13	22	10	13	380.40429	0.00020
21	10	12	22	11	12	380.02623	0.00001
21	11	10	20	10	10	400.11035	0.00003
21	11	11	20	10	11	400.11594	-0.00005
21	11	11	22	12	11	379.63816	0.00019
21	12	9	22	13	9	379.25729	0.00011
21	12	10	22	13	10	379.25729	-0.00034
21	13	8	20	12	8	400.86916	-0.00005
21	13	8	22	14	8	378.88169	-0.00003
21	13	9	20	12	9	400.86916	-0.00008
21	13	9	22	14	9	378.88169	-0.00003
21	14	7	20	13	7	401.23585	-0.00008
21	14	7	22	15	7	378.50916	-0.00009
21	14	8	20	13	8	401.23585	-0.00007
21	14	8	22	15	8	378.50916	-0.00009
21	15	6	20	14	6	401.60520	-0.00001
21	15	6	22	16	6	378.14452	0.00011
21	15	7	20	14	7	401.60520	-0.00001
21	15	7	22	16	7	378.14452	0.00011
21	16	5	20	15	5	401.96342	-0.00009
21	16	5	22	17	5	377.77143	-0.00008
21	16	6	20	15	6	401.96342	-0.00009
21	16	6	22	17	6	377.77143	-0.00008
21	17	4	20	16	4	402.32405	-0.00008
21	17	4	22	18	4	377.40257	-0.00002
21	17	5	20	16	5	402.32405	-0.00008
21	17	5	22	18	5	377.40257	-0.00002
21	18	3	20	17	3	402.68416	-0.00009
21	18	3	22	19	3	377.03436	0.00022
21	18	4	20	17	4	402.68416	-0.00009
21	18	4	22	19	4	377.03436	0.00022
21	19	2	20	18	2	403.04396	-0.00013
21	19	2	22	20	2	376.66605	0.00012



21	19	3	20	18	3	403.04396	-0.00013
21	19	3	22	20	3	376.66605	0.00012
21	20	1	20	19	1	403.40382	-0.00006
21	20	1	22	21	1	376.29775	-0.00019
21	20	2	20	19	2	403.40382	-0.00006
21	20	2	22	21	2	376.29775	-0.00019
21	21	0	20	20	0	403.76377	-0.00009
21	21	0	22	22	0	375.93001	0.00003
21	21	1	20	20	1	403.76377	-0.00009
21	21	1	22	22	1	375.93001	0.00003
22	2	20	21	1	20	400.14312	-0.00003
22	3	19	21	2	19	400.05688	0.00005
22	3	19	23	4	19	380.07283	-0.00025
22	3	20	21	2	20	400.14312	-0.00003
22	4	18	21	3	18	399.95320	0.00007
22	4	18	23	5	18	380.17560	0.00008
22	4	19	21	3	19	400.05688	0.00000
22	4	19	23	5	19	380.07283	0.00011
22	5	17	23	6	17	380.33742	-0.00005
22	5	18	23	6	18	380.17056	0.00023
22	6	16	21	5	16	399.59753	0.00000
22	6	16	23	7	16	380.66135	0.00003
22	6	17	21	5	17	399.82964	-0.00005
22	8	14	21	7	14	398.92774	0.00004
22	8	14	23	9	14	380.90734	-0.00011
22	8	15	21	7	15	399.62059	-0.00002
22	9	13	21	8	13	399.27710	-0.00003
22	9	13	23	10	13	380.30817	-0.00009
22	9	14	21	8	14	399.72051	-0.00007
22	10	12	21	9	12	399.89421	-0.00003
22	10	12	23	11	12	379.77633	0.00017
22	11	11	21	10	11	400.36953	-0.00001
22	11	11	23	12	11	379.35554	0.00006
22	11	12	21	10	12	400.38394	-0.00019
22	12	10	21	11	10	400.76833	-0.00002
22	12	10	23	13	10	378.96640	-0.00028
22	12	11	21	11	11	400.77191	-0.00012
22	13	9	21	12	9	401.14604	-0.00002
22	13	9	23	14	9	378.58776	-0.00016
22	13	10	21	12	10	401.14604	-0.00014
22	13	10	23	14	10	378.58776	-0.00017
22	14	8	21	13	8	401.51516	-0.00005
22	14	8	23	15	8	378.21318	-0.00008
22	14	9	23	15	9	378.21318	-0.00008
22	15	7	21	14	7	401.88998	-0.00001
22	15	7	23	16	7	377.85129	0.00018

22	15	8	21	14	8	401.88998	-0.00002
22	15	8	23	16	8	377.85129	0.00017
22	16	6	21	15	6	402.24598	-0.00008
22	16	6	23	17	6	377.47422	0.00003
22	16	7	21	15	7	402.24598	-0.00008
22	16	7	23	17	7	377.47422	0.00003
22	17	5	21	16	5	402.60701	-0.00003
22	17	5	23	18	5	377.10455	0.00004
22	17	6	21	16	6	402.60701	-0.00003
22	17	6	23	18	6	377.10455	0.00004
22	18	4	21	17	4	402.96729	-0.00006
22	18	4	23	19	4	376.73569	0.00012
22	18	5	21	17	5	402.96729	-0.00006
22	18	5	23	19	5	376.73569	0.00012
22	19	3	21	18	3	403.32714	-0.00006
22	19	3	23	20	3	376.36715	0.00017
22	19	4	21	18	4	403.32714	-0.00006
22	19	4	23	20	4	376.36715	0.00017
22	20	2	21	19	2	403.68682	-0.00003
22	20	2	23	21	2	375.99883	0.00000
22	20	3	21	19	3	403.68682	-0.00003
22	20	3	23	21	3	375.99883	0.00000
22	21	1	21	20	1	404.04653	-0.00005
22	21	1	23	22	1	375.63031	0.00004
22	21	2	21	20	2	404.04653	-0.00005
22	21	2	23	22	2	375.63031	0.00004
22	22	0	21	21	0	404.40660	-0.00005
22	22	1	21	21	1	404.40660	-0.00005
23	1	22	24	2	22	379.48015	0.00022
23	2	21	22	1	21	400.59581	-0.00010
23	2	21	24	3	21	379.53798	-0.00023
23	2	22	24	3	22	379.48015	0.00022
23	3	20	22	2	20	400.51046	-0.00004
23	3	21	22	2	21	400.59581	-0.00010
23	3	21	24	4	21	379.53798	-0.00023
23	4	20	22	3	20	400.51046	-0.00006
23	5	18	22	4	18	400.28344	0.00007
23	5	18	24	6	18	379.84492	-0.00031
23	5	19	22	4	19	400.40992	-0.00003
23	6	17	22	5	17	400.09757	0.00031
23	6	18	22	5	18	400.28874	-0.00003
23	6	18	24	7	18	379.82020	0.00007
23	7	17	22	6	17	400.14890	-0.00008
23	7	17	24	8	17	379.93476	0.00007
23	8	15	24	9	15	380.63075	-0.00039
23	8	16	22	7	16	400.03740	-0.00015

23	8	16	24	9	16	379.95752	0.00002
23	9	14	22	8	14	399.46971	0.00051
23	9	15	22	8	15	400.06232	0.00001
23	9	15	24	10	15	379.78797	-0.00003
23	10	13	22	9	13	400.07855	0.00002
23	10	14	22	9	14	400.29180	0.00007
23	10	14	24	11	14	379.45760	0.00022
23	11	12	22	10	12	400.61599	-0.00006
23	11	13	22	10	13	400.65023	-0.00011
23	11	13	24	12	13	379.06769	-0.00003
23	13	11	22	12	11	401.42044	-0.00013
23	13	11	24	14	11	378.29537	-0.00009
23	14	9	22	13	9	401.79270	0.00017
23	14	9	24	15	9	377.91801	0.00004
23	14	10	22	13	10	401.79270	-0.00010
23	14	10	24	15	10	377.91801	0.00005
23	15	8	22	14	8	402.17654	-0.00013
23	15	8	24	16	8	377.56124	-0.00034
23	15	9	22	14	9	402.17654	-0.00020
23	15	9	24	16	9	377.56124	-0.00041
23	16	7	22	15	7	402.52757	-0.00006
23	16	7	24	17	7	377.17736	0.00009
23	16	8	22	15	8	402.52757	-0.00006
23	16	8	24	17	8	377.17736	0.00009
23	17	6	22	16	6	402.88907	-0.00003
23	17	6	24	18	6	376.80673	0.00013
23	17	7	22	16	7	402.88907	-0.00003
23	17	7	24	18	7	376.80673	0.00013
23	18	5	22	17	5	403.24967	-0.00005
23	18	5	24	19	5	376.43702	0.00000
23	18	6	22	17	6	403.24967	-0.00005
23	18	6	24	19	6	376.43702	0.00000
23	19	4	22	18	4	403.60959	-0.00007
23	19	4	24	20	4	376.06795	-0.00002
23	19	5	22	18	5	403.60959	-0.00007
23	19	5	24	20	5	376.06795	-0.00002
23	20	3	22	19	3	403.96925	0.00000
23	20	3	24	21	3	375.69973	-0.00008
23	20	4	22	19	4	403.96925	0.00000
23	20	4	24	21	4	375.69973	-0.00008
23	21	2	22	20	2	404.32869	-0.00008
23	21	3	22	20	3	404.32869	-0.00008
23	22	1	22	21	1	404.68851	-0.00004
23	22	1	24	23	1	374.96219	0.00003
23	22	2	22	21	2	404.68851	-0.00004
23	22	2	24	23	2	374.96219	0.00003

23	23	0	22	22	0	405.04858	-0.00006
23	23	0	24	24	0	374.59440	-0.00002
23	23	1	22	22	1	405.04858	-0.00006
23	23	1	24	24	1	374.59440	-0.00002
24	1	23	25	2	23	379.02397	0.00030
24	2	22	25	3	22	379.07995	-0.00021
24	2	23	25	3	23	379.02397	0.00030
24	3	21	23	2	21	400.96381	0.00005
24	3	22	25	4	22	379.07995	-0.00021
24	4	20	23	3	20	400.86503	0.00004
24	4	21	23	3	21	400.96381	0.00005
24	5	19	25	6	19	379.36291	-0.00003
24	5	20	23	4	20	400.86503	-0.00012
24	7	17	23	6	17	400.29324	-0.00004
24	7	18	23	6	18	400.60741	-0.00012
24	7	18	25	8	18	379.47624	0.00023
24	8	16	23	7	16	399.83538	0.00001
24	8	16	25	9	16	380.27162	0.00009
24	8	17	25	9	17	379.54760	0.00010
24	9	15	23	8	15	399.72412	-0.00002
24	9	15	25	10	15	379.94790	-0.00016
24	10	14	25	11	14	379.30808	0.00006
24	11	13	23	10	13	400.84289	-0.00008
24	11	13	25	12	13	378.80698	0.00022
24	11	14	23	10	14	400.91676	-0.00017
24	12	12	23	11	12	401.29616	0.00001
24	12	12	25	13	12	378.39346	0.00003
24	12	13	25	13	13	378.38719	-0.00008
24	13	11	23	12	11	401.69086	-0.00013
24	13	11	25	14	11	378.00456	0.00000
24	13	12	25	14	12	378.00456	-0.00013
24	14	10	23	13	10	402.06753	-0.00007
24	14	10	25	15	10	377.62348	-0.00009
24	14	11	23	13	11	402.06753	0.00011
24	14	11	25	15	11	377.62348	0.00022
24	15	9	25	16	9	377.28055	0.00011
24	15	10	23	14	10	402.46960	-0.00038
24	15	10	25	16	10	377.28055	-0.00037
24	16	8	23	15	8	402.80809	-0.00005
24	16	8	25	17	8	376.88102	0.00009
24	16	9	23	15	9	402.80809	-0.00005
24	16	9	25	17	9	376.88102	0.00009
24	17	7	23	16	7	403.17021	-0.00003
24	17	7	25	18	7	376.50896	-0.00001
24	17	8	23	16	8	403.17021	-0.00003
24	17	8	25	18	8	376.50896	-0.00001

24	18	6	23	17	6	403.53145	0.00016
24	18	6	25	19	6	376.13864	0.00005
24	18	7	23	17	7	403.53145	0.00016
24	18	7	25	19	7	376.13864	0.00005
24	19	5	23	18	5	403.89137	-0.00007
24	19	5	25	20	5	375.76884	-0.00016
24	19	6	23	18	6	403.89137	-0.00007
24	19	6	25	20	6	375.76884	-0.00016
24	20	4	23	19	4	404.25094	-0.00008
24	20	4	25	21	4	375.40063	-0.00051
24	20	5	23	19	5	404.25094	-0.00008
24	20	5	25	21	5	375.40063	-0.00051
24	21	3	23	20	3	404.61035	-0.00004
24	21	3	25	22	3	375.03010	0.00009
24	21	4	23	20	4	404.61035	-0.00004
24	21	4	25	22	4	375.03010	0.00009
24	22	2	23	21	2	404.96996	-0.00007
24	22	3	23	21	3	404.96996	-0.00007
24	23	1	23	22	1	405.32930	-0.00008
24	23	1	25	24	1	374.29352	0.00016
24	23	2	23	22	2	405.32930	-0.00008
24	23	2	25	24	2	374.29352	0.00016
24	24	0	23	23	0	405.68981	-0.00009
24	24	0	25	25	0	373.92583	0.00006
24	24	1	23	23	1	405.68981	-0.00009
24	24	1	25	25	1	373.92583	0.00006
25	1	24	24	0	24	401.57531	-0.00019
25	2	23	24	1	23	401.50094	0.00006
25	2	24	24	1	24	401.57531	-0.00019
25	3	22	24	2	22	401.41652	-0.00012
25	3	23	24	2	23	401.50094	0.00006
25	4	22	24	3	22	401.41652	-0.00012
25	6	20	24	5	20	401.20493	-0.00013
25	7	19	24	6	19	401.06784	-0.00006
25	8	18	24	7	18	400.91911	0.00010
25	8	18	26	9	18	379.11533	0.00020
25	9	16	24	8	16	400.06445	-0.00006
25	9	16	26	10	16	379.73225	-0.00009
25	9	17	24	8	17	400.82867	0.00005
25	9	17	26	10	17	379.09177	0.00003
25	10	16	24	9	16	400.90355	0.00000
25	11	15	24	10	15	401.18727	-0.00004
25	11	15	26	12	15	378.50237	0.00000
25	12	13	24	11	13	401.54677	-0.00002
25	12	14	24	11	14	401.56153	-0.00004
25	13	12	24	12	12	401.95762	0.00005

25	13	12	26	14	12	377.71591	0.00010
25	13	13	24	12	13	401.96051	-0.00007
25	13	13	26	14	13	377.71591	-0.00023
25	14	11	24	13	11	402.34022	0.00020
25	14	12	24	13	12	402.34022	-0.00005
25	15	11	24	14	11	402.65650	-0.00033
25	15	11	26	16	11	376.89640	-0.00009
25	16	9	24	15	9	403.08743	-0.00004
25	16	9	26	17	9	376.58560	0.00024
25	16	10	24	15	10	403.08743	-0.00001
25	16	10	26	17	10	376.58560	0.00023
25	17	8	24	16	8	403.45026	-0.00010
25	17	9	24	16	9	403.45026	-0.00009
25	18	7	24	17	7	403.81200	0.00001
25	18	7	26	19	7	375.84035	-0.00006
25	18	8	24	17	8	403.81200	0.00001
25	18	8	26	19	8	375.84035	-0.00006
25	19	6	24	18	6	404.17237	-0.00008
25	19	6	26	20	6	375.47019	0.00004
25	19	7	24	18	7	404.17237	-0.00008
25	19	7	26	20	7	375.47019	0.00004
25	20	5	24	19	5	404.53206	-0.00006
25	20	6	24	19	6	404.53206	-0.00006
25	21	4	24	20	4	404.89134	-0.00007
25	21	4	26	22	4	374.72941	-0.00010
25	21	5	24	20	5	404.89134	-0.00007
25	21	5	26	22	5	374.72941	-0.00010
25	22	3	24	21	3	405.25109	-0.00007
25	22	3	26	23	3	374.36067	0.00000
25	22	4	24	21	4	405.25109	-0.00007
25	22	4	26	23	4	374.36067	0.00000
25	23	2	24	22	2	405.60941	-0.00008
25	23	2	26	24	2	373.99205	0.00006
25	23	3	24	22	3	405.60941	-0.00008
25	23	3	26	24	3	373.99205	0.00006
25	24	1	24	23	1	405.96948	0.00000
25	24	1	26	25	1	373.62386	0.00004
25	24	2	24	23	2	405.96948	0.00000
25	24	2	26	25	2	373.62386	0.00004
25	25	0	24	24	0	406.33032	-0.00003
25	25	0	26	26	0	373.25660	0.00011
25	25	1	24	24	1	406.33032	-0.00003
25	25	1	26	26	1	373.25660	0.00011
26	1	25	27	2	25	378.11177	0.00026
26	2	24	25	1	24	401.95313	0.00003
26	2	24	27	3	24	378.16464	-0.00009

26	2	25	27	3	25	378.11177	0.00026
26	3	23	25	2	23	401.86911	-0.00006
26	3	23	27	4	23	378.22991	0.00018
26	3	24	25	2	24	401.95313	0.00003
26	3	24	27	4	24	378.16464	-0.00009
26	4	22	25	3	22	401.77338	-0.00007
26	4	23	25	3	23	401.86911	-0.00006
26	4	23	27	5	23	378.22991	0.00019
26	5	21	25	4	21	401.66135	0.00007
26	5	21	27	6	21	378.41502	0.00020
26	5	22	25	4	22	401.77338	-0.00009
26	6	20	25	5	20	401.52238	-0.00002
26	6	20	27	7	20	378.56458	0.00024
26	7	19	27	8	19	378.83846	-0.00018
26	7	20	25	6	20	401.52846	0.00009
26	8	18	25	7	18	400.95053	-0.00004
26	9	17	25	8	17	400.49605	0.00008
26	9	18	25	8	18	401.24732	0.00010
26	9	18	27	10	18	378.70256	0.00002
26	10	16	27	11	16	378.94900	-0.00007
26	10	17	25	9	17	401.25762	-0.00017
26	11	15	25	10	15	401.20737	-0.00003
26	11	15	27	12	15	378.31363	-0.00008
26	11	16	25	10	16	401.45875	-0.00010
26	11	16	27	12	16	378.20800	-0.00014
26	12	14	25	11	14	401.78230	-0.00001
26	12	14	27	13	14	377.83847	-0.00015
26	13	13	27	14	13	377.42982	0.00000
26	14	12	25	13	12	402.60935	0.00005
26	16	11	25	15	11	403.36534	0.00021
26	16	11	27	17	11	376.29098	0.00014
26	17	9	25	16	9	403.72928	-0.00005
26	17	9	27	18	9	375.91501	-0.00013
26	17	10	25	16	10	403.72928	-0.00005
26	17	10	27	18	10	375.91501	-0.00013
26	18	8	25	17	8	404.09170	-0.00003
26	18	8	27	19	8	375.54264	0.00006
26	18	9	25	17	9	404.09170	-0.00003
26	18	9	27	19	9	375.54264	0.00006
26	19	7	25	18	7	404.45257	-0.00007
26	19	7	27	20	7	375.17160	0.00004
26	19	8	25	18	8	404.45257	-0.00007
26	19	8	27	20	8	375.17160	0.00004
26	20	6	25	19	6	404.81245	-0.00006
26	20	6	27	21	6	374.80678	0.00018
26	20	7	25	19	7	404.81245	-0.00006

26	20	7	27	21	7	374.80678	0.00018
26	21	5	25	20	5	405.17182	0.00002
26	21	5	27	22	5	374.42906	0.00024
26	21	6	25	20	6	405.17182	0.00002
26	21	6	27	22	6	374.42906	0.00024
26	22	4	25	21	4	405.53209	-0.00004
26	22	4	27	23	4	374.05977	0.00019
26	22	5	25	21	5	405.53209	-0.00004
26	22	5	27	23	5	374.05977	0.00019
26	23	3	25	22	3	405.88877	-0.00013
26	23	3	27	24	3	373.69041	0.00007
26	23	4	25	22	4	405.88877	-0.00013
26	23	4	27	24	4	373.69041	0.00007
26	24	2	25	23	2	406.24834	-0.00006
26	24	2	27	25	2	373.32148	-0.00007
26	24	3	25	23	3	406.24834	-0.00006
26	24	3	27	25	3	373.32148	-0.00007
26	25	1	25	24	1	406.60853	-0.00001
26	25	1	27	26	1	372.95360	0.00011
26	25	2	25	24	2	406.60853	-0.00001
26	25	2	27	26	2	372.95360	0.00011
26	26	0	25	25	0	406.96986	-0.00007
26	26	0	27	27	0	372.58650	-0.00005
26	26	1	25	25	1	406.96986	-0.00007
26	26	1	27	27	1	372.58650	-0.00005
27	2	25	26	1	25	402.40499	-0.00013
27	2	25	28	3	25	377.70718	-0.00007
27	3	25	26	2	25	402.40499	-0.00013
27	3	25	28	4	25	377.70718	-0.00007
27	4	23	26	3	23	402.22654	-0.00012
27	4	23	28	5	23	377.84731	0.00003
27	5	23	26	4	23	402.22654	-0.00013
27	5	23	28	6	23	377.84731	0.00011
27	6	21	26	5	21	401.98579	0.00050
27	7	20	26	6	20	401.80826	0.00011
27	7	21	26	6	21	401.98803	0.00000
27	7	21	28	8	21	378.06525	-0.00017
27	8	19	26	7	19	401.50356	-0.00003
27	8	20	26	7	20	401.83549	-0.00006
27	8	20	28	9	20	378.20170	0.00007
27	9	18	26	8	18	401.01519	0.00027
27	9	19	26	8	19	401.68456	-0.00005
27	9	19	28	10	19	378.28761	0.00016
27	10	17	26	9	17	400.84289	0.00054
27	10	17	28	11	17	378.77541	0.00032
27	10	18	26	9	18	401.62881	-0.00004



27	10	18	28	11	18	378.20964	0.00040
27	11	16	26	10	16	401.34797	-0.00009
27	11	16	28	12	16	378.10581	-0.00018
27	11	17	26	10	17	401.77657	-0.00001
27	11	17	28	12	17	377.93697	0.00007
27	12	15	26	11	15	401.99506	0.00008
27	12	16	26	11	16	402.10741	0.00003
27	13	14	26	12	14	402.47154	0.00000
27	13	14	28	14	14	377.14770	0.00018
27	13	15	26	12	15	402.48792	0.00000
27	13	15	28	14	15	377.14770	0.00001
27	14	13	26	13	13	402.87470	-0.00003
27	14	14	26	13	14	402.87695	-0.00008
27	14	14	28	15	14	376.75058	-0.00005
27	15	13	26	14	13	403.23231	-0.00012
27	16	12	26	15	12	403.64280	-0.00013
27	17	10	26	16	10	404.00711	0.00007
27	17	10	28	18	10	375.61927	0.00001
27	17	11	26	16	11	404.00711	0.00007
27	17	11	28	18	11	375.61927	0.00001
27	18	9	26	17	9	404.37039	-0.00002
27	18	9	28	19	9	375.24513	-0.00011
27	18	10	26	17	10	404.37039	-0.00002
27	18	10	28	19	10	375.24513	-0.00011
27	19	8	26	18	8	404.73183	-0.00010
27	19	8	28	20	8	374.87362	0.00028
27	19	9	26	18	9	404.73183	-0.00010
27	19	9	28	20	9	374.87362	0.00028
27	20	7	26	19	7	405.09207	-0.00004
27	20	7	28	21	7	374.51198	0.00004
27	20	8	26	19	8	405.09207	-0.00004
27	20	8	28	21	8	374.51198	0.00004
27	21	6	26	20	6	405.45142	-0.00010
27	21	7	26	20	7	405.45142	-0.00010
27	22	5	26	21	5	405.81311	-0.00009
27	22	5	28	23	5	373.75821	-0.00010
27	22	6	26	21	6	405.81311	-0.00009
27	22	6	28	23	6	373.75821	-0.00010
27	23	4	26	22	4	406.16740	-0.00015
27	23	4	28	24	4	373.38837	-0.00009
27	23	5	26	22	5	406.16740	-0.00015
27	23	5	28	24	5	373.38837	-0.00009
27	24	3	26	23	3	406.52653	-0.00010
27	24	3	28	25	3	373.01915	0.00017
27	24	4	26	23	4	406.52653	-0.00010
27	24	4	28	25	4	373.01915	0.00017

27	25	2	26	24	2	406.88594	-0.00010
27	25	2	28	26	2	372.65010	-0.00002
27	25	3	26	24	3	406.88594	-0.00010
27	25	3	28	26	3	372.65010	-0.00002
27	26	1	26	25	1	407.24641	-0.00007
27	26	1	28	27	1	372.28225	-0.00001
27	26	2	26	25	2	407.24641	-0.00007
27	26	2	28	27	2	372.28225	-0.00001
27	27	0	26	26	0	407.60858	0.00001
27	27	0	28	28	0	371.91607	0.00019
27	27	1	26	26	1	407.60858	0.00001
27	27	1	28	28	1	371.91607	0.00019
28	0	28	29	1	28	377.15727	0.00010
28	1	27	27	0	27	402.93276	-0.00001
28	1	28	29	2	28	377.15727	0.00010
28	2	26	27	1	26	402.85685	-0.00005
28	2	27	27	1	27	402.93276	-0.00001
28	3	25	27	2	25	402.77298	-0.00010
28	3	25	29	4	25	377.31059	0.00017
28	3	26	27	2	26	402.85685	-0.00005
28	4	24	27	3	24	402.67922	-0.00001
28	4	24	29	5	24	377.38467	0.00010
28	4	25	27	3	25	402.77298	-0.00010
28	4	25	29	5	25	377.31059	0.00017
28	5	23	27	4	23	402.57193	0.00000
28	5	24	27	4	24	402.67922	-0.00001
28	5	24	29	6	24	377.38467	0.00013
28	6	22	29	7	22	377.59896	-0.00001
28	6	23	27	5	23	402.57193	-0.00008
28	7	21	27	6	21	402.28381	-0.00006
28	7	21	29	8	21	377.78337	-0.00012
28	7	22	27	6	22	402.44718	0.00040
28	8	20	27	7	20	402.03226	-0.00008
28	8	20	29	9	20	378.13782	0.00004
28	9	19	27	8	19	401.57531	-0.00005
28	9	19	29	10	19	378.60235	-0.00008
28	9	20	27	8	20	402.13531	0.00032
28	10	18	27	9	18	401.19539	-0.00009
28	10	19	27	9	19	402.02773	0.00001
28	11	17	27	10	17	401.49261	-0.00001
28	11	18	27	10	18	402.09458	0.00002
28	12	16	27	11	16	402.17654	0.00025
28	12	16	29	13	16	377.32598	-0.00002
28	12	17	27	11	17	402.36915	-0.00017
28	13	15	27	12	15	402.71274	-0.00004
28	13	16	27	12	16	402.74730	-0.00011

28	14	14	27	13	14	403.13514	-0.00012
28	14	14	29	15	14	376.45831	-0.00011
28	14	15	27	13	15	403.14069	0.00002
28	14	15	29	15	15	376.46399	-0.00019
28	15	13	27	14	13	403.50108	-0.00013
28	15	13	29	16	13	376.04845	0.00018
28	15	14	27	14	14	403.50717	-0.00014
28	16	12	27	15	12	403.91693	-0.00004
28	16	12	29	17	12	375.70634	0.00008
28	16	13	27	15	13	403.91824	0.00005
28	16	13	29	17	13	375.70634	0.00003
28	17	11	27	16	11	404.28331	-0.00007
28	17	11	29	18	11	375.32443	0.00009
28	17	12	27	16	12	404.28331	-0.00006
28	17	12	29	18	12	375.32443	0.00009
28	18	10	27	17	10	404.64784	-0.00009
28	18	10	29	19	10	374.94864	0.00009
28	18	11	27	17	11	404.64784	-0.00009
28	18	11	29	19	11	374.94864	0.00009
28	19	9	27	18	9	405.01019	-0.00006
28	19	10	27	18	10	405.01019	-0.00006
28	20	8	27	19	8	405.37085	-0.00004
28	20	8	29	21	8	374.21984	0.00002
28	20	9	27	19	9	405.37085	-0.00004
28	20	9	29	21	9	374.21984	0.00002
28	21	7	27	20	7	405.73057	0.00000
28	21	7	29	22	7	373.82699	0.00000
28	21	8	27	20	8	405.73057	0.00000
28	21	8	29	22	8	373.82699	0.00000
28	22	6	27	21	6	406.09473	-0.00008
28	22	6	29	23	6	373.45674	-0.00015
28	22	7	27	21	7	406.09473	-0.00008
28	22	7	29	23	7	373.45674	-0.00015
28	23	5	27	22	5	406.44530	-0.00008
28	23	6	27	22	6	406.44530	-0.00008
28	24	4	27	23	4	406.80395	-0.00015
28	24	4	29	25	4	372.71619	0.00005
28	24	5	27	23	5	406.80395	-0.00015
28	24	5	29	25	5	372.71619	0.00005
28	25	3	27	24	3	407.16272	-0.00009
28	25	3	29	26	3	372.34627	-0.00016
28	25	4	27	24	4	407.16272	-0.00009
28	25	4	29	26	4	372.34627	-0.00016
28	26	2	27	25	2	407.52209	-0.00019
28	26	2	29	27	2	371.97746	-0.00011
28	26	3	27	25	3	407.52209	-0.00019

28	26	3	29	27	3	371.97746	-0.00011
28	27	1	27	26	1	407.88308	-0.00007
28	27	1	29	28	1	371.60989	-0.00012
28	27	2	27	26	2	407.88308	-0.00007
28	27	2	29	28	2	371.60989	-0.00012
28	28	0	27	27	0	408.24614	-0.00005
28	28	0	29	29	0	371.24447	0.00007
28	28	1	27	27	1	408.24614	-0.00005
28	28	1	29	29	1	371.24447	0.00007
29	2	27	30	3	27	376.79268	0.00022
29	3	26	28	2	26	403.22422	-0.00010
29	3	27	30	4	27	376.79268	0.00022
29	4	25	28	3	25	403.13097	-0.00009
29	4	26	28	3	26	403.22422	-0.00010
29	5	24	28	4	24	403.02551	-0.00005
29	5	24	30	6	24	377.01010	-0.00018
29	5	25	28	4	25	403.13097	-0.00010
29	6	24	28	5	24	403.02551	-0.00008
29	6	24	30	7	24	377.01010	0.00004
29	7	22	28	6	22	402.75243	-0.00013
29	7	23	30	8	23	377.11952	0.00020
29	8	21	28	7	21	402.53804	-0.00004
29	8	22	28	7	22	402.75900	0.00000
29	9	20	30	10	20	378.05605	0.00003
29	9	21	28	8	21	402.59311	-0.00003
29	10	19	28	9	19	401.65790	0.00002
29	10	20	28	9	20	402.44998	-0.00002
29	10	20	30	11	20	377.44761	0.00012
29	11	19	28	10	19	402.44149	-0.00004
29	12	17	30	13	17	377.10121	0.00020
29	12	18	28	11	18	402.64814	-0.00004
29	12	18	30	13	18	376.98935	-0.00006
29	13	17	28	12	17	403.00540	-0.00006
29	14	15	28	13	15	403.38908	-0.00011
29	14	15	30	15	15	376.17401	0.00019
29	14	16	28	13	16	403.40117	0.00017
29	14	16	30	15	16	376.18106	0.00020
29	15	14	28	14	14	403.76850	-0.00019
29	15	15	28	14	15	403.77727	-0.00011
29	16	13	28	15	13	404.18988	0.00003
29	16	13	30	17	13	375.41739	0.00021
29	16	14	28	15	14	404.19247	0.00004
29	16	14	30	17	14	375.41739	0.00004
29	17	12	28	16	12	404.55810	-0.00009
29	17	13	28	16	13	404.55810	-0.00008
29	18	11	28	17	11	404.92417	-0.00002

29	18	11	30	19	11	374.65277	0.00009
29	18	12	28	17	12	404.92417	-0.00002
29	18	12	30	19	12	374.65277	0.00009
29	19	10	28	18	10	405.28746	-0.00004
29	19	10	30	20	10	374.27864	0.00003
29	19	11	28	18	11	405.28746	-0.00004
29	19	11	30	20	11	374.27864	0.00003
29	20	9	28	19	9	405.64870	-0.00008
29	20	9	30	21	9	373.93110	0.00064
29	20	10	28	19	10	405.64870	-0.00008
29	20	10	30	21	10	373.93110	0.00064
29	21	8	28	20	8	406.00890	0.00001
29	21	8	30	22	8	373.52567	-0.00025
29	21	9	28	20	9	406.00890	0.00001
29	21	9	30	22	9	373.52567	-0.00025
29	22	7	28	21	7	406.37742	-0.00007
29	22	7	30	23	7	373.15523	-0.00015
29	22	8	28	21	8	406.37742	-0.00007
29	22	8	30	23	8	373.15523	-0.00015
29	23	6	28	22	6	406.72220	-0.00011
29	23	7	28	22	7	406.72220	-0.00011
29	24	5	28	23	5	407.08062	-0.00015
29	24	6	28	23	6	407.08062	-0.00015
29	25	4	28	24	4	407.43874	-0.00007
29	25	4	30	26	4	372.04263	0.00019
29	25	5	28	24	5	407.43874	-0.00007
29	25	5	30	26	5	372.04263	0.00019
29	26	3	28	25	3	407.79725	-0.00007
29	26	3	30	27	3	371.67273	0.00022
29	26	4	28	25	4	407.79725	-0.00007
29	26	4	30	27	4	371.67273	0.00022
29	27	2	28	26	2	408.15674	-0.00020
29	27	2	30	28	2	371.30371	0.00001
29	27	3	28	26	3	408.15674	-0.00020
29	27	3	30	28	3	371.30371	0.00001
29	28	1	28	27	1	408.51832	-0.00007
29	28	1	30	29	1	370.93678	0.00020
29	28	2	28	27	2	408.51832	-0.00007
29	28	2	30	29	2	370.93678	0.00020
29	29	0	28	28	0	408.88263	-0.00003
29	29	0	30	30	0	370.57189	-0.00012
29	29	1	28	28	1	408.88263	-0.00003
29	29	1	30	30	1	370.57189	-0.00012
30	1	29	29	0	29	403.83714	-0.00009
30	2	29	29	1	29	403.83714	-0.00009
30	3	27	31	4	27	376.39092	-0.00021

30	4	26	29	3	26	403.58214	0.00016
30	4	26	31	5	26	376.45955	-0.00023
30	4	27	31	5	27	376.39092	-0.00021
30	5	25	29	4	25	403.47799	-0.00004
30	5	25	31	6	25	376.54417	0.00011
30	5	26	29	4	26	403.58214	0.00016
30	5	26	31	6	26	376.45955	-0.00022
30	6	24	29	5	24	403.35868	0.00005
30	6	25	29	5	25	403.47799	-0.00005
30	6	25	31	7	25	376.54417	0.00021
30	7	23	29	6	23	403.21558	-0.00010
30	8	22	29	7	22	403.02671	-0.00010
30	9	21	29	8	21	402.70803	0.00003
30	9	21	31	10	21	377.46634	-0.00004
30	10	20	29	9	20	402.18522	-0.00004
30	11	19	29	10	19	401.94945	-0.00006
30	12	18	29	11	18	402.44718	-0.00012
30	13	17	29	12	17	403.13351	-0.00002
30	13	17	31	14	17	376.34448	-0.00012
30	13	18	31	14	18	376.31322	0.00013
30	14	16	29	13	16	403.63368	-0.00005
30	15	15	31	16	15	375.47456	0.00004
30	15	16	29	14	16	404.04324	-0.00008
30	16	14	29	15	14	404.46104	-0.00004
30	16	15	29	15	15	404.46605	0.00002
30	17	13	29	16	13	404.83119	-0.00014
30	17	13	31	18	13	374.73832	-0.00004
30	17	14	29	16	14	404.83119	-0.00007
30	17	14	31	18	14	374.73832	-0.00004
30	18	12	29	17	12	405.19900	-0.00005
30	18	12	31	19	12	374.35769	-0.00012
30	18	13	29	17	13	405.19900	-0.00005
30	18	13	31	19	13	374.35769	-0.00012
30	19	11	29	18	11	405.56355	-0.00007
30	19	11	31	20	11	373.98241	0.00000
30	19	12	29	18	12	405.56355	-0.00007
30	19	12	31	20	12	373.98241	0.00000
30	20	10	29	19	10	405.92568	-0.00004
30	20	11	29	19	11	405.92568	-0.00004
30	21	9	29	20	9	406.28644	-0.00004
30	21	9	31	22	9	373.22477	-0.00004
30	21	10	29	20	10	406.28644	-0.00004
30	21	10	31	22	10	373.22477	-0.00004
30	22	8	29	21	8	406.66171	0.00000
30	22	8	31	23	8	372.85395	0.00012
30	22	9	29	21	9	406.66171	0.00000

30	22	9	31	23	9	372.85395	0.00012
30	23	7	29	22	7	406.99820	-0.00009
30	23	7	31	24	7	372.48179	0.00000
30	23	8	29	22	8	406.99820	-0.00009
30	23	8	31	24	8	372.48179	0.00000
30	24	6	29	23	6	407.35654	-0.00006
30	24	6	31	25	6	372.10971	-0.00011
30	24	7	29	23	7	407.35654	-0.00006
30	24	7	31	25	7	372.10971	-0.00011
30	25	5	29	24	5	407.71401	0.00002
30	25	5	31	26	5	371.73819	0.00001
30	25	6	29	24	6	407.71401	0.00002
30	25	6	31	26	6	371.73819	0.00001
30	26	4	29	25	4	408.07141	-0.00014
30	26	4	31	27	4	371.36723	0.00011
30	26	5	29	25	5	408.07141	-0.00014
30	26	5	31	27	5	371.36723	0.00011
30	27	3	29	26	3	408.42975	-0.00014
30	27	3	31	28	3	370.99673	-0.00025
30	27	4	29	26	4	408.42975	-0.00014
30	27	4	31	28	4	370.99673	-0.00025
30	28	2	29	27	2	408.78962	-0.00011
30	28	2	31	29	2	370.62834	0.00007
30	28	3	29	27	3	408.78962	-0.00011
30	28	3	31	29	3	370.62834	0.00007
30	29	1	29	28	1	409.15192	-0.00004
30	29	1	31	30	1	370.26191	0.00016
30	29	2	29	28	2	409.15192	-0.00004
30	29	2	31	30	2	370.26191	0.00016
30	30	0	29	29	0	409.51776	-0.00006
30	30	1	29	29	1	409.51776	-0.00006
31	18	13	30	17	13	405.47235	-0.00005
31	18	13	32	19	13	374.06416	-0.00001
31	18	14	30	17	14	405.47235	-0.00005
31	18	14	32	19	14	374.06416	-0.00001
31	21	10	30	20	10	406.56323	-0.00006
31	21	10	32	22	10	372.92366	-0.00003
31	21	11	30	20	11	406.56323	-0.00006
31	21	11	32	22	11	372.92366	-0.00003
31	24	7	30	23	7	407.63145	-0.00007
31	24	7	32	25	7	371.80667	0.00024
31	24	8	30	23	8	407.63145	-0.00007
31	24	8	32	25	8	371.80667	0.00024
31	25	6	30	24	6	407.98818	-0.00014
31	25	6	32	26	6	371.43379	0.00009
31	25	7	30	24	7	407.98818	-0.00014

31	25	7	32	26	7	371.43379	0.00009
31	26	5	30	25	5	408.34484	-0.00008
31	26	5	32	27	5	371.06161	0.00020
31	26	6	30	25	6	408.34484	-0.00008
31	26	6	32	27	6	371.06161	0.00020
31	27	4	30	26	4	408.70190	-0.00009
31	27	4	32	28	4	370.68998	0.00012
31	27	5	30	26	5	408.70190	-0.00009
31	27	5	32	28	5	370.68998	0.00012
31	28	3	30	27	3	409.06002	-0.00016
31	28	3	32	29	3	370.31962	0.00014
31	28	4	30	27	4	409.06002	-0.00016
31	28	4	32	29	4	370.31962	0.00014
31	29	2	30	28	2	409.42021	-0.00010
31	29	2	32	30	2	369.95101	0.00008
31	29	3	30	28	3	409.42021	-0.00010
31	29	3	32	30	3	369.95101	0.00008
31	30	1	30	29	1	409.78342	-0.00011
31	30	1	32	31	1	369.58549	0.00028
31	30	2	30	29	2	409.78342	-0.00011
31	30	2	32	31	2	369.58549	0.00028
31	31	0	30	30	0	410.15138	-0.00006
31	31	0	32	32	0	369.22382	0.00001
31	31	1	30	30	1	410.15138	-0.00006
31	31	1	32	32	1	369.22382	0.00001
32	21	11	31	20	11	406.83922	-0.00007
32	21	11	33	22	11	372.62266	0.00005
32	21	12	31	20	12	406.83922	-0.00007
32	21	12	33	22	12	372.62266	0.00005
32	24	8	31	23	8	407.90534	-0.00014
32	24	8	33	25	8	371.50304	0.00010
32	24	9	31	23	9	407.90534	-0.00014
32	24	9	33	25	9	371.50304	0.00010
32	25	7	31	24	7	408.26165	-0.00009
32	25	7	33	26	7	371.12929	0.00024
32	25	8	31	24	8	408.26165	-0.00009
32	25	8	33	26	8	371.12929	0.00024
32	26	6	31	25	6	408.61735	-0.00007
32	26	6	33	27	6	370.75542	-0.00003
32	26	7	31	25	7	408.61735	-0.00007
32	26	7	33	27	7	370.75542	-0.00003
32	27	5	31	26	5	408.97305	-0.00014
32	27	5	33	28	5	370.38248	0.00009
32	27	6	31	26	6	408.97305	-0.00014
32	27	6	33	28	6	370.38248	0.00009
32	28	4	31	27	4	409.32955	-0.00015



32	28	4	33	29	4	370.01017	-0.00007
32	28	5	31	27	5	409.32955	-0.00015
32	28	5	33	29	5	370.01017	-0.00007
32	29	3	31	28	3	409.68764	-0.00007
32	29	3	33	30	3	369.63967	0.00009
32	29	4	31	28	4	409.68764	-0.00007
32	29	4	33	30	4	369.63967	0.00009
32	30	2	31	29	2	410.04820	-0.00002
32	30	2	33	31	2	369.27135	0.00011
32	30	3	31	29	3	410.04820	-0.00002
32	30	3	33	31	3	369.27135	0.00011
32	31	1	31	30	1	410.41250	-0.00016
32	31	1	33	32	1	368.90668	0.00015
32	31	2	31	30	2	410.41250	-0.00016
32	31	2	33	32	2	368.90668	0.00015
32	32	0	31	31	0	410.78323	0.00003
32	32	0	33	33	0	368.54783	0.00036
32	32	1	31	31	1	410.78323	0.00003
32	32	1	33	33	1	368.54783	0.00036
33	19	14	32	18	14	406.38407	-0.00001
33	19	14	34	20	14	373.10066	-0.00005
33	19	15	32	18	15	406.38407	0.00000
33	19	15	34	20	15	373.10066	-0.00005
33	21	12	32	20	12	407.11442	-0.00004
33	21	12	34	22	12	372.32148	-0.00011
33	21	13	32	20	13	407.11442	-0.00004
33	21	13	34	22	13	372.32148	-0.00011
33	23	10	32	22	10	407.81945	-0.00010
33	23	10	34	24	10	371.57465	0.00006
33	23	11	32	22	11	407.81945	-0.00010
33	23	11	34	24	11	371.57465	0.00006
33	24	9	32	23	9	408.17828	-0.00011
33	24	9	34	25	9	371.19952	0.00011
33	24	10	32	23	10	408.17828	-0.00011
33	24	10	34	25	10	371.19952	0.00011
33	26	7	32	25	7	408.88886	-0.00012
33	26	7	34	27	7	370.44925	0.00000
33	26	8	32	25	8	408.88886	-0.00012
33	26	8	34	27	8	370.44925	0.00000
33	28	5	32	27	5	409.59808	-0.00020
33	28	5	34	29	5	369.70069	0.00009
33	28	6	32	27	6	409.59808	-0.00020
33	28	6	34	29	6	369.70069	0.00009
33	32	1	32	31	1	411.03859	-0.00016
33	32	1	34	33	1	368.22528	0.00016
33	32	2	32	31	2	411.03859	-0.00016

33	32	2	34	33	2	368.22528	0.00016
33	33	0	32	32	0	411.41261	-0.00002
33	33	0	34	34	0	367.86929	0.00021
33	33	1	32	32	1	411.41261	-0.00002
33	33	1	34	34	1	367.86929	0.00021
34	19	15	33	18	15	406.65463	0.00010
34	19	15	35	20	15	372.81003	0.00025
34	19	16	33	18	16	406.65463	0.00011
34	19	16	35	20	16	372.81003	0.00025
34	21	13	33	20	13	407.38865	-0.00008
34	21	13	35	22	13	372.02071	0.00004
34	21	14	33	20	14	407.38865	-0.00008
34	21	14	35	22	14	372.02071	0.00004
34	23	11	33	22	11	408.09070	-0.00004
34	23	11	35	24	11	371.27244	0.00013
34	23	12	33	22	12	408.09070	-0.00004
34	23	12	35	24	12	371.27244	0.00013
34	24	10	33	23	10	408.45010	-0.00011
34	24	10	35	25	10	370.89597	0.00008
34	24	11	33	23	11	408.45010	-0.00011
34	24	11	35	25	11	370.89597	0.00008
34	25	9	33	24	9	408.80556	-0.00010
34	25	9	35	26	9	370.51934	-0.00003
34	25	10	33	24	10	408.80556	-0.00010
34	25	10	35	26	10	370.51934	-0.00003
34	27	7	33	26	7	409.51266	-0.00012
34	27	7	35	28	7	369.76660	0.00006
34	27	8	33	26	8	409.51266	-0.00012
34	27	8	35	28	8	369.76660	0.00006
34	28	6	33	27	6	409.86572	-0.00016
34	28	6	35	29	6	369.39058	-0.00001
34	28	7	33	27	7	409.86572	-0.00016
34	28	7	35	29	7	369.39058	-0.00001
34	29	5	33	28	5	410.21935	-0.00016
34	29	5	35	30	5	369.01541	0.00000
34	29	6	33	28	6	410.21935	-0.00016
34	29	6	35	30	6	369.01541	0.00000
35	19	16	34	18	16	406.92312	-0.00011
35	19	16	36	20	16	372.52091	0.00021
35	19	17	34	18	17	406.92312	-0.00008
35	19	17	36	20	17	372.52091	0.00022
35	21	14	34	20	14	407.66196	-0.00008
35	21	14	36	22	14	371.71985	-0.00003
35	21	15	34	20	15	407.66196	-0.00007
35	21	15	36	22	15	371.71985	-0.00003
35	22	13	34	21	13	408.09193	-0.00005

35	22	13	36	23	13	371.34741	0.00013
35	22	14	34	21	14	408.09193	-0.00005
35	22	14	36	23	14	371.34741	0.00013
35	23	12	34	22	12	408.36049	0.00004
35	23	12	36	24	12	370.97034	0.00013
35	23	13	34	22	13	408.36049	0.00004
35	23	13	36	24	13	370.97034	0.00013
35	25	10	34	24	10	409.07592	-0.00013
35	25	10	36	26	10	370.21444	-0.00002
35	25	11	34	24	11	409.07592	-0.00013
35	25	11	36	26	11	370.21444	-0.00002
35	26	9	34	25	9	409.42906	-0.00010
35	26	9	36	27	9	369.83670	0.00033
35	26	10	34	25	10	409.42906	-0.00010
35	26	10	36	27	10	369.83670	0.00033
35	27	8	34	26	8	409.78101	-0.00008
35	27	8	36	28	8	369.45829	0.00004
35	27	9	34	26	9	409.78101	-0.00008
35	27	9	36	28	9	369.45829	0.00004
35	28	7	34	27	7	410.13242	-0.00005
35	28	7	36	29	7	369.08050	0.00024
35	28	8	34	27	8	410.13242	-0.00005
35	28	8	36	29	8	369.08050	0.00024
35	32	3	34	31	3	411.54637	-0.00017
35	32	3	36	33	3	367.57859	0.00015
35	32	4	34	31	4	411.54637	-0.00017
35	32	4	36	33	4	367.57859	0.00015
35	34	1	34	33	1	412.27776	-0.00015
35	34	1	36	35	1	366.85065	0.00035
35	34	2	34	33	2	412.27776	-0.00015
35	34	2	36	35	2	366.85065	0.00035
36	19	17	35	18	17	407.18992	-0.00008
36	19	17	37	20	17	372.23368	-0.00004
36	19	18	35	18	18	407.18992	0.00002
36	19	18	37	20	18	372.23368	-0.00001
36	21	15	35	20	15	407.93427	-0.00002
36	21	15	37	22	15	371.41946	0.00024
36	21	16	35	20	16	407.93427	-0.00002
36	21	16	37	22	16	371.41946	0.00024
36	22	14	35	21	14	408.37409	-0.00007
36	22	14	37	23	14	371.04666	0.00002
36	22	15	35	21	15	408.37409	-0.00006
36	22	15	37	23	15	371.04666	0.00002
36	24	12	35	23	12	408.99017	-0.00004
36	24	12	37	25	12	370.28927	0.00015
36	24	13	35	23	13	408.99017	-0.00004

36	24	13	37	25	13	370.28927	0.00015
36	25	11	35	24	11	409.34517	-0.00014
36	25	11	37	26	11	369.90963	0.00006
36	25	12	35	24	12	409.34517	-0.00014
36	25	12	37	26	12	369.90963	0.00006
36	26	10	35	25	10	409.69761	-0.00007
36	26	10	37	27	10	369.52990	0.00012
36	26	11	35	25	11	409.69761	-0.00007
36	26	11	37	27	11	369.52990	0.00012
36	27	9	35	26	9	410.04820	-0.00017
36	27	9	37	28	9	369.15007	0.00029
36	27	10	35	26	10	410.04820	-0.00017
36	27	10	37	28	10	369.15007	0.00029
37	21	16	36	20	16	408.20538	0.00000
37	21	16	38	22	16	371.11865	-0.00004
37	21	17	36	20	17	408.20538	0.00001
37	21	17	38	22	17	371.11865	-0.00004
37	22	15	36	21	15	408.65373	0.00008
37	22	15	38	23	15	370.74645	0.00005
37	22	16	36	21	16	408.65373	0.00010
37	22	16	38	23	16	370.74645	0.00005
37	23	14	36	22	14	408.89476	-0.00007
37	23	14	38	24	14	370.36695	0.00015
37	23	15	36	22	15	408.89476	-0.00007
37	23	15	38	24	15	370.36695	0.00015
37	24	13	36	23	13	409.25808	-0.00015
37	24	13	38	25	13	369.98624	0.00024
37	24	14	36	23	14	409.25808	-0.00015
37	24	14	38	25	14	369.98624	0.00024
37	25	12	36	24	12	409.61331	-0.00008
37	25	12	38	26	12	369.60504	0.00028
37	25	13	36	24	13	409.61331	-0.00008
37	25	13	38	26	13	369.60504	0.00028
37	27	10	36	26	10	410.31445	-0.00013
37	27	10	38	28	10	368.84128	0.00011
37	27	11	36	26	11	410.31445	-0.00013
37	27	11	38	28	11	368.84128	0.00011
38	19	19	37	18	19	407.71674	-0.00013
38	19	19	39	20	19	371.66724	0.00006
38	21	17	37	20	17	408.47508	-0.00009
38	21	17	39	22	17	370.81844	0.00020
38	21	18	37	20	18	408.47508	-0.00005
38	21	18	39	22	18	370.81844	0.00020
38	24	14	37	23	14	409.52475	-0.00004
38	24	14	39	25	14	369.68335	0.00020
38	24	15	37	23	15	409.52475	-0.00004

38	24	15	39	25	15	369.68335	0.00020
38	27	11	37	26	11	410.57969	0.00001
38	27	11	39	28	11	368.53264	0.00015
38	27	12	37	26	12	410.57969	0.00001
38	27	12	39	28	12	368.53264	0.00015
38	28	10	37	27	10	410.92581	-0.00013
38	28	10	39	29	10	368.14782	0.00005
38	28	11	37	27	11	410.92581	-0.00013
38	28	11	39	29	11	368.14782	0.00005
39	21	18	38	20	18	408.74332	-0.00015
39	21	18	40	22	18	370.51779	0.00000
39	21	19	38	20	19	408.74332	-0.00006
39	21	19	40	22	19	370.51779	0.00001
39	22	17	38	21	17	409.20337	-0.00027
39	22	17	40	23	17	370.14739	0.00003
39	22	18	38	21	18	409.20337	-0.00012
39	22	18	40	23	18	370.14739	0.00003
39	23	16	38	22	16	409.42118	0.00002
39	23	16	40	24	16	369.76527	0.00031
39	23	17	38	22	17	409.42118	0.00002
39	23	17	40	24	17	369.76527	0.00031
40	21	19	39	20	19	409.00983	-0.00025
40	21	19	41	22	19	370.21714	-0.00004
40	21	20	39	20	20	409.00983	-0.00002
40	21	20	41	22	20	370.21714	-0.00002
40	22	18	39	21	18	409.47383	-0.00008
40	22	18	41	23	18	369.84886	0.00014
40	24	16	39	23	16	410.05303	-0.00007
40	24	16	41	25	16	369.07866	0.00005
40	24	17	39	23	17	410.05303	-0.00007
40	24	17	41	25	17	369.07866	0.00005
40	27	13	39	26	13	411.10629	-0.00010
40	27	13	41	28	13	367.91528	0.00013
40	27	14	39	26	14	411.10629	-0.00010
40	27	14	41	28	14	367.91528	0.00013
41	21	21	40	20	21	409.27424	0.00000
41	21	21	42	22	21	369.91620	0.00012
41	22	20	40	21	20	409.74010	-0.00022
41	22	20	42	23	20	369.55076	-0.00002
41	23	18	40	22	18	409.93713	-0.00013
41	23	18	42	24	18	369.16552	0.00010
41	23	19	40	22	19	409.93713	-0.00012
41	23	19	42	24	19	369.16552	0.00010
41	24	17	40	23	17	410.31445	-0.00013
41	24	17	42	25	17	368.77721	0.00012
41	24	18	40	23	18	410.31445	-0.00013

41	24	18	42	25	18	368.77721	0.00012
42	21	22	41	20	22	409.53624	0.00013
42	21	22	43	22	22	369.61460	0.00055
42	23	19	41	22	19	410.19034	-0.00012
42	23	19	43	24	19	368.86683	0.00007
42	23	20	41	22	20	410.19034	-0.00010
42	23	20	43	24	20	368.86683	0.00007
42	27	15	41	26	15	411.62806	-0.00009
42	27	15	43	28	15	367.29848	0.00017
42	27	16	41	26	16	411.62806	-0.00009
42	27	16	43	28	16	367.29848	0.00017
43	24	19	42	23	19	410.83129	-0.00007
43	24	19	44	25	19	368.17624	0.00017
43	24	20	42	23	20	410.83129	-0.00007
43	24	20	44	25	20	368.17624	0.00017
43	27	16	42	26	16	411.88706	-0.00001
43	27	16	44	28	16	366.99052	0.00025
43	27	17	42	26	17	411.88706	-0.00001
43	27	17	44	28	17	366.99052	0.00025
44	24	20	43	23	20	411.08606	-0.00019
44	24	20	45	25	20	367.87687	0.00009
44	24	21	43	23	21	411.08606	-0.00018
44	24	21	45	25	21	367.87687	0.00009
44	27	17	43	26	17	412.14460	0.00000
44	27	17	45	28	17	366.68283	0.00024
44	27	18	43	26	18	412.14460	0.00000
44	27	18	45	28	18	366.68283	0.00024
45	24	21	44	23	21	411.33831	-0.00014
45	24	21	46	25	21	367.57859	0.00011
45	24	22	44	23	22	411.33831	-0.00013
45	24	22	46	25	22	367.57859	0.00011
46	24	22	45	23	22	411.58740	-0.00022
46	24	22	47	25	22	367.28121	-0.00009
46	24	23	45	23	23	411.58740	-0.00019
46	24	23	47	25	23	367.28121	-0.00009
47	24	23	46	23	23	411.83306	-0.00028
47	24	23	48	25	23	366.98529	-0.00011
47	24	24	46	23	24	411.83306	-0.00020
47	24	24	48	25	24	366.98529	-0.00011

S.17 - Lower state combination difference list for the 282 cm<sup>-1</sup> band (0<sup>0</sup> → 282 cm<sup>-1</sup>) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of 0.00028 cm<sup>-1</sup>.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )	Obs-Calc (cm <sup>-1</sup> )
8	8	0	6	6	0	9.47624	-0.00016
8	8	1	6	6	1	9.47624	-0.00017
9	8	1	7	6	1	10.06033	0.00000
9	8	2	7	6	2	10.06033	-0.00004
9	9	0	7	7	0	10.78814	-0.00013
9	9	1	7	7	1	10.78814	-0.00013
10	9	1	8	7	1	11.37219	-0.00011
10	9	2	8	7	2	11.37219	-0.00012
10	10	0	8	8	0	12.09999	-0.00008
10	10	1	8	8	1	12.09999	-0.00008
11	10	1	9	8	1	12.68411	-0.00001
11	10	2	9	8	2	12.68411	-0.00001
11	11	0	9	9	0	13.41193	0.00014
11	11	1	9	9	1	13.41193	0.00014
12	11	1	10	9	1	13.99597	0.00015
12	11	2	10	9	2	13.99597	0.00015
12	12	0	10	10	0	14.72345	0.00001
12	12	1	10	10	1	14.72345	0.00001
13	12	1	11	10	1	15.30746	0.00006
13	12	2	11	10	2	15.30746	0.00006
13	13	0	11	11	0	16.03506	0.00006
13	13	1	11	11	1	16.03506	0.00006
14	13	1	12	11	1	16.61901	0.00012
14	13	2	12	11	2	16.61901	0.00012
15	14	1	13	12	1	17.93022	-0.00003
15	14	2	13	12	2	17.93022	-0.00003
15	15	0	13	13	0	18.65795	0.00013
15	15	1	13	13	1	18.65795	0.00013
16	15	1	14	13	1	19.24155	0.00006
16	15	2	14	13	2	19.24155	0.00006
16	16	0	14	14	0	19.96899	-0.00008
16	16	1	14	14	1	19.96899	-0.00008
17	16	1	15	14	1	20.55258	-0.00003
17	16	2	15	14	2	20.55258	-0.00003
17	17	0	15	15	0	21.28017	-0.00004
17	17	1	15	15	1	21.28017	-0.00004
18	17	1	16	15	1	21.86371	0.00011
18	17	2	16	15	2	21.86371	0.00011
18	18	0	16	16	0	22.59118	-0.00004

18	18	1	16	16	1	22.59118	-0.00004
19	18	1	17	16	1	23.17446	0.00002
19	18	2	17	16	2	23.17446	0.00002
19	19	0	17	17	0	23.90214	0.00005
19	19	1	17	17	1	23.90214	0.00005
20	20	0	18	18	0	25.21264	-0.00019
20	20	1	18	18	1	25.21264	-0.00019
21	21	0	19	19	0	26.52337	-0.00004
21	21	1	19	19	1	26.52337	-0.00004
22	22	0	20	20	0	27.83380	-0.00008
22	22	1	20	20	1	27.83380	-0.00008
23	23	0	21	21	0	29.14425	0.00008
23	23	1	21	21	1	29.14425	0.00008
24	24	0	22	22	0	30.45410	-0.00012
24	24	1	22	22	1	30.45410	-0.00012



S.18 - Lower state combination difference list for the 506 cm<sup>-1</sup> band (0<sup>1</sup> → 527 cm<sup>-1</sup>) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of 0.00028 cm<sup>-1</sup>.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )	Obs-Calc (cm <sup>-1</sup> )
11	0	11	9	0	9	4.96585	-0.00017
11	1	11	9	1	9	4.96585	0.00014
12	0	12	10	0	10	5.41725	0.00008
12	1	12	10	1	10	5.41725	0.00019
13	0	13	11	0	11	5.86835	-0.00004
13	1	13	11	1	11	5.86835	0.00000
14	0	14	12	0	12	6.31968	0.00006
14	1	14	12	1	12	6.31968	0.00007
15	0	15	13	0	13	6.77090	0.00004
15	1	15	13	1	13	6.77090	0.00004
16	0	16	14	0	14	7.22182	-0.00027
16	1	16	14	1	14	7.22182	-0.00026
16	3	14	14	3	12	8.13273	0.00057
17	0	17	15	0	15	7.67327	-0.00003
17	1	17	15	1	15	7.67327	-0.00002
17	3	15	15	3	13	8.58300	0.00015
18	0	18	16	0	16	8.12449	0.00000
18	1	17	16	1	15	8.57735	0.00002
18	1	18	16	1	16	8.12449	0.00000
18	2	16	16	2	14	9.03381	-0.00008
18	2	17	16	2	15	8.57735	0.00003
18	3	16	16	3	14	9.03381	0.00046
19	0	19	17	0	17	8.57559	-0.00008
19	1	18	17	1	16	9.02833	-0.00001
19	1	19	17	1	17	8.57559	-0.00008
19	2	18	17	2	16	9.02833	0.00000
20	0	20	18	0	18	9.02698	0.00017
20	1	19	18	1	17	9.47949	0.00014
20	1	20	18	1	18	9.02698	0.00017
20	2	18	18	2	16	9.93436	-0.00007
20	2	19	18	2	17	9.47949	0.00014
20	3	18	18	3	16	9.93436	0.00001
21	0	21	19	0	19	9.47784	-0.00010
21	1	20	19	1	18	9.93041	0.00004
21	1	21	19	1	19	9.47784	-0.00010
21	2	19	19	2	17	10.38493	-0.00004
21	2	20	19	2	18	9.93041	0.00005
21	3	19	19	3	17	10.38493	0.00000
22	0	22	20	0	20	9.92912	0.00008

22	1	21	20	1	19	10.38140	0.00003
22	1	22	20	1	20	9.92912	0.00008
22	2	20	20	2	18	10.83555	-0.00003
22	2	21	20	2	19	10.38140	0.00003
22	3	20	20	3	18	10.83555	-0.00001
23	0	23	21	0	21	10.38004	-0.00007
23	1	22	21	1	20	10.83214	-0.00020
23	1	23	21	1	21	10.38004	-0.00007
23	2	21	21	2	19	11.28624	0.00001
23	2	22	21	2	20	10.83214	-0.00020
23	3	21	21	3	19	11.28624	0.00000
24	0	24	22	0	22	10.83120	0.00004
24	1	23	22	1	21	11.28348	0.00016
24	1	24	22	1	22	10.83120	0.00004
24	2	22	22	2	20	11.73687	-0.00006
24	2	23	22	2	21	11.28348	0.00016
24	3	22	22	3	20	11.73687	-0.00006
25	0	25	23	0	23	11.28206	-0.00011
25	1	24	23	1	22	11.73440	0.00014
25	1	25	23	1	23	11.28206	-0.00011
25	2	23	23	2	21	12.18756	-0.00010
25	2	24	23	2	22	11.73440	0.00014
25	3	23	23	3	21	12.18756	-0.00009
26	0	26	24	0	24	11.73316	0.00005
26	1	25	24	1	23	12.18503	-0.00016
26	1	26	24	1	24	11.73316	0.00005
26	2	24	24	2	22	12.63836	-0.00002
26	2	25	24	2	23	12.18503	-0.00016
26	3	24	24	3	22	12.63836	-0.00002
27	0	27	25	0	25	12.18403	-0.00006
27	1	26	25	1	24	12.63636	-0.00005
27	1	27	25	1	25	12.18403	-0.00006
27	2	26	25	2	24	12.63636	-0.00005
28	0	28	26	0	26	12.63513	0.00007
28	1	27	26	1	25	13.08675	-0.00010
28	1	28	26	1	26	12.63513	0.00007
28	2	26	26	2	24	13.53997	-0.00006
28	2	27	26	2	25	13.08675	-0.00010
28	3	26	26	3	24	13.53997	-0.00006
29	1	28	27	1	26	13.53720	-0.00016
29	2	27	27	2	25	13.99013	-0.00010
29	2	28	27	2	26	13.53720	-0.00016
29	3	27	27	3	25	13.99013	-0.00010
30	1	29	28	1	27	13.98854	-0.00004
30	2	28	28	2	26	14.44099	0.00019
30	2	29	28	2	27	13.98854	-0.00004

30	3	28	28	3	26	14.44099	0.00019
31	0	31	29	0	29	13.98766	0.00011
31	1	30	29	1	28	14.43917	-0.00016
31	1	31	29	1	29	13.98766	0.00011
31	2	29	29	2	27	14.89186	-0.00011
31	2	30	29	2	28	14.43917	-0.00016
31	3	29	29	3	27	14.89186	-0.00011
32	0	32	30	0	30	14.43823	-0.00009
32	1	31	30	1	29	14.89003	-0.00004
32	1	32	30	1	30	14.43823	-0.00009
32	2	30	30	2	28	15.34242	-0.00010
32	2	31	30	2	29	14.89003	-0.00004
32	3	30	30	3	28	15.34242	-0.00010
33	2	31	31	2	29	15.79282	-0.00033
33	3	31	31	3	29	15.79282	-0.00033

S.19 - Lower state combination difference list for the 512 cm<sup>-1</sup> band (0<sup>0</sup> → 512 cm<sup>-1</sup>) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of 0.00028 cm<sup>-1</sup>.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )	Obs-Calc (cm <sup>-1</sup> )
10	0	10	8	0	8	4.54271	-0.00048
10	1	10	8	1	8	4.54271	0.00024
11	0	11	9	0	9	4.99681	-0.00018
11	1	11	9	1	9	4.99681	0.00008
12	0	12	10	0	10	5.45091	-0.00004
12	1	12	10	1	10	5.45091	0.00006
13	0	13	11	0	11	5.90507	0.00011
13	1	12	11	1	10	6.36258	-0.00048
13	1	13	11	1	11	5.90507	0.00014
14	0	14	12	0	12	6.35899	0.00001
14	1	13	12	1	11	6.81557	-0.00049
14	1	14	12	1	12	6.35899	0.00002
14	2	13	12	2	11	6.81557	0.00017
15	0	15	13	0	13	6.81303	0.00004
15	1	14	13	1	12	7.26937	-0.00011
15	1	15	13	1	13	6.81303	0.00004
15	2	14	13	2	12	7.26937	0.00014
16	0	16	14	0	14	7.26690	-0.00010
16	1	15	14	1	13	7.72288	-0.00021
16	1	16	14	1	14	7.26690	-0.00009
16	2	15	14	2	13	7.72288	-0.00012
16	3	14	14	3	12	8.18263	0.00005
17	0	17	15	0	15	7.72088	-0.00009
17	1	16	15	1	14	8.17693	0.00013
17	1	17	15	1	15	7.72088	-0.00009
17	2	15	15	2	13	8.63685	-0.00018
17	2	16	15	2	14	8.17693	0.00016
18	0	18	16	0	16	8.17498	0.00006
18	1	17	16	1	15	8.63050	-0.00004
18	1	18	16	1	16	8.17498	0.00006
18	2	16	16	2	14	9.08913	-0.00045
18	2	17	16	2	15	8.63050	-0.00002
18	3	16	16	3	14	9.08913	-0.00001
19	0	19	17	0	17	8.62879	-0.00005
19	1	18	17	1	16	9.08413	-0.00015
19	1	19	17	1	17	8.62879	-0.00005
19	2	17	17	2	15	9.54235	-0.00016
19	2	18	17	2	16	9.08413	-0.00015
19	3	17	17	3	15	9.54235	0.00001

20	0	20	18	0	18	9.08260	-0.00014
20	1	19	18	1	17	9.53799	-0.00003
20	1	20	18	1	18	9.08260	-0.00014
20	2	18	18	2	16	9.99556	-0.00007
20	2	19	18	2	17	9.53799	-0.00003
20	3	18	18	3	16	9.99556	-0.00001
20	4	17	18	4	15	10.45855	0.00016
21	0	21	19	0	19	9.53658	-0.00001
21	1	20	19	1	18	9.99174	-0.00001
21	1	21	19	1	19	9.53658	-0.00001
21	2	19	19	2	17	10.44866	-0.00022
21	2	20	19	2	18	9.99174	-0.00001
21	3	18	19	3	16	10.91118	-0.00011
21	3	19	19	3	17	10.44866	-0.00019
21	4	18	19	4	16	10.91118	0.00052
22	0	22	20	0	20	9.99033	-0.00009
22	1	21	20	1	19	10.44537	-0.00008
22	1	22	20	1	20	9.99033	-0.00009
22	2	20	20	2	18	10.90223	0.00004
22	2	21	20	2	19	10.44537	-0.00008
22	3	20	20	3	18	10.90223	0.00005
22	4	19	20	4	17	11.36263	-0.00039
23	0	23	21	0	21	10.44407	-0.00012
23	1	22	21	1	20	10.89906	-0.00007
23	1	23	21	1	21	10.44407	-0.00012
23	2	21	21	2	19	11.35551	-0.00002
23	2	22	21	2	20	10.89906	-0.00007
23	3	20	21	3	18	11.81538	-0.00023
23	3	21	21	3	19	11.35551	-0.00002
23	4	20	21	4	18	11.81538	-0.00013
24	0	24	22	0	22	10.89800	0.00006
24	1	23	22	1	21	11.35286	0.00009
24	1	24	22	1	22	10.89800	0.00006
24	2	22	22	2	20	11.80867	-0.00022
24	2	23	22	2	21	11.35286	0.00009
24	3	21	22	3	19	12.26807	-0.00009
24	3	22	22	3	20	11.80867	-0.00022
24	4	20	22	4	18	12.73382	-0.00057
24	4	21	22	4	19	12.26807	-0.00005
24	5	20	22	5	18	12.73382	0.00025
25	0	25	23	0	23	11.35151	-0.00014
25	1	24	23	1	22	11.80637	-0.00001
25	1	25	23	1	23	11.35151	-0.00014
25	2	23	23	2	21	12.26230	0.00006
25	2	24	23	2	22	11.80637	-0.00001
25	3	22	23	3	20	12.72081	-0.00003

25	3	23	23	3	21	12.26230	0.00006
25	4	21	23	4	19	13.18504	-0.00019
25	4	22	23	4	20	12.72081	-0.00001
25	5	21	23	5	19	13.18504	0.00016
26	0	26	24	0	24	11.80526	-0.00005
26	1	25	24	1	23	12.25994	-0.00001
26	1	26	24	1	24	11.80526	-0.00005
26	2	24	24	2	22	12.71552	-0.00006
26	2	25	24	2	23	12.25994	-0.00001
26	3	23	24	3	21	13.17338	-0.00022
26	3	24	24	3	22	12.71552	-0.00006
26	4	22	24	4	20	13.63631	-0.00029
26	4	23	24	4	21	13.17338	-0.00022
26	5	22	24	5	20	13.63631	-0.00015
27	0	27	25	0	25	12.25883	-0.00010
27	1	26	25	1	24	12.71340	-0.00009
27	1	27	25	1	25	12.25883	-0.00010
27	2	25	25	2	23	13.16873	-0.00016
27	2	26	25	2	24	12.71340	-0.00009
27	3	24	25	3	22	13.62613	-0.00030
27	3	25	25	3	23	13.16873	-0.00016
27	4	23	25	4	21	14.08835	0.00012
27	4	24	25	4	22	13.62613	-0.00029
27	5	22	25	5	20	14.55793	-0.00024
27	5	23	25	5	21	14.08835	0.00018
28	0	28	26	0	26	12.71240	-0.00010
28	1	27	26	1	25	13.16697	0.00000
28	1	28	26	1	26	12.71240	-0.00010
28	2	26	26	2	24	13.62213	-0.00006
28	2	27	26	2	25	13.16697	0.00000
28	3	25	26	3	23	14.07917	-0.00011
28	3	26	26	3	24	13.62213	-0.00006
28	4	24	26	4	22	14.53980	-0.00026
28	4	25	26	4	23	14.07917	-0.00011
28	5	23	26	5	21	15.00767	-0.00043
28	5	24	26	5	22	14.53980	-0.00023
28	6	23	26	6	21	15.00767	0.00000
29	0	29	27	0	27	13.16597	-0.00005
29	1	28	27	1	26	13.62036	-0.00005
29	1	29	27	1	27	13.16597	-0.00005
29	2	27	27	2	25	14.07535	-0.00010
29	2	28	27	2	26	13.62036	-0.00005
29	3	26	27	3	24	14.53204	-0.00011
29	3	27	27	3	25	14.07535	-0.00010
29	4	25	27	4	23	14.99179	-0.00034
29	4	26	27	4	24	14.53204	-0.00011

29	5	24	27	5	22	15.45854	-0.00005
29	5	25	27	5	23	14.99179	-0.00033
29	6	24	27	6	22	15.45854	0.00013
30	0	30	28	0	28	13.61936	-0.00013
30	1	29	28	1	27	14.07376	-0.00005
30	1	30	28	1	28	13.61936	-0.00013
30	2	28	28	2	26	14.52856	-0.00010
30	2	29	28	2	27	14.07376	-0.00005
30	3	27	28	3	25	14.98508	0.00008
30	3	28	28	3	26	14.52856	-0.00010
30	4	26	28	4	24	15.44441	0.00016
30	4	27	28	4	25	14.98508	0.00008
30	5	25	28	5	23	15.90864	-0.00014
30	5	26	28	5	24	15.44441	0.00017
30	6	25	28	6	23	15.90864	-0.00007
31	0	31	29	0	29	14.07282	-0.00009
31	1	30	29	1	28	14.52703	-0.00011
31	1	31	29	1	29	14.07282	-0.00009
31	2	29	29	2	27	14.98172	-0.00012
31	2	30	29	2	28	14.52703	-0.00011
31	3	28	29	3	26	15.43771	-0.00014
31	3	29	29	3	27	14.98172	-0.00012
31	4	27	29	4	25	15.89634	-0.00011
31	4	28	29	4	26	15.43771	-0.00014
31	5	26	29	5	24	16.35974	0.00003
31	5	27	29	5	25	15.89634	-0.00011
31	6	26	29	6	24	16.35974	0.00007
32	0	32	30	0	30	14.52609	-0.00018
32	1	31	30	1	29	14.98037	-0.00007
32	1	32	30	1	30	14.52609	-0.00018
32	2	31	30	2	29	14.98037	-0.00007
32	3	29	30	3	27	15.89057	-0.00008
32	4	28	30	4	26	16.34861	-0.00006
32	4	29	30	4	27	15.89057	-0.00008
32	5	27	30	5	25	16.81072	-0.00010
32	5	28	30	5	26	16.34861	-0.00006
32	6	27	30	6	25	16.81072	-0.00009
33	0	33	31	0	31	14.97949	-0.00010
33	1	32	31	1	30	15.43347	-0.00020
33	1	33	31	1	31	14.97949	-0.00010
33	2	32	31	2	30	15.43347	-0.00020
33	4	29	31	4	27	16.80077	-0.00014
33	5	28	31	5	26	17.26182	-0.00027
33	5	29	31	5	27	16.80077	-0.00014
33	6	28	31	6	26	17.26182	-0.00026
34	0	34	32	0	32	15.43282	-0.00002

34	1	33	32	1	31	15.88669	-0.00016
34	1	34	32	1	32	15.43282	-0.00002
34	2	33	32	2	31	15.88669	-0.00016
34	4	30	32	4	28	17.25293	-0.00021
34	5	29	32	5	27	17.71315	-0.00029
34	5	30	32	5	28	17.25293	-0.00021
34	6	29	32	6	27	17.71315	-0.00029
35	0	35	33	0	33	15.88598	-0.00005
35	1	34	33	1	32	16.33984	-0.00011
35	1	35	33	1	33	15.88598	-0.00005
35	2	34	33	2	32	16.33984	-0.00011
36	0	36	34	0	34	16.33908	-0.00009
36	1	35	34	1	33	16.79294	-0.00007
36	1	36	34	1	34	16.33908	-0.00009
36	2	35	34	2	33	16.79294	-0.00007
37	0	37	35	0	35	16.79200	-0.00023
37	1	36	35	1	34	17.24604	0.00004
37	1	37	35	1	35	16.79200	-0.00023
37	2	36	35	2	34	17.24604	0.00004
38	0	38	36	0	36	17.24516	-0.00008
38	1	37	36	1	35	17.69879	-0.00014
38	1	38	36	1	36	17.24516	-0.00008
38	2	37	36	2	35	17.69879	-0.00014
39	0	39	37	0	37	17.69808	-0.00010
39	1	38	37	1	36	18.15160	-0.00019
39	1	39	37	1	37	17.69808	-0.00010
39	2	38	37	2	36	18.15160	-0.00019
40	0	40	38	0	38	18.15089	-0.00016
40	1	39	38	1	37	18.60446	-0.00011
40	1	40	38	1	38	18.15089	-0.00016
40	2	39	38	2	37	18.60446	-0.00011
41	0	41	39	0	39	18.60370	-0.00016
41	1	40	39	1	38	19.05721	-0.00009
41	1	41	39	1	39	18.60370	-0.00016
41	2	40	39	2	38	19.05721	-0.00009
42	0	42	40	0	40	19.05650	-0.00008
42	1	41	40	1	39	19.50984	-0.00010
42	1	42	40	1	40	19.05650	-0.00008
42	2	41	40	2	39	19.50984	-0.00010
43	0	43	41	0	41	19.50913	-0.00011
43	1	42	41	1	40	19.96235	-0.00016
43	1	43	41	1	41	19.50913	-0.00011
43	2	42	41	2	40	19.96235	-0.00016
44	0	44	42	0	42	19.96194	0.00012
44	1	43	42	1	41	20.41480	-0.00020
44	1	44	42	1	42	19.96194	0.00012



44	2	43	42	2	41	20.41480	-0.00020
45	0	45	43	0	43	20.41439	0.00007
45	1	44	43	1	42	20.86708	-0.00035
45	1	45	43	1	43	20.41439	0.00007
45	2	44	43	2	42	20.86708	-0.00035
46	0	46	44	0	44	20.86667	-0.00008
46	1	45	44	1	43	21.31965	-0.00011
46	1	46	44	1	44	20.86667	-0.00008
46	2	45	44	2	43	21.31965	-0.00011
47	0	47	45	0	45	21.31900	-0.00009
47	1	46	45	1	44	21.77192	-0.00009
47	1	47	45	1	45	21.31900	-0.00009
47	2	46	45	2	44	21.77192	-0.00009
48	0	48	46	0	46	21.77139	0.00004
48	1	47	46	1	45	22.22390	-0.00028
48	1	48	46	1	46	21.77139	0.00004
48	2	47	46	2	45	22.22390	-0.00028
49	0	49	47	0	47	22.22355	0.00003
49	1	48	47	1	46	22.67618	-0.00009
49	1	49	47	1	47	22.22355	0.00003
49	2	48	47	2	46	22.67618	-0.00009
50	0	50	48	0	48	22.67553	-0.00008
50	1	49	48	1	47	23.12828	0.00002
50	1	50	48	1	48	22.67553	-0.00008
50	2	49	48	2	47	23.12828	0.00002
51	0	51	49	0	49	23.12746	-0.00016
51	1	50	49	1	48	23.58020	0.00003
51	1	51	49	1	49	23.12746	-0.00016
51	2	49	49	2	47	24.03042	-0.00016
51	2	50	49	2	48	23.58020	0.00003
51	3	49	49	3	47	24.03042	-0.00016
52	0	52	50	0	50	23.57944	-0.00009
52	1	51	50	1	49	24.03189	-0.00010
52	1	52	50	1	50	23.57944	-0.00009
52	2	50	50	2	48	24.48281	-0.00021
52	2	51	50	2	49	24.03189	-0.00010
52	3	50	50	3	48	24.48281	-0.00021
53	0	53	51	0	51	24.03130	-0.00005
53	1	52	51	1	50	24.48364	-0.00007
53	1	53	51	1	51	24.03130	-0.00005
53	2	51	51	2	49	24.93491	-0.00014
53	2	52	51	2	50	24.48364	-0.00007
53	3	50	51	3	48	25.38425	-0.00009
53	3	51	51	3	49	24.93491	-0.00014
53	4	50	51	4	48	25.38425	-0.00009
54	0	54	52	0	52	24.48305	-0.00003

54	1	53	52	1	51	24.93544	0.00010
54	1	54	52	1	52	24.48305	-0.00003
54	2	52	52	2	50	25.38678	-0.00004
54	2	53	52	2	51	24.93544	0.00010
54	3	51	52	3	49	25.83652	-0.00041
54	3	52	52	3	50	25.38678	-0.00004
54	4	51	52	4	49	25.83652	-0.00041
55	0	55	53	0	53	24.93474	0.00002
55	1	54	53	1	52	25.38684	-0.00004
55	1	55	53	1	53	24.93474	0.00002
55	2	54	53	2	52	25.38684	-0.00004
55	3	52	53	3	50	26.28874	-0.00023
55	4	52	53	4	50	26.28874	-0.00023
56	0	56	54	0	54	25.38636	0.00011
56	1	55	54	1	53	25.83823	-0.00008
56	1	56	54	1	54	25.38636	0.00011
56	2	54	54	2	52	26.28980	-0.00004
56	2	55	54	2	53	25.83823	-0.00008
56	3	53	54	3	51	26.74060	-0.00005
56	3	54	54	3	52	26.28980	-0.00004
56	4	53	54	4	51	26.74060	-0.00005
57	0	57	55	0	55	25.83764	-0.00005
57	1	56	55	1	54	26.28962	-0.00002
57	1	57	55	1	55	25.83764	-0.00005
57	2	55	55	2	53	26.74101	-0.00012
57	2	56	55	2	54	26.28962	-0.00002
57	3	54	55	3	52	27.19223	0.00015
57	3	55	55	3	53	26.74101	-0.00012
57	4	54	55	4	52	27.19223	0.00015
58	0	58	56	0	56	26.28903	0.00001
58	1	57	56	1	55	26.74043	-0.00044
58	1	58	56	1	56	26.28903	0.00001
58	2	56	56	2	54	27.19229	-0.00002
58	2	57	56	2	55	26.74043	-0.00044
58	3	55	56	3	53	27.64315	-0.00016
58	3	56	56	3	54	27.19229	-0.00002
58	4	55	56	4	53	27.64315	-0.00016
59	0	59	57	0	57	26.74025	0.00000
59	1	58	57	1	56	27.19200	0.00000
59	1	59	57	1	57	26.74025	0.00000
59	2	57	57	2	55	27.64339	0.00002
59	2	58	57	2	56	27.19200	0.00000
59	3	56	57	3	54	28.09408	-0.00030
59	3	57	57	3	55	27.64339	0.00002
59	4	56	57	4	54	28.09408	-0.00030
60	0	60	58	0	58	27.19135	-0.00003

60	1	59	58	1	57	27.64345	0.00043
60	1	60	58	1	58	27.19135	-0.00003
60	2	58	58	2	56	28.09384	-0.00047
60	2	59	58	2	57	27.64345	0.00043
60	3	58	58	3	56	28.09384	-0.00047
61	0	61	59	0	59	27.64239	-0.00002
61	1	60	59	1	58	28.09396	0.00003
61	1	61	59	1	59	27.64239	-0.00002
61	2	59	59	2	57	28.54523	0.00010
61	2	60	59	2	58	28.09396	0.00003
61	3	58	59	3	56	28.99598	-0.00007
61	3	59	59	3	57	28.54523	0.00010
61	4	58	59	4	56	28.99598	-0.00007
62	0	62	60	0	60	28.09325	-0.00007
62	1	61	60	1	59	28.54459	-0.00014
62	1	62	60	1	60	28.09325	-0.00007
62	2	60	60	2	58	28.99586	0.00003
62	2	61	60	2	59	28.54459	-0.00014
62	3	59	60	3	57	29.44667	-0.00002
62	3	60	60	3	58	28.99586	0.00003
62	4	59	60	4	57	29.44667	-0.00002
63	0	63	61	0	61	28.54429	0.00017
63	1	62	61	1	60	28.99539	-0.00003
63	1	63	61	1	61	28.54429	0.00017
63	2	62	61	2	60	28.99539	-0.00003
64	0	64	62	0	62	28.99480	-0.00001
64	1	63	62	1	61	29.44608	0.00008
64	1	64	62	1	62	28.99480	-0.00001
64	2	63	62	2	61	29.44608	0.00008
65	0	65	63	0	63	29.44555	0.00015
65	1	65	63	1	63	29.44555	0.00015
66	0	66	64	0	64	29.89594	0.00008
66	1	66	64	1	64	29.89594	0.00008
67	0	67	65	0	65	30.34657	0.00037
67	1	67	65	1	65	30.34657	0.00037

S.20 - Lower state combination difference list for the 766 cm<sup>-1</sup> band (0<sup>0</sup> → 766 cm<sup>-1</sup>) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of 0.00028 cm<sup>-1</sup>.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )	Obs-Calc (cm <sup>-1</sup> )
6	6	0	4	4	0	6.85270	0.00040
6	6	1	4	4	1	6.85270	0.00011
7	7	0	5	5	0	8.16382	-0.00063
8	7	1	6	5	1	8.74837	0.00034
8	7	2	6	5	2	8.74837	-0.00001
8	8	0	6	6	0	9.47668	0.00027
8	8	1	6	6	1	9.47668	0.00027
9	8	1	7	6	1	10.06015	-0.00017
9	8	2	7	6	2	10.06015	-0.00022
9	9	0	7	7	0	10.78845	0.00018
9	9	1	7	7	1	10.78845	0.00018
10	8	2	8	6	2	10.64311	0.00042
10	8	3	8	6	3	10.64311	0.00010
10	9	1	8	7	1	11.37218	-0.00012
10	9	2	8	7	2	11.37218	-0.00012
10	10	0	8	8	0	12.09995	-0.00012
10	10	1	8	8	1	12.09995	-0.00012
11	9	2	9	7	2	11.95517	-0.00009
11	9	3	9	7	3	11.95517	-0.00013
11	10	1	9	8	1	12.68432	0.00020
11	10	2	9	8	2	12.68432	0.00019
11	11	0	9	9	0	13.41197	0.00018
11	11	1	9	9	1	13.41197	0.00018
12	9	3	10	7	3	12.53639	0.00016
12	9	4	10	7	4	12.53639	-0.00007
12	11	1	10	9	1	13.99579	-0.00003
12	11	2	10	9	2	13.99579	-0.00003
12	12	0	10	10	0	14.72340	-0.00004
12	12	1	10	10	1	14.72340	-0.00004
13	9	4	11	7	4	13.11385	-0.00011
13	10	3	11	8	3	13.84900	-0.00012
13	10	4	11	8	4	13.84900	-0.00015
13	11	2	11	9	2	14.57923	0.00006
13	11	3	11	9	3	14.57923	0.00006
13	12	1	11	10	1	15.30744	0.00003
13	12	2	11	10	2	15.30744	0.00003
13	13	0	11	11	0	16.03499	0.00000
13	13	1	11	11	1	16.03499	0.00000
14	10	4	12	8	4	14.42873	0.00009

14	10	5	12	8	5	14.42873	-0.00008
14	11	3	12	9	3	15.16146	0.00008
14	11	4	12	9	4	15.16146	0.00007
14	12	2	12	10	2	15.89073	-0.00008
14	12	3	12	10	3	15.89073	-0.00008
14	13	1	12	11	1	16.61886	-0.00003
14	13	2	12	11	2	16.61886	-0.00003
14	14	0	12	12	0	17.34652	0.00006
14	14	1	12	12	1	17.34652	0.00006
15	10	6	13	8	6	15.00550	-0.00003
15	11	4	13	9	4	15.74191	0.00003
15	11	5	13	9	5	15.74191	0.00001
15	12	3	13	10	3	16.47318	-0.00010
15	12	4	13	10	4	16.47318	-0.00010
15	13	2	13	11	2	17.20230	0.00001
15	13	3	13	11	3	17.20230	0.00001
15	14	1	13	12	1	17.93030	0.00005
15	14	2	13	12	2	17.93030	0.00005
15	15	0	13	13	0	18.65790	0.00008
15	15	1	13	13	1	18.65790	0.00008
16	11	5	14	9	5	16.31994	-0.00002
16	11	6	14	9	6	16.31994	-0.00013
16	12	4	14	10	4	17.05434	-0.00003
16	12	5	14	10	5	17.05434	-0.00003
16	13	3	14	11	3	17.78488	-0.00002
16	13	4	14	11	4	17.78488	-0.00002
16	14	2	14	12	2	18.51340	-0.00021
16	14	3	14	12	3	18.51340	-0.00021
16	15	1	14	13	1	19.24169	0.00019
16	15	2	14	13	2	19.24169	0.00019
16	16	0	14	14	0	19.96914	0.00006
16	16	1	14	14	1	19.96914	0.00006
17	11	6	15	9	6	16.89454	-0.00017
17	12	5	15	10	5	17.63362	0.00006
17	12	6	15	10	6	17.63362	0.00004
17	13	4	15	11	4	18.36635	-0.00001
17	13	5	15	11	5	18.36635	-0.00001
17	14	3	15	12	3	19.09603	-0.00025
17	14	4	15	12	4	19.09603	-0.00025
17	15	2	15	13	2	19.82477	-0.00001
17	15	3	15	13	3	19.82477	-0.00001
17	16	1	15	14	1	20.55259	-0.00002
17	16	2	15	14	2	20.55259	-0.00002
17	17	0	15	15	0	21.28034	0.00013
17	17	1	15	15	1	21.28034	0.00013
18	12	6	16	10	6	18.21022	0.00001

18	12	7	16	10	7	18.21022	-0.00006
18	13	5	16	11	5	18.94635	0.00008
18	13	6	16	11	6	18.94635	0.00008
18	14	4	16	12	4	19.67803	0.00006
18	14	5	16	12	5	19.67803	0.00006
18	15	3	16	13	3	20.40762	0.00017
18	15	4	16	13	4	20.40762	0.00017
18	16	2	16	14	2	21.13570	-0.00009
18	16	3	16	14	3	21.13570	-0.00009
18	17	1	16	15	1	21.86364	0.00004
18	17	2	16	15	2	21.86364	0.00004
18	18	0	16	16	0	22.59119	-0.00002
18	18	1	16	16	1	22.59119	-0.00002
19	12	7	17	10	7	18.78356	0.00002
19	12	8	17	10	8	18.78356	-0.00025
19	13	6	17	11	6	19.52421	0.00008
19	13	7	17	11	7	19.52421	0.00007
19	14	5	17	12	5	20.25835	-0.00001
19	14	6	17	12	6	20.25835	-0.00001
19	15	4	17	13	4	20.98897	-0.00030
19	15	5	17	13	5	20.98897	-0.00030
19	17	2	17	15	2	22.44666	0.00002
19	17	3	17	15	3	22.44666	0.00002
19	18	1	17	16	1	23.17446	0.00002
19	18	2	17	16	2	23.17446	0.00002
19	19	0	17	17	0	23.90218	0.00008
19	19	1	17	17	1	23.90218	0.00008
20	12	9	18	10	9	19.35326	-0.00015
20	13	7	18	11	7	20.09952	0.00013
20	13	8	18	11	8	20.09952	0.00007
20	14	6	18	12	6	20.83703	-0.00001
20	14	7	18	12	7	20.83703	-0.00001
20	15	5	18	13	5	21.56995	-0.00002
20	15	6	18	13	6	21.56995	-0.00002
20	17	3	18	15	3	23.02923	0.00005
20	17	4	18	15	4	23.02923	0.00005
20	18	2	18	16	2	23.75744	0.00011
20	18	3	18	16	3	23.75744	0.00011
20	19	1	18	17	1	24.48492	-0.00021
20	19	2	18	17	2	24.48492	-0.00021
20	20	0	18	18	0	25.21287	0.00003
20	20	1	18	18	1	25.21287	0.00003
21	13	8	19	11	8	20.67127	-0.00010
21	13	9	19	11	9	20.67127	0.00053
21	14	7	19	12	7	21.41360	0.00001
21	14	8	19	12	8	21.41360	0.00000

21	15	6	19	13	6	22.14953	0.00032
21	15	7	19	13	7	22.14953	0.00032
21	17	4	19	15	4	23.61110	0.00007
21	17	5	19	15	5	23.61110	0.00007
21	18	3	19	16	3	24.33951	-0.00024
21	18	4	19	16	4	24.33951	-0.00024
21	19	2	19	17	2	25.06812	0.00028
21	19	3	19	17	3	25.06812	0.00028
21	20	1	19	18	1	25.79561	-0.00005
21	20	2	19	18	2	25.79561	-0.00005
21	21	0	19	19	0	26.52361	0.00020
21	21	1	19	19	1	26.52361	0.00020
22	13	9	20	11	9	21.23916	-0.00003
22	13	10	20	11	10	21.23916	-0.00032
22	14	8	20	12	8	21.98755	0.00006
22	14	9	20	12	9	21.98755	0.00003
22	15	7	20	13	7	22.72692	0.00025
22	15	8	20	13	8	22.72692	0.00025
22	16	6	20	14	6	23.46071	-0.00009
22	16	7	20	14	7	23.46071	-0.00009
22	17	5	20	15	5	24.19216	0.00015
22	17	6	20	15	6	24.19216	0.00015
22	18	4	20	16	4	24.92154	0.00000
22	18	5	20	16	5	24.92154	0.00000
22	19	3	20	17	3	25.65007	-0.00004
22	19	4	20	17	4	25.65007	-0.00004
22	20	2	20	18	2	26.37822	0.00006
22	20	3	20	18	3	26.37822	0.00006
22	21	1	20	19	1	27.10599	0.00006
22	21	2	20	19	2	27.10599	0.00006
22	22	0	20	20	0	27.83404	0.00016
22	22	1	20	20	1	27.83404	0.00016
23	15	8	21	13	8	23.30190	-0.00005
23	16	7	21	14	7	24.03898	0.00010
23	16	8	21	14	8	24.03898	0.00010
23	17	6	21	15	6	24.77215	0.00028
23	17	7	21	15	7	24.77215	0.00028
23	19	4	21	17	4	26.23174	-0.00004
23	19	5	21	17	5	26.23174	-0.00004
23	20	3	21	18	3	26.96031	0.00009
23	20	4	21	18	4	26.96031	0.00009
23	21	2	21	19	2	27.68797	-0.00005
23	21	3	21	19	3	27.68797	-0.00005
23	22	1	21	20	1	28.41571	-0.00060
23	22	2	21	20	2	28.41571	-0.00060
23	23	0	21	21	0	29.14419	0.00003

23	23	1	21	21	1	29.14419	0.00003
24	18	6	22	16	6	26.08245	-0.00006
24	18	7	22	16	7	26.08245	-0.00006
24	19	5	22	17	5	26.81254	-0.00016
24	19	6	22	17	6	26.81254	-0.00016
24	20	4	22	18	4	27.54168	-0.00002
24	20	5	22	18	5	27.54168	-0.00002
24	21	3	22	19	3	28.26968	0.00023
24	21	4	22	19	4	28.26968	0.00023
24	22	2	22	20	2	28.99842	-0.00008
24	22	3	22	20	3	28.99842	-0.00008
24	23	1	22	21	1	29.72652	0.00013
24	23	2	22	21	2	29.72652	0.00013
24	24	0	22	22	0	30.45406	-0.00016
24	24	1	22	22	1	30.45406	-0.00016
25	15	10	23	13	10	24.44393	-0.00011
25	15	11	23	13	11	24.44393	-0.00023
25	16	9	23	14	9	25.18910	0.00004
25	16	10	23	14	10	25.18910	0.00005
25	17	8	23	15	8	25.92723	0.00001
25	17	9	23	15	9	25.92723	0.00001
25	19	6	23	17	6	27.39274	0.00004
25	19	7	23	17	7	27.39274	0.00004
25	20	5	23	18	5	28.12242	-0.00002
25	20	6	23	18	6	28.12242	-0.00002
25	21	4	23	19	4	28.84973	-0.00016
25	21	5	23	19	5	28.84973	-0.00016
25	22	3	23	20	3	29.58027	-0.00012
25	22	4	23	20	4	29.58027	-0.00012
25	24	1	23	22	1	31.03623	0.00020
25	24	2	23	22	2	31.03623	0.00020
25	25	0	23	23	0	31.76423	0.00009
25	25	1	23	23	1	31.76423	0.00009
26	15	12	24	13	12	25.00916	0.00019
26	16	10	24	14	10	25.76074	0.00038
26	16	11	24	14	11	25.76074	0.00040
26	17	9	24	15	9	26.50200	-0.00010
26	17	10	24	15	10	26.50200	-0.00008
26	19	7	24	17	7	27.97162	0.00003
26	19	8	24	17	8	27.97162	0.00003
26	20	6	24	18	6	28.70236	0.00007
26	20	7	24	18	7	28.70236	0.00007
26	21	5	24	19	5	29.42918	0.00028
26	21	6	24	19	6	29.42918	0.00028
26	22	4	24	20	4	30.16202	0.00012
26	22	5	24	20	5	30.16202	0.00012



26	25	1	24	23	1	32.34527	-0.00039
26	25	2	24	23	2	32.34527	-0.00039
26	26	0	24	24	0	33.07371	-0.00015
26	26	1	24	24	1	33.07371	-0.00015
27	16	11	25	14	11	26.32858	0.00007
27	16	12	25	14	12	26.32858	0.00009
27	17	10	25	15	10	27.07451	-0.00015
27	17	11	25	15	11	27.07451	0.00023
27	19	8	25	17	8	28.54912	-0.00003
27	19	9	25	17	9	28.54912	-0.00003
27	20	7	25	18	7	29.28113	0.00006
27	20	8	25	18	8	29.28113	0.00006
27	21	6	25	19	6	30.00585	-0.00005
27	21	7	25	19	7	30.00585	-0.00005
27	22	5	25	20	5	30.74311	0.00013
27	22	6	25	20	6	30.74311	0.00013
27	24	3	25	22	3	32.19857	0.00002
27	24	4	25	22	4	32.19857	0.00002
27	25	2	25	23	2	32.92690	0.00004
27	25	3	25	23	3	32.92690	0.00004
27	26	1	25	24	1	33.65504	-0.00001
27	26	2	25	24	2	33.65504	-0.00001
27	27	0	25	25	0	34.38332	-0.00006
27	27	1	25	25	1	34.38332	-0.00006
28	16	12	26	14	12	26.89294	0.00000
28	16	13	26	14	13	26.89294	-0.00003
28	20	8	26	18	8	29.85813	-0.00045
28	20	9	26	18	9	29.85813	-0.00045
28	22	6	26	20	6	31.32359	0.00003
28	22	7	26	20	7	31.32359	0.00003
28	24	4	26	22	4	32.77907	-0.00002
28	24	5	26	22	5	32.77907	-0.00002
28	25	3	26	23	3	33.50762	-0.00003
28	25	4	26	23	4	33.50762	-0.00003
28	26	2	26	24	2	34.23598	0.00006
28	26	3	26	24	3	34.23598	0.00006
28	28	0	26	26	0	35.69285	0.00015
28	28	1	26	26	1	35.69285	0.00015
29	26	3	27	24	3	34.81647	0.00009
29	26	4	27	24	4	34.81647	0.00009
29	29	0	27	27	0	37.00126	-0.00053
29	29	1	27	27	1	37.00126	-0.00053
30	30	0	28	28	0	38.31073	0.00008
30	30	1	28	28	1	38.31073	0.00008

S.21 - Lower state combination difference list for the 964 cm<sup>-1</sup> band (0<sup>1</sup> → 986 cm<sup>-1</sup>) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of 0.00028 cm<sup>-1</sup>.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )	Obs-Calc (cm <sup>-1</sup> )
10	0	10	8	0	8	4.51491	-0.00014
11	0	11	9	0	9	4.96595	-0.00007
11	1	11	9	1	9	4.96595	0.00023
12	0	12	10	0	10	5.41723	0.00005
12	1	12	10	1	10	5.41723	0.00017
13	0	13	11	0	11	5.86851	0.00012
13	1	13	11	1	11	5.86851	0.00016
14	0	14	12	0	12	6.31931	-0.00031
14	1	14	12	1	12	6.31931	-0.00030
16	0	16	14	0	14	7.22187	-0.00022
16	1	16	14	1	14	7.22187	-0.00021
17	0	17	15	0	15	7.67291	-0.00038
17	1	17	15	1	15	7.67291	-0.00038
18	0	18	16	0	16	8.12396	-0.00053
18	1	18	16	1	16	8.12396	-0.00053
19	0	19	17	0	17	8.57547	-0.00019
19	1	18	17	1	16	9.02887	0.00052
19	1	19	17	1	17	8.57547	-0.00019
19	2	18	17	2	16	9.02887	0.00053
20	0	20	18	0	18	9.02675	-0.00007
20	1	19	18	1	17	9.47921	-0.00015
20	1	20	18	1	18	9.02675	-0.00007
20	2	19	18	2	17	9.47921	-0.00015
21	0	21	19	0	19	9.47803	0.00009
21	1	20	19	1	18	9.93001	-0.00036
21	1	21	19	1	19	9.47803	0.00009
21	2	20	19	2	18	9.93001	-0.00035
22	0	22	20	0	20	9.92884	-0.00020
22	1	22	20	1	20	9.92884	-0.00020
23	0	23	21	0	21	10.38011	0.00000
23	1	22	21	1	20	10.83210	-0.00024
23	1	23	21	1	21	10.38011	0.00000
23	2	22	21	2	20	10.83210	-0.00025
24	0	24	22	0	22	10.83139	0.00023
24	1	23	22	1	21	11.28314	-0.00017
24	1	24	22	1	22	10.83139	0.00023
24	2	23	22	2	21	11.28314	-0.00017
25	0	25	23	0	23	11.28220	0.00003
25	1	24	23	1	22	11.73419	-0.00007

25	1	25	23	1	23	11.28220	0.00003
25	2	24	23	2	22	11.73419	-0.00007
26	0	26	24	0	24	11.73277	-0.00034
26	1	25	24	1	23	12.18546	0.00028
26	1	26	24	1	24	11.73277	-0.00034
26	2	25	24	2	23	12.18546	0.00028
27	0	27	25	0	25	12.18405	-0.00004
27	1	26	25	1	24	12.63627	-0.00014
27	1	27	25	1	25	12.18405	-0.00004
27	2	26	25	2	24	12.63627	-0.00014
28	0	28	26	0	26	12.63486	-0.00019
28	1	27	26	1	25	13.08637	-0.00048
28	1	28	26	1	26	12.63486	-0.00019
28	2	27	26	2	25	13.08637	-0.00048
29	0	29	27	0	27	13.08567	-0.00023
29	1	28	27	1	26	13.53718	-0.00018
29	1	29	27	1	27	13.08567	-0.00023
29	2	28	27	2	26	13.53718	-0.00018
30	0	30	28	0	28	13.53694	0.00020
30	1	29	28	1	27	13.98917	0.00059
30	1	30	28	1	28	13.53694	0.00020
30	2	29	28	2	27	13.98917	0.00059
31	0	31	29	0	29	13.98752	-0.00003
31	1	30	29	1	28	14.43903	-0.00030
31	1	31	29	1	29	13.98752	-0.00003
31	2	30	29	2	28	14.43903	-0.00030
32	0	32	30	0	30	14.43856	0.00024
32	1	31	30	1	29	14.88984	-0.00023
32	1	32	30	1	30	14.43856	0.00024
32	2	31	30	2	29	14.88984	-0.00023
33	0	33	31	0	31	14.88937	0.00032
33	1	32	31	1	30	15.34088	0.00010
33	1	33	31	1	31	14.88937	0.00032
33	2	32	31	2	30	15.34088	0.00010
34	0	34	32	0	32	15.33971	-0.00004
34	1	33	32	1	31	15.79146	-0.00001
34	1	34	32	1	32	15.33971	-0.00004
34	2	33	32	2	31	15.79146	-0.00001
35	0	35	33	0	33	15.79028	-0.00013
35	1	35	33	1	33	15.79028	-0.00013
36	0	36	34	0	34	16.24109	0.00005
36	1	36	34	1	34	16.24109	0.00005
37	0	37	35	0	35	16.69213	0.00050
37	1	36	35	1	34	17.14364	0.00024
37	1	37	35	1	35	16.69213	0.00050
37	2	36	35	2	34	17.14364	0.00024

38	0	38	36	0	36	17.14223	0.00002
38	1	37	36	1	35	17.59422	0.00016
38	1	38	36	1	36	17.14223	0.00002
38	2	37	36	2	35	17.59422	0.00016
39	0	39	37	0	37	17.59280	0.00002
39	1	38	37	1	36	18.04479	0.00005
39	1	39	37	1	37	17.59280	0.00002
39	2	38	37	2	36	18.04479	0.00005
40	0	40	38	0	38	18.04338	-0.00001
40	1	39	38	1	37	18.49607	0.00054
40	1	40	38	1	38	18.04338	-0.00001
40	2	39	38	2	37	18.49607	0.00054
41	0	41	39	0	39	18.49395	-0.00012
41	1	40	39	1	38	18.94664	0.00015
41	1	41	39	1	39	18.49395	-0.00012
41	2	40	39	2	38	18.94664	0.00015
42	0	42	40	0	40	18.94499	0.00000
42	1	41	40	1	39	19.39792	0.00008
42	1	42	40	1	40	18.94499	0.00000
42	2	41	40	2	39	19.39792	0.00008
43	0	43	41	0	41	19.39651	-0.00005
43	1	42	41	1	40	19.84990	-0.00010
43	1	43	41	1	41	19.39651	-0.00005
43	2	42	41	2	40	19.84990	-0.00010
44	0	44	42	0	42	19.85037	0.00010
44	1	44	42	1	42	19.85037	0.00010

S.22 - Lower state combination difference list for the 999  $\text{cm}^{-1}$  band ( $0^0 \rightarrow 999 \text{ cm}^{-1}$ ) of malonaldehyde used in the multi-state fitting. All differences were weighted using an uncertainty of  $0.00028 \text{ cm}^{-1}$ .

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency ( $\text{cm}^{-1}$ )	Obs-Calc ( $\text{cm}^{-1}$ )
9	0	9	7	0	7	4.08952	-0.00027
10	0	10	8	0	8	4.54268	-0.00051
10	1	10	8	1	8	4.54268	0.00021
11	0	11	9	0	9	4.99655	-0.00044
11	1	11	9	1	9	4.99655	-0.00018
12	0	12	10	0	10	5.45113	0.00017
12	1	12	10	1	10	5.45113	0.00027
13	0	13	11	0	11	5.90499	0.00003
13	1	13	11	1	11	5.90499	0.00007
14	0	14	12	0	12	6.35933	0.00035
14	1	14	12	1	12	6.35933	0.00036
16	0	16	14	0	14	7.26683	-0.00016
16	1	16	14	1	14	7.26683	-0.00016
17	0	17	15	0	15	7.72047	-0.00051
17	1	17	15	1	15	7.72047	-0.00050
18	0	18	16	0	16	8.17504	0.00012
18	1	18	16	1	16	8.17504	0.00012
19	0	19	17	0	17	8.62867	-0.00017
19	1	19	17	1	17	8.62867	-0.00017
20	0	20	18	0	18	9.08278	0.00004
20	1	20	18	1	18	9.08278	0.00004
21	0	21	19	0	19	9.53664	0.00005
21	1	21	19	1	19	9.53664	0.00005
22	0	22	20	0	20	9.99004	-0.00037
22	1	22	20	1	20	9.99004	-0.00037
23	0	23	21	0	21	10.44414	-0.00005
23	1	22	21	1	20	10.89896	-0.00017
23	1	23	21	1	21	10.44414	-0.00005
23	2	22	21	2	20	10.89896	-0.00017
24	0	24	22	0	22	10.89801	0.00007
24	1	23	22	1	21	11.35282	0.00005
24	1	24	22	1	22	10.89801	0.00007
24	2	22	22	2	20	11.80881	-0.00008
24	2	23	22	2	21	11.35282	0.00005
24	3	22	22	3	20	11.80881	-0.00007
25	0	25	23	0	23	11.35188	0.00023
25	1	24	23	1	22	11.80622	-0.00016
25	1	25	23	1	23	11.35188	0.00023
25	2	23	23	2	21	12.26244	0.00021

25	2	24	23	2	22	11.80622	-0.00016
25	3	23	23	3	21	12.26244	0.00021
26	0	26	24	0	24	11.80528	-0.00003
26	1	25	24	1	23	12.26009	0.00013
26	1	26	24	1	24	11.80528	-0.00003
26	2	24	24	2	22	12.71561	0.00003
26	2	25	24	2	23	12.26009	0.00013
26	3	23	24	3	21	13.17324	-0.00037
26	3	24	24	3	22	12.71561	0.00003
26	4	23	24	4	21	13.17324	-0.00036
27	0	27	25	0	25	12.25891	-0.00001
27	1	26	25	1	24	12.71349	0.00000
27	1	27	25	1	25	12.25891	-0.00001
27	2	25	25	2	23	13.16900	0.00010
27	2	26	25	2	24	12.71349	0.00000
27	3	24	25	3	22	13.62640	-0.00003
27	3	25	25	3	23	13.16900	0.00010
27	4	24	25	4	22	13.62640	-0.00002
28	0	28	26	0	26	12.71254	0.00005
28	1	27	26	1	25	13.16712	0.00015
28	1	28	26	1	26	12.71254	0.00005
28	2	26	26	2	24	13.62169	-0.00050
28	2	27	26	2	25	13.16712	0.00015
28	3	25	26	3	23	14.07909	-0.00019
28	3	26	26	3	24	13.62169	-0.00050
28	4	25	26	4	23	14.07909	-0.00019
29	0	29	27	0	27	13.16618	0.00016
29	1	28	27	1	26	13.62052	0.00010
29	1	29	27	1	27	13.16618	0.00016
29	2	27	27	2	25	14.07509	-0.00036
29	2	28	27	2	26	13.62052	0.00010
29	3	26	27	3	24	14.53202	-0.00012
29	3	27	27	3	25	14.07509	-0.00036
29	4	26	27	4	24	14.53202	-0.00012
30	0	30	28	0	28	13.61981	0.00032
30	1	29	28	1	27	14.07391	0.00011
30	1	30	28	1	28	13.61981	0.00032
30	2	28	28	2	26	14.52896	0.00029
30	2	29	28	2	27	14.07391	0.00011
30	3	27	28	3	25	14.98518	0.00018
30	3	28	28	3	26	14.52896	0.00029
30	4	27	28	4	25	14.98518	0.00018
31	0	31	29	0	29	14.07274	-0.00017
31	1	31	29	1	29	14.07274	-0.00017
34	0	34	32	0	32	15.43293	0.00009
34	1	34	32	1	32	15.43293	0.00009

35	0	35	33	0	33	15.88585	-0.00018
35	1	35	33	1	33	15.88585	-0.00018
36	0	36	34	0	34	16.33949	0.00032
36	1	36	34	1	34	16.33949	0.00032
37	0	37	35	0	35	16.79265	0.00041
37	1	37	35	1	35	16.79265	0.00041
38	0	38	36	0	36	17.24510	-0.00014
38	1	38	36	1	36	17.24510	-0.00014
39	0	39	37	0	37	17.69827	0.00009
39	1	39	37	1	37	17.69827	0.00009
40	0	40	38	0	38	18.15119	0.00014
40	1	40	38	1	38	18.15119	0.00014
41	0	41	39	0	39	18.60388	0.00003
41	1	41	39	1	39	18.60388	0.00003
42	0	42	40	0	40	19.05681	0.00023
42	1	42	40	1	40	19.05681	0.00023
43	0	43	41	0	41	19.50927	0.00003
43	1	43	41	1	41	19.50927	0.00003
44	0	44	42	0	42	19.96172	-0.00010
44	1	43	42	1	41	20.41488	-0.00012
44	1	44	42	1	42	19.96172	-0.00010
44	2	43	42	2	41	20.41488	-0.00012
45	0	45	43	0	43	20.41441	0.00009
45	1	44	43	1	42	20.86758	0.00015
45	1	45	43	1	43	20.41441	0.00009
45	2	44	43	2	42	20.86758	0.00015
46	0	46	44	0	44	20.86663	-0.00011
46	1	46	44	1	44	20.86663	-0.00011
47	0	47	45	0	45	21.31909	0.00000
47	1	46	45	1	44	21.77202	0.00000
47	1	47	45	1	45	21.31909	0.00000
47	2	46	45	2	44	21.77202	0.00000
48	0	48	46	0	46	21.77107	-0.00028
48	1	47	46	1	45	22.22424	0.00005
48	1	48	46	1	46	21.77107	-0.00028
48	2	47	46	2	45	22.22424	0.00005
49	0	49	47	0	47	22.22353	0.00000
49	1	48	47	1	46	22.67645	0.00019
49	1	49	47	1	47	22.22353	0.00000
49	2	48	47	2	46	22.67645	0.00019
50	0	50	48	0	48	22.67551	-0.00010
50	1	49	48	1	47	23.12844	0.00018
50	1	50	48	1	48	22.67551	-0.00010
50	2	49	48	2	47	23.12844	0.00018
51	0	51	49	0	49	23.12773	0.00011
51	1	51	49	1	49	23.12773	0.00011

S.23 - Vibration-rotation line list for the 282 cm<sup>-1</sup> band (0<sup>0</sup> → 282 cm<sup>-1</sup>) of malonaldehyde.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )
6	6	0	5	5	0	286.31849
6	6	1	5	5	1	286.31849
7	7	0	6	6	0	286.97458
7	7	0	8	8	0	277.49834
7	7	1	6	6	1	286.97458
7	7	1	8	8	1	277.49834
8	7	1	7	6	1	287.22859
8	7	1	9	8	1	277.16827
8	7	2	7	6	2	287.22859
8	7	2	9	8	2	277.16827
8	8	0	7	7	0	287.63105
8	8	0	9	9	0	276.84291
8	8	1	7	7	1	287.63105
8	8	1	9	9	1	276.84291
9	0	9	9	1	9	282.48640
9	1	9	9	0	9	282.48640
9	8	1	8	7	1	287.88049
9	8	1	10	9	1	276.50830
9	8	2	8	7	2	287.88049
9	8	2	10	9	2	276.50830
9	9	0	8	8	0	288.28781
9	9	0	10	10	0	276.18782
9	9	1	8	8	1	288.28781
9	9	1	10	10	1	276.18782
10	0	10	10	1	10	282.46979
10	1	10	10	0	10	282.46979
10	9	1	9	8	1	288.53307
10	9	1	11	10	1	275.84896
10	9	2	9	8	2	288.53307
10	9	2	11	10	2	275.84896
10	10	0	9	9	0	288.94513
10	10	0	11	11	0	275.53320
10	10	1	9	9	1	288.94513
10	10	1	11	11	1	275.53320
11	0	11	11	1	11	282.45220
11	1	10	11	2	10	282.39386
11	1	11	11	0	11	282.45220
11	2	10	11	1	10	282.39852
11	10	1	10	9	1	289.18597
11	10	1	12	11	1	275.19000



11	10	2	10	9	2	289.18597
11	10	2	12	11	2	275.19000
11	11	0	10	10	0	289.60256
11	11	0	12	12	0	274.87911
11	11	1	10	10	1	289.60256
11	11	1	12	12	1	274.87911
12	0	12	12	1	12	282.43297
12	1	11	12	2	11	282.37122
12	1	12	12	0	12	282.43297
12	2	11	12	1	11	282.37288
12	11	1	11	10	1	289.83909
12	11	1	13	12	1	274.53162
12	11	2	11	10	2	289.83909
12	11	2	13	12	2	274.53162
12	12	0	11	11	0	290.26037
12	12	0	13	13	0	274.22531
12	12	1	11	11	1	290.26037
12	12	1	13	13	1	274.22531
13	0	13	13	1	13	282.41259
13	1	12	13	2	12	282.34682
13	1	13	13	0	13	282.41259
13	2	12	13	1	12	282.34682
13	12	1	12	11	1	290.49266
13	12	1	14	13	1	273.87366
13	12	2	12	11	2	290.49266
13	12	2	14	13	2	273.87366
13	13	0	12	12	0	290.91848
13	13	1	12	12	1	290.91848
14	0	14	14	1	14	282.39050
14	1	13	14	2	13	282.31970
14	1	14	14	0	14	282.39050
14	2	13	14	1	13	282.31970
14	13	1	13	12	1	291.14692
14	13	1	15	14	1	273.21670
14	13	2	13	12	2	291.14692
14	13	2	15	14	2	273.21670
14	14	0	13	13	0	291.57701
14	14	0	15	15	0	272.91906
14	14	1	13	13	1	291.57701
14	14	1	15	15	1	272.91906
15	0	15	15	1	15	282.36726
15	1	14	15	2	14	282.29141
15	1	15	15	0	15	282.36726
15	2	14	15	1	14	282.29141
15	3	13	15	2	13	282.21763
15	14	1	14	13	1	291.80167

15	14	1	16	15	1	272.56012
15	14	2	14	13	2	291.80167
15	14	2	16	15	2	272.56012
15	15	0	14	14	0	292.23578
15	15	0	16	16	0	272.26679
15	15	1	14	14	1	292.23578
15	15	1	16	16	1	272.26679
16	0	16	16	1	16	282.34260
16	1	16	16	0	16	282.34260
16	2	14	16	3	14	282.18038
16	3	14	16	2	14	282.18235
16	15	1	15	14	1	292.45693
16	15	1	17	16	1	271.90435
16	15	2	15	14	2	292.45693
16	15	2	17	16	2	271.90435
16	16	0	15	15	0	292.89488
16	16	0	17	17	0	271.61471
16	16	1	15	15	1	292.89488
16	16	1	17	17	1	271.61471
17	0	17	17	1	17	282.31657
17	1	17	17	0	17	282.31657
17	16	1	16	15	1	293.11296
17	16	1	18	17	1	271.24925
17	16	2	16	15	2	293.11296
17	16	2	18	17	2	271.24925
17	17	0	16	16	0	293.55424
17	17	0	18	18	0	270.96306
17	17	1	16	16	1	293.55424
17	17	1	18	18	1	270.96306
18	0	18	18	1	18	282.28935
18	1	18	18	0	18	282.28935
18	2	16	18	3	16	282.10762
18	3	16	18	2	16	282.10762
18	17	1	17	16	1	293.76972
18	17	1	19	18	1	270.59527
18	17	2	17	16	2	293.76972
18	17	2	19	18	2	270.59527
18	18	0	17	17	0	294.21406
18	18	0	19	19	0	270.31191
18	18	1	17	17	1	294.21406
18	18	1	19	19	1	270.31191
19	1	18	19	2	18	282.16398
19	2	18	19	1	18	282.16398
19	19	0	18	18	0	294.87391
19	19	0	20	20	0	269.66126
19	19	1	18	18	1	294.87391

19	19	1	20	20	1	269.66126
20	2	18	20	3	18	282.02893
20	3	18	20	2	18	282.02893
20	20	0	19	19	0	295.53429
20	20	0	21	21	0	269.01092
20	20	1	19	19	1	295.53429
20	20	1	21	21	1	269.01092
21	0	21	21	1	21	282.19762
21	1	21	21	0	21	282.19762
21	2	19	21	3	19	281.98820
21	3	19	21	2	19	281.98820
21	21	0	20	20	0	296.19485
21	21	0	22	22	0	268.36105
21	21	1	20	20	1	296.19485
21	21	1	22	22	1	268.36105
22	1	21	22	2	21	282.05543
22	2	21	22	1	21	282.05543
22	22	0	21	21	0	296.85566
22	22	0	23	23	0	267.71141
22	22	1	21	21	1	296.85566
22	22	1	23	23	1	267.71141
23	0	23	23	1	23	282.12903
23	1	23	23	0	23	282.12903
23	23	0	22	22	0	297.51658
23	23	0	24	24	0	267.06248
23	23	1	22	22	1	297.51658
23	23	1	24	24	1	267.06248
24	24	0	25	25	0	266.41389
24	24	1	25	25	1	266.41389
25	0	25	25	1	25	282.05543
25	1	25	25	0	25	282.05543
26	0	26	26	1	26	282.01723
26	1	26	26	0	26	282.01723

S.24 - Vibration-rotation line list for the 506 cm<sup>-1</sup> band (0<sup>1</sup> → 527 cm<sup>-1</sup>) of malonaldehyde.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )
10	0	10	9	0	9	508.03390
10	0	10	11	0	11	503.06805
10	1	10	9	1	9	508.03390
10	1	10	11	1	11	503.06805
11	0	11	10	0	10	508.25619
11	0	11	12	0	12	502.83894
11	1	11	10	1	10	508.25619
11	1	11	12	1	12	502.83894
12	0	12	11	0	11	508.47794
12	0	12	13	0	13	502.60959
12	1	12	11	1	11	508.47794
12	1	12	13	1	13	502.60959
13	0	13	12	0	12	508.69958
13	0	13	14	0	14	502.37990
13	1	13	12	1	12	508.69958
13	1	13	14	1	14	502.37990
14	0	14	13	0	13	508.92086
14	0	14	15	0	15	502.14996
14	1	14	13	1	13	508.92086
14	1	14	15	1	15	502.14996
15	0	15	14	0	14	509.14161
15	0	15	16	0	16	501.91979
15	1	15	14	1	14	509.14161
15	1	15	16	1	16	501.91979
15	3	13	14	3	12	509.60625
15	3	13	16	3	14	501.47352
16	0	16	15	0	15	509.36231
16	0	16	17	0	17	501.68903
16	1	16	15	1	15	509.36231
16	1	16	17	1	17	501.68903
16	3	14	15	3	13	509.82829
16	3	14	17	3	15	501.24529
17	0	17	16	0	16	509.58265
17	0	17	18	0	18	501.45816
17	1	16	16	1	15	509.81529
17	1	16	18	1	17	501.23794
17	1	17	16	1	16	509.58265
17	1	17	18	1	18	501.45816
17	2	15	16	2	14	510.04964
17	2	15	18	2	16	501.01583

17	2	16	16	2	15	509.81529
17	2	16	18	2	17	501.23794
17	3	15	16	3	14	510.04964
17	3	15	18	3	16	501.01583
18	0	18	17	0	17	509.80252
18	0	18	19	0	19	501.22693
18	1	17	17	1	16	510.03575
18	1	17	19	1	18	501.00741
18	1	18	17	1	17	509.80252
18	1	18	19	1	19	501.22693
18	2	17	17	2	16	510.03575
18	2	17	19	2	18	501.00741
19	0	19	18	0	18	510.02233
19	0	19	20	0	20	500.99535
19	1	18	18	1	17	510.25591
19	1	18	20	1	19	500.77642
19	1	19	18	1	18	510.02233
19	1	19	20	1	20	500.99535
19	2	17	18	2	16	510.48967
19	2	17	20	2	18	500.55531
19	2	18	18	2	17	510.25591
19	2	18	20	2	19	500.77642
19	3	17	18	3	16	510.48967
19	3	17	20	3	18	500.55531
20	0	20	19	0	19	510.24161
20	0	20	21	0	21	500.76377
20	1	19	19	1	18	510.47596
20	1	19	21	1	20	500.54554
20	1	20	19	1	19	510.24161
20	1	20	21	1	21	500.76377
20	2	18	19	2	17	510.70989
20	2	18	21	2	19	500.32497
20	2	19	19	2	18	510.47596
20	2	19	21	2	20	500.54554
20	3	18	19	3	17	510.70989
20	3	18	21	3	19	500.32497
21	0	21	20	0	20	510.46077
21	0	21	22	0	22	500.53166
21	1	20	20	1	19	510.69524
21	1	20	22	1	21	500.31384
21	1	21	20	1	20	510.46077
21	1	21	22	1	22	500.53166
21	2	19	20	2	18	510.93012
21	2	19	22	2	20	500.09456
21	2	20	20	2	19	510.69524
21	2	20	22	2	21	500.31384

21	3	19	20	3	18	510.93012
21	3	19	22	3	20	500.09456
22	0	22	21	0	21	510.67959
22	0	22	23	0	23	500.29954
22	1	21	21	1	20	510.91499
22	1	21	23	1	22	500.08285
22	1	22	21	1	21	510.67959
22	1	22	23	1	23	500.29954
22	2	20	21	2	19	511.15058
22	2	20	23	2	21	499.86433
22	2	21	21	2	20	510.91499
22	2	21	23	2	22	500.08285
22	3	20	21	3	19	511.15058
22	3	20	23	3	21	499.86433
23	0	23	22	0	22	510.89822
23	0	23	24	0	24	500.06702
23	1	22	22	1	21	511.13427
23	1	22	24	1	23	499.85080
23	1	23	22	1	22	510.89822
23	1	23	24	1	24	500.06702
23	2	21	22	2	20	511.36921
23	2	21	24	2	22	499.63234
23	2	22	22	2	21	511.13427
23	2	22	24	2	23	499.85080
23	3	21	22	3	20	511.36921
23	3	21	24	3	22	499.63234
24	0	24	23	0	23	511.11644
24	0	24	25	0	25	499.83438
24	1	23	23	1	22	511.35338
24	1	23	25	1	24	499.61898
24	1	24	23	1	23	511.11644
24	1	24	25	1	25	499.83438
24	2	22	23	2	21	511.58890
24	2	22	25	2	23	499.40135
24	2	23	23	2	22	511.35338
24	2	23	25	2	24	499.61898
24	3	22	23	3	21	511.58890
24	3	22	25	3	23	499.40135
25	0	25	24	0	24	511.33467
25	0	25	26	0	26	499.60150
25	1	24	24	1	23	511.57231
25	1	24	26	1	25	499.38728
25	1	25	24	1	24	511.33467
25	1	25	26	1	26	499.60150
25	2	23	24	2	22	511.80860
25	2	23	26	2	24	499.17024

25	2	24	24	2	23	511.57231
25	2	24	26	2	25	499.38728
25	3	23	24	3	22	511.80860
25	3	23	26	3	24	499.17024
26	0	26	25	0	25	511.55248
26	0	26	27	0	27	499.36845
26	1	25	25	1	24	511.79130
26	1	25	27	1	26	499.15494
26	1	26	25	1	25	511.55248
26	1	26	27	1	27	499.36845
26	2	25	25	2	24	511.79130
26	2	25	27	2	26	499.15494
27	0	27	26	0	26	511.77058
27	0	27	28	0	28	499.13546
27	1	26	26	1	25	512.01011
27	1	26	28	1	27	498.92335
27	1	27	26	1	26	511.77058
27	1	27	28	1	28	499.13546
27	2	25	26	2	24	512.24828
27	2	25	28	2	26	498.70831
27	2	26	26	2	25	512.01011
27	2	26	28	2	27	498.92335
27	3	25	26	3	24	512.24828
27	3	25	28	3	26	498.70831
28	1	27	27	1	26	512.22880
28	1	27	29	1	28	498.69160
28	2	26	27	2	25	512.46797
28	2	26	29	2	27	498.47785
28	2	27	27	2	26	512.22880
28	2	27	29	2	28	498.69160
28	3	26	27	3	25	512.46797
28	3	26	29	3	27	498.47785
29	1	28	28	1	27	512.44873
29	1	28	30	1	29	498.46019
29	2	27	28	2	26	512.68802
29	2	27	30	2	28	498.24703
29	2	28	28	2	27	512.44873
29	2	28	30	2	29	498.46019
29	3	27	28	3	26	512.68802
29	3	27	30	3	28	498.24703
30	0	30	29	0	29	512.42478
30	0	30	31	0	31	498.43712
30	1	29	29	1	28	512.66878
30	1	29	31	1	30	498.22961
30	1	30	29	1	29	512.42478
30	1	30	31	1	31	498.43712

30	2	28	29	2	27	512.90942
30	2	28	31	2	29	498.01757
30	2	29	29	2	28	512.66878
30	2	29	31	2	30	498.22961
30	3	28	29	3	27	512.90942
30	3	28	31	3	29	498.01757
31	0	31	30	0	30	512.64394
31	0	31	32	0	32	498.20571
31	1	30	30	1	29	512.89006
31	1	30	32	1	31	498.00003
31	1	31	30	1	30	512.64394
31	1	31	32	1	32	498.20571
31	2	29	30	2	28	513.13129
31	2	29	32	2	30	497.78887
31	2	30	30	2	29	512.89006
31	2	30	32	2	31	498.00003
31	3	29	30	3	28	513.13129
31	3	29	32	3	30	497.78887
32	2	30	31	2	29	513.35516
32	2	30	33	2	31	497.56235
32	3	30	31	3	29	513.35516
32	3	30	33	3	31	497.56235



S.25 - Vibration-rotation line list for the  $512\text{ cm}^{-1}$  band ( $0^0 \rightarrow 512\text{ cm}^{-1}$ ) of malonaldehyde.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )
9	0	9	8	0	8	513.99300
9	0	9	10	0	10	509.45029
9	1	9	8	1	8	513.99300
9	1	9	10	1	10	509.45029
10	0	10	9	0	9	514.21305
10	0	10	11	0	11	509.21624
10	1	10	9	1	9	514.21305
10	1	10	11	1	11	509.21624
11	0	11	10	0	10	514.43221
11	0	11	12	0	12	508.98130
11	1	11	10	1	10	514.43221
11	1	11	12	1	12	508.98130
12	0	12	11	0	11	514.65067
12	0	12	13	0	13	508.74560
12	1	11	11	1	10	514.87672
12	1	11	13	1	12	508.51413
12	1	12	11	1	11	514.65067
12	1	12	13	1	13	508.74560
13	0	13	12	0	12	514.86848
13	0	13	14	0	14	508.50949
13	1	12	12	1	11	515.09371
13	1	12	14	1	13	508.27814
13	1	13	12	1	12	514.86848
13	1	13	14	1	14	508.50949
13	2	12	12	2	11	515.09371
13	2	12	14	2	13	508.27814
14	0	14	13	0	13	515.08552
14	0	14	15	0	15	508.27249
14	1	13	13	1	12	515.31052
14	1	13	15	1	14	508.04114
14	1	14	13	1	13	515.08552
14	1	14	15	1	15	508.27249
14	2	13	13	2	12	515.31052
14	2	13	15	2	14	508.04114
15	0	15	14	0	14	515.30192
15	0	15	16	0	16	508.03502
15	1	14	14	1	13	515.52638
15	1	14	16	1	15	507.80350
15	1	15	14	1	14	515.30192
15	1	15	16	1	16	508.03502

15	2	14	14	2	13	515.52638
15	2	14	16	2	15	507.80350
15	3	13	14	3	12	515.75179
15	3	13	16	3	14	507.56915
16	0	16	15	0	15	515.51750
16	0	16	17	0	17	507.79661
16	1	15	15	1	14	515.74196
16	1	15	17	1	16	507.56503
16	1	16	15	1	15	515.51750
16	1	16	17	1	17	507.79661
16	2	14	15	2	13	515.96748
16	2	14	17	2	15	507.33063
16	2	15	15	2	14	515.74196
16	2	15	17	2	16	507.56503
17	0	17	16	0	16	515.73254
17	0	17	18	0	18	507.55756
17	1	16	16	1	15	515.95647
17	1	16	18	1	17	507.32598
17	1	17	16	1	16	515.73254
17	1	17	18	1	18	507.55756
17	2	15	16	2	14	516.18105
17	2	15	18	2	16	507.09192
17	2	16	16	2	15	515.95647
17	2	16	18	2	17	507.32598
17	3	15	16	3	14	516.18105
17	3	15	18	3	16	507.09192
18	0	18	17	0	17	515.94670
18	0	18	19	0	19	507.31791
18	1	17	17	1	16	516.17046
18	1	17	19	1	18	507.08633
18	1	18	17	1	17	515.94670
18	1	18	19	1	19	507.31791
18	2	16	17	2	15	516.39456
18	2	16	19	2	17	506.85222
18	2	17	17	2	16	516.17046
18	2	17	19	2	18	507.08633
18	3	16	17	3	15	516.39456
18	3	16	19	3	17	506.85222
19	0	19	18	0	18	516.16016
19	0	19	20	0	20	507.07756
19	1	18	18	1	17	516.38374
19	1	18	20	1	19	506.84575
19	1	19	18	1	18	516.16016
19	1	19	20	1	20	507.07756
19	2	17	18	2	16	516.60726
19	2	17	20	2	18	506.61169

19	2	18	18	2	17	516.38374
19	2	18	20	2	19	506.84575
19	3	17	18	3	16	516.60726
19	3	17	20	3	18	506.61169
19	4	16	18	4	15	516.83254
19	4	16	20	4	17	506.37399
20	0	20	19	0	19	516.37303
20	0	20	21	0	21	506.83645
20	1	19	19	1	18	516.59613
20	1	19	21	1	20	506.60439
20	1	20	19	1	19	516.37303
20	1	20	21	1	21	506.83645
20	2	18	19	2	17	516.81930
20	2	18	21	2	19	506.37063
20	2	19	19	2	18	516.59613
20	2	19	21	2	20	506.60439
20	3	17	19	3	16	517.04417
20	3	17	21	3	18	506.13299
20	3	18	19	3	17	516.81930
20	3	18	21	3	19	506.37063
20	4	17	19	4	16	517.04417
20	4	17	21	4	18	506.13299
21	0	21	20	0	20	516.58507
21	0	21	22	0	22	506.59474
21	1	20	20	1	19	516.80800
21	1	20	22	1	21	506.36263
21	1	21	20	1	20	516.58507
21	1	21	22	1	22	506.59474
21	2	19	20	2	18	517.03087
21	2	19	22	2	20	506.12864
21	2	20	20	2	19	516.80800
21	2	20	22	2	21	506.36263
21	3	19	20	3	18	517.03087
21	3	19	22	3	20	506.12864
21	4	18	20	4	17	517.25462
21	4	18	22	4	19	505.89199
22	0	22	21	0	21	516.79640
22	0	22	23	0	23	506.35233
22	1	21	21	1	20	517.01910
22	1	21	23	1	22	506.12004
22	1	22	21	1	21	516.79640
22	1	22	23	1	23	506.35233
22	2	20	21	2	19	517.24162
22	2	20	23	2	21	505.88611
22	2	21	21	2	20	517.01910
22	2	21	23	2	22	506.12004

22	3	19	21	3	18	517.46455
22	3	19	23	3	20	505.64917
22	3	20	21	3	19	517.24162
22	3	20	23	3	21	505.88611
22	4	19	21	4	18	517.46455
22	4	19	23	4	20	505.64917
23	0	23	22	0	22	517.00709
23	0	23	24	0	24	506.10910
23	1	22	22	1	21	517.22955
23	1	22	24	1	23	505.87669
23	1	23	22	1	22	517.00709
23	1	23	24	1	24	506.10910
23	2	21	22	2	20	517.45137
23	2	21	24	2	22	505.64270
23	2	22	22	2	21	517.22955
23	2	22	24	2	23	505.87669
23	3	20	22	3	19	517.67406
23	3	20	24	3	21	505.40600
23	3	21	22	3	20	517.45137
23	3	21	24	3	22	505.64270
23	4	19	22	4	18	517.89858
23	4	19	24	4	20	505.16476
23	4	20	22	4	19	517.67406
23	4	20	24	4	21	505.40600
23	5	19	22	5	18	517.89858
23	5	19	24	5	20	505.16476
24	0	24	23	0	23	517.21690
24	0	24	25	0	25	505.86539
24	1	23	23	1	22	517.43918
24	1	23	25	1	24	505.63281
24	1	24	23	1	23	517.21690
24	1	24	25	1	25	505.86539
24	2	22	23	2	21	517.66094
24	2	22	25	2	23	505.39864
24	2	23	23	2	22	517.43918
24	2	23	25	2	24	505.63281
24	3	21	23	3	20	517.88275
24	3	21	25	3	22	505.16194
24	3	22	23	3	21	517.66094
24	3	22	25	3	23	505.39864
24	4	20	23	4	19	518.10627
24	4	20	25	4	21	504.92123
24	4	21	23	4	20	517.88275
24	4	21	25	4	22	505.16194
24	5	20	23	5	19	518.10627
24	5	20	25	5	21	504.92123

25	0	25	24	0	24	517.42624
25	0	25	26	0	26	505.62098
25	1	24	24	1	23	517.64817
25	1	24	26	1	25	505.38822
25	1	25	24	1	24	517.42624
25	1	25	26	1	26	505.62098
25	2	23	24	2	22	517.86933
25	2	23	26	2	24	505.15382
25	2	24	24	2	23	517.64817
25	2	24	26	2	25	505.38822
25	3	22	24	3	21	518.09056
25	3	22	26	3	23	504.91717
25	3	23	24	3	22	517.86933
25	3	23	26	3	24	505.15382
25	4	21	24	4	20	518.31319
25	4	21	26	4	22	504.67688
25	4	22	24	4	21	518.09056
25	4	22	26	4	23	504.91717
25	5	21	24	5	20	518.31319
25	5	21	26	5	22	504.67688
26	0	26	25	0	25	517.63457
26	0	26	27	0	27	505.37575
26	1	25	25	1	24	517.85633
26	1	25	27	1	26	505.14293
26	1	26	25	1	25	517.63457
26	1	26	27	1	27	505.37575
26	2	24	25	2	23	518.07714
26	2	24	27	2	25	504.90840
26	2	25	25	2	24	517.85633
26	2	25	27	2	26	505.14293
26	3	23	25	3	22	518.29766
26	3	23	27	3	24	504.67152
26	3	24	25	3	23	518.07714
26	3	24	27	3	25	504.90840
26	4	22	25	4	21	518.51953
26	4	22	27	4	23	504.43117
26	4	23	25	4	22	518.29766
26	4	23	27	4	24	504.67152
26	5	21	25	5	20	518.74422
26	5	21	27	5	22	504.18629
26	5	22	25	5	21	518.51953
26	5	22	27	5	23	504.43117
27	0	27	26	0	26	517.84238
27	0	27	28	0	28	505.12998
27	1	26	26	1	25	518.06390
27	1	26	28	1	27	504.89693

27	1	27	26	1	26	517.84238
27	1	27	28	1	28	505.12998
27	2	25	26	2	24	518.28406
27	2	25	28	2	26	504.66193
27	2	26	26	2	25	518.06390
27	2	26	28	2	27	504.89693
27	3	24	26	3	23	518.50422
27	3	24	28	3	25	504.42505
27	3	25	26	3	24	518.28406
27	3	25	28	3	26	504.66193
27	4	23	26	4	22	518.72498
27	4	23	28	4	24	504.18517
27	4	24	26	4	23	518.50422
27	4	24	28	4	25	504.42505
27	5	22	26	5	21	518.94814
27	5	22	28	5	23	503.94047
27	5	23	26	5	22	518.72498
27	5	23	28	5	24	504.18517
27	6	22	26	6	21	518.94814
27	6	22	28	6	23	503.94047
28	0	28	27	0	27	518.04942
28	0	28	29	0	29	504.88345
28	1	27	27	1	26	518.27047
28	1	27	29	1	28	504.65010
28	1	28	27	1	27	518.04942
28	1	28	29	1	29	504.88345
28	2	26	27	2	25	518.49028
28	2	26	29	2	27	504.41493
28	2	27	27	2	26	518.27047
28	2	27	29	2	28	504.65010
28	3	25	27	3	24	518.70968
28	3	25	29	3	26	504.17764
28	3	26	27	3	25	518.49028
28	3	26	29	3	27	504.41493
28	4	24	27	4	23	518.92961
28	4	24	29	4	25	503.93782
28	4	25	27	4	24	518.70968
28	4	25	29	4	26	504.17764
28	5	23	27	5	22	519.15212
28	5	23	29	5	24	503.69358
28	5	24	27	5	23	518.92961
28	5	24	29	5	25	503.93782
28	6	23	27	6	22	519.15212
28	6	23	29	6	24	503.69358
29	0	29	28	0	28	518.25569
29	0	29	30	0	30	504.63633

29	1	28	28	1	27	518.47609
29	1	28	30	1	29	504.40234
29	1	29	28	1	28	518.25569
29	1	29	30	1	30	504.63633
29	2	27	28	2	26	518.69549
29	2	27	30	2	28	504.16693
29	2	28	28	2	27	518.47609
29	2	28	30	2	29	504.40234
29	3	26	28	3	25	518.91430
29	3	26	30	3	27	503.92923
29	3	27	28	3	26	518.69549
29	3	27	30	3	28	504.16693
29	4	25	28	4	24	519.13370
29	4	25	30	4	26	503.68929
29	4	26	28	4	25	518.91430
29	4	26	30	4	27	503.92923
29	5	24	28	5	23	519.35440
29	5	24	30	5	25	503.44576
29	5	25	28	5	24	519.13370
29	5	25	30	5	26	503.68929
29	6	24	28	6	23	519.35440
29	6	24	30	6	25	503.44576
30	0	30	29	0	29	518.46138
30	0	30	31	0	31	504.38857
30	1	29	29	1	28	518.67896
30	1	29	31	1	30	504.15192
30	1	30	29	1	29	518.46138
30	1	30	31	1	31	504.38857
30	2	28	29	2	27	518.89936
30	2	28	31	2	29	503.91763
30	2	29	29	2	28	518.67896
30	2	29	31	2	30	504.15192
30	3	27	29	3	26	519.11770
30	3	27	31	3	28	503.67999
30	3	28	29	3	27	518.89936
30	3	28	31	3	29	503.91763
30	4	26	29	4	25	519.33615
30	4	26	31	4	27	503.43982
30	4	27	29	4	26	519.11770
30	4	27	31	4	28	503.67999
30	5	25	29	5	24	519.55602
30	5	25	31	5	26	503.19629
30	5	26	29	5	25	519.33615
30	5	26	31	5	27	503.43982
30	6	25	29	6	24	519.55602
30	6	25	31	6	26	503.19629

31	0	31	30	0	30	518.66618
31	0	31	32	0	32	504.14009
31	1	30	30	1	29	518.88912
31	1	30	32	1	31	503.90875
31	1	31	30	1	30	518.66618
31	1	31	32	1	32	504.14009
31	2	30	30	2	29	518.88912
31	2	30	32	2	31	503.90875
31	3	28	30	3	27	519.31926
31	3	28	32	3	29	503.42869
31	4	27	30	4	26	519.53737
31	4	27	32	4	28	503.18875
31	4	28	30	4	27	519.31926
31	4	28	32	4	29	503.42869
31	5	26	30	5	25	519.75636
31	5	26	32	5	27	502.94564
31	5	27	30	5	26	519.53737
31	5	27	32	5	28	503.18875
31	6	26	30	6	25	519.75636
31	6	26	32	6	27	502.94564
32	0	32	31	0	31	518.87040
32	0	32	33	0	33	503.89091
32	1	31	31	1	30	519.09186
32	1	31	33	1	32	503.65839
32	1	32	31	1	31	518.87040
32	1	32	33	1	33	503.89091
32	2	31	31	2	30	519.09186
32	2	31	33	2	32	503.65839
32	4	28	31	4	27	519.73617
32	4	28	33	4	29	502.93540
32	5	27	31	5	26	519.95474
32	5	27	33	5	28	502.69293
32	5	28	31	5	27	519.73617
32	5	28	33	5	29	502.93540
32	6	27	31	6	26	519.95474
32	6	27	33	6	28	502.69293
33	0	33	32	0	32	519.07385
33	0	33	34	0	34	503.64103
33	1	32	32	1	31	519.29478
33	1	32	34	1	33	503.40809
33	1	33	32	1	32	519.07385
33	1	33	34	1	34	503.64103
33	2	32	32	2	31	519.29478
33	2	32	34	2	33	503.40809
33	4	29	32	4	28	519.93320
33	4	29	34	4	30	502.68027



33	5	28	32	5	27	520.15090
33	5	28	34	5	29	502.43775
33	5	29	32	5	28	519.93320
33	5	29	34	5	30	502.68027
33	6	28	32	6	27	520.15090
33	6	28	34	6	29	502.43775
34	0	34	33	0	33	519.27660
34	0	34	35	0	35	503.39062
34	1	33	33	1	32	519.49723
34	1	33	35	1	34	503.15739
34	1	34	33	1	33	519.27660
34	1	34	35	1	35	503.39062
34	2	33	33	2	32	519.49723
34	2	33	35	2	34	503.15739
35	0	35	34	0	34	519.47857
35	0	35	36	0	36	503.13950
35	1	34	34	1	33	519.69897
35	1	34	36	1	35	502.90603
35	1	35	34	1	34	519.47857
35	1	35	36	1	36	503.13950
35	2	34	34	2	33	519.69897
35	2	34	36	2	35	502.90603
36	0	36	35	0	35	519.67973
36	0	36	37	0	37	502.88773
36	1	35	35	1	34	519.90013
36	1	35	37	1	36	502.65409
36	1	36	35	1	35	519.67973
36	1	36	37	1	37	502.88773
36	2	35	35	2	34	519.90013
36	2	35	37	2	36	502.65409
37	0	37	36	0	36	519.88041
37	0	37	38	0	38	502.63525
37	1	36	36	1	35	520.10029
37	1	36	38	1	37	502.40149
37	1	37	36	1	36	519.88041
37	1	37	38	1	38	502.63525
37	2	36	36	2	35	520.10029
37	2	36	38	2	37	502.40149
38	0	38	37	0	37	520.08028
38	0	38	39	0	39	502.38219
38	1	37	37	1	36	520.29985
38	1	37	39	1	38	502.14825
38	1	38	37	1	37	520.08028
38	1	38	39	1	39	502.38219
38	2	37	37	2	36	520.29985
38	2	37	39	2	38	502.14825

39	0	39	38	0	38	520.27943
39	0	39	40	0	40	502.12854
39	1	38	38	1	37	520.49877
39	1	38	40	1	39	501.89431
39	1	39	38	1	38	520.27943
39	1	39	40	1	40	502.12854
39	2	38	38	2	37	520.49877
39	2	38	40	2	39	501.89431
40	0	40	39	0	39	520.47782
40	0	40	41	0	41	501.87412
40	1	39	39	1	38	520.69698
40	1	39	41	1	40	501.63978
40	1	40	39	1	39	520.47782
40	1	40	41	1	41	501.87412
40	2	39	39	2	38	520.69698
40	2	39	41	2	40	501.63978
41	0	41	40	0	40	520.67544
41	0	41	42	0	42	501.61894
41	1	40	40	1	39	520.89443
41	1	40	42	1	41	501.38459
41	1	41	40	1	40	520.67544
41	1	41	42	1	42	501.61894
41	2	40	40	2	39	520.89443
41	2	40	42	2	41	501.38459
42	0	42	41	0	41	520.87242
42	0	42	43	0	43	501.36329
42	1	41	41	1	40	521.09111
42	1	41	43	1	42	501.12877
42	1	42	41	1	41	520.87242
42	1	42	43	1	43	501.36329
42	2	41	41	2	40	521.09111
42	2	41	43	2	42	501.12877
43	0	43	42	0	42	521.06857
43	0	43	44	0	44	501.10664
43	1	42	42	1	41	521.28715
43	1	42	44	1	43	500.87235
43	1	43	42	1	42	521.06857
43	1	43	44	1	44	501.10664
43	2	42	42	2	41	521.28715
43	2	42	44	2	43	500.87235
44	0	44	43	0	43	521.26431
44	0	44	45	0	45	500.84993
44	1	43	43	1	42	521.48242
44	1	43	45	1	44	500.61534
44	1	44	43	1	43	521.26431
44	1	44	45	1	45	500.84993

44	2	43	43	2	42	521.48242
44	2	43	45	2	44	500.61534
45	0	45	44	0	44	521.45900
45	0	45	46	0	46	500.59233
45	1	44	44	1	43	521.67698
45	1	44	46	1	45	500.35734
45	1	45	44	1	44	521.45900
45	1	45	46	1	46	500.59233
45	2	44	44	2	43	521.67698
45	2	44	46	2	45	500.35734
46	0	46	45	0	45	521.65303
46	0	46	47	0	47	500.33403
46	1	45	45	1	44	521.87096
46	1	45	47	1	46	500.09904
46	1	46	45	1	45	521.65303
46	1	46	47	1	47	500.33403
46	2	45	45	2	44	521.87096
46	2	45	47	2	46	500.09904
47	0	47	46	0	46	521.84636
47	0	47	48	0	48	500.07497
47	1	46	46	1	45	522.06411
47	1	46	48	1	47	499.84021
47	1	47	46	1	46	521.84636
47	1	47	48	1	48	500.07497
47	2	46	46	2	45	522.06411
47	2	46	48	2	47	499.84021
48	0	48	47	0	47	522.03910
48	0	48	49	0	49	499.81555
48	1	47	47	1	46	522.25656
48	1	47	49	1	48	499.58037
48	1	48	47	1	47	522.03910
48	1	48	49	1	49	499.81555
48	2	47	47	2	46	522.25656
48	2	47	49	2	48	499.58037
49	0	49	48	0	48	522.23096
49	0	49	50	0	50	499.55542
49	1	48	48	1	47	522.44829
49	1	48	50	1	49	499.32001
49	1	49	48	1	48	522.23096
49	1	49	50	1	50	499.55542
49	2	48	48	2	47	522.44829
49	2	48	50	2	49	499.32001
50	0	50	49	0	49	522.42216
50	0	50	51	0	51	499.29471
50	1	49	49	1	48	522.63927
50	1	49	51	1	50	499.05907

50	1	50	49	1	49	522.42216
50	1	50	51	1	51	499.29471
50	2	48	49	2	47	522.85061
50	2	48	51	2	49	498.82019
50	2	49	49	2	48	522.63927
50	2	49	51	2	50	499.05907
50	3	48	49	3	47	522.85061
50	3	48	51	3	49	498.82019
51	0	51	50	0	50	522.61267
51	0	51	52	0	52	499.03323
51	1	50	50	1	49	522.82948
51	1	50	52	1	51	498.79759
51	1	51	50	1	50	522.61267
51	1	51	52	1	52	499.03323
51	2	49	50	2	48	523.04182
51	2	49	52	2	50	498.55900
51	2	50	50	2	49	522.82948
51	2	50	52	2	51	498.79759
51	3	49	50	3	48	523.04182
51	3	49	52	3	50	498.55900
52	0	52	51	0	51	522.80241
52	0	52	53	0	53	498.77110
52	1	51	51	1	50	523.01904
52	1	51	53	1	52	498.53540
52	1	52	51	1	51	522.80241
52	1	52	53	1	53	498.77110
52	2	50	51	2	49	523.23202
52	2	50	53	2	51	498.29711
52	2	51	51	2	50	523.01904
52	2	51	53	2	52	498.53540
52	3	49	51	3	48	523.43924
52	3	49	53	3	50	498.05500
52	3	50	51	3	49	523.23202
52	3	50	53	3	51	498.29711
52	4	49	51	4	48	523.43924
52	4	49	53	4	50	498.05500
53	0	53	52	0	52	522.99150
53	0	53	54	0	54	498.50845
53	1	52	52	1	51	523.20801
53	1	52	54	1	53	498.27257
53	1	53	52	1	52	522.99150
53	1	53	54	1	54	498.50845
53	2	51	52	2	50	523.42123
53	2	51	54	2	52	498.03446
53	2	52	52	2	51	523.20801
53	2	52	54	2	53	498.27257

53	3	50	52	3	49	523.62986
53	3	50	54	3	51	497.79334
53	3	51	52	3	50	523.42123
53	3	51	54	3	52	498.03446
53	4	50	52	4	49	523.62986
53	4	50	54	4	51	497.79334
54	0	54	53	0	53	523.17982
54	0	54	55	0	55	498.24509
54	1	53	53	1	52	523.39599
54	1	53	55	1	54	498.00915
54	1	54	53	1	53	523.17982
54	1	54	55	1	55	498.24509
54	2	53	53	2	52	523.39599
54	2	53	55	2	54	498.00915
54	3	51	53	3	50	523.81895
54	3	51	55	3	52	497.53021
54	4	51	53	4	50	523.81895
54	4	51	55	4	52	497.53021
55	0	55	54	0	54	523.36750
55	0	55	56	0	56	497.98114
55	1	54	54	1	53	523.58343
55	1	54	56	1	55	497.74520
55	1	55	54	1	54	523.36750
55	1	55	56	1	56	497.98114
55	2	53	54	2	52	523.79694
55	2	53	56	2	54	497.50714
55	2	54	54	2	53	523.58343
55	2	54	56	2	55	497.74520
55	3	52	54	3	51	524.00722
55	3	52	56	3	53	497.26662
55	3	53	54	3	52	523.79694
55	3	53	56	3	54	497.50714
55	4	52	54	4	51	524.00722
55	4	52	56	4	53	497.26662
56	0	56	55	0	55	523.55436
56	0	56	57	0	57	497.71672
56	1	55	55	1	54	523.77011
56	1	55	57	1	56	497.48048
56	1	56	55	1	55	523.55436
56	1	56	57	1	57	497.71672
56	2	54	55	2	53	523.98350
56	2	54	57	2	55	497.24249
56	2	55	55	2	54	523.77011
56	2	55	57	2	56	497.48048
56	3	53	55	3	52	524.19425
56	3	53	57	3	54	497.00202

56	3	54	55	3	53	523.98350
56	3	54	57	3	55	497.24249
56	4	53	55	4	52	524.19425
56	4	53	57	4	54	497.00202
57	0	57	56	0	56	523.74050
57	0	57	58	0	58	497.45147
57	1	56	56	1	55	523.95584
57	1	56	58	1	57	497.21542
57	1	57	56	1	56	523.74050
57	1	57	58	1	58	497.45147
57	2	55	56	2	54	524.16942
57	2	55	58	2	56	496.97713
57	2	56	56	2	55	523.95584
57	2	56	58	2	57	497.21542
57	3	54	56	3	53	524.38034
57	3	54	58	3	55	496.73719
57	3	55	56	3	54	524.16942
57	3	55	58	3	56	496.97713
57	4	54	56	4	53	524.38034
57	4	54	58	4	55	496.73719
58	0	58	57	0	57	523.92606
58	0	58	59	0	59	497.18581
58	1	57	57	1	56	524.14134
58	1	57	59	1	58	496.94935
58	1	58	57	1	57	523.92606
58	1	58	59	1	59	497.18581
58	2	56	57	2	55	524.35527
58	2	56	59	2	57	496.71188
58	2	57	57	2	56	524.14134
58	2	57	59	2	58	496.94935
58	3	55	57	3	54	524.56531
58	3	55	59	3	56	496.47124
58	3	56	57	3	55	524.35527
58	3	56	59	3	57	496.71188
58	4	55	57	4	54	524.56531
58	4	55	59	4	56	496.47124
59	0	59	58	0	58	524.11074
59	0	59	60	0	60	496.91939
59	1	58	58	1	57	524.32584
59	1	58	60	1	59	496.68240
59	1	59	58	1	58	524.11074
59	1	59	60	1	60	496.91939
59	2	57	58	2	56	524.53906
59	2	57	60	2	58	496.44522
59	2	58	58	2	57	524.32584
59	2	58	60	2	59	496.68240

59	3	57	58	3	56	524.53906
59	3	57	60	3	58	496.44522
60	0	60	59	0	59	524.29483
60	0	60	61	0	61	496.65244
60	1	59	59	1	58	524.50970
60	1	59	61	1	60	496.41574
60	1	60	59	1	59	524.29483
60	1	60	61	1	61	496.65244
60	2	58	59	2	57	524.72286
60	2	58	61	2	59	496.17762
60	2	59	59	2	58	524.50970
60	2	59	61	2	60	496.41574
60	3	57	59	3	56	524.93396
60	3	57	61	3	58	495.93798
60	3	58	59	3	57	524.72286
60	3	58	61	3	59	496.17762
60	4	57	59	4	56	524.93396
60	4	57	61	4	58	495.93798
61	0	61	60	0	60	524.47798
61	0	61	62	0	62	496.38472
61	1	60	60	1	59	524.69278
61	1	60	62	1	61	496.14820
61	1	61	60	1	60	524.47798
61	1	61	62	1	62	496.38472
61	2	59	60	2	58	524.90559
61	2	59	62	2	60	495.90973
61	2	60	60	2	59	524.69278
61	2	60	62	2	61	496.14820
61	3	58	60	3	57	525.11658
61	3	58	62	3	59	495.66991
61	3	59	60	3	58	524.90559
61	3	59	62	3	60	495.90973
61	4	58	60	4	57	525.11658
61	4	58	62	4	59	495.66991
62	0	62	61	0	61	524.66065
62	0	62	63	0	63	496.11636
62	1	61	61	1	60	524.87517
62	1	61	63	1	62	495.87977
62	1	62	61	1	61	524.66065
62	1	62	63	1	63	496.11636
62	2	61	61	2	60	524.87517
62	2	61	63	2	62	495.87977
63	0	63	62	0	62	524.84250
63	0	63	64	0	64	495.84770
63	1	62	62	1	61	525.05684
63	1	62	64	1	63	495.61076

63	1	63	62	1	62	524.84250
63	1	63	64	1	64	495.84770
63	2	62	62	2	61	525.05684
63	2	62	64	2	63	495.61076
64	0	64	63	0	63	525.02377
64	0	64	65	0	65	495.57822
64	1	64	63	1	63	525.02377
64	1	64	65	1	65	495.57822
65	0	65	64	0	64	525.20421
65	0	65	66	0	66	495.30827
65	1	65	64	1	64	525.20421
65	1	65	66	1	66	495.30827
66	0	66	65	0	65	525.38394
66	0	66	67	0	67	495.03737
66	1	66	65	1	65	525.38394
66	1	66	67	1	67	495.03737



S.26 - Vibration-rotation line list for the  $766\text{ cm}^{-1}$  band ( $0^0 \rightarrow 766\text{ cm}^{-1}$ ) of malonaldehyde.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )
5	5	0	4	4	0	769.92990
5	5	0	6	6	0	763.07720
5	5	1	4	4	1	769.92990
5	5	1	6	6	1	763.07720
6	6	0	5	5	0	770.58196
6	6	0	7	7	0	762.41814
7	6	1	6	5	1	770.87318
7	6	1	8	7	1	762.12481
7	6	2	6	5	2	770.87318
7	6	2	8	7	2	762.12481
7	7	0	6	6	0	771.23457
7	7	0	8	8	0	761.75789
7	7	1	6	6	1	771.23457
7	7	1	8	8	1	761.75789
8	7	1	7	6	1	771.52485
8	7	1	9	8	1	761.46470
8	7	2	7	6	2	771.52485
8	7	2	9	8	2	761.46470
8	8	0	7	7	0	771.88598
8	8	0	9	9	0	761.09753
8	8	1	7	7	1	771.88598
8	8	1	9	9	1	761.09753
9	7	2	8	6	2	771.81461
9	7	2	10	8	2	761.17150
9	7	3	8	6	3	771.81461
9	7	3	10	8	3	761.17150
9	8	1	8	7	1	772.17623
9	8	1	10	9	1	760.80405
9	8	2	8	7	2	772.17623
9	8	2	10	9	2	760.80405
9	9	0	8	8	0	772.53666
9	9	0	10	10	0	760.43671
9	9	1	8	8	1	772.53666
9	9	1	10	10	1	760.43671
10	8	2	9	7	2	772.46600
10	8	2	11	9	2	760.51083
10	8	3	9	7	3	772.46600
10	8	3	11	9	3	760.51083
10	9	1	9	8	1	772.82704
10	9	1	11	10	1	760.14272

10	9	2	9	8	2	772.82704
10	9	2	11	10	2	760.14272
10	10	0	9	9	0	773.18686
10	10	0	11	11	0	759.77489
10	10	1	9	9	1	773.18686
10	10	1	11	11	1	759.77489
11	8	3	10	7	3	772.75441
11	8	3	12	9	3	760.21802
11	8	4	10	7	4	772.75441
11	8	4	12	9	4	760.21802
11	10	1	10	9	1	773.47706
11	10	1	12	11	1	759.48127
11	10	2	10	9	2	773.47706
11	10	2	12	11	2	759.48127
11	11	0	10	10	0	773.83636
11	11	0	12	12	0	759.11296
11	11	1	10	10	1	773.83636
11	11	1	12	12	1	759.11296
12	8	4	11	7	4	773.04022
12	8	4	13	9	4	759.92637
12	9	3	11	8	3	773.40529
12	9	3	13	10	3	759.55629
12	9	4	11	8	4	773.40529
12	9	4	13	10	4	759.55629
12	10	2	11	9	2	773.76668
12	10	2	13	11	2	759.18744
12	10	3	11	9	3	773.76668
12	10	3	13	11	3	759.18744
12	11	1	11	10	1	774.12647
12	11	1	13	12	1	758.81903
12	11	2	11	10	2	774.12647
12	11	2	13	12	2	758.81903
12	12	0	11	11	0	774.48518
12	12	0	13	13	0	758.45019
12	12	1	11	11	1	774.48518
12	12	1	13	13	1	758.45019
13	9	4	12	8	4	773.69240
13	9	4	14	10	4	759.26367
13	9	5	12	8	5	773.69240
13	9	5	14	10	5	759.26367
13	10	3	12	9	3	774.05541
13	10	3	14	11	3	758.89395
13	10	4	12	9	4	774.05541
13	10	4	14	11	4	758.89395
13	11	2	12	10	2	774.41567
13	11	2	14	12	2	758.52493

13	11	3	12	10	3	774.41567
13	11	3	14	12	3	758.52493
13	12	1	12	11	1	774.77506
13	12	1	14	13	1	758.15621
13	12	2	12	11	2	774.77506
13	12	2	14	13	2	758.15621
13	13	0	12	12	0	775.13355
13	13	0	14	14	0	757.78702
13	13	1	12	12	1	775.13355
13	13	1	14	14	1	757.78702
14	9	6	13	8	6	773.97800
14	9	6	15	10	6	758.97250
14	10	4	13	9	4	774.34295
14	10	4	15	11	4	758.60104
14	10	5	13	9	5	774.34295
14	10	5	15	11	5	758.60104
14	11	3	13	10	3	774.70454
14	11	3	15	12	3	758.23136
14	11	4	13	10	4	774.70454
14	11	4	15	12	4	758.23136
14	12	2	13	11	2	775.06452
14	12	2	15	13	2	757.86222
14	12	3	13	11	3	775.06452
14	12	3	15	13	3	757.86222
14	13	1	13	12	1	775.42325
14	13	1	15	14	1	757.49294
14	13	2	13	12	2	775.42325
14	13	2	15	14	2	757.49294
14	14	0	13	13	0	775.78110
14	14	0	15	15	0	757.12320
14	14	1	13	13	1	775.78110
14	14	1	15	15	1	757.12320
15	10	5	14	9	5	774.62890
15	10	5	16	11	5	758.30896
15	10	6	14	9	6	774.62890
15	10	6	16	11	6	758.30896
15	11	4	14	10	4	774.99244
15	11	4	16	12	4	757.93810
15	11	5	14	10	5	774.99244
15	11	5	16	12	5	757.93810
15	12	3	14	11	3	775.35328
15	12	3	16	13	3	757.56840
15	12	4	14	11	4	775.35328
15	12	4	16	13	4	757.56840
15	13	2	14	12	2	775.71247
15	13	2	16	14	2	757.19908

15	13	3	14	12	3	775.71247
15	13	3	16	14	3	757.19908
15	14	1	14	13	1	776.07095
15	14	1	16	15	1	756.82926
15	14	2	14	13	2	776.07095
15	14	2	16	15	2	756.82926
15	15	0	14	14	0	776.42802
15	15	0	16	16	0	756.45888
15	15	1	14	14	1	776.42802
15	15	1	16	16	1	756.45888
16	10	6	15	9	6	774.91274
16	10	6	17	11	6	758.01820
16	11	5	15	10	5	775.27898
16	11	5	17	12	5	757.64537
16	11	6	15	10	6	775.27898
16	11	6	17	12	6	757.64537
16	12	4	15	11	4	775.64109
16	12	4	17	13	4	757.27474
16	12	5	15	11	5	775.64109
16	12	5	17	13	5	757.27474
16	13	3	15	12	3	776.00120
16	13	3	17	14	3	756.90517
16	13	4	15	12	4	776.00120
16	13	4	17	14	4	756.90517
16	14	2	15	13	2	776.36004
16	14	2	17	15	2	756.53527
16	14	3	15	13	3	776.36004
16	14	3	17	15	3	756.53527
16	15	1	15	14	1	776.71715
16	15	1	17	16	1	756.16456
16	15	2	15	14	2	776.71715
16	15	2	17	16	2	756.16456
16	16	0	15	15	0	777.07432
16	16	0	17	17	0	755.79398
16	16	1	15	15	1	777.07432
16	16	1	17	17	1	755.79398
17	11	6	16	10	6	775.56385
17	11	6	18	12	6	757.35363
17	11	7	16	10	7	775.56385
17	11	7	18	12	7	757.35363
17	12	5	16	11	5	775.92807
17	12	5	18	13	5	756.98173
17	12	6	16	11	6	775.92807
17	12	6	18	13	6	756.98173
17	13	4	16	12	4	776.28925
17	13	4	18	14	4	756.61123

17	13	5	16	12	5	776.28925
17	13	5	18	14	5	756.61123
17	14	3	16	13	3	776.64868
17	14	3	18	15	3	756.24105
17	14	4	16	13	4	776.64868
17	14	4	18	15	4	756.24105
17	15	2	16	14	2	777.00565
17	15	2	18	16	2	755.86995
17	15	3	16	14	3	777.00565
17	15	3	18	16	3	755.86995
17	16	1	16	15	1	777.36343
17	16	1	18	17	1	755.49979
17	16	2	16	15	2	777.36343
17	16	2	18	17	2	755.49979
17	17	0	16	16	0	777.71991
17	17	0	18	18	0	755.12872
17	17	1	16	16	1	777.71991
17	17	1	18	18	1	755.12872
18	11	7	17	10	7	775.84652
18	11	7	19	12	7	757.06295
18	11	8	17	10	8	775.84652
18	11	8	19	12	8	757.06295
18	12	6	17	11	6	776.21352
18	12	6	19	13	6	756.68931
18	12	7	17	11	7	776.21352
18	12	7	19	13	7	756.68931
18	13	5	17	12	5	776.57613
18	13	5	19	14	5	756.31779
18	13	6	17	12	6	776.57613
18	13	6	19	14	6	756.31779
18	14	4	17	13	4	776.93620
18	14	4	19	15	4	755.94723
18	14	5	17	13	5	776.93620
18	14	5	19	15	5	755.94723
18	16	2	17	15	2	777.65205
18	16	2	19	17	2	755.20539
18	16	3	17	15	3	777.65205
18	16	3	19	17	3	755.20539
18	17	1	17	16	1	778.00894
18	17	1	19	18	1	754.83449
18	17	2	17	16	2	778.00894
18	17	2	19	18	2	754.83449
18	18	0	17	17	0	778.36508
18	18	0	19	19	0	754.46290
18	18	1	17	17	1	778.36508
18	18	1	19	19	1	754.46290

19	11	9	18	10	9	776.12697
19	11	9	20	12	9	756.77371
19	12	7	18	11	7	776.49735
19	12	7	20	13	7	756.39782
19	12	8	18	11	8	776.49735
19	12	8	20	13	8	756.39782
19	13	6	18	12	6	776.86200
19	13	6	20	14	6	756.02497
19	13	7	18	12	7	776.86200
19	13	7	20	14	7	756.02497
19	14	5	18	13	5	777.22353
19	14	5	20	15	5	755.65358
19	14	6	18	13	6	777.22353
19	14	6	20	15	6	755.65358
19	16	3	18	15	3	777.94032
19	16	3	20	17	3	754.91109
19	16	4	18	15	4	777.94032
19	16	4	20	17	4	754.91109
19	17	2	18	16	2	778.29769
19	17	2	20	18	2	754.54025
19	17	3	18	16	3	778.29769
19	17	3	20	18	3	754.54025
19	18	1	18	17	1	778.65365
19	18	1	20	19	1	754.16873
19	18	2	18	17	2	778.65365
19	18	2	20	19	2	754.16873
19	19	0	18	18	0	779.00922
19	19	0	20	20	0	753.79635
19	19	1	18	18	1	779.00922
19	19	1	20	20	1	753.79635
20	12	8	19	11	8	776.77880
20	12	8	21	13	8	756.10752
20	12	9	19	11	9	776.77880
20	12	9	21	13	9	756.10752
20	13	7	19	12	7	777.14638
20	13	7	21	14	7	755.73278
20	13	8	19	12	8	777.14638
20	13	8	21	14	8	755.73278
20	14	6	19	13	6	777.50962
20	14	6	21	15	6	755.36008
20	14	7	19	13	7	777.50962
20	14	7	21	15	7	755.36008
20	16	4	19	15	4	778.22770
20	16	4	21	17	4	754.61659
20	16	5	19	15	5	778.22770
20	16	5	21	17	5	754.61659

20	17	3	19	16	3	778.58566
20	17	3	21	18	3	754.24615
20	17	4	19	16	4	778.58566
20	17	4	21	18	4	754.24615
20	18	2	19	17	2	778.94240
20	18	2	21	19	2	753.87428
20	18	3	19	17	3	778.94240
20	18	3	21	19	3	753.87428
20	19	1	19	18	1	779.29792
20	19	1	21	20	1	753.50231
20	19	2	19	18	2	779.29792
20	19	2	21	20	2	753.50231
20	20	0	19	19	0	779.65306
20	20	0	21	21	0	753.12946
20	20	1	19	19	1	779.65306
20	20	1	21	21	1	753.12946
21	12	9	20	11	9	777.05777
21	12	9	22	13	9	755.81861
21	12	10	20	11	10	777.05777
21	12	10	22	13	10	755.81861
21	13	8	20	12	8	777.42904
21	13	8	22	14	8	755.44149
21	13	9	20	12	9	777.42904
21	13	9	22	14	9	755.44149
21	14	7	20	13	7	777.79460
21	14	7	22	15	7	755.06767
21	14	8	20	13	8	777.79460
21	14	8	22	15	8	755.06767
21	15	6	20	14	6	778.15674
21	15	6	22	16	6	754.69603
21	15	7	20	14	7	778.15674
21	15	7	22	16	7	754.69603
21	16	5	20	15	5	778.51377
21	16	5	22	17	5	754.32161
21	16	6	20	15	6	778.51377
21	16	6	22	17	6	754.32161
21	17	4	20	16	4	778.87322
21	17	4	22	18	4	753.95168
21	17	5	20	16	5	778.87322
21	17	5	22	18	5	753.95168
21	18	3	20	17	3	779.23036
21	18	3	22	19	3	753.58029
21	18	4	20	17	4	779.23036
21	18	4	22	19	4	753.58029
21	19	2	20	18	2	779.58692
21	19	2	22	20	2	753.20870

21	19	3	20	18	3	779.58692
21	19	3	22	20	3	753.20870
21	20	1	20	19	1	779.94176
21	20	1	22	21	1	752.83576
21	20	2	20	19	2	779.94176
21	20	2	22	21	2	752.83576
21	21	0	20	20	0	780.29581
21	21	0	22	22	0	752.46177
21	21	1	20	20	1	780.29581
21	21	1	22	22	1	752.46177
22	14	8	21	13	8	778.07759
22	14	8	23	15	8	754.77570
22	15	7	21	14	7	778.44165
22	15	7	23	16	7	754.40267
22	15	8	21	14	8	778.44165
22	15	8	23	16	8	754.40267
22	16	6	21	15	6	778.80159
22	16	6	23	17	6	754.02944
22	16	7	21	15	7	778.80159
22	16	7	23	17	7	754.02944
22	18	4	21	17	4	779.51790
22	18	4	23	19	4	753.28615
22	18	5	21	17	5	779.51790
22	18	5	23	19	5	753.28615
22	19	3	21	18	3	779.87462
22	19	3	23	20	3	752.91432
22	19	4	21	18	4	779.87462
22	19	4	23	20	4	752.91432
22	20	2	21	19	2	780.22998
22	20	2	23	21	2	752.54200
22	20	3	21	19	3	780.22998
22	20	3	23	21	3	752.54200
22	21	1	21	20	1	780.58412
22	21	1	23	22	1	752.16840
22	21	2	21	20	2	780.58412
22	21	2	23	22	2	752.16840
22	22	0	21	21	0	780.93812
22	22	0	23	23	0	751.79393
22	22	1	21	21	1	780.93812
22	22	1	23	23	1	751.79393
23	17	6	22	16	6	779.44642
23	17	6	24	18	6	753.36397
23	17	7	22	16	7	779.44642
23	17	7	24	18	7	753.36397
23	18	5	22	17	5	779.80461
23	18	5	24	19	5	752.99207



23	18	6	22	17	6	779.80461
23	18	6	24	19	6	752.99207
23	19	4	22	18	4	780.16222
23	19	4	24	20	4	752.62054
23	19	5	22	18	5	780.16222
23	19	5	24	20	5	752.62054
23	20	3	22	19	3	780.51803
23	20	3	24	21	3	752.24836
23	20	4	22	19	4	780.51803
23	20	4	24	21	4	752.24836
23	21	2	22	20	2	780.87294
23	21	2	24	22	2	751.87452
23	21	3	22	20	3	780.87294
23	21	3	24	22	3	751.87452
23	22	1	22	21	1	781.22689
23	22	1	24	23	1	751.50037
23	22	2	22	21	2	781.22689
23	22	2	24	23	2	751.50037
23	23	0	22	22	0	781.57952
23	23	0	24	24	0	751.12547
23	23	1	22	22	1	781.57952
23	23	1	24	24	1	751.12547
24	14	10	23	13	10	778.63874
24	14	10	25	15	10	754.19481
24	14	11	23	13	11	778.63874
24	14	11	25	15	11	754.19481
24	15	9	23	14	9	779.00659
24	15	9	25	16	9	753.81750
24	15	10	23	14	10	779.00659
24	15	10	25	16	10	753.81750
24	16	8	23	15	8	779.37210
24	16	8	25	17	8	753.44487
24	16	9	23	15	9	779.37210
24	16	9	25	17	9	753.44487
24	18	6	23	17	6	780.09085
24	18	6	25	19	6	752.69811
24	18	7	23	17	7	780.09085
24	18	7	25	19	7	752.69811
24	19	5	23	18	5	780.44914
24	19	5	25	20	5	752.32673
24	19	6	23	18	6	780.44914
24	19	6	25	20	6	752.32673
24	20	4	23	19	4	780.80542
24	20	4	25	21	4	751.95569
24	20	5	23	19	5	780.80542
24	20	5	25	21	5	751.95569

24	21	3	23	20	3	781.16123
24	21	3	25	22	3	751.58097
24	21	4	23	20	4	781.16123
24	21	4	25	22	4	751.58097
24	23	1	23	22	1	781.86911
24	23	1	25	24	1	750.83288
24	23	2	23	22	2	781.86911
24	23	2	25	24	2	750.83288
24	24	0	23	23	0	782.22079
24	24	0	25	25	0	750.45656
24	24	1	23	23	1	782.22079
24	24	1	25	25	1	750.45656
25	14	12	24	13	12	778.91583
25	14	12	26	15	12	753.90667
25	15	10	24	14	10	779.28805
25	15	10	26	16	10	753.52731
25	15	11	24	14	11	779.28805
25	15	11	26	16	11	753.52731
25	16	9	24	15	9	779.65438
25	16	9	26	17	9	753.15238
25	16	10	24	15	10	779.65438
25	16	10	26	17	10	753.15238
25	18	7	24	17	7	780.37604
25	18	7	26	19	7	752.40442
25	18	8	24	17	8	780.37604
25	18	8	26	19	8	752.40442
25	19	6	24	18	6	780.73554
25	19	6	26	20	6	752.03318
25	19	7	24	18	7	780.73554
25	19	7	26	20	7	752.03318
25	20	5	24	19	5	781.09249
25	20	5	26	21	5	751.66331
25	20	6	24	19	6	781.09249
25	20	6	26	21	6	751.66331
25	21	4	24	20	4	781.44884
25	21	4	26	22	4	751.28682
25	21	5	24	20	5	781.44884
25	21	5	26	22	5	751.28682
25	24	1	24	23	1	782.51004
25	24	1	26	25	1	750.16477
25	24	2	24	23	2	782.51004
25	24	2	26	25	2	750.16477
25	25	0	24	24	0	782.86083
25	25	0	26	26	0	749.78712
25	25	1	24	24	1	782.86083
25	25	1	26	26	1	749.78712

26	15	11	25	14	11	779.56609
26	15	11	27	16	11	753.23752
26	15	12	25	14	12	779.56609
26	15	12	27	16	12	753.23752
26	16	10	25	15	10	779.93534
26	16	10	27	17	10	752.86083
26	16	11	25	15	11	779.93534
26	16	11	27	17	11	752.86083
26	18	8	25	17	8	780.65998
26	18	8	27	19	8	752.11086
26	18	9	25	17	9	780.65998
26	18	9	27	19	9	752.11086
26	19	7	25	18	7	781.02101
26	19	7	27	20	7	751.73987
26	19	8	25	18	8	781.02101
26	19	8	27	20	8	751.73987
26	20	6	25	19	6	781.37809
26	20	6	27	21	6	751.37224
26	20	7	25	19	7	781.37809
26	20	7	27	21	7	751.37224
26	21	5	25	20	5	781.73597
26	21	5	27	22	5	750.99286
26	21	6	25	20	6	781.73597
26	21	6	27	22	6	750.99286
26	23	3	25	22	3	782.44598
26	23	3	27	24	3	750.24741
26	23	4	25	22	4	782.44598
26	23	4	27	24	4	750.24741
26	24	2	25	23	2	782.79979
26	24	2	27	25	2	749.87289
26	24	3	25	23	3	782.79979
26	24	3	27	25	3	749.87289
26	25	1	25	24	1	783.15193
26	25	1	27	26	1	749.49689
26	25	2	25	24	2	783.15193
26	25	2	27	26	2	749.49689
26	26	0	25	25	0	783.50037
26	26	0	27	27	0	749.11705
26	26	1	25	25	1	783.50037
26	26	1	27	27	1	749.11705
27	15	12	26	14	12	779.84227
27	15	12	28	16	12	752.94934
27	15	13	26	14	13	779.84227
27	15	13	28	16	13	752.94934
27	19	8	26	18	8	781.30509
27	19	8	28	20	8	751.44696

27	19	9	26	18	9	781.30509
27	19	9	28	20	9	751.44696
27	21	6	26	20	6	782.02218
27	21	6	28	22	6	750.69859
27	21	7	26	20	7	782.02218
27	21	7	28	22	7	750.69859
27	23	4	26	22	4	782.73358
27	23	4	28	24	4	749.95451
27	23	5	26	22	5	782.73358
27	23	5	28	24	5	749.95451
27	24	3	26	23	3	783.08839
27	24	3	28	25	3	749.58077
27	24	4	26	23	4	783.08839
27	24	4	28	25	4	749.58077
27	25	2	26	24	2	783.44199
27	25	2	28	26	2	749.20601
27	25	3	26	24	3	783.44199
27	25	3	28	26	3	749.20601
27	27	0	26	26	0	784.13928
27	27	0	28	28	0	748.44643
27	27	1	26	26	1	784.13928
27	27	1	28	28	1	748.44643
28	25	3	27	24	3	783.73144
28	25	3	29	26	3	748.91497
28	25	4	27	24	4	783.73144
28	25	4	29	26	4	748.91497
28	28	0	27	27	0	784.77720
28	28	0	29	29	0	747.77594
28	28	1	27	27	1	784.77720
28	28	1	29	29	1	747.77594
29	29	0	28	28	0	785.41465
29	29	0	30	30	0	747.10393
29	29	1	28	28	1	785.41465
29	29	1	30	30	1	747.10393

S.27 - Vibration-rotation line list for the  $964\text{ cm}^{-1}$  band ( $0^1 \rightarrow 986\text{ cm}^{-1}$ ) of malonaldehyde.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )
9	0	9	8	0	8	965.89723
9	0	9	10	0	10	961.38233
10	0	10	9	0	9	966.12558
10	0	10	11	0	11	961.15963
10	1	10	9	1	9	966.12558
10	1	10	11	1	11	961.15963
11	0	11	10	0	10	966.35369
11	0	11	12	0	12	960.93647
11	1	11	10	1	10	966.35369
11	1	11	12	1	12	960.93647
12	0	12	11	0	11	966.58157
12	0	12	13	0	13	960.71306
12	1	12	11	1	11	966.58157
12	1	12	13	1	13	960.71306
13	0	13	12	0	12	966.80897
13	0	13	14	0	14	960.48966
13	1	13	12	1	12	966.80897
13	1	13	14	1	14	960.48966
15	0	15	14	0	14	967.26449
15	0	15	16	0	16	960.04262
15	1	15	14	1	14	967.26449
15	1	15	16	1	16	960.04262
16	0	16	15	0	15	967.49260
16	0	16	17	0	17	959.81969
16	1	16	15	1	15	967.49260
16	1	16	17	1	17	959.81969
17	0	17	16	0	16	967.72048
17	0	17	18	0	18	959.59652
17	1	17	16	1	16	967.72048
17	1	17	18	1	18	959.59652
18	0	18	17	0	17	967.94835
18	0	18	19	0	19	959.37288
18	1	17	17	1	16	968.18093
18	1	17	19	1	18	959.15207
18	1	18	17	1	17	967.94835
18	1	18	19	1	19	959.37288
18	2	17	17	2	16	968.18093
18	2	17	19	2	18	959.15207
19	0	19	18	0	18	968.17646
19	0	19	20	0	20	959.14971

19	1	18	18	1	17	968.40928
19	1	18	20	1	19	958.93008
19	1	19	18	1	18	968.17646
19	1	19	20	1	20	959.14971
19	2	18	18	2	17	968.40928
19	2	18	20	2	19	958.93008
20	0	20	19	0	19	968.40457
20	0	20	21	0	21	958.92655
20	1	19	19	1	18	968.63786
20	1	19	21	1	20	958.70785
20	1	20	19	1	19	968.40457
20	1	20	21	1	21	958.92655
20	2	19	19	2	18	968.63786
20	2	19	21	2	20	958.70785
21	0	21	20	0	20	968.63268
21	0	21	22	0	22	958.70385
21	1	21	20	1	20	968.63268
21	1	21	22	1	22	958.70385
22	0	22	21	0	21	968.86080
22	0	22	23	0	23	958.48068
22	1	21	21	1	20	969.09503
22	1	21	23	1	22	958.26293
22	1	22	21	1	21	968.86080
22	1	22	23	1	23	958.48068
22	2	21	21	2	20	969.09503
22	2	21	23	2	22	958.26293
23	0	23	22	0	22	969.08914
23	0	23	24	0	24	958.25775
23	1	22	22	1	21	969.32361
23	1	22	24	1	23	958.04047
23	1	23	22	1	22	969.08914
23	1	23	24	1	24	958.25775
23	2	22	22	2	21	969.32361
23	2	22	24	2	23	958.04047
24	0	24	23	0	23	969.31725
24	0	24	25	0	25	958.03505
24	1	23	23	1	22	969.55219
24	1	23	25	1	24	957.81801
24	1	24	23	1	23	969.31725
24	1	24	25	1	25	958.03505
24	2	23	23	2	22	969.55219
24	2	23	25	2	24	957.81801
25	0	25	24	0	24	969.54560
25	0	25	26	0	26	957.81283
25	1	24	24	1	23	969.78101
25	1	24	26	1	25	957.59554

25	1	25	24	1	24	969.54560
25	1	25	26	1	26	957.81283
25	2	24	24	2	23	969.78101
25	2	24	26	2	25	957.59554
26	0	26	25	0	25	969.77395
26	0	26	27	0	27	957.58989
26	1	25	25	1	24	970.00959
26	1	25	27	1	26	957.37332
26	1	26	25	1	25	969.77395
26	1	26	27	1	27	957.58989
26	2	25	25	2	24	970.00959
26	2	25	27	2	26	957.37332
27	0	27	26	0	26	970.00229
27	0	27	28	0	28	957.36743
27	1	26	26	1	25	970.23817
27	1	26	28	1	27	957.15180
27	1	27	26	1	26	970.00229
27	1	27	28	1	28	957.36743
27	2	26	26	2	25	970.23817
27	2	26	28	2	27	957.15180
28	0	28	27	0	27	970.23064
28	0	28	29	0	29	957.14497
28	1	27	27	1	26	970.46652
28	1	27	29	1	28	956.92934
28	1	28	27	1	27	970.23064
28	1	28	29	1	29	957.14497
28	2	27	27	2	26	970.46652
28	2	27	29	2	28	956.92934
29	0	29	28	0	28	970.45922
29	0	29	30	0	30	956.92228
29	1	28	28	1	27	970.69557
29	1	28	30	1	29	956.70641
29	1	29	28	1	28	970.45922
29	1	29	30	1	30	956.92228
29	2	28	28	2	27	970.69557
29	2	28	30	2	29	956.70641
30	0	30	29	0	29	970.68757
30	0	30	31	0	31	956.70005
30	1	29	29	1	28	970.92415
30	1	29	31	1	30	956.48512
30	1	30	29	1	29	970.68757
30	1	30	31	1	31	956.70005
30	2	29	29	2	28	970.92415
30	2	29	31	2	30	956.48512
31	0	31	30	0	30	970.91615
31	0	31	32	0	32	956.47759

31	1	30	30	1	29	971.15297
31	1	30	32	1	31	956.26313
31	1	31	30	1	30	970.91615
31	1	31	32	1	32	956.47759
31	2	30	30	2	29	971.15297
31	2	30	32	2	31	956.26313
32	0	32	31	0	31	971.14450
32	0	32	33	0	33	956.25513
32	1	31	31	1	30	971.38155
32	1	31	33	1	32	956.04067
32	1	32	31	1	31	971.14450
32	1	32	33	1	33	956.25513
32	2	31	31	2	30	971.38155
32	2	31	33	2	32	956.04067
33	0	33	32	0	32	971.37261
33	0	33	34	0	34	956.03290
33	1	32	32	1	31	971.60990
33	1	32	34	1	33	955.81844
33	1	33	32	1	32	971.37261
33	1	33	34	1	34	956.03290
33	2	32	32	2	31	971.60990
33	2	32	34	2	33	955.81844
34	0	34	33	0	33	971.60095
34	0	34	35	0	35	955.81067
34	1	34	33	1	33	971.60095
34	1	34	35	1	35	955.81067
35	0	35	34	0	34	971.82906
35	0	35	36	0	36	955.58798
35	1	35	34	1	34	971.82906
35	1	35	36	1	36	955.58798
36	0	36	35	0	35	972.05765
36	0	36	37	0	37	955.36552
36	1	35	35	1	34	972.29470
36	1	35	37	1	36	955.15106
36	1	36	35	1	35	972.05765
36	1	36	37	1	37	955.36552
36	2	35	35	2	34	972.29470
36	2	35	37	2	36	955.15106
37	0	37	36	0	36	972.28552
37	0	37	38	0	38	955.14329
37	1	36	36	1	35	972.52258
37	1	36	38	1	37	954.92836
37	1	37	36	1	36	972.28552
37	1	37	38	1	38	955.14329
37	2	36	36	2	35	972.52258
37	2	36	38	2	37	954.92836



38	0	38	37	0	37	972.51340
38	0	38	39	0	39	954.92059
38	1	37	37	1	36	972.75022
38	1	37	39	1	38	954.70543
38	1	38	37	1	37	972.51340
38	1	38	39	1	39	954.92059
38	2	37	37	2	36	972.75022
38	2	37	39	2	38	954.70543
39	0	39	38	0	38	972.74104
39	0	39	40	0	40	954.69766
39	1	38	38	1	37	972.97762
39	1	38	40	1	39	954.48156
39	1	39	38	1	38	972.74104
39	1	39	40	1	40	954.69766
39	2	38	38	2	37	972.97762
39	2	38	40	2	39	954.48156
40	0	40	39	0	39	972.96868
40	0	40	41	0	41	954.47473
40	1	39	39	1	38	973.20432
40	1	39	41	1	40	954.25768
40	1	40	39	1	39	972.96868
40	1	40	41	1	41	954.47473
40	2	39	39	2	38	973.20432
40	2	39	41	2	40	954.25768
41	0	41	40	0	40	973.19585
41	0	41	42	0	42	954.25086
41	1	40	40	1	39	973.43031
41	1	40	42	1	41	954.03240
41	1	41	40	1	40	973.19585
41	1	41	42	1	42	954.25086
41	2	40	40	2	39	973.43031
41	2	40	42	2	41	954.03240
42	0	42	41	0	41	973.42231
42	0	42	43	0	43	954.02581
42	1	41	41	1	40	973.65489
42	1	41	43	1	42	953.80499
42	1	42	41	1	41	973.42231
42	1	42	43	1	43	954.02581
42	2	41	41	2	40	973.65489
42	2	41	43	2	42	953.80499
43	0	43	42	0	42	973.64830
43	0	43	44	0	44	953.79793
43	1	43	42	1	42	973.64830
43	1	43	44	1	44	953.79793

S.28 - Vibration-rotation line list for the  $999\text{ cm}^{-1}$  band ( $0^0 \rightarrow 999\text{ cm}^{-1}$ ) of malonaldehyde.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )
8	0	8	7	0	7	1001.22456
8	0	8	9	0	9	997.13504
9	0	9	8	0	8	1001.42983
9	0	9	10	0	10	996.88715
9	1	9	8	1	8	1001.42983
9	1	9	10	1	10	996.88715
10	0	10	9	0	9	1001.63323
10	0	10	11	0	11	996.63668
10	1	10	9	1	9	1001.63323
10	1	10	11	1	11	996.63668
11	0	11	10	0	10	1001.83521
11	0	11	12	0	12	996.38408
11	1	11	10	1	10	1001.83521
11	1	11	12	1	12	996.38408
12	0	12	11	0	11	1002.03436
12	0	12	13	0	13	996.12937
12	1	12	11	1	11	1002.03436
12	1	12	13	1	13	996.12937
13	0	13	12	0	12	1002.23116
13	0	13	14	0	14	995.87183
13	1	13	12	1	12	1002.23116
13	1	13	14	1	14	995.87183
15	0	15	14	0	14	1002.61865
15	0	15	16	0	16	995.35181
15	1	15	14	1	14	1002.61865
15	1	15	16	1	16	995.35181
16	0	16	15	0	15	1002.80839
16	0	16	17	0	17	995.08792
16	1	16	15	1	15	1002.80839
16	1	16	17	1	17	995.08792
17	0	17	16	0	16	1002.99719
17	0	17	18	0	18	994.82214
17	1	17	16	1	16	1002.99719
17	1	17	18	1	18	994.82214
18	0	18	17	0	17	1003.18316
18	0	18	19	0	19	994.55449
18	1	18	17	1	17	1003.18316
18	1	18	19	1	19	994.55449
19	0	19	18	0	18	1003.36678
19	0	19	20	0	20	994.28400

19	1	19	18	1	18	1003.36678
19	1	19	20	1	20	994.28400
20	0	20	19	0	19	1003.54828
20	0	20	21	0	21	994.01163
20	1	20	19	1	19	1003.54828
20	1	20	21	1	21	994.01163
21	0	21	20	0	20	1003.72742
21	0	21	22	0	22	993.73738
21	1	21	20	1	20	1003.72742
21	1	21	22	1	22	993.73738
22	0	22	21	0	21	1003.90445
22	0	22	23	0	23	993.46031
22	1	21	21	1	20	1004.09890
22	1	21	23	1	22	993.19994
22	1	22	21	1	21	1003.90445
22	1	22	23	1	23	993.46031
22	2	21	21	2	20	1004.09890
22	2	21	23	2	22	993.19994
23	0	23	22	0	22	1004.07959
23	0	23	24	0	24	993.18158
23	1	22	22	1	21	1004.27004
23	1	22	24	1	23	992.91722
23	1	23	22	1	22	1004.07959
23	1	23	24	1	24	993.18158
23	2	21	22	2	20	1004.46590
23	2	21	24	2	22	992.65709
23	2	22	22	2	21	1004.27004
23	2	22	24	2	23	992.91722
23	3	21	22	3	20	1004.46590
23	3	21	24	3	22	992.65709
24	0	24	23	0	23	1004.25238
24	0	24	25	0	25	992.90050
24	1	23	23	1	22	1004.43930
24	1	23	25	1	24	992.63308
24	1	24	23	1	23	1004.25238
24	1	24	25	1	25	992.90050
24	2	22	23	2	21	1004.63069
24	2	22	25	2	23	992.36824
24	2	23	23	2	22	1004.43930
24	2	23	25	2	24	992.63308
24	3	22	23	3	21	1004.63069
24	3	22	25	3	23	992.36824
25	0	25	24	0	24	1004.42282
25	0	25	26	0	26	992.61754
25	1	24	24	1	23	1004.60738
25	1	24	26	1	25	992.34729

25	1	25	24	1	24	1004.42282
25	1	25	26	1	26	992.61754
25	2	23	24	2	22	1004.79477
25	2	23	26	2	24	992.07916
25	2	24	24	2	23	1004.60738
25	2	24	26	2	25	992.34729
25	3	22	24	3	21	1004.98639
25	3	22	26	3	23	991.81315
25	3	23	24	3	22	1004.79477
25	3	23	26	3	24	992.07916
25	4	22	24	4	21	1004.98639
25	4	22	26	4	23	991.81315
26	0	26	25	0	25	1004.59114
26	0	26	27	0	27	992.33223
26	1	25	25	1	24	1004.77334
26	1	25	27	1	26	992.05986
26	1	26	25	1	25	1004.59114
26	1	26	27	1	27	992.33223
26	2	24	25	2	23	1004.95767
26	2	24	27	2	25	991.78867
26	2	25	25	2	24	1004.77334
26	2	25	27	2	26	992.05986
26	3	23	25	3	22	1005.14505
26	3	23	27	3	24	991.51865
26	3	24	25	3	23	1004.95767
26	3	24	27	3	25	991.78867
26	4	23	25	4	22	1005.14505
26	4	23	27	4	24	991.51865
27	0	27	26	0	26	1004.75757
27	0	27	28	0	28	992.04503
27	1	26	26	1	25	1004.93766
27	1	26	28	1	27	991.77054
27	1	27	26	1	26	1004.75757
27	1	27	28	1	28	992.04503
27	2	25	26	2	24	1005.11869
27	2	25	28	2	26	991.49700
27	2	26	26	2	25	1004.93766
27	2	26	28	2	27	991.77054
27	3	24	26	3	23	1005.30278
27	3	24	28	3	25	991.22369
27	3	25	26	3	24	1005.11869
27	3	25	28	3	26	991.49700
27	4	24	26	4	23	1005.30278
27	4	24	28	4	25	991.22369
28	0	28	27	0	27	1004.92189
28	0	28	29	0	29	991.75571

28	1	27	27	1	26	1005.10009
28	1	27	29	1	28	991.47958
28	1	28	27	1	27	1004.92189
28	1	28	29	1	29	991.75571
28	2	26	27	2	25	1005.27877
28	2	26	29	2	27	991.20368
28	2	27	27	2	26	1005.10009
28	2	27	29	2	28	991.47958
28	3	25	27	3	24	1005.45956
28	3	25	29	3	26	990.92754
28	3	26	27	3	25	1005.27877
28	3	26	29	3	27	991.20368
28	4	25	27	4	24	1005.45956
28	4	25	29	4	26	990.92754
29	0	29	28	0	28	1005.08455
29	0	29	30	0	30	991.46474
29	1	28	28	1	27	1005.26088
29	1	28	30	1	29	991.18696
29	1	29	28	1	28	1005.08455
29	1	29	30	1	30	991.46474
29	2	27	28	2	26	1005.43743
29	2	27	30	2	28	990.90847
29	2	28	28	2	27	1005.26088
29	2	28	30	2	29	991.18696
29	3	26	28	3	25	1005.61517
29	3	26	30	3	27	990.62999
29	3	27	28	3	26	1005.43743
29	3	27	30	3	28	990.90847
29	4	26	28	4	25	1005.61517
29	4	26	30	4	27	990.62999
30	0	30	29	0	29	1005.24628
30	0	30	31	0	31	991.17354
30	1	30	29	1	29	1005.24628
30	1	30	31	1	31	991.17354
33	0	33	32	0	32	1005.70156
33	0	33	34	0	34	990.26863
33	1	33	32	1	32	1005.70156
33	1	33	34	1	34	990.26863
34	0	34	33	0	33	1005.85387
34	0	34	35	0	35	989.96802
34	1	34	33	1	33	1005.85387
34	1	34	35	1	35	989.96802
35	0	35	34	0	34	1006.00359
35	0	35	36	0	36	989.66410
35	1	35	34	1	34	1006.00359
35	1	35	36	1	36	989.66410

36	0	36	35	0	35	1006.15049
36	0	36	37	0	37	989.35784
36	1	36	35	1	35	1006.15049
36	1	36	37	1	37	989.35784
37	0	37	36	0	36	1006.29456
37	0	37	38	0	38	989.04945
37	1	37	36	1	36	1006.29456
37	1	37	38	1	38	989.04945
38	0	38	37	0	37	1006.43721
38	0	38	39	0	39	988.73895
38	1	38	37	1	37	1006.43721
38	1	38	39	1	39	988.73895
39	0	39	38	0	38	1006.57752
39	0	39	40	0	40	988.42632
39	1	39	38	1	38	1006.57752
39	1	39	40	1	40	988.42632
40	0	40	39	0	39	1006.71547
40	0	40	41	0	41	988.11158
40	1	40	39	1	39	1006.71547
40	1	40	41	1	41	988.11158
41	0	41	40	0	40	1006.85177
41	0	41	42	0	42	987.79496
41	1	41	40	1	40	1006.85177
41	1	41	42	1	42	987.79496
42	0	42	41	0	41	1006.98524
42	0	42	43	0	43	987.47598
42	1	42	41	1	41	1006.98524
42	1	42	43	1	43	987.47598
43	0	43	42	0	42	1007.11684
43	0	43	44	0	44	987.15512
43	1	42	42	1	41	1007.26256
43	1	42	44	1	43	986.84767
43	1	43	42	1	42	1007.11684
43	1	43	44	1	44	987.15512
43	2	42	42	2	41	1007.26256
43	2	42	44	2	43	986.84767
44	0	44	43	0	43	1007.24678
44	0	44	45	0	45	986.83237
44	1	43	43	1	42	1007.39038
44	1	43	45	1	44	986.52281
44	1	44	43	1	43	1007.24678
44	1	44	45	1	45	986.83237
44	2	43	43	2	42	1007.39038
44	2	43	45	2	44	986.52281
45	0	45	44	0	44	1007.37414
45	0	45	46	0	46	986.50751

45	1	45	44	1	44	1007.37414
45	1	45	46	1	46	986.50751
46	0	46	45	0	45	1007.49985
46	0	46	47	0	47	986.18076
46	1	45	45	1	44	1007.64015
46	1	45	47	1	46	985.86814
46	1	46	45	1	45	1007.49985
46	1	46	47	1	47	986.18076
46	2	45	45	2	44	1007.64015
46	2	45	47	2	46	985.86814
47	0	47	46	0	46	1007.62320
47	0	47	48	0	48	985.85213
47	1	46	46	1	45	1007.76209
47	1	46	48	1	47	985.53786
47	1	47	46	1	46	1007.62320
47	1	47	48	1	48	985.85213
47	2	46	46	2	45	1007.76209
47	2	46	48	2	47	985.53786
48	0	48	47	0	47	1007.74491
48	0	48	49	0	49	985.52138
48	1	47	47	1	46	1007.88239
48	1	47	49	1	48	985.20593
48	1	48	47	1	47	1007.74491
48	1	48	49	1	49	985.52138
48	2	47	47	2	46	1007.88239
48	2	47	49	2	48	985.20593
49	0	49	48	0	48	1007.86450
49	0	49	50	0	50	985.18898
49	1	48	48	1	47	1008.00056
49	1	48	50	1	49	984.87212
49	1	49	48	1	48	1007.86450
49	1	49	50	1	50	985.18898
49	2	48	48	2	47	1008.00056
49	2	48	50	2	49	984.87212
50	0	50	49	0	49	1007.98244
50	0	50	51	0	51	984.85470
50	1	50	49	1	49	1007.98244
50	1	50	51	1	51	984.85470

S.29 - Vibration-rotation line list for the  $252\text{ cm}^{-1}$  band ( $0^1 \rightarrow 273\text{ cm}^{-1}$ ) of malonaldehyde.

J'	K <sub>a</sub> '	K <sub>c</sub> '	J''	K <sub>a</sub> ''	K <sub>c</sub> ''	Frequency (cm <sup>-1</sup> )
9	0	9	9	1	9	251.45613
9	1	9	9	0	9	251.45613
10	0	10	10	1	10	251.46322
10	1	10	10	0	10	251.46322
11	0	11	11	1	11	251.47030
11	1	11	11	0	11	251.47030
12	1	11	12	2	11	251.49006
12	2	11	12	1	11	251.49194
13	0	13	13	1	13	251.48687
13	1	13	13	0	13	251.48687
14	0	14	14	1	14	251.49599
14	1	13	14	2	13	251.51052
14	1	14	14	0	14	251.49599
14	2	13	14	1	13	251.51052
15	0	15	15	1	15	251.50582
15	1	14	15	2	14	251.52118
15	1	15	15	0	15	251.50582
15	2	14	15	1	14	251.52118
16	0	16	16	1	16	251.51606
16	1	15	16	2	15	251.53240
16	1	16	16	0	16	251.51606
16	2	15	16	1	15	251.53240
17	0	17	17	1	17	251.52700
17	1	16	17	2	16	251.54429
17	1	17	17	0	17	251.52700
17	2	16	17	1	16	251.54429
18	0	18	18	1	18	251.53862
18	1	17	18	2	17	251.55681
18	1	18	18	0	18	251.53862
18	2	17	18	1	17	251.55681
19	0	19	19	1	19	251.55072
19	1	18	19	2	18	251.56987
19	1	19	19	0	19	251.55072
19	2	18	19	1	18	251.56987
20	0	20	20	1	20	251.56345
20	1	19	20	2	19	251.58360
20	1	20	20	0	20	251.56345
20	2	19	20	1	19	251.58360
21	0	21	21	1	21	251.57684
21	1	20	21	2	20	251.59781



21	1	21	21	0	21	251.57684
21	2	20	21	1	20	251.59781
22	1	21	22	2	21	251.61269
22	2	21	22	1	21	251.61269
23	0	23	23	1	23	251.60523
23	1	22	23	2	22	251.62808
23	1	23	23	0	23	251.60523
23	2	22	23	1	22	251.62808
24	0	24	24	1	24	251.62036
24	1	23	24	2	23	251.64405
24	1	24	24	0	24	251.62036
24	2	23	24	1	23	251.64405
25	1	24	25	2	24	251.66062
25	2	24	25	1	24	251.66062
26	0	26	26	1	26	251.65219
26	1	25	26	2	25	251.67773
26	1	26	26	0	26	251.65219
26	2	25	26	1	25	251.67773
27	0	27	27	1	27	251.66880
27	1	26	27	2	26	251.69510
27	1	27	27	0	27	251.66880
27	2	26	27	1	26	251.69510
28	1	27	28	2	27	251.71381
28	2	27	28	1	27	251.71381
29	1	28	29	2	28	251.73258
29	2	28	29	1	28	251.73258
30	0	30	30	1	30	251.72266
30	1	29	30	2	29	251.75195
30	1	30	30	0	30	251.72266
30	2	29	30	1	29	251.75195
31	0	31	31	1	31	251.74150
31	1	30	31	2	30	251.77158
31	1	31	31	0	31	251.74150
31	2	30	31	1	30	251.77158
32	1	31	32	2	31	251.79214
32	2	31	32	1	31	251.79214
33	1	32	33	2	32	251.81295
33	2	32	33	1	32	251.81295
33	3	30	33	4	30	251.87730
33	4	30	33	3	30	251.87730
34	1	33	34	2	33	251.83435
34	2	33	34	1	33	251.83435
35	0	35	35	1	35	251.82290
35	1	34	35	2	34	251.85629
35	1	35	35	0	35	251.82290
35	2	34	35	1	34	251.85629

36	1	35	36	2	35	251.87850
36	2	35	36	1	35	251.87850
37	1	36	37	2	36	251.90134
37	2	35	37	3	35	251.93598
37	2	36	37	1	36	251.90134
37	3	35	37	2	35	251.93598
38	1	37	38	2	37	251.92448
38	2	37	38	1	37	251.92448
39	0	39	39	1	39	251.91148
39	1	38	39	2	38	251.94778
39	1	39	39	0	39	251.91148
39	2	38	39	1	38	251.94778
40	0	40	40	1	40	251.93468
40	1	39	40	2	39	251.97153
40	1	40	40	0	40	251.93468
40	2	39	40	1	39	251.97153
41	0	41	41	1	41	251.95823
41	1	40	41	2	40	251.99530
41	1	41	41	0	41	251.95823
41	2	40	41	1	40	251.99530
42	0	42	42	1	42	251.98180
42	1	42	42	0	42	251.98180

## References

- [1] S. L. Baughcum, R. W. Duerst, W. F. Rowe, Z. Smith, and E. B. Wilson, *J. Am. Chem. Soc.* **103**, 6296 (1981).
- [2] P. Turner, S. L. Baughcum, S. L. Coy, and Z. Smith, *J. Am. Chem. Soc.* **106**, 2265 (1984).
- [3] D. W. Firth, K. Beyer, M. A. Dvorak, S. W. Reeve, A. Grushow, and K. R. Leopold, *J. Chem. Phys.* **94**, 1812 (1991).
- [4] T. Baba, T. Tanaka, I. Morino, K. M. T. Yamada, and K. Tanaka, *J. Chem. Phys.* **110**, 4131 (1999).
- [5] W. F. Rowe, Ph.D. Thesis, Harvard University, 1975.