Supporting Information: Understanding of the C-H stretching region of Infra-Red spectroscopy: An analysis of the final state wavefunctions.

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Table S1. The normal modes and harmonic wavenumbers of Pyrimidine

Mode No.	Symm.	Description	HO wavenumber
1	a_1	sym. CH str.	3201.76
2	a_1	sym. CH str.	3171.68
3	a_1	sym. CH str.	3155.55
4	a_1	H-C-C ip bend[1]+ H-C-N ip bend + C-N str.	1607.15
5	a_1	H-C-N ip bend + H-C-C ip bend + C-H str.	1436.99
6	a_1	H-C-N ip bend +N-C-N ip bend	1162.76
7	a_1	C-N str. + C-C str. + H-C-C ip bend	1082.71
8	a_1	ring breathing	1009.62
9	a_1	N-C-N ip bend + C-C-C bend	696.90
10	a_2	CH oop bend[1]	1002.99
11	a_2	ring torsion	409.16
12	b_1	CH oop bend	1027.72
13	b_1	CH oop bend	984.19
14	b_1	CH oop bend	822.34
15	b_1	CH oop bend	737.71
16	b_1	ring torsion	351.59
17	b_2	asym. CH str.	3158.73
18	b_2	C-C str. + H-C-C ip bend	1606.05
19	b_2	H-C-C ip bend + H-C-N ip bend	1499.43
20	b_2	H-C-C ip bend + H-C-N ip bend	1400.29
21	b_2	H-C-C ip bend + H-C-N ip bend + C-N str.	1250.97
22	b_2	C-C str. + C-N str.	1206.18
23	b_2	H-C-C ip bend	1094.69
24	b_2	C-C-N ip bend	637.75

[1] ip= in-plane; oop = out-of-plane

Table S2. The normal modes and harmonic wavenumbers of Thiophene

Mode No.	Symm.	Description	HO wavenumber
1	a_1	sym. CH str.	3254.75
2	a_1	sym. CH str.	3215.5
3	a_1	C-C str. + H-C-C ip bend	1438.74
4	a_1	H-C-C ip bend + H-C-S ip bend	1395.88
5	a_1	H-C-C ip bend + H-C-S ip bend	1106.56
6	a_1	C-C str.	1051.92
7	a_1	C-S str.	834.45
8	a_1	C-S-C ip bend + C-S str.	613.37
9	a_2	CH oop bend	921.09
10	a_2	CH oop bend	688.53
11	a_2	ring torsion	579.08
12	b_1	CH oop bend	888.39
13	b_1	CH oop bend	722.95
14	b_1	ring torsion	462,61
15	b_2	asym. CH str.	3252.20
16	b_2	asym. CH str.	3202.12
17	b_2	C-C str. + H-C-C ip bend	1549.76
18	b_2	H-C-C ip bend + H-C-S ip bend	1284.56
19	b_2	H-C-C ip bend + H-C-S ip bend	1106.52
20	b_2	C-C-C ip bend + H-C-S ip bend + C-C-S ip bend	877.81
21	b_2	C-S str.	746.25

ip= in-plane; oop = out-of-plane

Table S3. The Cartesian coordinates (in Angstroms) of the optimized structure of pyrimidine, computed by B3LYP/6-311++G(2d,2p) method.

Atom	X	Y	Z
C	0.000000	0.000000	-1.308558
N	0.000000	1.192933	-0.712855
C	0.000000	1.181290	0.621569
C	0.000000	0.000000	1.350600
C	0.000000	-1.181290	0.621569
N	0.000000	-1.192933	-0.712855
H	0.000000	2.146274	1.115002
H	0.000000	0.000000	-2.391906
H	0.000000	0.000000	2.430795
H	0.000000	-2.146274	1.115002

Table S4. The Cartesian coordinates (in Angstroms) of the optimized structure of pyrimidine-d4, computed by B3LYP/6-311++G(2d,2p) method.

Atom	X	Y	Z
C	0.000000	0.000000	-1.308558
N	0.000000	1.192933	-0.712855
C	0.000000	1.181290	0.621569
C	0.000000	0.000000	1.350600
C	0.000000	-1.181290	0.621569
N	0.000000	-1.192933	-0.712855
D	0.000000	2.146274	1.115002
D	0.000000	0.000000	-2.391906
D	0.000000	0.000000	2.430795
D	0.000000	-2.146274	1.115002

Table S5. The Cartesian coordinates (in Angstroms) of the optimized structure of Thiophene, computed by B3LYP/6-311++G(2d,2p) method.

Atom	X	Y	Z
C	0.000000	1.238795	-0.010103
C	0.000000	0.712165	-1.268287
C	0.000000	-0.712165	-1.268287
C	0.000000	-1.238795	-0.010103
S	0.000000	0.000000	1.194166
H	0.000000	2.274830	0.280569
H	0.000000	1.315107	-2.163562
H	0.000000	-1.315107	-2.163562
H	0.000000	-2.274830	0.280569

Table S6. The Cartesian coordinates (in Angstroms) of the optimized structure of Thiophene-d4, computed by B3LYP/6-311++G(2d,2p) method.

Atom	X	Y	Z
C	0.000000	1.238795	-0.010103
C	0.000000	0.712165	-1.268287
C	0.000000	-0.712165	-1.268287
C	0.000000	-1.238795	-0.010103
S	0.000000	0.000000	1.194166
D	0.000000	2.274830	0.280569
D	0.000000	1.315107	-2.163562
D	0.000000	-1.315107	-2.163562
D	0.000000	-2.274830	0.280569

Table S7. The Cartesian coordinates (in Angstroms) of the optimized structure of pyrazine, computed by B3LYP/6-311++G(2d,2p) method.

Atom	X	Y	Z
C	0.000000	1.131088	0.696090
C	0.000000	1.131088	-0.696090
N	0.000000	0.000000	-1.401268
C	0.000000	-1.131088	-0.696090
C	0.000000	-1.131088	0.696090
N	0.000000	0.000000	1.401268
H	0.000000	2.060922	1.251864
H	0.000000	2.060922	-1.251864
H	0.000000	-2.060922	-1.251864
H	0.000000	-2.060922	1.251864

Table S8. The Cartesian coordinates (in Angstroms) of the optimized structure of pyrazine-d4, computed by B3LYP/6-311++G(2d,2p) method.

Atom	X	Y	Z
C	0.000000	1.131084	0.696090
C	0.000000	1.131084	-0.696090
N	0.000000	0.000000	-1.401261
C	0.000000	-1.131084	-0.696090
C	0.000000	-1.131084	0.696090
N	0.000000	0.000000	1.401261
D	0.000000	2.060930	1.251843
D	0.000000	2.060930	-1.251843
D	0.000000	-2.060930	-1.251843
D	0.000000	-2.060930	1.251843

Table S9. The Cartesian coordinates (in Angstroms) of the optimized structure of trans-butadiene, computed by B3LYP/6-311++G(2d,2p) method.

Atom	X	Y	Z
C	-0.325181	0.650343	0.000000
C	0.325181	1.816497	0.000000
H	-1.410504	0.646518	0.000000
H	-0.202410	2.759441	0.000000
H	1.407080	1.859005	0.000000
C	-0.325181	-1.816497	0.000000
C	0.325181	-0.650343	0.000000
H	0.202410	-2.759441	0.000000
H	-1.407080	-1.859005	0.000000
H	1.410504	-0.646518	0.000000

Table S10. The Cartesian coordinates (in Angstroms) of the optimized structure of trans-butadiene-d6, computed by B3LYP/6-311++G(2d,2p) method.

Atom	X	Y	Z
C	-0.325182	0.650344	0.000000
C	0.325182	1.816498	0.000000
D	-1.410504	0.646521	0.000000
D	-0.202410	2.759442	0.000000
D	1.407081	1.859004	0.000000
C	-0.325182	-1.816498	0.000000
C	0.325182	-0.650344	0.000000
D	0.202410	-2.759442	0.000000
D	-1.407081	-1.859004	0.000000
D	1.410504	-0.646521	0.000000

Table S11. The Cartesian coordinates (in Angstroms) of the optimized structure of pyridazine, computed by B3LYP/6-311++G(2d,2p) method.

Atom	X	Y	Z
N	0.000000	0.665768	-1.226446
C	0.000000	1.320475	-0.067334
C	0.000000	0.689189	1.175089
C	0.000000	-0.689189	1.175089
C	0.000000	-1.320475	-0.067334
N	0.000000	-0.665768	-1.226446
H	0.000000	1.265462	2.089594
H	0.000000	2.399637	-0.151001
H	0.000000	-1.265462	2.089594
H	0.000000	-2.399637	-0.151001

Table S12. The Cartesian coordinates (in Angstroms) of the optimized structure of pyridazine-d4, computed by B3LYP/6-311++G(2d,2p) method.

Atom	X	Y	Z
N	0.000000	0.665768	-1.226446
C	0.000000	1.320475	-0.067334
C	0.000000	0.689189	1.175089
C	0.000000	-0.689189	1.175089
C	0.000000	-1.320475	-0.067334
D	0.000000	-0.665768	-1.226446
D	0.000000	1.265462	2.089594
D	0.000000	2.399637	-0.151001
D	0.000000	-1.265462	2.089594
D	0.000000	-2.399637	-0.151001

S1. PYRAZINE

Twenty four normal modes of Pyrazine are tabulated in Table S13 along with their symmetry representations, approximate physical descriptions, and harmonic wavenumbers. Out of four CH stretching fundamentals, only two are (9_1 and 15_1) IR active, and they belong to b_{1u} and b_{2u} irreducible representations of the D_{2h} point group, respectively. A comparison between the experimental spectrum and the computed spectrum of the CH stretching region is presented in Figure S1. The experimental spectrum is taken from the NIST database. The calculated results are convoluted with a gaussian line shape function of 20 cm^{-1} FWHM bandwidth and presented along with the stick spectrum underneath it. As can be seen, there is good agreement between the experimental spectrum and the computed one. The experimental spectrum has five bands in the CH stretching region that are spread over 2900 to 3100 cm^{-1}. We found four bands in this region in our computation. The experimental band, labeled as 1, is reproduced by the VCCM calculation. The intensity of the computed band is overestimated as compared to the experimental one. As can be seen from the stick spectrum, this calculated band is the superposition of two medium and several low-intensity transitions. The bands 2 and 3 of the experimental spectrum have been merged into a single band in the calculated spectrum (labeled as 2). This band is the superposition of one medium and several low-intensity transitions. The band 4 of the computed spectrum mimics the band 4 of the experimental spectrum. The stick spectrum shows that this band is the superposition of one high intensity and one medium intensity transitions. The computed band 5 is a superposition of several low-intensity transitions that may be assigned as the shoulder peak 5 of the experimental spectrum. We found an additional band, marked as 0, at the lower end of the band 1 in our calculations.

The redistribution of intensities of the zeroth-order fundamental transitions over several transitions in the anharmonic calculations is observed for the Pyrazine molecule also. A total of eighteen transitions with intensities more than 0.30 $km.mol^{-1}$ are listed in table S14. The transition energies are distributed within the about 260 cm^{-1} of energy region. Several transitions are clustered together within a small energy region. Such clustering of the transitions are also found in Pyrimidine and Thiophene molecule, as discussed in the main text. These clustered transitions have comparable molar extinction coefficients. For example, the transitions 2-4 of the b_{2u} representation are clustered together within 4 cm^{-1} energy, between 2951 to 2955 cm^{-1}. The molar extinction coefficients of these transitions vary between 9.61 to 1.13 $km.mol^{-1}$. Similarly, the transitions 6 and 7 of the same b_{2u} representation are clustered together within 2 cm^{-1}. The molar extinction coefficients of these two transitions are 18.11 and 5.25 $km.mol^{-1}$, respectively.

All the four transitions of b_{1u} and fourteen transitions of b_{2u} representation borrowed intensities predominantly from 9_1 and 15_1 CH stretch chromophores, respectively. We recall that a similar situation is observed in the b_2 representation of pyrimidine where all the transitions received intensities from the asymmetric CH stretch chromophore. Since it is the only primary chromophore present in this representation, the ratio of the intensity to the weight of the zeroth-order CH stretch in the final states of the transitions was found to be a constant. For the pyrazine also we find that the ratio of the intensity of a transition to the weight of the zeroth-order CH stretch fundamental (I_i/w_i) is nearly constant for each symmetry. For example, such the ratio is about 2.4 for the transitions in b_{1u} representation. For the most intense transition of b_{2u} representation, the (I_i/w_i) value is about 65. The value of such a ratio is also 65 for transitions 1 and 7. We note that several intense transitions (transitions 2-5 and 10) do not have 15_1 chromophore as the most or second most important zeroth-order state in their final wavefunctions. With a more detail analysis of these final state wavefunctions, we find that the zeroth-order 15_1 state appears as the third or fourth most significant zeroth-order states in these wavefunctions. The ratio of intensity to the weight of 15_1 fundamental is about 65 for all these transitions.

The final states of the transitions are superpositions of several zeroth-order states. In nine of these states, the weight of the most important zeroth-order state is less than 50%. Several zeroth-order states have near equal contributions in the final states of many of these transitions. Consequently, these states cannot be described by a single zeroth-order state alone. For example, in the final state of the third transition of b_{1u} representation, the most significant zeroth-order state, $23_1 14_1 7_1 6_1$, has 37% weight and the second most contributing state (9_1) has 27% weight. Similarly, the final state of transition 2 of b_{2u} representation receives only 36% contribution from its most significant zeroth-order state $23_1 11_1 7_1 5_1$ and 29% contribution from the second most important zeroth-order state $16_1 2_1$.

The final states are dominated by three or four quantum excitations for most of the transitions listed here. Nine of these transitions have a four quantum state as the most dominating configuration in their final states, and four of the states have a four quantum state as the second most contributing zeroth-order state. Four of the final states have a three quantum state as the most significant zeroth-order state.

The contribution of the primary chromophores CH stretch is significantly small in the states reported here. In all the transitions of b_{1u} representation, the primary chromophore 9_1 is the second most significant zeroth-order state. The highest contribution from 9_1 is only 27% in the final state of transition 3 of this irreducible representation. We note that the primary chromophore 15_1 has the most significant contribution in the final state of transition 6 of b_{2u}

representation, which is only 28%. Thus, none of the transitions can be characterized as a fundamental transition.

Table S13. The normal modes and harmonic wavenumbers of Pyrazine

Mode No.	Symm.	Description	HO wavenumber
1	a_g	sym. CH str.	3176.09
2	a_g	C-C str.	1612.14
3	a_g	H-C-C ip bend + H-C-N ip bend	1253.07
4	a_g	C-C str. + C-N str.	1038.99
5	a_g	C-N-C ip bend	615.07
6	a_u	H-C-C oop bend	1005.85
7	a_u	ring torsion	351.46
8	b_{1g}	H-C-C oop bend	944.94
9	b_{1u}	CH str.	3156.26
10	b_{1u}	H-C-C ip bend + H-C-N ip bend	1518.68
11	b_{1u}	H-C-N ip bend	1164.79
12	b_{1u}	C-N-C ip bend	1037.75
13	b_{2g}	H-C-C oop bend	993.17
14	b_{2g}	ring twisting	778.40
15	b_{2u}	CH str.	3170.19
16	b_{2u}	H-C-N ip bend + H-C-C ip bend	1445.53
17	b_{2u}	C-C str. + C-N str.	1208.13
18	b_{2u}	C-C str. + H-C-C ip bend	1089.51
19	b_{3g}	CH str.	3155.11
20	b_{3g}	C-N str.	1575.71
21	b_{3g}	H-C-N ip bend + H-C-C ip bend	1378.76
22	b_{3g}	C-C-N ip bend	720.70
23	b_{3u}	H-C-C oop bend	803.61
24	b_{3u}	ring torsion	433.77

ip= in-plane; oop = out-of-plane

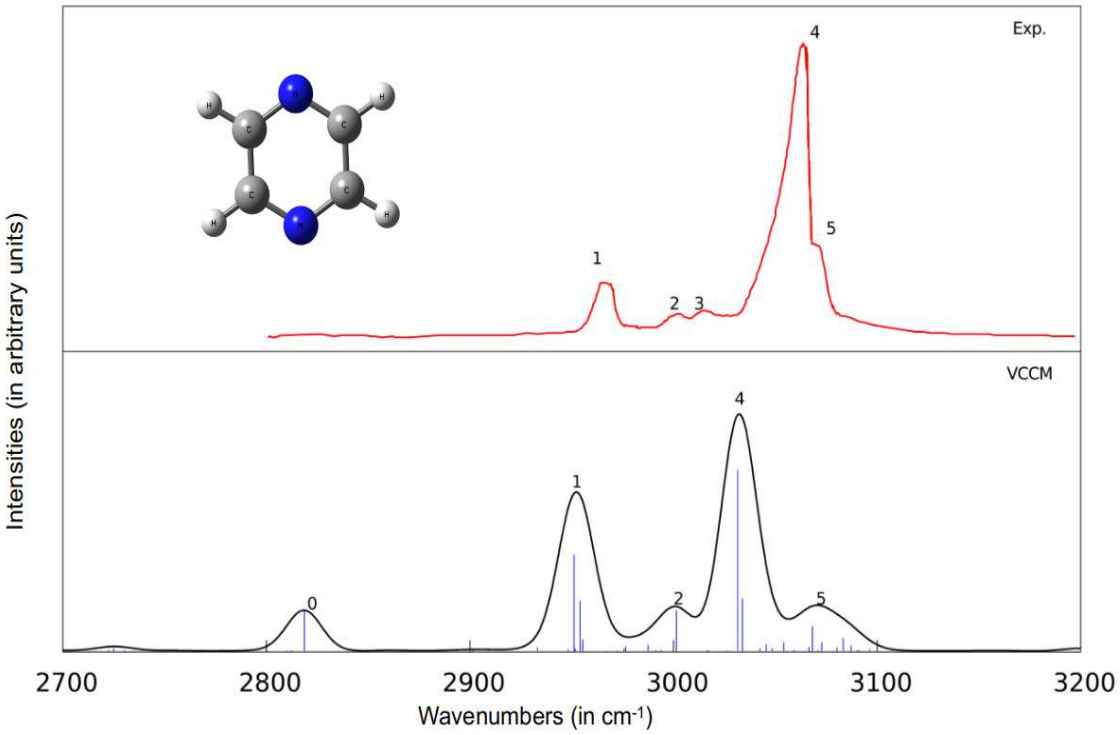

Figure S1. The CH stretching region of IR spectra of pyrazine. The VCCM spectra is convoluted with a gaussian line shape function of 20 cm^{-1} FWHM, and the corresponding stick spectrum is presented along with it. The gas phase experimetal spectrum is taken from NIST database.

Table S14. Some bright states of Pyrazine in the CH stretching region. Transitions with intensities more than 0.30 $km.mol^{-1}$ are tabulated.

Symmetry	Transition no.	Excitation energy	State description	Intensity
	1	2933.18	$0.73*20_1 16_1 + 0.14*9_1$	0.37
	2	2976.45	$0.41*23_1 14_1 7_1 6_1 + 0.19*9_1$	0.44
b_{1u}	3	2987.47	$0.37*23_1 14_1 7_1 6_1 - 0.27*9_1$	0.61
	4	3066.39	$0.53*10_1 2_1 - 0.18*9_1$	0.42
	1	2818.63	$0.82*21_1 10_1 - 0.06*15_1$	3.99
	2	2951.07	$0.36*23_1 11_1 7_1 5_1 + 0.29*16_1 2_1$	9.61
	3	2954.12	$0.55*23_1 11_1 7_1 5_1 - 0.20*16_1 2_1$	5.01
	4	2955.38	$0.45*22_1 12_1 3_1 - 0.35*22_1 12_1 5_2$	1.13
	5	3001.43	$0.63*20_1 10_1 - 0.16*16_1 2_1$	4.07
b_{2u}	6	3031.57	$0.28*15_1 + 0.16*20_1 10_1$	18.11
	7	3033.82	$0.63*13_1 11_1 8_1 - 0.08*15_1$	5.25
	8	3045.42	$0.46*24_1 23_1 17_1 5_1 - 0.28*16_1 5_1 4_1$	0.67
	9	3054.07	$0.89*14_1 8_2 7_1 - 0.01*15_1$	0.84
	10	3068.23	$0.36*23_1 21_1 13_1 - 0.23*23_2 13_1 7_1$	2.46
	11	3072.77	$0.73*23_1 20_1 14_1 - 0.09*23_1 21_1 13_1$	0.87
	12	3080.28	$0.63*22_1 11_1 5_2 + 0.15*21_1 11_1 5_1$	0.32
	13	3083.33	$0.29*24_1 23_2 8_1 - 0.19*23_2 13_1 7_1$	1.30
	14	3087.11	$0.43*24_1 23_2 8_1 + 0.13*23_1 22_1 17_1 7_1$	0.53

S2. TRANS-BUTADIENE

Trans-butadiene is an open-chain molecule in our analysis. Twenty four normal modes span as $9a_g+4a_u+3b_g+8b_u$ in the irreducible representation of C_{2h} point group. The approximate descriptions of the normal modes, symmetry representations, and the harmonic wavenumbers are presented in table S15. Out of six CH stretch fundamentals, only three are IR active and they all belong to b_u representation.

The experimental spectrum of the CH stretch region is compared with the computed spectrum by the VCCM method in figure S2. The computed spectrum is convoluted with 20 cm^{-1} gaussian bandwidth. We presented the stick spectrum underneath of the convoluted spectrum for comparison. Overall, the experimental spectrum is fairly well reproduced by the VCCM. The experimental spectrum is broad, spans over 2950 to 3150 cm^{-1} region, and has seven bands. We found several transitions in this region, as reported in the stick spectrum. With 20 cm^{-1} bandwidth, these transitions generate six bands. The experimental band, labeled as 1, is simulated as band 1 in the VCCM calculations. However, the intensity of the computed band is significantly underestimated. The band 2 of the computed spectrum represents the band 2 of the experimental spectrum. This band is the superposition of one high-intensity transition and several medium and low-intensity transitions. The band 6 and 7 of the experimental spectrum are merged into one band (labeled as 5) in the anharmonic calculations.

The intensities of three CH stretch fundamentals are distributed over several transitions in the small energy region, and this leads to a broad structure of the experimental spectrum in the CH stretch region. There are as many as thirty-four transitions with intensity more than 0.30 $km.mol^{-1}$. These transitions are listed in table S16. These transitions span over 190 cm^{-1} of energy.

The general features of the transitions in the CH stretch region of this molecule are similar to the other molecules under study. Here also, we found clustering of several transitions within the small energy region, and the clustered transitions have comparable molar extinction coefficients. For example, the transitions 7-11 are clustered together within 8 cm^{-1}, between 2958 to 2966 cm^{-1}. The molar extinction coefficients of these transitions vary between 0.45 to 2.79 $km.mol^{-1}$.

Several zeroth-order states have significant contributions in the final state wavefunctions of the transitions in the CH stretch region. In twenty-five out of thirty-four transitions, the most significant zeroth-order states have less than 50% weight in their final states. Several zeroth-order states have near equal contributions in the final states of these transitions, implying that these states can not be described by a single zeroth-order state alone. For example, for the transition 2, both the most significant zeroth-order state ($14_1 12_1 5_1$) and the second most important zeroth-order state ($20_1 13_1 12_1 9_1$) have only 14% weight. Several other zeroth-order states constitute the rest of 72% of the wavefunction.

Like other molecules in this study, the final states of the transitions are mostly dominated by three and/or four quantum zeroth-order states. The contributions of the primary CH chromophores are significantly small in these transitions, and they mix strongly with three and/or four quantum states due to near degeneracy. The maximum contribution from the primary chromophore is found in transition 6, where 19_1 has only 24% weight in the final state. Notably, this is the most intense transition reported here. The second most important zeroth-order state of the final state of this transition is a four quantum state ($16_1 15_1 14_1 13_1$) with 13% weight. The chromophore 18_1 is not the most significant zeroth-order state in the final state any of the transitions. It is the second most significant zeroth-order state in the final state of transition 14 with 13% weight. The most important zeroth-order state of the final state of this transition is a four quantum state ($16_1 14_2 13_1$)and it has 27% weight. The primary chromophore 17_1 is the most significant zeroth-order state in the final state of transition 28, and its weight is only 21%. The second most contributing zeroth-order state is again a four quantum state ($24_1 8_3$) with 15% weight in the final state of this transition.

Table S15. The normal modes and harmonic wavenumbers of trans-butadiene

Mode No.	Symm.	Description	HO wavenumber
1	a_g	sym. CH str.	3225.98
2	a_g	sym. CH str.	3141.91
3	a_g	sym. CH str.	3130.46
4	a_g	C=C str.	1698.03
5	a_g	CH2 scis.	1481.68
6	a_g	H-C-C ip bend	1319.62
7	a_g	C-C str.	1229.77
8	a_g	CH2 rock	900.39
9	a_g	C-C-C ip bend	519.29
10	a_u	H-C-C oop bend	1053.02
11	a_u	H-C-C oop bend	941.12
12	a_u	H-C-C oop bend	538.56
13	a_u	CCC deform	172.96
14	b_g	H-C-C oop bend	1000.01
15	b_g	H-C-C oop bend	940.27
16	b_g	H-C-C oop bend	779.07
17	b_u	asym. CH str.	3226.37
18	b_u	asym. CH str.	3143.18
19	b_u	asym. CH str.	3139.30
20	b_u	C=C str.	1647.75
21	b_u	CH2 scis.	1420.50
22	b_u	H-C-C ip bend	1327.12
23	b_u	CH2 rock	1010.36
24	b_u	C-C-C ip bend	298.89

ip= in plane; oop = out-of-plane

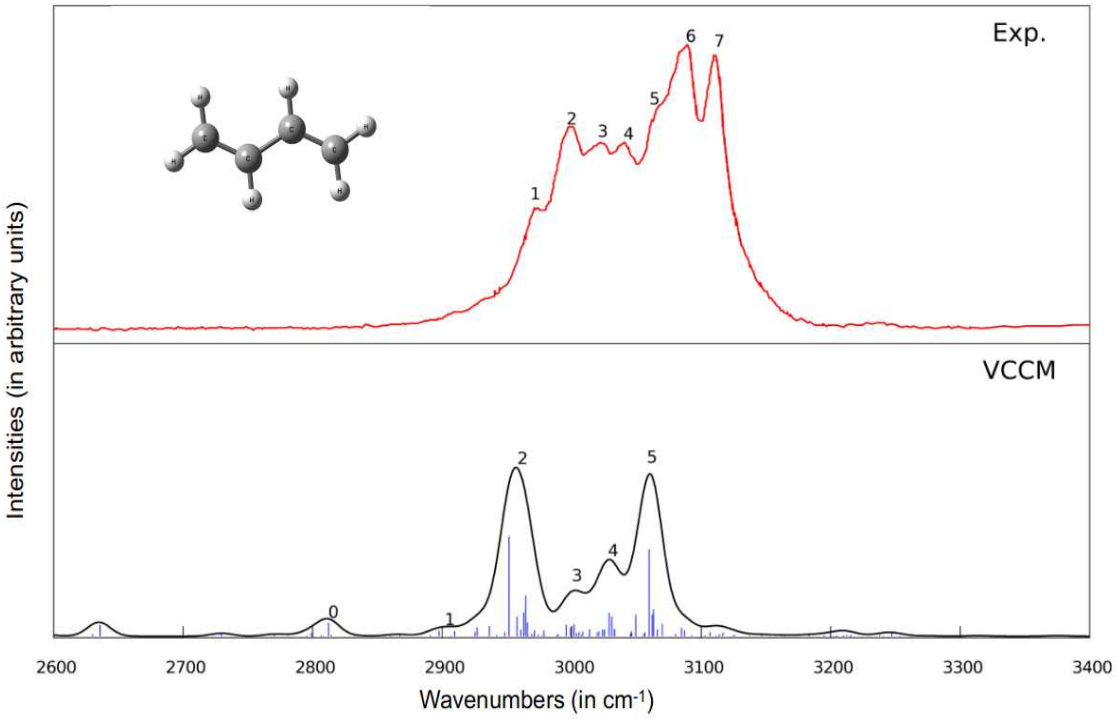

Figure S2. The CH stretching region of IR spectra of trans-butadiene. The VCCM spectra is convoluted with a gaussian line shape function of 20 cm^{-1} FWHM, and the corresponding stick spectrum is presented along with it. The gas phase experimetal spectrum is taken from NIST database.

Table S16. Some bright states of trans-butadiene in the CH stretching region. Transitions with intensities more than 0.30 km.mol^{-1} are tabulated here.

Symmetry	Transition no.	Excitation energy	State description	Intensity
	1	2897.69	$0.46*21_1 12_1 10_1 - 0.27*24_1 12_1 10_1 8_1$	0.38
	2	2909.64	$0.14*14_1 12_1 5_1 + 0.14*20_1 13_1 12_1 9_1$	0.35
	3	2925.34	$0.45*23_1 14_2 - 0.09*14_1 12_1 5_1$	0.30
	4	2927.11	$0.37*22_1 4_1 + 0.09*20_1 6_1$	0.62
	5	2936.44	$0.38*24_1 7_1 5_1 - 0.11*22_1 4_1$	0.70
	6	2951.58	$0.24*19_1 + 0.13*16_1 15_1 14_1 13_1$	6.82
	7	2957.84	$0.67*16_1 13_1 9_1 5_1 - 0.05*19_1$	1.35
	8	2960.86	$0.25*22_1 16_1 15_1 + 0.22*24_2 21_1 8_1$	0.45
	9	2962.88	$0.41*24_2 21_1 8_1 - 0.22*22_1 16_1 15_1$	1.62
	10	2964.41	$0.23*16_1 10_1 7_1 + 0.15*16_1 11_1 6_1$	2.79
	11	2965.81	$0.41*16_1 10_1 7_1 - 0.16*16_1 15_1 14_1 13_1$	0.95
	12	2971.33	$0.50*15_1 13_1 9_1 6_1 - 0.21*22_1 13_2 6_1$	0.41
	13	2978.40	$0.50*24_1 23_1 14_1 12_1 + 0.07*20_1 12_1 11_1$	0.39
	14	2995.83	$0.27*16_1 14_2 13_1 - 0.13*18_1$	0.79
	15	2999.06	$0.73*14_1 13_1 8_2 - 0.07*18_1$	0.61
	16	3001.84	$0.31*16_1 14_2 13_1 + 0.09*18_1$	0.81
	17	3008.44	$0.29*16_1 13_1 11_1 10_1 - 0.13*16_3 12_1$	0.32
	18	3013.86	$0.55*22_1 9_1 7_1 + 0.09*23_1 13_1 12_1 7_1$	0.48
b_u	19	3021.18	$0.57*23_1 10_2 + 0.23*22_1 16_1 14_1$	0.33
	20	3023.88	$0.73*23_2 16_1 13_1 + 0.07*24_1 6_1 5_1$	0.46
	21	3025.38	$0.35*24_1 6_1 5_1 - 0.20*23_2 16_1 13_1$	0.46
	22	3028.93	$0.25*15_1 11_1 7_1 - 0.14*24_1 6_1 5_1$	1.61
	23	3030.93	$0.43*15_1 11_1 7_1 + 0.07*23_1 13_1 12_1 7_1$	1.36
	24	3032.93	$0.38*24_1 13_1 10_1 5_1 + 0.13*24_1 16_1 14_1 8_1$	0.51
	25	3033.20	$0.27*21_1 4_1 - 0.21*24_1 13_1 10_1 5_1$	0.40
	26	3045.99	$0.63*24_1 22_1 16_1 12_1 - 0.13*14_1 12_1 9_1 8_1$	0.33
	27	3049.44	$0.39*20_1 5_1 - 0.15*14_1 12_1 9_1 8_1$	1.47
	28	3059.81	$0.21*17_1 - 0.15*24_1 8_3$	5.93
	29	3062.29	$0.47*24_1 8_3 - 0.11*24_1 21_2$	1.49
	30	3063.18	$0.29*24_1 21_2 + 0.24*21_1 16_1 15_1$	1.82
	31	3066.25	$0.49*22_1 8_2 - 0.07*24_1 9_1 8_1 6_1$	0.46
	32	3069.90	$0.36*23_1 13_1 11_1 8_1 - 0.16*15_1 13_1 11_2$	0.86
	33	3084.78	$0.74*24_1 20_1 15_1 13_1 + 0.07*23_1 8_1 7_1$	0.58
	34	3087.16	$0.43*16_1 12_2 10_1 - 0.14*20_1 12_1 10_1$	0.40

S3. PYRIDAZINE

Twenty four normal modes of Pyridazine span as $9a_1 + 4a_2 + 3b_1 + 8b_2$ in the irreducible representations of C_{2v} point group. The approximate descriptions of the normal modes, symmetry representations, and the harmonic wavenumbers are presented in table S17. All the CH stretch are IR active. The comparison between the experimental spectrum and the computed spectrum is presented in figure S3. The experimental spectrum is taken from the NIST database. The experimental spectrum is in the liquid phase while the computation assumes the gas phase at absolute temperature. Thus, the comparison between them is not very apt since the intermolecular interactions that affect the bandwidth significantly are not considered here. Despite that, the computed spectrum described the experimental spectrum fairly well.

Four transitions of a_1 representation and nine transitions of b_2 representation that have molar extinction coefficient values more than 0.30 km.mol^{-1} are listed in table S18. The transitions of a_1 representation receive intensities from zeroth-order 1_1 and 2_1 fundamentals, and transitions of the b_2 representation receive intensities form 17_1 and 18_1 fundamentals, respectively. These transitions are spread over about 190 cm^{-1} energy range between 2947 to 3132 cm^{-1}.

The strong mixing of the multi-quantum zeroth-order states with the CH stretch fundamentals due to near degeneracy leads to extensive intensity redistribution from the CH stretching fundamentals to several other transitions in the anharmonic description. In the many-body description of the wave-functions of the final states of these transitions, the weights of the zeroth-order CH stretch fundamentals are significantly small and they mix strongly with multi-quantum zeroth-order states. Consequently, the multi-quantum zeroth-order states have significant weights in these functions. None of these final states has more than 50% contribution from any of the zeroth-order CH stretch fundamental, implying that none of the transitions can strictly be termed as the fundamental transition. For example, 1_1 state is the most significant zeroth-order state in the final state of transition 1 of a_1 representation. However, its weight is only 26%. It is the second most important zeroth-order state of the other three transitions. The total weight of 1_1 fundamental in all these four final states is 55%. The rest 45% of this zeroth-order state are distributed over several final states and each will receive small intensity from the 1_1 fundamental. None of the transition tabulated here has 2_1 fundamental as the most important configuration. It is the second most important zeroth-order state in the final state of transition 1 with 17% weight. We note that the harmonic intensity of 1_1 is about 1000 times more than 2_1, and thus the transitions of a_1 irreducible representation receive intensities mainly from 1_1 fundamental.

Such features of the many-body wave-functions of the final states of the transitions are persistent for b_2 representation as well. Only for the final state of transition 7, the primary chromophore 17_1 is the most important configuration with 37% weight. Consequently, this is the most intense transition of this representation. None of the transition has 18_1 as the most or second most significant state in their final state wave-functions.

The final states of most of the transitions tabulated here have a four quantum or three quantum zeroth-order state as the most or the second most important zeroth-order states. The weight of these states is usually small (less than half) in all most all the transitions reported here. Consequently, these state cannot be assigned by a single zeroth-order state in the accurate description.

Table S17. The normal modes and harmonic wave-numbers of Pyridazine

Mode No.	Symm.	Description	HO wavenumber
1	a_1	sym. CH str.	3200.70
2	a_1	sym. CH str.	3175.15
3	a_1	C-C str. + H-C-C ip bend	1608.51
4	a_1	H-C-N ip bend + H-C-C ip bend	1481.59
5	a_1	H-C-C ip bend	1177.35
6	a_1	C-N str. + N-N str. + H-C-C ip bend	1173.32
7	a_1	N-N str + C-C str. + H-C-C ip bend	1089.18
8	a_1	N-N str + C-C str.	1005.92
9	a_1	N-C-C ip bend	682.93
10	a_2	H-C-C oop bend	1018.23
11	a_2	H-C-C oop bend	942.76
12	a_2	H-C-C oop bend + H-C-N oop bend	773.45
13	a_2	ring torsion	376.36
14	b_1	H-C-C oop bend	984.70
15	b_1	H-C-C oop bend	760.71
16	b_1	ring torsion	374.69
17	b_2	asym. CH str.	3187.76
18	b_2	asym. CH str.	3170.55
19	b_2	C-N str. + C-C str. + H-C-N ip bend + H-C-C ip bend	1602.53
20	b_2	H-C-C ip bend	1446.62
21	b_2	H-C-N ip bend + H-C-C ip bend	1314.98
22	b_2	H-C-C ip bend	1086.60
23	b_2	C-N-N ip bend + C-C-C ip bend + H-C-C ip bend	1062.87
24	b_2	C-C-C ip bend + C-C-N ip bend	637.32

ip= in-plane; oop = out-of-plane

Table S18. Some bright states of pyridazine in the CH stretching region. Transitions with intensities more than 0.30 km.mol^{-1} are tabulated.

Symmetry	Transition no.	Excitation energy	State description	Intensity
	1	3033.94	$0.26*1_1+0.17*2_1$	2.33
	2	3037.12	$0.61*24_121_16_1+0.09*1_1$	0.71
a_1	3	3046.37	$0.22*15_23_1-0.19*1_1$	1.32
	4	3131.68	$0.80*3_2+0.06*1_1$	0.30
	1	2946.77	$0.46*14_113_112_2+0.13*20_13_1$	0.44
	2	2948.55	$0.38*20_13_1-0.18*14_113_112_2$	0.89
	3	2959.06	$0.34*24_113_112_15_1-0.09*15_112_14_1$	0.34
b_2	4	2970.82	$0.28*16_110_13_1+0.12*19_14_1$	1.63
	5	2977.82	$0.18*19_113_110_1-0.14*16_115_114_112_1$	0.72
	6	3050.28	$0.51*24_18_14_1-0.14*24_123_114_113_1$	0.56
	7	3062.56	$0.37*17_1-0.18*19_14_1$	11.48
	8	3086.33	$0.24*15_111_14_1-0.22*16_115_210_1$	0.54
	9	3088.63	$0.33*16_115_1210_1+0.16*15_111_14_1$	0.82

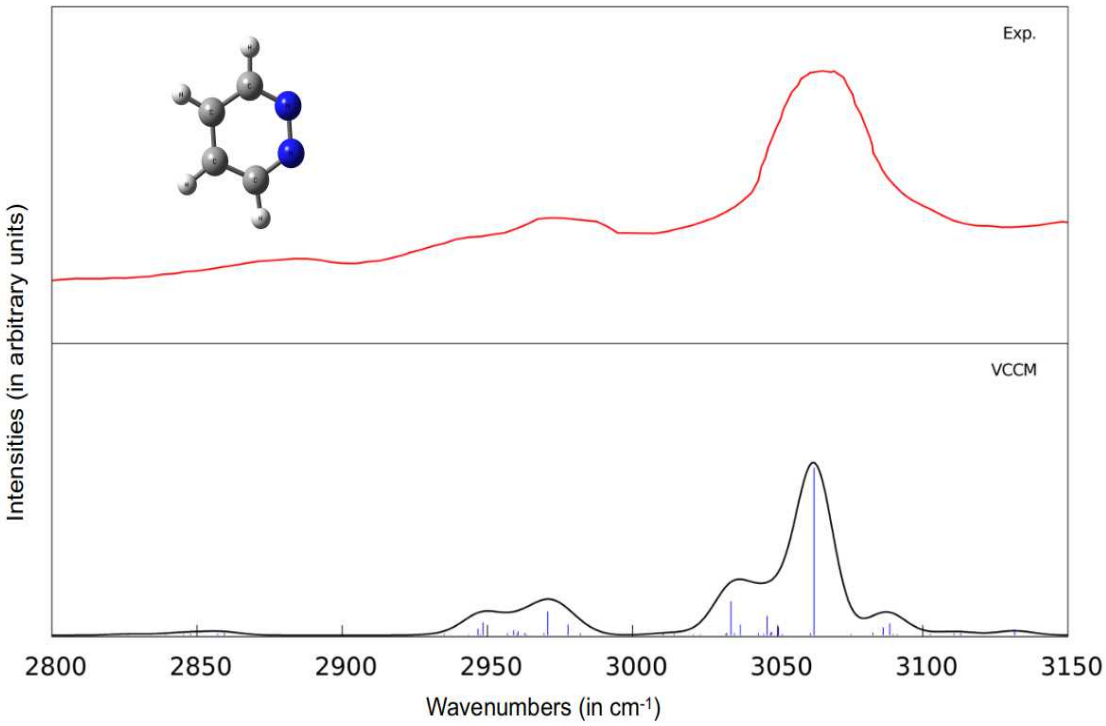

Figure S3. The CH stretching region of IR spectra of pyridazene. The VCCM spectra is convoluted with a gaussian line shape function of 15 cm^{-1} FWHM, and the corresponding stick spectrum is presented along with it. The liquid phase experimetal spectrum is taken from NIST database.

Table S19. Transitions in the CD stretching region of pyrimidine-d4. Transitions with intensities more than 0.50 km.mol^{-1} are tabulated here.

Symmetry	Transition no.	Excitation energy	State description	Intensity
	1	2238.95	$0.40*21_1 13_1 11_1 - 0.11*22_1 19_1$	0.79
	2	2242.50	$0.81*24_1 13_1 10_1 + 0.05*15_1 13_1 8_1$	0.61
	3	2244.85	$0.46*3_1 - 0.17*7_1 5_1$	11.70
a_1	4	2256.97	$0.58*7_1 5_1 + 0.13*3_1$	2.31
	5	2274.39	$0.34*2_1 - 0.25*14_1 13_1 11_2$	3.11
	6	2275.86	$0.31*14_1 13_1 11_2 + 0.19*2_1$	0.81
	7	2289.94	$0.70*1_1 + 0.06*23_1 18_1$	5.79
	1	2253.91	$0.56*24_1 9_1 7_1 - 0.26*17_1$	5.09
b_2	2	2255.15	$0.31*24_1 9_1 7_1 - 0.29*24_2 21_1$	3.73
	3	2256.28	$0.64*24_2 21_1 - 0.11*13_1 11_1 6_1$	1.62
	4	2258.35	$0.43*13_1 11_1 6_1 + 0.19*17_1$	3.70
	5	2316.95	$0.73*21_1 5_1 - 0.11*12_1 10_1 9_1$	0.90
	6	2448.00	$0.57*20_1 5_1 - 0.13*13_1 11_1 5_1$	0.58

Table S20. Some bright states of thiophene-d4 in the CD stretching region. Transitions with intensities more than 0.10 km.mol^{-1} are tabulated.

Symmetry	Transition no.	Excitation energy	State description	Intensity
	1	2290.68	$0.40*14_1 13_1 8_1 7_1 + 0.28*2_1$	0.20
	2	2290.91	$0.56*14_1 13_1 8_1 7_1 - 0.23*2_1$	0.16
a_1	3	2323.02	$0.23*20_1 14_1 10_1 8_1 + 0.17*1_1$	0.19
	4	2328.84	$0.28*11_2 10_1 9_1 + 0.23*1_1$	0.21
	5	2333.56	$0.32*14_1 13_1 10_1 9_1 - 0.28*1_1$	0.29
b_2	1	2281.13	$0.70*16_1 + 0.03*18_1 3_1$	1.14

Table S21. Some bright states of trans-butadiene-D6 in the CD stretching region. Transitions with intensities more than 0.30 km.mol^{-1} are tabulated here.

Symmetry	Transition no.	Excitation energy	State description	Intensity
	1	2190.70	$0.80*24_1 15_2 9_1 - 0.04*22_1 9_1 8_1$	0.33
	2	2191.91	$0.31*22_1 9_1 8_1 - 0.21*19_1$	1.68
	3	2199.36	$0.80*22_1 16_2 - 0.05*24_1 12_1 11_1 8_1$	0.40
	4	2207.98	$0.35*19_1 + 0.24*22_1 5_1$	4.75
	5	2213.82	$0.54*14_1 13_1 12_1 10_1 + 0.11*16_2 14_1 13_1$	1.05
b_u	6	2234.04	$0.37*21_1 9_1 8_1 + 0.21*18_1$	0.48
	7	2263.81	$0.61*16_1 13_1 8_2 - 0.18*20_1 8_1$	0.37
	8	2269.11	$0.39*20_1 8_1 + 0.23*16_1 13_1 8_2$	1.18
	9	2308.35	$0.57*22_1 16_1 15_1 + 0.19*24_1 22_1 21_1$	0.36
	10	2310.33	$0.47*17_1 + 0.10*23_1 4_1$	5.54
	11	2351.26	$0.62*23_1 4_1 - 0.12*17_1$	1.40

Table S22. Some bright states of Pyrazine-d4 in the CD stretching region. Transitions with intensities more than 0.30 km.mol^{-1} are tabulated.

Symmetry	Transition no.	Excitation energy	State description	Intensity
	1	2205.64	$0.53*21_1 17_1 + 0.18*9_1$	0.41
	2	2226.41	$0.42*10_1 4_1 - 0.21*9_1$	0.54
b_{1u}	3	2251.33	$0.32*10_1 4_1 + 0.26*9_1$	0.62
	1	2144.69	$0.88*16_1 4_1 + 0.05*13_1 7_1 3_1$	0.54
	2	2233.58	$0.73*23_2 14_1 7_1 - 0.07*23_1 21_1 14_1$	2.81
	3	2249.99	$0.70*15_1 - 0.09*16_1 3_1$	35.41
	4	2259.89	$0.92*24_1 11_1 6_1 + 0.02*24_1 8_1 7_1 6_1$	0.49
b_{2u}	5	2274.71	$0.65*24_1 23_1 16_1 - 0.13*16_1 3_1$	2.12
	6	2277.70	$0.38*16_1 3_1 + 0.33*14_3 7_1$	1.59
	7	2278.11	$0.34*14_3 7_1 - 0.32*16_1 3_1$	1.11
	8	2287.06	$0.74*24_1 21_1 13_1 - 0.16*23_1 21_1 14_1$	0.37
	9	2355.31	$0.90*18_1 2_1 + 0.02*18_1 5_1 4_1$	0.44
	10	2386.71	$0.87*21_1 10_1 - 0.04*20_1 12_1$	0.69

Table S23. Some bright states of pyridazine-d4 in the CD stretching region. Transitions with intensities more than 0.30 km.mol^{-1} are tabulated.

Symmetry	Transition no.	Excitation energy	State description	Intensity
a_1	1	2254.88	$0.56*22_120_1+0.10*16_212_110_1$	0.37
	2	2277.18	$0.62*6_14_1+0.08*1_1$	0.47
	3	2292.22	$0.56*16_214_2-0.22*1_1$	0.93
	4	2292.72	$0.36*16_214_2+0.28*1_1$	1.16
	5	2293.99	$0.67*24_121_19_1+0.11*1_1$	0.44
b_2	1	2247.77	$0.67*18_1+0.10*22_14_1$	5.81
	2	2264.46	$0.53*15_111_16_1-0.29*17_1$	3.34
	3	2271.00	$0.85*24_113_26_1-0.05*17_1$	0.54
	4	2271.28	$0.28*17_1+0.27*15_111_16_1$	3.32
	5	2307.12	$0.53*22_14_1-0.11*16_110_15_1$	2.22
	6	2310.03	$0.51*16_110_15_1-0.10*14_112_18_1$	0.30

Table S24. The linear dipole moment surface of Pyrimidine. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The derivatives are in $\sqrt{km.mol^{-1}}$ unit.

Mode	$\frac{d\mu_x}{dq_i}$	$\frac{d\mu_y}{dq_i}$	$\frac{d\mu_z}{dq_i}$
1	2.83656D-10	-1.80471D-07	2.95331D+00
2	-2.08923D-10	-2.93293D-07	-3.61307D+00
3	2.63710D-10	3.12928D-08	-3.63641D+00
4	1.23171D-10	-2.40245D-07	6.49360D+00
5	2.36286D-10	6.16420D-08	-7.81283D+00
6	-1.81331D-10	5.04235D-08	1.21769D+00
7	-1.79063D-10	-1.29014D-09	-1.06905D+00
8	-3.92581D-10	1.74801D-08	1.91001D+00
9	4.73865D-11	-5.87210D-08	1.68820D+00
10	-2.67703D-08	-2.66811D-10	4.44194D-11
11	1.45697D-08	-4.01992D-11	-1.31558D-10
12	-3.14559D-02	5.93876D-10	5.33593D-10
13	1.96942D-01	-2.35263D-10	-4.78004D-10
14	-2.24483D+00	-1.04794D-09	-7.94407D-10
15	-6.48774D+00	-7.52315D-10	-4.76897D-10
16	1.88824D+00	-1.50869D-10	7.73198D-10
17	3.61124D-10	-3.33831D+00	-3.73874D-09
18	5.62090D-10	1.76910D+00	4.46235D-08
19	6.40468D-11	1.98429D+00	1.28477D-09
20	9.79945D-11	3.22771D+00	-2.40878D-09
21	3.05044D-11	6.09661D-01	1.32634D-08
23	2.10780D-10	-2.43151D+00	-4.06578D-08
23	1.15254D-10	-9.13585D+00	-1.77550D-07
24	1.20110D-10	4.15021D+00	-1.10089D-07

Table S25. The linear dipole moment surface of Pyrimidine-d4. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The derivatives are in $\sqrt{km.mol^{-1}}$ unit.

Mode	$\frac{d\mu_x}{dq_i}$	$\frac{d\mu_y}{dq_i}$	$\frac{d\mu_z}{dq_i}$
1	-2.13414D-10	-1.15506D-07	2.13335D+00
2	5.61756D-11	-2.00472D-07	-3.33871D+00
3	3.14523D-11	1.14232D-08	-3.93762D+00
4	1.62799D-10	2.47260D-07	8.32947D+00
5	-1.22420D-11	3.65664D-08	-4.91525D+00
6	4.83524D-10	1.77454D-08	1.26287D+00
7	6.10408D-11	4.15530D-08	1.83847D+00
8	7.95066D-11	-1.09718D-08	-1.10532D+00
9	1.88852D-10	5.27686D-08	-1.72226D+00
10	-6.89316D-08	-5.42117D-11	-9.34564D-11
11	4.57694D-09	5.82335D-11	-6.20979D-10
12	1.50298D+00	7.33362D-11	7.25469D-11
13	1.08574D+00	-4.39662D-10	2.24789D-11
14	2.67872D-01	1.64044D-10	1.79881D-09
15	-4.81997D+00	-1.27050D-09	1.29600D-10
16	-1.78936D+00	-1.41506D-10	-6.53612D-11
17	2.56306D-10	4.38566D+00	-8.06781D-08
18	-1.66724D-10	9.43327D+00	-2.30898D-07
19	5.91203D-10	1.18176D-01	-1.79384D-08
20	-1.69468D-10	-2.21616D-01	8.74880D-10
21	-1.26519D-10	1.37620D-01	4.80666D-08
22	-2.11911D-10	-2.16329D+00	-5.96105D-09
23	4.27716D-11	1.57529D+00	2.63140D-10
24	-2.20873D-10	-3.23254D+00	-1.75716D-09

Table S26. The linear dipole moment surface of Pyridazene. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The derivatives are in $\sqrt{km.mol^{-1}}$ unit.

Mode	$\frac{d\mu_x}{dq_i}$	$\frac{d\mu_y}{dq_i}$	$\frac{d\mu_z}{dq_i}$
1	-5.12756D-11	2.18171D-08	2.71541D+00
2	-7.75061D-11	-4.57508D-08	2.68191D-01
3	-1.62207D-12	-7.21655D-09	2.10959D+00
4	-1.13268D-11	7.76064D-08	-9.56666D-01
5	5.10583D-11	-2.21186D-08	-4.14836D-02
6	-7.64472D-11	-2.09656D-08	1.22625D-01
7	-1.10787D-10	-1.51781D-09	-3.37559D+00
8	8.15220D-11	3.90624D-08	2.76379D+00
9	2.81140D-11	-7.33929D-09	-1.70245D+00
10	-2.79488D-08	-3.86506D-10	3.85259D-09
11	-2.08246D-09	-6.67878D-11	2.00368D-10
12	8.69678D-09	1.68461D-10	-3.41445D-10
13	3.55457D-08	-4.27248D-11	-2.42044D-10
14	-1.59187D-01	4.58522D-10	4.47954D-10
15	-6.53757D+00	-1.97335D-10	-7.13403D-11
16	-2.97871D+00	2.31973D-10	-1.64102D-10
17	-1.27296D-09	4.07519D+00	-5.77115D-08
18	-3.17806D-11	2.52364D+00	-1.10893D-07
19	-4.20058D-10	-1.93886D+00	-1.11033D-07
20	-2.76844D-10	-4.03292D+00	1.19334D-07
21	-6.17560D-10	-1.62080D+00	-3.48437D-08
22	-5.06490D-10	1.23133D+00	1.07163D-07
23	-1.78922D-10	7.72822D-01	9.09720D-09
24	1.22999D-10	2.33679D-01	9.82105D-08

Table S27. The linear dipole moment surface of Pyridazene-d4. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The derivatives are in $\sqrt{km.mol^{-1}}$ unit.

Mode	$\frac{d\mu_x}{dq_i}$	$\frac{d\mu_y}{dq_i}$	$\frac{d\mu_z}{dq_i}$
1	5.69930D-11	-1.70200D-08	-2.07130D+00
2	5.85779D-11	-3.22740D-08	6.21363D-01
3	-1.21598D-10	9.79181D-09	1.37911D+00
4	-1.41654D-10	5.82748D-08	4.06515D-01
5	-1.80246D-10	3.86965D-08	1.59227D+00
6	-1.54740D-10	3.12896D-08	1.64373D+00
7	2.13611D-10	2.42567D-08	-2.33855D+00
8	2.11296D-11	-1.17819D-08	-2.40213D+00
9	-1.44329D-11	-4.85334D-09	-1.40557D+00
10	-1.84088D-08	-3.76610D-10	1.73378D-09
11	1.31964D-09	-1.87218D-11	-7.15569D-12
12	4.92996D-09	1.05955D-11	-2.23595D-11
13	-3.32584D-08	2.10246D-11	-6.19108D-13
14	6.23999D-01	-3.27587D-10	-3.85106D-10
15	-4.20664D+00	1.71279D-11	1.48173D-10
16	-2.93426D+00	2.13723D-10	8.96445D-11
17	2.51486D-10	3.99119D+00	-3.09428D-08
18	-1.11944D-10	1.75869D+00	-7.81011D-08
19	-1.22553D-10	-9.15811D-01	-1.20017D-07
20	-8.01328D-11	-3.86624D+00	1.95184D-08
21	5.57255D-11	-1.32691D+00	-8.38474D-08
22	1.88501D-10	-9.43519D-02	3.65969D-08
23	2.11799D-10	2.73217D-01	-4.74961D-08
24	-2.87369D-10	1.38905D-01	9.86409D-08

Table S28. The linear dipole moment surface of Pyrazine. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The derivatives are in $\sqrt{km.mol^{-1}}$ unit.

Mode	$\frac{d\mu_x}{dq_i}$	$\frac{d\mu_y}{dq_i}$	$\frac{d\mu_z}{dq_i}$
1	4.11647D-12	2.04772D-09	1.95939D-08
2	-1.78503D-11	-2.17065D-09	1.60687D-08
3	-9.36849D-12	-7.85933D-10	5.83305D-08
4	-5.21686D-12	-7.45725D-10	-3.73010D-09
5	-4.78204D-12	2.27962D-09	1.71112D-08
6	-4.61996D-09	2.53111D-11	-1.63396D-11
7	2.02744D-09	3.42335D-12	1.41698D-12
8	1.52683D-08	7.09790D-12	-8.49026D-10
9	-1.22583D-11	-1.40709D-08	1.50462D+00
10	-2.35082D-11	-1.93543D-09	-7.49527D-01
11	1.70003D-11	3.17020D-09	-2.36375D+00
12	8.17990D-11	3.10609D-10	-5.88700D+00
13	-5.29345D-09	-4.65323D-11	2.49018D-11
14	-3.81650D-09	-4.07016D-10	-1.98677D-11
15	5.29972D-12	7.91411D+00	-6.84609D-09
16	-9.12245D-12	-5.56157D+00	1.18625D-08
17	4.91111D-12	2.11278D+00	-2.18106D-08
18	-7.14315D-12	3.57414D+00	4.90681D-09
19	1.58597D-10	1.10911D-08	-4.91994D-08
20	-1.54899D-10	-8.08850D-09	3.55638D-08
21	-1.19276D-10	4.82807D-09	-2.94168D-08
22	-4.26986D-11	1.75933D-09	-2.73773D-08
23	-5.50888D+00	-2.90122D-12	-3.38918D-11
24	4.91941D+00	-7.08565D-13	-6.41237D-10

Table S29. The linear dipole moment surface of Pyrazine-d4. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The derivatives are in $\sqrt{km.mol^{-1}}$ unit.

Mode	$\frac{d\mu_x}{dq_i}$	$\frac{d\mu_y}{dq_i}$	$\frac{d\mu_z}{dq_i}$
1	1.16942D-11	9.53560D-09	1.38800D-08
2	5.26202D-11	-2.15162D-09	3.25355D-08
3	8.29049D-12	5.05330D-09	-2.68132D-08
4	2.09698D-12	8.51258D-10	2.71023D-08
5	3.71588D-12	2.54963D-09	1.93715D-08
6	-4.52990D-09	-5.20610D-11	4.72560D-12
7	1.49997D-09	-3.30951D-14	7.37094D-12
8	2.36731D-08	-5.22277D-12	5.80070D-11
9	5.13338D-12	-9.18749D-09	1.50839D+00
10	-4.70364D-11	-3.46220D-09	1.65437D+00
11	-2.61205D-12	1.78596D-09	3.31813D+00
12	4.68001D-11	1.52783D-09	-4.40071D+00
13	-1.08340D-09	4.31066D-10	-8.92266D-11
14	4.52345D-09	1.33844D-10	2.63309D-12
15	1.50378D-12	7.04149D+00	-5.69292D-09
16	-3.52931D-11	-5.95506D+00	7.87991D-09
17	2.21779D-11	1.95736D+00	-2.14974D-08
18	8.32037D-12	1.16749D+00	6.41735D-09
19	7.04667D-10	8.59961D-09	-3.51160D-08
20	-1.84894D-10	-8.36450D-09	3.49478D-08
21	4.15420D-11	2.64887D-09	-1.81473D-07
22	9.33425D-11	1.73714D-09	-2.62171D-08
23	-2.54109D+00	-6.27594D-12	-5.16328D-11
24	-5.21162D+00	2.06748D-12	3.17256D-10

Table S30. The linear dipole moment surface of trans-butadiene. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The derivatives are in $\sqrt{km.mol^{-1}}$ unit.

Mode	$\frac{d\mu_x}{dq_i}$	$\frac{d\mu_y}{dq_i}$	$\frac{d\mu_z}{dq_i}$
1	9.22103D-08	-3.32597D-07	3.78924D-10
2	-1.05521D-07	-1.61735D-07	1.04126D-09
3	8.57642D-08	-3.16577D-07	-1.03406D-09
4	-1.25335D-07	7.49660D-08	1.53685D-09
5	-4.91304D-08	3.74626D-07	3.62235D-10
6	-8.46888D-08	3.66031D-08	-7.66151D-10
7	-4.97262D-09	-7.69414D-08	-8.79643D-10
8	4.76458D-08	-1.94702D-08	1.15453D-09
9	-2.61479D-08	3.76156D-08	-1.93329D-09
10	5.51612D-11	-5.49738D-11	-5.87947D+00
11	-1.80683D-10	5.06938D-10	-9.31788D+00
12	-2.14096D-10	6.90315D-10	3.62218D+00
13	1.03248D-10	-1.56322D-10	8.27737D-01
14	5.76663D-10	7.47056D-10	-2.50646D-08
15	1.08559D-10	-4.92242D-10	6.88043D-08
16	1.16806D-09	2.10800D-09	-3.27060D-08
17	4.19724D+00	-2.10656D+00	3.97373D-10
18	-2.92780D+00	1.42526D+00	-1.60643D-10
19	4.00146D+00	1.64271D+00	-2.59822D-10
20	-1.61593D+00	-4.65056D+00	-2.78403D-12
21	-1.61600D+00	-8.88636D-01	2.31300D-10
22	-1.51340D+00	2.23462D-01	1.01741D-10
23	-1.43718D-01	-1.37694D+00	1.32192D-11
24	1.45506D-01	-1.68737D+00	1.34305D-10

Table S31. The linear dipole moment surface of trans-butadiene-d6. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The derivatives are in $\sqrt{km.mol^{-1}}$ unit.

Mode	$\frac{d\mu_x}{dq_i}$	$\frac{d\mu_y}{dq_i}$	$\frac{d\mu_z}{dq_i}$
1	1.21773D-07	-2.77550D-07	5.11617D-10
2	8.24198D-10	-2.43841D-07	-6.70496D-10
3	9.10343D-08	-1.02772D-07	7.51419D-10
4	-1.34076D-07	2.52734D-08	5.62980D-10
5	-8.38588D-08	1.74927D-07	-6.58098D-10
6	3.29609D-09	2.17743D-07	-6.87305D-10
7	-2.41199D-08	4.21413D-08	7.29445D-10
8	2.84939D-08	9.50350D-09	-3.76433D-09
9	-2.66695D-08	4.48987D-08	-7.63478D-10
10	-5.01389D-12	-1.36171D-10	-2.29409D-01
11	1.02207D-10	-1.45185D-10	-8.23072D+00
12	-1.99942D-12	-3.70127D-10	2.80623D+00
13	-3.50198D-11	1.22359D-10	7.12360D-01
14	-1.48951D-10	-6.98010D-10	4.75251D-08
15	1.10044D-10	9.83605D-10	-4.34620D-08
16	6.25853D-10	1.64401D-09	-2.06639D-08
17	3.22641D+00	-1.01455D+00	2.81535D-11
18	-1.92917D+00	6.42680D-01	-1.27624D-10
19	2.93145D+00	3.18955D-01	-4.24307D-11
20	-7.27940D-01	-4.22300D+00	-5.44392D-10
21	-6.44324D-01	-8.28770D-01	1.16082D-10
22	1.76316D+00	1.33970D+00	-6.95698D-11
23	1.07481D-01	-1.20369D+00	1.78924D-10
24	1.36290D-01	-1.38705D+00	-8.72362D-11

Table S32. The linear dipole moment surface of Thiophene. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The derivatives are in $\sqrt{km.mol^{-1}}$ unit.

Mode	$\frac{d\mu_x}{dq_i}$	$\frac{d\mu_y}{dq_i}$	$\frac{d\mu_z}{dq_i}$
1	-2.79827D-10	-2.70365D-07	1.11413D+00
2	-2.39083D-10	3.47997D-07	1.90453D+00
3	3.78796D-11	-7.92720D-08	-2.87452D+00
4	-4.50458D-11	-2.06948D-07	1.16694D+00
5	3.70506D-10	3.19490D-06	1.84978D+00
6	3.11381D-10	8.32679D-08	1.74960D+00
7	4.40244D-11	4.43077D-08	-4.82128D+00
8	-3.00012D-10	-3.91298D-08	4.52494D-01
9	1.59732D-08	-3.62703D-10	-2.10871D-09
10	4.32726D-08	-8.85157D-11	-1.24292D-09
11	-5.27517D-08	1.79047D-10	-1.68666D-09
12	-1.37080D-01	-8.29555D-10	-4.54454D-10
13	-1.15022D+01	4.49254D-10	-6.32244D-10
14	-7.55619D-01	-7.84236D-10	2.69899D-10
15	9.16806D-10	1.81462D-01	-3.09009D-07
16	-8.33356D-10	1.84446D+00	2.86861D-07
17	2.42800D-10	-4.04206D-01	-7.95300D-08
18	-3.24335D-10	3.28871D+00	2.71053D-07
19	2.07137D-09	2.00879D+00	-3.23038D-06
20	5.62445D-11	-1.13930D+00	-2.69159D-07
21	-1.72056D-10	6.87113D-01	4.92641D-08

Table S33. The linear dipole moment surface of Thiophene-d4. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The derivatives are in $\sqrt{km.mol^{-1}}$ unit.

Mode	$\frac{d\mu_x}{dq_i}$	$\frac{d\mu_y}{dq_i}$	$\frac{d\mu_z}{dq_i}$
1	-2.77794D-10	-1.17943D-07	1.04102D+00
2	-1.84035D-10	3.18551D-07	6.91252D-01
3	2.86926D-11	6.12500D-08	-3.24097D+00
4	7.86231D-11	-1.79410D-07	1.88924D+00
5	2.99032D-10	7.85575D-08	-1.05568D+00
6	2.80399D-10	-2.32259D-07	1.44359D+00
7	-1.05173D-10	-4.01925D-08	-4.05698D+00
8	5.17152D-10	5.40956D-08	-7.78683D-01
9	3.22071D-08	-4.43691D-10	-4.75167D-11
10	-3.14406D-08	-3.40278D-11	-9.66707D-10
11	-2.06912D-08	5.93678D-11	-1.82603D-09
12	5.00763D-01	-6.10208D-11	6.32432D-11
13	-8.55372D+00	1.46958D-10	-4.20670D-10
14	-5.14541D-01	7.47228D-10	-3.18995D-10
15	4.78820D-10	-4.68009D-02	-2.32424D-07
16	-6.31265D-10	1.27274D+00	2.69076D-07
17	1.69855D-11	-1.32041D+00	-1.13448D-07
18	3.80422D-10	-1.83238D+00	-9.20634D-08
18	-1.15372D-09	-2.02776D+00	-1.92780D-07
20	-7.85991D-10	2.34633D-01	2.10115D-07
21	-4.76898D-10	-1.15421D+00	-6.69075D-08

Table S34: The quartic potential energy surface of Pyrimidine. The calculation was done by using B3LYP/6-311++G(2d,2p) method using Gaussian 09 software. The force constants (FI's) are in cm^{-1} units.

I	J	FI(I,J)
1	1	3201.75540
2	2	3171.67384
3	3	3155.55476
4	4	1607.14688
5	5	1436.99400
6	6	1162.76269
7	7	1082.71470
8	8	1009.61930
9	9	696.90072
10	10	1002.98792
11	11	409.16007
12	12	1027.72101
13	13	984.19117
14	14	822.33769
15	15	737.70762
16	16	351.59394
17	17	3158.72801
18	18	1606.05303
19	19	1499.43396
20	20	1400.29392
21	21	1250.97416
22	22	1206.17663
23	23	1094.68642
24	24	637.74512

I	J	K	FI(I,J,K)
1	1	1	-1789.26857
2	1	1	-125.42798
2	2	1	-99.49086
2	2	2	1911.55796
3	1	1	372.67994
3	2	1	63.88721
3	2	2	240.06311
3	3	1	-442.66310
3	3	2	173.77422
3	3	3	-1198.31669
4	1	1	28.80005
4	2	1	1.36359
4	2	2	-17.74918
4	3	1	7.14487
4	3	2	-7.47374
4	3	3	45.68982
4	4	1	20.62271
4	4	2	-10.42583
4	4	3	96.79444
4	4	4	-115.48950
5	1	1	-30.52355
5	2	1	-1.91741
5	2	2	-4.29814
5	3	1	4.65178
5	3	2	0.92377
5	3	3	-13.17880
5	4	1	-24.46652
5	4	2	14.15032
5	4	3	-91.89499
5	4	4	-79.69131
5	5	1	23.94288
5	5	2	-6.84444
5	5	3	92.31586
5	5	4	-14.20162
5	5	5	-11.37331
6	1	1	-1.20922
6	2	1	-0.70292
6	2	2	14.63223
6	3	1	-0.18980
6	3	2	0.95313
6	3	3	6.26527
6	4	1	17.00319
6	4	2	-2.19558
6	4	3	59.04555
6	4	4	29.31028
6	5	1	-18.69676
6	5	2	13.85389
6	5	3	-69.96805
6	5	4	51.86302
6	5	5	81.27306
6	6	1	13.73380
6	6	2	-1.65723
6	6	3	63.44595
6	6	4	6.62004
6	6	5	8.24689
6	6	6	58.73067
7	1	1	-37.42150
7	2	1	-1.36326

I	J	K	FI(I,J,K)
24	19	6	-8.95841
24	19	7	-18.24708
24	19	8	3.08533
24	19	9	-8.03029
24	20	1	-20.77786
24	20	2	56.49583
24	20	3	68.04453
24	20	4	-9.81736
24	20	5	2.33975
24	20	6	-11.97915
24	20	7	-11.43742
24	20	8	1.17283
24	20	9	4.73649
24	21	1	-69.08109
24	21	2	18.72861
24	21	3	-31.16022
24	21	4	-9.79910
24	21	5	-13.22655
24	21	6	16.16369
24	21	7	12.99992
24	21	8	-13.02284
24	21	9	6.81347
24	22	1	6.27925
24	22	2	-30.23882
24	22	3	2.33833
24	22	4	-26.38306
24	22	5	-1.51411
24	22	6	-11.74210
24	22	7	1.13613
24	22	8	3.98604
24	22	9	-7.91355
24	23	1	94.95860
24	23	2	26.24605
24	23	3	-20.49867
24	23	4	-7.91962
24	23	5	23.18846
24	23	6	11.66684
24	23	7	20.47738
24	23	8	5.25522
24	23	9	5.52084
24	24	1	39.75736
24	24	2	-18.09488
24	24	3	9.84076
24	24	4	18.49708
24	24	5	5.76535
24	24	6	-7.10494
24	24	7	-15.55378
24	24	9	-2.84753

I	J	K	L	FI(I,J,K,L)
1	1	1	1	961.99572
2	1	1	1	74.48666
2	2	1	1	8.65643
2	2	2	1	-46.57833
2	2	2	2	1063.46987
3	1	1	1	-239.44374
3	2	1	1	-23.07929
3	2	2	1	-5.98766
3	2	2	2	140.84773
3	3	1	1	96.21511
3	3	2	1	-10.75794
3	3	2	2	26.44927
3	3	3	1	106.63614
3	3	3	2	-55.83080
3	3	3	3	475.55599
4	1	1	1	-17.03932
4	2	1	1	-1.17370
4	2	2	1	0.19502
4	2	2	2	-6.72474
4	3	1	1	2.77175
4	3	2	2	-1.02514
4	3	3	1	-6.04176
4	3	3	2	1.53712
4	3	3	3	-14.98093
4	4	1	1	-6.19255
4	4	2	1	2.00755
4	4	2	2	-1.81066
4	4	3	1	-17.08455
4	4	3	2	7.89987
4	4	3	3	-66.68612
4	4	4	1	-0.13718
4	4	4	2	0.22696
4	4	4	3	7.88627
4	4	4	4	25.85700

I	J	K	L	FI(I,J,K,L)
15	12	10	10	-112.86515
15	12	11	11	-19.96351
15	12	12	12	6.21578
15	13	1	1	148.85698
15	13	2	2	-206.97229
15	13	3	3	-60.62118
15	13	4	4	5.43477
15	13	5	5	4.65669
15	13	6	6	2.41359
15	13	7	7	2.26890
15	13	9	9	0.75818
15	13	10	10	57.48839
15	13	11	11	13.63966
15	13	12	12	61.56245
15	13	13	12	89.59050
15	13	13	13	58.38819
15	14	1	1	-217.06900
15	14	2	2	-23.26627
15	14	3	3	-103.83121
15	14	4	4	8.47767
15	14	5	5	9.08379
15	14	6	6	6.20857
15	14	7	7	3.06997
15	14	8	8	0.87789
15	14	9	9	1.84763
15	14	10	10	82.46685
15	14	11	11	15.84838
15	14	12	12	71.19657
15	14	13	13	82.49196
15	14	14	12	30.67329
15	14	14	13	-71.08457
15	14	14	14	137.58298
15	15	1	1	-127.03355
15	15	2	1	-0.40733
15	15	2	2	-113.98171
15	15	3	1	-0.68201
15	15	3	2	1.83679
15	15	3	3	-129.15506
15	15	4	1	1.14085
15	15	4	2	0.46573
15	15	4	3	3.84466
15	15	4	4	-2.65225
15	15	5	1	-1.57235
15	15	5	2	0.31511
15	15	5	3	0.32745
15	15	5	4	-7.88860
15	15	5	5	0.21364
15	15	6	1	1.31392
15	15	6	2	-1.01612
15	15	6	3	-0.79545
15	15	6	4	5.03863
15	15	6	5	-6.70609
15	15	6	6	-1.76193
15	15	7	1	-2.73099
15	15	7	2	0.72287
15	15	7	3	-1.78233
15	15	7	4	4.66629
15	15	7	5	-5.51697
15	15	7	6	4.14587
15	15	7	7	-2.13102
15	15	8	1	0.56927
15	15	8	2	-0.19011
15	15	8	3	-0.10261
15	15	8	4	-0.23160
15	15	8	5	0.61316
15	15	8	6	0.21628
15	15	8	7	0.54319
15	15	8	8	-3.85867
15	15	9	1	0.88525
15	15	9	2	0.81039
15	15	9	3	-0.34419
15	15	9	4	4.29300
15	15	9	5	-5.09418
15	15	9	6	3.25907
15	15	9	7	3.76871
15	15	9	9	0.26166
15	15	10	10	105.55198
15	15	11	10	-44.98501
15	15	11	11	26.78747
15	15	12	12	90.84772
15	15	13	12	-7.13598
15	15	13	13	100.55692
15	15	14	12	3.01554
15	15	14	13	-25.01328
15	15	14	14	93.19097

I	J	K	L	FI(I,J,K,L)
21	21	8	3	-0.43358
21	21	8	4	-6.70515
21	21	8	5	-11.50430
21	21	8	6	-11.34349
21	21	8	7	2.47313
21	21	8	8	4.55054
21	21	9	1	1.61774
21	21	9	2	-2.58036
21	21	9	3	-0.64566
21	21	9	4	8.82901
21	21	9	5	-2.45789
21	21	9	6	10.74483
21	21	9	7	3.66377
21	21	9	8	0.52203
21	21	9	9	-0.31823
21	21	10	10	19.92164
21	21	11	10	-7.55763
21	21	11	11	-8.65143
21	21	12	12	8.28294
21	21	13	12	-9.57056
21	21	13	13	7.48085
21	21	14	12	-3.52449
21	21	14	13	-6.66984
21	21	14	14	13.46744
21	21	15	12	-0.52867
21	21	15	13	1.98042
21	21	15	14	19.03213
21	21	15	15	4.55871
21	21	16	12	10.37736
21	21	16	13	0.28001
21	21	16	14	4.45565
21	21	16	15	-10.09546
21	21	16	16	-14.09737
21	21	17	17	-85.88823
21	21	18	17	0.35689
21	21	18	18	21.38839
21	21	19	17	2.98487
21	21	19	18	2.65541
21	21	19	19	13.95835
21	21	20	17	-2.85370
21	21	20	18	-5.64780
21	21	20	19	-12.59204
21	21	20	20	20.90765
21	21	21	17	3.23258
21	21	21	18	-6.86244
21	21	21	19	-6.80949
21	21	21	20	-9.46327
21	21	21	21	47.83528
22	17	1	1	-0.51586
22	17	2	2	-0.25785
22	17	3	3	-5.86937
22	17	4	4	-0.29640
22	17	5	5	5.39328
22	17	6	6	2.74846
22	17	7	7	1.77381
22	17	9	9	0.35347
22	17	10	10	6.17080
22	17	11	11	1.25766
22	17	12	12	2.98049
22	17	13	13	-0.37556
22	17	14	14	3.14881
22	17	15	15	3.60703
22	17	16	16	-1.20360
22	17	17	17	-6.50775
22	18	1	1	5.72530
22	18	2	2	41.90310
22	18	3	3	7.69136
22	18	4	4	8.35981
22	18	5	5	-5.52492
22	18	6	6	-4.42865
22	18	7	7	12.29198
22	18	8	8	-3.54379
22	18	9	9	-3.25294
22	18	10	10	-0.27552
22	18	11	11	0.80255
22	18	12	12	-2.94783
22	18	13	13	-3.44038
22	18	14	14	-0.30334
22	18	15	15	-2.54016
22	18	16	16	-8.82683
22	18	17	17	7.44158
22	18	18	17	3.04999
22	18	18	18	6.91296
22	19	1	1	-7.86339
22	19	2	2	74.42487

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
7	2	2	-14.92609	5	1	1	1	15.80937	15	15	15	12	-5.15217	22	19	3	3	9.87221
7	3	1	2.44993	5	2	1	1	1.12042	15	15	15	13	24.78928	22	19	4	4	10.95021
7	3	2	0.71796	5	2	2	2	3.15541	15	15	15	14	74.50778	22	19	5	5	-0.95814
7	3	3	-18.11821	5	3	1	1	-3.11775	15	15	15	15	71.40466	22	19	6	6	-2.75797
7	4	1	4.75730	5	3	2	2	0.41527	16	12	1	1	-66.51667	22	19	7	7	-6.82087
7	4	2	-8.35228	5	3	3	1	4.33022	16	12	2	2	-162.98670	22	19	8	8	1.76135
7	4	3	49.31804	5	3	3	2	-0.70312	16	12	3	3	-95.09479	22	19	9	9	1.56560
7	4	4	-109.06219	5	3	3	3	8.46549	16	12	4	4	6.49749	22	19	10	10	-2.12419
7	5	1	-14.27665	5	4	1	1	5.17522	16	12	5	5	7.21647	22	19	11	11	-6.75294
7	5	2	6.62424	5	4	2	2	0.21907	16	12	6	6	4.48239	22	19	12	12	-7.54492
7	5	3	-65.62235	5	4	3	3	73.05705	16	12	7	7	4.04017	22	19	13	13	-12.63126
7	5	4	24.59342	5	4	4	1	-1.69157	16	12	8	8	0.48609	22	19	14	14	-2.77457
7	5	5	-9.61110	5	4	4	2	1.59608	16	12	9	9	0.46043	22	19	15	15	-2.62976
7	6	1	19.74857	5	4	4	3	-6.67729	16	12	10	10	78.13569	22	19	16	16	1.47469
7	6	2	-7.72264	5	4	4	4	6.03315	16	12	11	11	15.34150	22	19	17	17	9.78354
7	6	3	55.11571	5	5	1	1	-6.02244	16	12	12	12	81.25853	22	19	18	18	-12.48445
7	6	4	39.56900	5	5	2	1	2.86712	16	13	1	1	92.68155	22	19	19	17	-0.83178
7	6	5	4.11440	5	5	2	2	-3.05191	16	13	2	2	-210.26717	22	19	19	18	-3.78381
7	6	6	-32.43846	5	5	3	1	-22.82448	16	13	3	3	47.64130	22	19	19	19	-2.13364
7	7	1	22.96127	5	5	3	2	10.38043	16	13	4	4	-3.88416	22	20	1	1	3.54455
7	7	2	-3.82570	5	5	3	3	-86.24470	16	13	5	5	-1.53653	22	20	2	2	90.24750
7	7	3	41.97956	5	5	4	1	0.82404	16	13	6	6	-2.44598	22	20	3	3	-15.63520
7	7	4	56.14827	5	5	4	2	0.49755	16	13	7	7	-3.61393	22	20	4	4	2.42224
7	7	6	-30.80581	5	5	4	3	3.10578	16	13	8	8	0.84587	22	20	5	5	0.94520
7	7	7	-93.64274	5	5	4	4	14.78424	16	13	9	9	0.80728	22	20	6	6	1.75422
8	1	1	-17.45069	5	5	5	1	1.33402	16	13	10	10	-39.14078	22	20	7	7	-0.10127
8	2	1	-0.35302	5	5	5	2	0.61043	16	13	11	11	-10.02313	22	20	8	8	1.31853
8	2	2	-2.27521	5	5	5	3	5.87241	16	13	12	12	34.07474	22	20	9	9	1.32677
8	3	1	1.33742	5	5	5	4	-9.73773	16	13	13	12	105.72652	22	20	10	10	2.05920
8	3	2	1.18512	5	5	5	5	14.21148	16	13	13	13	74.30167	22	20	11	11	1.04271
8	3	3	-5.74792	6	1	1	1	2.22588	16	14	1	1	-118.75232	22	20	12	12	-6.77994
8	4	1	0.90004	6	2	1	1	0.26739	16	14	2	2	-21.34429	22	20	13	13	-13.20436
8	4	2	1.30894	6	2	2	1	-0.55425	16	14	3	3	51.76043	22	20	14	14	1.63029
8	4	3	-4.41162	6	2	2	2	13.22821	16	14	4	4	-6.40466	22	20	16	16	-0.35202
8	4	4	-108.47414	6	3	1	1	-1.11558	16	14	5	5	-0.92167	22	20	17	17	-19.03362
8	5	1	1.85259	6	3	2	2	1.82383	16	14	6	6	-1.10245	22	20	18	18	-2.07768
8	5	2	1.80746	6	3	3	1	-1.91324	16	14	7	7	-2.90956	22	20	19	19	-11.41780
8	5	3	3.46232	6	3	3	2	0.73234	16	14	8	8	0.54908	22	20	20	17	3.19905
8	5	4	-60.51715	6	3	3	3	-5.36039	16	14	9	9	0.32662	22	20	20	18	-9.57263
8	5	5	-84.77211	6	4	1	1	-3.11974	16	14	10	10	-58.68907	22	20	20	19	-15.81014
8	6	1	-2.70923	6	4	2	2	-1.80336	16	14	11	11	-11.41366	22	20	20	20	-16.00796
8	6	2	3.28814	6	4	3	3	-54.63246	16	14	12	12	-3.60551	22	21	1	1	8.45215
8	6	3	0.23581	6	4	4	1	2.60082	16	14	13	13	41.44431	22	21	2	2	26.30666
8	6	4	16.71660	6	4	4	2	0.11074	16	14	14	12	51.13715	22	21	3	3	16.02772
8	6	5	-37.70758	6	4	4	3	5.48463	16	14	14	13	-59.28770	22	21	4	4	4.04694
8	6	6	-44.58912	6	4	4	4	-1.62599	16	14	14	14	53.73391	22	21	5	5	6.84760
8	7	1	7.28719	6	5	1	1	4.27042	16	15	1	1	-62.53631	22	21	6	6	3.56393
8	7	2	-1.69492	6	5	2	2	-0.82577	16	15	2	2	-112.65154	22	21	7	7	-1.62126
8	7	3	4.86775	6	5	3	3	63.18778	16	15	3	3	73.58080	22	21	8	8	6.32667
8	7	4	2.88724	6	5	4	4	-12.75567	16	15	4	4	-1.42550	22	21	9	9	-3.35438
8	7	5	-27.08578	6	5	5	1	-0.92221	16	15	5	5	-7.81185	22	21	10	10	-3.10331
8	7	6	-3.54995	6	5	5	2	1.85830	16	15	6	6	-7.30164	22	21	11	11	-6.11266
8	7	7	-29.23048	6	5	5	3	-3.10517	16	15	7	7	4.73896	22	21	12	12	-3.12683
8	8	1	-1.17641	6	5	5	4	5.20302	16	15	8	8	-0.75867	22	21	13	13	-5.16723
8	8	2	-2.30828	6	5	5	5	-12.28707	16	15	9	9	0.42916	22	21	14	14	-5.58887
8	8	3	2.67588	6	6	1	1	-3.93602	16	15	10	10	-74.31006	22	21	15	15	-6.89983
8	8	4	-8.07054	6	6	2	1	1.47813	16	15	11	11	-15.66856	22	21	16	16	-12.04994
8	8	5	4.50700	6	6	2	2	-2.74583	16	15	12	12	7.16511	22	21	17	17	16.40007
8	8	6	28.71870	6	6	3	1	-11.87094	16	15	13	13	68.05103	22	21	18	18	12.58651
8	8	7	-28.56176	6	6	3	2	5.31857	16	15	14	14	22.16824	22	21	19	19	-1.75163
8	8	8	-76.43517	6	6	3	3	-46.75337	16	15	15	12	62.72393	22	21	20	20	-8.90380
9	1	1	5.99837	6	6	4	1	-0.42931	16	15	15	13	-2.63411	22	21	21	17	2.44862
9	2	1	1.47855	6	6	4	2	0.97819	16	15	15	14	2.39856	22	21	21	18	-18.93176
9	2	2	-10.10708	6	6	4	3	1.68053	16	15	15	15	1.06259	22	21	21	19	-6.55307
9	3	1	-2.45049	6	6	4	4	4.07799	16	16	1	1	-43.38262	22	21	21	20	4.81516
9	3	2	-1.53879	6	6	5	1	0.71886	16	16	2	1	4.05262	22	21	21	21	15.79956
9	3	3	-1.87700	6	6	5	2	1.65098	16	16	2	2	-115.91845	22	22	1	1	-1.85968
9	4	1	19.80707	6	6	5	3	2.66607	16	16	3	1	-3.65752	22	22	2	1	1.80801
9	4	2	-8.55016	6	6	5	4	-6.48556	16	16	3	2	-8.13043	22	22	2	2	-40.65944
9	4	3	45.47609	6	6	5	5	8.77361	16	16	3	3	-58.12613	22	22	3	1	-0.32169
9	4	4	-2.87019	6	6	6	1	-0.13042	16	16	4	1	-0.76160	22	22	3	2	-4.86749
9	5	1	-14.74745	6	6	6	2	2.55914	16	16	4	2	0.34975	22	22	3	3	-6.19640
9	5	2	0.25887	6	6	6	3	-1.78759	16	16	4	3	-3.38780	22	22	4	1	0.11776
9	5	3	-49.04674	6	6	6	4	4.11207	16	16	4	4	-12.21206	22	22	4	2	0.93894
9	5	4	1.22477	6	6	6	5	-9.42348	16	16	5	1	0.97293	22	22	4	3	-1.16335
9	5	5	41.33436	6	6	6	6	0.84273	16	16	5	2	-1.17486	22	22	4	4	41.17427
9	6	1	4.34520	7	1	1	1	17.28547	16	16	5	3	2.83776	22	22	5	1	0.30734
9	6	2	-10.70352	7	2	1	1	1.25703	16	16	5	4	-1.68557	22	22	5	3	1.79607
9	6	3	38.57880	7	2	2	1	0.50404	16	16	5	5	-9.78812	22	22	5	4	20.23808
9	6	4	7.53652	7	2	2	2	-8.08828	16	16	6	1	0.18727	22	22	5	5	15.50068
9	6	5	18.74838	7	3	1	1	-4.06614	16	16	6	2	-2.17059	22	22	6	1	-0.55111
9	6	6	26.77768	7	3	2	2	-0.93039	16	16	6	3	-1.38611	22	22	6	2	0.48317
9	7	1	7.45902	7	3	3	1	1.95571	16	16	6	4	1.89929	22	22	6	3	-1.64922
9	7	2	-3.98043	7	3	3	2	-0.86105	16	16	6	5	-11.12930	22	22	6	4	-11.72005
9	7	3	37.24750	7	3	3	3	4.90096	16	16	6	6	-10.51207	22	22	6	5	-1.64675
9	7	4	-4.56695	7	4	1	1	-3.12702	16	16	7	1	1.07661	22	22	6	6	5.06071
9	7	5	-3.04211	7	4	2	2	-0.40495	16	16	7	2	1.86148	22	22	7	1	-1.81971
9	7	6	16.81970	7	4	3	3	-46.08234	16	16	7	3	-1.77243	22	22	7	2	-0.19155
9	7	7	15.81082	7	4	4	1	0.72727	16	16	7	4	8.04656	22	22	7	3	-0.55022
9	8	1	-4.65445	7	4	4	2	-0.76879	16	16	7	5	-2.69674	22	22	7	4	0.35026

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
9	8	2	0.35450	7	4	4	3	3.96720	16	16	7	6	-2.42282	22	22	7	5	4.87065
9	8	3	2.37489	7	4	4	4	10.13214	16	16	7	7	-14.13604	22	22	7	6	3.11365
9	8	4	-28.46321	7	5	1	1	3.99348	16	16	8	1	-0.89817	22	22	7	7	3.19675
9	8	5	-19.71445	7	5	2	2	0.64615	16	16	8	4	7.58992	22	22	8	1	-0.80775
9	8	6	-6.08725	7	5	3	3	52.53906	16	16	8	5	4.98053	22	22	8	2	1.04457
9	8	8	2.54913	7	5	4	4	-2.72936	16	16	8	6	1.81253	22	22	8	3	-2.28212
9	9	1	3.76132	7	5	5	1	0.36607	16	16	8	7	-2.16311	22	22	8	4	13.95769
9	9	2	-5.73652	7	5	5	2	-0.58461	16	16	8	8	-9.84839	22	22	8	5	7.66087
9	9	3	20.39287	7	5	5	3	1.09063	16	16	9	1	-0.41203	22	22	8	6	-10.72578
9	9	4	-9.30985	7	5	5	4	5.98833	16	16	9	2	1.26234	22	22	8	7	13.48787
9	9	5	2.96972	7	5	5	5	-6.81956	16	16	9	3	1.21911	22	22	8	8	12.06492
9	9	6	10.28290	7	6	1	1	-2.86054	16	16	9	4	0.61370	22	22	9	1	0.93473
9	9	7	1.62278	7	6	2	2	-0.05468	16	16	9	5	-4.68989	22	22	9	2	-0.38000
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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16	15	7	-31.44112	9	6	6	2	-0.82148	18	18	10	10	-0.72923	23	21	21	20	-3.92785
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16	15	9	14.61646	9	6	6	4	7.26710	18	18	11	11	-12.46131	23	22	1	1	-13.22740
16	16	1	78.19937	9	6	6	6	6.74912	18	18	12	12	-0.53073	23	22	2	2	27.24325
16	16	2	-148.62108	9	7	1	1	-1.29556	18	18	13	12	-0.70882	23	22	3	3	-1.43588
16	16	3	61.57115	9	7	2	2	-0.72011	18	18	13	13	4.73408	23	22	4	4	-9.77521
16	16	4	-52.26277	9	7	3	3	-19.44584	18	18	14	12	4.97969	23	22	5	5	2.57328
16	16	5	-49.20848	9	7	4	4	0.69751	18	18	14	13	-9.01775	23	22	6	6	4.32764
16	16	6	-21.10441	9	7	5	5	3.73778	18	18	14	14	4.31434	23	22	7	7	9.58814
16	16	7	67.68049	9	7	6	6	0.80375	18	18	15	12	1.94915	23	22	8	8	-0.78958
16	16	8	57.48439	9	7	7	1	-0.47000	18	18	15	13	3.30145	23	22	9	9	-3.18517
16	16	9	-14.39613	9	7	7	2	0.21113	18	18	15	14	10.54003	23	22	10	10	1.42987
17	12	10	-332.22362	9	7	7	3	-1.76340	18	18	15	15	-4.87512	23	22	11	11	9.91554
17	12	11	157.49260	9	7	7	4	2.08464	18	18	16	12	12.20869	23	22	12	12	-2.38265
17	13	10	169.64480	9	7	7	5	-2.33458	18	18	16	13	-2.19567	23	22	13	13	-5.91681
17	13	11	-83.10260	9	7	7	6	0.72667	18	18	16	14	3.88054	23	22	14	14	3.86503

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
17	14	10	240.66633	9	7	7	7	1.55827	18	18	16	15	6.54109	23	22	15	15	-1.51735
17	14	11	-112.23071	9	8	1	1	-0.86132	18	18	16	16	-27.51085	23	22	16	16	-11.09425
17	15	10	321.46274	9	8	2	2	0.23634	18	18	17	17	-19.46655	23	22	17	17	-1.04326
17	15	11	-142.51282	9	8	3	3	0.52175	18	18	18	17	0.10277	23	22	18	18	14.84334
17	16	10	-228.37689	9	8	4	4	-2.35295	18	18	18	18	28.33473	23	22	19	19	-9.31188
17	16	11	101.97773	9	8	5	5	-3.35680	19	17	1	1	1.64466	23	22	20	20	-6.25024
17	17	1	-349.79894	9	8	6	6	-3.37699	19	17	2	2	0.37204	23	22	21	21	11.41291
17	17	2	161.40652	9	8	7	7	-0.85381	19	17	3	3	3.25619	23	22	22	17	1.34339
17	17	3	-1337.14010	9	8	8	1	0.82808	19	17	4	4	2.87135	23	22	22	18	4.01834
17	17	4	49.37731	9	8	8	3	-0.20701	19	17	5	5	0.42693	23	22	22	19	-14.56502
17	17	5	-11.92960	9	8	8	4	3.48784	19	17	6	6	-0.50829	23	22	22	20	4.43320
17	17	6	5.93813	9	8	8	5	0.98717	19	17	7	7	2.73927	23	22	22	21	8.06507
17	17	7	-17.69160	9	8	8	7	-1.07400	19	17	8	8	-0.50183	23	22	22	22	-6.13330
17	17	8	-5.61907	9	8	8	8	0.31071	19	17	9	9	-0.36116	23	23	1	1	-246.70085
17	17	9	-2.29889	9	9	1	1	-1.33320	19	17	10	10	-0.75673	23	23	2	1	-18.52784
18	12	10	-10.32111	9	9	2	1	0.35678	19	17	11	11	0.54955	23	23	2	2	-21.91908
18	12	11	23.38986	9	9	2	2	0.06774	19	17	12	12	0.45874	23	23	3	1	63.75455
18	13	10	7.52066	9	9	3	1	-3.37065	19	17	13	13	0.45782	23	23	3	2	2.49182
18	13	11	10.55959	9	9	3	2	1.62114	19	17	14	14	-0.79363	23	23	3	3	-18.38454
18	14	10	0.95902	9	9	3	3	-12.75563	19	17	15	15	-0.53442	23	23	4	1	-1.62651
18	14	11	28.16390	9	9	4	1	-0.57545	19	17	16	16	-2.26311	23	23	4	2	0.28249
18	15	10	5.29231	9	9	4	2	-0.50278	19	17	17	17	3.16194	23	23	4	3	0.49872
18	15	11	37.12574	9	9	4	3	-0.51659	19	18	1	1	73.01942	23	23	4	4	10.44970
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18	16	11	-58.08345	9	9	5	1	0.69485	19	18	3	3	-18.34447	23	23	5	3	1.17297
18	17	1	8.95263	9	9	5	2	-0.57857	19	18	4	4	-2.30739	23	23	5	4	3.09074
18	17	2	-1.50626	9	9	5	3	0.92764	19	18	5	5	8.70867	23	23	5	5	5.64548
18	17	3	19.85493	9	9	5	4	-1.33320	19	18	6	6	4.26048	23	23	6	1	2.83294
18	17	4	62.01151	9	9	5	5	2.87985	19	18	7	7	-1.64146	23	23	6	2	0.36262
18	17	5	-49.72741	9	9	6	1	0.21596	19	18	8	8	-3.01731	23	23	6	3	-1.16270
18	17	6	26.41249	9	9	6	2	-0.47312	19	18	9	9	1.30699	23	23	6	4	-2.99154
18	17	7	29.68645	9	9	6	3	-0.59634	19	18	10	10	5.44622	23	23	6	5	0.75640
18	17	8	-7.45638	9	9	6	4	3.63720	19	18	11	11	0.51790	23	23	6	6	8.24364
18	17	9	19.91181	9	9	6	5	-3.24292	19	18	12	12	4.64057	23	23	7	1	-6.22608
18	18	1	85.31614	9	9	6	6	1.69464	19	18	13	13	3.36009	23	23	7	2	-0.51103
18	18	2	-40.54906	9	9	7	1	0.53499	19	18	14	14	-9.92567	23	23	7	3	1.38172
18	18	3	1.58790	9	9	7	2	0.19278	19	18	15	15	0.66753	23	23	7	4	-1.71177
18	18	4	139.48113	9	9	7	4	4.29340	19	18	16	16	6.20351	23	23	7	5	-2.64123
18	18	5	32.67684	9	9	7	5	-3.43273	19	18	17	17	-23.81358	23	23	7	6	5.17683
18	18	6	11.84813	9	9	7	6	0.61726	19	18	18	17	0.44850	23	23	7	7	4.09800
18	18	7	-118.14631	9	9	7	7	-1.24370	19	18	18	18	-3.12117	23	23	8	1	1.45320
18	18	8	-113.96786	9	9	8	1	0.20283	19	19	1	1	-107.87928	23	23	8	2	0.51978
18	18	9	10.54412	9	9	8	2	0.21539	19	19	2	1	-1.08372	23	23	8	3	-0.70249
19	12	10	-2.02960	9	9	8	3	0.12648	19	19	2	2	-141.49001	23	23	8	4	0.56488
19	12	11	-0.94232	9	9	8	4	1.35012	19	19	3	1	19.79147	23	23	8	5	2.17756
19	13	10	2.42077	9	9	8	5	0.14289	19	19	3	2	-13.10456	23	23	8	6	0.42218
19	13	11	41.05458	9	9	8	6	-0.70911	19	19	3	3	-40.95513	23	23	8	7	5.04196
19	14	10	4.37096	9	9	8	8	0.31372	19	19	4	1	-0.38084	23	23	8	8	3.28244
19	14	11	10.16193	9	9	9	1	-0.11562	19	19	4	2	3.06748	23	23	9	1	5.65312
19	15	10	-7.67670	9	9	9	2	0.27162	19	19	4	3	2.73930	23	23	9	3	-2.04523
19	15	11	-19.24011	9	9	9	3	0.32034	19	19	4	4	14.36374	23	23	9	4	-0.35820
19	16	10	-12.64870	9	9	9	4	0.85560	19	19	5	1	-1.96529	23	23	9	5	-0.48789
19	16	11	19.97417	9	9	9	5	-1.92726	19	19	5	2	4.11808	23	23	9	6	0.77672
19	17	1	-2.79787	9	9	9	6	0.68600	19	19	5	3	-0.27778	23	23	9	7	3.08187
19	17	2	1.81351	9	9	9	7	1.50666	19	19	5	4	1.30787	23	23	9	8	2.59046
19	17	3	-6.01842	9	9	9	8	1.12440	19	19	5	5	7.77286	23	23	9	9	-1.66873
19	17	4	54.53291	9	9	9	9	4.56828	19	19	6	1	2.04897	23	23	10	10	-1.48205
19	17	5	-59.72315	10	10	1	1	-21.90615	19	19	6	2	3.50556	23	23	11	10	-1.98900
19	17	6	45.88207	10	10	2	1	10.09583	19	19	6	3	1.44973	23	23	11	11	-9.19508
19	17	7	38.28237	10	10	2	2	-4.73593	19	19	6	4	-0.45794	23	23	12	12	7.59629
19	17	8	3.23770	10	10	3	1	-83.18978	19	19	6	5	-1.27802	23	23	13	12	-9.67196
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19	18	1	-71.36702	10	10	3	3	-316.02169	19	19	7	1	0.47734	23	23	14	12	19.70004
19	18	2	-79.32366	10	10	4	1	1.76367	19	19	7	2	-0.38033	23	23	14	13	-28.58736
19	18	3	44.44557	10	10	4	2	-1.16452	19	19	7	3	2.84582	23	23	14	14	36.91279
19	18	4	-31.91023	10	10	4	3	9.83469	19	19	7	4	3.41448	23	23	15	12	11.62888
19	18	5	32.41503	10	10	4	4	8.21880	19	19	7	5	-3.97581	23	23	15	13	-13.71329
19	18	6	70.46234	10	10	5	1	0.47095	19	19	7	6	2.48447	23	23	15	14	26.07437
19	18	7	27.27016	10	10	5	2	-0.16708	19	19	7	7	0.41935	23	23	15	15	11.91619
19	18	8	15.34177	10	10	5	3	1.20399	19	19	8	1	0.62425	23	23	16	12	9.70222
19	18	9	9.20947	10	10	5	4	-16.94432	19	19	8	2	-0.49161	23	23	16	13	-8.48862
19	19	1	108.75062	10	10	5	5	16.19492	19	19	8	3	-0.67569	23	23	16	14	10.60375
19	19	2	-108.08357	10	10	6	2	0.12343	19	19	8	4	2.61721	23	23	16	15	9.47649
19	19	3	-7.98033	10	10	6	3	-0.97692	19	19	8	5	3.32893	23	23	16	16	-5.37935
19	19	4	-27.52487	10	10	6	4	14.42526	19	19	8	6	-1.83130	23	23	17	17	-1.51836
19	19	6	22.91012	10	10	6	5	-14.21729	19	19	8	7	4.33426	23	23	18	17	-0.18828
19	19	7	-50.17389	10	10	6	6	10.17754	19	19	8	8	2.37039	23	23	18	18	19.34317
19	19	8	-53.12323	10	10	7	1	0.76886	19	19	9	1	1.56979	23	23	19	17	0.11535
19	19	9	-24.48713	10	10	7	2	-0.18211	19	19	9	2	-0.53524	23	23	19	18	-18.83908
20	12	10	1.45291	10	10	7	3	1.04005	19	19	9	3	-1.30940	23	23	19	19	30.28903
20	12	11	21.24771	10	10	7	4	11.27445	19	19	9	4	2.09459	23	23	20	17	0.17300
20	13	10	-1.35283	10	10	7	5	-13.67667	19	19	9	5	-1.42039	23	23	20	18	11.05497
20	13	11	6.24829	10	10	7	6	10.18903	19	19	9	6	0.77927	23	23	20	19	-10.10936
20	14	10	-3.03238	10	10	7	7	5.79089	19	19	9	7	2.62268	23	23	20	20	10.98120
20	14	11	5.21782	10	10	8	1	-0.30722	19	19	9	8	2.09819	23	23	21	17	-0.47351
20	15	10	1.20092	10	10	8	2	0.35704	19	19	9	9	-1.27783	23	23	21	18	20.20489
20	15	11	5.00132	10	10	8	3	-1.43225	19	19	10	10	3.95765	23	23	21	19	-23.77971
20	16	10	17.36141	10	10	8	4	-1.47645	19	19	11	10	-4.68602	23	23	21	20	11.37507
20	16	11	21.05495	10	10	8	6	-0.61740	19	19	11	11	-12.23413	23	23	21	21	30.31149

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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20	17	2	1.23398	10	10	8	8	-2.36036	19	19	13	12	6.66016	23	23	22	18	1.63464
20	17	3	-10.39879	10	10	9	1	-0.37772	19	19	13	13	21.72036	23	23	22	19	2.38075
20	17	4	-107.18995	10	10	9	2	0.09023	19	19	14	12	7.26371	23	23	22	20	-0.89228
20	17	5	111.26328	10	10	9	3	-1.93538	19	19	14	13	-8.05224	23	23	22	21	-1.84537
20	17	6	-84.47750	10	10	9	4	9.34366	19	19	14	14	12.85390	23	23	22	22	17.09197
20	17	7	-74.04515	10	10	9	5	-9.47216	19	19	15	12	7.87358	23	23	23	17	0.45866
20	17	8	1.53986	10	10	9	6	6.98161	19	19	15	13	4.45292	23	23	23	18	-33.35370
20	17	9	-58.50535	10	10	9	7	6.39448	19	19	15	14	12.82372	23	23	23	19	42.85167
20	18	1	24.67112	10	10	9	8	-0.40588	19	19	15	15	6.18367	23	23	23	20	-18.67265
20	18	2	-69.31876	10	10	9	9	2.16123	19	19	16	12	12.77856	23	23	23	21	-48.01528
20	18	3	-75.13590	10	10	10	10	267.38751	19	19	16	13	4.76226	23	23	23	22	1.71056
20	18	4	-11.11635	11	10	1	1	9.25881	19	19	16	14	5.22782	23	23	23	23	78.47819
20	18	5	12.20990	11	10	2	2	1.65719	19	19	16	15	6.56453	24	17	1	1	0.60320
20	18	6	-9.08294	11	10	3	3	135.45159	19	19	16	16	-2.25753	24	17	2	2	-0.27963
20	18	7	4.28718	11	10	4	4	-13.79354	19	19	17	17	-34.02238	24	17	3	3	-0.52795
20	18	8	10.44534	11	10	5	5	-7.06081	19	19	18	17	-1.34007	24	17	4	4	-3.10997
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20	19	1	-55.96550	11	10	7	7	-3.78036	19	19	19	17	2.05588	24	17	6	6	-1.10029
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20	19	3	-69.27907	11	10	9	9	-1.37335	19	19	19	19	25.90319	24	17	8	8	0.58402
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20	19	5	9.44021	11	11	1	1	-4.22790	20	17	2	2	0.30635	24	17	10	10	0.10148
20	19	6	28.10797	11	11	2	1	1.75057	20	17	3	3	6.59247	24	17	11	11	0.25320
20	19	7	10.81138	11	11	2	2	-0.69630	20	17	4	4	-7.20080	24	17	12	12	-0.63866
20	19	8	0.43866	11	11	3	1	-14.64596	20	17	5	5	3.22676	24	17	13	13	-0.37181
20	19	9	-7.50406	11	11	3	2	6.83023	20	17	6	6	1.72833	24	17	14	14	0.39962
20	20	1	61.93231	11	11	3	3	-56.07476	20	17	7	7	-2.65209	24	17	15	15	1.27298
20	20	2	-178.26971	11	11	4	1	0.14918	20	17	8	8	-0.11304	24	17	17	17	-0.55710
20	20	3	92.12389	11	11	4	3	2.88085	20	17	9	9	0.87278	24	18	1	1	39.18860
20	20	4	6.18389	11	11	4	4	-22.83414	20	17	10	10	0.13202	24	18	2	2	24.56104
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21	12	10	6.10981	11	11	6	1	0.86050	20	17	17	17	7.70647	24	18	8	8	-2.86624
21	12	11	-12.96270	11	11	6	2	0.37646	20	18	1	1	-36.94124	24	18	9	9	-0.88873
21	13	10	-3.88005	11	11	6	3	1.61570	20	18	2	2	-92.53886	24	18	10	10	-4.49295
21	13	11	-12.14310	11	11	6	4	7.91955	20	18	3	3	35.83553	24	18	11	11	1.09599
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21	15	10	-5.11298	11	11	7	1	0.18517	20	18	6	6	-4.54207	24	18	14	14	-8.70651
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21	16	10	-20.89824	11	11	7	4	-1.99306	20	18	8	8	-0.55059	24	18	16	16	-2.56637
21	16	11	19.73486	11	11	7	5	-3.86443	20	18	9	9	-0.87790	24	18	17	17	13.88134
21	17	1	6.89395	11	11	7	6	3.85798	20	18	10	10	-8.99021	24	18	18	17	-1.16441
21	17	2	-3.25697	11	11	7	7	-3.05089	20	18	11	11	-1.47268	24	18	18	18	-15.34484
21	17	3	27.59259	11	11	8	1	0.34384	20	18	12	12	3.39134	24	19	1	1	-52.66508
21	17	4	95.24675	11	11	8	4	-9.11391	20	18	13	13	12.74677	24	19	2	2	46.36034
21	17	5	-101.97355	11	11	8	5	-5.36965	20	18	14	14	3.77101	24	19	3	3	15.08900
21	17	6	80.06477	11	11	8	6	3.46873	20	18	15	15	1.92374	24	19	4	4	-2.37923
21	17	7	70.25283	11	11	8	7	-2.35327	20	18	16	16	6.09928	24	19	5	5	-0.64012
21	17	8	-3.30234	11	11	8	8	-9.70270	20	18	17	17	43.58483	24	19	6	6	-1.75356
21	17	9	51.53003	11	11	9	1	0.45289	20	18	18	17	-0.46541	24	19	7	7	1.55606
21	18	1	79.77322	11	11	9	2	-0.35256	20	18	18	18	-1.38072	24	19	8	8	-3.34399
21	18	2	-10.80106	11	11	9	3	0.56557	20	19	1	1	59.47751	24	19	9	9	-1.83569
21	18	3	28.53929	11	11	9	4	-0.35667	20	19	2	2	-169.83170	24	19	10	10	-6.01021
21	18	4	-20.09081	11	11	9	5	-1.91003	20	19	3	3	55.98196	24	19	11	11	-2.09250
21	18	5	-103.17566	11	11	9	6	1.10147	20	19	4	4	-5.50949	24	19	12	12	-5.30293
21	18	6	-86.38985	11	11	9	7	1.06389	20	19	5	5	-8.64957	24	19	13	13	-4.09429
21	18	7	-13.56226	11	11	9	8	-0.71839	20	19	6	6	-3.07602	24	19	14	14	9.75336
21	18	8	45.04632	11	11	9	9	-4.66578	20	19	7	7	-3.18429	24	19	15	15	-2.58243
21	18	9	-29.41070	11	11	10	10	52.66957	20	19	9	9	-2.29339	24	19	16	16	-3.07868
21	19	1	-67.83517	11	11	11	10	-20.86787	20	19	10	10	-11.68397	24	19	17	17	19.50915
21	19	2	-40.85937	11	11	11	11	48.48291	20	19	11	11	-1.51432	24	19	18	18	1.89591
21	19	3	76.60757	12	12	1	1	-99.15579	20	19	12	12	5.55052	24	19	19	17	-1.36292
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21	19	5	-18.61889	12	12	2	2	-224.70744	20	19	14	14	-9.51351	24	19	19	19	-0.63898
21	19	6	-11.29931	12	12	3	1	-13.03684	20	19	15	15	-1.56359	24	20	1	1	26.55023
21	19	7	-1.83976	12	12	3	2	-10.44733	20	19	16	16	3.13486	24	20	2	2	57.33831
21	19	8	26.46835	12	12	3	3	-153.48737	20	19	17	17	59.80070	24	20	3	3	-29.98921
21	19	9	-6.58473	12	12	4	1	-0.47071	20	19	18	18	1.45770	24	20	4	4	7.07879
21	20	1	14.14245	12	12	4	2	3.68505	20	19	19	17	-2.08244	24	20	5	5	5.84040
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21	20	3	-126.23718	12	12	4	4	0.69389	20	19	19	19	9.13705	24	20	7	7	2.89400
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21	20	5	43.29750	12	12	5	2	2.65401	20	20	2	1	10.16881	24	20	9	9	1.30636
21	20	6	16.23503	12	12	5	3	0.94411	20	20	2	2	-211.13980	24	20	10	10	10.31501
21	20	7	7.63085	12	12	5	4	-8.33274	20	20	3	1	-17.56319	24	20	11	11	1.58412
21	20	8	-11.40196	12	12	5	5	6.07674	20	20	3	2	-14.69989	24	20	12	12	-2.44657
21	20	9	-21.57110	12	12	6	1	1.26076	20	20	3	3	-106.07478	24	20	13	13	-12.14284
21	21	1	104.42881	12	12	6	2	2.12645	20	20	4	1	0.44908	24	20	14	14	-3.13245
21	21	2	-27.54264	12	12	6	3	-0.31743	20	20	4	2	4.42751	24	20	15	15	-0.96209
21	21	3	80.25319	12	12	6	4	6.25748	20	20	4	3	6.11399	24	20	16	16	-1.74255
21	21	4	50.62593	12	12	6	5	-8.38855	20	20	4	4	10.16368	24	20	17	17	-35.75205
21	21	5	105.07087	12	12	6	6	2.11850	20	20	5	1	-0.52485	24	20	18	18	-3.72943
21	21	6	112.64971	12	12	7	2	-0.23056	20	20	5	2	7.28794	24	20	19	19	-8.97026
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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22	12	11	-18.15233	12	12	7	6	4.21570	20	20	6	1	0.71944	24	20	20	20	-5.81475
22	13	10	12.62580	12	12	7	7	0.85345	20	20	6	2	7.24722	24	21	1	1	48.84046
22	13	11	-36.94232	12	12	8	1	0.71447	20	20	6	3	0.49988	24	21	2	2	18.93070
22	14	10	-16.24612	12	12	8	2	0.22111	20	20	6	4	11.46102	24	21	3	3	32.56118
22	14	11	25.24311	12	12	8	3	-0.69350	20	20	6	5	-11.65358	24	21	4	4	-4.75219
22	15	10	-15.54080	12	12	8	4	0.12113	20	20	6	6	11.77350	24	21	5	5	-7.68862
22	15	11	-8.04327	12	12	8	7	0.12320	20	20	7	1	1.08192	24	21	6	6	-6.36136
22	16	10	-35.02878	12	12	8	8	-2.31016	20	20	7	2	-0.93807	24	21	7	7	-4.73779
22	16	11	-9.58006	12	12	9	1	0.86199	20	20	7	3	2.67628	24	21	8	8	2.54897
22	17	1	9.42987	12	12	9	2	0.80260	20	20	7	4	9.54815	24	21	9	9	0.47846
22	17	2	-2.79721	12	12	9	3	-0.73565	20	20	7	5	-10.80192	24	21	10	10	-9.59884
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22	17	7	-18.53447	12	12	9	9	0.52785	20	20	8	3	-0.66033	24	21	15	15	-8.58210
22	17	8	-2.91514	12	12	10	10	120.82244	20	20	8	4	-0.77697	24	21	16	16	-0.77312
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22	18	1	10.93294	12	12	11	11	22.25402	20	20	8	6	-0.47054	24	21	18	18	-4.09321
22	18	2	43.12132	12	12	12	12	143.36972	20	20	8	7	0.16000	24	21	19	19	-9.05643
22	18	3	8.52191	13	12	1	1	138.26753	20	20	8	8	-0.92361	24	21	20	20	-11.96391
22	18	4	32.34617	13	12	2	2	-290.35353	20	20	9	1	0.68460	24	21	21	17	-2.00322
22	18	5	-83.70669	13	12	3	3	77.31658	20	20	9	2	-2.08624	24	21	21	18	-10.43303
22	18	6	-100.11676	13	12	4	4	-2.74675	20	20	9	3	-1.57167	24	21	21	20	3.46529
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22	18	9	-23.47122	13	12	7	7	-0.59258	20	20	9	6	4.88227	24	22	2	2	-24.29079
22	19	1	-10.96358	13	12	8	8	-0.17383	20	20	9	7	4.93634	24	22	3	3	-6.60068
22	19	2	69.96693	13	12	9	9	-0.90262	20	20	9	8	0.26420	24	22	4	4	0.51771
22	19	3	4.58612	13	12	10	10	-62.30393	20	20	9	9	3.13028	24	22	5	5	1.46659
22	19	4	-133.69605	13	12	11	11	-11.72152	20	20	10	10	22.71355	24	22	6	6	-2.40792
22	19	5	-69.99878	13	12	12	12	22.50076	20	20	11	10	-9.99327	24	22	7	7	1.06818
22	19	6	21.74874	13	13	1	1	-203.65856	20	20	11	11	-3.45432	24	22	8	8	-1.86151
22	19	7	14.67850	13	13	2	1	1.84642	20	20	12	12	26.13046	24	22	9	9	1.78770
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22	20	2	83.16218	13	13	3	3	-57.82690	20	20	14	13	5.07173	24	22	16	16	4.55857
22	20	3	20.78480	13	13	4	1	-1.05220	20	20	14	14	9.12818	24	22	17	17	-6.44492
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22	20	6	15.19899	13	13	4	4	-3.37396	20	20	15	14	12.20133	24	22	20	20	6.87807
22	20	7	10.18251	13	13	5	1	-2.67299	20	20	15	15	12.81383	24	22	21	21	2.68988
22	20	8	2.56017	13	13	5	2	4.67247	20	20	16	12	18.28308	24	22	22	17	-1.87801
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22	21	2	17.54533	13	13	5	5	-1.02718	20	20	16	15	-0.20502	24	22	22	20	-2.43062
22	21	3	-9.67808	13	13	6	1	2.07927	20	20	16	16	2.36775	24	22	22	21	-1.08885
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22	21	5	78.37752	13	13	6	3	-0.17787	20	20	18	17	-0.89957	24	23	1	1	-82.97690
22	21	6	54.61439	13	13	6	4	1.27385	20	20	18	18	10.69306	24	23	2	2	17.72007
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22	21	8	-71.53570	13	13	6	6	-2.47075	20	20	19	18	14.00561	24	23	4	4	-2.37121
22	21	9	24.15250	13	13	7	1	-2.18153	20	20	19	19	30.48621	24	23	5	5	-1.15074
22	22	1	14.23155	13	13	7	2	0.73160	20	20	20	17	-0.72799	24	23	6	6	1.29055
22	22	2	-45.51623	13	13	7	3	1.55455	20	20	20	18	8.70019	24	23	7	7	-1.28034
22	22	3	6.02153	13	13	7	4	2.03037	20	20	20	19	17.04466	24	23	8	8	1.88747
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22	22	5	-87.34132	13	13	7	6	1.86370	21	17	1	1	-2.45379	24	23	10	10	0.94651
22	22	6	80.92562	13	13	7	7	-0.40966	21	17	2	2	0.12795	24	23	11	11	0.80667
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22	22	8	-172.20429	13	13	8	2	-0.25608	21	17	4	4	8.06067	24	23	13	13	4.69269
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23	12	10	-12.46981	13	13	8	4	0.97203	21	17	6	6	-0.69727	24	23	15	15	4.79132
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23	13	11	-4.51152	13	13	8	7	-0.13959	21	17	9	9	-0.43717	24	23	18	18	3.76670
23	14	10	-13.19466	13	13	8	8	-2.17734	21	17	10	10	4.34785	24	23	19	19	7.06575
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23	17	1	2.33967	13	13	9	6	1.17456	21	17	16	16	-1.83468	24	23	23	20	-8.65110
23	17	3	-2.26047	13	13	9	7	0.37591	21	17	17	17	-14.64827	24	23	23	21	-18.34277
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23	17	5	10.28720	13	13	9	9	-1.57132	21	18	2	2	-27.64202	24	23	23	23	30.52654
23	17	6	-10.47878	13	13	10	10	32.59813	21	18	3	3	-40.54380	24	24	1	1	-29.92211
23	17	7	-8.45150	13	13	11	10	-13.96830	21	18	4	4	4.59783	24	24	2	1	-1.25999
23	17	8	-5.04856	13	13	11	11	7.15372	21	18	5	5	-4.49565	24	24	2	2	-17.64161
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23	18	2	-28.59339	13	13	13	13	239.98154	21	18	8	8	-3.08880	24	24	3	3	-13.17155
23	18	3	19.53153	14	12	1	1	-177.91395	21	18	9	9	3.16450	24	24	4	1	0.10333
23	18	4	46.29621	14	12	2	2	-29.85048	21	18	10	10	9.77965	24	24	4	3	0.94030
23	18	5	-49.57921	14	12	3	3	86.33196	21	18	11	11	2.67566	24	24	4	4	-8.51611
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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23	18	9	-3.40359	14	12	7	7	-1.52004	21	18	15	15	9.99114	24	24	5	4	-6.13451
23	19	1	141.69933	14	12	9	9	-0.96788	21	18	16	16	11.59620	24	24	5	5	-0.36951
23	19	2	-30.52730	14	12	10	10	-85.24993	21	18	17	17	-38.84244	24	24	6	1	0.55441
23	19	3	-45.69302	14	12	11	11	-15.21338	21	18	18	17	0.41166	24	24	6	2	0.36241
23	19	4	43.16743	14	12	12	12	-4.57175	21	18	18	18	-3.48045	24	24	6	3	0.14834
23	19	5	18.56462	14	13	1	1	272.52788	21	19	1	1	87.63594	24	24	6	4	4.39121
23	19	6	-14.98651	14	13	2	2	-38.53429	21	19	2	2	-52.00951	24	24	6	5	-1.47908
23	19	7	30.99265	14	13	3	3	-33.41788	21	19	3	3	-43.49142	24	24	6	6	-0.16013
23	19	8	34.81104	14	13	4	4	0.44799	21	19	4	4	4.80663	24	24	7	1	-0.90823
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23	20	1	-71.14174	14	13	6	6	1.39337	21	19	6	6	-0.13375	24	24	7	4	0.72215
23	20	2	-62.27245	14	13	7	7	0.38493	21	19	7	7	3.22860	24	24	7	5	-1.82552
23	20	3	21.57414	14	13	8	8	-1.36736	21	19	8	8	-0.58378	24	24	7	6	3.22932
23	20	4	-18.61770	14	13	9	9	0.94688	21	19	9	9	4.05189	24	24	7	7	1.30871
23	20	5	30.83195	14	13	10	10	43.02431	21	19	10	10	11.97730	24	24	8	1	0.53609
23	20	6	16.12478	14	13	11	11	10.39429	21	19	11	11	4.77656	24	24	8	2	-0.14919
23	20	7	-6.54345	14	13	12	12	-6.49481	21	19	12	12	6.38174	24	24	8	3	-0.46606
23	20	8	6.15819	14	13	13	12	57.11514	21	19	13	13	1.03097	24	24	8	4	-3.25441
23	20	9	-1.79593	14	13	13	13	-53.94995	21	19	14	14	-8.57960	24	24	8	5	-1.08173
23	21	1	-134.47405	14	14	1	1	-383.73052	21	19	15	15	1.53777	24	24	8	6	0.23016
23	21	2	-28.77051	14	14	2	1	-27.29072	21	19	16	16	3.32194	24	24	8	7	1.90264
23	21	3	21.76448	14	14	2	2	-8.00411	21	19	17	17	-52.60191	24	24	8	8	-3.95279
23	21	4	30.86311	14	14	3	1	79.00440	21	19	18	18	-5.15160	24	24	9	1	0.30159
23	21	5	31.31859	14	14	3	2	15.32071	21	19	19	17	2.15639	24	24	9	2	0.18752
23	21	6	58.93957	14	14	3	3	-93.22098	21	19	19	18	10.81078	24	24	9	4	1.73645
23	21	7	-5.47454	14	14	4	1	3.60388	21	19	19	19	-0.44721	24	24	9	5	-1.99056
23	21	8	-16.60870	14	14	4	2	0.22276	21	20	1	1	-42.37466	24	24	9	6	0.67519
23	21	9	13.04952	14	14	4	3	0.83717	21	20	2	2	-63.36049	24	24	9	9	1.05406
23	22	1	13.68440	14	14	4	4	-5.66103	21	20	3	3	84.16178	24	24	10	10	1.56451
23	22	2	25.43947	14	14	5	1	-5.69164	21	20	4	4	-10.32973	24	24	11	10	-1.03104
23	22	3	7.23305	14	14	5	2	-0.45103	21	20	5	5	-14.94519	24	24	11	11	4.58734
23	22	4	147.88882	14	14	5	3	3.39399	21	20	6	6	-7.28088	24	24	12	12	1.87727
23	22	5	67.91540	14	14	5	4	-7.58214	21	20	7	7	-6.50930	24	24	13	12	-1.01512
23	22	6	-39.16090	14	14	5	5	0.91439	21	20	8	8	0.95167	24	24	13	13	4.77172
23	22	7	-36.15557	14	14	6	1	0.48024	21	20	9	9	-3.83219	24	24	14	12	1.19960
23	22	8	-0.84262	14	14	6	2	0.74931	21	20	10	10	-22.96158	24	24	14	13	-2.99210
23	22	9	13.83345	14	14	6	3	-1.99081	21	20	11	11	-0.30200	24	24	14	14	6.30314
23	23	1	249.50457	14	14	6	4	5.43999	21	20	12	12	-4.27660	24	24	15	12	1.14985
23	23	2	-1.46717	14	14	6	5	-5.36085	21	20	13	13	8.03662	24	24	15	13	-0.51993
23	23	3	-63.28581	14	14	6	6	0.26034	21	20	14	14	0.28888	24	24	15	14	5.06814
23	23	4	6.66402	14	14	7	1	-6.50571	21	20	15	15	-2.84059	24	24	15	15	1.94963
23	23	5	-8.55003	14	14	7	2	-0.49937	21	20	16	16	-4.37703	24	24	16	12	0.90927
23	23	6	-7.81739	14	14	7	3	0.90131	21	20	17	17	95.80641	24	24	16	13	-0.59753
23	23	7	-40.22062	14	14	7	4	2.43266	21	20	18	18	3.75387	24	24	16	14	-1.86881
23	23	8	-60.80055	14	14	7	5	-4.90353	21	20	19	19	6.58092	24	24	16	15	-0.37405
23	23	9	-38.46164	14	14	7	6	3.86382	21	20	20	17	2.20295	24	24	16	16	-3.01146
24	12	10	-4.34878	14	14	7	7	1.02212	21	20	20	18	14.51881	24	24	17	17	-11.73679
24	12	11	5.59644	14	14	8	1	-1.36203	21	20	20	19	14.60601	24	24	18	17	1.00675
24	13	10	8.07969	14	14	8	3	-0.54303	21	20	20	20	-6.83847	24	24	18	18	1.26359
24	13	11	5.03521	14	14	8	4	-1.16773	21	21	1	1	-84.56813	24	24	19	17	0.54398
24	14	11	7.26275	14	14	8	7	0.20133	21	21	2	1	-2.74489	24	24	19	18	-3.29288
24	15	10	-4.45629	14	14	8	8	-3.43130	21	21	2	2	-22.75616	24	24	19	19	4.62292
24	15	11	7.16152	14	14	9	1	1.49863	21	21	3	1	-0.40484	24	24	20	17	-0.80791
24	16	10	-5.61766	14	14	9	2	0.43571	21	21	3	2	8.43700	24	24	20	18	1.92127
24	16	11	12.90649	14	14	9	3	-0.90004	21	21	3	3	-84.96656	24	24	20	20	7.79504
24	17	1	0.79809	14	14	9	4	1.77371	21	21	4	1	0.77291	24	24	21	17	0.46544
24	17	2	-0.27194	14	14	9	5	-3.41589	21	21	4	2	-0.44577	24	24	21	18	7.40501
24	17	3	4.45913	14	14	9	6	0.98239	21	21	4	3	6.25461	24	24	21	19	-0.88262
24	17	4	-44.76891	14	14	9	7	1.98129	21	21	4	4	10.97768	24	24	21	20	0.43415
24	17	5	51.93038	14	14	9	8	-1.01298	21	21	5	1	-0.82467	24	24	21	21	4.92503
24	17	6	-37.83606	14	14	9	9	-1.55703	21	21	5	3	-0.88634	24	24	22	17	0.38510
24	17	7	-24.96214	14	14	10	10	63.62373	21	21	5	4	-5.59262	24	24	22	18	-0.59382
24	17	8	-1.02747	14	14	11	10	-24.73655	21	21	5	5	30.45509	24	24	22	19	-5.50623
24	17	9	-20.17387	14	14	11	11	17.00969	21	21	6	1	0.75110	24	24	22	20	-1.17728
24	18	1	-56.06747	14	14	12	12	76.58116	21	21	6	2	0.28110	24	24	22	21	-3.99972
24	18	2	31.62846	14	14	13	12	-84.26186	21	21	6	3	0.95966	24	24	22	22	-9.62878
24	18	3	-11.89400	14	14	13	13	114.69865	21	21	6	4	13.28515	24	24	23	18	-2.90254
24	18	4	-3.42725	14	14	14	12	78.87296	21	21	6	5	1.54043	24	24	23	19	10.73083
24	18	5	11.03008	14	14	14	13	-137.70371	21	21	6	6	20.93071	24	24	23	20	-2.11762
24	18	6	11.98642	14	14	14	14	216.96655	21	21	7	1	-1.09382	24	24	23	21	-8.72438
24	18	7	19.96433	15	12	1	1	-94.15656	21	21	7	2	-1.23207	24	24	23	22	3.00059
24	18	8	22.50406	15	12	2	2	-156.18831	21	21	7	3	2.84216	24	24	23	23	11.48252
24	18	9	-18.74006	15	12	3	3	121.97354	21	21	7	4	8.49279	24	24	24	17	-0.21361
24	19	1	54.07641	15	12	4	4	-8.36369	21	21	7	5	-9.62481	24	24	24	18	-4.91847
24	19	2	62.76480	15	12	5	5	-7.23215	21	21	7	6	9.67684	24	24	24	20	-1.32280
24	19	3	-33.16179	15	12	6	6	-5.43967	21	21	7	7	6.70365	24	24	24	21	-4.65211
24	19	4	11.47054	15	12	7	7	-4.18166	21	21	8	1	0.24314	24	24	24	23	5.79726
24	19	5	-25.53903	15	12	9	9	-1.36489	21	21	8	2	2.42088	24	24	24	24	7.64070

Table S35: The quartic potential energy surface of Pyrimidine-d4. The calculation was done by using B3LYP/6-311++G(2d,2p) method. The force constants (FI) are in cm^{-1} units.

I	J	FI(I,J)
1	1	2373.20410
2	2	2347.31359
3	3	2328.87749
4	4	1571.23541
5	5	1305.52324
6	6	1066.99001
7	7	993.65962
8	8	884.35864
9	9	674.14544
10	10	813.87986
11	11	376.16410
12	12	868.24817
13	13	850.41351
14	14	674.94114
15	15	562.64216
16	16	302.94635
17	17	2336.64354
18	18	1570.24879
19	19	1358.09972
20	20	1215.81696
21	21	1054.06349
22	22	936.46445
23	23	832.92924
24	24	618.42285

I	J	K	FI(I,J,K)
1	1	1	-974.03713
2	1	1	-178.80410
2	2	1	-187.25124
2	2	2	1008.25542
3	1	1	240.16055
3	2	1	124.36523
3	2	2	325.47161
3	3	1	-400.45458
3	3	2	283.12878
3	3	3	-501.64515
4	1	1	73.57214
4	2	1	11.13716
4	2	2	22.96260
4	3	1	-14.40765
4	3	3	20.28187
4	4	1	16.45579
4	4	2	-15.25851
4	4	3	52.02130
4	4	4	-172.33460
5	1	1	-77.07092
5	2	1	-16.81623
5	2	2	49.29613
5	3	1	3.67781
5	3	2	33.66250
5	3	3	-32.42946
5	4	1	-19.04570
5	4	2	9.95611
5	4	3	-33.74779
5	4	4	-43.59195
5	5	1	18.29611
5	5	2	-12.92776
5	5	3	25.30860
5	5	4	76.93133
5	5	5	47.71333
6	1	1	27.38755
6	2	1	-10.10121
6	2	2	68.71624
6	3	1	14.49501
6	3	2	6.07579
6	3	3	58.25582
6	4	1	14.32911
6	4	2	4.40499
6	4	3	5.05724
6	4	4	93.33962
6	5	1	-10.98530
6	5	2	3.39212
6	5	3	-1.24568
6	5	4	-10.86827
6	5	5	48.06731
6	6	1	1.15150
6	6	2	3.13843
6	6	3	0.96261
6	6	4	-5.55016
6	6	6	43.37251
7	1	1	-58.54608
7	2	1	-8.12309
7	2	2	-17.91799
7	3	1	11.31480
7	3	2	3.41092

I	J	K	FI(I,J,K)
24	18	5	12.74289
24	18	6	-2.00956
24	18	7	21.51349
24	18	8	-11.12271
24	18	9	-16.80931
24	19	1	-35.02691
24	19	2	-36.97245
24	19	3	12.43470
24	19	4	-4.89780
24	19	5	31.73642
24	19	6	-9.98319
24	19	7	-4.31979
24	19	8	-14.80370
24	19	9	12.92079
24	20	1	-25.18237
24	20	2	-11.98245
24	20	3	-16.47291
24	20	4	-22.73130
24	20	5	-4.85390
24	20	6	-6.00831
24	20	7	-2.29910
24	20	9	-3.18976
24	21	1	-19.79536
24	21	2	26.08878
24	21	3	67.07729
24	21	4	-8.28893
24	21	5	-5.54321
24	21	6	0.70871
24	21	7	0.67670
24	21	8	11.57807
24	21	9	1.77272
24	22	1	-22.09689
24	22	2	50.84268
24	22	3	-22.43508
24	22	4	2.55309
24	22	5	2.19350
24	22	6	7.49619
24	22	7	-5.53516
24	22	8	-15.36250
24	22	9	4.67311
24	23	1	97.19501
24	23	2	37.22372
24	23	3	-18.31534
24	23	4	-4.07281
24	23	5	19.84025
24	23	6	-6.93291
24	23	7	9.10318
24	23	9	1.32241
24	24	1	58.14202
24	24	2	-14.55348
24	24	4	18.00123
24	24	6	2.31238
24	24	7	2.96881
24	24	8	11.28905
24	24	9	-2.32103

I	J	K	L	FI(I,J,K,L)
1	1	1	1	412.38193
2	1	1	1	93.08885
2	2	1	1	32.15508
2	2	2	1	-44.97714
2	2	2	2	451.00248
3	1	1	1	-136.79856
3	2	1	1	-44.59406
3	2	2	1	-18.78374
3	2	2	2	153.65461
3	3	1	1	89.60026
3	3	2	1	-16.49426
3	3	2	2	78.33080
3	3	3	1	53.54418
3	3	3	2	-38.83102
3	3	3	3	192.14355
4	1	1	1	-31.48964
4	2	1	1	-7.06106
4	2	2	1	-3.21838
4	2	2	2	11.76592
4	3	1	1	10.77348
4	3	2	2	5.00481
4	3	3	1	-5.60353
4	3	3	2	0.76731
4	3	3	3	1.43992
4	4	1	1	-1.41172
4	4	2	1	1.76582
4	4	2	2	-1.97593
4	4	3	1	-4.96249

I	J	K	L	FI(I,J,K,L)
15	12	5	5	3.92871
15	12	6	6	0.23449
15	12	7	7	0.61147
15	12	8	8	11.09711
15	12	9	9	2.06939
15	12	10	10	52.79998
15	12	11	11	20.82111
15	12	12	12	9.80024
15	13	1	1	13.05866
15	13	2	2	118.90871
15	13	3	3	-20.69105
15	13	4	4	0.71820
15	13	5	5	0.40773
15	13	6	6	0.17504
15	13	8	8	5.04683
15	13	9	9	1.33378
15	13	10	10	30.60689
15	13	11	11	9.00155
15	13	12	12	7.24837
15	13	13	12	13.99780
15	13	13	13	-53.30704
15	14	1	1	-136.10522
15	14	2	2	58.24597
15	14	3	3	-12.19605
15	14	4	4	0.68186
15	14	5	5	1.18913
15	14	6	6	1.42017
15	14	8	8	1.72275
15	14	10	10	4.93955
15	14	12	12	21.77623
15	14	13	13	-29.03436
15	14	14	12	-41.78026
15	14	14	13	-29.18794
15	14	14	14	83.78850
15	15	1	1	-111.00418
15	15	2	1	0.48109
15	15	2	2	-99.29810
15	15	3	1	-5.70030
15	15	3	2	7.96220
15	15	3	3	-121.63267
15	15	4	1	6.28766
15	15	4	2	-0.37765
15	15	4	3	-0.87310
15	15	4	4	-1.53292
15	15	5	1	-7.02320
15	15	5	2	-4.21017
15	15	5	3	-3.66421
15	15	5	4	-2.19703
15	15	5	5	-1.24542
15	15	6	1	5.42172
15	15	6	2	-6.33221
15	15	6	3	4.47072
15	15	6	5	-0.70790
15	15	6	6	-4.78479
15	15	7	1	-4.80714
15	15	7	2	0.68261
15	15	7	6	-1.33159
15	15	7	7	-2.38770
15	15	8	1	2.59236
15	15	8	2	0.20013
15	15	8	3	3.27736
15	15	8	4	-4.70714
15	15	8	5	6.54175
15	15	8	6	-3.12681
15	15	8	7	0.31908
15	15	8	8	11.71312
15	15	9	1	-0.61629
15	15	9	2	1.31332
15	15	9	3	1.79739
15	15	9	4	4.31052
15	15	9	5	-3.51383
15	15	9	6	0.82208
15	15	9	8	-8.74018
15	15	9	9	2.32148
15	15	10	10	85.45121
15	15	11	10	-49.50325
15	15	11	11	35.29114
15	15	12	12	45.48652
15	15	13	12	15.70224
15	15	13	13	52.93292
15	15	14	12	-32.99408
15	15	14	13	15.21399
15	15	14	14	76.28385
15	15	15	12	33.47450
15	15	15	13	-8.90958
15	15	15	14	31.82956

I	J	K	L	FI(I,J,K,L)
21	21	8	4	-5.48338
21	21	8	5	6.30456
21	21	8	6	-2.99552
21	21	8	7	0.59168
21	21	8	8	13.58167
21	21	9	1	0.39641
21	21	9	2	0.59466
21	21	9	4	2.17222
21	21	9	5	-4.05172
21	21	9	6	0.99028
21	21	9	8	-6.69168
21	21	9	9	2.93362
21	21	10	10	8.20536
21	21	11	10	-6.01062
21	21	11	11	-2.66934
21	21	12	12	3.68886
21	21	13	12	0.21536
21	21	13	13	11.72573
21	21	14	12	-2.66950
21	21	14	13	5.84027
21	21	14	14	4.88360
21	21	15	12	6.05784
21	21	15	13	-5.75253
21	21	15	14	-0.46562
21	21	15	15	12.44434
21	21	16	12	-2.36698
21	21	16	13	-10.53206
21	21	16	14	-1.95639
21	21	16	15	0.88556
21	21	16	16	2.07753
21	21	17	17	-51.50295
21	21	18	17	2.15836
21	21	18	18	1.36396
21	21	19	17	1.08365
21	21	19	18	-1.61218
21	21	19	19	3.88410
21	21	20	17	2.17090
21	21	20	18	0.19671
21	21	20	19	1.30155
21	21	20	20	0.63390
21	21	21	17	0.33817
21	21	21	18	2.46359
21	21	21	19	-2.72813
21	21	21	20	-9.08372
21	21	21	21	22.65987
22	17	1	1	-2.80045
22	17	2	2	-0.36583
22	17	3	3	-7.60316
22	17	4	4	2.23936
22	17	5	5	0.78660
22	17	6	6	0.08437
22	17	7	7	0.43319
22	17	8	8	0.18227
22	17	9	9	0.36261
22	17	10	10	1.81476
22	17	11	11	1.74293
22	17	12	12	0.93424
22	17	13	13	0.26486
22	17	14	14	-0.70524
22	17	15	15	2.08233
22	17	17	17	-11.40406
22	18	1	1	-3.00203
22	18	2	2	-28.67610
22	18	3	3	-14.77723
22	18	4	4	-3.37065
22	18	5	5	-4.95450
22	18	6	6	-1.10600
22	18	7	7	-0.79412
22	18	8	8	3.68192
22	18	9	9	2.26677
22	18	10	10	2.63201
22	18	11	11	1.29577
22	18	12	12	2.29233
22	18	13	13	6.27942
22	18	14	14	1.38862
22	18	15	15	3.57523
22	18	16	16	7.41208
22	18	17	17	-14.32995
22	18	18	17	0.82052
22	18	18	18	-6.79901
22	19	1	1	2.25681
22	19	2	2	42.47719
22	19	3	3	19.70687
22	19	4	4	9.50482
22	19	5	5	1.11589
22	19	6	6	0.30858

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
7	3	3	-20.16025	4	4	3	2	3.09101	15	15	15	15	124.59309	22	19	7	7	2.14490
7	4	1	-3.00705	4	4	3	3	-11.81578	16	12	1	1	47.75628	22	19	8	8	-4.60357
7	4	2	5.81843	4	4	4	1	-2.20517	16	12	2	2	-10.81822	22	19	9	9	-1.23046
7	4	3	3.95737	4	4	4	2	2.00805	16	12	3	3	40.67881	22	19	10	10	-3.97577
7	4	4	-146.42917	4	4	4	3	-1.97709	16	12	4	4	-4.34742	22	19	11	11	-6.58448
7	5	1	5.86922	4	4	4	4	37.52831	16	12	5	5	-2.27435	22	19	12	12	-2.68026
7	5	2	9.65839	5	1	1	1	30.48262	16	12	7	7	-0.77919	22	19	13	13	-6.81658
7	5	3	12.94970	5	2	1	1	6.66737	16	12	8	8	-8.60634	22	19	14	14	-2.86128
7	5	4	-31.99542	5	2	2	1	-0.89884	16	12	10	10	-30.58716	22	19	15	15	-4.50408
7	5	5	-97.07535	5	2	2	2	29.12604	16	12	11	11	-14.12530	22	19	16	16	-2.40157
7	6	1	-9.06663	5	3	1	1	-8.19447	16	12	12	12	-13.25255	22	19	17	17	18.34236
7	6	2	5.19496	5	3	2	2	10.77789	16	13	1	1	17.14368	22	19	18	18	-1.34022
7	6	3	-3.14888	5	3	3	1	9.06180	16	13	2	2	116.80148	22	19	19	17	-0.50328
7	6	4	9.74024	5	3	3	2	1.75386	16	13	3	3	38.39637	22	19	19	18	-1.40868
7	6	5	-5.21772	5	3	3	3	10.04255	16	13	4	4	-2.57966	22	19	19	19	3.38978
7	6	6	-24.99419	5	4	1	1	0.80426	16	13	5	5	-7.32851	22	20	1	1	-2.79652
7	7	1	6.96965	5	4	2	2	0.56234	16	13	7	7	-2.49046	22	20	2	2	21.57281
7	7	2	-8.78046	5	4	3	3	12.36898	16	13	8	8	-3.49701	22	20	3	3	-11.96142
7	7	3	4.91419	5	4	4	1	0.30099	16	13	9	9	-0.57098	22	20	4	4	-10.39325
7	7	4	-5.81319	5	4	4	2	1.57316	16	13	10	10	-18.49101	22	20	5	5	7.96655
7	7	5	8.54744	5	4	4	3	-1.28185	16	13	11	11	-5.11545	22	20	6	6	0.15798
7	7	6	33.36012	5	4	4	4	4.73087	16	13	12	12	-6.94625	22	20	7	7	-1.06505
7	7	7	-83.38854	5	5	1	1	-1.12540	16	13	13	12	4.73671	22	20	8	8	6.95100
8	1	1	20.86223	5	5	2	1	2.36758	16	13	13	13	-57.36852	22	20	9	9	0.85216
8	2	1	2.79931	5	5	2	2	-2.03268	16	14	1	1	-85.95324	22	20	10	10	6.65213
8	2	2	-7.56158	5	5	3	1	-6.77409	16	14	2	2	57.30213	22	20	11	11	6.87403
8	3	1	1.48205	5	5	3	2	4.56462	16	14	3	3	-2.81721	22	20	12	12	3.25535
8	3	2	-8.23443	5	5	3	3	-15.65668	16	14	4	4	-0.37236	22	20	13	13	-6.99015
8	3	3	10.73316	5	5	4	1	1.05473	16	14	5	5	3.20151	22	20	14	14	0.21796
8	4	1	-4.41616	5	5	4	3	3.68783	16	14	6	6	1.20673	22	20	15	15	1.19779
8	4	2	12.53757	5	5	4	4	-2.11016	16	14	7	7	0.84893	22	20	16	16	-4.07851
8	4	3	-34.85019	5	5	5	1	-1.22858	16	14	10	10	-3.29687	22	20	17	17	-19.13778
8	4	4	13.30519	5	5	5	2	1.54510	16	14	12	12	12.16848	22	20	18	18	2.68834
8	5	1	8.93089	5	5	5	3	-1.39947	16	14	13	13	-33.82586	22	20	19	19	-6.79994
8	5	2	-14.97205	5	5	5	4	-2.33157	16	14	14	12	-27.47463	22	20	20	17	1.53635
8	5	3	46.36683	5	5	5	5	8.46589	16	14	14	13	-24.38424	22	20	20	18	-11.25207
8	5	4	-56.05355	6	1	1	1	-5.12140	16	14	14	14	52.39743	22	20	20	19	9.64882
8	5	5	3.13591	6	2	1	1	0.50281	16	15	1	1	-47.55537	22	20	20	20	-5.62276
8	6	1	-1.63870	6	2	2	1	-4.27699	16	15	2	2	-77.09098	22	21	1	1	5.59061
8	6	2	5.67529	6	2	2	2	31.44795	16	15	3	3	36.94379	22	21	2	2	-79.84456
8	6	3	-20.27332	6	3	1	1	-1.67470	16	15	4	4	-1.43918	22	21	3	3	27.44542
8	6	4	26.45198	6	3	2	2	9.66493	16	15	5	5	-3.87399	22	21	4	4	-2.67888
8	6	5	-8.60423	6	3	3	1	-8.22901	16	15	6	6	-0.67671	22	21	5	5	-1.56660
8	6	6	-2.25308	6	3	3	2	8.72301	16	15	8	8	-3.88252	22	21	6	6	-0.17025
8	7	1	-6.27147	6	3	3	3	-14.17200	16	15	9	9	-0.58659	22	21	7	7	-0.23684
8	7	2	-2.75848	6	4	1	1	0.37984	16	15	10	10	-50.69672	22	21	8	8	-12.61735
8	7	4	-17.43209	6	4	2	2	-0.68183	16	15	11	11	-17.82620	22	21	9	9	-3.68220
8	7	5	27.69592	6	4	3	3	-4.60578	16	15	12	12	-8.42401	22	21	10	10	-8.40965
8	7	6	-2.54994	6	4	4	1	1.62413	16	15	13	13	36.84183	22	21	12	12	-2.46912
8	7	7	5.47454	6	4	4	2	0.91566	16	15	14	14	52.16516	22	21	13	13	9.81294
8	8	1	55.89882	6	4	4	3	2.14734	16	15	15	12	-36.62213	22	21	14	14	1.92783
8	8	2	-32.76312	6	4	4	4	-11.66169	16	15	15	13	-46.54161	22	21	15	15	-2.32147
8	8	3	110.21877	6	5	1	1	-0.09626	16	15	15	14	9.30514	22	21	17	17	48.99794
8	8	4	17.08924	6	5	2	2	1.04659	16	15	15	15	-4.49017	22	21	18	18	1.35333
8	8	5	-20.24921	6	5	3	3	5.60032	16	16	1	1	-44.53831	22	21	19	19	1.59530
8	8	6	25.61859	6	5	4	4	-2.52402	16	16	2	1	3.62479	22	21	20	20	-0.74293
8	8	7	-10.33259	6	5	5	1	1.58761	16	16	2	2	-78.76971	22	21	21	17	0.29145
8	8	8	33.67824	6	5	5	2	1.77004	16	16	3	1	2.36602	22	21	21	18	6.83657
9	1	1	-10.85710	6	5	5	3	1.32551	16	16	3	2	-13.92142	22	21	21	19	-8.07924
9	2	1	-0.94020	6	5	5	4	2.76931	16	16	3	3	-45.24354	22	21	21	20	-1.25361
9	2	2	-19.87901	6	5	5	5	-4.73380	16	16	4	2	-0.55062	22	21	21	21	5.63867
9	3	1	9.09272	6	6	1	1	-0.40152	16	16	4	3	-3.45690	22	22	1	1	-7.74037
9	3	2	-8.18682	6	6	2	1	0.16404	16	16	4	4	-11.03103	22	22	2	1	12.93933
9	3	3	2.19049	6	6	2	2	0.12980	16	16	5	1	0.67195	22	22	2	2	-79.99778
9	4	1	18.78866	6	6	3	1	-0.78995	16	16	5	2	-3.75921	22	22	3	1	-12.41819
9	4	2	-12.21512	6	6	3	2	0.64462	16	16	5	3	0.23975	22	22	3	2	-16.53623
9	4	3	18.72027	6	6	3	3	-1.85237	16	16	5	4	1.10283	22	22	3	3	-46.11543
9	4	4	-4.36460	6	6	4	1	1.01022	16	16	5	5	-15.71572	22	22	4	1	0.90627
9	5	1	-16.56811	6	6	4	2	0.98262	16	16	6	2	-5.23925	22	22	4	2	-0.53859
9	5	2	-4.95062	6	6	4	3	1.82127	16	16	6	4	-4.11756	22	22	4	3	1.90543
9	5	3	-26.46714	6	6	4	4	-1.79573	16	16	6	5	-2.18504	22	22	4	4	5.71989
9	5	4	16.70331	6	6	5	1	-0.40787	16	16	6	6	-7.12155	22	22	5	1	-0.25653
9	5	5	41.88242	6	6	5	2	1.45869	16	16	7	1	-1.32330	22	22	5	2	-0.97816
9	6	1	1.02653	6	6	5	3	1.03473	16	16	7	4	7.48164	22	22	5	3	-1.40844
9	6	2	-7.25362	6	6	5	4	-4.10979	16	16	7	5	1.70884	22	22	5	5	5.09244
9	6	3	4.74012	6	6	5	5	-1.86143	16	16	7	6	1.63545	22	22	6	1	0.66180
9	6	4	3.20005	6	6	6	1	-0.49838	16	16	7	7	-9.02044	22	22	6	2	-2.47202
9	6	5	8.06098	6	6	6	2	1.30151	16	16	8	1	-0.49565	22	22	6	3	0.47518
9	7	1	-4.84202	6	6	6	3	-0.33954	16	16	8	3	2.46803	22	22	6	4	0.49827
9	7	2	1.27571	6	6	6	4	-0.52797	16	16	8	4	-3.00989	22	22	6	5	0.51658
9	7	3	3.52894	6	6	6	5	-1.03336	16	16	8	5	6.71511	22	22	6	6	2.69594
9	7	4	-28.05564	6	6	6	6	-1.03556	16	16	8	6	-3.58776	22	22	7	1	-0.43440
9	7	5	-14.12406	7	1	1	1	24.45788	16	16	8	7	1.51593	22	22	7	2	1.31073
9	7	6	-1.64769	7	2	1	1	5.71607	16	16	8	8	-4.34883	22	22	7	3	-0.66644
9	7	7	2.00885	7	2	2	1	2.19935	16	16	9	1	-1.02082	22	22	7	4	1.55399
9	8	1	-21.57203	7	2	2	2	-6.00664	16	16	9	2	1.88956	22	22	7	6	-1.13943
9	8	2	20.04280	7	3	1	1	-8.52451	16	16	9	3	2.12655	22	22	7	7	0.36833
9	8	3	-56.45835	7	3	2	2	-2.62636	16	16	9	5	-2.60453	22	22	8	1	-0.40321
9	8	4	-0.53277	7	3	3	1	5.18498	16	16	9	7	1.21001	22	22	8	2	0.21026
9	8	5	-7.42805	7	3	3	2	-1.17111	16	16	9	8	-3.22576	22	22	8	3	-0.46178

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
9	8	6	0.99932	7	3	3	3	2.42034	16	16	9	9	1.92517	22	22	8	4	-4.18739
9	8	7	-1.74634	7	4	1	1	-1.18711	16	16	10	10	29.11212	22	22	8	5	5.80340
9	8	8	19.95352	7	4	2	2	0.15372	16	16	11	10	-13.73740	22	22	8	6	-3.33284
9	9	1	9.15754	7	4	4	1	-0.14860	16	16	11	11	15.26084	22	22	8	7	0.40447
9	9	2	-11.20731	7	4	4	2	1.65577	16	16	12	12	23.47308	22	22	8	8	11.89601
9	9	3	24.68148	7	4	4	3	-3.82549	16	16	13	12	2.08685	22	22	9	1	0.20500
9	9	4	-10.99569	7	4	4	4	19.62468	16	16	13	13	47.52132	22	22	9	2	-0.34261
9	9	5	10.03703	7	5	1	1	1.34463	16	16	14	12	-15.02843	22	22	9	3	0.22461
9	9	6	0.64366	7	5	2	2	0.19919	16	16	14	13	15.67987	22	22	9	4	1.91429
9	9	7	-20.49628	7	5	3	3	-0.48326	16	16	14	14	34.71901	22	22	9	5	-4.29076
9	9	8	-6.61281	7	5	4	4	3.96623	16	16	15	12	11.33741	22	22	9	6	0.67760
9	9	9	2.25121	7	5	5	1	-0.38813	16	16	15	13	-19.60953	22	22	9	7	0.37752
10	10	1	95.27151	7	5	5	2	1.82916	16	16	15	14	4.35594	22	22	9	8	-6.19408
10	10	2	-70.25512	7	5	5	4	-6.48532	16	16	15	15	62.26304	22	22	9	9	3.22274
10	10	3	221.60444	7	5	5	5	-8.48284	16	16	16	12	-5.09820	22	22	10	10	7.03542
10	10	4	6.06573	7	6	1	1	-1.20609	16	16	16	13	-23.14389	22	22	11	10	-5.96104
10	10	5	7.24519	7	6	2	2	-0.69194	16	16	16	14	-8.51999	22	22	11	11	-5.65634
10	10	6	2.51130	7	6	3	3	-0.37619	16	16	16	15	11.16258	22	22	12	12	1.91000
10	10	7	14.18572	7	6	4	4	-12.17486	16	16	16	16	63.28614	22	22	13	13	9.43888
10	10	8	-2.62154	7	6	5	5	-3.91584	17	17	1	1	41.99425	22	22	14	12	-1.73158
10	10	9	1.87106	7	6	6	1	-0.24043	17	17	2	1	-30.34761	22	22	14	13	5.91180
11	10	1	-64.46081	7	6	6	2	-0.15699	17	17	2	2	21.83913	22	22	14	14	0.77040
11	10	2	44.68720	7	6	6	4	0.39981	17	17	3	1	97.94704	22	22	15	12	7.04055
11	10	3	-143.79980	7	6	6	5	0.41541	17	17	3	2	-69.94985	22	22	15	13	-5.63882
11	10	4	25.81727	7	6	6	6	-0.81800	17	17	3	3	225.82521	22	22	15	14	-1.36081
11	10	5	-3.54904	7	7	1	1	0.71101	17	17	4	1	-1.65305	22	22	15	15	10.00757
11	10	6	4.85877	7	7	2	2	-0.19252	17	17	4	2	0.43060	22	22	16	12	-1.35211
11	10	7	17.10611	7	7	3	2	-0.06117	17	17	4	3	-1.48081	22	22	16	13	-9.78703
11	10	8	-7.77786	7	7	3	3	-0.20115	17	17	4	4	-14.68617	22	22	16	14	-2.16615
11	10	9	4.03797	7	7	4	1	-0.80405	17	17	5	1	7.13650	22	22	16	15	-0.42123
11	11	1	34.85379	7	7	4	2	-0.91894	17	17	5	2	-4.11115	22	22	16	16	1.45295
11	11	2	-22.50348	7	7	4	3	-0.73974	17	17	5	3	13.86186	22	22	17	17	-46.05165
11	11	3	83.99778	7	7	4	4	8.97335	17	17	5	4	15.58955	22	22	18	17	2.42601
11	11	4	57.76892	7	7	5	1	0.12975	17	17	5	5	-19.61349	22	22	18	18	2.16764
11	11	5	15.14479	7	7	5	2	-1.29666	17	17	6	1	-9.35485	22	22	19	17	1.08411
11	11	6	-48.73755	7	7	5	3	-1.63597	17	17	6	2	6.34485	22	22	19	18	-2.99306
11	11	7	53.15500	7	7	5	4	7.19303	17	17	6	3	-20.54437	22	22	19	19	5.28944
11	11	8	18.44878	7	7	5	5	7.94555	17	17	6	4	-5.36937	22	22	20	17	2.38636
11	11	9	-9.15769	7	7	6	1	1.18618	17	17	6	5	6.79245	22	22	20	18	-1.25633
12	12	1	87.53723	7	7	6	2	-0.74404	17	17	6	6	-2.55947	22	22	20	19	-1.46238
12	12	2	-13.89469	7	7	6	3	0.40847	17	17	7	1	1.97315	22	22	20	20	7.12678
12	12	3	53.01720	7	7	6	4	-1.56440	17	17	7	2	-1.47515	22	22	21	17	-0.57952
12	12	4	-1.97157	7	7	6	5	0.93067	17	17	7	3	5.22917	22	22	21	18	1.11715
12	12	5	11.04934	7	7	6	6	1.57170	17	17	7	4	-0.36661	22	22	21	19	-4.32002
12	12	6	-2.53064	7	7	7	1	-0.14157	17	17	7	5	-0.47736	22	22	21	20	-7.60666
12	12	7	10.16460	7	7	7	2	1.18394	17	17	7	6	-0.50428	22	22	21	21	19.86006
12	12	8	1.36901	7	7	7	3	-0.59638	17	17	7	7	0.07094	22	22	22	17	0.85783
12	12	9	-0.75927	7	7	7	5	-1.15533	17	17	8	1	1.85886	22	22	22	18	6.13851
13	12	1	31.87919	7	7	7	6	-4.84037	17	17	8	2	1.47082	22	22	22	19	-5.82897
13	12	2	21.33440	7	7	7	7	3.58486	17	17	8	3	-2.80174	22	22	22	20	-2.21396
13	12	3	51.67710	8	1	1	1	-4.75342	17	17	8	4	35.52120	22	22	22	21	3.61294
13	12	4	-2.81016	8	2	1	1	-1.71349	17	17	8	5	-43.65766	22	22	22	22	16.09339
13	12	5	10.52690	8	2	2	1	0.21870	17	17	8	6	15.38321	23	17	1	1	6.01070
13	12	6	-3.21890	8	2	2	2	-5.54299	17	17	8	7	-2.47620	23	17	2	2	0.48738
13	12	7	-2.77037	8	3	1	1	3.29596	17	17	8	8	-89.41528	23	17	3	3	1.25779
13	12	8	1.24130	8	3	2	2	-2.49366	17	17	9	1	-3.54441	23	17	4	4	1.13224
13	12	9	1.83182	8	3	3	2	0.48034	17	17	9	2	1.38939	23	17	6	6	-0.57034
13	13	1	38.92141	8	3	3	3	-3.29560	17	17	9	3	-5.42115	23	17	7	7	0.66239
13	13	2	-221.62765	8	4	1	1	5.92802	17	17	9	4	-13.97040	23	17	8	8	0.40446
13	13	3	-50.46760	8	4	2	2	2.83157	17	17	9	5	17.88166	23	17	9	9	-0.32592
13	13	4	-4.92793	8	4	3	3	27.26155	17	17	9	6	-6.59335	23	17	10	10	-0.83852
13	13	5	-14.54566	8	4	4	1	-0.07734	17	17	9	7	1.15397	23	17	11	11	-0.62385
13	13	6	1.81200	8	4	4	2	0.17861	17	17	9	8	35.98042	23	17	12	12	-1.56592
13	13	7	11.01207	8	4	4	3	-1.63500	17	17	9	9	-15.68580	23	17	13	13	-0.15537
13	13	8	3.05681	8	4	4	4	3.38418	17	17	10	10	-151.62631	23	17	15	15	0.16267
13	13	9	-0.65569	8	5	1	1	-7.27332	17	17	11	10	89.52048	23	17	16	16	-0.46393
14	12	1	-132.58166	8	5	2	2	-2.87348	17	17	11	11	-51.60693	23	17	17	17	1.37364
14	12	2	-13.98599	8	5	3	3	-33.63479	17	17	12	12	-55.93775	23	18	1	1	50.14553
14	12	3	60.95393	8	5	4	4	2.31979	17	17	13	12	-32.64453	23	18	2	2	-8.73359
14	12	4	8.92553	8	5	5	1	0.71552	17	17	13	13	-19.76023	23	18	3	3	8.79441
14	12	5	-6.28103	8	5	5	3	-0.83686	17	17	14	12	-2.42068	23	18	4	4	2.23416
14	12	6	5.85196	8	5	5	4	1.27596	17	17	14	13	-1.16271	23	18	5	5	0.53684
14	12	7	7.69099	8	5	5	5	-2.04436	17	17	14	14	0.15389	23	18	6	6	-1.09736
14	12	8	-2.83891	8	6	1	1	2.61194	17	17	15	12	-83.51288	23	18	7	7	3.06238
14	12	9	2.56752	8	6	2	2	1.10031	17	17	15	13	-49.82718	23	18	8	8	0.81168
14	13	1	-22.15349	8	6	3	3	12.14694	17	17	15	14	-2.65961	23	18	9	9	-0.77153
14	13	2	-134.07615	8	6	4	4	-1.24329	17	17	15	15	-125.53251	23	18	10	10	-1.45550
14	13	3	-27.70010	8	6	5	5	1.28065	17	17	16	12	46.46836	23	18	11	11	1.10771
14	13	4	3.70960	8	6	6	1	-0.24767	17	17	16	13	27.72731	23	18	12	12	-4.97791
14	13	5	4.58528	8	6	6	3	-1.37230	17	17	16	14	1.55330	23	18	13	13	2.22575
14	13	7	-2.99285	8	6	6	4	2.52505	17	17	16	15	71.03051	23	18	14	14	-7.54676
14	13	8	-3.02562	8	6	6	5	1.25542	17	17	16	16	-40.50804	23	18	15	15	-3.97676
14	13	9	4.66798	8	6	6	6	-0.93094	17	17	17	17	288.95911	23	18	16	16	-4.08406
14	14	1	289.45130	8	7	1	1	-1.06977	18	17	1	1	-5.13595	23	18	17	17	5.14533
14	14	2	3.34069	8	7	2	2	-0.22995	18	17	2	2	-2.02512	23	18	18	17	0.86867
14	14	3	-128.68368	8	7	3	3	-1.59306	18	17	3	3	-19.70346	23	18	18	18	7.27415
14	14	4	2.97639	8	7	4	4	-1.24997	18	17	4	4	2.37693	23	19	1	1	64.61255
14	14	5	7.73077	8	7	5	5	0.92866	18	17	5	5	4.23516	23	19	2	2	21.35066
14	14	6	-13.35373	8	7	7	1	0.39290	18	17	6	6	-1.03984	23	19	3	3	6.01358
14	14	7	9.14551	8	7	7	2	0.23994	18	17	7	7	1.66413	23	19	4	4	9.92743

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
14	14	8	1.42405	8	7	7	3	0.38749	18	17	8	8	5.44989	23	19	5	5	3.32300
14	14	9	7.36381	8	7	7	4	-0.86770	18	17	10	10	7.47307	23	19	6	6	0.31995
15	12	1	-28.06846	8	7	7	5	-2.19621	18	17	11	11	4.74444	23	19	7	7	1.75462
15	12	2	-89.80461	8	7	7	6	0.13529	18	17	12	12	0.13471	23	19	8	8	1.88947
15	12	3	155.88460	8	7	7	7	-0.92257	18	17	13	13	0.73327	23	19	11	11	-2.06728
15	12	4	4.38748	8	8	1	1	-12.65838	18	17	15	15	8.89691	23	19	12	12	-3.75432
15	12	5	-3.54030	8	8	2	1	9.25658	18	17	16	16	-1.53369	23	19	13	13	-3.00909
15	12	6	11.29056	8	8	2	2	-6.75405	18	17	17	17	-25.63355	23	19	14	14	-11.34558
15	12	7	2.80567	8	8	3	1	-29.91346	18	18	1	1	-13.34956	23	19	15	15	-6.52578
15	12	8	2.71895	8	8	3	2	21.83235	18	18	2	1	-2.15131	23	19	16	16	-3.84247
15	12	9	3.26343	8	8	3	3	-69.90800	18	18	2	2	-12.39750	23	19	17	17	-6.48033
15	13	1	-10.61170	8	8	4	1	2.40606	18	18	3	1	5.53408	23	19	18	18	-0.64303
15	13	2	132.85846	8	8	4	2	-0.61639	18	18	3	2	-1.41233	23	19	19	18	-1.77755
15	13	3	141.05613	8	8	4	3	2.80181	18	18	3	3	-7.54013	23	19	19	19	-0.94450
15	13	4	-6.70099	8	8	4	4	3.55358	18	18	4	1	7.02824	23	20	1	1	26.94013
15	13	5	0.62367	8	8	5	1	-2.33459	18	18	4	2	-2.02738	23	20	2	2	12.00478
15	13	6	-2.92340	8	8	5	2	0.71731	18	18	4	3	2.32657	23	20	3	3	10.02068
15	13	7	-1.55196	8	8	5	3	-2.42936	18	18	4	4	11.25336	23	20	4	4	-4.06350
15	13	9	-1.06749	8	8	5	4	-5.96717	18	18	5	1	-6.26761	23	20	5	5	7.56624
15	14	1	187.83099	8	8	5	5	7.60467	18	18	5	2	-4.02628	23	20	6	6	1.02385
15	14	2	130.54819	8	8	6	1	1.66051	18	18	5	3	-3.40562	23	20	8	8	0.15394
15	14	3	-31.88103	8	8	6	2	-0.60789	18	18	5	4	-2.22572	23	20	9	9	-2.63592
15	14	4	-7.39724	8	8	6	3	2.73953	18	18	5	5	26.53795	23	20	10	10	-1.18449
15	14	5	15.95446	8	8	6	4	2.39182	18	18	6	1	2.85734	23	20	11	11	3.89563
15	14	6	8.32482	8	8	6	5	-3.85192	18	18	6	2	-0.79429	23	20	12	12	-3.21546
15	14	7	6.60135	8	8	6	6	1.59236	18	18	6	3	-1.60330	23	20	13	13	-3.53791
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15	15	1	233.81161	8	8	7	2	0.56719	18	18	6	5	1.07715	23	20	15	15	-5.23247
15	15	2	-144.92504	8	8	7	3	-1.85012	18	18	6	6	-2.65460	23	20	16	16	-7.04553
15	15	3	110.18982	8	8	7	4	-3.21383	18	18	7	1	-5.25383	23	20	17	17	7.05245
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15	15	5	7.29439	8	8	7	6	-0.84012	18	18	7	3	-0.08835	23	20	19	19	-7.37246
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15	15	7	8.05313	8	8	8	1	0.65451	18	18	7	5	-1.77538	23	20	20	18	3.36042
15	15	8	-15.54354	8	8	8	2	-0.65750	18	18	7	6	-12.04025	23	20	20	19	8.79882
15	15	9	-3.51462	8	8	8	3	1.62097	18	18	7	7	8.17913	23	20	20	20	7.28526
16	12	1	-105.58152	8	8	8	4	-7.99130	18	18	8	1	3.00132	23	21	1	1	54.23321
16	12	2	-18.10240	8	8	8	5	8.39963	18	18	8	2	1.76574	23	21	2	2	-34.42106
16	12	3	-66.36602	8	8	8	6	-1.71156	18	18	8	3	-2.08728	23	21	3	3	-9.73863
16	12	4	-23.87694	8	8	8	7	-0.92960	18	18	8	4	6.70062	23	21	4	4	0.32712
16	12	5	35.48560	8	8	8	8	24.76060	18	18	8	5	-11.26403	23	21	5	5	1.71866
16	12	6	-8.14584	9	1	1	1	7.88394	18	18	8	6	1.35228	23	21	6	6	0.56234
16	12	7	3.83183	9	2	1	1	2.36353	18	18	8	7	-4.98283	23	21	7	7	-0.36940
16	12	8	-8.83093	9	2	2	1	1.55389	18	18	8	8	7.38261	23	21	8	8	4.53788
16	12	9	4.08608	9	2	2	2	-11.24157	18	18	9	1	0.50157	23	21	9	9	1.45878
16	13	1	-57.60940	9	3	1	1	-4.56319	18	18	9	2	-0.72395	23	21	10	10	3.01027
16	13	2	173.31445	9	3	2	2	-4.37685	18	18	9	3	-1.44435	23	21	11	11	1.69347
16	13	3	21.22303	9	3	3	1	-1.30520	18	18	9	4	4.23269	23	21	12	12	-0.49688
16	13	4	-20.08195	9	3	3	2	-0.09875	18	18	9	5	4.61760	23	21	13	13	5.37712
16	13	5	-11.20720	9	3	3	3	-4.75081	18	18	9	6	-0.27653	23	21	14	14	-8.06530
16	13	6	-1.01278	9	4	1	1	-1.29747	18	18	9	7	-0.39218	23	21	16	16	1.13257
16	13	7	14.03357	9	4	2	2	-0.84750	18	18	9	8	-3.37863	23	21	17	17	-16.54220
16	13	8	2.83226	9	4	3	3	-11.03326	18	18	9	9	-9.53731	23	21	18	18	-1.31505
16	13	9	-5.70161	9	4	4	1	2.45234	18	18	10	10	-5.11067	23	21	19	19	-1.54931
16	14	1	116.01060	9	4	4	2	-0.33176	18	18	11	10	-3.39480	23	21	20	20	0.87876
16	14	2	113.96745	9	4	4	3	-0.66264	18	18	11	11	-11.42542	23	21	21	17	-1.03762
16	14	3	-19.81748	9	4	4	4	9.91803	18	18	12	12	-12.79342	23	21	21	18	-1.18480
16	14	5	28.77731	9	5	1	1	2.07872	18	18	13	12	1.49962	23	21	21	19	-5.05858
16	14	6	16.56199	9	5	2	2	1.42673	18	18	13	13	-9.69428	23	21	21	20	-5.48213
16	14	8	5.33234	9	5	3	3	14.04368	18	18	14	12	-4.34975	23	21	21	21	6.27953
16	15	1	48.99745	9	5	4	4	-1.84417	18	18	14	13	2.30933	23	22	1	1	3.96018
16	15	2	-53.26735	9	5	5	1	2.07346	18	18	14	14	1.54537	23	22	2	2	-32.24067
16	15	3	-187.58346	9	5	5	2	-2.35804	18	18	15	12	3.61382	23	22	3	3	8.20381
16	15	4	-29.66586	9	5	5	3	-0.46737	18	18	15	13	-2.50896	23	22	4	4	2.73989
16	15	5	-18.29371	9	5	5	4	7.27867	18	18	15	14	2.96203	23	22	6	6	0.32655
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16	15	8	36.15453	9	6	1	1	-1.60589	18	18	16	12	-8.93246	23	22	9	9	-1.25992
16	15	9	17.23422	9	6	2	2	-0.41831	18	18	16	13	-10.04018	23	22	10	10	-2.98687
16	16	1	87.40869	9	6	3	3	-5.02149	18	18	16	14	5.46276	23	22	11	11	-1.80999
16	16	2	-111.71424	9	6	4	4	0.19825	18	18	16	15	5.57807	23	22	12	12	-0.34252
16	16	3	8.11886	9	6	5	5	3.37401	18	18	16	16	-26.58801	23	22	13	13	4.29498
16	16	4	-57.15647	9	6	6	1	-0.30386	18	18	17	17	-3.82290	23	22	14	14	0.88895
16	16	5	-20.96089	9	6	6	2	-0.59734	18	18	18	17	3.91405	23	22	16	16	1.55644
16	16	6	-48.24862	9	6	6	3	0.31388	18	18	18	18	33.95872	23	22	17	17	15.56875
16	16	7	59.19740	9	6	6	4	-0.86609	19	17	1	1	-4.23523	23	22	18	18	-0.47114
16	16	8	-33.80880	9	6	6	5	1.83950	19	17	2	2	-1.64066	23	22	19	19	2.55770
16	16	9	-5.19857	9	6	6	6	0.75370	19	17	3	3	-16.64608	23	22	20	20	2.32520
17	12	10	146.07483	9	7	1	1	-0.54462	19	17	4	4	5.45083	23	22	21	21	3.73769
17	12	11	-105.61998	9	7	2	2	-0.07074	19	17	5	5	0.61635	23	22	22	17	-0.39995
17	13	10	87.07171	9	7	3	3	0.93433	19	17	6	6	-1.66169	23	22	22	18	1.19282
17	13	11	-56.87846	9	7	4	4	-1.91270	19	17	7	7	1.87239	23	22	22	19	-1.66227
17	14	10	8.44956	9	7	5	5	-5.83972	19	17	8	8	2.92662	23	22	22	20	-3.97102
17	14	11	-6.05308	9	7	6	6	0.21339	19	17	9	9	0.57253	23	22	22	21	7.61437
17	15	10	244.35793	9	7	7	1	1.02355	19	17	10	10	7.64354	23	22	22	22	1.88248
17	15	11	-145.86911	9	7	7	3	-0.44015	19	17	11	11	1.25260	23	23	1	1	-163.57390
17	16	10	-148.85270	9	7	7	4	3.67208	19	17	12	12	0.92024	23	23	2	1	-37.30578
17	16	11	85.71989	9	7	7	5	-0.19023	19	17	13	13	0.93671	23	23	2	2	-24.96954
17	17	1	-326.14943	9	7	7	6	0.67707	19	17	14	14	-0.22535	23	23	3	1	59.78670
17	17	2	235.36499	9	8	1	1	5.41288	19	17	15	15	7.83285	23	23	3	2	10.73715
17	17	3	-762.33969	9	8	2	2	2.65745	19	17	16	16	2.83569	23	23	3	3	-28.99909

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
17	17	4	18.45195	9	8	3	3	28.39411	19	17	17	17	-20.38526	23	23	4	1	7.22713
17	17	5	-44.60379	9	8	4	4	-0.45338	19	18	1	1	-16.60124	23	23	4	2	1.63260
17	17	6	62.67008	9	8	5	5	-3.68194	19	18	2	2	14.22211	23	23	4	3	-2.57543
17	17	7	-19.24090	9	8	6	6	-1.21983	19	18	3	3	4.45126	23	23	4	4	1.86209
17	17	8	15.32685	9	8	7	7	0.54785	19	18	4	4	0.16152	23	23	5	1	-8.32634
17	17	9	8.04770	9	8	8	1	-0.40882	19	18	5	5	-5.99182	23	23	5	2	-2.44841
18	12	10	-11.04251	9	8	8	2	0.46510	19	18	6	6	-3.04442	23	23	5	3	2.64861
18	12	11	-0.59177	9	8	8	3	-1.68779	19	18	7	7	3.41407	23	23	5	5	1.03667
18	13	10	-8.29636	9	8	8	4	4.96912	19	18	8	8	0.83136	23	23	6	1	4.42188
18	13	11	-29.39348	9	8	8	5	-5.47183	19	18	10	10	-1.62079	23	23	6	2	0.32741
18	14	10	-2.10613	9	8	8	6	2.32360	19	18	11	11	2.21461	23	23	6	3	-1.51256
18	14	11	14.96315	9	8	8	7	-1.05891	19	18	12	12	-3.04364	23	23	6	4	-0.19439
18	15	10	-1.09449	9	8	8	8	-11.19617	19	18	13	13	4.97246	23	23	6	5	0.45183
18	15	11	38.03032	9	9	1	1	-2.85418	19	18	14	14	4.04491	23	23	6	6	-0.38489
18	16	10	-27.10006	9	9	2	1	1.45141	19	18	15	15	-0.99008	23	23	7	1	-5.87694
18	16	11	-54.27246	9	9	2	2	-0.62840	19	18	16	16	-1.72951	23	23	7	2	-1.17785
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18	17	2	-14.84159	9	9	3	2	4.02130	19	18	18	17	-0.80493	23	23	7	4	-0.42085
18	17	3	57.21350	9	9	3	3	-11.96515	19	18	18	18	0.80908	23	23	7	5	1.64273
18	17	4	44.44616	9	9	4	1	-0.83014	19	19	1	1	-26.41299	23	23	7	6	-0.47643
18	17	5	-31.36213	9	9	4	2	-0.63420	19	19	2	1	-2.87019	23	23	7	7	1.02663
18	17	6	0.30210	9	9	4	4	-1.22706	19	19	2	2	-23.51911	23	23	8	1	3.52300
18	17	7	-16.87586	9	9	5	1	1.08627	19	19	3	1	7.48693	23	23	8	2	0.56698
18	17	8	-17.70108	9	9	5	2	-0.13438	19	19	3	2	-4.08794	23	23	8	3	-0.36787
18	17	9	8.24911	9	9	5	3	-0.35470	19	19	3	3	-11.93497	23	23	8	4	0.88896
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22	16	10	-3.27798	12	12	8	7	1.82017	20	20	8	8	5.99094	24	21	18	18	-3.06662
22	16	11	14.77653	12	12	8	8	3.30808	20	20	9	1	1.87655	24	21	19	19	-1.39157
22	17	1	8.44159	12	12	9	1	0.11477	20	20	9	2	-2.59462	24	21	21	17	-0.56932
22	17	2	-5.44896	12	12	9	3	0.38454	20	20	9	3	-1.68726	24	21	21	18	-5.34261
22	17	3	20.13560	12	12	9	4	0.35033	20	20	9	4	11.77452	24	21	21	19	3.55555

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
22	17	4	27.40893	12	12	9	5	-1.83208	20	20	9	5	6.65819	24	21	21	20	-0.41006
22	17	5	-35.18969	12	12	9	6	0.38754	20	20	9	6	4.37343	24	21	21	21	-3.28642
22	17	6	11.70234	12	12	9	7	-0.34814	20	20	9	7	-1.87577	24	22	1	1	4.61884
22	17	7	-4.14991	12	12	9	8	-2.90640	20	20	9	8	-2.91284	24	22	2	2	32.25212
22	17	8	-91.59827	12	12	9	9	0.33979	20	20	9	9	-5.60772	24	22	3	3	23.20868
22	17	9	42.71975	12	12	10	10	33.66481	20	20	10	10	-6.06423	24	22	4	4	-3.48637
22	18	1	6.31477	12	12	11	10	-20.82103	20	20	11	10	-12.33054	24	22	5	5	-2.50433
22	18	2	-25.83579	12	12	11	11	14.75762	20	20	11	11	-30.08487	24	22	6	6	-0.85451
22	18	3	6.09157	12	12	12	12	25.71352	20	20	12	12	-11.89565	24	22	7	7	1.02788
22	18	4	-18.95772	13	12	1	1	-18.15668	20	20	13	12	6.27634	24	22	8	8	-8.37580
22	18	5	-27.96798	13	12	2	2	22.93055	20	20	13	13	-10.23942	24	22	9	9	-1.68813
22	18	6	-23.08330	13	12	3	3	-23.97321	20	20	14	12	-10.21984	24	22	10	10	-5.10166
22	18	7	24.93717	13	12	4	4	1.68887	20	20	14	13	5.20221	24	22	11	11	-1.63495
22	18	8	-3.97921	13	12	5	5	2.56686	20	20	14	14	-6.71430	24	22	12	12	-1.73618
22	18	9	-7.42740	13	12	6	6	0.25756	20	20	15	12	5.45672	24	22	13	13	-5.87844
22	19	1	-14.36187	13	12	7	7	0.67895	20	20	15	13	-3.90386	24	22	14	14	-1.86227
22	19	2	38.56092	13	12	8	8	2.95006	20	20	15	14	3.43097	24	22	15	15	-8.74617
22	19	3	-5.72973	13	12	9	9	1.23521	20	20	15	15	-1.31956	24	22	16	16	-2.98233
22	19	4	-46.27244	13	12	10	10	19.66780	20	20	16	12	-2.36557	24	22	17	17	24.58171
22	19	5	6.93739	13	12	11	11	6.12334	20	20	16	13	-14.63271	24	22	19	19	-1.93305
22	19	6	18.74844	13	12	12	12	15.14345	20	20	16	14	5.14862	24	22	20	20	-2.78852
22	19	7	-29.93584	13	13	1	1	-8.78307	20	20	16	15	-0.42850	24	22	21	21	-10.76447
22	19	8	-19.72598	13	13	2	1	20.04047	20	20	16	16	-21.45158	24	22	22	17	-1.32293
22	19	9	-4.84257	13	13	2	2	-175.97461	20	20	17	17	-9.26070	24	22	22	18	-3.95856
22	20	1	6.77184	13	13	3	1	1.61229	20	20	18	17	3.43531	24	22	22	19	4.40525
22	20	2	14.76768	13	13	3	2	-57.41317	20	20	18	18	42.29025	24	22	22	20	1.05052
22	20	3	28.10500	13	13	3	3	-38.36444	20	20	19	17	3.87566	24	22	22	21	-1.44148
22	20	4	73.27951	13	13	4	1	0.10563	20	20	19	18	-10.10112	24	22	22	22	-8.87234
22	20	5	61.70344	13	13	4	2	0.12661	20	20	19	19	28.39709	24	23	1	1	-70.87635
22	20	6	-5.75148	13	13	4	3	0.77665	20	20	20	17	0.55601	24	23	2	2	9.00270
22	20	7	8.47361	13	13	4	4	-5.46224	20	20	20	18	-12.46715	24	23	3	3	-14.63160
22	20	8	-4.44753	13	13	5	1	0.25104	20	20	20	19	3.06180	24	23	4	4	-0.30251
22	20	9	0.67182	13	13	5	2	-4.35457	20	20	20	20	131.53717	24	23	5	5	-0.14092
22	21	1	-16.05231	13	13	5	3	-2.20404	21	17	1	1	0.12351	24	23	6	6	-0.51816
22	21	2	-63.68811	13	13	5	4	-4.52683	21	17	2	2	0.15215	24	23	7	7	0.48389
22	21	3	-85.84650	13	13	5	5	-7.30031	21	17	3	3	2.76957	24	23	8	8	5.45699
22	21	4	23.64182	13	13	6	1	0.97891	21	17	4	4	-0.75405	24	23	9	9	0.64603
22	21	5	27.74534	13	13	6	2	-6.26059	21	17	5	5	-1.03967	24	23	10	10	1.84989
22	21	8	2.38627	13	13	6	3	-1.60466	21	17	6	6	-0.58210	24	23	12	12	3.27940
22	21	9	-16.80959	13	13	6	4	-2.11328	21	17	7	7	-0.22219	24	23	13	13	-1.71173
22	22	1	31.57262	13	13	6	5	-3.29521	21	17	8	8	-0.10651	24	23	14	14	15.18611
22	22	2	-95.32316	13	13	6	6	-2.50082	21	17	9	9	0.14249	24	23	15	15	8.70033
22	22	3	27.99212	13	13	7	1	-0.17374	21	17	10	10	0.12158	24	23	16	16	3.08580
22	22	4	-17.41852	13	13	7	2	0.75245	21	17	11	11	-1.30632	24	23	17	17	-8.54991
22	22	5	8.92325	13	13	7	4	1.89621	21	17	12	12	-0.27942	24	23	18	18	2.35552
22	22	6	37.00516	13	13	7	5	3.75437	21	17	13	13	-0.15403	24	23	19	19	3.74361
22	22	7	-12.90322	13	13	7	6	1.33176	21	17	14	14	0.32605	24	23	20	20	0.46746
22	22	8	-15.04109	13	13	7	7	-3.11261	21	17	16	16	1.60496	24	23	21	21	1.95770
22	22	9	-5.35133	13	13	8	2	0.60178	21	17	17	17	5.62195	24	23	23	17	-0.13496
23	12	10	4.68322	13	13	8	3	0.38656	21	18	1	1	-15.01956	24	23	23	18	-11.88428
23	12	11	-8.47111	13	13	8	5	2.44680	21	18	2	2	-29.31610	24	23	23	19	-11.14530
23	13	10	3.13294	13	13	8	6	0.21093	21	18	3	3	5.58096	24	23	23	20	-6.37552
23	13	11	1.54157	13	13	8	7	-1.06366	21	18	4	4	2.00169	24	23	23	21	-10.52188
23	14	10	-16.35896	13	13	8	8	0.93389	21	18	5	5	-0.42771	24	23	23	22	-4.14478
23	14	11	-12.92940	13	13	9	1	-0.26913	21	18	6	6	-0.28711	24	23	23	23	37.89766
23	15	10	-9.99834	13	13	9	2	3.59102	21	18	7	7	-0.83898	24	24	1	1	-33.10291
23	15	11	-5.69757	13	13	9	3	1.50008	21	18	8	8	-4.98117	24	24	2	1	-4.89143
23	16	10	-8.53777	13	13	9	4	-0.76097	21	18	9	9	-1.11556	24	24	2	2	-16.21136
23	16	11	-4.69956	13	13	9	5	-2.06138	21	18	10	10	-2.13317	24	24	3	1	8.02772
23	17	1	0.26025	13	13	9	7	0.99600	21	18	11	11	-1.52600	24	24	3	2	1.30686
23	17	2	0.16202	13	13	9	8	-0.40692	21	18	12	12	0.23984	24	24	3	3	-16.30445
23	17	3	-1.23821	13	13	9	9	-0.80534	21	18	13	13	2.62410	24	24	4	1	1.24770
23	17	4	-7.93995	13	13	10	10	11.24747	21	18	14	14	4.17452	24	24	4	3	0.25909
23	17	5	6.33772	13	13	11	10	-7.91798	21	18	15	15	0.38512	24	24	4	4	-11.20675
23	17	6	-1.84624	13	13	11	11	6.29322	21	18	16	16	3.88507	24	24	5	1	-2.05876
23	17	7	-5.96173	13	13	12	12	11.66277	21	18	17	17	14.68640	24	24	5	2	-0.50220
23	17	8	35.17529	13	13	13	12	-4.86940	21	18	18	17	-3.11154	24	24	5	4	-1.33046
23	17	9	-18.91299	13	13	13	13	80.42715	21	18	18	18	-4.00363	24	24	5	5	-0.22205
23	18	1	-44.15579	14	12	1	1	98.43870	21	19	1	1	-25.20119	24	24	6	1	1.49459
23	18	2	-21.68915	14	12	2	2	19.20937	21	19	2	2	41.35028	24	24	6	2	-0.16998
23	18	3	13.08282	14	12	3	3	13.54807	21	19	3	3	-12.29125	24	24	6	4	2.27825
23	18	4	34.14099	14	12	4	4	-5.87842	21	19	4	4	-2.61382	24	24	6	5	-0.67729
23	18	5	-50.41390	14	12	5	5	-1.07237	21	19	5	5	0.68705	24	24	6	6	-2.53141
23	18	6	1.51417	14	12	6	6	-0.62681	21	19	6	6	-0.54770	24	24	7	1	-1.22239
23	18	7	-21.08351	14	12	7	7	-1.18587	21	19	7	7	-0.51329	24	24	7	4	-3.43790
23	18	8	29.95669	14	12	8	8	0.47106	21	19	8	8	4.37234	24	24	7	6	-1.14432
23	18	9	1.42911	14	12	9	9	-0.62188	21	19	9	9	1.48894	24	24	7	7	-3.33204
23	19	1	-60.83947	14	12	10	10	1.11802	21	19	10	10	2.31938	24	24	8	1	0.95963
23	19	2	-0.37835	14	12	11	11	3.15300	21	19	11	11	3.13431	24	24	8	3	0.64407
23	19	3	40.47423	14	12	12	12	-21.46198	21	19	12	12	1.09414	24	24	8	4	-2.85031
23	19	4	-23.78684	14	13	1	1	27.30991	21	19	13	13	-4.00762	24	24	8	5	1.66844
23	19	5	-9.15465	14	13	2	2	-93.18689	21	19	14	14	2.08087	24	24	8	6	-0.57011
23	19	6	19.44744	14	13	3	3	-9.18345	21	19	15	15	1.49690	24	24	8	7	-1.25918
23	19	7	-23.77694	14	13	4	4	0.97443	21	19	16	16	-2.54428	24	24	8	8	6.38942
23	19	8	7.84670	14	13	5	5	2.25695	21	19	17	17	-19.38762	24	24	9	1	-0.21138
23	19	9	-3.48207	14	13	7	7	0.91451	21	19	18	18	0.08004	24	24	9	2	0.34974
23	20	1	-28.18434	14	13	8	8	0.69249	21	19	19	17	0.73789	24	24	9	4	1.40501
23	20	2	5.88669	14	13	10	10	0.78713	21	19	19	18	-0.39463	24	24	9	5	-1.95198
23	20	3	7.19421	14	13	12	12	-5.59234	21	19	19	19	-0.90453	24	24	9	6	0.73726
23	20	4	83.65472	14	13	13	12	-9.85104	21	20	1	1	-5.41080	24	24	9	7	-0.27191

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
23	20	5	-7.66216	14	13	13	13	40.90493	21	20	2	2	25.79805	24	24	9	8	-2.50748
23	20	6	13.27859	14	14	1	1	-205.57681	21	20	3	3	17.97396	24	24	9	9	1.62249
23	20	7	-9.63117	14	14	2	1	-44.02813	21	20	4	4	3.28040	24	24	10	10	1.90339
23	20	8	19.92695	14	14	2	2	-64.14696	21	20	5	5	-2.60067	24	24	11	10	-0.68822
23	20	9	2.30839	14	14	3	1	78.18921	21	20	6	6	0.11545	24	24	11	11	4.60862
23	21	1	-49.76850	14	14	3	2	-0.41667	21	20	7	7	2.42967	24	24	12	12	1.51851
23	21	2	-62.07622	14	14	3	3	-34.98647	21	20	8	8	-7.39249	24	24	13	12	0.56503
23	21	3	27.50636	14	14	4	1	11.46317	21	20	9	9	-0.91267	24	24	13	13	1.19780
23	21	4	-2.04369	14	14	4	2	2.07747	21	20	10	10	-5.36123	24	24	14	12	-3.40853
23	21	5	13.71436	14	14	4	3	-4.00451	21	20	11	11	-1.49660	24	24	14	14	7.63766
23	21	6	8.58864	14	14	4	4	-8.60970	21	20	12	12	-0.79990	24	24	15	13	-1.67519
23	21	7	5.88838	14	14	5	1	-12.13027	21	20	13	13	-5.01216	24	24	15	14	5.32348
23	21	9	5.13109	14	14	5	2	-5.35149	21	20	14	14	0.66206	24	24	15	15	6.59334
23	22	1	-5.91041	14	14	5	3	4.20304	21	20	15	15	-4.05401	24	24	16	12	-2.38774
23	22	2	-32.78326	14	14	5	4	-0.87672	21	20	16	16	-1.63811	24	24	16	13	-1.13364
23	22	3	-32.66506	14	14	5	5	-2.98256	21	20	17	17	20.27294	24	24	16	14	0.73231
23	22	4	-11.67116	14	14	6	1	3.17535	21	20	18	18	1.17814	24	24	16	16	-1.33562
23	22	5	10.71833	14	14	6	2	-1.96018	21	20	19	19	1.75549	24	24	17	17	-12.91387
23	22	6	4.58137	14	14	6	3	-2.80008	21	20	20	17	-1.83749	24	24	18	17	1.32812
23	22	7	-3.12229	14	14	6	4	1.71815	21	20	20	18	-1.98914	24	24	18	18	-1.01272
23	22	8	-10.57456	14	14	6	5	-0.81276	21	20	20	19	-0.67893	24	24	19	17	0.25645
23	22	9	-5.07049	14	14	6	6	-2.68676	21	20	20	20	8.17674	24	24	19	18	3.88247
23	23	1	203.01063	14	14	7	1	-8.67246	21	21	1	1	-28.72164	24	24	19	19	-3.09557
23	23	2	26.47876	14	14	7	2	-1.94657	21	21	2	1	10.32806	24	24	20	17	0.80194
23	23	3	-69.56444	14	14	7	3	3.25585	21	21	2	2	-95.45087	24	24	20	18	2.15742
23	23	4	9.28566	14	14	7	4	-1.02116	21	21	3	1	-6.38535	24	24	20	19	5.08445
23	23	5	-13.22657	14	14	7	5	-0.36002	21	21	3	2	-18.19916	24	24	20	20	-9.04457
23	23	6	-3.33568	14	14	7	7	-2.31027	21	21	3	3	-54.58635	24	24	21	17	0.12737
23	23	7	-21.61564	14	14	8	1	2.20913	21	21	4	1	1.12783	24	24	21	18	1.27865
23	23	8	17.89508	14	14	8	2	0.72169	21	21	4	2	0.18095	24	24	21	19	1.89607
23	23	9	-27.44015	14	14	8	4	-0.48246	21	21	4	3	1.73835	24	24	21	20	-1.52393
24	12	10	5.64710	14	14	8	6	0.77393	21	21	4	4	0.71488	24	24	21	21	7.18235
24	12	11	1.39269	14	14	9	1	-2.54471	21	21	5	1	-0.90377	24	24	22	17	-0.20925
24	13	10	-3.46504	14	14	9	2	0.73109	21	21	5	2	-0.40838	24	24	22	18	2.58683
24	13	11	-2.33199	14	14	9	3	1.23111	21	21	5	3	-0.36251	24	24	22	19	-4.28213
24	14	10	-3.28256	14	14	9	4	-0.67746	21	21	5	4	-2.11817	24	24	22	20	2.05138
24	14	11	0.98244	14	14	9	5	-0.52002	21	21	5	5	2.58105	24	24	22	21	0.31549
24	15	10	-5.31380	14	14	9	6	0.32291	21	21	6	1	1.16496	24	24	22	22	4.56147
24	15	11	8.21603	14	14	9	7	-0.55755	21	21	6	2	-2.61858	24	24	23	18	-3.95528
24	16	11	8.73294	14	14	9	9	-2.26009	21	21	6	3	0.26983	24	24	23	19	-8.13196
24	17	1	1.62214	14	14	10	10	2.62010	21	21	6	4	1.05330	24	24	23	20	-3.49256
24	17	2	-4.99979	14	14	11	10	1.90677	21	21	6	5	-0.13767	24	24	23	21	-3.05490
24	17	3	13.84703	14	14	11	11	3.22644	21	21	6	6	1.65151	24	24	23	22	-1.42318
24	17	4	-22.22595	14	14	12	12	35.45306	21	21	7	1	-0.49149	24	24	23	23	20.28081
24	17	5	35.44745	14	14	13	12	6.14355	21	21	7	2	0.18031	24	24	24	17	0.54470
24	17	6	-16.29739	14	14	13	13	27.71495	21	21	7	3	-0.27340	24	24	24	18	-4.86022
24	17	7	2.43436	14	14	14	12	-68.56127	21	21	7	4	-0.11005	24	24	24	19	-0.88190
24	17	8	52.93155	14	14	14	13	-5.66820	21	21	7	5	0.31506	24	24	24	20	-2.89787
24	17	9	-26.90370	14	14	14	14	138.81685	21	21	7	6	-0.32363	24	24	24	21	-2.69677
24	18	1	-43.04636	15	12	1	1	54.24241	21	21	7	7	-0.51906	24	24	24	22	-2.84018
24	18	2	14.63074	15	12	2	2	-20.38769	21	21	8	1	-0.43443	24	24	24	23	9.86649
24	18	3	-3.60756	15	12	3	3	-58.66508	21	21	8	2	-0.37943	24	24	24	24	11.06285
24	18	4	6.91592	15	12	4	4	3.84914	21	21	8	3	0.39246					

Table S36: The quartic potential energy surface of Pyridazine. The calculation was done by using B3LYP/6-311++G(2d,2p) method. The force constants (FI) are in cm^{-1} units.

I	J	FI(I,J)
1	1	3200.70313
2	2	3175.14891
3	3	1608.51241
4	4	1481.58571
5	5	1177.34505
6	6	1173.32161
7	7	1089.17819
8	8	1005.92048
9	9	682.93268
10	10	1018.22908
11	11	942.76231
12	12	773.45213
13	13	376.35638
14	14	984.70497
15	15	760.70948
16	16	374.68890
17	17	3187.76330
18	18	3170.54505
19	19	1602.52826
20	20	1446.62251
21	21	1314.98529
22	22	1086.59894
23	23	1062.87007
24	24	637.32132

I	J	K	FI(I,J,K)
1	1	1	-1232.42693
2	1	1	261.65798
2	2	1	-500.53744
2	2	2	-1165.97845
3	1	1	-21.60942
3	2	1	6.96956
3	2	2	-6.40272
3	3	1	104.72881
3	3	2	-33.19945
3	3	3	-193.22688
4	1	1	-28.00789
4	2	1	0.83187
4	2	2	-22.38567
4	3	1	3.84269
4	3	2	37.18122
4	3	3	17.55009
4	4	1	54.90048
4	4	2	173.28266
4	4	3	25.76615
4	4	4	-34.25450
5	1	1	-1.17253
5	2	1	2.05693
5	2	2	-2.08161
5	3	1	-82.71564
5	3	2	46.08322
5	3	3	-65.37795
5	4	1	20.20013
5	4	2	75.89461
5	4	3	-8.54458
5	4	4	16.64893
5	5	1	163.41188
5	5	2	0.34839
5	5	3	-4.66523
5	5	4	-26.94357
5	5	5	-4.61680
6	1	1	0.66240
6	2	1	10.64536
6	2	2	27.53382
6	3	1	97.06318
6	3	2	-32.43208
6	3	3	-43.80325
6	4	1	-8.73000
6	4	2	-21.95949
6	4	3	-60.80043
6	4	4	39.63640
6	5	1	-118.55848
6	5	2	37.17546
6	5	3	50.65341
6	5	4	-25.32504
6	5	5	-21.67644
6	6	1	111.65922
6	6	2	-27.57516
6	6	3	84.75960
6	6	4	61.31425
6	6	5	-104.77004
6	6	6	-192.92358
7	1	1	30.20722
7	2	1	-8.86130

I	J	K	FI(I,J,K)
24	18	5	-10.12243
24	18	6	-17.61858
24	18	7	-63.53064
24	18	8	-11.92807
24	18	9	-5.00905
24	19	1	44.53643
24	19	2	44.84720
24	19	4	5.75744
24	19	5	0.96533
24	19	6	-16.34774
24	19	7	11.84004
24	19	8	-21.56119
24	19	9	20.37048
24	20	1	-35.61233
24	20	2	59.81501
24	20	3	17.28551
24	20	4	21.78742
24	20	5	-32.21708
24	20	6	-10.64315
24	20	7	-4.05701
24	20	8	-5.52067
24	20	9	6.86720
24	21	1	-26.15342
24	21	2	-79.91099
24	21	3	2.82939
24	21	4	17.78116
24	21	5	-7.77016
24	21	6	-2.11239
24	21	7	0.42696
24	21	8	-15.78713
24	21	9	8.56009
24	22	1	47.48185
24	22	2	16.30761
24	22	3	0.94314
24	22	4	13.08686
24	22	5	13.74759
24	22	6	-18.56563
24	22	7	-27.54737
24	22	8	-4.21686
24	22	9	-5.57215
24	23	1	-9.81709
24	23	2	0.61020
24	23	3	-8.25588
24	23	4	-17.30433
24	23	5	-2.37535
24	23	6	23.72194
24	23	7	8.58606
24	23	8	0.42216
24	23	9	-9.21967
24	24	1	22.28577
24	24	2	30.47828
24	24	3	14.26224
24	24	4	-10.01507
24	24	5	6.79684
24	24	6	-1.30255
24	24	7	-0.68026
24	24	8	-9.98487

I	J	K	L	FI(I,J,K,L)
1	1	1	1	454.99419
2	1	1	1	-129.08170
2	2	1	1	91.28296
2	2	2	1	129.31803
2	2	2	2	462.15001
3	1	1	1	9.89797
3	2	1	1	-3.60810
3	2	2	1	1.24818
3	2	2	2	-1.76766
3	3	1	1	-55.33572
3	3	2	1	14.73219
3	3	2	2	-14.07941
3	3	3	1	-7.26334
3	3	3	2	-0.57984
3	3	3	3	48.44358
4	1	1	1	10.16029
4	2	1	1	-1.46157
4	2	2	1	4.60595
4	2	2	2	8.00252
4	3	1	1	-6.40232
4	3	2	2	-31.29006
4	3	3	1	-1.03743
4	3	3	2	-1.03041
4	3	3	3	-0.41252
4	4	1	1	-14.19080

I	J	K	L	FI(I,J,K,L)
14	14	4	2	-0.87024
14	14	4	3	4.50664
14	14	4	4	20.38354
14	14	5	1	-4.00827
14	14	5	2	-0.56958
14	14	5	3	-2.48236
14	14	5	4	10.69347
14	14	5	5	12.01382
14	14	6	1	1.06851
14	14	6	2	4.42663
14	14	6	3	7.23818
14	14	6	4	-2.80399
14	14	6	5	-8.41981
14	14	6	6	4.88732
14	14	7	1	1.06822
14	14	7	2	-2.73530
14	14	7	3	4.58475
14	14	7	4	18.35774
14	14	7	5	5.30815
14	14	7	6	2.55138
14	14	7	7	11.25408
14	14	8	1	0.23693
14	14	8	2	-1.44833
14	14	8	3	1.98197
14	14	8	4	4.48462
14	14	8	5	0.71807
14	14	8	6	0.45415
14	14	8	7	3.70736
14	14	9	1	0.57147
14	14	9	2	1.27939
14	14	9	3	3.30079
14	14	9	4	-2.90244
14	14	9	5	-5.83800
14	14	9	6	4.54820
14	14	9	7	-0.95526
14	14	9	8	0.40168
14	14	9	9	2.04839
14	14	10	10	137.59180
14	14	11	10	-51.89176
14	14	11	11	185.87595
14	14	12	10	7.47857
14	14	12	11	-18.71835
14	14	12	12	12.36935
14	14	13	10	42.89780
14	14	13	11	-7.15125
14	14	13	12	7.61103
14	14	13	13	19.08333
14	14	14	14	168.82627
15	14	1	1	157.35004
15	14	2	2	-157.72595
15	14	3	3	-7.86973
15	14	4	4	19.11338
15	14	5	5	-10.50649
15	14	6	6	-14.53355
15	14	7	7	8.13375
15	14	8	8	-0.41372
15	14	9	9	-4.02545
15	14	10	10	-73.90401
15	14	11	11	78.56950
15	14	12	12	0.90708
15	14	13	13	-16.82976
15	14	14	14	58.19239
15	15	1	1	-330.01840
15	15	2	1	55.34969
15	15	2	2	-172.77801
15	15	3	1	-3.58487
15	15	3	2	0.63389
15	15	3	3	12.38755
15	15	4	1	-5.55511
15	15	4	2	1.64372
15	15	4	3	3.30377
15	15	4	4	12.81345
15	15	5	1	-1.69153
15	15	5	2	2.57923
15	15	5	3	-18.76556
15	15	5	4	8.65987
15	15	5	5	35.95353
15	15	6	1	1.13401
15	15	6	2	4.80505
15	15	6	3	18.71391
15	15	6	5	-27.83287
15	15	6	6	20.67469
15	15	7	1	7.12467
15	15	7	2	-1.37006
15	15	7	3	9.78671

I	J	K	L	FI(I,J,K,L)
21	21	9	1	1.55280
21	21	9	2	4.63014
21	21	9	3	0.51660
21	21	9	4	-4.67341
21	21	9	5	-3.38714
21	21	9	6	-1.88026
21	21	9	7	-1.02769
21	21	9	8	0.20366
21	21	9	9	-2.42931
21	21	10	10	8.03445
21	21	11	10	-14.70701
21	21	11	11	24.13768
21	21	12	10	-0.16555
21	21	12	11	-2.43489
21	21	12	12	-5.74944
21	21	13	10	2.76848
21	21	13	11	-5.54452
21	21	13	12	4.15929
21	21	13	13	-3.63882
21	21	14	14	18.76783
21	21	15	14	17.23309
21	21	15	15	14.18390
21	21	16	14	10.95788
21	21	16	15	6.79122
21	21	16	16	-13.50092
21	21	17	17	-42.50183
21	21	18	17	-64.20372
21	21	18	18	-97.86866
21	21	19	17	0.20802
21	21	19	18	0.31948
21	21	19	19	20.50254
21	21	20	17	0.53500
21	21	20	18	0.06147
21	21	20	19	17.03536
21	21	20	20	13.47523
21	21	21	17	5.83085
21	21	21	18	8.89113
21	21	21	19	-14.23513
21	21	21	20	-9.24472
21	21	21	21	40.57958
22	17	1	1	2.80588
22	17	2	2	1.99063
22	17	3	3	1.51587
22	17	4	4	1.39329
22	17	5	5	-1.66670
22	17	6	6	-2.20886
22	17	7	7	1.01637
22	17	8	8	-1.40144
22	17	9	9	-0.77770
22	17	10	10	0.65976
22	17	11	11	-1.77016
22	17	12	12	0.50656
22	17	13	13	1.44175
22	17	14	14	3.48053
22	17	15	15	-2.01140
22	17	17	17	0.32264
22	18	1	1	-2.66191
22	18	2	2	1.78278
22	18	3	3	2.15051
22	18	4	4	3.25916
22	18	5	5	0.82035
22	18	6	6	1.04249
22	18	7	7	0.99265
22	18	8	8	0.57293
22	18	9	9	0.39477
22	18	10	10	1.92301
22	18	11	11	3.09787
22	18	12	12	-0.14575
22	18	13	13	-1.00732
22	18	14	14	2.80762
22	18	15	15	0.31902
22	18	16	16	-0.53508
22	18	17	17	-0.05205
22	18	18	17	1.98102
22	18	18	18	0.57532
22	19	1	1	-45.49825
22	19	2	2	-29.29182
22	19	3	3	6.54935
22	19	4	4	-0.81926
22	19	5	5	11.74517
22	19	6	6	13.10632
22	19	7	7	1.64234
22	19	8	8	-6.36886
22	19	9	9	3.01446
22	19	10	10	9.63971

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
7	2	2	1.08140	4	4	2	1	-42.32129	15	15	7	4	12.81384	22	19	11	11	8.49094
7	3	1	28.75541	4	4	2	2	-136.09729	15	15	7	5	-4.79625	22	19	12	12	1.08029
7	3	2	17.83230	4	4	3	2	-3.38359	15	15	7	6	9.59518	22	19	13	13	1.51678
7	3	3	170.95529	4	4	3	3	4.46533	15	15	7	7	11.45327	22	19	14	14	8.37327
7	4	1	36.91663	4	4	4	1	-0.49170	15	15	8	1	-4.07338	22	19	15	15	14.28513
7	4	2	115.14962	4	4	4	2	-0.47483	15	15	8	2	-1.64081	22	19	16	16	5.47437
7	4	3	11.84540	4	4	4	4	40.80361	15	15	8	3	3.90768	22	19	17	17	-41.83694
7	4	4	-6.87957	5	1	1	1	-0.78838	15	15	8	4	2.77799	22	19	18	18	-33.44078
7	5	1	-35.32456	5	2	1	1	1.33271	15	15	8	5	-4.21217	22	19	19	17	-2.24619
7	5	2	81.43736	5	2	2	1	0.44133	15	15	8	6	5.07323	22	19	19	18	2.24707
7	5	3	63.25947	5	2	2	2	2.50930	15	15	8	7	3.70300	22	19	19	19	-7.96131
7	5	4	-22.21979	5	3	1	1	74.83132	15	15	8	8	0.86896	22	20	1	1	97.49778
7	5	5	64.41134	5	3	2	2	-7.52329	15	15	9	1	-0.21983	22	20	2	2	-10.89314
7	6	1	38.97061	5	3	3	1	-3.74930	15	15	9	2	0.17775	22	20	3	3	-13.57989
7	6	2	-18.01146	5	3	3	2	-0.56319	15	15	9	3	14.36111	22	20	4	4	9.29666
7	6	3	49.91090	5	3	3	3	10.20005	15	15	9	4	-2.34538	22	20	5	5	-18.71084
7	6	4	-81.11707	5	4	1	1	-1.61516	15	15	9	5	-19.08701	22	20	6	6	-7.95470
7	6	5	41.30481	5	4	2	2	-66.59874	15	15	9	6	16.55966	22	20	7	7	-0.60027
7	6	6	30.55667	5	4	3	3	-3.72087	15	15	9	7	4.52275	22	20	8	8	1.54069
7	7	1	57.64691	5	4	4	1	0.50283	15	15	9	8	2.68429	22	20	9	9	-8.24443
7	7	2	78.29246	5	4	4	2	1.22700	15	15	9	9	8.38746	22	20	10	10	-16.76638
7	7	3	-120.30356	5	4	4	3	7.88670	15	15	10	10	252.37464	22	20	11	11	-5.18191
7	7	4	43.44421	5	4	4	4	15.04462	15	15	11	10	78.70733	22	20	12	12	-2.64000
7	7	5	-54.39679	5	5	1	1	-111.18446	15	15	11	11	206.66439	22	20	13	13	-2.44723
7	7	6	31.66238	5	5	2	1	23.79068	15	15	12	10	24.59027	22	20	14	14	-4.59700
7	7	7	45.17402	5	5	2	2	-44.90147	15	15	12	11	-4.21697	22	20	15	15	-25.14435
8	1	1	-23.26374	5	5	3	1	1.15053	15	15	12	12	5.30019	22	20	16	16	-6.14910
8	2	1	-3.20700	5	5	3	2	-0.71204	15	15	13	10	108.58202	22	20	17	17	69.82586
8	2	2	-27.10178	5	5	3	3	22.44951	15	15	13	11	44.53142	22	20	18	18	17.66333
8	3	1	15.07458	5	5	4	1	-0.09202	15	15	13	12	11.07160	22	20	19	19	7.30959
8	3	2	1.07437	5	5	4	2	1.15218	15	15	13	13	57.11445	22	20	20	17	2.62841
8	3	3	-74.42342	5	5	4	3	-1.67924	15	15	14	14	184.89169	22	20	20	18	1.91070
8	4	1	15.03679	5	5	4	4	12.08846	15	15	15	14	-94.39688	22	20	20	19	17.25615
8	4	2	28.41961	5	5	5	1	-1.29875	15	15	15	15	378.73241	22	20	20	20	-22.65529
8	4	3	51.02806	5	5	5	2	1.98390	16	14	1	1	-59.79339	22	21	1	1	6.51354
8	4	4	-111.23555	5	5	5	3	-16.14797	16	14	2	2	-123.64548	22	21	2	2	40.34419
8	5	1	-25.33337	5	5	5	4	4.71610	16	14	3	3	3.95718	22	21	3	3	-1.25744
8	5	2	19.07840	5	5	5	5	53.02810	16	14	4	4	16.03221	22	21	4	4	-10.95117
8	5	3	-23.68983	6	1	1	1	1.10229	16	14	5	5	10.42556	22	21	5	5	-7.12837
8	5	4	42.99054	6	2	1	1	-1.89741	16	14	6	6	11.17058	22	21	6	6	6.55307
8	5	5	-48.93330	6	2	2	1	-2.01684	16	14	7	7	7.85872	22	21	7	7	-7.02279
8	6	1	16.46148	6	2	2	2	-8.54719	16	14	8	8	4.58345	22	21	8	8	-1.34492
8	6	2	-11.15048	6	3	1	1	-62.24188	16	14	9	9	2.00554	22	21	9	9	-1.36400
8	6	3	30.52430	6	3	2	2	-5.15529	16	14	10	10	64.47960	22	21	10	10	-2.25486
8	6	4	-17.15077	6	3	3	1	-1.24978	16	14	11	11	107.82210	22	21	11	11	-9.51065
8	6	5	-41.60802	6	3	3	2	0.49572	16	14	12	12	-1.09081	22	21	12	12	-1.55439
8	6	6	-153.47829	6	3	3	3	13.48322	16	14	13	13	6.97116	22	21	13	13	0.43861
8	7	1	9.82845	6	4	1	1	-3.33279	16	14	14	14	89.90381	22	21	14	14	-6.87188
8	7	2	15.19793	6	4	2	2	3.38052	16	15	1	1	77.91645	22	21	15	15	-7.12302
8	7	3	-43.51579	6	4	3	3	-3.12227	16	15	2	2	-86.51570	22	21	16	16	-4.46031
8	7	4	75.67431	6	4	4	1	2.45605	16	15	3	3	-4.02376	22	21	17	17	15.36769
8	7	5	-26.17573	6	4	4	2	6.66555	16	15	4	4	9.32038	22	21	18	18	31.60094
8	7	6	64.85033	6	4	4	3	0.27968	16	15	5	5	-5.27689	22	21	19	19	-1.42339
8	7	7	-94.50022	6	4	4	4	1.18060	16	15	6	6	-3.80219	22	21	20	20	-1.43450
8	8	1	13.64106	6	5	1	1	87.87841	16	15	7	7	4.47999	22	21	21	17	1.95419
8	8	2	8.02570	6	5	2	2	9.83265	16	15	8	8	-0.26631	22	21	21	18	3.18028
8	8	3	-15.65639	6	5	3	3	-2.32928	16	15	9	9	0.32934	22	21	21	19	10.21286
8	8	4	41.70105	6	5	4	4	0.66883	16	15	10	10	-32.69844	22	21	21	20	6.28170
8	8	5	5.51203	6	5	5	1	0.90107	16	15	11	11	44.35403	22	21	21	21	-8.80741
8	8	6	111.12768	6	5	5	2	1.23971	16	15	12	12	1.46709	22	22	1	1	-81.23267
8	8	7	-63.34758	6	5	5	3	18.58188	16	15	13	13	-11.61242	22	22	2	1	21.44690
8	8	8	-200.20676	6	5	5	4	-5.97286	16	15	14	14	39.39229	22	22	2	2	-22.12715
9	1	1	-3.16232	6	5	5	5	-24.54886	16	15	15	14	97.31978	22	22	3	1	-0.96585
9	2	1	1.12578	6	6	1	1	-72.43745	16	15	15	15	-43.17655	22	22	3	2	-2.06549
9	2	2	-1.38154	6	6	2	1	22.59351	16	16	1	1	-29.99026	22	22	3	3	6.36822
9	3	1	64.22497	6	6	2	2	-9.47376	16	16	2	1	-12.60390	22	22	4	1	-2.52948
9	3	2	-18.61646	6	6	3	1	-0.21379	16	16	2	2	-65.58323	22	22	4	2	-1.65782
9	3	3	-5.81288	6	6	3	2	0.33968	16	16	3	1	-2.67329	22	22	4	3	-0.08859
9	4	1	-5.33400	6	6	3	3	19.58228	16	16	3	2	1.71716	22	22	4	4	9.38192
9	4	2	-28.14080	6	6	4	1	-1.04379	16	16	3	3	-10.39535	22	22	5	1	3.67105
9	4	3	-18.37327	6	6	4	2	1.83630	16	16	4	1	-0.21766	22	22	5	2	-1.10076
9	4	4	-7.87948	6	6	4	3	-0.25124	16	16	4	2	-2.11934	22	22	5	3	-12.60992
9	5	1	-84.82424	6	6	4	4	6.69847	16	16	4	3	3.57324	22	22	5	4	-0.14687
9	5	2	16.78160	6	6	5	1	0.36952	16	16	4	4	-4.76375	22	22	5	5	31.18205
9	5	3	-7.67358	6	6	5	2	-0.24499	16	16	5	2	-1.26826	22	22	6	1	-1.65073
9	5	4	-21.44727	6	6	5	3	-17.29364	16	16	5	3	1.97061	22	22	6	2	1.39772
9	5	5	4.50685	6	6	5	4	-11.86490	16	16	5	4	4.94533	22	22	6	3	15.22572
9	6	1	68.86062	6	6	5	5	41.00296	16	16	5	5	-7.14080	22	22	6	4	-7.69028
9	6	2	-20.76674	6	6	6	1	-1.04925	16	16	6	1	-1.71798	22	22	6	5	-14.50577
9	6	3	-1.80765	6	6	6	2	-1.32754	16	16	6	2	0.93068	22	22	6	6	18.33414
9	6	4	-12.20270	6	6	6	3	-8.68241	16	16	6	3	4.43292	22	22	7	1	-0.46527
9	6	5	-6.15733	6	6	6	4	-11.56345	16	16	6	4	4.26246	22	22	7	2	-1.05966
9	6	6	20.62736	6	6	6	5	14.41841	16	16	6	5	-13.70192	22	22	7	3	5.92462
9	7	1	20.97028	6	6	6	6	96.88012	16	16	6	6	-30.22556	22	22	7	4	-0.54527
9	7	2	-20.79759	7	1	1	1	-9.77183	16	16	7	1	-0.39872	22	22	7	5	2.11668
9	7	3	26.12990	7	2	1	1	3.42239	16	16	7	2	-0.32723	22	22	7	6	10.62496
9	7	4	-4.58749	7	2	2	2	0.77837	16	16	7	3	-3.74121	22	22	7	7	5.33904
9	7	5	-11.38818	7	3	1	1	-29.07369	16	16	7	4	4.99270	22	22	8	1	-2.43450
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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9	8	1	12.73723	7	3	3	2	-3.69068	16	16	8	1	-0.40515	22	22	8	4	3.45960
9	8	2	-10.93800	7	3	3	3	-32.48486	16	16	8	2	-1.05656	22	22	8	5	-7.61669
9	8	3	-15.56334	7	4	1	1	-10.65011	16	16	8	3	7.49046	22	22	8	6	0.41025
9	8	4	22.59486	7	4	2	2	-90.89350	16	16	8	4	-3.97491	22	22	8	7	-2.67662
9	8	5	-22.56722	7	4	3	3	0.75705	16	16	8	5	2.45340	22	22	8	8	4.86916
9	8	6	1.95505	7	4	4	1	-0.33313	16	16	8	6	-0.43201	22	22	9	1	-1.76786
9	8	7	-13.38260	7	4	4	2	-1.33017	16	16	8	7	2.85517	22	22	9	2	1.94573
9	9	1	41.43333	7	4	4	3	10.96730	16	16	8	8	-9.81509	22	22	9	3	12.29120
9	9	2	-8.76266	7	4	4	4	20.03131	16	16	9	2	-1.09224	22	22	9	4	-4.01677
9	9	3	-6.85637	7	5	1	1	33.21664	16	16	9	3	-1.48401	22	22	9	5	-12.51481
9	9	4	6.53794	7	5	2	2	-40.91339	16	16	9	4	0.93437	22	22	9	6	9.12197
9	9	5	-2.45520	7	5	3	3	-17.48177	16	16	9	5	-4.18827	22	22	9	7	4.30649
9	9	6	2.15096	7	5	4	4	15.53421	16	16	9	7	-0.41383	22	22	9	8	-2.02968
9	9	7	7.83089	7	5	5	1	2.38000	16	16	9	8	3.93216	22	22	9	9	5.71277
9	9	8	-15.78982	7	5	5	2	0.08521	16	16	9	9	2.18740	22	22	10	10	14.09765
9	9	9	-6.76459	7	5	5	3	5.04126	16	16	10	10	32.27510	22	22	11	10	10.04735
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10	10	2	26.09033	7	5	5	5	-11.21674	16	16	11	11	55.23073	22	22	12	10	3.76214
10	10	3	-1.51077	7	6	1	1	-30.68372	16	16	12	10	4.87024	22	22	12	11	-0.13969
10	10	4	2.62220	7	6	2	2	-0.52656	16	16	12	11	-3.52364	22	22	12	12	-5.02264
10	10	5	1.48725	7	6	3	3	-3.72163	16	16	12	12	8.85160	22	22	13	10	9.16743
10	10	6	0.92952	7	6	4	4	-7.57368	16	16	13	10	11.74924	22	22	13	11	4.53859
10	10	7	14.91294	7	6	5	5	5.69417	16	16	13	11	-3.77170	22	22	13	12	-4.04355
10	10	8	-8.02230	7	6	6	1	0.96889	16	16	13	13	14.52450	22	22	13	13	-4.64890
11	10	1	157.79071	7	6	6	2	0.05905	16	16	14	14	49.27222	22	22	14	14	5.57396
11	10	2	-303.18573	7	6	6	3	10.95541	16	16	15	14	22.91406	22	22	15	14	-10.89914
11	10	3	-16.31724	7	6	6	4	-1.70999	16	16	15	15	59.66567	22	22	15	15	24.35882
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11	10	5	-16.66381	7	6	6	6	-16.88272	16	16	16	15	13.26837	22	22	16	15	-6.76036
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11	11	1	282.39258	7	7	3	2	-0.66547	17	17	3	1	5.76040	22	22	19	17	0.65423
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12	10	1	48.40402	7	7	5	4	6.48399	17	17	5	3	53.46539	22	22	21	19	-0.50251
12	10	2	26.95678	7	7	5	5	17.61168	17	17	5	4	-18.36028	22	22	21	20	-2.18310
12	10	3	-1.33787	7	7	6	1	0.41070	17	17	5	5	-94.67826	22	22	21	21	5.75729
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12	10	6	-1.31244	7	7	6	4	4.25792	17	17	6	3	-47.90569	22	22	22	19	4.05345
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12	11	2	-72.19533	7	7	7	3	-13.02373	17	17	7	2	3.29724	23	17	2	2	0.44343
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12	11	7	-2.85206	8	1	1	1	8.44084	17	17	7	7	-31.09985	23	17	7	7	-0.78698
12	11	8	-1.99807	8	2	1	1	-1.56033	17	17	8	1	7.11136	23	17	8	8	0.43904
12	11	9	-6.52508	8	2	2	1	4.27166	17	17	8	2	1.59549	23	17	9	9	-0.83527
12	12	1	-0.82124	8	2	2	2	9.91014	17	17	8	3	-11.88495	23	17	10	10	-2.90301
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12	12	3	-5.28756	8	3	2	2	-5.02488	17	17	8	5	11.65133	23	17	13	13	1.13885
12	12	4	-4.42879	8	3	3	1	-0.79834	17	17	8	6	-11.90898	23	17	14	14	-1.36411
12	12	5	7.42259	8	3	3	2	0.91803	17	17	8	7	-9.30708	23	17	15	15	-2.60961
12	12	6	15.62785	8	3	3	3	8.36246	17	17	8	8	-3.46786	23	17	16	16	-0.65491
12	12	7	-7.72752	8	4	1	1	-2.52394	17	17	9	1	-0.57539	23	17	17	17	0.55639
12	12	8	10.97864	8	4	2	2	-18.23601	17	17	9	2	0.29199	23	18	1	1	0.93248
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13	10	1	189.29925	8	4	4	1	-0.63858	17	17	9	4	3.03069	23	18	3	3	1.44322
13	10	2	-11.51392	8	4	4	2	-0.93633	17	17	9	5	40.90841	23	18	4	4	0.65536
13	10	3	-24.49198	8	4	4	3	1.00950	17	17	9	6	-31.79883	23	18	5	5	2.97699
13	10	4	-24.70552	8	4	4	4	5.99161	17	17	9	7	-10.30486	23	18	6	6	2.02666
13	10	5	6.57746	8	5	1	1	18.17262	17	17	9	8	-6.07747	23	18	7	7	1.76462
13	10	6	2.24860	8	5	2	2	-6.99092	17	17	9	9	-19.37388	23	18	8	8	0.17040
13	10	7	5.34738	8	5	3	3	-0.41843	17	17	10	10	-199.25750	23	18	9	9	0.09762
13	10	8	-7.04352	8	5	5	1	-1.52221	17	17	11	10	-65.48239	23	18	10	10	2.18683
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13	11	2	-110.85728	8	5	5	3	0.91633	17	17	12	10	-24.14952	23	18	12	12	-0.61073
13	11	3	-8.37739	8	5	5	4	4.37925	17	17	12	11	2.43276	23	18	13	13	-0.31079
13	11	4	40.53705	8	5	5	5	-9.54275	17	17	12	12	-4.37898	23	18	14	14	2.36372
13	11	5	-14.81648	8	6	1	1	-15.28529	17	17	13	10	-85.88741	23	18	15	15	2.73287
13	11	6	-41.24441	8	6	2	2	-1.41906	17	17	13	11	-37.90198	23	18	16	16	-1.76672
13	11	7	24.28000	8	6	3	3	0.62454	17	17	13	12	-9.91278	23	18	17	17	0.37807
13	11	8	9.81819	8	6	4	4	-13.39191	17	17	13	13	-35.98092	23	18	18	17	0.25017
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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13	12	6	-20.96511	8	6	6	5	-3.87803	17	17	16	16	-39.27599	23	19	5	5	-3.96099
13	12	7	-30.78879	8	6	6	6	-4.62163	17	17	17	17	318.33312	23	19	6	6	-9.46994
13	12	8	-6.06927	8	7	1	1	-8.06216	18	17	1	1	-206.98396	23	19	7	7	-1.83493
13	12	9	4.41488	8	7	2	2	-12.69653	18	17	2	2	207.41058	23	19	8	8	6.02122
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13	13	3	67.81091	8	7	5	5	0.27833	18	17	5	5	38.32711	23	19	11	11	-0.74912
13	13	4	-39.86347	8	7	6	6	11.40332	18	17	6	6	36.17971	23	19	13	13	-1.72109
13	13	5	38.22473	8	7	7	1	-0.67085	18	17	7	7	-23.18793	23	19	14	14	-0.85236
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15	15	5	-0.90312	8	8	6	5	3.47992	18	18	5	5	-62.93292	23	20	18	18	-13.08072
15	15	6	-6.19463	8	8	6	6	28.28244	18	18	6	1	-1.20540	23	20	19	19	-2.55722
15	15	7	-14.28318	8	8	7	1	0.36404	18	18	6	2	-6.66878	23	20	20	17	-3.34319
15	15	8	5.25863	8	8	7	2	-0.09008	18	18	6	3	-20.36459	23	20	20	18	2.30276
15	15	9	-2.01345	8	8	7	3	11.07453	18	18	6	4	1.64018	23	20	20	19	-5.42860
16	14	1	146.98362	8	8	7	4	-16.62113	18	18	6	5	30.44616	23	20	20	20	6.81464
16	14	2	178.04300	8	8	7	5	3.76501	18	18	6	6	-26.21637	23	21	1	1	-0.95325
16	14	3	23.51696	8	8	7	6	-17.55424	18	18	7	1	-2.41153	23	21	2	2	1.44974
16	14	4	-2.95051	8	8	7	7	19.99717	18	18	7	2	1.36375	23	21	3	3	-2.04622
16	14	5	12.09524	8	8	8	1	-1.17516	18	18	7	3	-25.27722	23	21	4	4	1.83962
16	14	6	16.89556	8	8	8	2	-0.79475	18	18	7	4	-70.10457	23	21	5	5	0.49071
16	14	7	4.10901	8	8	8	3	8.70266	18	18	7	5	-21.46328	23	21	6	6	-10.17982
16	14	8	-18.44761	8	8	8	4	-14.85469	18	18	7	6	-8.57060	23	21	7	7	0.28924
16	14	9	2.37264	8	8	8	5	-1.07946	18	18	7	7	-51.20814	23	21	8	8	2.78852
16	15	1	-99.89358	8	8	8	6	-29.48661	18	18	8	1	5.40717	23	21	9	9	1.21392
16	15	2	212.82935	8	8	8	7	20.96660	18	18	8	2	6.92936	23	21	10	10	-0.58965
16	15	3	-41.39767	8	8	8	8	39.59767	18	18	8	3	-7.33432	23	21	11	11	-0.84543
16	15	4	13.54259	9	1	1	1	0.41674	18	18	8	4	-14.31756	23	21	12	12	1.22217
16	15	5	8.67337	9	2	1	1	-0.24937	18	18	8	5	-0.33167	23	21	13	13	-0.58539
16	15	6	-33.94083	9	2	2	1	0.50382	18	18	8	6	-5.11105	23	21	14	14	-0.61971
16	15	7	-7.18737	9	2	2	2	0.94443	18	18	8	7	-11.42608	23	21	16	16	3.76789
16	15	8	0.82322	9	3	1	1	-34.45449	18	18	8	8	-3.29917	23	21	17	17	-0.29042
16	15	9	14.89823	9	3	2	2	-0.11364	18	18	9	1	0.49988	23	21	18	18	0.75039
16	16	1	76.96364	9	3	3	1	-0.72501	18	18	9	2	0.79691	23	21	19	19	-4.01636
16	16	2	101.74963	9	3	3	2	1.63043	18	18	9	3	-9.35139	23	21	20	20	-4.24684
16	16	3	-51.82599	9	3	3	3	14.28058	18	18	9	4	10.07495	23	21	21	17	1.46638
16	16	4	40.52349	9	4	1	1	-0.74273	18	18	9	5	22.52596	23	21	21	18	1.87336
16	16	5	-5.77609	9	4	2	2	13.89314	18	18	9	6	-14.31293	23	21	21	19	-4.33799
16	16	6	42.31404	9	4	3	3	-3.43918	18	18	9	7	1.48514	23	21	21	20	-3.37428
16	16	7	-18.93749	9	4	4	1	0.68749	18	18	9	8	-1.59323	23	21	21	21	-3.36021
16	16	8	69.86875	9	4	4	2	2.85959	18	18	9	9	-9.45096	23	22	1	1	30.54972
16	16	9	-16.77597	9	4	4	3	0.55882	18	18	10	10	-142.49053	23	22	2	2	2.45584
17	14	10	-317.67714	9	4	4	4	-7.22654	18	18	11	10	63.93343	23	22	3	3	-6.10818
17	14	11	75.74188	9	5	1	1	50.41829	18	18	11	11	-225.19472	23	22	4	4	-2.37736
17	14	12	-56.08284	9	5	2	2	12.27083	18	18	12	10	-26.09859	23	22	5	5	-12.59149
17	14	13	-139.60262	9	5	3	3	-4.21207	18	18	12	11	26.34799	23	22	6	6	-16.12839
17	15	10	268.48650	9	5	4	4	-0.63297	18	18	12	12	-6.00712	23	22	7	7	1.30791
17	15	11	431.67116	9	5	5	1	-1.23725	18	18	13	10	-53.79718	23	22	8	8	-2.17732
17	15	12	8.15621	9	5	5	2	1.84591	18	18	13	11	9.98775	23	22	9	9	-2.50951
17	15	13	148.94818	9	5	5	3	13.08624	18	18	13	12	-8.57490	23	22	10	10	-5.48089
17	16	10	-184.00321	9	5	5	4	-3.26331	18	18	13	13	-20.06192	23	22	11	11	-3.84182
17	16	11	52.49114	9	5	5	5	-20.29501	18	18	14	14	-198.99700	23	22	12	12	1.83684
17	16	12	-24.16997	9	6	1	1	-40.90610	18	18	15	14	-75.47445	23	22	13	13	-2.30377
17	16	13	-73.31072	9	6	2	2	-4.47690	18	18	15	15	-213.41799	23	22	14	14	-2.54970
17	17	1	-1046.14141	9	6	3	3	7.29415	18	18	16	14	-106.83989	23	22	15	15	-11.03351
17	17	2	-106.77394	9	6	4	4	2.40617	18	18	16	15	-43.38373	23	22	16	16	3.07885
17	17	3	-11.53954	9	6	5	5	17.92409	18	18	16	16	-55.77814	23	22	17	17	23.35615
17	17	4	-28.72832	9	6	6	1	-0.60842	18	18	17	17	234.37663	23	22	18	18	10.06160
17	17	5	2.67689	9	6	6	2	1.93450	18	18	18	17	98.94611	23	22	19	19	-12.30570
17	17	6	8.53661	9	6	6	3	12.80934	18	18	18	18	321.50870	23	22	20	20	-11.91754
17	17	7	19.39408	9	6	6	4	-2.58493	19	17	1	1	-6.70229	23	22	21	21	-3.45027
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17	17	9	-2.24918	9	6	6	6	5.82982	19	17	3	3	-1.30766	23	22	22	18	1.61603
18	14	10	-54.38481	9	7	1	1	-16.66442	19	17	4	4	3.07795	23	22	22	20	4.44154

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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18	14	12	-39.75690	9	7	3	3	0.80490	19	17	6	6	-1.49555	23	22	22	22	-11.05295
18	14	13	4.60026	9	7	4	4	-3.93037	19	17	7	7	0.79070	23	23	1	1	-13.58861
18	15	10	-401.58034	9	7	5	5	5.65126	19	17	8	8	1.25233	23	23	2	1	3.65264
18	15	11	99.51070	9	7	6	6	9.65444	19	17	9	9	-0.87196	23	23	2	2	-3.07910
18	15	12	-64.90891	9	7	7	1	0.51586	19	17	10	10	-1.13623	23	23	3	1	2.63760
18	15	13	-169.16642	9	7	7	2	1.68015	19	17	11	11	3.28329	23	23	3	2	-0.76612
18	16	10	-41.76866	9	7	7	3	4.56553	19	17	12	12	-0.16680	23	23	3	3	-5.01111
18	16	11	235.30383	9	7	7	4	-1.53808	19	17	13	13	1.20678	23	23	4	1	0.49312
18	16	12	-20.60055	9	7	7	5	-5.18575	19	17	14	14	1.28108	23	23	4	2	-0.69786
18	16	13	1.82230	9	7	7	6	0.88783	19	17	15	15	3.76720	23	23	4	3	0.74442
18	17	1	419.20504	9	7	7	7	-3.24378	19	17	16	16	-0.61378	23	23	4	4	-5.83898
18	17	2	-803.44811	9	8	1	1	-8.40303	19	17	17	17	-8.70117	23	23	5	1	-2.39875
18	17	3	6.51236	9	8	2	2	0.93985	19	18	1	1	1.54002	23	23	5	2	1.13911
18	17	4	3.22631	9	8	3	3	-1.02819	19	18	2	2	-10.99213	23	23	5	3	-3.59403
18	17	5	-0.23432	9	8	4	4	-0.64709	19	18	3	3	1.32489	23	23	5	4	1.45459
18	17	6	15.88025	9	8	5	5	2.94457	19	18	4	4	4.17165	23	23	5	5	2.20241
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18	17	8	-3.58009	9	8	7	7	1.35514	19	18	6	6	-0.15960	23	23	6	3	1.89957
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18	18	1	-696.34289	9	8	8	2	0.60111	19	18	8	8	0.54459	23	23	6	5	-2.62879
18	18	2	-795.32805	9	8	8	3	3.04992	19	18	9	9	0.79833	23	23	6	6	-1.40180
18	18	3	-9.11466	9	8	8	4	-3.62852	19	18	10	10	2.06673	23	23	7	2	0.32284
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18	18	5	-1.55902	9	8	8	6	2.03656	19	18	12	12	0.47758	23	23	7	4	3.65479
18	18	6	20.06854	9	8	8	7	1.48494	19	18	13	13	-2.88100	23	23	7	5	-0.68773
18	18	7	6.61273	9	8	8	8	-0.59208	19	18	14	14	4.03094	23	23	7	6	2.23515
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18	18	9	-1.08458	9	9	2	1	7.01742	19	18	16	16	1.98282	23	23	8	1	0.96726
19	14	10	-7.29878	9	9	2	2	-3.99264	19	18	17	17	-0.94152	23	23	8	2	0.27461
19	14	11	-5.01791	9	9	3	1	-1.21769	19	18	18	17	-7.82133	23	23	8	3	-3.65762
19	14	13	-33.34681	9	9	3	2	0.72770	19	18	18	18	-7.77397	23	23	8	4	5.13543
19	15	10	9.51670	9	9	3	3	4.15985	19	19	1	1	-29.43693	23	23	8	5	-1.82478
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19	15	12	7.80513	9	9	4	2	-0.54813	19	19	2	2	-51.71061	23	23	8	7	-4.61895
19	15	13	-44.90592	9	9	4	3	-0.54782	19	19	3	1	2.41928	23	23	8	8	-3.83429
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19	16	11	-12.67596	9	9	5	1	0.30873	19	19	3	3	4.88462	23	23	9	2	-0.42841
19	16	12	8.53326	9	9	5	2	-0.32503	19	19	4	1	-3.17333	23	23	9	3	-1.03141
19	16	13	55.72419	9	9	5	3	-5.15608	19	19	4	2	-5.39613	23	23	9	5	-1.04406
19	17	1	17.68529	9	9	5	4	1.58284	19	19	4	3	-4.86900	23	23	9	6	1.47439
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19	17	3	47.67689	9	9	6	1	-0.82953	19	19	5	1	2.53742	23	23	9	8	1.84962
19	17	4	-71.59610	9	9	6	2	0.16815	19	19	5	2	-1.86163	23	23	9	9	-2.35492
19	17	5	-75.83172	9	9	6	3	7.35498	19	19	5	3	1.16832	23	23	10	10	1.02376
19	17	6	63.93299	9	9	6	4	2.95769	19	19	5	4	-1.97081	23	23	11	10	1.06465
19	17	7	-20.04658	9	9	6	5	-11.74692	19	19	5	5	17.08524	23	23	11	11	-0.89257
19	17	8	-7.60326	9	9	6	6	-0.97051	19	19	6	1	0.27433	23	23	12	12	-3.21103
19	17	9	42.39661	9	9	7	2	-0.30069	19	19	6	2	2.35766	23	23	13	10	1.70227
19	18	1	6.20086	9	9	7	3	0.78905	19	19	6	3	1.98651	23	23	13	11	0.28776
19	18	2	34.21872	9	9	7	4	1.33837	19	19	6	4	-9.46212	23	23	13	12	-0.63796
19	18	3	-57.80051	9	9	7	5	-3.65505	19	19	6	5	10.86967	23	23	13	13	-4.23801
19	18	4	-99.59197	9	9	7	6	2.89576	19	19	6	6	28.89538	23	23	14	14	-1.87869
19	18	5	-1.35550	9	9	7	7	1.92258	19	19	7	1	-2.02229	23	23	15	14	-2.43575
19	18	6	-19.30454	9	9	8	1	-0.13864	19	19	7	2	-1.82745	23	23	15	15	-2.06856
19	18	7	-69.61756	9	9	8	2	-0.11684	19	19	7	3	12.54842	23	23	16	14	-0.70261
19	18	8	-23.22792	9	9	8	3	1.94831	19	19	7	4	7.22335	23	23	16	15	0.26200
19	18	9	-4.77876	9	9	8	4	-0.76693	19	19	7	5	4.42541	23	23	16	16	-9.60667
19	19	1	59.25549	9	9	8	5	-1.23282	19	19	7	6	-0.53510	23	23	17	17	-10.67029
19	19	2	70.55331	9	9	8	6	1.64561	19	19	7	7	6.14936	23	23	18	17	5.70136
19	19	3	114.75721	9	9	8	7	1.00985	19	19	8	1	-2.33477	23	23	18	18	-5.74654
19	19	4	-80.15119	9	9	8	8	0.37184	19	19	8	2	-2.22653	23	23	19	17	0.39189
19	19	5	33.29200	9	9	9	1	-0.53914	19	19	8	3	-11.11737	23	23	19	18	0.51665
19	19	6	-16.11959	9	9	9	2	-0.31366	19	19	8	4	14.36077	23	23	19	19	-4.60463
19	19	7	85.42772	9	9	9	3	2.84580	19	19	8	5	-7.93391	23	23	20	17	-2.37159
19	19	8	-128.34186	9	9	9	4	1.40141	19	19	8	6	-3.10300	23	23	20	18	1.85114
19	19	9	22.25665	9	9	9	5	-5.50222	19	19	8	7	-7.07185	23	23	20	19	-3.04188
20	14	10	-2.22376	9	9	9	6	3.33158	19	19	8	8	12.47587	23	23	20	20	3.42542
20	14	11	-2.92838	9	9	9	7	0.70251	19	19	9	1	-0.77129	23	23	21	17	-0.11999
20	14	12	10.07895	9	9	9	8	3.08355	19	19	9	2	1.87280	23	23	21	18	0.36742
20	14	13	-23.20933	9	9	9	9	5.04654	19	19	9	3	6.62602	23	23	21	19	0.08434
20	15	10	3.90313	10	10	1	1	-229.35808	19	19	9	4	-5.22696	23	23	21	20	1.67457
20	15	11	-2.22058	10	10	2	1	42.93976	19	19	9	5	-1.25891	23	23	21	21	1.91719
20	15	12	-0.56640	10	10	2	2	-110.58991	19	19	9	6	3.78369	23	23	22	17	1.43334
20	16	10	22.52088	10	10	3	1	1.01584	19	19	9	7	0.35502	23	23	22	18	-1.08515
20	16	11	10.29543	10	10	3	2	-2.62411	19	19	9	8	-1.16303	23	23	22	19	1.33996
20	16	12	-29.66063	10	10	3	3	5.26922	19	19	9	9	-7.47472	23	23	22	20	0.15413
20	16	13	4.33919	10	10	4	1	-2.69629	19	19	10	10	3.28911	23	23	22	21	1.96313
20	17	1	-11.27129	10	10	4	2	0.55794	19	19	11	10	-3.08297	23	23	22	22	5.46633
20	17	2	0.16018	10	10	4	3	1.01678	19	19	11	11	7.94181	23	23	23	17	-2.04012
20	17	3	-109.26681	10	10	4	4	7.08520	19	19	12	10	5.22430	23	23	23	18	0.59591
20	17	4	-44.98799	10	10	5	1	-0.26266	19	19	12	11	-4.02137	23	23	23	19	1.23038
20	17	5	99.94924	10	10	5	2	-1.55759	19	19	12	12	-12.59169	23	23	23	20	1.55124
20	17	6	-109.55075	10	10	5	3	-11.22533	19	19	13	10	5.54079	23	23	23	21	-0.67982
20	17	7	-76.86460	10	10	5	4	4.11681	19	19	13	11	-1.40647	23	23	23	22	-3.59091
20	17	8	-26.43800	10	10	5	5	15.62741	19	19	13	12	-3.46872	23	23	23	23	-3.03922
20	17	9	-71.98628	10	10	6	1	-0.19591	19	19	13	13	-13.69003	24	17	1	1	-0.43023
20	18	1	5.01272	10	10	6	2	1.91874	19	19	14	14	4.51415	24	17	2	2	-0.79003
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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20	18	4	-75.78603	10	10	6	5	-14.49329	19	19	16	14	13.98735	24	17	5	5	2.57269
20	18	5	-114.90160	10	10	6	6	13.50379	19	19	16	15	3.17975	24	17	6	6	1.23681
20	18	6	80.77590	10	10	7	1	-0.18133	19	19	16	16	-23.25691	24	17	7	7	1.66222
20	18	7	-21.90680	10	10	7	2	-1.26904	19	19	17	17	-35.08162	24	17	8	8	-0.22290
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23	16	10	-1.83162	13	10	5	5	12.39725	21	18	6	6	0.22404	24	24	2	2	-21.86771
23	16	11	23.54431	13	10	6	6	8.00415	21	18	7	7	-0.11156	24	24	3	1	1.45611
23	16	12	16.99599	13	10	7	7	8.81330	21	18	9	9	-0.16302	24	24	3	2	-0.76281
23	16	13	1.34810	13	10	8	8	4.39811	21	18	10	10	0.88359	24	24	3	3	-9.68540
23	17	1	-2.57718	13	10	9	9	2.83979	21	18	11	11	1.41336	24	24	4	1	0.34071
23	17	2	-0.69878	13	10	10	10	26.48905	21	18	13	13	1.74937	24	24	4	3	4.12377
23	17	3	-19.46016	13	11	1	1	-62.83479	21	18	15	15	3.46571	24	24	4	4	4.86132
23	17	4	-6.83282	13	11	2	2	35.98379	21	18	16	16	-1.34125	24	24	5	1	-0.53524
23	17	5	44.45331	13	11	3	3	9.80672	21	18	17	17	1.01717	24	24	5	2	0.49107
23	17	6	-34.70010	13	11	4	4	-6.48363	21	18	18	17	3.64592	24	24	5	3	-3.08366
23	17	7	-18.61227	13	11	5	5	5.66208	21	18	18	18	3.13223	24	24	5	4	6.15639
23	17	8	-10.21717	13	11	6	6	4.95180	21	19	1	1	8.79434	24	24	5	5	3.22999
23	17	9	-28.25329	13	11	7	7	1.00844	21	19	2	2	77.00488	24	24	6	1	1.00747
23	18	1	1.63606	13	11	8	8	-0.88534	21	19	3	3	2.54694	24	24	6	2	0.61827
23	18	2	-4.19134	13	11	9	9	2.40926	21	19	4	4	-20.41876	24	24	6	3	1.22104
23	18	3	17.90492	13	11	10	10	32.56687	21	19	5	5	-3.09970	24	24	6	4	-1.37966
23	18	4	-8.02869	13	11	11	10	44.77548	21	19	6	6	23.31206	24	24	6	5	-3.52219
23	18	5	-27.81714	13	11	11	11	-16.48664	21	19	7	7	-12.08690	24	24	6	6	-2.30147
23	18	6	26.01463	13	12	1	1	-10.64938	21	19	8	8	1.73641	24	24	7	1	-0.11506
23	18	7	13.38582	13	12	2	2	-8.14855	21	19	9	9	-4.21939	24	24	7	2	0.19093
23	18	8	2.30578	13	12	3	3	-9.36342	21	19	10	10	-5.67626	24	24	7	3	5.14920
23	18	9	16.66248	13	12	4	4	2.61261	21	19	11	11	-15.54184	24	24	7	4	8.24765
23	19	1	-22.47452	13	12	5	5	-3.13835	21	19	12	12	-5.90808	24	24	7	5	4.14847

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
23	19	2	17.99912	13	12	6	6	8.53025	21	19	13	13	-1.17339	24	24	7	6	3.33359
23	19	3	17.24840	13	12	7	7	-2.56691	21	19	14	14	-13.80896	24	24	7	7	-0.91457
23	19	4	-19.22076	13	12	8	8	6.34866	21	19	15	15	-9.62010	24	24	8	3	-1.24830
23	19	5	34.64650	13	12	9	9	-1.89296	21	19	16	16	-14.77015	24	24	8	4	3.77801
23	19	6	63.63074	13	12	10	10	33.55299	21	19	17	17	26.63527	24	24	8	6	3.12537
23	19	7	-7.49785	13	12	11	11	8.68907	21	19	18	18	59.34022	24	24	8	7	-1.63061
23	19	8	-25.11868	13	12	12	10	-14.80944	21	19	19	17	-2.24403	24	24	8	8	-3.14631
23	19	9	8.22393	13	12	12	11	-2.51205	21	19	19	18	-3.06533	24	24	9	3	0.67008
23	20	1	48.83202	13	12	12	12	7.85044	21	19	19	19	3.08328	24	24	9	4	-1.55564
23	20	2	-15.12398	13	13	1	1	-45.15448	21	20	1	1	3.25573	24	24	9	5	-2.38040
23	20	3	-43.19843	13	13	2	1	11.79947	21	20	2	2	63.39594	24	24	9	6	0.69808
23	20	4	12.48865	13	13	2	2	-11.69599	21	20	3	3	1.02921	24	24	9	7	1.08244
23	20	5	26.52375	13	13	3	1	2.13888	21	20	4	4	-17.72587	24	24	9	9	1.66537
23	20	6	25.50017	13	13	3	2	-1.05879	21	20	5	5	0.81528	24	24	10	10	2.72755
23	20	7	-19.15221	13	13	3	3	-30.64186	21	20	6	6	18.27402	24	24	11	10	-2.23161
23	20	8	7.57592	13	13	4	1	0.82718	21	20	7	7	-9.70025	24	24	11	11	5.18125
23	20	9	-3.52267	13	13	4	2	2.59935	21	20	8	8	-0.30290	24	24	12	10	1.64663
23	21	1	-1.43546	13	13	4	3	7.13534	21	20	9	9	-1.94830	24	24	12	11	-1.39105
23	21	2	-4.58169	13	13	4	4	-16.48169	21	20	10	10	-4.16530	24	24	12	12	-2.50469
23	21	3	-24.00153	13	13	5	1	-0.22090	21	20	11	11	-12.40156	24	24	13	10	2.73847
23	21	4	-5.31169	13	13	5	2	0.17761	21	20	12	12	-3.94334	24	24	13	11	-0.38783
23	21	5	15.88710	13	13	5	3	-12.06555	21	20	13	13	-0.65704	24	24	13	12	-1.50564
23	21	6	49.96721	13	13	5	4	6.85580	21	20	14	14	-12.27352	24	24	13	13	4.28129
23	21	7	-25.03980	13	13	5	5	-7.04499	21	20	15	15	-6.93840	24	24	14	14	3.17970
23	21	8	-3.43889	13	13	6	1	1.48624	21	20	16	16	-9.99132	24	24	15	14	2.75341
23	21	9	-3.76034	13	13	6	2	-0.90409	21	20	17	17	18.72186	24	24	15	15	5.09690
23	22	1	-47.71538	13	13	6	3	2.81761	21	20	18	18	47.99016	24	24	16	14	1.91744
23	22	2	9.41967	13	13	6	4	1.10959	21	20	20	17	-2.87271	24	24	16	15	-0.78966
23	22	3	-26.77303	13	13	6	5	-3.42471	21	20	20	18	-0.84704	24	24	16	16	-3.18684
23	22	4	26.19416	13	13	6	6	-15.49463	21	20	20	19	1.31941	24	24	17	17	-12.59816
23	22	5	-25.17381	13	13	7	1	-0.76846	21	20	20	20	0.69179	24	24	18	17	-6.92663
23	22	6	22.68976	13	13	7	2	1.08415	21	21	1	1	-12.87761	24	24	18	18	-18.74880
23	22	7	-6.90652	13	13	7	3	10.87368	21	21	2	1	-39.99806	24	24	19	17	1.10147
23	22	8	18.69889	13	13	7	4	4.27751	21	21	2	2	-127.45015	24	24	19	18	-0.28306
23	22	9	-17.22119	13	13	7	5	4.40277	21	21	3	1	-1.43409	24	24	19	19	0.62622
23	23	1	8.92899	13	13	7	6	10.61511	21	21	3	2	-3.35462	24	24	20	17	-1.09782
23	23	2	-7.04659	13	13	7	7	-23.05271	21	21	3	3	2.04780	24	24	20	18	0.79615
23	23	3	22.37847	13	13	8	1	-0.84763	21	21	4	1	2.31158	24	24	20	19	0.99242
23	23	4	-23.67367	13	13	8	2	0.56020	21	21	4	2	6.80837	24	24	20	20	2.67259
23	23	5	15.90795	13	13	8	3	-7.03352	21	21	4	3	9.22347	24	24	21	17	0.46944
23	23	6	-23.92133	13	13	8	4	7.04572	21	21	4	4	34.30807	24	24	21	18	0.46218
23	23	7	11.34896	13	13	8	5	-2.76552	21	21	5	1	1.79762	24	24	21	19	-5.22562
23	23	8	-27.36826	13	13	8	6	10.42821	21	21	5	2	3.96207	24	24	21	20	-4.22993
23	23	9	2.39134	13	13	8	7	-7.12701	21	21	5	3	-0.48504	24	24	21	21	8.32643
24	14	10	6.59077	13	13	8	8	-19.07696	21	21	5	4	16.13254	24	24	22	17	0.66573
24	14	11	0.75151	13	13	9	1	0.84422	21	21	5	5	15.84931	24	24	22	19	3.86936
24	14	12	-4.80143	13	13	9	4	0.67044	21	21	6	1	1.70464	24	24	22	20	-1.10739
24	14	13	9.58440	13	13	9	5	-3.05022	21	21	6	2	6.03588	24	24	22	21	-3.44739
24	15	10	-8.04366	13	13	9	6	0.64476	21	21	6	3	-6.06166	24	24	22	22	2.60329
24	15	12	5.03760	13	13	9	7	3.16601	21	21	6	4	-10.80115	24	24	23	17	0.29885
24	15	13	12.06818	13	13	9	8	0.83379	21	21	6	5	4.96504	24	24	23	18	0.52301
24	16	10	5.93627	13	13	9	9	-4.41178	21	21	6	6	15.47739	24	24	23	19	0.97480
24	16	12	-3.07426	13	13	10	10	48.29103	21	21	7	1	0.39944	24	24	23	20	0.73686
24	16	13	14.65720	13	13	11	10	17.50967	21	21	7	2	1.41402	24	24	23	21	-0.20521
24	17	1	1.61804	13	13	11	11	20.63575	21	21	7	3	3.99927	24	24	23	22	-2.58867
24	17	2	-1.66786	13	13	12	10	-5.56628	21	21	7	4	28.09905	24	24	23	23	-3.66313
24	17	3	11.61341	13	13	12	12	12.27810	21	21	7	5	12.01788	24	24	24	17	0.15488
24	17	4	-52.11603	13	13	13	10	8.23025	21	21	7	6	-3.43523	24	24	24	18	0.30133
24	17	5	-64.39668	13	13	13	11	5.06288	21	21	7	7	14.97792	24	24	24	19	3.43207
24	17	6	37.29770	13	13	13	13	55.13462	21	21	8	1	0.12612	24	24	24	20	1.61313
24	17	7	-12.99453	14	14	1	1	-117.61932	21	21	8	2	0.25909	24	24	24	21	-3.90364
24	17	8	0.75906	14	14	2	1	-37.25147	21	21	8	3	-1.86478	24	24	24	22	2.97914
24	17	9	26.44017	14	14	2	2	-227.28365	21	21	8	4	7.18024	24	24	24	23	-1.18696
24	18	1	-2.01952	14	14	3	1	-1.42170	21	21	8	5	5.21682	24	24	24	24	6.35496
24	18	2	-0.82217	14	14	3	2	-3.99839	21	21	8	6	7.97933					
24	18	3	-33.42973	14	14	3	3	1.08129	21	21	8	7	2.31413					
24	18	4	-75.10005	14	14	4	1	-0.70145	21	21	8	8	1.84527					

Table S37: The quartic potential energy surface of Pyridazine-d4 The calculation was done by using B3LYP/6-311++G(2d,2p) method. The force constants (FI) are in cm^{-1} units.

I	J	FI(I,J)
1	1	2375.60974
2	2	2346.20079
3	3	1563.49343
4	4	1346.45706
5	5	1149.84129
6	6	984.19758
7	7	872.00208
8	8	847.31932
9	9	654.74241
10	10	854.95643
11	11	748.79764
12	12	692.43066
13	13	343.22178
14	14	807.38673
15	15	570.20958
16	16	328.98380
17	17	2358.69454
18	18	2339.89984
19	19	1559.71882
20	20	1302.65706
21	21	1053.72010
22	22	1002.86571
23	23	851.01632
24	24	617.43850

I	J	K	FI(I,J,K)
1	1	1	-724.97613
2	1	1	164.29504
2	2	1	-366.31056
2	2	2	-668.59509
3	1	1	-54.82361
3	2	1	47.22178
3	2	2	30.69760
3	3	1	85.95348
3	3	2	-42.10440
3	3	3	-197.59620
4	1	1	65.37882
4	2	1	-7.64113
4	2	2	32.76299
4	3	1	4.02001
4	3	2	3.70469
4	3	3	42.95127
4	4	1	30.14508
4	4	2	70.34999
4	4	3	41.93148
4	4	4	6.14630
5	1	1	28.45466
5	2	1	-19.18291
5	2	2	-0.30948
5	3	1	-52.43809
5	3	2	22.42178
5	3	3	97.17213
5	4	1	-10.65688
5	4	2	-31.39787
5	4	3	-139.54208
5	4	4	-13.07176
5	5	1	34.39817
5	5	2	7.20286
5	5	3	-47.62032
5	5	4	-182.03265
5	5	5	119.34545
6	1	1	-58.74518
6	2	1	-3.46042
6	2	2	-55.36875
6	3	1	-9.23755
6	3	2	-6.17250
6	3	3	-145.55838
6	4	1	-15.20870
6	4	2	-10.04017
6	4	3	-50.73208
6	4	4	-126.90085
6	5	1	5.90251
6	5	2	2.69032
6	5	3	-14.23214
6	5	4	-9.51512
6	5	5	-219.69675
6	6	1	20.64851
6	6	2	6.62924
6	6	3	-13.90656
6	6	4	-6.93321
6	6	5	-85.71001
6	6	6	-144.20989
7	1	1	20.05726
7	2	1	-9.61550
7	2	2	-3.08983

I	J	K	FI(I,J,K)
24	17	9	36.86225
24	18	1	8.67710
24	18	2	-4.16742
24	18	3	-13.86587
24	18	4	36.72155
24	18	5	3.02876
24	18	6	7.35759
24	18	7	-57.95572
24	18	8	43.83244
24	18	9	-15.97230
24	19	1	31.51510
24	19	2	24.69839
24	19	3	-4.41193
24	19	4	-23.03301
24	19	5	20.34325
24	19	6	-18.27203
24	19	7	5.56391
24	19	8	8.35460
24	19	9	18.11512
24	20	1	-29.65881
24	20	2	25.21231
24	20	3	11.38172
24	20	4	-36.35149
24	20	5	8.01704
24	20	6	-8.60607
24	20	7	-15.76698
24	20	9	8.09309
24	21	1	3.73092
24	21	2	-37.14058
24	21	3	-5.90870
24	21	4	8.03485
24	21	5	-13.88723
24	21	6	-5.21838
24	21	7	-3.41360
24	21	8	0.51960
24	21	9	-6.99179
24	22	1	-5.30262
24	22	2	-66.41314
24	22	3	2.18731
24	22	4	-13.22123
24	22	5	1.08635
24	22	6	-5.07516
24	22	7	3.23295
24	22	8	9.22072
24	22	9	6.47774
24	23	1	-55.42792
24	23	2	-17.80576
24	23	3	-2.70745
24	23	4	11.78751
24	23	5	2.52232
24	23	6	-9.86953
24	23	7	3.27725
24	23	8	-23.45241
24	23	9	4.12693
24	24	1	31.60195
24	24	2	34.11737
24	24	3	16.66465
24	24	4	2.34358
24	24	5	-2.11857
24	24	6	-4.00350
24	24	7	-1.23256
24	24	8	9.53367

I	J	K	L	FI(I,J,K,L)
1	1	1	1	221.10900
2	1	1	1	-70.63778
2	2	1	1	63.45086
2	2	2	1	72.09114
2	2	2	2	227.62475
3	1	1	1	17.62710
3	2	1	1	-10.02277
3	2	2	1	-2.82271
3	2	2	2	-17.96908
3	3	1	1	-11.30744
3	3	2	1	3.95946
3	3	2	2	-1.97113
3	3	3	1	-15.58786
3	3	3	2	5.12247
3	3	3	3	49.95161
4	1	1	1	-18.79577
4	2	1	1	5.13672
4	2	2	1	-6.43110
4	2	2	2	-6.39681
4	3	1	1	1.74509
4	3	2	2	2.11328

I	J	K	L	FI(I,J,K,L)
13	13	13	11	4.96428
13	13	13	12	2.59283
13	13	13	13	46.52253
14	14	1	1	-54.08337
14	14	2	1	-18.07776
14	14	2	2	-95.90422
14	14	3	1	-1.99193
14	14	3	2	3.64214
14	14	3	3	-3.67622
14	14	4	1	1.75069
14	14	4	2	0.86840
14	14	4	3	-0.81884
14	14	4	4	-1.21011
14	14	5	1	1.77323
14	14	5	2	-1.57882
14	14	5	3	-2.33947
14	14	5	4	1.12583
14	14	5	5	-5.19709
14	14	6	1	-2.47769
14	14	6	2	-2.73939
14	14	6	3	1.96919
14	14	6	4	1.13363
14	14	6	5	0.27755
14	14	6	6	-2.98394
14	14	7	1	-0.51468
14	14	7	2	-1.62720
14	14	7	3	-1.03494
14	14	7	4	-8.29055
14	14	7	5	2.45050
14	14	7	6	2.00531
14	14	7	7	12.30721
14	14	8	1	-2.24654
14	14	8	2	-0.43377
14	14	8	3	-2.53699
14	14	8	4	0.69459
14	14	8	5	1.90846
14	14	8	6	1.35281
14	14	8	7	-1.19337
14	14	8	8	4.65928
14	14	9	1	0.16635
14	14	9	2	-1.50139
14	14	9	3	1.38228
14	14	9	4	0.56330
14	14	9	5	-1.83477
14	14	9	6	-0.29547
14	14	9	7	-2.61984
14	14	9	8	-3.60754
14	14	9	9	2.18893
14	14	10	10	52.76779
14	14	11	10	3.57171
14	14	11	11	44.24946
14	14	12	10	27.22191
14	14	12	11	28.02065
14	14	12	12	42.07747
14	14	13	10	-18.28204
14	14	13	11	5.96774
14	14	13	12	-13.98028
14	14	13	13	16.07984
14	14	14	14	59.40529
15	14	1	1	-69.26337
15	14	2	2	67.72613
15	14	3	3	2.56115
15	14	4	4	-3.73690
15	14	5	5	3.75429
15	14	6	6	0.48371
15	14	7	7	-12.92356
15	14	8	8	12.60044
15	14	9	9	5.35486
15	14	10	10	15.66928
15	14	11	11	16.96064
15	14	12	12	-37.35749
15	14	13	13	15.13446
15	14	14	14	-18.09998
15	15	1	1	-166.99584
15	15	2	1	33.14236
15	15	2	2	-92.84654
15	15	3	1	-9.57866
15	15	3	2	8.24285
15	15	3	3	1.21029
15	15	4	1	11.88444
15	15	4	2	-2.45653
15	15	4	3	0.64775
15	15	4	4	-0.55106
15	15	5	1	5.11073
15	15	5	2	-4.14905
15	15	5	3	-3.13825

I	J	K	L	FI(I,J,K,L)
21	21	7	2	-0.79320
21	21	7	3	-0.57720
21	21	7	4	-3.28557
21	21	7	5	-0.43522
21	21	7	6	1.00151
21	21	7	7	5.20971
21	21	8	1	0.20233
21	21	8	2	-0.38728
21	21	8	3	-1.03187
21	21	8	4	0.71099
21	21	8	5	0.63827
21	21	8	6	0.47102
21	21	8	7	-0.37261
21	21	8	8	1.20085
21	21	9	2	0.43481
21	21	9	3	-0.74632
21	21	9	4	-0.24748
21	21	9	5	0.56696
21	21	9	6	0.55751
21	21	9	7	-0.20439
21	21	9	8	-1.12822
21	21	9	9	-1.02054
21	21	10	10	1.70162
21	21	11	10	0.66161
21	21	12	10	0.99494
21	21	12	11	1.05469
21	21	12	12	-2.29459
21	21	13	10	-1.08800
21	21	13	11	0.23881
21	21	13	12	-1.72075
21	21	13	13	-4.61007
21	21	14	14	0.58856
21	21	15	14	-0.27913
21	21	15	15	-1.19020
21	21	16	16	-5.42689
21	21	17	17	-10.71181
21	21	18	17	-6.41229
21	21	18	18	-11.86169
21	21	19	17	1.30705
21	21	19	18	2.29402
21	21	19	19	-9.03230
21	21	20	17	1.01676
21	21	20	18	1.01220
21	21	20	19	-3.54793
21	21	20	20	-4.02430
21	21	21	17	-0.14370
21	21	21	18	0.18866
21	21	21	20	1.16851
21	21	21	21	-0.47391
22	17	1	1	5.81538
22	17	2	2	2.42136
22	17	3	3	-2.04914
22	17	4	4	-0.94167
22	17	5	5	-0.53715
22	17	6	6	-0.20201
22	17	7	7	-0.44162
22	17	9	9	0.14298
22	17	10	10	-0.52702
22	17	11	11	-1.09005
22	17	12	12	-0.19154
22	17	14	14	-0.20836
22	17	15	15	-1.34150
22	17	16	16	-0.26609
22	17	17	17	3.28754
22	18	1	1	-4.88698
22	18	2	2	-2.01199
22	18	3	3	0.50117
22	18	4	4	-2.42854
22	18	5	5	-0.88996
22	18	6	6	-0.91918
22	18	7	7	0.09424
22	18	8	8	0.71103
22	18	9	9	0.41394
22	18	10	10	0.65387
22	18	11	11	2.28155
22	18	12	12	-0.25707
22	18	13	13	1.34718
22	18	14	14	-0.39339
22	18	15	15	2.85917
22	18	16	16	0.78633
22	18	17	17	-0.80317
22	18	18	17	2.46878
22	18	18	18	-3.80854
22	19	1	1	-3.95488
22	19	2	2	25.35308
22	19	3	3	0.11724

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
7	3	1	-11.45474	4	3	3	1	5.39362	15	15	5	5	-1.32873	22	19	4	4	-0.69708
7	3	2	12.88756	4	3	3	2	-1.96378	15	15	6	1	-10.70342	22	19	5	5	11.24074
7	3	3	53.09408	4	3	3	3	-5.76900	15	15	6	2	-1.11711	22	19	6	6	-1.02473
7	4	1	-21.99480	4	4	1	1	-3.95817	15	15	6	3	-1.96360	22	19	7	7	-10.86854
7	4	2	-71.63248	4	4	2	1	-11.08228	15	15	6	4	0.18656	22	19	8	8	2.55892
7	4	3	-6.52084	4	4	2	2	-30.66462	15	15	6	5	1.42176	22	19	9	9	0.74618
7	4	4	8.19511	4	4	3	1	2.76164	15	15	6	6	-0.68190	22	19	10	10	-0.47431
7	5	1	10.59619	4	4	3	2	3.86404	15	15	7	1	3.93914	22	19	11	11	-1.91380
7	5	2	2.73444	4	4	3	3	13.72771	15	15	7	3	-0.86367	22	19	12	12	-4.34689
7	5	3	-84.35144	4	4	4	1	1.15057	15	15	7	4	-6.57464	22	19	13	13	1.74050
7	5	4	-41.46769	4	4	4	2	4.00665	15	15	7	5	1.24275	22	19	14	14	-3.04401
7	5	5	-64.13324	4	4	4	3	8.58862	15	15	7	6	1.56295	22	19	15	15	-1.15679
7	6	1	-1.60469	4	4	4	4	5.90888	15	15	7	7	12.17885	22	19	16	16	-8.44054
7	6	2	5.92761	5	1	1	1	-7.88276	15	15	8	1	-1.66008	22	19	17	17	9.05533
7	6	3	-24.37001	5	2	1	1	3.53731	15	15	8	2	-0.22639	22	19	18	18	12.18959
7	6	4	-52.74863	5	2	2	1	-1.26635	15	15	8	3	-9.44367	22	19	19	17	-1.50186
7	6	5	-27.29258	5	2	2	2	1.10411	15	15	8	4	1.73615	22	19	19	18	-4.50252
7	6	6	-11.37125	5	3	1	1	5.70177	15	15	8	5	5.89798	22	19	19	19	5.98808
7	7	1	59.31469	5	3	3	1	8.17866	15	15	8	6	3.62658	22	20	1	1	20.93314
7	7	2	145.19418	5	3	3	2	-4.96214	15	15	8	7	2.10199	22	20	2	2	10.78879
7	7	3	-4.91192	5	3	3	3	-29.54815	15	15	8	8	24.62297	22	20	4	4	1.23805
7	7	4	-3.55712	5	4	1	1	-0.27061	15	15	9	1	1.17675	22	20	5	5	7.61090
7	7	5	-8.81431	5	4	2	2	2.44102	15	15	9	2	-1.83036	22	20	6	6	0.35018
7	7	6	-32.82692	5	4	3	3	2.73074	15	15	9	3	8.93607	22	20	7	7	-2.93359
7	7	7	-9.66546	5	4	4	1	-0.26656	15	15	9	4	0.50639	22	20	8	8	-6.51854
8	1	1	-3.08477	5	4	4	2	-0.37615	15	15	9	5	-5.75359	22	20	9	9	-4.93643
8	2	1	-1.46263	5	4	4	3	5.83886	15	15	9	6	-2.81775	22	20	10	10	-2.46640
8	2	2	-6.65092	5	4	4	4	-1.81064	15	15	9	7	-4.14397	22	20	11	11	-3.53821
8	3	1	-40.71898	5	5	1	1	-3.74966	15	15	9	8	-18.11875	22	20	12	12	-1.83290
8	3	2	18.68488	5	5	2	1	0.61851	15	15	9	9	10.65157	22	20	14	14	-2.95913
8	3	3	-53.88388	5	5	2	2	-2.26381	15	15	10	10	71.13966	22	20	15	15	-5.34974
8	4	1	8.02205	5	5	3	1	-5.07263	15	15	11	10	-49.89537	22	20	16	16	-6.79471
8	4	2	8.01324	5	5	3	2	3.01595	15	15	11	11	105.56268	22	20	17	17	16.91029
8	4	3	25.57539	5	5	3	3	32.25405	15	15	12	10	30.91445	22	20	18	18	15.52372
8	4	4	31.56256	5	5	4	1	1.11341	15	15	12	11	17.77577	22	20	19	19	8.47305
8	5	1	25.03214	5	5	4	2	-3.84760	15	15	12	12	36.47965	22	20	20	17	-0.42792
8	5	2	-8.39102	5	5	4	3	0.56567	15	15	13	10	-56.80544	22	20	20	18	-0.63553
8	5	3	61.52082	5	5	4	4	36.64417	15	15	13	11	48.42666	22	20	20	19	5.32376
8	5	4	-16.33597	5	5	5	1	2.57280	15	15	13	12	-17.16409	22	20	20	20	6.62127
8	5	5	33.38562	5	5	5	2	0.49821	15	15	13	13	50.76683	22	21	1	1	-11.03279
8	6	1	21.34076	5	5	5	3	12.49958	15	15	14	14	78.33491	22	21	2	2	-29.69788
8	6	2	-14.22674	5	5	5	4	-20.01590	15	15	15	14	45.30529	22	21	3	3	3.02127
8	6	3	-23.97375	5	5	5	5	123.00577	15	15	15	15	191.90533	22	21	4	4	7.76825
8	6	4	4.01773	6	1	1	1	14.44686	16	14	1	1	34.51360	22	21	5	5	2.94861
8	6	5	29.59704	6	2	1	1	-2.73576	16	14	2	2	75.19676	22	21	6	6	1.63334
8	6	6	21.58790	6	2	2	1	7.71271	16	14	3	3	-3.95768	22	21	7	7	11.38453
8	7	1	10.60191	6	2	2	2	15.23947	16	14	4	4	-10.27834	22	21	8	8	3.00468
8	7	2	-16.49061	6	3	1	1	6.49375	16	14	5	5	-11.11440	22	21	9	9	2.57136
8	7	3	21.88768	6	3	2	2	0.74006	16	14	6	6	-4.72824	22	21	10	10	1.68246
8	7	4	10.42938	6	3	3	1	-5.16570	16	14	7	7	-12.24718	22	21	11	11	3.66948
8	7	5	-3.43762	6	3	3	2	2.83502	16	14	8	8	-4.90605	22	21	12	12	3.35354
8	7	6	5.31434	6	3	3	3	17.81739	16	14	9	9	-1.27473	22	21	13	13	1.68219
8	7	7	6.60601	6	4	1	1	-2.16188	16	14	10	10	-21.26994	22	21	14	14	4.44229
8	8	1	144.85306	6	4	2	2	1.79961	16	14	11	11	-33.84530	22	21	15	15	7.11438
8	8	2	-54.39891	6	4	3	3	-3.15782	16	14	12	12	-36.35632	22	21	16	16	2.32611
8	8	3	-21.52290	6	4	4	1	-2.25127	16	14	13	13	-5.25239	22	21	17	17	-19.19968
8	8	4	7.07091	6	4	4	2	-4.06698	16	14	14	14	-42.62392	22	21	18	18	-21.75017
8	8	5	8.42365	6	4	4	3	-4.51710	16	15	1	1	38.84298	22	21	19	19	5.97385
8	8	6	-17.19276	6	4	4	4	-1.43359	16	15	2	2	-56.12757	22	21	20	20	0.89561
8	8	7	11.90855	6	5	1	1	-3.68965	16	15	3	3	-2.14200	22	21	21	17	-0.10203
8	8	8	-16.07119	6	5	2	2	-0.76371	16	15	4	4	4.86915	22	21	21	18	-0.10541
9	1	1	1.45324	6	5	3	3	-1.58722	16	15	5	5	3.70611	22	21	21	19	-2.67574
9	2	1	-4.72434	6	5	4	4	11.66995	16	15	6	6	-0.90349	22	21	21	20	-1.50322
9	2	2	-15.72548	6	5	5	1	-2.18705	16	15	7	7	9.14389	22	21	21	21	3.53790
9	3	1	50.82845	6	5	5	2	-0.58554	16	15	8	8	-6.11212	22	22	1	1	-22.86805
9	3	2	-7.92822	6	5	5	3	12.49163	16	15	9	9	-1.94247	22	22	2	1	-16.25862
9	3	3	7.98708	6	5	5	4	19.31759	16	15	10	10	-2.32792	22	22	2	2	-59.63966
9	4	1	-2.54300	6	5	5	5	25.32086	16	15	11	11	-10.31689	22	22	3	1	-0.70164
9	4	2	22.28385	6	6	1	1	-0.27671	16	15	12	12	30.23930	22	22	3	2	1.76063
9	4	3	13.08396	6	6	2	1	1.01286	16	15	13	13	-11.26311	22	22	3	3	-1.34071
9	4	4	-10.66570	6	6	2	2	0.42729	16	15	14	14	22.72585	22	22	4	1	0.33850
9	5	1	-26.47053	6	6	3	1	1.09291	16	15	15	14	-52.78342	22	22	4	3	-2.90251
9	5	2	9.11072	6	6	3	2	0.86427	16	15	15	15	-20.28920	22	22	4	4	4.19313
9	5	3	3.76389	6	6	3	3	14.02322	16	16	1	1	-22.57351	22	22	5	2	-1.62376
9	5	4	-18.47489	6	6	4	1	2.28843	16	16	2	1	-15.92223	22	22	5	3	-0.31806
9	5	5	3.34079	6	6	4	2	1.38534	16	16	2	2	-57.73929	22	22	5	4	-6.41044
9	6	1	-15.23837	6	6	4	3	10.88901	16	16	3	1	-1.52762	22	22	5	5	-1.79801
9	6	2	-0.94768	6	6	4	4	16.04362	16	16	3	2	3.90360	22	22	6	1	-0.80593
9	6	3	-21.06061	6	6	5	1	-0.63775	16	16	3	3	-10.12822	22	22	6	2	-2.23058
9	6	4	-16.20805	6	6	5	2	-0.50962	16	16	4	1	0.77571	22	22	6	3	-2.79864
9	6	5	-4.15287	6	6	5	3	5.76730	16	16	4	2	2.39757	22	22	6	4	-1.45112
9	6	6	-3.53560	6	6	5	4	6.37969	16	16	4	4	-8.42016	22	22	6	5	-4.71719
9	7	1	-22.14057	6	6	5	5	33.90293	16	16	5	1	1.31280	22	22	6	6	-1.40747
9	7	2	-15.81753	6	6	6	1	-2.48582	16	16	5	2	-1.30740	22	22	7	1	-0.38508
9	7	3	4.97080	6	6	6	2	-0.89202	16	16	5	3	-5.34391	22	22	7	2	0.32943
9	7	4	-4.58299	6	6	6	3	3.98287	16	16	5	4	9.88416	22	22	7	3	-0.93663
9	7	5	2.83819	6	6	6	4	3.31174	16	16	5	5	-26.52817	22	22	7	4	-12.99789
9	7	6	-9.31565	6	6	6	5	19.79014	16	16	6	1	-1.15347	22	22	7	5	1.29008
9	7	7	-25.44492	6	6	6	6	20.12903	16	16	6	2	-2.38166	22	22	7	6	1.33973
9	8	1	-91.82189	7	1	1	1	-4.92837	16	16	6	3	7.38221	22	22	7	7	20.73015

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
9	8	2	38.68280	7	2	1	1	4.25647	16	16	6	4	0.95940	22	22	8	1	0.56984
9	8	3	-5.46503	7	2	2	1	1.72833	16	16	6	5	1.86951	22	22	8	2	-0.81781
9	8	4	13.48484	7	2	2	2	2.73823	16	16	6	6	-7.84295	22	22	8	3	-2.19568
9	8	5	5.40393	7	3	1	1	2.98637	16	16	7	1	-0.69214	22	22	8	4	1.86418
9	8	6	-9.93006	7	3	2	2	-3.13253	16	16	7	2	-1.43664	22	22	8	5	2.85738
9	8	7	7.17828	7	3	3	1	3.98843	16	16	7	4	-5.56998	22	22	8	6	0.87952
9	8	8	14.42086	7	3	3	2	-1.81379	16	16	7	5	5.05486	22	22	8	7	-1.05245
9	9	1	62.55625	7	3	3	3	-8.90677	16	16	7	7	2.54830	22	22	8	8	5.14877
9	9	2	-18.52330	7	4	1	1	7.19549	16	16	8	2	-1.17355	22	22	9	1	-0.46427
9	9	3	-6.31963	7	4	2	2	53.32005	16	16	8	3	-0.58226	22	22	9	2	0.95648
9	9	4	-8.98823	7	4	3	3	7.49052	16	16	8	4	0.52964	22	22	9	3	0.92959
9	9	5	-2.84039	7	4	4	1	-1.07520	16	16	8	5	-1.85427	22	22	9	4	2.09263
9	9	6	-10.79598	7	4	4	2	-2.34922	16	16	8	6	2.49600	22	22	9	5	-0.96343
9	9	7	1.71823	7	4	4	3	5.08857	16	16	8	7	-0.95735	22	22	9	6	-0.29781
9	9	8	-4.79573	7	4	4	4	-2.67474	16	16	8	8	-1.77577	22	22	9	7	-3.56471
9	9	9	-7.19013	7	5	1	1	-2.33693	16	16	9	1	-0.39451	22	22	9	8	-3.45324
10	10	1	108.22255	7	5	2	2	-3.57398	16	16	9	2	-2.31256	22	22	9	9	1.15075
10	10	2	21.45310	7	5	3	3	7.23994	16	16	9	3	-1.03747	22	22	10	10	3.57717
10	10	3	5.68221	7	5	4	4	4.62688	16	16	9	5	1.16715	22	22	11	10	2.09298
10	10	4	-12.71120	7	5	5	1	1.64755	16	16	9	6	1.76593	22	22	11	11	5.18818
10	10	5	-9.37841	7	5	5	2	-0.42899	16	16	9	7	-1.90396	22	22	12	10	5.42566
10	10	6	8.39552	7	5	5	3	1.62841	16	16	9	8	-2.07707	22	22	12	11	5.66176
10	10	7	0.43106	7	5	5	4	14.54223	16	16	9	9	2.31385	22	22	12	12	4.62437
10	10	9	-3.26589	7	5	5	5	9.10329	16	16	10	10	19.37610	22	22	13	10	-3.95123
11	10	1	-94.91887	7	6	1	1	-2.71210	16	16	11	10	10.85888	22	22	13	11	-0.48088
11	10	2	116.98489	7	6	2	2	-4.64964	16	16	11	11	26.32251	22	22	13	12	-2.29402
11	10	3	-14.63787	7	6	3	3	-3.17135	16	16	12	10	17.87131	22	22	13	13	-1.97195
11	10	4	15.43902	7	6	4	4	1.76872	16	16	12	11	17.19721	22	22	14	14	7.36600
11	10	5	-4.54850	7	6	5	5	11.00483	16	16	12	12	27.94505	22	22	15	14	-4.98560
11	10	7	2.04570	7	6	6	1	0.62970	16	16	13	10	-10.98414	22	22	15	15	8.11358
11	10	8	4.52175	7	6	6	2	0.11371	16	16	13	11	-3.12414	22	22	16	14	-7.63252
11	10	9	-5.13076	7	6	6	3	5.49427	16	16	13	12	-6.90935	22	22	16	15	3.92479
11	11	1	190.90958	7	6	6	4	7.79692	16	16	13	13	11.88627	22	22	16	16	-4.20024
11	11	2	26.67012	7	6	6	5	6.76293	16	16	14	14	37.15018	22	22	17	17	-39.50536
11	11	3	0.54551	7	6	6	6	3.43392	16	16	15	14	-21.07524	22	22	18	17	-24.27332
11	11	4	-1.48096	7	7	1	1	-13.81645	16	16	15	15	44.37981	22	22	18	18	-43.35958
11	11	5	-8.97777	7	7	2	1	-33.55499	16	16	16	14	-17.04766	22	22	19	17	1.05285
11	11	6	10.95219	7	7	2	2	-91.09288	16	16	16	15	15.48022	22	22	19	18	1.54188
11	11	7	-7.45162	7	7	3	1	0.36617	16	16	16	16	53.33090	22	22	19	19	3.86312
11	11	8	-15.45624	7	7	3	2	3.73660	17	17	1	1	150.89565	22	22	20	17	-1.00271
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12	10	1	54.09330	7	7	4	1	1.55429	17	17	2	2	136.95590	22	22	20	19	3.94277
12	10	2	92.44524	7	7	4	2	3.34651	17	17	3	1	6.68886	22	22	20	20	5.02282
12	10	3	-0.93534	7	7	4	3	1.91562	17	17	3	2	-12.92080	22	22	21	17	-0.53730
12	10	4	-6.05890	7	7	4	4	12.60732	17	17	3	3	-10.39245	22	22	21	18	0.14495
12	10	5	7.70319	7	7	5	1	-0.45367	17	17	4	1	-13.10685	22	22	21	19	-2.32970
12	10	6	-2.74898	7	7	5	2	-2.85794	17	17	4	2	-1.04867	22	22	21	20	-1.03925
12	10	7	5.54574	7	7	5	3	0.73583	17	17	4	3	3.45292	22	22	21	21	2.31934
12	10	8	2.34189	7	7	5	4	1.91102	17	17	4	4	-15.25278	22	22	22	17	0.31549
12	11	1	24.86551	7	7	5	5	5.57632	17	17	5	1	-3.83405	22	22	22	18	1.00862
12	11	2	126.90759	7	7	6	1	-1.91892	17	17	5	2	2.17748	22	22	22	19	-4.35197
12	11	3	1.40489	7	7	6	2	-4.71085	17	17	5	3	4.74554	22	22	22	20	-1.35022
12	11	4	-16.76109	7	7	6	3	1.45336	17	17	5	5	-4.08585	22	22	22	21	7.03128
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12	11	6	3.28643	7	7	6	6	3.92563	17	17	6	2	4.87475	23	17	1	1	0.78795
12	11	7	-2.53177	7	7	7	2	-0.28779	17	17	6	3	2.26363	23	17	2	2	-2.69560
12	11	8	1.76938	7	7	7	3	0.31084	17	17	6	4	-1.22745	23	17	3	3	3.16269
12	11	9	5.69365	7	7	7	4	-19.47470	17	17	6	5	-1.31037	23	17	4	4	1.07253
12	12	1	59.57718	7	7	7	5	5.68242	17	17	6	6	0.43647	23	17	5	5	1.71422
12	12	2	154.68073	7	7	7	6	3.44982	17	17	7	1	-0.81976	23	17	6	6	0.53637
12	12	3	3.15790	7	7	7	7	38.63498	17	17	7	2	5.24308	23	17	7	7	0.89018
12	12	4	1.49229	8	1	1	1	-3.41128	17	17	7	3	1.33092	23	17	10	10	-1.59506
12	12	5	9.74045	8	2	1	1	3.66872	17	17	7	4	27.80817	23	17	11	11	1.86523
12	12	6	13.25404	8	2	2	1	-1.39041	17	17	7	5	-3.43911	23	17	12	12	0.20894
12	12	7	9.82449	8	2	2	2	3.78606	17	17	7	6	-3.62590	23	17	13	13	-0.84740
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13	10	1	-120.54717	8	3	2	2	5.81518	17	17	8	1	3.68963	23	17	15	15	0.60859
13	10	2	8.86253	8	3	3	1	0.77125	17	17	8	2	1.22890	23	17	16	16	-0.25820
13	10	3	18.50686	8	3	3	2	0.89499	17	17	8	3	23.06525	23	17	17	17	4.25783
13	10	4	-39.47108	8	3	3	3	15.53749	17	17	8	4	-6.47080	23	18	1	1	1.94555
13	10	5	4.57540	8	4	1	1	-7.33743	17	17	8	5	-12.09010	23	18	2	2	-1.72505
13	10	6	10.58540	8	4	2	2	-5.48646	17	17	8	6	-7.85600	23	18	3	3	-3.82569
13	10	7	-7.20960	8	4	3	3	-2.91588	17	17	8	7	-2.08392	23	18	4	4	-0.64954
13	10	8	1.71665	8	4	4	1	-0.06468	17	17	8	8	-54.88164	23	18	5	5	-0.85632
13	10	9	2.21004	8	4	4	2	0.26895	17	17	9	1	-2.58508	23	18	6	6	0.42386
13	11	1	107.45439	8	4	4	3	2.18244	17	17	9	2	3.58545	23	18	10	10	0.22578
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13	11	3	-19.40497	8	5	1	1	-20.18846	17	17	9	4	-1.47710	23	18	13	13	1.32596
13	11	4	-42.05010	8	5	2	2	-2.76276	17	17	9	5	7.62825	23	18	14	14	0.70974
13	11	5	39.96065	8	5	3	3	-10.49338	17	17	9	6	4.63128	23	18	15	15	1.88899
13	11	6	-5.44329	8	5	4	4	-4.46843	17	17	9	7	10.41414	23	18	17	17	-3.19793
13	11	7	5.30097	8	5	5	1	0.41905	17	17	9	8	30.94650	23	18	18	17	-0.39014
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13	12	7	19.56844	8	6	3	3	3.15559	17	17	12	12	-45.96276	23	19	6	6	6.28172
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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13	13	3	69.38209	8	6	6	3	0.89646	17	17	14	14	-72.57253	23	19	11	11	-2.60890
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13	13	5	-17.12334	8	6	6	5	-5.59145	17	17	15	15	-133.18795	23	19	13	13	-1.68863
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13	13	9	-5.76493	8	7	3	3	-3.49275	17	17	17	17	144.93826	23	19	17	17	19.13723
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16	14	3	-26.49037	8	8	6	6	2.66441	18	18	5	3	4.61506	23	21	3	3	0.27502
16	14	4	-3.07411	8	8	7	1	1.43264	18	18	5	4	1.28706	23	21	5	5	0.31864
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16	14	9	-4.99425	8	8	7	7	2.85872	18	18	6	4	0.74868	23	21	10	10	-0.84558
16	15	1	-50.14444	8	8	8	1	-2.30422	18	18	6	5	-1.97562	23	21	11	11	-1.23543
16	15	2	162.04723	8	8	8	2	0.31465	18	18	6	6	-0.60844	23	21	12	12	1.64500
16	15	3	-39.35055	8	8	8	3	-12.68010	18	18	7	1	-1.77954	23	21	13	13	0.72816
16	15	4	-12.90033	8	8	8	4	0.47404	18	18	7	2	1.80662	23	21	14	14	0.86704
16	15	5	24.87932	8	8	8	5	7.94240	18	18	7	4	32.48488	23	21	15	15	-1.98005
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16	15	9	13.67484	9	1	1	1	-0.74427	18	18	8	1	-0.41210	23	21	19	19	0.98661
16	16	1	69.40325	9	2	2	1	2.83502	18	18	8	2	3.12905	23	21	20	20	1.23045
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16	16	4	-10.19514	9	3	2	2	-2.58465	18	18	8	5	-10.37875	23	21	21	19	-0.42746
16	16	5	-39.64555	9	3	3	1	-2.32693	18	18	8	6	-6.60526	23	21	21	20	1.83587
16	16	6	61.49341	9	3	3	2	3.18019	18	18	8	7	-0.83623	23	21	21	21	-0.20402
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16	16	8	-23.88456	9	4	1	1	2.41320	18	18	9	1	0.39265	23	22	2	2	-26.56774
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17	15	12	85.94182	9	5	1	1	11.73292	18	18	9	8	27.21356	23	22	10	10	-0.50297
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17	16	10	116.87657	9	5	3	3	-2.69737	18	18	10	10	-49.65281	23	22	12	12	3.00337
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17	16	12	102.71245	9	5	5	1	-0.20840	18	18	11	11	-75.56883	23	22	14	14	2.32035
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17	17	4	55.87516	9	6	1	1	7.66545	18	18	13	11	-21.59405	23	22	19	19	-1.72821
17	17	5	3.44510	9	6	2	2	1.83280	18	18	13	12	19.22211	23	22	20	20	-4.93844
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17	17	7	8.10909	9	6	4	4	2.84499	18	18	14	14	-77.75170	23	22	22	17	-0.14937
17	17	8	-4.10670	9	6	5	5	-0.88277	18	18	15	14	5.61131	23	22	22	18	-0.17592
17	17	9	0.44179	9	6	6	1	0.99031	18	18	15	15	-127.69912	23	22	22	19	-5.47195
18	14	10	-12.98676	9	6	6	2	0.54217	18	18	16	14	57.40872	23	22	22	20	0.32294
18	14	11	-175.03026	9	6	6	3	3.67133	18	18	16	15	-12.96768	23	22	22	21	2.32943
18	14	12	-116.64886	9	6	6	4	1.93477	18	18	16	16	-41.76547	23	22	22	22	4.08569
18	14	13	-20.93487	9	6	6	5	-0.32491	18	18	17	17	145.57088	23	23	1	1	-66.41080
18	15	10	203.91562	9	6	6	6	-0.22927	18	18	18	17	10.00709	23	23	2	1	18.72405
18	15	11	-77.49489	9	7	1	1	7.61853	18	18	18	18	149.47364	23	23	2	2	-26.80944

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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18	15	13	-154.02541	9	7	3	3	0.14280	19	17	2	2	-9.80163	23	23	3	2	1.43879
18	16	10	28.84919	9	7	4	4	-1.78949	19	17	4	4	3.16729	23	23	3	3	4.00806
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21	20	6	-6.22744	11	11	8	4	1.15899	20	19	18	18	2.52902	24	20	20	19	1.32442
21	20	7	-16.73851	11	11	8	5	2.58451	20	19	19	17	-7.23733	24	20	20	20	-0.21605
21	20	8	9.57163	11	11	8	6	1.81636	20	19	19	18	-1.21745	24	21	1	1	-2.86363
21	20	9	3.47859	11	11	8	7	1.16876	20	19	19	19	1.67931	24	21	2	2	15.46510
21	21	1	7.01454	11	11	8	8	9.56682	20	20	1	1	-26.50994	24	21	3	3	5.72828
21	21	2	9.71400	11	11	9	1	-0.29544	20	20	2	1	9.90623	24	21	4	4	-2.70008
21	21	3	-2.03873	11	11	9	2	-0.64146	20	20	2	2	-5.42860	24	21	5	5	-2.56381
21	21	4	6.78943	11	11	9	3	3.42748	20	20	3	1	1.65094	24	21	6	6	0.24861
21	21	5	-1.79846	11	11	9	4	1.03940	20	20	3	2	-2.10732	24	21	7	7	-7.45805
21	21	6	-21.35474	11	11	9	5	-4.42609	20	20	3	3	-3.51095	24	21	8	8	2.25620
21	21	7	-18.81567	11	11	9	6	-1.87285	20	20	4	1	2.14328	24	21	9	9	1.21014
21	21	8	-3.37482	11	11	9	7	-2.44007	20	20	4	2	-2.28390	24	21	10	10	-1.03398
21	21	9	-8.89312	11	11	9	8	-8.37758	20	20	4	3	-3.11255	24	21	11	11	-0.20260
22	14	10	-4.59358	11	11	9	9	4.85065	20	20	4	4	14.20833	24	21	12	12	-3.25540
22	14	11	-7.39829	11	11	10	10	66.19518	20	20	5	1	-1.87847	24	21	13	13	1.38109
22	14	12	-3.09724	11	11	11	10	-24.67491	20	20	5	2	1.74795	24	21	14	14	-2.12445
22	14	13	-5.27749	11	11	11	11	69.60308	20	20	5	3	4.95049	24	21	15	15	1.12833
22	15	10	6.88781	12	10	1	1	-15.44959	20	20	5	4	-22.02713	24	21	16	16	-2.25163
22	15	11	3.83430	12	10	2	2	-54.11224	20	20	5	5	19.07109	24	21	17	17	4.90844
22	15	12	-7.03321	12	10	3	3	5.93127	20	20	6	1	-2.09872	24	21	18	18	6.67940
22	15	13	14.26853	12	10	4	4	6.33564	20	20	6	2	0.28370	24	21	19	19	-1.05545
22	16	10	-3.07502	12	10	5	5	9.08983	20	20	6	3	-6.05128	24	21	20	20	-0.74075
22	16	11	-21.61412	12	10	6	6	2.90901	20	20	6	4	-0.91597	24	21	21	17	0.66811
22	16	12	9.35483	12	10	7	7	9.37998	20	20	6	5	-5.62775	24	21	21	18	1.11602
22	16	13	11.84996	12	10	8	8	2.42690	20	20	6	6	4.42896	24	21	21	19	0.29512
22	17	1	-14.06168	12	10	9	9	1.35378	20	20	7	1	0.33597	24	21	21	20	0.28676
22	17	2	4.22286	12	10	10	10	-3.42018	20	20	7	2	0.57366	24	21	21	21	-3.19342

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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22	17	5	-3.40881	12	11	3	3	-1.25620	20	20	7	6	-1.38272	24	22	3	3	-1.02442
22	17	6	0.29831	12	11	4	4	5.58769	20	20	7	7	1.56928	24	22	4	4	-3.03546
22	17	7	74.81282	12	11	5	5	6.33778	20	20	8	1	-1.00625	24	22	5	5	3.98826
22	17	8	-50.60059	12	11	6	6	1.40783	20	20	8	2	1.00288	24	22	6	6	1.37372
22	17	9	17.25228	12	11	7	7	10.09353	20	20	8	3	-1.89552	24	22	7	7	-15.42927
22	18	1	12.45930	12	11	8	8	-0.47534	20	20	8	5	7.48892	24	22	8	8	4.64295
22	18	2	-4.29994	12	11	9	9	-1.13491	20	20	8	6	-0.72583	24	22	9	9	1.95723
22	18	3	-17.69885	12	11	10	10	11.00292	20	20	8	7	1.09060	24	22	10	10	-1.22552
22	18	4	-47.46107	12	11	11	10	16.91926	20	20	8	8	7.71513	24	22	11	11	-2.02684
22	18	5	14.29371	12	11	11	11	13.73039	20	20	9	1	2.92419	24	22	12	12	-5.49604
22	18	6	14.33124	12	12	1	1	-13.79533	20	20	9	2	1.76097	24	22	13	13	-0.54656
22	18	7	88.94141	12	12	2	1	-31.56557	20	20	9	3	9.06975	24	22	14	14	-4.85871
22	18	8	31.75352	12	12	2	2	-86.16752	20	20	9	4	2.89228	24	22	15	15	-2.81047
22	18	9	-42.26811	12	12	3	1	1.72014	20	20	9	5	1.53381	24	22	16	16	-2.54188
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22	19	3	14.62477	12	12	3	3	-6.74270	20	20	9	7	1.01863	24	22	18	18	14.12017
22	19	4	-26.91571	12	12	4	1	1.18772	20	20	9	8	-6.11671	24	22	19	19	-2.12854
22	19	5	69.89827	12	12	4	2	3.81872	20	20	9	9	-0.19516	24	22	20	20	1.22121
22	19	6	-6.38729	12	12	4	3	-1.97927	20	20	10	10	-3.70353	24	22	21	21	-0.26921
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22	19	8	-1.36913	12	12	5	1	-0.95009	20	20	11	11	-1.34494	24	22	22	19	5.79146
22	19	9	0.59704	12	12	5	2	-2.19583	20	20	12	10	2.00182	24	22	22	20	-0.23177
22	20	1	-30.69546	12	12	5	3	-4.34610	20	20	12	11	1.56793	24	22	22	21	-4.79961
22	20	2	6.59291	12	12	5	4	-3.79828	20	20	12	12	-3.08577	24	22	22	22	-8.07988
22	20	3	36.31495	12	12	5	5	-15.02910	20	20	13	10	-1.61410	24	23	1	1	26.87496
22	20	4	-12.38382	12	12	6	1	-1.62422	20	20	13	11	4.15029	24	23	2	2	20.93452
22	20	5	63.35987	12	12	6	2	-4.67749	20	20	13	12	-0.85194	24	23	3	3	-2.70506
22	20	6	-15.62008	12	12	6	3	-2.64340	20	20	13	13	-4.58510	24	23	4	4	-3.13518
22	20	7	-20.80748	12	12	6	4	-3.78783	20	20	14	14	-4.64468	24	23	5	5	-1.12042
22	20	8	7.73974	12	12	6	5	-6.18352	20	20	15	14	3.84874	24	23	6	6	-0.76786
22	20	9	5.38978	12	12	6	6	-5.81768	20	20	15	15	2.39319	24	23	7	7	-10.49979
22	21	1	27.94260	12	12	7	1	-0.60300	20	20	16	14	-7.27261	24	23	8	8	-11.94704
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22	21	4	-4.62839	12	12	7	4	-7.20314	20	20	17	17	-16.34662	24	23	11	11	-5.93468
22	21	5	10.99043	12	12	7	5	-3.32535	20	20	18	17	14.05310	24	23	12	12	-3.37475
22	21	7	-16.33770	12	12	7	6	-2.48464	20	20	18	18	-14.84864	24	23	13	13	-2.37317
22	21	8	-3.04169	12	12	7	7	8.33668	20	20	19	17	2.31779	24	23	14	14	-4.77826
22	21	9	-2.75890	12	12	8	2	-1.01621	20	20	19	18	-3.80611	24	23	15	15	-11.96579
22	22	1	49.91580	12	12	8	3	-0.15607	20	20	19	19	26.04799	24	23	16	16	-2.86887
22	22	2	76.05298	12	12	8	4	1.89529	20	20	20	17	-1.60560	24	23	17	17	24.35720
22	22	3	26.33839	12	12	8	5	0.94215	20	20	20	18	2.16179	24	23	18	18	24.35117
22	22	4	-1.59801	12	12	8	6	0.73670	20	20	20	19	11.33261	24	23	19	19	-1.16193
22	22	5	39.57836	12	12	8	7	-0.29948	20	20	20	20	11.81298	24	23	20	20	-3.15987
22	22	6	-17.49297	12	12	8	8	-1.17011	21	17	1	1	-3.37437	24	23	21	21	-2.46841
22	22	7	-2.81436	12	12	9	1	-0.53757	21	17	2	2	9.38096	24	23	22	22	-6.29959
22	22	8	9.22517	12	12	9	2	-1.74114	21	17	3	3	-0.79350	24	23	23	17	-0.12471
22	22	9	-8.89139	12	12	9	3	-0.67673	21	17	4	4	-2.86573	24	23	23	18	-1.01232
23	14	10	-4.46531	12	12	9	4	1.67667	21	17	5	5	1.28472	24	23	23	19	2.75260
23	14	11	3.36566	12	12	9	5	-1.71739	21	17	7	7	-1.70869	24	23	23	20	-4.33501
23	14	12	-8.00424	12	12	9	6	-1.06106	21	17	8	8	-0.16252	24	23	23	21	0.23350
23	14	13	6.67520	12	12	9	7	-2.72623	21	17	9	9	-0.40066	24	23	23	22	0.33713
23	15	10	0.82427	12	12	9	8	-0.26516	21	17	10	10	-0.20700	24	23	23	23	-12.96746
23	15	11	-15.02326	12	12	9	9	-1.63813	21	17	12	12	-3.09829	24	24	1	1	-12.87541
23	15	12	-5.26769	12	12	10	10	26.12797	21	17	13	13	2.36654	24	24	2	1	-3.43773
23	15	13	28.84396	12	12	11	10	18.95735	21	17	14	14	-1.43517	24	24	2	2	-21.34071
23	16	10	8.69171	12	12	11	11	25.38221	21	17	15	15	0.54756	24	24	3	1	1.39924
23	16	11	11.32910	12	12	12	10	24.53248	21	17	16	16	-2.64007	24	24	3	2	-0.18890
23	16	12	-3.95549	12	12	12	11	29.35539	21	17	17	17	2.00777	24	24	3	3	-11.20247
23	16	13	16.08317	12	12	12	12	38.91711	21	18	1	1	6.24530	24	24	4	2	0.60623
23	17	1	6.22581	13	10	1	1	48.54010	21	18	2	2	10.00316	24	24	4	3	-0.67537
23	17	2	6.58887	13	10	2	2	21.58749	21	18	3	3	2.84520	24	24	4	4	-1.03804
23	17	3	-30.82337	13	10	3	3	-16.82264	21	18	4	4	-1.68085	24	24	5	1	-0.68802
23	17	4	-4.45249	13	10	4	4	-2.45326	21	18	5	5	2.91709	24	24	5	2	-0.33150
23	17	5	19.67530	13	10	5	5	-2.42094	21	18	6	6	0.12082	24	24	5	3	1.61313
23	17	6	5.40605	13	10	6	6	-3.77406	21	18	7	7	-1.20996	24	24	5	4	-2.46823
23	17	7	59.82490	13	10	7	7	-4.93748	21	18	8	8	0.28588	24	24	5	5	-7.94232
23	17	8	94.23663	13	10	8	8	-9.99075	21	18	9	9	0.14331	24	24	6	1	-0.58395
23	17	9	-66.42933	13	10	9	9	-4.61341	21	18	10	10	-1.29923	24	24	6	2	-1.04200
23	18	1	1.61840	13	10	10	10	31.46304	21	18	11	11	-0.87872	24	24	6	3	-3.38495
23	18	2	6.42421	13	11	1	1	-57.17205	21	18	12	12	-3.06014	24	24	6	4	-1.26425
23	18	3	35.47625	13	11	2	2	9.43951	21	18	13	13	-0.47599	24	24	6	5	-1.73837
23	18	4	-28.03930	13	11	3	3	12.30966	21	18	14	14	-2.32183	24	24	6	6	-2.16434
23	18	5	-17.34146	13	11	4	4	2.55008	21	18	15	15	-2.99218	24	24	7	2	0.21122
23	18	6	-9.20112	13	11	5	5	10.45697	21	18	16	16	-2.96489	24	24	7	3	0.69456
23	18	7	36.43265	13	11	6	6	3.16885	21	18	17	17	9.39055	24	24	7	4	-7.57519
23	18	8	-91.56689	13	11	7	7	-1.49707	21	18	18	17	2.83213	24	24	7	5	-0.87545
23	18	9	55.18464	13	11	8	8	9.43834	21	18	18	18	8.22383	24	24	7	6	0.26847
23	19	1	-19.16206	13	11	9	9	4.26978	21	19	1	1	-2.45909	24	24	7	7	11.03628
23	19	2	-4.73145	13	11	10	10	9.57218	21	19	2	2	13.11296	24	24	8	1	0.26826
23	19	3	33.42538	13	11	11	10	-29.74648	21	19	3	3	-0.76786	24	24	8	2	-0.42728
23	19	4	78.27198	13	11	11	11	22.32042	21	19	4	4	5.23490	24	24	8	3	-3.14484
23	19	5	-58.93475	13	12	1	1	11.62367	21	19	5	5	1.17354	24	24	8	4	1.19590
23	19	6	-44.14287	13	12	2	2	25.66152	21	19	6	6	1.61831	24	24	8	5	3.39582
23	19	7	22.87477	13	12	3	3	2.83198	21	19	7	7	-4.77824	24	24	8	6	0.27170
23	19	8	14.63237	13	12	4	4	-5.64469	21	19	8	8	2.25710	24	24	8	7	0.99110
23	19	9	11.26340	13	12	5	5	-10.56040	21	19	9	9	-0.93024	24	24	8	8	4.05219
23	20	1	49.88475	13	12	6	6	-5.03243	21	19	10	10	-1.62395	24	24	9	1	-0.35287

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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23	20	3	-40.13278	13	12	9	9	0.45912	21	19	12	12	-1.62439	24	24	9	3	1.31834
23	20	4	-16.45730	13	12	10	10	-9.89125	21	19	13	13	-0.38722	24	24	9	4	1.06156
23	20	5	4.10550	13	12	11	11	-10.42580	21	19	14	14	-1.60799	24	24	9	6	-0.90319
23	20	6	29.73623	13	12	12	10	-10.20075	21	19	16	16	-2.56868	24	24	9	7	-2.11685
23	20	7	-13.46277	13	12	12	11	-9.89993	21	19	17	17	4.78318	24	24	9	8	-3.46593
23	20	8	-10.01601	13	12	12	12	-9.69662	21	19	18	18	6.48403	24	24	9	9	3.25112
23	20	9	-14.02407	13	13	1	1	-43.21697	21	19	19	17	-1.22985	24	24	10	10	0.42088
23	21	1	-16.63294	13	13	2	1	13.40812	21	19	19	18	-0.71097	24	24	11	10	-0.54908
23	21	2	32.73730	13	13	2	2	-13.58271	21	19	19	19	5.84370	24	24	11	11	2.31098
23	21	3	11.40578	13	13	3	1	1.12578	21	20	1	1	11.04812	24	24	12	10	3.45376
23	21	4	4.72723	13	13	3	2	-2.39791	21	20	2	2	6.42311	24	24	12	11	2.70910
23	21	5	1.54838	13	13	3	3	-29.55921	21	20	3	3	-0.88058	24	24	12	12	2.07918
23	21	7	-3.05065	13	13	4	1	0.32147	21	20	4	4	6.24904	24	24	13	10	-3.31468
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23	21	9	-7.30825	13	13	4	3	-3.87258	21	20	6	6	0.82712	24	24	13	13	4.19674
23	22	1	-31.20773	13	13	4	4	-16.66251	21	20	7	7	0.82759	24	24	14	14	2.78393
23	22	2	60.60035	13	13	5	1	-1.42818	21	20	8	8	-2.91287	24	24	15	14	-2.18266
23	22	3	-4.06965	13	13	5	2	0.95157	21	20	9	9	-1.09898	24	24	15	15	5.91724
23	22	4	-9.79464	13	13	5	3	3.21945	21	20	10	10	-1.12449	24	24	16	14	-2.80169
23	22	5	-6.71073	13	13	5	4	-3.46095	21	20	11	11	-1.80658	24	24	16	16	-2.21811
23	22	6	0.83726	13	13	5	5	-24.38878	21	20	12	12	-1.52795	24	24	17	17	-15.98686
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23	23	1	117.88793	13	13	6	4	-3.47469	21	20	17	17	8.33659	24	24	19	19	-1.53446
23	23	2	-13.22874	13	13	6	5	-7.06107	21	20	18	18	8.44872	24	24	20	17	-1.29660
23	23	3	21.62158	13	13	6	6	-14.29872	21	20	19	19	2.21417	24	24	20	18	-0.23549
23	23	4	27.97548	13	13	7	2	0.96567	21	20	20	17	2.47734	24	24	20	20	-0.19959
23	23	5	-14.31672	13	13	7	4	-4.16445	21	20	20	18	0.81889	24	24	21	17	0.29431
23	23	6	-24.63568	13	13	7	5	-8.34051	21	20	20	19	1.71943	24	24	21	20	-1.09675
23	23	7	26.70420	13	13	7	6	-1.87223	21	20	20	20	-6.10254	24	24	21	21	-1.39372
23	23	8	7.87544	13	13	7	7	-4.89016	21	21	1	1	-6.83154	24	24	22	19	-2.98719
23	23	9	6.26367	13	13	8	1	0.40636	21	21	2	1	-3.98065	24	24	22	20	-1.35844
24	14	10	4.02255	13	13	8	2	-0.50242	21	21	2	2	-16.17133	24	24	22	21	5.38399
24	14	11	1.82994	13	13	8	3	-7.21442	21	21	3	1	0.58939	24	24	22	22	5.92106
24	14	12	-1.32755	13	13	8	4	1.61621	21	21	3	2	-1.24624	24	24	23	17	0.27193
24	14	13	-3.82617	13	13	8	5	6.63318	21	21	3	3	-6.21524	24	24	23	18	0.33239
24	15	10	5.66165	13	13	8	7	2.59712	21	21	4	1	0.26925	24	24	23	19	-2.66839
24	15	11	4.22400	13	13	8	8	-2.06119	21	21	4	2	1.93766	24	24	23	20	1.49655
24	15	13	8.83905	13	13	9	1	1.08908	21	21	4	3	0.42974	24	24	23	21	1.15374
24	16	10	-4.35392	13	13	9	3	0.86090	21	21	4	4	-3.71206	24	24	23	22	2.35497
24	16	11	-4.09128	13	13	9	4	-0.56706	21	21	5	1	-1.04522	24	24	23	23	6.61480
24	16	12	2.08795	13	13	9	5	1.15440	21	21	5	2	-2.28064	24	24	24	17	-0.34254
24	16	13	11.05833	13	13	9	8	-4.61107	21	21	5	3	-1.69959	24	24	24	18	0.58225
24	17	1	-6.62970	13	13	9	9	-2.25039	21	21	5	4	4.07812	24	24	24	19	3.19530
24	17	2	3.73772	13	13	10	10	30.91093	21	21	5	5	-11.70426	24	24	24	20	0.55743
24	17	3	8.77105	13	13	11	10	-18.74849	21	21	6	1	0.37279	24	24	24	21	-1.88207
24	17	4	39.14348	13	13	11	11	27.51931	21	21	6	3	-0.24388	24	24	24	22	-3.79789
24	17	5	-10.76076	13	13	12	10	3.10070	21	21	6	4	-0.61636	24	24	24	23	-4.63628
24	17	6	-10.62285	13	13	12	11	-1.09967	21	21	6	5	-0.89907	24	24	24	24	8.06705
24	17	7	-57.94551	13	13	12	12	7.53907	21	21	6	6	-1.05654					
24	17	8	-39.58356	13	13	13	10	-9.23371	21	21	7	1	-0.57940					

Table S38: The quartic potential energy surface of Pyrazine. The calculation was done by using B3LYP/6-311++G(2d,2p) method. The force constant (FIs) are in cm^{-1} units.

I	J	FI(I,J)
1	1	3176.08814
2	2	1612.14157
3	3	1253.07407
4	4	1038.99428
5	5	615.06995
6	6	1005.85091
7	7	351.46148
8	8	944.94234
9	9	3156.26226
10	10	1518.68368
11	11	1164.79526
12	12	1037.75285
13	13	993.16846
14	14	778.39961
15	15	3170.19334
16	16	1445.53416
17	17	1208.13429
18	18	1089.51389
19	19	3155.11452
20	20	1575.70792
21	21	1378.75825
22	22	720.69536
23	23	803.60623
24	24	433.76816

I	J	K	FI(I,J,K)
1	1	1	-972.81427
2	1	1	-44.11559
2	2	1	91.14069
2	2	2	-120.60160
3	1	1	10.79162
3	2	1	-79.38117
3	2	2	-25.80729
3	3	1	121.58611
3	3	2	-9.67520
3	3	3	18.09526
4	1	1	20.47227
4	2	1	22.30109
4	2	2	157.72882
4	3	1	-44.78281
4	3	2	71.38025
4	3	3	64.84062
4	4	1	25.39190
4	4	2	-15.34264
4	4	3	10.24601
4	4	4	113.73222
5	1	1	-7.31528
5	2	1	-70.50828
5	2	2	5.88404
5	3	1	82.14521
5	3	2	8.56263
5	3	3	-22.13599
5	4	1	-27.00550
5	4	2	-23.34487
5	4	3	-7.70907
5	4	4	16.00177
5	5	1	48.97152
5	5	2	-33.29003
5	5	3	-15.80014
5	5	4	4.92275
5	5	5	-6.43581
6	6	1	322.07797
6	6	2	-16.32624
6	6	3	-15.63272
6	6	4	16.81824
6	6	5	-6.44769
7	6	1	269.87962
7	6	2	-40.42033
7	6	3	-8.19311
7	6	4	17.72391
7	6	5	-14.60285
7	7	1	201.68004
7	7	2	45.41130
7	7	3	3.29729
7	7	4	-77.09342
7	7	5	-36.50116
8	8	1	409.08564
8	8	2	2.04248
8	8	3	16.76819
8	8	4	0.46110
8	8	5	15.36755
9	8	6	365.31974
9	8	7	285.72674
9	9	1	-985.00206
9	9	2	-40.95226

I	J	K	FI(I,J,K)
23	20	6	-19.48348
23	20	7	16.77279
23	21	6	6.62780
23	21	7	21.16995
23	22	6	-7.36216
23	22	7	20.88517
23	23	1	521.71065
23	23	2	-7.16690
23	23	3	11.60115
23	23	4	-9.29001
23	23	5	-8.36496
24	13	9	-68.66218
24	13	10	39.37224
24	13	11	-16.02030
24	13	12	10.84001
24	14	9	-16.12906
24	14	10	-22.12704
24	14	11	-40.11031
24	14	12	-17.23457
24	15	8	-68.61270
24	16	8	-31.19556
24	17	8	-58.37750
24	18	8	9.18427
24	19	6	-65.40121
24	19	7	-51.33849
24	20	6	22.20977
24	20	7	-66.54924
24	21	6	23.39504
24	21	7	47.89546
24	22	6	-2.89596
24	22	7	3.63596
24	23	1	-76.18715
24	23	2	-57.13303
24	23	3	29.18663
24	23	4	-13.20787
24	23	5	-9.54679
24	24	1	11.71838
24	24	2	-55.06642
24	24	3	-51.20560
24	24	4	-65.01077

I	J	K	L	FI(I,J,K,L)
1	1	1	1	273.15460
2	1	1	1	13.74651
2	2	1	1	-40.80870
2	2	2	1	-7.12377
2	2	2	2	23.92325
3	1	1	1	-7.70337
3	2	1	1	53.87357
3	2	2	1	2.10767
3	2	2	2	5.13270
3	3	1	1	-73.48516
3	3	2	1	-2.04192
3	3	2	2	13.87224
3	3	3	1	-0.30592
3	3	3	2	-12.94007
3	3	3	3	26.87884
4	1	1	1	-4.23008
4	2	1	1	-17.84032
4	2	2	1	1.49034
4	2	2	2	-13.81484
4	3	1	1	23.40568
4	3	2	2	-6.77347
4	3	3	1	-0.16229
4	3	3	2	4.61467
4	3	3	3	-8.69546
4	4	1	1	-7.60275
4	4	2	1	-1.49312
4	4	2	2	18.01036
4	4	3	1	-0.34004
4	4	3	2	6.43905
4	4	3	3	8.91781
4	4	4	1	1.61035
4	4	4	2	-1.87125
4	4	4	3	-1.05254
4	4	4	4	11.18177
5	1	1	1	-0.22903
5	2	1	1	27.28959
5	2	2	1	1.92784
5	2	2	2	-16.36779
5	3	1	1	-38.36622
5	3	2	2	1.94877
5	3	3	1	1.58128
5	3	3	2	-11.69248
5	3	3	3	13.23101

I	J	K	L	FI(I,J,K,L)
14	13	5	5	1.95702
14	13	6	6	41.28632
14	13	7	7	17.16455
14	13	8	8	45.04839
14	13	9	9	-52.31181
14	13	10	10	5.57994
14	13	11	11	2.66530
14	13	13	13	43.81198
14	14	1	1	-16.13637
14	14	2	1	-0.28175
14	14	2	2	-11.42264
14	14	3	1	0.72942
14	14	3	2	-6.10386
14	14	3	3	-4.80632
14	14	4	1	-0.73503
14	14	4	3	-1.88047
14	14	4	4	-5.28124
14	14	5	1	-0.32784
14	14	5	2	0.64339
14	14	5	3	1.86799
14	14	5	4	-0.84639
14	14	5	5	-1.12287
14	14	6	6	7.48895
14	14	7	6	5.45743
14	14	7	7	10.05052
14	14	8	8	10.74726
14	14	9	9	-16.28887
14	14	10	9	0.65566
14	14	10	10	-4.74450
14	14	11	9	-0.21131
14	14	11	10	-4.21339
14	14	11	11	-6.23406
14	14	12	9	0.39203
14	14	12	10	-2.65578
14	14	12	11	-1.85927
14	14	12	12	-2.95379
14	14	13	13	9.89366
14	14	14	13	3.83195
14	14	14	14	-2.54513
15	15	1	1	273.28203
15	15	2	1	13.48138
15	15	2	2	-41.64195
15	15	3	1	-7.88595
15	15	3	2	54.22245
15	15	3	3	-73.79494
15	15	4	1	-4.45432
15	15	4	2	-18.27359
15	15	4	3	23.57784
15	15	4	4	-7.89114
15	15	5	1	-0.74439
15	15	5	2	26.94659
15	15	5	3	-38.26923
15	15	5	4	12.02671
15	15	5	5	-20.65455
15	15	6	6	-157.83614
15	15	7	6	-115.09731
15	15	7	7	-83.29531
15	15	8	8	-193.27529
15	15	9	9	275.78554
15	15	10	9	-2.85381
15	15	10	10	-79.75734
15	15	11	9	4.18535
15	15	11	10	54.57054
15	15	11	11	-39.52407
15	15	12	9	-0.62585
15	15	12	10	26.32739
15	15	12	11	-18.21128
15	15	12	12	-10.84916
15	15	13	13	-174.64800
15	15	14	13	-51.93848
15	15	14	14	-16.27988
15	15	15	15	274.08888
16	15	1	1	14.14503
16	15	2	2	-6.38411
16	15	3	3	0.27279
16	15	4	4	-1.27207
16	15	5	5	-0.62537
16	15	6	6	-2.82755
16	15	8	8	-2.84167
16	15	9	9	11.85053
16	15	10	10	-3.27323
16	15	11	11	5.26284
16	15	12	12	-1.05932
16	15	13	13	-2.66789
16	15	14	14	-0.56504
16	15	15	15	14.25568

I	J	K	L	FI(I,J,K,L)
20	20	5	3	4.30058
20	20	5	4	5.42038
20	20	5	5	-10.04325
20	20	6	6	-2.83726
20	20	7	6	4.26708
20	20	7	7	-11.81120
20	20	8	8	-1.49770
20	20	9	9	-17.77247
20	20	10	9	3.17624
20	20	10	10	17.89902
20	20	11	9	-2.29489
20	20	11	10	11.10921
20	20	11	11	14.22026
20	20	12	9	-2.38698
20	20	12	10	9.27190
20	20	12	11	16.00858
20	20	12	12	0.26102
20	20	13	13	-3.28044
20	20	14	13	4.47155
20	20	14	14	-15.15166
20	20	15	15	-17.93490
20	20	16	15	-2.46734
20	20	16	16	0.35483
20	20	17	15	-0.29495
20	20	17	16	-6.94495
20	20	17	17	50.94295
20	20	18	15	5.49530
20	20	18	16	-7.46684
20	20	18	17	-8.49421
20	20	18	18	-4.01639
20	20	19	19	-17.73418
20	20	20	19	3.28421
20	20	20	20	32.03686
21	19	1	1	-4.15204
21	19	2	2	3.23488
21	19	3	3	-0.79773
21	19	4	4	0.43629
21	19	6	6	0.35371
21	19	7	7	-1.72733
21	19	8	8	-3.32329
21	19	9	9	-1.35609
21	19	10	10	3.32102
21	19	11	11	-6.56294
21	19	12	12	1.58527
21	19	13	13	-0.22155
21	19	14	14	0.38874
21	19	15	15	-4.10149
21	19	16	16	-1.55188
21	19	17	17	2.12354
21	19	18	18	2.66860
21	19	19	19	-1.75740
21	20	1	1	-40.01613
21	20	2	2	-0.39091
21	20	3	3	5.96146
21	20	4	4	-2.01350
21	20	5	5	5.67650
21	20	6	6	8.73006
21	20	7	7	6.49546
21	20	8	8	11.64828
21	20	9	9	-40.66037
21	20	10	10	5.34476
21	20	11	11	1.23235
21	20	12	12	-0.16149
21	20	13	13	9.77511
21	20	14	14	4.63577
21	20	15	15	-40.23578
21	20	16	16	10.76250
21	20	17	17	-14.82450
21	20	18	18	7.83967
21	20	19	19	-40.49812
21	20	20	19	4.12675
21	20	20	20	-7.07319
21	21	1	1	-103.95641
21	21	2	1	-0.28025
21	21	2	2	14.26617
21	21	3	1	-2.00311
21	21	3	2	-19.45059
21	21	3	3	26.12929
21	21	4	1	-1.66619
21	21	4	2	7.16097
21	21	4	3	-6.20207
21	21	4	4	3.14197
21	21	5	1	0.58788
21	21	5	2	-12.44088
21	21	5	3	15.69885
21	21	5	4	-4.76275

I	J	K	FI(I,,KJ)	I	J	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
9	9	3	14.45963	5	4	1	1	12.26295	16	16	1	1	-77.91271	21	21	5	5	8.98342
9	9	4	15.69233	5	4	2	2	-1.59473	16	16	2	1	-4.52153	21	21	6	6	21.57978
9	9	5	-7.70378	5	4	3	3	-6.46427	16	16	2	2	21.18334	21	21	7	6	16.18312
10	8	6	1.30710	5	4	4	2	-3.74914	16	16	3	1	-1.25724	21	21	7	7	2.70005
10	8	7	19.29021	5	4	4	3	1.83105	16	16	3	2	-9.33708	21	21	8	8	24.15218
10	9	1	6.46871	5	4	4	4	1.76608	16	16	3	3	26.46202	21	21	9	9	-104.75211
10	9	2	-108.22659	5	5	1	1	-20.67813	16	16	4	1	-0.27820	21	21	10	9	-0.06056
10	9	3	112.31237	5	5	2	1	-1.34828	16	16	4	2	-4.31222	21	21	10	10	26.17942
10	9	4	-40.45653	5	5	2	2	-0.63425	16	16	4	3	-10.28175	21	21	11	9	6.85182
10	9	5	86.10129	5	5	3	1	-0.16707	16	16	4	4	8.20161	21	21	11	10	-18.53868
10	10	1	123.90474	5	5	3	2	-8.38374	16	16	5	1	2.43550	21	21	11	11	17.28348
10	10	2	50.60132	5	5	3	3	6.91553	16	16	5	2	-11.64499	21	21	12	9	-1.07210
10	10	3	16.41934	5	5	4	1	0.29134	16	16	5	3	13.64563	21	21	12	10	-9.04303
10	10	4	80.37251	5	5	4	2	-2.50400	16	16	5	4	-2.07912	21	21	12	11	7.34927
10	10	5	-23.85696	5	5	4	3	-6.00464	16	16	5	5	8.32171	21	21	12	12	3.77085
11	8	6	-20.03528	5	5	4	4	0.20192	16	16	6	6	13.60905	21	21	13	13	22.64446
11	8	7	4.19253	5	5	5	2	-6.64844	16	16	7	6	16.41676	21	21	14	13	6.08964
11	9	1	-2.03511	5	5	5	3	4.66520	16	16	7	7	-5.23465	21	21	14	14	-2.09630
11	9	2	58.10566	5	5	5	4	-2.81305	16	16	8	8	18.69658	21	21	15	15	-103.59195
11	9	3	-92.83735	5	5	5	5	9.82710	16	16	9	9	-78.63724	21	21	16	15	3.19071
11	9	4	33.71709	6	6	1	1	-158.28967	16	16	10	9	2.55439	21	21	16	16	27.97480
11	9	5	-62.26680	6	6	2	1	-1.13037	16	16	10	10	17.20188	21	21	17	15	-4.61701
11	10	1	-90.08964	6	6	2	2	-0.40914	16	16	11	9	3.32260	21	21	17	16	10.81732
11	10	2	69.35444	6	6	3	1	4.14376	16	16	11	10	-17.55773	21	21	17	17	3.79427
11	10	3	24.77299	6	6	3	2	-14.12014	16	16	11	11	11.21332	21	21	18	15	1.66334
11	10	4	49.80173	6	6	3	3	10.78510	16	16	12	9	-1.31379	21	21	18	16	-23.25586
11	10	5	-4.27406	6	6	4	1	-1.57683	16	16	12	10	-5.61042	21	21	18	17	-9.99998
11	11	1	64.02599	6	6	4	2	5.15745	16	16	12	11	7.90743	21	21	18	18	16.49914
11	11	2	49.30546	6	6	4	3	-4.42654	16	16	12	12	2.37872	21	21	19	19	-104.17106
11	11	3	90.87261	6	6	4	4	-0.51083	16	16	13	13	15.40501	21	21	20	19	6.44648
11	11	4	53.38587	6	6	5	1	0.81534	16	16	14	13	6.29295	21	21	20	20	6.94837
11	11	5	-15.82453	6	6	5	2	-8.68071	16	16	14	14	-5.11079	21	21	21	19	-5.55533
12	8	6	16.61411	6	6	5	3	7.99712	16	16	15	15	-77.35749	21	21	21	20	14.90896
12	8	7	-18.14392	6	6	5	4	-3.20302	16	16	16	15	-1.13409	21	21	21	21	36.59050
12	9	1	5.45089	6	6	5	5	2.94973	16	16	16	16	27.66557	22	19	1	1	2.05598
12	9	2	38.00285	6	6	6	6	111.38467	17	15	1	1	9.00412	22	19	2	2	1.04082
12	9	3	-46.37672	7	6	1	1	-115.79862	17	15	2	2	-6.05193	22	19	3	3	3.23067
12	9	4	11.85024	7	6	2	2	12.96858	17	15	3	3	-4.02143	22	19	4	4	1.13609
12	9	5	-26.03050	7	6	3	3	11.41669	17	15	4	4	-1.40844	22	19	5	5	0.29138
12	10	1	-42.29710	7	6	4	4	6.09930	17	15	5	5	-0.82955	22	19	6	6	1.13613
12	10	2	4.27299	7	6	5	5	4.07067	17	15	6	6	-4.45729	22	19	7	7	-1.81747
12	10	3	30.88674	7	6	6	6	88.10848	17	15	7	7	1.25037	22	19	8	8	1.17399
12	10	4	26.89324	7	7	1	1	-84.42365	17	15	8	8	-8.85126	22	19	9	9	1.86839
12	10	5	-13.96147	7	7	2	1	2.30764	17	15	9	9	7.84049	22	19	10	10	1.77915
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12	11	2	21.20308	7	7	3	1	1.76986	17	15	11	11	-1.10114	22	19	12	12	0.71692
12	11	3	14.24849	7	7	3	2	-16.01396	17	15	12	12	-0.35315	22	19	13	13	1.25378
12	11	4	28.45198	7	7	3	3	-3.11943	17	15	13	13	-3.19365	22	19	14	14	-0.23508
12	11	5	-10.04943	7	7	4	1	0.83033	17	15	14	14	-0.84048	22	19	15	15	2.08014
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12	12	5	-18.92708	7	7	5	2	-5.57733	17	16	4	4	5.13661	22	20	1	1	4.86515
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13	13	5	-4.46416	7	7	7	6	42.44211	17	16	9	9	-24.05356	22	20	6	6	-1.91106
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14	14	1	24.84698	8	8	3	2	-13.37457	17	16	15	15	-23.14409	22	20	13	13	-1.70237
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16	16	2	-78.93431	9	9	4	4	-8.27048	17	17	10	10	18.24332	22	21	16	16	-5.41500
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17	13	6	1.89582	9	9	5	4	12.30335	17	17	12	9	-2.82704	22	21	20	20	2.76159
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17	15	1	-35.05335	9	9	7	7	-82.79557	17	17	13	13	1.61957	22	22	1	1	-2.69946
17	15	2	52.79671	9	9	8	8	-193.37070	17	17	14	13	6.41840	22	22	2	1	0.88543
17	15	3	-40.10646	9	9	9	9	278.34864	17	17	14	14	-24.01774	22	22	2	2	-8.10141
17	15	4	7.99596	10	9	1	1	-2.76520	17	17	15	15	-8.66763	22	22	3	1	0.67668
17	15	5	-30.70234	10	9	2	2	3.73435	17	17	16	15	-3.02003	22	22	3	2	-3.39976
17	16	1	61.71527	10	9	3	3	2.58501	17	17	16	16	7.92046	22	22	4	1	-0.47695
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17	16	3	-75.08959	10	9	5	5	0.83538	17	17	17	16	2.68972	22	22	4	3	0.61761
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17	17	4	242.54350	10	10	2	1	-1.91574	18	15	5	5	-0.61239	22	22	7	6	-1.01902
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18	14	6	-8.80014	10	10	3	3	17.31458	18	15	9	9	0.49313	22	22	10	9	-0.13488
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18	17	1	-28.71859	10	10	7	7	-0.63356	18	16	6	6	-14.58290	22	22	16	15	0.54751
18	17	2	-145.01359	10	10	8	8	15.83242	18	16	7	7	-15.59929	22	22	16	16	-2.78329
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18	17	5	-1.80980	10	10	10	10	21.15711	18	16	10	10	-17.14000	22	22	17	17	-4.88749
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18	18	3	-71.62625	11	9	3	3	2.80831	18	16	14	14	-4.08697	22	22	18	17	-4.21726
18	18	4	87.55584	11	9	4	4	0.57489	18	16	15	15	63.39236	22	22	18	18	-1.79438
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19	13	8	383.49853	11	9	6	6	2.39933	18	16	16	16	-12.39639	22	22	20	19	-0.49073
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19	15	11	-1.93897	11	10	1	1	54.40474	18	17	4	4	5.50755	22	22	21	21	1.29300
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19	17	9	-32.74868	11	10	7	7	-8.66803	18	17	10	10	-14.27325	23	23	2	1	-7.01615
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19	17	11	32.58556	11	10	9	9	55.20699	18	17	12	12	-6.73041	23	23	3	1	-0.10643
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19	18	9	-2.34028	11	10	10	10	-7.68866	18	17	14	14	0.20868	23	23	3	3	24.65032
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19	19	3	14.74110	11	11	3	3	12.77552	18	18	1	1	-51.87724	23	23	5	2	-15.76354
19	19	4	15.22916	11	11	4	1	0.39553	18	18	2	1	-5.20848	23	23	5	3	17.66562
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20	17	11	168.31238	11	11	10	9	-4.00455	18	18	6	6	8.11844	23	23	12	11	9.10617
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20	18	12	-36.70860	12	9	1	1	-0.93654	18	18	10	9	4.93472	23	23	15	15	-236.09226
20	19	1	26.94680	12	9	2	2	-1.87018	18	18	10	10	10.77446	23	23	16	15	-4.49789
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21	20	3	-62.71848
21	20	4	-26.09298
21	20	5	-19.79978
21	21	1	163.25966
21	21	2	-4.03852
21	21	3	41.32421
21	21	4	32.68406
21	21	5	-0.95777
22	13	8	-6.85336
22	14	8	5.95076
22	15	9	0.27519
22	15	10	-35.66074
22	15	11	12.08587
22	15	12	13.46409
22	16	9	23.41382
22	16	10	27.82293
22	16	11	0.53210
22	16	12	-6.71348
22	17	9	11.52588
22	17	10	-36.48774
22	17	11	-12.80104
22	17	12	-23.16634
22	18	9	-32.30255
22	18	10	2.65224
22	18	11	33.28383
22	18	12	24.94765
22	19	1	-0.77489
22	19	2	17.04631
22	19	3	-28.94139
22	19	4	15.28076
22	19	5	-13.01334
22	20	1	-22.30117
22	20	2	-12.65448
22	20	3	-14.93756
22	20	4	-32.66467
22	20	5	7.68079
22	21	1	-32.75224
22	21	2	11.31528
22	21	3	-28.93540
22	21	4	16.48107
22	21	5	-7.56868
22	22	1	4.02425
22	22	2	21.71137
22	22	3	5.73444
22	22	4	22.95372
22	22	5	-3.31445
23	13	9	432.24457
23	13	10	1.06722
23	13	11	-15.38596
23	13	12	19.23327
23	14	9	129.45341
23	14	10	-2.79315
23	14	11	12.58067
23	14	12	-18.10729
23	15	8	461.23787
23	16	8	-4.99986
23	17	8	17.12254
23	18	8	15.06343
23	19	6	410.57050
23	19	7	326.29254

I	J	K	L	FI(I,J,K,L)
12	9	6	6	-2.04170
12	9	7	7	1.71209
12	9	8	8	-0.17032
12	9	9	9	-1.75679
12	10	1	1	26.63936
12	10	2	2	-5.92461
12	10	3	3	-5.57250
12	10	4	4	3.56350
12	10	5	5	-6.14185
12	10	6	6	-6.68040
12	10	7	7	-2.81860
12	10	8	8	-6.10679
12	10	9	9	26.58126
12	10	10	9	-2.09379
12	10	10	10	-7.71101
12	11	1	1	-18.15398
12	11	2	2	6.38920
12	11	3	3	4.81084
12	11	4	4	4.83287
12	11	5	5	1.17079
12	11	6	6	4.58756
12	11	7	7	1.35020
12	11	8	8	5.10186
12	11	9	9	-18.60505
12	11	10	10	7.91698
12	11	11	9	-0.34299
12	11	11	10	0.17666
12	11	11	11	5.41998
12	12	1	1	-10.59953
12	12	2	1	-0.85672
12	12	2	2	-8.59844
12	12	3	1	1.75752
12	12	3	2	-4.75361
12	12	3	3	0.13650
12	12	4	1	-0.94941
12	12	4	2	-0.88846
12	12	4	3	-1.34032
12	12	4	4	2.23755
12	12	5	1	-0.57369
12	12	5	2	-6.16975
12	12	5	3	-1.15962
12	12	5	4	-3.87071
12	12	5	5	-5.73102
12	12	6	6	-0.37646
12	12	7	6	-1.06743
12	12	7	7	-7.46701
12	12	8	8	0.55882
12	12	9	9	-10.76899
12	12	10	9	1.77051
12	12	10	10	-1.01693
12	12	11	9	-0.52915
12	12	11	10	-2.88085
12	12	11	11	0.35552
12	12	12	9	-0.31230
12	12	12	10	-7.42452
12	12	12	11	-2.50293
12	12	12	12	-7.59772
13	13	1	1	-173.56432
13	13	2	1	-2.53196
13	13	2	2	4.86046
13	13	3	1	3.71328
13	13	3	2	-12.64016
13	13	3	3	14.28092
13	13	4	1	-1.04424
13	13	4	2	4.80914
13	13	4	3	-4.98636
13	13	4	4	-0.30990
13	13	5	1	-0.40436
13	13	5	2	-8.25185
13	13	5	3	11.04873
13	13	5	4	-4.00247
13	13	5	5	4.68106
13	13	6	6	124.84179
13	13	7	6	100.63344
13	13	7	7	70.33023
13	13	8	8	154.27724
13	13	9	9	-176.54069
13	13	10	9	2.61228
13	13	10	10	13.11186
13	13	11	9	2.06603
13	13	11	10	-14.22417
13	13	11	11	7.29344
13	13	12	9	-1.52775
13	13	12	10	-7.25708
13	13	12	11	5.81672
13	13	12	12	0.66921
13	13	13	13	137.80434
14	13	1	1	-51.46299
14	13	2	2	8.24963
14	13	3	3	4.62118
14	13	4	4	3.30357

I	J	K	L	FI(I,J,K,L)
18	18	12	9	-1.95827
18	18	12	10	-2.59738
18	18	12	11	5.40032
18	18	12	12	4.03066
18	18	13	13	9.52987
18	18	14	13	6.53142
18	18	14	14	-3.69528
18	18	15	15	-51.76712
18	18	16	15	-3.85636
18	18	16	16	26.44839
18	18	17	15	-4.40088
18	18	17	16	18.25705
18	18	17	17	11.06279
18	18	18	15	-1.19498
18	18	18	16	-6.54387
18	18	18	17	11.03402
18	18	18	18	34.78157
19	19	1	1	275.32903
19	19	2	1	11.73567
19	19	2	2	-42.67122
19	19	3	1	-6.21745
19	19	3	2	54.19467
19	19	3	3	-74.30534
19	19	4	1	-4.99012
19	19	4	2	-17.99610
19	19	4	3	24.00728
19	19	4	4	-8.26167
19	19	5	1	0.07551
19	19	5	2	27.67164
19	19	5	3	-38.72918
19	19	5	4	12.13418
19	19	5	5	-21.01453
19	19	6	6	-159.96234
19	19	7	6	-116.97539
19	19	7	7	-83.56763
19	19	8	8	-192.89023
19	19	9	9	277.85363
19	19	10	9	-0.66627
19	19	10	10	-80.27051
19	19	11	9	2.67492
19	19	11	10	55.27756
19	19	11	11	-39.55379
19	19	12	9	-1.38014
19	19	12	10	26.26080
19	19	12	11	-18.51191
19	19	12	12	-10.72000
19	19	13	13	-176.04231
19	19	14	13	-52.34409
19	19	14	14	-16.27311
19	19	15	15	275.65171
19	19	16	15	12.07986
19	19	16	16	-78.21289
19	19	17	15	7.74577
19	19	17	16	-24.10513
19	19	17	17	-9.77470
19	19	18	15	0.29454
19	19	18	16	63.64021
19	19	18	17	19.44789
19	19	18	18	-52.93000
19	19	19	19	278.34394
20	19	1	1	-5.58337
20	19	2	2	3.90516
20	19	3	3	5.62583
20	19	4	4	1.14745
20	19	5	5	0.94681
20	19	6	6	7.19230
20	19	7	7	-1.27126
20	19	8	8	7.63669
20	19	9	9	-4.31997
20	19	10	10	6.05682
20	19	11	11	1.02853
20	19	12	12	1.22593
20	19	13	13	7.79967
20	19	14	14	0.76756
20	19	15	15	-5.25241
20	19	16	16	6.09378
20	19	17	17	0.30248
20	19	18	18	5.53579
20	19	19	19	-4.64593
20	20	1	1	-17.60569
20	20	2	1	-0.26253
20	20	2	2	9.59343
20	20	3	1	5.21591
20	20	3	2	6.74987
20	20	3	3	10.28954
20	20	4	1	-2.36097
20	20	4	2	18.88812
20	20	4	3	10.77302
20	20	4	4	12.27307
20	20	5	1	2.51088
20	20	5	2	-3.14497

I	J	K	L	FI(I,J,K,L)
23	23	17	17	-0.44524
23	23	18	15	-2.87287
23	23	18	16	-22.80723
23	23	18	17	-6.84892
23	23	18	18	18.79590
23	23	19	19	-237.00854
23	23	20	19	7.63562
23	23	20	20	-0.20680
23	23	21	19	-3.04252
23	23	21	20	12.58348
23	23	21	21	30.78837
23	23	22	19	0.44662
23	23	22	20	-4.09927
23	23	22	21	-6.98203
23	23	22	22	-0.59159
23	23	23	23	282.09750
24	23	1	1	34.22695
24	23	2	2	-4.36203
24	23	3	3	-1.73180
24	23	4	4	-3.00441
24	23	5	5	1.24514
24	23	6	6	-27.93433
24	23	7	7	-16.73721
24	23	8	8	-29.84012
24	23	9	9	34.76370
24	23	10	10	-5.71957
24	23	11	11	-0.95085
24	23	12	12	-1.84095
24	23	13	13	-31.38437
24	23	14	14	-2.09683
24	23	15	15	34.53436
24	23	16	16	-1.28418
24	23	17	17	-5.35011
24	23	18	18	-2.81850
24	23	19	19	35.16669
24	23	20	20	-5.49728
24	23	21	21	-3.12258
24	23	22	22	-2.54885
24	23	23	23	-35.79876
24	24	1	1	-4.04152
24	24	2	1	-0.91649
24	24	2	2	-13.58713
24	24	3	1	0.19931
24	24	3	2	-3.64488
24	24	3	3	-9.84054
24	24	4	2	-10.89397
24	24	4	3	-7.79746
24	24	4	4	-10.49653
24	24	5	1	0.25013
24	24	5	2	1.95433
24	24	5	3	0.78757
24	24	5	5	5.54617
24	24	6	6	2.74786
24	24	7	6	5.20566
24	24	7	7	22.50353
24	24	8	8	2.27763
24	24	9	9	-4.13932
24	24	10	9	1.60435
24	24	10	10	-13.58562
24	24	11	10	-6.77605
24	24	11	11	-15.19178
24	24	12	9	0.15192
24	24	12	10	-4.76484
24	24	12	11	-4.51690
24	24	12	12	-5.48718
24	24	13	13	5.14718
24	24	14	13	1.39719
24	24	14	14	7.75561
24	24	15	15	-3.89353
24	24	16	15	-0.86456
24	24	16	16	-9.10871
24	24	17	15	-1.09632
24	24	17	16	1.85703
24	24	17	17	-40.25964
24	24	18	15	-0.24971
24	24	18	16	0.80443
24	24	18	17	8.23253
24	24	18	18	-0.53357
24	24	19	19	-4.05225
24	24	20	19	0.54817
24	24	20	20	-32.31623
24	24	21	19	1.08451
24	24	21	20	8.33193
24	24	21	21	-9.64994
24	24	22	19	-0.25006
24	24	22	20	4.25159
24	24	22	22	-4.01251
24	24	23	23	15.33418
24	24	24	23	4.66320
24	24	24	24	33.12229

Table S39: The quartic potential energy surface pyrazine-d4. The calculation was done by using B3LYP/6-311++G(2d,2p) method. The force constants (FI) are in cm^{-1} units.

I	J	FI(I,J)
1	1	2357.91409
2	2	1569.25300
3	3	1028.76951
4	4	899.05689
5	5	599.50737
6	6	847.41849
7	7	295.09026
8	8	737.61681
9	9	2333.73628
10	10	1384.45684
11	11	1039.25169
12	12	884.91047
13	13	862.59377
14	14	657.19486
15	15	2345.84941
16	16	1289.82853
17	17	1207.79534
18	18	846.46297
19	19	2325.09840
20	20	1558.02069
21	21	1047.81047
22	22	696.41327
23	23	609.96332
24	24	414.27386

I	J	K	FI(I,J,K)
1	1	1	-592.48998
2	1	1	-70.48456
2	2	1	73.81181
2	2	2	-118.07486
3	1	1	-60.97420
3	2	1	19.04739
3	2	2	-147.45990
3	3	1	19.84017
3	3	2	35.41082
3	3	3	-103.53746
4	1	1	-6.03718
4	2	1	-21.22424
4	2	2	-97.14544
4	3	1	-13.56180
4	3	2	-27.54707
4	3	3	-19.00185
4	4	1	85.32872
4	4	2	-38.44246
4	4	3	-26.02197
4	4	4	-25.14861
5	1	1	-8.61260
5	2	1	-45.45009
5	2	2	-6.19679
5	3	1	-25.00869
5	3	2	13.34697
5	3	3	-1.46490
5	4	1	67.58854
5	4	2	17.07345
5	4	3	16.23822
5	4	4	-3.75614
5	5	1	59.29571
5	5	2	-30.20759
5	5	3	6.25558
5	5	4	-6.31646
5	5	5	-6.73013
6	6	1	145.55049
6	6	2	9.48471
6	6	3	10.99279
6	6	4	-7.10102
7	6	1	-179.68646
7	6	2	33.83918
7	6	3	14.96585
7	6	4	12.19210
7	6	5	4.36969
7	7	1	165.73300
7	7	2	39.98327

I	J	K	FI(I,J,K)
23	21	7	24.52286
23	22	6	3.57520
23	22	7	23.08771
23	23	1	295.24364
23	23	2	-13.02019
23	23	3	20.24266
23	23	4	30.61644
23	23	5	-3.36970
24	13	9	68.79073
24	13	10	-39.70192
24	13	11	-8.22024
24	13	12	4.13529
24	14	9	-71.86686
24	14	10	-19.70409
24	14	11	16.70082
24	14	12	30.05227
24	15	8	-96.59902
24	16	8	-21.04530
24	17	8	-58.47415
24	18	8	10.48043
24	19	6	83.98003
24	19	7	-79.97363
24	20	6	-28.49428
24	20	7	-69.14411
24	21	6	-13.23015
24	21	7	27.25561
24	22	6	3.83590
24	22	7	-3.66650
24	23	1	-106.06212
24	23	2	-58.11331
24	23	3	5.16553
24	23	4	25.93578
24	23	5	-4.22044
24	24	1	34.29128
24	24	2	-43.43585
24	24	3	71.65288
24	24	4	-5.61286
24	24	5	3.03685

I	J	K	L	FI(I,J,K,L)
1	1	1	1	141.64946
2	1	1	1	15.81022
2	2	1	1	-8.33258
2	2	2	1	-9.54900
2	2	2	2	27.69174
3	1	1	1	14.75118
3	2	1	1	-4.50212
3	2	2	1	-6.88591
3	2	2	2	9.16825
3	3	1	1	-2.82363
3	3	2	1	-1.52311
3	3	2	2	13.56224
3	3	3	1	-1.90091
3	3	3	2	-4.67719
3	3	3	3	8.74058
4	1	1	1	-4.69510
4	2	1	1	21.80665
4	2	2	1	-0.42253
4	2	2	2	15.31829
4	3	1	1	13.45546
4	3	2	2	7.35233
4	3	3	1	0.27847
4	3	3	2	1.44380
4	3	3	3	1.71718
4	4	1	1	-39.85812
4	4	2	1	-5.17253
4	4	2	2	7.71111
4	4	3	1	-2.94272
4	4	3	2	4.29318
4	4	3	3	2.48243
4	4	4	1	-1.51650
4	4	4	2	-0.63480
4	4	4	3	-1.72044
4	4	4	4	14.83711

I	J	K	L	FI(I,J,K,L)
14	13	8	8	-38.67946
14	13	9	9	48.39149
14	13	10	10	-5.00726
14	13	11	11	0.19139
14	13	12	12	-7.39333
14	13	13	13	-15.99044
14	14	1	1	-58.53346
14	14	2	1	-4.60869
14	14	2	2	-2.30865
14	14	3	1	-4.29317
14	14	3	2	2.76870
14	14	3	3	-2.61679
14	14	4	1	1.15034
14	14	4	2	-2.19676
14	14	4	3	-0.47130
14	14	4	4	3.01674
14	14	5	1	-0.66516
14	14	5	2	-2.87953
14	14	5	3	-1.78899
14	14	5	4	5.82331
14	14	5	5	2.57770
14	14	6	6	33.06683
14	14	7	6	-31.75455
14	14	7	7	32.93721
14	14	8	8	44.90608
14	14	9	9	-59.80369
14	14	10	9	-1.69046
14	14	10	10	-2.95674
14	14	11	9	3.55429
14	14	11	10	0.57924
14	14	11	11	-3.88298
14	14	12	9	0.62977
14	14	12	10	5.16868
14	14	12	11	0.92677
14	14	12	12	4.19595
14	14	13	13	20.53300
14	14	14	13	-24.25994
14	14	14	14	27.47757
15	15	1	1	142.43701
15	15	2	1	15.45486
15	15	2	2	-9.08585
15	15	3	1	14.96383
15	15	3	2	-4.51303
15	15	3	3	-3.02279
15	15	4	1	-4.38518
15	15	4	2	22.31162
15	15	4	3	13.48106
15	15	4	4	-40.58684
15	15	5	1	-0.75181
15	15	5	2	13.93534
15	15	5	3	9.15134
15	15	5	4	-28.44697
15	15	5	5	-20.93969
15	15	6	6	-65.76376
15	15	7	6	63.88241
15	15	7	7	-62.65492
15	15	8	8	-94.81222
15	15	9	9	145.24147
15	15	10	9	6.83758
15	15	10	10	-18.54147
15	15	11	9	-11.25496
15	15	11	10	-6.56622
15	15	11	11	-3.70016
15	15	12	9	-3.90909
15	15	12	10	-28.98335
15	15	12	11	-10.40580
15	15	12	12	-48.15445
15	15	13	13	-39.69335
15	15	14	13	47.73786
15	15	14	14	-59.18050
15	15	15	15	143.56014
16	15	1	1	19.72021
16	15	2	2	-10.99606
16	15	3	3	-1.84834
16	15	4	4	-4.51305

I	J	K	L	FI(I,J,K,L)
20	20	5	4	0.88128
20	20	5	5	-10.93266
20	20	6	6	-5.13485
20	20	7	6	-3.75473
20	20	7	7	-10.58360
20	20	8	8	-4.69362
20	20	9	9	-4.82455
20	20	10	9	-3.95841
20	20	10	10	29.67068
20	20	11	9	-2.18407
20	20	11	10	2.86775
20	20	11	11	-9.25028
20	20	12	9	1.66702
20	20	12	10	-15.00334
20	20	12	11	1.51315
20	20	12	12	9.06318
20	20	13	13	-11.92983
20	20	14	13	-6.92212
20	20	14	14	-8.38449
20	20	15	15	-5.71454
20	20	16	15	2.46404
20	20	16	16	-6.53522
20	20	17	15	3.24888
20	20	17	16	-7.51615
20	20	17	17	55.25736
20	20	18	15	0.96865
20	20	18	16	-4.32033
20	20	18	17	-3.62376
20	20	18	18	-1.01724
20	20	19	19	-5.07518
20	20	20	19	-2.17152
20	20	20	20	36.44918
21	19	1	1	-4.11431
21	19	2	2	5.06553
21	19	3	3	1.27337
21	19	4	4	0.27537
21	19	5	5	-0.53003
21	19	6	6	0.78569
21	19	7	7	-1.24711
21	19	8	8	-1.66965
21	19	9	9	0.71265
21	19	10	10	-0.70858
21	19	11	11	0.62265
21	19	12	12	-1.00885
21	19	14	14	0.83144
21	19	15	15	-3.77362
21	19	16	16	3.74360
21	19	17	17	1.52300
21	19	18	18	0.29957
21	19	19	19	0.30753
21	20	1	1	-14.75644
21	20	2	2	-4.63479
21	20	3	3	-1.97251
21	20	4	4	2.67501
21	20	5	5	2.59987
21	20	6	6	1.89745
21	20	7	7	2.92480
21	20	8	8	3.57798
21	20	9	9	-14.81516
21	20	10	10	-3.26243
21	20	11	11	-0.85877
21	20	12	12	2.89434
21	20	13	13	1.90664
21	20	14	14	3.19519
21	20	15	15	-14.87886
21	20	16	16	0.90895
21	20	17	17	-6.33905
21	20	18	18	4.67906
21	20	19	19	-14.83834
21	20	20	19	-0.48954
21	20	20	20	-2.80401
21	21	1	1	-56.50261
21	21	2	1	-3.50881
21	21	2	2	1.93906
21	21	3	1	-2.17350

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	I(I,J,K,L)
7	7	3	63.58777	5	1	1	1	-0.43458	16	15	5	5	-2.22210	21	21	3	2	1.96086
7	7	4	34.24279	5	2	1	1	14.09907	16	15	6	6	-3.59817	21	21	3	3	1.77139
7	7	5	-26.34206	5	2	2	1	3.53523	16	15	7	7	-2.31539	21	21	4	1	0.52525
8	8	1	232.15719	5	2	2	2	-13.19694	16	15	8	8	-8.92826	21	21	4	2	-7.33716
8	8	2	11.76641	5	3	1	1	9.09311	16	15	9	9	17.98379	21	21	4	3	-4.68806
8	8	3	8.51740	5	3	2	2	0.97939	16	15	10	10	1.05948	21	21	4	4	12.21292
8	8	4	11.31283	5	3	3	1	2.06869	16	15	11	11	0.84930	21	21	5	1	0.35494
8	8	5	14.59479	5	3	3	2	-1.80617	16	15	12	12	-3.31132	21	21	5	2	-6.72151
9	8	6	-191.10854	5	3	3	3	-0.86474	16	15	13	13	-0.34858	21	21	5	3	-3.87119
9	8	7	198.98403	5	4	1	1	-28.44036	16	15	14	14	-5.80420	21	21	5	4	11.31134
9	9	1	-610.99888	5	4	2	2	1.51300	16	15	15	15	19.66198	21	21	5	5	8.82567
9	9	2	-51.55359	5	4	4	1	-0.40111	16	16	1	1	-11.98923	21	21	6	6	8.67711
9	9	3	-55.02903	5	4	4	2	-5.80290	16	16	2	1	-10.91068	21	21	7	6	-8.77592
9	9	4	-0.72660	5	4	4	3	-3.13331	16	16	2	2	28.54367	21	21	7	7	2.86464
9	9	5	-13.48759	5	4	4	4	11.49597	16	16	3	1	-4.23806	21	21	8	8	11.15621
10	8	6	-9.05384	5	5	1	1	-20.84388	16	16	3	2	12.97010	21	21	9	9	-57.36107
10	8	7	16.02799	5	5	2	1	-2.17891	16	16	3	3	5.38207	21	21	10	9	-1.02660
10	9	1	-27.47561	5	5	2	2	-4.00602	16	16	4	1	-0.29728	21	21	10	10	4.36753
10	9	2	-59.31712	5	5	3	1	-1.59093	16	16	4	2	12.47239	21	21	11	9	0.91145
10	9	3	-4.96120	5	5	3	2	5.70086	16	16	4	3	4.21132	21	21	11	10	1.15935
10	9	4	44.89989	5	5	3	3	-2.16409	16	16	4	4	9.69274	21	21	11	11	0.93957
10	9	5	45.92753	5	5	4	1	-1.05730	16	16	5	1	4.63266	21	21	12	9	-1.23799
10	10	1	40.38741	5	5	4	2	-2.19550	16	16	5	2	-3.36072	21	21	12	10	8.69733
10	10	2	104.24780	5	5	4	3	-1.86599	16	16	5	3	-4.98260	21	21	12	11	4.19600
10	10	3	-114.14322	5	5	4	4	9.08193	16	16	5	4	1.14548	21	21	12	12	17.20369
10	10	4	-25.22396	5	5	5	1	-0.94112	16	16	5	5	3.45697	21	21	13	13	4.97593
10	10	5	-28.17369	5	5	5	2	-5.87738	16	16	6	6	-4.27271	21	21	14	13	-6.69558
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11	8	7	-15.51075	5	5	5	4	6.86830	16	16	7	7	-12.91489	21	21	15	15	-56.65802
11	9	1	38.47707	5	5	5	5	11.69225	16	16	8	8	1.71789	21	21	16	15	-2.40200
11	9	2	1.94113	6	6	1	1	-65.97413	16	16	9	9	-15.00407	21	21	16	16	4.41918
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11	9	5	20.90137	6	6	3	1	-3.10010	16	16	11	9	-0.66338	21	21	17	17	-0.51241
11	10	1	19.19312	6	6	3	2	-0.85649	16	16	11	10	6.09251	21	21	18	15	0.79131
11	10	2	-29.05717	6	6	3	3	-2.42016	16	16	11	11	-3.21188	21	21	18	16	-10.55263
11	10	5	-12.07479	6	6	4	1	2.22809	16	16	12	9	3.05871	21	21	18	17	-7.78556
11	11	1	-4.12109	6	6	4	2	-6.34947	16	16	12	10	1.76761	21	21	18	18	17.62466
11	11	2	-5.32262	6	6	4	3	-2.69602	16	16	12	11	-0.35168	21	21	19	19	-57.35448
11	11	3	-21.28524	6	6	4	4	3.74943	16	16	12	12	6.30277	21	21	20	19	0.90832
11	11	4	3.28063	6	6	5	1	-0.36392	16	16	13	13	-6.67119	21	21	20	20	0.41009
11	11	5	-11.29709	6	6	5	2	-2.40443	16	16	14	13	-4.44141	21	21	21	19	-1.52906
12	8	7	13.43522	6	6	5	3	-1.33836	16	16	14	14	-0.20620	21	21	21	20	5.29109
12	9	1	3.89009	6	6	5	4	5.15803	16	16	15	15	-11.91309	21	21	21	21	18.69177
12	9	2	-40.73357	6	6	5	5	2.86194	16	16	16	15	-9.25784	22	19	1	1	6.40770
12	9	3	-32.44592	6	6	6	6	34.40053	16	16	16	16	25.13196	22	19	2	2	1.46734
12	9	4	88.13388	7	6	1	1	63.99920	17	15	1	1	4.61997	22	19	3	3	0.50445
12	9	5	75.51140	7	6	2	2	-11.58562	17	15	2	2	-5.57693	22	19	4	4	0.76961
12	10	1	47.21807	7	6	3	3	-3.12078	17	15	3	3	-0.68796	22	19	5	5	-0.54445
12	10	2	-47.73934	7	6	4	4	-7.93048	17	15	4	4	-3.39872	22	19	6	6	-1.43207
12	10	3	52.31799	7	6	5	5	-2.40978	17	15	5	5	-0.77626	22	19	7	7	-3.63911
12	10	4	-3.47752	7	6	6	6	-33.41190	17	15	6	6	-1.39113	22	19	8	8	-2.14607
12	10	5	14.15848	7	7	1	1	-63.51890	17	15	7	7	2.00417	22	19	9	9	5.78280
12	11	1	19.97841	7	7	2	1	1.02391	17	15	8	8	-4.76279	22	19	10	10	0.86592
12	11	2	13.12009	7	7	2	2	-21.53769	17	15	9	9	3.25488	22	19	11	11	-0.45132
12	11	3	-6.48414	7	7	3	1	-3.90574	17	15	10	10	4.83867	22	19	12	12	0.42622
12	11	4	20.09710	7	7	3	2	-3.38100	17	15	11	11	-0.86342	22	19	13	13	-0.82691
12	11	5	0.69587	7	7	3	3	-6.39629	17	15	12	12	-0.81469	22	19	14	14	-1.90049
12	12	1	100.24873	7	7	4	1	0.46269	17	15	13	13	0.45249	22	19	15	15	6.45184
12	12	2	23.06547	7	7	4	2	-10.14158	17	15	14	14	-1.93131	22	19	16	16	0.86698
12	12	3	-32.25623	7	7	4	3	-3.81776	17	15	15	15	4.50843	22	19	17	17	3.21254
12	12	4	3.44280	7	7	4	4	-2.08657	17	16	1	1	-6.20046	22	19	18	18	0.69331
12	12	5	-13.64090	7	7	5	1	0.72482	17	16	2	2	13.12500	22	19	19	19	5.60983
13	13	1	84.27308	7	7	5	2	-5.97862	17	16	3	3	0.90647	22	20	1	1	1.65432
13	13	2	2.22003	7	7	5	3	0.98483	17	16	4	4	6.29658	22	20	2	2	-3.95239
13	13	3	9.41407	7	7	5	4	6.94211	17	16	5	5	3.60602	22	20	3	3	-4.22996
13	13	4	1.39660	7	7	5	5	3.73889	17	16	6	6	0.42824	22	20	4	4	-0.60075
13	13	5	-3.98034	7	7	6	6	45.01330	17	16	7	7	-4.10253	22	20	5	5	0.51410
14	13	1	-119.31954	7	7	7	6	-25.10975	17	16	8	8	3.46524	22	20	6	6	-0.14607
14	13	2	-4.69489	7	7	7	7	60.78595	17	16	9	9	-8.63197	22	20	8	8	-0.52809
14	13	3	4.14655	8	8	1	1	-94.14108	17	16	10	10	-12.65038	22	20	9	9	2.26799
14	13	4	7.53500	8	8	2	1	-7.98691	17	16	11	11	-3.34423	22	20	10	10	-3.10163
14	14	1	140.63386	8	8	2	2	-0.59885	17	16	12	12	-1.11268	22	20	11	11	1.56521
14	14	2	-4.30953	8	8	3	1	-6.01551	17	16	13	13	-1.50095	22	20	12	12	0.54283
14	14	3	16.68803	8	8	3	2	1.82138	17	16	14	14	3.43433	22	20	13	13	1.24098
14	14	4	-10.69316	8	8	3	3	-1.30100	17	16	15	15	-6.15508	22	20	14	14	0.74150
14	14	5	1.05305	8	8	4	1	-2.21251	17	16	16	15	-8.89240	22	20	15	15	1.65079
15	13	6	112.57204	8	8	4	2	-3.94077	17	16	16	16	23.35927	22	20	16	16	-5.15244
15	13	7	-142.03191	8	8	4	3	-2.89069	17	17	1	1	-4.98519	22	20	17	17	-14.15012

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	I(I,J,K,L)
15	14	6	-150.56582	8	8	4	4	8.71324	17	17	2	1	-2.44681	22	20	18	18	-1.32323
15	14	7	154.98105	8	8	5	1	-2.16189	17	17	2	2	40.08383	22	20	19	19	2.38149
15	15	1	-598.57418	8	8	5	2	-4.69150	17	17	3	1	-3.96298	22	20	20	19	2.06342
15	15	2	-72.56715	8	8	5	3	-3.35046	17	17	3	2	-17.33431	22	20	20	20	-11.42549
15	15	3	-59.49861	8	8	5	4	8.51901	17	17	3	3	25.12719	22	21	1	1	8.55575
15	15	4	-3.72285	8	8	5	5	4.24431	17	17	4	1	-1.89012	22	21	2	2	-1.29808
15	15	5	-8.21189	8	8	6	6	47.74796	17	17	4	2	5.99115	22	21	3	3	-0.43030
16	13	6	18.05074	8	8	7	6	-58.46817	17	17	4	3	6.65909	22	21	4	4	-2.92102
16	13	7	41.14287	8	8	7	7	52.77247	17	17	4	4	4.22635	22	21	5	5	-2.90929
16	14	7	29.02981	8	8	8	8	76.55825	17	17	5	1	3.93424	22	21	6	6	-1.99650
16	15	1	-80.96376	9	9	1	1	144.33380	17	17	5	2	-4.62233	22	21	7	7	-3.72266
16	15	2	59.78885	9	9	2	1	13.91224	17	17	5	3	-6.71887	22	21	8	8	-3.33262
16	15	3	25.75694	9	9	2	2	-12.05794	17	17	5	5	-10.63241	22	21	9	9	9.31658
16	15	4	-28.00424	9	9	3	1	14.14998	17	17	6	6	-3.34932	22	21	10	10	0.54742
16	15	5	-54.90389	9	9	3	2	-6.24022	17	17	7	6	-13.30516	22	21	11	11	-0.26146
16	16	1	58.15795	9	9	3	3	-3.41017	17	17	7	7	-15.20476	22	21	12	12	-4.23980
16	16	2	-145.58549	9	9	4	1	-0.07079	17	17	8	8	-5.75052	22	21	13	13	-1.58581
16	16	3	-86.70607	9	9	4	2	21.25504	17	17	9	9	-6.33101	22	21	14	14	-2.00182
16	16	4	-65.96214	9	9	4	3	13.19361	17	17	10	9	-4.14701	22	21	15	15	8.62165
16	16	5	40.21040	9	9	4	4	-41.79009	17	17	10	10	34.94741	22	21	16	16	-2.38861
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17	13	7	22.06281	9	9	5	2	15.18243	17	17	11	10	2.77564	22	21	18	18	-4.61682
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17	16	4	-62.54621	10	9	3	3	-0.67414	17	17	16	16	13.26906	22	22	4	1	1.07484
17	16	5	-6.18856	10	9	4	4	0.14699	17	17	17	15	0.25957	22	22	4	2	-2.30212
17	17	1	50.39373	10	9	5	5	-0.18581	17	17	17	16	10.81251	22	22	4	3	-0.22310
17	17	2	114.12262	10	9	6	6	-1.24462	17	17	17	17	134.43988	22	22	5	2	-0.35092
17	17	3	-239.25794	10	9	7	7	-4.55202	18	15	1	1	-3.95960	22	22	5	3	1.25598
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17	17	5	33.92409	10	9	9	9	9.03766	18	15	3	3	1.02449	22	22	5	5	0.55579
18	13	6	-3.07801	10	10	1	1	-18.26467	18	15	4	4	-1.35926	22	22	6	6	1.69540
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18	15	2	-32.12794	10	10	3	2	-12.22975	18	15	8	8	-2.79040	22	22	10	10	-1.82430
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18	15	4	102.05883	10	10	4	1	0.34348	18	15	10	10	0.32056	22	22	11	10	-0.53053
18	15	5	78.81127	10	10	4	2	-4.28201	18	15	11	11	1.22489	22	22	11	11	-1.52500
18	16	1	-41.37898	10	10	4	3	0.31567	18	15	12	12	0.13853	22	22	12	9	0.69419
18	16	2	-80.83723	10	10	4	4	1.96814	18	15	13	13	1.56695	22	22	12	10	0.80277
18	16	3	-24.11754	10	10	5	1	-0.36243	18	15	14	14	0.73883	22	22	12	11	0.53882
18	16	4	-40.59909	10	10	5	2	-9.34536	18	15	15	15	-3.80303	22	22	12	12	0.69051
18	16	5	24.92977	10	10	5	3	1.29728	18	16	1	1	29.38210	22	22	14	13	-0.27889
18	17	1	-25.28409	10	10	5	4	4.24642	18	16	2	2	13.72608	22	22	14	14	-1.63091
18	17	2	-88.33418	10	10	5	5	-5.59245	18	16	3	3	0.87729	22	22	15	15	-2.26091
18	17	3	-12.15274	10	10	6	6	-2.39561	18	16	4	4	-4.32204	22	22	16	15	1.10120
18	17	4	-19.84779	10	10	7	6	-3.70024	18	16	5	5	-4.03171	22	22	16	16	-5.35322
18	17	5	-6.79309	10	10	7	7	-5.61708	18	16	6	6	-7.00852	22	22	17	15	0.87581
18	18	1	121.10204	10	10	8	8	-0.30765	18	16	7	7	-8.81533	22	22	17	16	-3.68055
18	18	2	-34.46573	10	10	9	9	-17.10380	18	16	8	8	-7.18595	22	22	17	17	-4.32166
18	18	3	-13.35511	10	10	10	9	-4.50695	18	16	9	9	28.88874	22	22	18	15	1.13601
18	18	4	-31.13941	10	10	10	10	15.51871	18	16	10	10	-3.85440	22	22	18	16	-1.68649
18	18	5	-1.45198	11	9	1	1	-11.43472	18	16	11	11	-1.23019	22	22	18	17	-2.17275
19	13	8	-147.89173	11	9	2	2	-0.33197	18	16	12	12	-9.21216	22	22	18	18	0.29262
19	14	8	183.04007	11	9	3	3	-0.46914	18	16	13	13	-5.91930	22	22	19	19	-1.32709
19	15	9	-616.07406	11	9	4	4	0.58193	18	16	14	14	-2.39494	22	22	20	19	-0.42757
19	15	10	-25.23186	11	9	5	5	0.22185	18	16	15	15	29.43257	22	22	20	20	-1.23228
19	15	11	39.44316	11	9	6	6	1.93395	18	16	16	15	0.83941	22	22	21	19	0.41954
19	15	12	4.11198	11	9	7	7	4.42823	18	16	16	16	9.50469	22	22	21	20	0.25737
19	16	9	-65.58052	11	9	8	8	3.65282	18	17	1	1	16.08729	22	22	21	21	0.57435
19	16	10	-40.33141	11	9	9	9	-10.55775	18	17	2	2	6.43821	22	22	22	19	-1.23623
19	16	11	2.63248	11	10	1	1	-6.27449	18	17	3	3	0.50290	22	22	22	20	0.32771
19	16	12	-54.56303	11	10	2	2	-3.14209	18	17	4	4	-2.29762	22	22	22	21	0.28334
19	17	9	-13.65083	11	10	3	3	0.93463	18	17	5	5	-3.32817	22	22	22	22	2.49705
19	17	10	-50.18287	11	10	4	4	0.68448	18	17	6	6	-4.40703	23	23	1	1	-112.83801
19	17	11	-6.84036	11	10	5	5	-0.26498	18	17	7	7	-6.33793	23	23	2	1	-8.78821
19	17	12	-25.64529	11	10	6	6	1.10659	18	17	8	8	-4.93442	23	23	2	2	-2.80149
19	18	9	-4.63267	11	10	7	7	1.32783	18	17	9	9	15.76473	23	23	3	1	-8.22129
19	18	10	55.37304	11	10	8	8	2.14342	18	17	10	10	-9.18115	23	23	3	2	3.56422
19	18	11	26.52970	11	10	9	9	-7.24794	18	17	12	12	-8.74207	23	23	3	3	-1.38433

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	I(I,J,K,L)
19	18	12	106.02153	11	10	10	9	0.63301	18	17	13	13	-3.48882	23	23	4	1	-3.22495
19	19	1	-614.75023	11	10	10	10	-5.72709	18	17	14	14	-0.68268	23	23	4	2	-3.29510
19	19	2	-54.61637	11	11	1	1	-3.44521	18	17	15	15	15.99809	23	23	4	3	-4.57370
19	19	3	-54.68269	11	11	2	1	0.45590	18	17	16	16	10.54475	23	23	4	4	10.75614
19	19	4	0.91152	11	11	2	2	-11.16957	18	17	17	15	-0.68722	23	23	5	1	-2.12936
19	19	5	-13.88087	11	11	3	1	0.81483	18	17	17	16	6.07946	23	23	5	2	-7.21874
20	13	8	-5.72622	11	11	3	2	1.07070	18	17	17	17	7.08221	23	23	5	3	-3.43172
20	14	8	-12.23833	11	11	3	3	-1.21995	18	18	1	1	-52.73808	23	23	5	4	11.84846
20	15	9	-20.06899	11	11	4	1	1.02892	18	18	2	1	-6.22333	23	23	5	5	10.07594
20	15	10	29.10666	11	11	4	2	-0.82382	18	18	2	2	8.99621	23	23	6	6	64.48076
20	15	11	18.17572	11	11	4	3	-0.85686	18	18	3	1	-3.85208	23	23	7	6	-65.70519
20	15	12	19.33387	11	11	4	4	-0.44798	18	18	3	2	5.14838	23	23	7	7	75.39720
20	16	9	-27.85206	11	11	5	1	0.16392	18	18	3	3	1.68707	23	23	8	8	99.16594
20	16	10	-52.32070	11	11	5	3	0.36000	18	18	4	1	-1.84479	23	23	9	9	-113.86210
20	16	11	-22.55176	11	11	5	4	1.48058	18	18	4	2	-3.35095	23	23	10	9	-5.86648
20	16	12	45.08240	11	11	5	5	-5.23291	18	18	4	3	-3.21418	23	23	10	10	-2.77406
20	17	9	-40.59449	11	11	6	6	-1.46522	18	18	4	4	21.20224	23	23	11	9	4.22522
20	17	10	234.44614	11	11	7	6	2.20083	18	18	5	1	-1.07709	23	23	11	10	1.02992
20	17	11	9.17918	11	11	7	7	-7.01683	18	18	5	2	-6.86627	23	23	11	11	-4.37450
20	17	12	-128.54981	11	11	8	8	-1.19956	18	18	5	3	-4.76716	23	23	12	9	-1.62484
20	18	9	27.74013	11	11	9	9	-3.21674	18	18	5	4	16.25978	23	23	12	10	8.79849
20	18	10	-37.92845	11	11	10	9	1.33923	18	18	5	5	12.93029	23	23	12	11	4.75859
20	18	11	-18.48013	11	11	10	10	-5.82834	18	18	6	6	6.43878	23	23	12	12	13.99124
20	18	12	3.50644	11	11	11	10	-1.74601	18	18	7	6	-11.06716	23	23	13	13	39.10482
20	19	1	-19.90068	11	11	11	11	-2.26410	18	18	7	7	3.01486	23	23	14	13	-48.05909
20	19	2	-43.33738	12	9	1	1	-3.81391	18	18	8	8	12.96155	23	23	14	14	58.74315
20	19	3	1.51287	12	9	2	2	4.40108	18	18	9	9	-54.95059	23	23	15	15	-112.86744
20	19	4	23.97368	12	9	3	3	2.29409	18	18	10	9	-0.18662	23	23	16	15	-10.59932
20	19	5	16.93612	12	9	4	4	-0.29183	18	18	10	10	3.60398	23	23	16	16	2.67982
20	20	1	15.06740	12	9	5	5	-0.78167	18	18	11	9	1.07677	23	23	17	15	-3.30620
20	20	2	172.06508	12	9	6	6	0.50036	18	18	11	10	2.54547	23	23	17	16	4.48747
20	20	3	-177.63868	12	9	7	7	-0.38994	18	18	11	11	0.44438	23	23	17	17	-4.63321
20	20	4	-24.36839	12	9	8	8	-1.77836	18	18	12	9	-0.48779	23	23	18	15	-3.70893
20	20	5	27.32691	12	9	9	9	0.73842	18	18	12	10	9.29721	23	23	18	16	-8.49204
21	13	8	-4.04164	12	10	1	1	-28.86585	18	18	12	11	3.21818	23	23	18	17	-3.90090
21	14	8	1.79299	12	10	2	2	0.69023	18	18	12	12	15.99596	23	23	18	18	16.90962
21	15	9	4.68484	12	10	3	3	-5.09598	18	18	13	13	2.99404	23	23	19	19	-114.44422
21	15	10	53.62918	12	10	4	4	6.03624	18	18	14	13	-6.51244	23	23	20	19	-2.53428
21	15	11	20.60907	12	10	5	5	8.16883	18	18	14	14	6.21916	23	23	20	20	-6.39301
21	15	12	102.01635	12	10	6	6	5.01578	18	18	15	15	-52.94471	23	23	21	19	-2.24797
21	16	9	-57.92012	12	10	7	7	4.75315	18	18	16	15	-5.68055	23	23	21	20	3.40141
21	16	10	5.35940	12	10	8	8	6.51379	18	18	16	16	10.78290	23	23	21	21	14.00718
21	16	11	-6.81237	12	10	9	9	-29.33852	18	18	17	15	-3.33760	23	23	22	19	-3.26959
21	16	12	-24.58647	12	10	10	9	0.38336	18	18	17	16	8.41296	23	23	22	20	-1.06626
21	17	9	-40.56254	12	10	10	10	-3.73474	18	18	17	17	3.51155	23	23	22	21	-5.13700
21	17	10	-27.18409	12	11	1	1	-10.32255	18	18	18	15	-1.99628	23	23	22	22	-1.54479
21	17	11	3.39838	12	11	2	2	3.43192	18	18	18	16	-7.71086	23	23	23	23	129.96447
21	17	12	26.65317	12	11	3	3	1.20487	18	18	18	17	-4.17846	24	23	1	1	41.31868
21	18	9	109.06041	12	11	4	4	2.45768	18	18	18	18	29.85974	24	23	2	2	-5.87630
21	18	10	-15.85937	12	11	5	5	3.51977	19	19	1	1	145.06397	24	23	3	3	-3.52090
21	18	11	17.56992	12	11	6	6	1.71203	19	19	2	1	14.05813	24	23	4	4	-3.80551
21	18	12	2.53810	12	11	7	7	3.78164	19	19	2	2	-12.22442	24	23	5	5	1.52812
21	19	1	4.74063	12	11	8	8	2.80647	19	19	3	1	14.35698	24	23	6	6	-25.45543
21	19	2	-52.43906	12	11	9	9	-10.63618	19	19	3	2	-6.08653	24	23	7	7	-20.18294
21	19	3	-28.23288	12	11	10	10	4.56725	19	19	3	3	-3.40638	24	23	8	8	-33.82523
21	19	4	88.15944	12	11	11	9	0.13820	19	19	4	1	-0.49079	24	23	9	9	42.16236
21	19	5	83.14375	12	11	11	10	2.09547	19	19	4	2	21.51115	24	23	10	10	-8.49184
21	20	1	29.71652	12	11	11	11	1.73979	19	19	4	3	13.21097	24	23	11	11	1.26695
21	20	2	-20.08040	12	12	1	1	-47.73357	19	19	4	4	-42.16489	24	23	12	12	-6.62155
21	20	3	27.20815	12	12	2	1	-3.02692	19	19	5	1	1.48775	24	23	13	13	-13.48137
21	20	4	-17.67808	12	12	2	2	2.27176	19	19	5	2	15.00326	24	23	14	14	-19.76060
21	20	5	-14.55654	12	12	3	1	-3.22729	19	19	5	3	9.72157	24	23	15	15	42.01534
21	21	1	102.52239	12	12	3	2	0.32612	19	19	5	4	-29.10613	24	23	17	17	-13.64936
21	21	2	2.82584	12	12	3	3	3.37644	19	19	5	5	-21.67953	24	23	18	18	-6.20967
21	21	3	-20.91568	12	12	4	2	-6.93548	19	19	6	6	-66.72712	24	23	19	19	42.85658
21	21	4	4.33400	12	12	4	3	-3.31520	19	19	7	6	66.17932	24	23	20	20	-11.35242
21	21	5	-0.86630	12	12	4	4	10.43363	19	19	7	7	-61.96101	24	23	21	21	-5.32723
22	13	8	3.43947	12	12	5	1	0.38869	19	19	8	8	-95.89891	24	23	22	22	-1.56762
22	14	8	6.63251	12	12	5	2	-8.59187	19	19	9	9	147.60760	24	23	23	23	-34.72979
22	15	9	-16.43008	12	12	5	3	-1.17191	19	19	10	9	9.14756	24	24	1	1	-14.31106
22	15	10	-26.00105	12	12	5	4	10.43242	19	19	10	10	-17.85037	24	24	2	1	-3.14072
22	15	11	2.13914	12	12	5	5	6.29773	19	19	11	9	-10.38484	24	24	2	2	-12.46333
22	15	12	-19.22781	12	12	6	6	7.13112	19	19	11	10	-7.52567	24	24	3	1	-0.89298
22	16	9	0.91752	12	12	7	6	-8.17819	19	19	11	11	-3.41754	24	24	3	2	9.68882
22	16	10	23.52531	12	12	7	7	3.24882	19	19	12	9	0.09267	24	24	3	3	-12.29264
22	16	11	-3.25360	12	12	8	8	9.44238	19	19	12	10	-29.47363	24	24	4	1	0.67790
22	16	12	-6.78631	12	12	9	9	-48.71690	19	19	12	11	-10.74770	24	24	4	2	2.85737
22	17	9	10.77309	12	12	10	9	-2.35078	19	19	12	12	-48.98371	24	24	4	3	0.88936
22	17	10	-39.01535	12	12	10	10	6.55240	19	19	13	13	-39.75003	24	24	4	4	-1.88351

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	I(I,J,K,L)
22	17	11	-14.45143	12	12	11	9	1.10943	19	19	14	13	48.53818	24	24	5	1	-0.33130
22	17	12	7.35642	12	12	11	10	-1.17857	19	19	14	14	-60.20061	24	24	5	2	1.16330
22	18	9	-29.44370	12	12	11	11	0.48256	19	19	15	15	145.80071	24	24	5	3	-0.45128
22	18	10	8.21013	12	12	12	9	-0.20542	19	19	16	15	18.18317	24	24	5	4	0.82211
22	18	11	4.14708	12	12	12	10	8.14884	19	19	16	16	-14.82146	24	24	5	5	5.06639
22	18	12	-27.02481	12	12	12	11	5.07644	19	19	17	15	3.09860	24	24	6	6	9.89257
22	19	1	-18.40740	12	12	12	12	13.50020	19	19	17	16	-8.54803	24	24	7	6	-3.93386
22	19	2	5.05368	13	13	1	1	-39.43963	19	19	17	17	-6.41044	24	24	7	7	26.81791
22	19	3	-0.36768	13	13	2	1	-0.13404	19	19	18	15	0.73454	24	24	8	8	11.72876
22	19	4	-23.74021	13	13	2	2	-13.09876	19	19	18	16	28.94463	24	24	9	9	-15.07900
22	19	5	-14.96580	13	13	3	1	-1.11837	19	19	18	17	15.91018	24	24	10	9	2.38939
22	20	1	-18.70669	13	13	3	3	-3.98518	19	19	18	18	-55.11123	24	24	10	10	-16.14134
22	20	2	-15.53739	13	13	4	1	1.45954	19	19	19	19	148.61467	24	24	11	9	1.03680
22	20	3	29.06214	13	13	4	2	-5.27979	20	19	1	1	6.74665	24	24	11	11	-5.23997
22	20	4	10.06870	13	13	4	3	-2.68355	20	19	3	3	-0.74311	24	24	12	10	6.59022
22	20	5	9.96167	13	13	4	4	1.81870	20	19	4	4	1.06390	24	24	12	11	-1.57460
22	21	1	-24.81550	13	13	5	1	-0.73199	20	19	5	5	0.21128	24	24	12	12	-5.74002
22	21	2	1.51536	13	13	5	2	-0.25998	20	19	7	7	-3.86523	24	24	13	13	10.04145
22	21	3	2.21469	13	13	5	3	-0.73652	20	19	8	8	-1.09767	24	24	14	13	-3.42510
22	21	4	-20.24665	13	13	5	4	3.55038	20	19	9	9	8.10604	24	24	14	14	13.02761
22	21	5	-5.57638	13	13	5	5	2.07620	20	19	10	10	-3.85962	24	24	15	15	-14.33680
22	22	1	4.17197	13	13	6	6	17.82203	20	19	11	11	2.06531	24	24	16	15	-2.09488
22	22	2	21.51739	13	13	7	6	-19.18097	20	19	12	12	-1.31933	24	24	16	16	-5.80873
22	22	3	-18.18095	13	13	7	7	29.91764	20	19	13	13	0.56116	24	24	17	15	-3.09714
22	22	4	-10.59154	13	13	8	8	31.06205	20	19	14	14	-0.55092	24	24	17	16	3.86523
22	22	5	-4.81198	13	13	9	9	-39.99637	20	19	15	15	7.11275	24	24	17	17	-34.24431
23	13	9	-166.26646	13	13	10	9	-0.28948	20	19	16	16	3.68196	24	24	18	15	0.27289
23	13	10	-19.06209	13	13	10	10	-5.52752	20	19	17	17	-4.75363	24	24	18	16	2.26736
23	13	11	-19.27378	13	13	11	9	0.90656	20	19	18	18	0.77743	24	24	18	17	4.46929
23	13	12	3.70852	13	13	11	10	0.91689	20	19	19	19	8.14045	24	24	19	19	-15.13901
23	14	9	203.54058	13	13	11	11	-0.44721	20	20	1	1	-5.66278	24	24	20	19	2.05644
23	14	10	2.18386	13	13	12	9	-0.17609	20	20	2	1	4.16112	24	24	20	20	-29.42542
23	14	11	-13.47754	13	13	12	10	4.74705	20	20	2	2	14.58912	24	24	21	19	1.23967
23	14	12	5.88223	13	13	12	11	1.18153	20	20	3	1	-0.30341	24	24	21	20	4.47931
23	15	8	260.11843	13	13	12	12	3.90371	20	20	3	2	-21.52545	24	24	21	21	-4.18600
23	16	8	15.98491	13	13	13	13	7.78989	20	20	3	3	16.90264	24	24	22	19	-0.81735
23	17	8	-6.17684	14	13	1	1	47.16597	20	20	4	1	0.15070	24	24	22	20	2.73959
23	18	8	20.66538	14	13	2	2	-6.85761	20	20	4	2	-4.38465	24	24	22	22	-3.01834
23	19	6	-211.15466	14	13	3	3	-2.63622	20	20	4	3	1.96185	24	24	23	23	25.97708
23	19	7	224.73139	14	13	4	4	-4.70200	20	20	4	4	0.28459	24	24	24	23	3.76137
23	20	6	-4.83654	14	13	5	5	-2.91491	20	20	5	1	1.99876	24	24	24	24	27.89250
23	20	7	6.41595	14	13	6	6	-26.28334	20	20	5	2	-1.24466					
23	21	6	-2.38144	14	13	7	7	-24.92315	20	20	5	3	-6.31497					

Table S40: The quartic potential energy surface of trans-butadiene. The calculation was done by using B3LYP/6-311++G(2d,2p) method. The force constants (FI) are in cm^{-1} units.

I	J	FI(I,J)
1	1	3225.98254
2	2	3141.90745
3	3	3130.46038
4	4	1698.03059
5	5	1481.67652
6	6	1319.61569
7	7	1229.76970
8	8	900.38825
9	9	519.29333
10	10	1053.01767
11	11	941.11783
12	12	538.56044
13	13	172.96269
14	14	1000.01373
15	15	940.26865
16	16	779.06676
17	17	3226.37012
18	18	3143.17691
19	19	3139.30065
20	20	1647.74912
21	21	1420.50113
22	22	1327.12304
23	23	1010.35741
24	24	298.89119

I	J	K	FI(I,J,K)
1	1	1	-447.64648
2	1	1	-825.45920
2	2	1	177.24644
2	2	2	-850.86618
3	1	1	-414.75166
3	2	1	48.81379
3	2	2	-106.13806
3	3	1	-169.88421
3	3	2	-620.81328
3	3	3	955.71629
4	1	1	-3.61733
4	2	1	9.20671
4	2	2	41.50309
4	3	2	10.70516
4	3	3	15.66287
4	4	1	10.99915
4	4	2	86.05580
4	4	3	-52.02509
4	4	4	205.59105
5	1	1	-67.60583
5	2	1	18.63506
5	2	2	12.50317
5	3	1	-1.01265
5	3	2	1.05004
5	3	3	18.02484
5	4	1	9.31385
5	4	2	27.40077
5	4	3	83.14826
5	4	4	13.45186
5	5	1	59.88642
5	5	2	115.38253
5	5	3	5.80078
5	5	4	12.30285
5	5	5	64.02627
6	1	1	38.28655
6	2	1	6.74484
6	2	2	3.45811
6	3	1	3.21299
6	3	2	2.74476
6	3	3	4.88669
6	4	1	29.04497
6	4	2	-42.76768
6	4	3	68.03712
6	4	4	130.01917
6	5	1	62.07047
6	5	2	-7.88711
6	5	3	-77.58000
6	5	4	-28.00253
6	5	5	-9.61142
6	6	1	-14.66756
6	6	2	85.13914
6	6	3	-86.20120
6	6	4	42.99571
6	6	5	0.82573
6	6	6	79.58741
7	1	1	9.45957
7	2	1	19.60859
7	2	2	-13.24907
7	3	1	12.14127

I	J	K	FI(I,J,K)
24	19	3	-5.24711
24	19	4	0.77143
24	19	5	12.23770
24	19	6	-64.89978
24	19	7	-137.48299
24	19	8	-259.80385
24	19	9	190.37166
24	20	1	139.83912
24	20	2	-43.45662
24	20	3	20.63271
24	20	4	-13.88883
24	20	5	11.88343
24	20	6	8.00972
24	20	7	29.05057
24	20	8	-36.78080
24	20	9	39.91059
24	21	1	-216.07886
24	21	2	1.82407
24	21	3	19.75537
24	21	4	-12.92516
24	21	5	6.58836
24	21	6	8.14200
24	21	7	17.12388
24	21	8	-4.70128
24	21	9	5.40944
24	22	1	1.02275
24	22	2	-136.78324
24	22	3	57.09075
24	22	4	-10.90575
24	22	5	14.94690
24	22	6	20.53248
24	22	7	-37.96089
24	22	8	6.65556
24	23	1	36.61008
24	23	2	225.29095
24	23	3	189.19223
24	23	4	2.66034
24	23	5	-6.67293
24	23	6	33.26188
24	23	7	-18.11779
24	23	9	3.29654
24	24	1	49.37554
24	24	2	289.59924
24	24	3	83.99705
24	24	4	-129.60437
24	24	5	1.07344
24	24	6	-84.88294
24	24	7	19.24104
24	24	8	34.73814
24	24	9	-17.40578

I	J	K	L	FI(I,J,K,L)
1	1	1	1	307.80492
2	1	1	1	55.57858
2	2	1	1	199.18791
2	2	2	1	-84.99526
2	2	2	2	222.07070
3	1	1	1	61.16926
3	2	1	1	95.41923
3	2	2	1	-26.42811
3	2	2	2	48.50404
3	3	1	1	57.09388
3	3	2	1	22.48757
3	3	2	2	114.85122
3	3	3	1	-34.52216
3	3	3	2	-153.04710
3	3	3	3	381.81783
4	1	1	1	-3.08016
4	2	1	1	-4.04901
4	2	2	1	-0.28722
4	2	2	2	-11.34334
4	3	1	1	-1.60028
4	3	2	2	-3.13531
4	3	3	1	-1.28674
4	3	3	2	-4.49473
4	3	3	3	3.01560
4	4	1	1	-23.44903
4	4	2	1	2.62478
4	4	2	2	-22.81671
4	4	3	1	3.22493
4	4	3	2	9.44539
4	4	3	3	-41.13197
4	4	4	1	0.78136
4	4	4	2	6.69692
4	4	4	3	-2.99113

I	J	K	L	FI(I,J,K,L)
14	14	5	4	-3.62595
14	14	5	5	6.78011
14	14	6	1	1.32551
14	14	6	2	-1.19051
14	14	6	3	1.00909
14	14	6	4	-9.09158
14	14	6	5	10.19904
14	14	6	6	12.46500
14	14	7	1	0.80807
14	14	7	2	-2.20334
14	14	7	3	8.61781
14	14	7	4	8.83813
14	14	7	5	-6.01445
14	14	7	6	-11.41021
14	14	7	7	2.72089
14	14	8	1	1.37783
14	14	8	2	1.57279
14	14	8	3	-0.87498
14	14	8	4	4.69419
14	14	8	5	2.98774
14	14	8	6	-2.07964
14	14	8	7	8.27943
14	14	8	8	5.18415
14	14	9	1	-0.59898
14	14	9	2	-2.89340
14	14	9	3	4.10360
14	14	9	4	-4.67397
14	14	9	6	4.58176
14	14	9	7	-6.38409
14	14	9	8	-5.66208
14	14	9	9	4.03733
14	14	10	10	154.08680
14	14	11	10	-18.67791
14	14	11	11	37.07682
14	14	12	10	117.90158
14	14	12	11	23.51798
14	14	12	12	179.48694
14	14	13	10	93.37593
14	14	13	11	-18.50078
14	14	13	12	74.66116
14	14	13	13	51.40996
14	14	14	14	165.62315
15	14	1	1	41.67509
15	14	2	2	-19.32572
15	14	3	3	-32.84406
15	14	4	4	3.00491
15	14	5	5	-3.10032
15	14	6	6	4.13203
15	14	7	7	0.84002
15	14	8	8	-3.10673
15	14	10	10	22.56327
15	14	11	11	-12.56946
15	14	12	12	-17.61409
15	14	13	13	17.88060
15	14	14	14	12.49305
15	15	1	1	-193.50009
15	15	2	1	65.33058
15	15	2	2	-181.90999
15	15	3	1	8.61288
15	15	3	2	-72.58961
15	15	3	3	-39.90277
15	15	4	1	1.53765
15	15	4	2	-1.66798
15	15	4	3	-0.07740
15	15	4	4	-0.59962
15	15	5	1	2.10974
15	15	5	2	-11.62459
15	15	5	3	-4.65535
15	15	5	4	8.46196
15	15	5	5	12.75640
15	15	6	1	2.49826
15	15	6	2	2.14397
15	15	6	3	1.41502
15	15	6	4	-5.34764
15	15	6	5	-6.76873
15	15	6	6	5.85963
15	15	7	1	3.49909
15	15	7	2	-1.50823
15	15	7	3	0.12741
15	15	7	4	-1.19136
15	15	7	5	-4.05404
15	15	7	6	5.66613
15	15	7	7	4.44702
15	15	8	1	-0.34619
15	15	8	2	-4.19512
15	15	8	3	-1.34835

I	J	K	L	FI(I,J,K,L)
21	21	9	3	0.15120
21	21	9	4	-2.97915
21	21	9	5	-3.98999
21	21	9	6	-6.25342
21	21	9	7	-12.46242
21	21	9	8	-24.94330
21	21	9	9	20.26206
21	21	10	10	4.07168
21	21	11	10	-1.23630
21	21	11	11	11.43817
21	21	12	10	-1.00505
21	21	12	11	6.07485
21	21	12	12	13.13462
21	21	13	10	3.90589
21	21	13	11	-6.59501
21	21	13	12	5.52628
21	21	13	13	-20.77173
21	21	14	14	4.94933
21	21	15	14	-1.52064
21	21	15	15	10.59752
21	21	16	14	-2.95836
21	21	16	15	5.51629
21	21	16	16	4.73114
21	21	17	17	-88.90048
21	21	18	17	-3.97984
21	21	18	18	-29.33556
21	21	19	17	-14.78284
21	21	19	18	11.38734
21	21	19	19	-60.48102
21	21	20	17	0.94408
21	21	20	18	-0.19258
21	21	20	19	4.94292
21	21	20	20	16.56159
21	21	21	17	-2.15346
21	21	21	18	3.86706
21	21	21	19	-9.34164
21	21	21	20	-3.40692
21	21	21	21	12.93971
22	17	1	1	1.08359
22	17	2	2	-4.45786
22	17	3	3	-1.86941
22	17	4	4	2.02534
22	17	5	5	0.09926
22	17	6	6	1.36215
22	17	7	7	4.24742
22	17	8	8	5.96729
22	17	9	9	0.11809
22	17	10	10	1.00513
22	17	11	11	4.36858
22	17	12	12	5.88056
22	17	13	13	-4.68095
22	17	14	14	1.48461
22	17	15	15	3.66157
22	17	16	16	3.84914
22	17	17	17	0.95018
22	18	1	1	1.77687
22	18	2	2	-2.00036
22	18	3	3	4.57082
22	18	4	4	-0.04774
22	18	5	5	-1.32607
22	18	6	6	8.25171
22	18	7	7	-7.43767
22	18	8	8	0.99638
22	18	9	9	2.93810
22	18	10	10	1.42880
22	18	11	11	1.33768
22	18	12	12	5.27527
22	18	13	13	-6.83897
22	18	14	14	-0.82097
22	18	15	15	1.10946
22	18	16	16	0.32953
22	18	17	17	1.87343
22	18	18	17	-0.99970
22	18	18	18	2.33511
22	19	1	1	-3.87335
22	19	2	2	3.60046
22	19	3	3	3.55609
22	19	4	4	1.91189
22	19	5	5	1.89925
22	19	6	6	-1.92548
22	19	7	7	-4.85627
22	19	8	8	-1.63956
22	19	9	9	1.43855
22	19	10	10	-0.67942
22	19	11	11	0.09409
22	19	12	12	-2.12243

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
7	3	2	5.06204	4	4	4	4	35.70119	15	15	8	4	-5.97247	22	19	13	13	-1.37444
7	3	3	-10.27064	5	1	1	1	6.28285	15	15	8	5	-5.39027	22	19	14	14	-0.64230
7	4	1	54.77676	5	2	1	1	8.39447	15	15	8	6	14.10638	22	19	15	15	-1.33027
7	4	3	-37.89548	5	2	2	1	-6.09107	15	15	8	7	15.33860	22	19	16	16	-1.35527
7	4	4	29.57365	5	2	2	2	-6.70707	15	15	8	8	31.99402	22	19	17	17	-3.75115
7	5	1	76.16428	5	3	1	1	5.68198	15	15	9	1	2.77911	22	19	18	18	3.74850
7	5	2	-30.17259	5	3	2	2	-2.12637	15	15	9	2	-0.83264	22	19	19	17	-5.31441
7	5	3	48.19467	5	3	3	1	-0.24129	15	15	9	4	4.36801	22	19	19	19	3.29701
7	5	4	-39.74269	5	3	3	2	-3.36166	15	15	9	5	4.98685	22	20	1	1	-2.85477
7	5	5	11.76994	5	3	3	3	5.52221	15	15	9	6	-11.35031	22	20	2	2	-24.12162
7	6	1	-31.71949	5	4	1	1	-46.62445	15	15	9	7	-11.40165	22	20	3	3	-41.75528
7	6	2	-8.71806	5	4	2	2	-23.38850	15	15	9	8	-24.30831	22	20	4	4	-10.45623
7	6	3	95.25955	5	4	3	3	28.03893	15	15	9	9	17.01126	22	20	5	5	3.96441
7	6	4	-40.31776	5	4	4	1	0.34054	15	15	10	10	43.65844	22	20	6	6	10.12284
7	6	5	1.30281	5	4	4	2	-0.90951	15	15	11	10	36.42483	22	20	7	7	6.55371
7	6	6	2.44220	5	4	4	3	1.10439	15	15	11	11	199.95265	22	20	8	8	3.86964
7	7	1	6.55907	5	4	4	4	-2.79633	15	15	12	10	-91.88489	22	20	9	9	3.98022
7	7	2	51.02532	5	5	1	1	-107.65180	15	15	12	11	-47.97542	22	20	10	10	7.28360
7	7	3	-27.61263	5	5	2	1	-12.49218	15	15	12	12	245.33613	22	20	11	11	2.14057
7	7	4	-56.70062	5	5	2	2	-68.45508	15	15	13	10	-41.00574	22	20	12	12	6.30481
7	7	5	3.61212	5	5	3	1	-13.97405	15	15	13	11	-138.51892	22	20	13	13	24.83455
7	7	6	-1.99000	5	5	3	2	-13.81216	15	15	13	12	78.46897	22	20	14	14	7.02315
7	7	7	120.07528	5	5	3	3	-49.18853	15	15	13	13	92.79791	22	20	15	15	3.88721
8	1	1	-8.32639	5	5	4	1	-0.48481	15	15	14	14	33.22451	22	20	16	16	0.37591
8	2	1	14.06470	5	5	4	2	-4.21490	15	15	15	14	6.69672	22	20	17	17	-3.25088
8	2	2	-14.59902	5	5	4	3	-0.82935	15	15	15	15	222.49364	22	20	18	18	-46.11262
8	3	1	6.34716	5	5	4	4	6.10302	16	14	1	1	84.59221	22	20	19	19	-18.54016
8	3	2	-1.18381	5	5	5	1	-1.81668	16	14	2	2	26.89637	22	20	20	17	1.89415
8	3	3	-5.38295	5	5	5	2	-8.60821	16	14	3	3	-64.41231	22	20	20	18	0.49805
8	4	1	97.71810	5	5	5	3	-5.53238	16	14	4	4	-2.36565	22	20	20	19	1.62223
8	4	2	-13.67329	5	5	5	4	5.99602	16	14	5	5	-2.83564	22	20	20	20	-11.06655
8	4	3	-30.57513	5	5	5	5	19.23757	16	14	6	6	6.21107	22	21	1	1	-3.04107
8	4	4	-100.38117	6	1	1	1	0.40562	16	14	7	7	0.92293	22	21	2	2	4.78616
8	5	1	192.07075	6	2	1	1	-8.58450	16	14	8	8	-14.07235	22	21	3	3	-50.75806
8	5	2	-21.20266	6	2	2	1	-1.28490	16	14	9	9	-6.01695	22	21	4	4	-2.47067
8	5	3	42.53584	6	2	2	2	2.02876	16	14	10	10	45.72487	22	21	5	5	6.41713
8	5	4	43.75145	6	3	1	1	-3.98817	16	14	11	11	-65.22356	22	21	6	6	5.44509
8	5	5	-37.58277	6	3	2	2	0.31120	16	14	12	12	-67.11894	22	21	7	7	3.54705
8	6	1	-51.76811	6	3	3	1	-0.89834	16	14	13	13	11.88967	22	21	8	8	-2.13026
8	6	2	61.30574	6	3	3	2	-1.06762	16	14	14	14	44.38875	22	21	9	9	-3.64759
8	6	3	64.57681	6	3	3	3	3.52241	16	15	1	1	-67.92425	22	21	10	10	9.53815
8	6	4	-8.66666	6	4	1	1	12.01817	16	15	2	2	29.26893	22	21	11	11	-0.55099
8	6	5	-23.51407	6	4	2	2	29.25869	16	15	3	3	-20.11963	22	21	12	12	10.83180
8	6	6	-7.00127	6	4	3	3	57.35163	16	15	4	4	3.25186	22	21	13	13	11.57793
8	7	1	15.70227	6	4	4	1	1.69244	16	15	5	5	6.30744	22	21	14	14	12.07115
8	7	2	102.71235	6	4	4	2	2.85969	16	15	6	6	-1.17854	22	21	15	15	-3.04552
8	7	3	19.24320	6	4	4	3	1.69156	16	15	7	7	1.43122	22	21	16	16	5.58702
8	7	4	51.51612	6	4	4	4	16.69241	16	15	8	8	7.37622	22	21	17	17	-3.26445
8	7	5	-61.59931	6	5	1	1	17.52441	16	15	9	9	1.51549	22	21	18	18	-47.50253
8	7	6	16.04879	6	5	2	2	18.30416	16	15	10	10	9.16801	22	21	19	19	2.87555
8	7	7	-99.36369	6	5	3	3	-49.66588	16	15	11	11	21.72921	22	21	20	20	-5.22120
8	8	1	60.71916	6	5	4	4	2.02519	16	15	12	12	64.72855	22	21	21	17	-0.12458
8	8	2	211.15762	6	5	5	1	-0.27831	16	15	13	13	-26.84473	22	21	21	18	-0.51130
8	8	3	88.49600	6	5	5	2	4.32102	16	15	14	14	32.81797	22	21	21	19	2.82120
8	8	4	-73.27182	6	5	5	3	2.91168	16	15	15	14	-51.60898	22	21	21	20	-0.69900
8	8	5	12.07010	6	5	5	4	-6.96873	16	15	15	15	-14.64866	22	21	21	21	2.28694
8	8	6	27.02495	6	5	5	5	3.39298	16	16	1	1	-153.62092	22	22	1	1	-16.86408
8	8	7	62.46110	6	6	1	1	-20.67566	16	16	2	1	-55.84909	22	22	2	1	2.53073
8	8	8	-96.90201	6	6	2	1	18.38550	16	16	2	2	-89.86679	22	22	2	2	-44.85657
9	1	1	-8.31642	6	6	2	2	-46.15831	16	16	3	1	-39.33371	22	22	3	1	17.55461
9	2	1	-7.60135	6	6	3	1	17.71471	16	16	3	2	-31.12626	22	22	3	2	53.55704
9	2	2	-7.63598	6	6	3	2	28.48079	16	16	3	3	-55.37920	22	22	3	3	-135.24220
9	3	1	-2.62899	6	6	3	3	-88.86342	16	16	4	1	0.41297	22	22	4	1	0.64026
9	3	2	8.52700	6	6	4	1	1.33788	16	16	4	2	3.26200	22	22	4	2	0.93524
9	3	3	-19.65885	6	6	4	2	2.30427	16	16	4	3	0.84421	22	22	4	3	0.25493
9	4	1	-66.86914	6	6	4	3	-1.27966	16	16	4	4	-6.16540	22	22	4	4	12.83584
9	4	2	-0.31149	6	6	4	4	15.74654	16	16	5	1	-4.71905	22	22	5	1	0.38190
9	4	3	25.10167	6	6	5	1	0.73482	16	16	5	2	5.30929	22	22	5	2	1.16560
9	4	4	-38.27481	6	6	5	2	-1.66890	16	16	5	3	1.52857	22	22	5	3	1.29238
9	5	1	-137.71928	6	6	5	3	2.35682	16	16	5	4	7.16368	22	22	5	4	-9.56072
9	5	2	19.82135	6	6	5	4	-5.15209	16	16	5	5	6.64751	22	22	5	5	15.12108
9	5	3	-31.81852	6	6	5	5	9.44133	16	16	6	1	5.15120	22	22	6	1	1.70758
9	5	4	3.08935	6	6	6	1	0.79066	16	16	6	2	-1.93746	22	22	6	2	-6.95172
9	5	5	-4.06196	6	6	6	2	-7.15679	16	16	6	3	-0.98941	22	22	6	3	3.57595
9	6	1	41.11327	6	6	6	3	5.51628	16	16	6	4	-2.54798	22	22	6	4	-18.28040
9	6	2	-47.82360	6	6	6	4	-9.21229	16	16	6	5	3.47870	22	22	6	5	13.67993
9	6	3	-59.90228	6	6	6	5	4.12237	16	16	6	6	1.38227	22	22	6	6	28.26360
9	6	4	-15.76202	6	6	6	6	21.16442	16	16	7	1	3.20597	22	22	7	1	1.43230
9	6	5	5.47087	7	1	1	1	2.27936	16	16	7	2	-0.74384	22	22	7	2	-5.44480
9	6	6	-3.21370	7	2	1	1	-2.90420	16	16	7	3	4.14608	22	22	7	3	6.75126
9	7	1	-14.03073	7	2	2	1	-6.69349	16	16	7	4	7.45952	22	22	7	4	11.75974
9	7	2	-87.87726	7	2	2	2	4.54881	16	16	7	5	0.67636	22	22	7	5	-12.68250
9	7	3	6.55763	7	3	1	1	-0.93563	16	16	7	6	-1.55971	22	22	7	6	-19.15299
9	7	4	13.43719	7	3	2	2	1.06718	16	16	7	7	-1.66503	22	22	7	7	14.74929
9	7	5	-6.46498	7	3	3	1	-1.45301	16	16	8	1	1.12430	22	22	8	1	3.31257
9	7	6	-34.17065	7	3	3	2	0.88625	16	16	8	2	-0.13077	22	22	8	2	-0.16640
9	7	7	-8.81249	7	3	3	3	-2.15329	16	16	8	3	-1.59866	22	22	8	3	-3.58355
9	8	1	-33.15703	7	4	1	1	-3.72113	16	16	8	4	0.81077	22	22	8	4	3.86511
9	8	2	-149.78382	7	4	2	2	0.49096	16	16	8	5	16.35126	22	22	8	5	-5.49815
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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9	8	5	29.26316	7	4	4	2	-0.81165	16	16	8	8	19.92384	22	22	8	8	11.69665
9	8	6	5.29480	7	4	4	3	-0.71069	16	16	9	1	-1.49441	22	22	9	1	-2.18350
9	8	7	24.81459	7	4	4	4	-3.98233	16	16	9	2	0.22218	22	22	9	2	-2.25824
9	8	8	-37.62103	7	5	1	1	-16.01016	16	16	9	3	-0.28449	22	22	9	3	5.53577
9	9	1	13.51773	7	5	2	2	20.50446	16	16	9	4	-4.49216	22	22	9	4	-7.04439
9	9	2	118.09736	7	5	3	3	36.32806	16	16	9	5	-9.98998	22	22	9	5	8.49167
9	9	3	33.27259	7	5	4	4	0.05632	16	16	9	6	-1.64175	22	22	9	6	8.41894
9	9	4	-17.99896	7	5	5	2	2.19372	16	16	9	7	-8.64875	22	22	9	7	-11.17570
9	9	5	-9.22607	7	5	5	3	2.03717	16	16	9	8	-18.60431	22	22	9	8	-9.73648
9	9	6	7.89708	7	5	5	5	2.37063	16	16	9	9	11.06731	22	22	9	9	11.36287
9	9	7	-3.80595	7	6	1	1	-14.57790	16	16	10	10	46.56861	22	22	10	10	20.14898
9	9	8	-4.16278	7	6	2	2	-8.92575	16	16	11	10	-24.62631	22	22	11	10	-1.00626
9	9	9	-37.46387	7	6	3	3	57.53264	16	16	11	11	130.04720	22	22	11	11	2.19402
10	10	1	35.84658	7	6	4	4	-5.34853	16	16	12	10	-52.97578	22	22	12	10	20.04945
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10	10	5	-9.10763	7	6	6	3	0.78757	16	16	13	11	-51.47636	22	22	13	11	-3.58859
10	10	6	11.10939	7	6	6	4	3.82292	16	16	13	12	2.59795	22	22	13	12	10.68551
10	10	7	17.47709	7	6	6	5	-9.90766	16	16	13	13	34.03150	22	22	13	13	-12.42466
10	10	8	-10.25991	7	6	6	6	-12.48462	16	16	14	14	56.90320	22	22	14	14	20.12944
10	10	9	8.36754	7	7	1	1	-24.54225	16	16	15	14	-32.15825	22	22	15	14	2.97515
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11	10	2	49.99830	7	7	2	2	-30.18587	16	16	16	14	-55.00670	22	22	16	14	10.48454
11	10	3	23.36291	7	7	3	1	4.15737	16	16	16	15	64.20899	22	22	16	15	2.19458
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11	10	6	-2.09810	7	7	4	1	-0.65869	17	17	2	1	54.39701	22	22	18	17	14.05066
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12	10	6	-12.49936	7	7	7	4	-5.11814	17	17	6	5	17.23093	22	22	22	21	13.74980
12	10	7	16.59613	7	7	7	5	2.44877	17	17	6	6	-21.36044	22	22	22	22	39.08651
12	10	8	4.97585	7	7	7	6	-6.81454	17	17	7	1	2.32472	23	17	1	1	-13.13023
12	10	9	-2.29457	7	7	7	7	16.14310	17	17	7	2	-2.76907	23	17	2	2	9.93752
12	11	1	508.44100	8	1	1	1	16.00783	17	17	7	3	-0.90439	23	17	3	3	1.35595
12	11	2	-62.42407	8	2	1	1	-2.98395	17	17	7	4	-3.89813	23	17	4	4	-2.40263
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12	11	5	3.64396	8	3	1	1	0.69590	17	17	7	7	-24.74762	23	17	7	7	-4.71490
12	11	6	-24.34410	8	3	2	2	1.00836	17	17	8	1	15.96664	23	17	8	8	-8.68974
12	11	7	-11.42861	8	3	3	1	-0.75518	17	17	8	2	-2.79062	23	17	9	9	-1.47267
12	11	8	-8.90691	8	3	3	2	1.71523	17	17	8	3	0.75785	23	17	10	10	-1.68365
12	11	9	-1.51839	8	3	3	3	-3.09861	17	17	8	4	-13.26779	23	17	11	11	-2.30168
12	12	1	236.71628	8	4	1	1	-13.33997	17	17	8	5	-46.98106	23	17	12	12	-7.13615
12	12	2	625.57771	8	4	2	2	12.83580	17	17	8	6	-28.72909	23	17	13	13	5.83279
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12	12	4	-87.73045	8	4	4	1	0.62731	17	17	8	8	-111.17147	23	17	15	15	-1.59098
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12	12	7	12.29072	8	5	1	1	-47.79771	17	17	9	3	1.13780	23	18	1	1	-3.80034
12	12	8	1.31324	8	5	2	2	21.10690	17	17	9	4	6.37280	23	18	2	2	3.65954
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13	10	1	124.53872	8	5	4	4	-4.16243	17	17	9	6	20.26583	23	18	4	4	-0.45553
13	10	2	14.36961	8	5	5	1	-7.95812	17	17	9	7	33.71161	23	18	5	5	2.27231
13	10	3	-210.62775	8	5	5	2	3.86142	17	17	9	8	72.85837	23	18	6	6	-1.51721
13	10	4	16.66095	8	5	5	3	0.87307	17	17	9	9	-48.68426	23	18	7	7	-6.32886
13	10	6	-4.29281	8	5	5	4	7.29743	17	17	10	10	-46.22624	23	18	8	8	-2.02088
13	10	7	13.90992	8	5	5	5	6.52008	17	17	11	10	16.38986	23	18	9	9	0.92416
13	10	8	-18.36507	8	6	1	1	-29.01214	17	17	11	11	-212.26293	23	18	10	10	-1.80986
13	10	9	13.64579	8	6	2	2	-36.77579	17	17	12	10	97.22016	23	18	11	11	-0.87109
13	11	1	73.60484	8	6	3	3	12.83929	17	17	12	11	-85.83976	23	18	12	12	-1.15739
13	11	2	-238.74151	8	6	4	4	-5.81407	17	17	12	12	-262.14303	23	18	13	13	-0.47711
13	11	3	-80.60683	8	6	5	5	7.37956	17	17	13	10	9.55864	23	18	14	14	-2.53302
13	11	4	-62.25721	8	6	6	1	1.01505	17	17	13	11	91.20829	23	18	15	15	-2.39062
13	11	5	-63.74786	8	6	6	2	-2.37765	17	17	13	12	-12.27629	23	18	16	16	-1.65590
13	11	6	3.70011	8	6	6	3	-2.61494	17	17	13	13	-46.80914	23	18	17	17	-3.59889
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13	11	8	-2.19363	8	6	6	5	-7.47937	17	17	15	14	40.83154	23	18	18	18	0.77599
13	12	1	-217.94927	8	6	6	6	-0.42597	17	17	15	15	-192.26722	23	19	1	1	4.26186
13	12	2	217.35886	8	7	1	1	-51.52499	17	17	16	14	83.31160	23	19	2	2	-5.83668
13	12	3	-130.15010	8	7	2	2	-43.07374	17	17	16	15	-67.25941	23	19	3	3	1.30482
13	12	4	8.79318	8	7	3	3	-21.80052	17	17	16	16	-152.64222	23	19	4	4	1.10660
13	12	5	-57.44036	8	7	4	4	-3.82174	17	17	17	17	302.76454	23	19	5	5	-4.84395
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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13	12	8	-46.00644	8	7	7	1	5.04411	18	17	3	3	-50.46590	23	19	9	9	-0.18431
13	12	9	-39.78609	8	7	7	2	0.42090	18	17	4	4	1.21513	23	19	11	11	0.34798
13	13	1	-87.92657	8	7	7	3	-1.34867	18	17	5	5	-2.41974	23	19	12	12	1.02576
13	13	2	167.79057	8	7	7	4	13.82136	18	17	6	6	1.49083	23	19	13	13	-1.86105
13	13	3	-46.14317	8	7	7	5	-8.00699	18	17	7	7	2.76324	23	19	14	14	-2.78506
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14	14	7	11.33428	8	8	5	1	1.23239	18	18	2	2	123.48320	23	20	6	6	0.20958
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15	15	4	40.03987	8	8	7	5	10.76653	18	18	6	3	1.23571	23	20	20	19	1.53932
15	15	5	70.85355	8	8	7	6	3.45513	18	18	6	4	61.81792	23	20	20	20	-0.35753
15	15	6	-5.50345	8	8	7	7	27.42004	18	18	6	5	-47.95527	23	21	1	1	38.73653
15	15	7	-8.17391	8	8	8	1	6.15999	18	18	6	6	-95.50002	23	21	2	2	-30.94294
15	15	8	11.80314	8	8	8	2	-1.79291	18	18	7	1	-0.94879	23	21	3	3	-30.13374
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16	14	2	-62.81538	8	8	8	5	4.28853	18	18	7	4	-39.34907	23	21	6	6	12.51010
16	14	3	-203.20235	8	8	8	6	12.74196	18	18	7	5	45.45877	23	21	7	7	2.89828
16	14	4	-8.33834	8	8	8	7	15.95783	18	18	7	6	58.02546	23	21	8	8	-10.54550
16	14	5	1.89175	8	8	8	8	77.75174	18	18	7	7	-51.79707	23	21	9	9	1.76651
16	14	6	-15.91216	9	1	1	1	-9.49962	18	18	8	1	-0.74603	23	21	10	10	7.83254
16	14	7	25.30606	9	2	1	1	5.44837	18	18	8	2	2.98615	23	21	11	11	-1.06735
16	14	8	4.03087	9	2	2	1	4.59441	18	18	8	3	-1.89228	23	21	12	12	-3.62928
16	15	1	333.07862	9	2	2	2	-1.84590	18	18	8	4	-7.37569	23	21	13	13	9.56581
16	15	2	-6.23727	9	3	1	1	1.18979	18	18	8	5	21.97192	23	21	14	14	3.98867
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16	15	5	29.36155	9	3	3	2	2.35904	18	18	8	8	-19.30627	23	21	17	17	37.72035
16	15	6	-29.05467	9	3	3	3	-4.12484	18	18	9	1	0.85827	23	21	18	18	-46.20491
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16	16	1	211.18141	9	4	4	1	0.09736	18	18	9	5	-23.07286	23	21	21	18	3.08660
16	16	2	250.23923	9	4	4	2	-1.65398	18	18	9	6	-18.76103	23	21	21	19	-3.08196
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16	16	5	-26.69139	9	5	1	1	25.94676	18	18	9	9	-15.15538	23	22	1	1	38.39248
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16	16	7	3.36753	9	5	3	3	-12.11462	18	18	11	10	-0.93948	23	22	3	3	-82.06058
16	16	8	11.61074	9	5	4	4	2.23957	18	18	11	11	-30.45276	23	22	4	4	9.01467
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17	14	11	-188.91085	9	5	5	3	0.13274	18	18	12	12	-179.98237	23	22	7	7	10.24856
17	14	12	-81.01043	9	5	5	4	-3.78264	18	18	13	10	-102.22510	23	22	8	8	-13.29926
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17	15	13	111.37005	9	6	4	4	-6.08442	18	18	15	14	-45.77503	23	22	13	13	3.66869
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17	17	2	-823.88877	9	6	6	5	7.93375	18	18	18	17	-41.81613	23	22	19	19	24.30226
17	17	3	-403.22408	9	6	6	6	1.54218	18	18	18	18	413.37943	23	22	20	20	-0.81835
17	17	4	-3.44912	9	7	1	1	33.82730	19	17	1	1	85.64402	23	22	21	21	-3.76698
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18	14	12	-257.76268	9	7	7	3	3.78243	19	17	9	9	0.13997	23	23	2	1	2.76428
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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18	16	10	-87.68857	9	8	2	2	59.71271	19	17	15	15	49.10215	23	23	4	2	7.41048
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18	16	13	-118.73604	9	8	5	5	-28.64065	19	18	1	1	-71.24583	23	23	5	1	4.90916
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18	17	3	-196.52895	9	8	8	1	-2.63280	19	18	4	4	-9.10494	23	23	5	4	14.67121
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18	18	8	-12.37447	9	9	4	1	0.59175	19	18	18	17	-50.63237	23	23	7	7	24.12001
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19	14	13	-92.37871	9	9	5	2	1.08343	19	19	3	1	-5.05746	23	23	8	5	6.33026
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19	16	10	-188.12080	9	9	6	3	1.61662	19	19	4	3	-4.64787	23	23	9	2	0.98047
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19	17	1	-873.86119	9	9	7	1	1.43639	19	19	5	3	-1.84226	23	23	9	6	-6.00135
19	17	2	154.77519	9	9	7	2	2.18715	19	19	5	4	-26.60308	23	23	9	7	-28.97099
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19	17	4	6.62410	9	9	7	4	3.61766	19	19	6	1	-2.89746	23	23	9	9	42.61902
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19	17	7	22.30860	9	9	7	7	7.59682	19	19	6	4	24.31691	23	23	11	11	35.02316
19	17	8	14.89234	9	9	8	1	0.85663	19	19	6	5	17.04979	23	23	12	10	-6.68384
19	17	9	-6.63847	9	9	8	2	0.13773	19	19	6	6	-39.13202	23	23	12	11	3.14452
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19	18	3	539.32366	9	9	8	5	2.86107	19	19	7	3	0.12100	23	23	13	11	-18.37645
19	18	4	-12.34981	9	9	8	6	10.14357	19	19	7	4	-0.12096	23	23	13	12	18.08482
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19	19	1	25.55148	9	9	9	5	6.16362	19	19	8	3	0.69972	23	23	16	15	5.43410
19	19	2	-832.97946	9	9	9	6	-7.63428	19	19	8	4	6.65565	23	23	16	16	27.18642
19	19	3	-185.62060	9	9	9	7	-15.77578	19	19	8	5	4.12721	23	23	17	17	-121.89561
19	19	4	39.43434	9	9	9	8	-29.10494	19	19	8	6	-34.84140	23	23	18	17	-7.14349
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20	15	10	-2.68227	10	10	4	3	-0.34069	19	19	9	8	62.85242	23	23	21	18	-4.21862
20	15	11	-51.11330	10	10	4	4	6.25029	19	19	9	9	-44.44359	23	23	21	19	10.73725
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20	15	13	68.60235	10	10	5	2	1.70801	19	19	11	10	-23.95580	23	23	21	21	40.29065
20	16	10	3.42158	10	10	5	3	-1.01853	19	19	11	11	-171.98019	23	23	22	17	8.92666
20	16	11	-21.94427	10	10	5	4	-4.14515	19	19	12	10	61.15647	23	23	22	18	1.02922
20	16	12	50.15339	10	10	5	5	5.62391	19	19	12	11	25.74858	23	23	22	19	-4.09883
20	16	13	-42.30013	10	10	6	1	0.22892	19	19	12	12	-226.00929	23	23	22	20	13.24576
20	17	1	10.84354	10	10	6	2	-2.20415	19	19	13	10	14.52480	23	23	22	21	4.20596
20	17	2	-11.15776	10	10	6	3	1.50928	19	19	13	11	93.12477	23	23	22	22	36.78027
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20	17	7	-71.46872	10	10	7	2	-3.16161	19	19	15	15	-180.23611	23	23	23	21	-0.11002
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20	17	9	95.82912	10	10	7	4	4.50782	19	19	16	15	6.74478	23	23	23	23	94.91052
20	18	1	9.49211	10	10	7	5	-4.82110	19	19	16	16	-104.57459	24	17	1	1	-18.19448
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20	18	3	-18.34178	10	10	7	7	3.13889	19	19	18	17	37.12216	24	17	3	3	1.80336
20	18	4	79.07409	10	10	8	1	1.58109	19	19	18	18	99.28886	24	17	4	4	2.11849

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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20	18	6	-57.81420	10	10	8	3	-1.42658	19	19	19	18	-59.93975	24	17	6	6	0.25240
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23	15	12	11.61376	13	10	5	5	3.00180	21	18	5	5	3.14418	24	23	23	23	72.80748
23	15	13	4.72125	13	10	6	6	5.52689	21	18	6	6	2.72065	24	24	1	1	-123.14419
23	16	10	-10.96209	13	10	7	7	1.21893	21	18	7	7	-4.30530	24	24	2	1	3.83997
23	16	11	13.31690	13	10	8	8	-3.01499	21	18	8	8	-2.87748	24	24	2	2	-106.56723
23	16	12	-18.06733	13	10	9	9	-3.29618	21	18	9	9	0.46638	24	24	3	1	-8.40705
23	16	13	1.08926	13	10	10	10	73.42559	21	18	10	10	1.51638	24	24	3	2	-35.69095
23	17	1	-5.14506	13	11	1	1	91.59749	21	18	11	11	4.35951	24	24	3	3	-46.06896
23	17	2	-22.35761	13	11	2	2	96.99433	21	18	12	12	-2.20368	24	24	4	1	0.79844
23	17	3	-10.63715	13	11	3	3	21.96456	21	18	13	13	-2.12024	24	24	4	2	1.22741
23	17	4	-113.43754	13	11	4	4	-14.87345	21	18	14	14	0.11986	24	24	4	3	4.55627
23	17	5	-189.21270	13	11	5	5	-5.77199	21	18	15	15	5.29726	24	24	4	4	-19.36613
23	17	6	64.94175	13	11	6	6	-7.53082	21	18	16	16	-2.57125	24	24	5	1	0.75983
23	17	7	-20.93972	13	11	7	7	-1.54122	21	18	17	17	-3.85341	24	24	5	2	3.44116
23	17	8	-52.77817	13	11	8	8	-16.91469	21	18	18	17	-1.01345	24	24	5	3	-0.72001
23	17	9	32.53049	13	11	9	9	-9.87223	21	18	18	18	-7.46552	24	24	5	4	24.85704
23	18	1	7.75725	13	11	10	10	-28.58289	21	19	1	1	13.84733	24	24	5	5	54.69779
23	18	2	-10.74575	13	11	11	10	-30.11181	21	19	2	2	-2.79120	24	24	6	1	-0.65735
23	18	3	2.32214	13	11	11	11	-124.33200	21	19	3	3	-1.76037	24	24	6	2	0.36523
23	18	4	46.09096	13	12	1	1	-10.74721	21	19	4	4	-1.84337	24	24	6	3	-3.16872
23	18	5	-96.37157	13	12	2	2	-86.75641	21	19	5	5	-9.58382	24	24	6	4	-30.79630
23	18	6	-74.99093	13	12	3	3	-91.14665	21	19	6	6	0.74003	24	24	6	5	-6.85526
23	18	7	108.52114	13	12	4	4	15.60812	21	19	7	7	3.69307	24	24	6	6	15.58164
23	18	8	112.54676	13	12	5	5	1.96283	21	19	8	8	6.49985	24	24	7	1	-0.35952
23	18	9	-99.84336	13	12	6	6	9.03111	21	19	9	9	1.48348	24	24	7	2	0.73049
23	19	1	-24.03838	13	12	7	7	5.37581	21	19	10	10	1.63501	24	24	7	3	1.03974
23	19	2	8.02132	13	12	8	8	9.26770	21	19	11	11	-12.42245	24	24	7	4	3.23225
23	19	3	1.26523	13	12	9	9	6.12886	21	19	12	12	9.60719	24	24	7	5	-3.15788
23	19	4	43.83590	13	12	10	10	79.96429	21	19	13	13	-6.39752	24	24	7	6	5.72793

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
23	19	5	-29.71638	13	12	11	11	46.82185	21	19	14	14	1.82091	24	24	7	7	25.55794
23	19	6	-121.78345	13	12	12	10	24.79167	21	19	15	15	-13.24635	24	24	8	1	-0.44435
23	19	7	-64.36907	13	12	12	11	-116.32556	21	19	16	16	3.06695	24	24	8	3	0.30419
23	19	8	-212.31640	13	12	12	12	76.59186	21	19	17	17	13.75070	24	24	8	4	6.66548
23	19	9	148.90006	13	13	1	1	-46.09739	21	19	18	18	-1.90288	24	24	8	5	7.55477
23	20	1	152.68550	13	13	2	1	38.71477	21	19	19	17	-3.83197	24	24	8	6	27.75023
23	20	2	-16.17334	13	13	2	2	-74.59832	21	19	19	18	0.21860	24	24	8	7	33.53942
23	20	3	-39.76241	13	13	3	1	20.03246	21	19	19	19	-2.81406	24	24	8	8	76.73851
23	20	4	-0.99452	13	13	3	2	1.14166	21	20	1	1	63.30898	24	24	9	1	0.33750
23	20	5	-4.04835	13	13	3	3	-61.15808	21	20	2	2	38.78929	24	24	9	2	-1.82257
23	20	6	-15.95370	13	13	4	1	-1.95488	21	20	3	3	-6.49349	24	24	9	4	3.47580
23	20	7	-21.73864	13	13	4	2	-10.57139	21	20	4	4	18.87169	24	24	9	5	2.48718
23	20	8	-19.77593	13	13	4	3	1.36477	21	20	5	5	-9.57191	24	24	9	6	-12.86699
23	20	9	10.07280	13	13	4	4	-62.09680	21	20	6	6	4.75732	24	24	9	7	-29.69180
23	21	1	-172.42469	13	13	5	1	1.62342	21	20	7	7	-5.46890	24	24	9	8	-59.08611
23	21	2	39.28944	13	13	5	2	-5.62069	21	20	8	8	-24.17743	24	24	9	9	53.17564
23	21	3	-64.29612	13	13	5	3	-6.82855	21	20	9	9	-14.11807	24	24	10	10	11.61393
23	21	4	1.69435	13	13	5	4	3.82046	21	20	10	10	1.67620	24	24	11	10	3.16611
23	21	5	12.69329	13	13	5	5	-4.61315	21	20	11	11	-11.12698	24	24	11	11	38.85924
23	21	6	16.82639	13	13	6	1	-5.90838	21	20	12	12	-7.45106	24	24	12	10	-15.36755
23	21	7	40.11410	13	13	6	2	4.43725	21	20	13	13	-31.29738	24	24	12	11	3.38436
23	21	8	43.47004	13	13	6	3	-4.95201	21	20	14	14	1.07021	24	24	12	12	70.41195
23	21	9	-18.90211	13	13	6	4	-37.21511	21	20	15	15	-10.71839	24	24	13	10	-5.01964
23	22	1	24.66088	13	13	6	5	0.71508	21	20	16	16	-6.98493	24	24	13	11	-19.44537
23	22	2	-10.88810	13	13	6	6	-25.16493	21	20	17	17	62.77506	24	24	13	12	13.04579
23	22	3	-165.74196	13	13	7	1	-4.28093	21	20	18	18	-8.17870	24	24	13	13	46.68204
23	22	4	17.11979	13	13	7	2	1.20886	21	20	19	19	41.56888	24	24	14	14	9.19642
23	22	5	19.69728	13	13	7	3	2.00138	21	20	20	17	-0.82634	24	24	15	14	-2.11803
23	22	6	-9.85782	13	13	7	4	2.48673	21	20	20	18	5.09977	24	24	15	15	38.88247
23	22	7	6.90039	13	13	7	5	-4.76249	21	20	20	19	-3.81984	24	24	16	14	-10.69026
23	22	8	-24.55061	13	13	7	6	0.79567	21	20	20	20	14.34007	24	24	16	15	6.06933
23	22	9	21.59820	13	13	7	7	1.15467	21	21	1	1	-89.38493	24	24	16	16	26.67068
23	23	1	51.98887	13	13	8	1	-3.37788	21	21	2	1	-8.18277	24	24	17	17	-122.20832
23	23	2	264.36712	13	13	8	2	1.92846	21	21	2	2	-56.29509	24	24	18	17	-12.20251
23	23	3	11.02626	13	13	8	3	-1.41197	21	21	3	1	-11.86041	24	24	18	18	-42.60148
23	23	4	-24.72998	13	13	8	4	9.66325	21	21	3	2	-15.38925	24	24	19	17	-4.78619
23	23	5	-55.30008	13	13	8	5	-12.01704	21	21	3	3	-33.21581	24	24	19	18	31.35104
23	23	6	30.35324	13	13	8	6	8.39802	21	21	4	1	-0.64092	24	24	19	19	-110.80249
23	23	8	-26.08456	13	13	8	7	-3.32081	21	21	4	2	-1.99228	24	24	20	17	-0.63507
23	23	9	0.47088	13	13	8	8	1.01952	21	21	4	3	-2.01100	24	24	20	18	-1.45817
24	14	10	11.47701	13	13	9	1	0.66144	21	21	4	4	13.55032	24	24	20	19	-5.00024
24	14	11	1.60616	13	13	9	2	2.23060	21	21	5	1	-1.93302	24	24	20	20	-5.77353
24	14	12	2.59242	13	13	9	4	11.22775	21	21	5	2	-8.74896	24	24	21	17	0.73575
24	14	13	13.16542	13	13	9	5	4.69488	21	21	5	3	-4.94036	24	24	21	18	-3.08637
24	15	11	-6.95351	13	13	9	6	1.32972	21	21	5	4	5.35323	24	24	21	19	0.73035
24	15	12	-3.32581	13	13	9	7	-3.94628	21	21	5	5	14.08433	24	24	21	20	-46.36658
24	16	10	1.34924	13	13	9	8	-10.44633	21	21	6	1	-0.20570	24	24	21	21	37.94520
24	16	12	-2.75356	13	13	9	9	2.79488	21	21	6	2	4.72973	24	24	22	18	-2.92883
24	16	13	-14.10795	13	13	10	10	49.32476	21	21	6	3	3.00581	24	24	22	19	-1.29826
24	17	1	-3.15313	13	13	11	10	24.11663	21	21	6	4	-0.23946	24	24	22	20	19.20423
24	17	2	-5.12849	13	13	11	11	79.57656	21	21	6	5	1.87650	24	24	22	21	3.97029
24	17	3	-1.39904	13	13	12	11	-51.15776	21	21	6	6	10.49884	24	24	22	22	22.71543
24	17	4	-89.29176	13	13	12	12	108.76342	21	21	7	1	-0.34472	24	24	23	18	-1.04069
24	17	5	-231.73973	13	13	13	10	-9.54863	21	21	7	2	1.60649	24	24	23	19	-0.55246
24	17	6	51.27842	13	13	13	11	-30.10282	21	21	7	3	1.55396	24	24	23	21	-1.80891
24	17	7	-5.85490	13	13	13	12	38.50043	21	21	7	4	3.41011	24	24	23	22	-17.80720
24	17	8	-53.86282	13	13	13	13	247.13859	21	21	7	5	-0.17057	24	24	23	23	94.63640
24	17	9	17.62404	14	14	1	1	-50.67300	21	21	7	6	-1.06549	24	24	24	17	1.01673
24	18	1	3.69565	14	14	2	1	-31.08992	21	21	7	7	6.95382	24	24	24	18	-3.50719
24	18	2	6.34188	14	14	2	2	-69.47987	21	21	8	1	-8.82880	24	24	24	19	-3.22282
24	18	3	-16.34552	14	14	3	1	10.51458	21	21	8	2	2.89831	24	24	24	20	-3.56961
24	18	4	-60.20190	14	14	3	2	87.22612	21	21	8	3	-0.09779	24	24	24	21	-3.90520
24	18	5	17.75505	14	14	3	3	-230.49909	21	21	8	4	0.79758	24	24	24	22	-45.54285
24	18	6	130.98577	14	14	4	1	-1.36732	21	21	8	5	7.47751	24	24	24	23	72.12210
24	18	7	-4.57184	14	14	4	2	-1.28810	21	21	8	6	6.00865	24	24	24	24	157.55111
24	18	8	65.04100	14	14	4	3	2.10407	21	21	8	7	15.96236					
24	18	9	-35.01239	14	14	4	4	4.23289	21	21	8	8	34.38544					
24	19	1	-4.18298	14	14	5	2	3.08322	21	21	9	1	8.03068					
24	19	2	2.74372	14	14	5	3	-2.50044	21	21	9	2	-3.28697					

Table S41: The quartic potential energy surface of trans-butadiene-d6. The calculation was done by using B3LYP/6-311++G(2d,2p) method. The force constants (FI) are in cm^{-1} units.

I	J	FI(I,J)
1	1	2403.19204
2	2	2326.05994
3	3	2283.22822
4	4	1632.66662
5	5	1209.77842
6	6	1068.71281
7	7	940.59609
8	8	747.28761
9	9	447.72921
10	10	792.09341
11	11	741.14370
12	12	391.75812
13	13	149.80407
14	14	828.46073
15	15	718.29648
16	16	615.16107
17	17	2403.08966
18	18	2327.67118
19	19	2286.25090
20	20	1564.33426
21	21	1070.14285
22	22	1023.10351
23	23	757.61651
24	24	250.66703

I	J	K	FI(I,J,K)
1	1	1	-184.01824
2	1	1	271.82762
2	2	1	6.97431
2	2	2	646.92102
3	1	1	-543.52545
3	2	1	-84.26575
3	2	2	212.41107
3	3	1	-1.22363
3	3	2	365.22716
3	3	3	-295.40914
4	1	1	77.08404
4	2	1	-4.79334
4	2	2	84.78026
4	3	1	2.15469
4	3	2	-35.91537
4	3	3	93.89705
4	4	1	7.14862
4	4	2	-105.09043
4	4	3	15.03338
4	4	4	191.52726
5	1	1	-3.25728
5	2	1	-9.11906
5	2	2	47.97150
5	3	1	-0.34941
5	3	2	6.63890
5	3	3	51.74096
5	4	1	18.41520
5	4	2	25.05531
5	4	3	50.17081
5	4	4	133.62801
5	5	1	36.75823
5	5	2	-24.06997
5	5	3	2.51606
5	5	4	-87.80793
5	5	5	100.68977
6	1	1	-43.43824
6	2	1	-1.37404
6	2	2	-3.19672
6	3	1	4.59170
6	3	2	-19.64891
6	3	3	16.47901
6	4	1	-16.73692
6	4	2	-1.25240
6	4	3	16.78253
6	4	4	-50.95811
6	5	1	11.84227
6	5	2	-32.77374
6	5	3	24.61206
6	5	4	25.80146
6	5	5	-16.80937
6	6	1	-39.53483
6	6	2	-31.60633
6	6	3	57.30608
6	6	4	-6.26722
6	6	5	28.94921
6	6	6	3.39660
7	1	1	22.57136
7	2	1	4.01286

I	J	K	FI(I,J,K)
24	18	7	72.25110
24	18	8	56.98892
24	18	9	-42.62547
24	19	1	-8.01276
24	19	2	-4.67209
24	19	3	-1.00752
24	19	4	-1.12411
24	19	5	-23.97655
24	19	6	53.00730
24	19	7	18.28131
24	19	8	-153.55940
24	19	9	155.65590
24	20	1	-49.80648
24	20	2	-16.99913
24	20	3	2.10298
24	20	4	17.51493
24	20	5	-27.67436
24	20	6	15.51164
24	20	7	19.31646
24	20	8	30.62143
24	20	9	-47.30788
24	21	1	-143.26057
24	21	2	54.74976
24	21	3	-17.35035
24	21	4	-11.37138
24	21	5	3.10933
24	21	6	3.45519
24	21	7	8.96733
24	21	8	5.54520
24	21	9	-6.89994
24	22	1	-98.12986
24	22	2	-80.47580
24	22	3	46.31455
24	22	4	4.90799
24	22	5	1.52314
24	22	6	-11.21598
24	22	7	-16.67610
24	22	9	-6.76558
24	23	1	15.65598
24	23	2	-19.56495
24	23	3	177.29194
24	23	4	2.05156
24	23	5	3.24667
24	23	6	-9.37955
24	23	7	28.08815
24	23	9	6.20568
24	24	1	22.43484
24	24	2	-113.17749
24	24	3	173.79839
24	24	4	-143.67234
24	24	5	-45.66686
24	24	6	10.11598
24	24	7	-36.59157
24	24	8	23.93729
24	24	9	-15.27022

I	J	K	L	FI(I,J,K,L)
1	1	1	1	161.35612
2	1	1	1	-0.86758
2	2	1	1	29.53977
2	2	2	1	-5.79162
2	2	2	2	181.48801
3	1	1	1	29.31218
3	2	1	1	-54.23981
3	2	2	1	-20.58568
3	2	2	2	81.18437
3	3	1	1	111.98144
3	3	2	1	10.36011
3	3	2	2	72.55181
3	3	3	1	-11.33177
3	3	3	2	-13.68369
3	3	3	3	92.19791
4	1	1	1	-6.97361
4	2	1	1	10.29994
4	2	2	1	0.92011
4	2	2	2	17.45331
4	3	1	1	-19.26650
4	3	2	2	2.63100
4	3	3	1	-0.25276
4	3	3	2	11.96029
4	3	3	3	-16.47470
4	4	1	1	-3.92962
4	4	2	1	-0.64844
4	4	2	2	-6.91919

I	J	K	L	FI(I,J,K,L)
14	14	3	3	-36.81387
14	14	4	1	0.39123
14	14	4	2	-2.70771
14	14	4	3	-2.88436
14	14	4	4	-13.53885
14	14	5	1	1.08047
14	14	5	2	-1.50647
14	14	5	3	-0.88080
14	14	5	4	1.53242
14	14	5	5	-5.53215
14	14	6	1	-0.71268
14	14	6	2	-0.89503
14	14	6	4	-0.35981
14	14	6	5	3.67733
14	14	6	6	0.59009
14	14	7	1	0.27545
14	14	7	2	-0.24146
14	14	7	3	-1.57356
14	14	7	4	-6.73474
14	14	7	5	4.70556
14	14	7	6	1.13177
14	14	7	7	6.29884
14	14	8	1	0.14163
14	14	8	2	-0.61897
14	14	8	3	0.23620
14	14	8	4	0.29748
14	14	8	5	4.71438
14	14	8	6	-1.44444
14	14	8	7	-1.95469
14	14	8	8	0.41736
14	14	9	2	0.25740
14	14	9	4	-1.13768
14	14	9	5	1.59427
14	14	9	6	0.48077
14	14	9	7	3.44018
14	14	9	8	-3.37145
14	14	9	9	2.59103
14	14	10	10	47.37399
14	14	11	10	14.22759
14	14	11	11	25.46560
14	14	12	10	25.55572
14	14	12	11	20.74590
14	14	12	12	61.28689
14	14	13	10	32.41999
14	14	13	11	9.14994
14	14	13	12	26.00748
14	14	13	13	42.29466
14	14	14	14	38.42123
15	14	1	1	-43.28942
15	14	2	2	45.80266
15	14	3	3	-14.77730
15	14	4	4	-2.95424
15	14	5	5	2.38375
15	14	6	6	3.84982
15	14	7	7	-5.76955
15	14	8	8	5.47686
15	14	9	9	4.01712
15	14	10	10	-20.91930
15	14	11	11	21.80121
15	14	12	12	26.10654
15	14	13	13	7.70274
15	14	14	14	-17.79505
15	15	1	1	-85.39179
15	15	2	1	-19.13469
15	15	2	2	-62.73311
15	15	3	1	31.79303
15	15	3	2	14.65002
15	15	3	3	-78.38961
15	15	4	1	-2.30037
15	15	4	2	-7.03662
15	15	4	3	7.65024
15	15	4	4	-2.66908
15	15	5	1	-0.52682
15	15	5	2	-2.90125
15	15	5	3	-0.57741
15	15	5	4	1.35745
15	15	5	5	-0.53739
15	15	6	1	1.44074
15	15	6	2	1.71979
15	15	6	3	-2.83743
15	15	6	4	1.96700
15	15	6	5	3.70139
15	15	6	6	6.74225
15	15	7	1	-1.31160
15	15	7	2	-2.39647

I	J	K	L	FI(I,J,K,L)
21	21	8	8	16.27315
21	21	9	1	2.38542
21	21	9	2	2.71654
21	21	9	3	-2.61721
21	21	9	4	-4.13593
21	21	9	5	-4.76940
21	21	9	6	-2.70024
21	21	9	7	4.56610
21	21	9	8	-14.68215
21	21	9	9	14.03621
21	21	10	10	7.37139
21	21	11	10	-1.15409
21	21	11	11	3.17069
21	21	12	10	-2.28118
21	21	12	11	8.50862
21	21	12	12	11.74299
21	21	13	10	4.99417
21	21	13	11	1.19554
21	21	13	12	1.13198
21	21	13	13	-3.74472
21	21	14	14	4.94172
21	21	15	14	-0.20090
21	21	15	15	4.78509
21	21	16	14	4.14618
21	21	16	15	4.72675
21	21	16	16	5.90971
21	21	17	17	-49.78694
21	21	18	17	9.70613
21	21	18	18	-35.21400
21	21	19	17	-21.50613
21	21	19	18	-6.22330
21	21	19	19	-33.71973
21	21	20	17	3.27033
21	21	20	18	-3.08936
21	21	20	19	1.65962
21	21	20	20	-0.17305
21	21	21	17	-2.01211
21	21	21	19	-1.01120
21	21	21	20	1.67062
21	21	21	21	13.36894
22	17	1	1	-6.97711
22	17	2	2	-0.13955
22	17	3	3	0.59420
22	17	4	4	-3.55466
22	17	5	5	-0.74584
22	17	6	6	1.04921
22	17	7	7	0.08268
22	17	8	8	-3.11731
22	17	9	9	1.64986
22	17	10	10	-1.69742
22	17	11	11	1.74830
22	17	12	12	-1.98413
22	17	13	13	5.73528
22	17	14	14	-0.85873
22	17	15	15	1.58339
22	17	16	16	-2.43633
22	17	17	17	-6.74507
22	18	1	1	-3.01631
22	18	2	2	-3.37328
22	18	3	3	1.62807
22	18	4	4	-0.55022
22	18	5	5	0.30275
22	18	7	7	1.81161
22	18	8	8	-1.39996
22	18	9	9	-1.89303
22	18	10	10	0.45178
22	18	11	11	1.90957
22	18	12	12	-3.14151
22	18	13	13	2.20300
22	18	14	14	0.22565
22	18	15	15	3.28971
22	18	16	16	-1.53460
22	18	17	17	-2.96183
22	18	18	17	-0.30659
22	18	18	18	-3.24366
22	19	1	1	5.45685
22	19	2	2	-6.78565
22	19	3	3	-9.60745
22	19	4	4	-1.69491
22	19	5	5	1.23991
22	19	6	6	0.46201
22	19	7	7	0.86351
22	19	8	8	2.41953
22	19	9	9	1.38555
22	19	10	10	0.98817

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
7	2	2	-0.37860	4	4	3	1	0.80768	15	15	7	3	1.04780	22	19	11	11	-1.41399
7	3	1	-8.77287	4	4	3	2	-8.87050	15	15	7	4	-3.24125	22	19	12	12	5.64742
7	3	2	-2.92032	4	4	3	3	-2.39896	15	15	7	5	1.15245	22	19	14	14	1.77382
7	3	3	5.60528	4	4	4	1	0.24543	15	15	7	6	-1.82079	22	19	15	15	-1.91833
7	4	1	0.29809	4	4	4	2	-14.24451	15	15	7	7	4.83415	22	19	16	16	1.94559
7	4	2	28.12106	4	4	4	3	7.62069	15	15	8	1	-1.63018	22	19	17	17	5.45185
7	4	3	23.57632	4	4	4	4	39.76980	15	15	8	2	2.52209	22	19	18	18	-6.79638
7	4	4	39.11644	5	1	1	1	5.89997	15	15	8	3	-2.64067	22	19	19	17	0.78470
7	5	1	2.64951	5	2	1	1	3.25243	15	15	8	4	-1.18727	22	19	19	18	1.64538
7	5	2	-41.99050	5	2	2	1	-1.00146	15	15	8	5	0.78881	22	19	19	19	-9.91035
7	5	3	-25.91404	5	2	2	2	16.26449	15	15	8	6	-6.00876	22	20	1	1	-15.57498
7	5	4	39.46980	5	3	1	1	-2.75856	15	15	8	7	0.59495	22	20	2	2	-15.62550
7	5	5	-29.52782	5	3	2	2	5.51032	15	15	8	8	9.49535	22	20	3	3	-13.98509
7	6	1	15.77391	5	3	3	1	-1.43859	15	15	9	1	2.34868	22	20	4	4	-13.09569
7	6	2	-6.69652	5	3	3	2	10.47968	15	15	9	2	0.40828	22	20	5	5	3.38196
7	6	3	-33.74309	5	3	3	3	-6.18110	15	15	9	3	-0.18091	22	20	6	6	4.39177
7	6	4	-13.36911	5	4	1	1	-9.25336	15	15	9	4	0.95721	22	20	7	7	3.41303
7	6	5	6.40389	5	4	2	2	12.04522	15	15	9	5	0.79693	22	20	8	8	3.31513
7	6	6	-15.69782	5	4	3	3	0.85849	15	15	9	6	8.19817	22	20	9	9	4.37696
7	7	1	5.14740	5	4	4	1	3.90217	15	15	9	7	-0.73877	22	20	10	10	3.40847
7	7	2	-107.70486	5	4	4	2	-5.50089	15	15	9	8	-11.71804	22	20	11	11	3.92632
7	7	3	-46.67940	5	4	4	3	3.11707	15	15	9	9	12.85598	22	20	12	12	2.25991
7	7	5	35.31380	5	4	4	4	3.64470	15	15	10	10	36.88705	22	20	13	13	19.65073
7	7	6	-27.12166	5	5	1	1	-24.05122	15	15	11	10	-6.80206	22	20	14	14	4.91730
7	7	7	-18.22382	5	5	2	1	5.62121	15	15	11	11	88.15327	22	20	15	15	3.63766
8	1	1	-21.60492	5	5	2	2	-15.97667	15	15	12	10	5.45862	22	20	16	16	0.57577
8	2	1	-5.13688	5	5	3	1	-12.95911	15	15	12	11	-26.04810	22	20	17	17	-15.32588
8	2	2	-17.46800	5	5	3	2	-1.00636	15	15	12	12	112.03505	22	20	18	18	-15.73038
8	3	1	3.28857	5	5	3	3	-14.27044	15	15	13	10	35.54184	22	20	19	19	-13.86559
8	3	2	0.59233	5	5	4	1	2.37391	15	15	13	11	-62.18720	22	20	20	17	-3.93548
8	3	3	-11.97879	5	5	4	2	4.90159	15	15	13	12	54.81490	22	20	20	18	-1.25328
8	4	1	40.81557	5	5	4	3	4.57004	15	15	13	13	66.09856	22	20	20	19	-0.78688
8	4	2	-2.88081	5	5	4	4	15.03496	15	15	14	14	33.69347	22	20	20	20	-12.75819
8	4	3	-22.39904	5	5	5	1	1.21895	15	15	15	14	15.18126	22	21	1	1	-23.04778
8	4	4	-103.42253	5	5	5	2	-0.10686	15	15	15	15	94.28742	22	21	2	2	22.03746
8	5	1	66.53554	5	5	5	3	-2.13264	16	14	1	1	-28.35788	22	21	3	3	-7.34089
8	5	2	13.62865	5	5	5	4	-23.09457	16	14	2	2	-11.57098	22	21	4	4	1.94907
8	5	3	38.62327	5	5	5	5	17.27705	16	14	3	3	-13.79238	22	21	5	5	-0.29436
8	5	4	49.45850	6	1	1	1	-4.44599	16	14	4	4	7.83805	22	21	6	6	2.87444
8	5	5	-84.82462	6	2	1	1	-1.58695	16	14	5	5	6.07397	22	21	7	7	-6.22238
8	6	1	93.54508	6	2	2	1	0.32561	16	14	6	6	-0.62949	22	21	8	8	6.06617
8	6	2	21.62798	6	2	2	2	-5.70365	16	14	7	7	1.13977	22	21	9	9	7.46954
8	6	3	-15.52409	6	3	1	1	4.56833	16	14	8	8	6.45009	22	21	10	10	-3.02023
8	6	4	-2.89886	6	3	2	2	-7.17002	16	14	9	9	2.12742	22	21	11	11	2.85027
8	6	5	16.03483	6	3	3	1	-0.06607	16	14	10	10	20.70423	22	21	12	12	-1.73433
8	6	6	11.05892	6	3	3	2	4.92633	16	14	12	12	46.79066	22	21	14	14	-2.50698
8	7	1	-32.35978	6	3	3	3	-11.73743	16	14	13	13	-7.98044	22	21	15	15	2.18613
8	7	2	16.56951	6	4	1	1	-15.38682	16	14	14	14	10.37653	22	21	16	16	0.24269
8	7	3	16.44895	6	4	2	2	3.51791	16	15	1	1	-25.87668	22	21	17	17	-22.54453
8	7	4	-26.88264	6	4	3	3	-6.74954	16	15	2	2	14.48394	22	21	18	18	20.60261
8	7	5	28.35433	6	4	4	1	-2.94571	16	15	3	3	1.58023	22	21	19	19	-7.42772
8	7	6	-14.39089	6	4	4	2	1.13934	16	15	4	4	-0.68070	22	21	20	20	2.96690
8	7	7	-21.97350	6	4	4	3	2.95741	16	15	5	5	1.19043	22	21	21	17	-1.12735
8	8	1	52.16923	6	4	4	4	-0.90810	16	15	6	6	-2.64652	22	21	21	18	1.18884
8	8	2	-60.38976	6	5	1	1	-24.27306	16	15	7	7	0.29806	22	21	21	19	-1.82574
8	8	3	94.99331	6	5	2	2	-7.97493	16	15	8	8	4.30178	22	21	21	20	3.62766
8	8	4	-51.21144	6	5	3	3	-14.28061	16	15	10	10	15.12228	22	21	21	21	-1.73066
8	8	5	36.49631	6	5	4	4	-3.43625	16	15	11	11	-16.81668	22	22	1	1	-28.87719
8	8	6	-20.19731	6	5	5	1	-0.19141	16	15	12	12	34.56023	22	22	2	1	-13.01679
8	8	7	-3.57266	6	5	5	2	-3.25916	16	15	13	13	-19.34576	22	22	2	2	-31.96840
8	8	8	-57.45079	6	5	5	4	6.86267	16	15	14	14	1.25117	22	22	3	1	23.85147
9	1	1	-12.21775	6	5	5	5	1.50699	16	15	15	14	4.67088	22	22	3	2	3.36462
9	2	1	7.57762	6	6	1	1	-44.18972	16	15	15	15	-9.68978	22	22	3	3	-30.20339
9	2	2	-13.95555	6	6	2	1	-14.34671	16	16	1	1	-90.38361	22	22	4	1	-2.03580
9	3	1	-11.37662	6	6	2	2	-16.40453	16	16	2	1	16.33932	22	22	4	2	-1.25204
9	3	2	-1.37958	6	6	3	1	20.11482	16	16	2	2	-13.62740	22	22	4	3	2.76419
9	3	3	-4.40740	6	6	3	2	16.29848	16	16	3	1	-46.74191	22	22	4	4	-0.08408
9	4	1	-32.90657	6	6	3	3	-33.44541	16	16	3	2	21.71316	22	22	5	1	0.55686
9	4	2	18.64069	6	6	4	1	-2.12156	16	16	3	3	-55.05266	22	22	5	2	0.67130
9	4	3	8.85717	6	6	4	2	-2.09758	16	16	4	1	7.14176	22	22	5	3	-1.97154
9	4	4	-26.42716	6	6	4	3	3.13679	16	16	4	2	-3.66629	22	22	5	4	-0.84208
9	5	1	-61.76497	6	6	4	4	-1.99581	16	16	4	3	7.39077	22	22	5	5	1.52100
9	5	2	1.97077	6	6	5	1	-0.29172	16	16	4	4	-7.25644	22	22	6	1	1.30669
9	5	3	-27.39742	6	6	5	2	2.34718	16	16	5	2	-0.91213	22	22	6	2	-1.69464
9	5	5	-27.56053	6	6	5	3	-0.52542	16	16	5	3	4.73673	22	22	6	3	-0.13133
9	6	1	-94.52943	6	6	5	4	1.09094	16	16	5	4	6.48100	22	22	6	4	2.14409
9	6	2	-40.72585	6	6	6	1	0.75512	16	16	5	5	-2.62389	22	22	6	5	2.39222
9	6	3	26.95835	6	6	6	2	-1.71924	16	16	6	1	-2.80623	22	22	6	6	8.05300
9	6	4	-3.27267	6	6	6	3	-1.28868	16	16	6	2	-2.07959	22	22	7	1	-0.89943
9	6	5	13.38366	6	6	6	4	2.93312	16	16	6	3	2.85096	22	22	7	2	-1.91489
9	6	6	-11.68188	6	6	6	5	4.33545	16	16	6	5	3.47241	22	22	7	3	-0.45461
9	7	1	37.41649	6	6	6	6	8.39001	16	16	6	6	0.68817	22	22	7	4	-2.70084
9	7	2	-37.36121	7	1	1	1	2.67532	16	16	7	1	0.66536	22	22	7	5	2.18633
9	7	3	-38.12046	7	2	1	1	1.74496	16	16	7	2	0.44558	22	22	7	6	-1.88508
9	7	4	-6.43677	7	2	2	1	1.89992	16	16	7	3	-1.64502	22	22	7	7	7.52304
9	7	5	2.37650	7	2	2	2	-7.11246	16	16	7	4	-2.84210	22	22	8	1	-1.52962
9	7	6	3.87461	7	3	1	1	-3.86616	16	16	7	5	2.07845	22	22	8	2	2.37004
9	7	7	20.03310	7	3	2	2	-0.12844	16	16	7	6	-0.97514	22	22	8	3	-2.80233
9	8	1	-26.47067	7	3	3	1	1.38265	16	16	7	7	-2.12285	22	22	8	4	-1.73383
9	8	2	51.49105	7	3	3	2	-0.28617	16	16	8	1	-2.01245	22	22	8	5	-2.13006

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
9	8	3	-98.57991	7	3	3	3	3.09721	16	16	8	2	-0.94179	22	22	8	6	-8.22845
9	8	4	12.73473	7	4	1	1	5.41852	16	16	8	3	-1.03523	22	22	8	7	0.17187
9	8	5	28.96037	7	4	2	2	29.91190	16	16	8	4	-0.86581	22	22	8	8	8.66785
9	8	6	8.27909	7	4	3	3	12.03579	16	16	8	5	10.26324	22	22	9	1	2.54709
9	8	7	-10.06991	7	4	4	1	-0.24658	16	16	8	6	2.77280	22	22	9	2	-1.07134
9	8	8	-16.50540	7	4	4	2	3.09233	16	16	8	7	-2.20274	22	22	9	3	1.38349
9	9	2	-71.92169	7	4	4	3	4.55498	16	16	8	8	11.05709	22	22	9	4	1.12775
9	9	3	91.26290	7	4	4	4	13.43456	16	16	9	1	-1.55737	22	22	9	5	3.97453
9	9	4	-23.57308	7	5	1	1	7.53368	16	16	9	2	1.15734	22	22	9	6	10.58870
9	9	5	-15.46840	7	5	2	2	-26.19906	16	16	9	3	-1.47235	22	22	9	8	-10.99345
9	9	6	-5.60992	7	5	3	3	-3.44757	16	16	9	4	-1.21437	22	22	9	9	16.46063
9	9	7	14.49479	7	5	4	4	-1.38869	16	16	9	5	-6.42267	22	22	10	10	0.90190
9	9	8	-5.60063	7	5	5	1	0.18424	16	16	9	6	-3.99901	22	22	11	11	6.18775
9	9	9	-26.78471	7	5	5	2	-1.54754	16	16	9	7	0.80241	22	22	12	10	4.28136
10	10	1	97.71418	7	5	5	3	-0.85623	16	16	9	8	-12.15149	22	22	12	11	-5.91403
10	10	2	-179.32621	7	5	5	4	5.35481	16	16	9	9	9.82880	22	22	12	12	4.56960
10	10	3	-26.59906	7	5	5	5	-5.43616	16	16	10	10	34.72122	22	22	13	10	3.36545
10	10	4	-16.51009	7	6	1	1	14.33465	16	16	11	10	-30.02292	22	22	13	11	-5.39364
10	10	5	-5.72618	7	6	2	2	-12.46551	16	16	11	11	39.93063	22	22	13	12	5.53958
10	10	6	3.13937	7	6	3	3	6.14152	16	16	12	10	-61.35702	22	22	13	13	-6.81529
10	10	7	4.20889	7	6	4	4	0.52852	16	16	12	11	35.96313	22	22	14	14	1.60786
10	10	8	-0.89941	7	6	5	5	1.24821	16	16	12	12	125.88374	22	22	15	14	1.22456
10	10	9	5.35762	7	6	6	1	-1.05147	16	16	13	10	14.79537	22	22	15	15	5.82099
11	10	1	-43.65333	7	6	6	2	-1.62603	16	16	13	11	-27.02785	22	22	16	14	-1.73126
11	10	2	-58.32939	7	6	6	3	0.35443	16	16	13	12	-7.09831	22	22	16	15	-2.92614
11	10	3	-111.08123	7	6	6	4	-1.54135	16	16	13	13	11.77476	22	22	16	16	-0.77711
11	10	4	5.69385	7	6	6	5	-0.26466	16	16	14	14	16.82795	22	22	17	17	-27.85497
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13	10	4	44.18815	8	5	1	1	-26.11279	17	17	9	4	0.85918	23	18	10	10	1.60481
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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17	17	7	22.19266	9	7	1	1	2.57297	19	17	1	1	31.07427	23	23	2	2	-63.84507
17	17	8	-21.11426	9	7	2	2	-20.55658	19	17	2	2	-23.57958	23	23	3	1	-1.72032
17	17	9	-12.88965	9	7	3	3	-1.34132	19	17	3	3	-10.80500	23	23	3	2	-12.36771
18	14	10	155.70324	9	7	4	4	1.61283	19	17	4	4	1.40637	23	23	3	3	-47.89685
18	14	11	38.27391	9	7	5	5	4.68619	19	17	5	5	-12.84856	23	23	4	1	1.08079

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
18	14	12	128.24324	9	7	6	6	-2.54317	19	17	6	6	19.54624	23	23	4	2	-6.06532
18	14	13	167.99222	9	7	7	1	0.77653	19	17	7	7	6.71336	23	23	4	3	5.05261
18	15	10	-86.11417	9	7	7	2	3.40050	19	17	8	8	-18.13781	23	23	4	4	1.05963
18	15	11	-170.43420	9	7	7	3	0.78636	19	17	9	9	3.26701	23	23	5	1	2.05217
18	15	12	-57.72258	9	7	7	4	-2.97593	19	17	10	10	-22.98714	23	23	5	2	-4.27586
18	15	13	5.16200	9	7	7	5	3.75955	19	17	11	11	39.97238	23	23	5	3	1.61172
18	16	10	53.93176	9	7	7	6	2.71264	19	17	12	12	-39.71615	23	23	5	4	-2.48884
18	16	11	31.28737	9	7	7	7	10.33796	19	17	13	13	29.49798	23	23	5	5	7.82042
18	16	12	-68.21644	9	8	1	1	46.53305	19	17	14	14	-1.11090	23	23	6	1	-0.92576
18	16	13	-13.17710	9	8	2	2	12.85780	19	17	15	15	30.93199	23	23	6	2	-3.39377
18	17	1	264.51457	9	8	3	3	33.24473	19	17	16	16	-47.32792	23	23	6	3	4.27087
18	17	2	-4.32609	9	8	4	4	-1.72143	19	17	17	17	35.07040	23	23	6	4	2.04846
18	17	3	-111.99173	9	8	5	5	-0.60970	19	18	1	1	-52.95614	23	23	6	5	8.68688
18	17	4	-5.32632	9	8	6	6	-12.51864	19	18	2	2	80.66402	23	23	6	6	13.39520
18	17	5	-12.03304	9	8	7	7	-5.21232	19	18	3	3	-13.87734	23	23	7	1	0.21570
18	17	6	-2.78040	9	8	8	2	0.59039	19	18	4	4	-9.49076	23	23	7	2	-0.38934
18	17	7	6.06764	9	8	8	3	0.24503	19	18	5	5	-1.26920	23	23	7	3	-2.53032
18	17	8	-5.34169	9	8	8	4	-0.43542	19	18	6	6	17.44795	23	23	7	4	-10.86503
18	17	9	8.42973	9	8	8	5	-10.35017	19	18	7	7	-33.61236	23	23	7	5	7.08876
18	18	1	28.97250	9	8	8	6	1.41974	19	18	8	8	14.51110	23	23	7	6	-0.53164
18	18	2	637.32749	9	8	8	7	2.97991	19	18	9	9	12.12802	23	23	7	7	29.63031
18	18	3	199.94950	9	8	8	8	-20.97055	19	18	10	10	-37.90998	23	23	8	1	0.88537
18	18	4	89.89406	9	9	1	1	-41.82836	19	18	11	11	28.23473	23	23	8	2	1.11851
18	18	5	50.90549	9	9	2	1	-5.04354	19	18	12	12	12.16889	23	23	8	3	1.16188
18	18	6	-9.68455	9	9	2	2	-16.44965	19	18	13	13	4.67028	23	23	8	4	2.93004
18	18	7	-9.22746	9	9	3	1	3.81699	19	18	14	14	-29.64120	23	23	8	5	3.48077
18	18	8	-19.30385	9	9	3	2	12.09921	19	18	15	15	15.60339	23	23	8	6	-1.06664
18	18	9	-11.07694	9	9	3	3	-33.81499	19	18	16	16	19.78867	23	23	8	7	-7.78536
19	14	10	38.91265	9	9	4	1	0.13339	19	18	17	17	-51.08031	23	23	8	8	25.44966
19	14	11	125.50182	9	9	4	2	-4.49934	19	18	18	17	-27.59740	23	23	9	1	-0.73686
19	14	12	101.03799	9	9	4	3	5.02484	19	18	18	18	77.91699	23	23	9	2	0.29553
19	14	13	-17.08954	9	9	4	4	-5.55423	19	19	1	1	111.35247	23	23	9	3	-0.20122
19	15	10	-131.62565	9	9	5	1	1.21041	19	19	2	1	10.38438	23	23	9	4	-3.49179
19	15	11	157.49796	9	9	5	2	-2.34085	19	19	2	2	73.17202	23	23	9	5	0.44481
19	15	12	-80.84608	9	9	5	3	3.89524	19	19	3	1	-11.46664	23	23	9	6	6.12636
19	15	13	-191.42873	9	9	5	4	6.08694	19	19	3	2	-13.02898	23	23	9	7	12.27550
19	16	10	-71.99058	9	9	5	5	2.15584	19	19	3	3	91.76915	23	23	9	8	-24.21541
19	16	11	13.18317	9	9	6	1	1.59309	19	19	4	1	-0.09834	23	23	9	9	28.33687
19	16	12	234.20550	9	9	6	2	-1.04736	19	19	4	2	12.07657	23	23	10	10	12.48813
19	16	13	41.40566	9	9	6	3	3.56203	19	19	4	3	-16.30755	23	23	11	10	1.41708
19	17	1	-537.94798	9	9	6	4	4.05278	19	19	4	4	-2.53473	23	23	11	11	13.08131
19	17	2	-91.85513	9	9	6	5	8.59163	19	19	5	1	-1.56069	23	23	12	10	3.35362
19	17	3	-13.81708	9	9	6	6	15.75550	19	19	5	2	10.20100	23	23	12	11	4.77962
19	17	4	4.16527	9	9	7	1	-1.25524	19	19	5	3	-6.43932	23	23	12	12	30.03597
19	17	5	-0.34735	9	9	7	2	2.46135	19	19	5	4	1.21854	23	23	13	10	8.78127
19	17	6	5.14362	9	9	7	4	-3.87756	19	19	5	5	-14.38160	23	23	13	11	-3.86671
19	17	7	-8.09591	9	9	7	5	1.02169	19	19	6	1	0.14467	23	23	13	12	11.62049
19	17	8	3.65834	9	9	7	6	-5.57991	19	19	6	2	5.22497	23	23	13	13	6.11628
19	17	9	-11.42047	9	9	7	7	8.02174	19	19	6	3	-12.00375	23	23	14	14	8.97956
19	18	1	-105.11546	9	9	8	2	0.31535	19	19	6	4	-6.65285	23	23	15	14	-1.51953
19	18	2	207.67050	9	9	8	3	0.43569	19	19	6	5	-14.48779	23	23	15	15	15.00961
19	18	3	364.38471	9	9	8	4	-2.41264	19	19	6	6	-33.19292	23	23	16	14	3.56519
19	18	4	-33.47585	9	9	8	5	7.27955	19	19	7	1	1.33097	23	23	16	15	1.53394
19	18	5	5.90356	9	9	8	6	-4.64829	19	19	7	2	-0.28225	23	23	16	16	9.30894
19	18	6	-21.89795	9	9	8	7	-0.83597	19	19	7	3	3.21052	23	23	17	17	-47.44588
19	18	7	-7.07585	9	9	8	8	21.36156	19	19	7	4	11.79373	23	23	18	17	2.14607
19	18	8	1.15551	9	9	9	1	0.96298	19	19	7	5	-3.68986	23	23	18	18	-61.12806
19	18	9	-0.92356	9	9	9	2	0.82109	19	19	7	6	6.37605	23	23	19	17	-1.24227
19	19	1	-0.25231	9	9	9	3	-1.06636	19	19	7	7	-23.63885	23	23	19	18	-12.08192
19	19	2	364.70637	9	9	9	4	1.41149	19	19	8	1	-6.26091	23	23	19	19	-48.07357
19	19	3	-291.41143	9	9	9	5	-0.60687	19	19	8	2	-1.85645	23	23	20	17	1.98244
19	19	4	95.65694	9	9	9	6	12.32500	19	19	8	3	0.55756	23	23	20	18	-9.20101
19	19	5	51.51235	9	9	9	7	0.47249	19	19	8	4	-1.71181	23	23	20	19	4.55400
19	19	6	16.43348	9	9	9	8	-23.66549	19	19	8	5	-10.21159	23	23	20	20	0.60204
19	19	7	3.97853	9	9	9	9	34.44953	19	19	8	6	8.27085	23	23	21	17	1.49742
19	19	8	-11.19228	10	10	1	1	-41.90886	19	19	8	7	0.16562	23	23	21	18	-2.18680
19	19	9	-4.42953	10	10	2	1	18.06796	19	19	8	8	-35.78172	23	23	21	19	3.18968
20	14	10	23.45734	10	10	2	2	-89.95918	19	19	9	1	7.86932	23	23	21	20	-0.44760
20	14	11	-6.56933	10	10	3	1	-24.56240	19	19	9	2	1.62349	23	23	21	21	21.82757
20	14	12	24.81284	10	10	3	2	-36.89737	19	19	9	3	-0.76901	23	23	22	17	-1.84263
20	14	13	-69.27971	10	10	3	3	-46.74428	19	19	9	4	0.53364	23	23	22	18	-0.93170
20	15	11	-17.00946	10	10	4	1	2.98043	19	19	9	5	2.96513	23	23	22	19	4.56940
20	15	12	-0.70422	10	10	4	2	-4.54422	19	19	9	6	-15.55577	23	23	22	20	7.91013
20	15	13	-14.48337	10	10	4	3	-0.82163	19	19	9	7	-1.47272	23	23	22	21	-0.51553
20	16	10	-3.68183	10	10	4	4	-4.42464	19	19	9	8	32.86756	23	23	22	22	17.00151
20	16	11	4.47127	10	10	5	1	0.95537	19	19	9	9	-33.38566	23	23	23	17	-1.06233
20	16	12	-53.28130	10	10	5	2	-3.87507	19	19	10	10	-46.76346	23	23	23	18	-0.22409
20	16	13	32.05929	10	10	5	3	-1.39948	19	19	11	10	8.68450	23	23	23	19	-0.95922
20	17	1	86.63175	10	10	5	4	-2.63952	19	19	11	11	-77.76496	23	23	23	20	-6.65602
20	17	2	-13.03967	10	10	5	5	1.42107	19	19	12	10	9.25612	23	23	23	21	9.21951
20	17	3	6.98105	10	10	6	1	-1.41084	19	19	12	11	7.78874	23	23	23	22	-11.24022
20	17	4	11.20597	10	10	6	2	0.59035	19	19	12	12	-109.34191	23	23	23	23	48.31685
20	17	5	24.14443	10	10	6	3	0.83359	19	19	13	10	-27.01797	24	17	1	1	-21.41050
20	17	6	-18.87424	10	10	6	4	0.49199	19	19	13	11	38.60342	24	17	2	2	3.34120
20	17	7	1.88760	10	10	6	5	2.69289	19	19	13	12	-35.26876	24	17	3	3	9.88475
20	17	8	51.09923	10	10	6	6	-0.55995	19	19	13	13	-46.16111	24	17	4	4	-0.59207
20	17	9	-46.06249	10	10	7	1	0.17157	19	19	14	14	-36.65384	24	17	5	5	-2.14588
20	18	1	-4.61571	10	10	7	2	1.73902	19	19	15	14	-14.50489	24	17	6	6	5.82503
20	18	2	112.38843	10	10	7	3	-0.22828	19	19	15	15	-77.97533	24	17	7	7	0.98810
20	18	3	-29.09561	10	10	7	4	-5.05826	19	19	16	14	-13.94534	24	17	8	8	2.39425

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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20	18	5	6.13021	10	10	7	6	1.04849	19	19	16	16	-54.02165	24	17	11	11	3.21730
20	18	6	-7.41487	10	10	7	7	6.49574	19	19	17	17	110.42209	24	17	12	12	-0.50341
20	18	7	22.98395	10	10	8	1	-0.39564	19	19	18	17	12.04092	24	17	15	15	3.50160
20	18	8	14.10861	10	10	8	2	-0.18759	19	19	18	18	73.74995	24	17	16	16	0.26137
20	18	9	19.39658	10	10	8	3	1.53369	19	19	19	17	-11.01009	24	17	17	17	-20.88010
20	19	1	5.31735	10	10	8	4	4.07399	19	19	19	18	-13.25152	24	18	1	1	-5.45202
20	19	2	-28.68689	10	10	8	5	2.76611	19	19	19	19	91.52603	24	18	2	2	3.62519
20	19	3	116.04849	10	10	8	6	1.70489	20	17	1	1	-9.23279	24	18	3	3	1.05944
20	19	4	32.53394	10	10	8	7	-2.30669	20	17	2	2	-0.28419	24	18	4	4	-0.90288
20	19	5	41.94435	10	10	8	8	4.90424	20	17	3	3	-1.58553	24	18	5	5	5.16281
20	19	6	25.21192	10	10	9	1	-0.72521	20	17	4	4	1.65806	24	18	6	6	-0.56042
20	19	7	19.01090	10	10	9	2	2.11183	20	17	5	5	2.95668	24	18	7	7	2.44134
20	19	8	-13.03521	10	10	9	3	-0.71502	20	17	6	6	-1.98512	24	18	8	8	0.31027
20	19	9	9.34728	10	10	9	4	-2.65807	20	17	7	7	0.72301	24	18	9	9	-0.98559
20	20	1	5.95985	10	10	9	5	-1.21003	20	17	8	8	2.59438	24	18	10	10	1.81590
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20	20	3	42.98568	10	10	9	7	5.21534	20	17	10	10	4.38479	24	18	12	12	-0.58145
20	20	4	255.86625	10	10	9	8	-4.98519	20	17	11	11	-3.96652	24	18	13	13	-1.53413
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20	20	6	-28.05153	10	10	10	10	63.27314	20	17	13	13	-7.08677	24	18	15	15	0.57405
20	20	7	60.66837	11	10	1	1	39.37795	20	17	14	14	0.67514	24	18	16	16	2.00448
20	20	8	-63.52892	11	10	2	2	-41.04039	20	17	15	15	-2.44857	24	18	17	17	-5.75888
20	20	9	-33.12288	11	10	3	3	8.80456	20	17	16	16	9.15225	24	18	18	17	3.04766
21	14	10	1.08003	11	10	4	4	5.89109	20	17	17	17	-10.12701	24	18	18	18	3.89438
21	14	11	13.35246	11	10	5	5	-0.27352	20	18	1	1	11.23599	24	19	1	1	3.30219
21	14	12	-5.61591	11	10	6	6	-2.48863	20	18	2	2	24.17197	24	19	2	2	-2.95529
21	14	13	-2.02949	11	10	7	7	3.65054	20	18	3	3	15.62381	24	19	3	3	-2.80243
21	15	10	-13.99355	11	10	8	8	-4.72424	20	18	4	4	-18.69008	24	19	4	4	2.50304
21	15	11	24.49307	11	10	9	9	-2.72143	20	18	5	5	1.57535	24	19	5	5	-2.80156
21	15	12	9.95764	11	10	10	10	11.01652	20	18	6	6	-1.60673	24	19	6	6	2.82207
21	15	13	-33.55134	11	11	1	1	-87.61338	20	18	7	7	-7.35263	24	19	7	7	1.35226
21	16	10	1.40063	11	11	2	1	-26.26995	20	18	8	8	-4.75417	24	19	8	8	0.57481
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21	16	12	-15.42527	11	11	3	1	41.15925	20	18	10	10	-6.59481	24	19	10	10	-0.39187
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21	17	2	-7.44177	11	11	4	1	-3.92826	20	18	13	13	12.23295	24	19	14	14	0.78121
21	17	3	2.36842	11	11	4	2	-6.46335	20	18	14	14	-3.44959	24	19	15	15	1.61001
21	17	4	14.18488	11	11	4	3	8.68661	20	18	15	15	-9.52491	24	19	16	16	-1.15279
21	17	5	47.09519	11	11	4	4	-4.55862	20	18	16	16	-3.80538	24	19	17	17	3.94495
21	17	6	14.13588	11	11	5	1	-0.25730	20	18	17	17	11.15860	24	19	18	18	-3.28273
21	17	7	6.03582	11	11	5	2	-1.68534	20	18	18	17	0.63049	24	19	19	17	10.39203
21	17	8	99.86014	11	11	5	4	0.51193	20	18	18	18	24.04114	24	19	19	18	1.12823
21	17	9	-90.76540	11	11	5	5	0.26162	20	19	1	1	-21.45814	24	19	19	19	-2.98198
21	18	1	-9.66665	11	11	6	1	1.79494	20	19	2	2	5.33735	24	20	1	1	3.30972
21	18	2	-0.50065	11	11	6	2	1.19941	20	19	3	3	-18.30904	24	20	2	2	-15.25358
21	18	3	-6.48742	11	11	6	3	-1.93383	20	19	4	4	8.17677	24	20	3	3	-5.57651
21	18	4	34.21012	11	11	6	4	2.73045	20	19	5	5	1.72012	24	20	4	4	8.83720
21	18	5	-37.71815	11	11	6	5	2.99509	20	19	6	6	3.71751	24	20	5	5	-8.27282
21	18	6	-39.17250	11	11	6	6	7.40250	20	19	7	7	-2.99105	24	20	6	6	3.84455
21	18	7	-59.14860	11	11	7	1	-1.79398	20	19	8	8	8.55947	24	20	7	7	6.78860
21	18	8	11.97130	11	11	7	2	-1.59675	20	19	9	9	6.79874	24	20	8	8	-2.81175
21	18	9	-30.52358	11	11	7	3	1.33505	20	19	10	10	-1.51510	24	20	9	9	2.63998
21	19	1	1.89255	11	11	7	4	-2.26785	20	19	11	11	9.32588	24	20	10	10	-0.43186
21	19	2	-5.80012	11	11	7	5	-0.21482	20	19	12	12	17.80325	24	20	11	11	4.90231
21	19	3	21.91092	11	11	7	6	-2.30815	20	19	13	13	-8.36541	24	20	12	12	-1.21693
21	19	4	35.07870	11	11	7	7	2.02625	20	19	14	14	-3.33005	24	20	13	13	2.28877
21	19	5	15.27036	11	11	8	1	-0.89685	20	19	15	15	8.37769	24	20	14	14	1.13434
21	19	6	36.83300	11	11	8	2	2.25574	20	19	16	16	11.02554	24	20	15	15	4.22893
21	19	7	-49.44284	11	11	8	3	-2.92256	20	19	17	17	-21.23211	24	20	16	16	-4.17753
21	19	8	42.21576	11	11	8	4	-1.03671	20	19	18	18	5.17462	24	20	17	17	4.18582
21	19	9	-38.70589	11	11	8	5	-0.41912	20	19	19	17	-1.48708	24	20	18	18	-15.34482
21	20	1	19.47462	11	11	8	6	-6.94840	20	19	19	18	15.72834	24	20	19	19	-5.72262
21	20	2	24.39037	11	11	8	7	1.78719	20	19	19	19	-18.16700	24	20	20	17	-2.67931
21	20	3	37.96704	11	11	8	8	9.55632	20	20	1	1	-7.21288	24	20	20	18	-0.69376
21	20	4	-12.59903	11	11	9	1	2.03374	20	20	2	1	-2.09132	24	20	20	19	2.21471
21	20	5	-9.92692	11	11	9	3	0.64595	20	20	2	2	-0.82274	24	20	20	20	5.94664
21	20	6	13.05207	11	11	9	4	2.38258	20	20	3	1	1.42429	24	21	1	1	31.35062
21	20	7	-4.48640	11	11	9	5	0.95898	20	20	3	2	-5.08645	24	21	2	2	18.74963
21	20	8	5.86899	11	11	9	6	9.25005	20	20	3	3	-1.57704	24	21	3	3	16.00824
21	20	9	3.02499	11	11	9	7	-1.94405	20	20	4	1	0.88609	24	21	4	4	-9.69981
21	21	1	61.96787	11	11	9	8	-11.41423	20	20	4	2	-18.13295	24	21	5	5	-9.11035
21	21	2	-64.79950	11	11	9	9	12.61601	20	20	4	3	9.46103	24	21	6	6	2.49881
21	21	3	24.05571	11	11	10	10	25.43923	20	20	4	4	45.19520	24	21	7	7	-9.10997
21	21	4	-2.43930	11	11	11	10	-12.81076	20	20	5	1	4.36368	24	21	8	8	-16.68299
21	21	5	8.56371	11	11	11	11	93.71514	20	20	5	2	-1.43411	24	21	9	9	-7.09933
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21	21	7	-1.77426	12	10	2	2	-67.11983	20	20	5	4	13.34264	24	21	11	11	1.57958
21	21	8	-17.28070	12	10	3	3	10.05223	20	20	5	5	-2.26392	24	21	12	12	-22.85461
21	21	9	10.98745	12	10	4	4	-0.31746	20	20	6	1	-3.02107	24	21	13	13	5.97735
22	14	10	-2.69802	12	10	5	5	-1.91010	20	20	6	2	-0.95959	24	21	14	14	-5.64366
22	14	11	1.80336	12	10	6	6	0.27338	20	20	6	3	2.87377	24	21	15	15	-1.06906
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22	15	12	16.47660	12	10	10	10	15.22646	20	20	7	2	1.21973	24	21	19	19	15.76522
22	15	13	-15.75453	12	11	1	1	-7.80524	20	20	7	3	2.65073	24	21	20	20	-9.07047
22	16	10	-2.16927	12	11	2	2	-24.09961	20	20	7	4	9.07565	24	21	21	17	5.06573
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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22	16	13	-15.88270	12	11	5	5	4.42723	20	20	7	7	3.07430	24	21	21	20	-2.46709
22	17	1	-39.08639	12	11	6	6	-7.09114	20	20	8	1	6.10911	24	21	21	21	-18.96955
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22	17	3	5.58984	12	11	8	8	4.12811	20	20	8	3	-1.72107	24	22	2	2	-25.64871
22	17	4	-19.76500	12	11	9	9	-2.54674	20	20	8	4	-8.95905	24	22	3	3	-27.47744
22	17	5	-8.77755	12	11	10	10	45.18847	20	20	8	5	-3.69214	24	22	4	4	8.84153
22	17	6	-46.56383	12	11	11	10	-0.74871	20	20	8	6	1.24202	24	22	5	5	1.31949
22	17	7	8.88510	12	11	11	11	-41.11747	20	20	8	7	-1.87054	24	22	6	6	14.56443
22	17	8	65.82149	12	12	1	1	-143.60338	20	20	8	8	3.32947	24	22	7	7	7.39778
22	17	9	-71.48974	12	12	2	1	13.95101	20	20	9	1	-4.46349	24	22	8	8	5.77262
22	18	2	-15.67840	12	12	2	2	-80.35129	20	20	9	2	3.48049	24	22	9	9	19.72833
22	18	3	-17.41079	12	12	3	1	-39.78809	20	20	9	3	1.29842	24	22	10	10	1.92176
22	18	4	-23.56371	12	12	3	2	14.29364	20	20	9	4	-4.27345	24	22	11	11	14.84719
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22	18	8	8.43859	12	12	4	3	15.42910	20	20	9	9	0.24168	24	22	15	15	13.82488
22	18	9	-12.06535	12	12	4	4	-7.17652	20	20	10	10	-6.51218	24	22	16	16	-0.46782
22	19	1	4.43128	12	12	5	1	0.45741	20	20	11	10	4.30965	24	22	17	17	-17.05900
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22	19	4	-10.34479	12	12	5	4	-1.33021	20	20	12	11	2.24516	24	22	20	20	10.27812
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22	20	3	-2.84000	12	12	7	2	2.93396	20	20	15	15	-1.15470	24	23	1	1	-62.86810
22	20	4	-67.47742	12	12	7	3	-1.10484	20	20	16	14	5.00256	24	23	2	2	16.05290
22	20	5	-1.90711	12	12	7	4	-1.62749	20	20	16	15	0.58062	24	23	3	3	-36.47671
22	20	6	2.23682	12	12	7	5	3.85104	20	20	16	16	-3.34521	24	23	4	4	6.34399
22	20	7	-14.67476	12	12	7	6	-0.80661	20	20	17	17	-7.05287	24	23	5	5	6.30145
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22	21	3	49.30402	12	12	8	5	7.67094	20	20	19	19	-1.50479	24	23	11	11	15.23175
22	21	4	10.70508	12	12	8	6	1.44048	20	20	20	17	2.34789	24	23	12	12	23.08493
22	21	5	5.69597	12	12	8	7	-1.07402	20	20	20	18	-19.35890	24	23	14	14	-1.22154
22	21	6	23.40583	12	12	8	8	23.67712	20	20	20	19	10.56903	24	23	15	15	14.07593
22	21	7	-8.78065	12	12	9	1	-2.06902	20	20	20	20	49.88229	24	23	16	16	16.86129
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22	21	9	-6.64141	12	12	9	3	-0.55428	21	17	2	2	-0.78225	24	23	18	18	14.40868
22	22	1	-43.70032	12	12	9	4	-4.02076	21	17	3	3	-2.35673	24	23	19	19	-36.17551
22	22	2	-52.09781	12	12	9	5	-9.39370	21	17	4	4	2.55099	24	23	20	20	9.72827
22	22	3	29.35448	12	12	9	6	2.75436	21	17	5	5	0.66110	24	23	21	21	12.39922
22	22	4	6.02891	12	12	9	7	7.09334	21	17	7	7	0.55050	24	23	22	22	11.70419
22	22	5	25.92503	12	12	9	8	-22.58026	21	17	8	8	-1.53315	24	23	23	17	-0.36062
22	22	6	-12.82642	12	12	9	9	18.22553	21	17	9	9	1.70597	24	23	23	19	0.58707
22	22	7	13.87035	12	12	10	10	92.18401	21	17	10	10	-0.83676	24	23	23	20	4.37183
22	22	8	13.91882	12	12	11	10	-30.22164	21	17	11	11	1.11392	24	23	23	21	-18.02986
22	22	9	-7.00498	12	12	11	11	104.41724	21	17	12	12	-3.09293	24	23	23	22	15.46706
23	14	10	0.87509	12	12	12	10	-52.04200	21	17	14	14	0.40706	24	23	23	23	16.35477
23	14	11	5.85455	12	12	12	11	37.12676	21	17	15	15	0.62690	24	24	1	1	-83.19063
23	14	12	14.32903	12	12	12	12	245.18677	21	17	16	16	-3.18466	24	24	2	1	-3.95465
23	14	13	8.13071	13	10	1	1	-20.50586	21	17	17	17	8.30798	24	24	2	2	-31.74078
23	15	10	-5.76073	13	10	2	2	-57.60242	21	18	1	1	0.42994	24	24	3	1	-1.64247
23	15	11	-6.42926	13	10	3	3	-27.03101	21	18	2	2	0.28100	24	24	3	2	25.03970
23	15	12	-4.62043	13	10	4	4	20.16317	21	18	3	3	6.59759	24	24	3	3	-66.01214
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23	16	10	-7.64530	13	10	6	6	0.53715	21	18	5	5	-1.52392	24	24	4	2	0.72419
23	16	11	1.61379	13	10	7	7	6.87777	21	18	6	6	1.01987	24	24	4	3	8.24479
23	16	12	-7.98378	13	10	8	8	3.92906	21	18	7	7	0.97168	24	24	4	4	-26.74273
23	17	1	1.97035	13	10	9	9	3.09444	21	18	8	8	-3.08507	24	24	5	1	-2.35555
23	17	2	7.85768	13	10	10	10	43.24413	21	18	9	9	-0.75147	24	24	5	2	-4.59045
23	17	3	-7.28802	13	11	1	1	56.05714	21	18	10	10	0.26382	24	24	5	3	3.43190
23	17	4	-46.17332	13	11	2	2	-14.37212	21	18	11	11	1.24772	24	24	5	4	-3.43106
23	17	5	-57.31469	13	11	3	3	38.66118	21	18	12	12	-2.93045	24	24	5	5	13.54009
23	17	6	-88.26093	13	11	4	4	-8.46334	21	18	13	13	-3.27274	24	24	6	1	2.84676
23	17	7	41.48306	13	11	5	5	0.71867	21	18	14	14	-0.38144	24	24	6	2	-3.33240
23	17	8	-37.99312	13	11	6	6	-6.43085	21	18	15	15	1.09448	24	24	6	3	5.83456
23	17	9	17.33803	13	11	7	7	0.86323	21	18	16	16	-1.56078	24	24	6	4	12.97483
23	18	1	7.91846	13	11	8	8	-6.49915	21	18	17	17	0.50095	24	24	6	5	14.40818
23	18	2	1.17269	13	11	9	9	-9.53775	21	18	18	17	-0.63108	24	24	6	6	30.30333
23	18	3	-2.30118	13	11	10	10	13.02315	21	19	1	1	3.81510	24	24	7	1	-1.29278
23	18	4	33.03805	13	11	11	10	24.52388	21	19	2	2	-2.19938	24	24	7	2	0.74295
23	18	5	-49.38977	13	11	11	11	-71.15824	21	19	3	3	-7.70333	24	24	7	3	-2.78883
23	18	6	-43.37562	13	12	1	1	-11.91661	21	19	4	4	4.18202	24	24	7	4	-11.35098
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23	18	8	69.99745	13	12	3	3	-34.88465	21	19	7	7	-1.16859	24	24	7	6	-6.40418
23	18	9	-96.59721	13	12	4	4	14.44617	21	19	8	8	3.43888	24	24	7	7	12.52887
23	19	1	-8.10708	13	12	5	5	-2.30480	21	19	9	9	3.79554	24	24	8	1	-3.31204
23	19	2	-2.09039	13	12	6	6	3.33583	21	19	10	10	0.60362	24	24	8	2	-1.34173
23	19	3	3.71012	13	12	7	7	6.54563	21	19	11	11	-3.13302	24	24	8	3	0.88446
23	19	4	26.81928	13	12	8	8	4.49990	21	19	12	12	5.91750	24	24	8	4	6.84485
23	19	5	-43.45169	13	12	9	9	6.02931	21	19	13	13	-3.88542	24	24	8	5	14.61775
23	19	6	12.36331	13	12	10	10	17.98421	21	19	14	14	-0.14267	24	24	8	6	-5.77380

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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23	19	9	73.45556	13	12	12	11	-45.96598	21	19	17	17	3.58250	24	24	9	1	1.27015
23	20	1	-56.82341	13	12	12	12	25.12159	21	19	18	18	-2.18528	24	24	9	3	-1.13624
23	20	2	23.13414	13	13	1	1	-35.44441	21	19	19	17	-2.43632	24	24	9	4	2.52473
23	20	3	22.04770	13	13	2	1	-13.19356	21	19	19	18	6.78890	24	24	9	5	-5.03934
23	20	4	9.77611	13	13	2	2	-52.24405	21	19	19	19	-7.87711	24	24	9	6	14.29979
23	20	5	10.75587	13	13	3	1	29.60668	21	20	1	1	-20.61042	24	24	9	7	0.86175
23	20	6	-10.86580	13	13	3	2	3.57411	21	20	2	2	10.72873	24	24	9	8	-40.43286
23	20	7	-6.07668	13	13	3	3	-46.08091	21	20	3	3	-5.09643	24	24	9	9	50.87405
23	20	8	15.79299	13	13	4	1	-5.91681	21	20	4	4	-1.53367	24	24	10	10	9.41960
23	20	9	-17.56432	13	13	4	2	11.66648	21	20	5	5	-0.83461	24	24	11	10	-6.65195
23	21	1	-85.53548	13	13	4	3	-6.86642	21	20	6	6	2.77142	24	24	11	11	22.54782
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23	21	9	-6.11948	13	13	6	2	2.25418	21	20	14	14	-0.20543	24	24	14	14	6.21767
23	22	1	-70.72950	13	13	6	3	-3.15623	21	20	15	15	1.19998	24	24	15	14	8.25457
23	22	2	34.53528	13	13	6	4	9.09708	21	20	16	16	2.93239	24	24	15	15	22.06270
23	22	3	65.39541	13	13	6	5	3.03573	21	20	17	17	-20.47088	24	24	16	14	4.21367
23	22	4	-11.50733	13	13	6	6	-1.54521	21	20	18	18	10.04976	24	24	16	15	3.45473
23	22	5	-3.41422	13	13	7	1	-1.98035	21	20	19	19	-5.00155	24	24	16	16	17.44932
23	22	6	-11.98645	13	13	7	2	-0.86083	21	20	20	17	3.05424	24	24	17	17	-82.78236
23	22	7	6.19378	13	13	7	3	-2.12531	21	20	20	18	3.10495	24	24	18	17	-6.50695
23	22	8	17.60803	13	13	7	4	-15.27586	21	20	20	19	5.00716	24	24	18	18	-32.64242
23	22	9	-20.62353	13	13	7	5	-5.79887	21	20	20	20	-2.24052	24	24	19	17	-2.83676
23	23	1	27.42042	13	13	7	6	3.32079	21	21	1	1	-49.01687	24	24	19	18	25.23069
23	23	2	-146.89271	13	13	7	7	-3.11797	21	21	2	1	10.12304	24	24	19	19	-65.24161
23	23	3	37.71530	13	13	8	1	-2.20572	21	21	2	2	-37.14717	24	24	20	17	1.35213
23	23	4	-25.89377	13	13	8	2	-2.80392	21	21	3	1	-21.86017	24	24	20	18	-0.30423
23	23	5	-14.52118	13	13	8	3	1.13805	21	21	3	2	-5.73505	24	24	20	19	10.02766
23	23	6	-24.55977	13	13	8	4	9.63018	21	21	3	3	-33.86516	24	24	20	20	-25.71589
23	23	7	6.86942	13	13	8	5	-3.58669	21	21	4	1	2.67909	24	24	21	17	-1.14479
23	23	8	-20.32361	13	13	8	6	-5.06374	21	21	4	2	-2.12763	24	24	21	18	-5.67813
23	23	9	5.75777	13	13	8	7	4.14343	21	21	4	3	1.69310	24	24	21	19	3.86630
24	14	10	-2.80880	13	13	8	8	-4.26833	21	21	4	4	-1.29444	24	24	21	20	11.08147
24	14	11	-6.62116	13	13	9	1	1.22035	21	21	5	1	-0.36371	24	24	21	21	30.08775
24	14	13	-4.57841	13	13	9	2	-2.66097	21	21	5	2	-1.04454	24	24	22	17	3.14732
24	15	10	3.93014	13	13	9	3	1.50601	21	21	5	3	0.07813	24	24	22	18	-1.33702
24	15	11	-1.74253	13	13	9	4	7.01507	21	21	5	4	0.39848	24	24	22	19	4.82292
24	15	12	-1.93323	13	13	9	5	4.31005	21	21	5	5	5.44533	24	24	22	20	17.45561
24	15	13	3.67824	13	13	9	6	5.35943	21	21	6	1	-1.50129	24	24	22	21	11.38017
24	16	10	-1.29012	13	13	9	8	-6.08496	21	21	6	2	0.67446	24	24	22	22	24.22718
24	16	13	-11.90065	13	13	9	9	4.41994	21	21	6	3	-2.78207	24	24	23	17	3.19728
24	17	1	-2.90377	13	13	10	10	31.39123	21	21	6	4	1.06842	24	24	23	18	0.67330
24	17	2	5.87296	13	13	11	10	-4.60275	21	21	6	5	4.55799	24	24	23	20	-2.07086
24	17	3	-8.19662	13	13	11	11	67.04783	21	21	6	6	4.03898	24	24	23	21	-8.03052
24	17	4	-32.47609	13	13	12	10	23.50433	21	21	7	3	-0.13447	24	24	23	22	11.21881
24	17	5	-92.62984	13	13	12	11	-30.37936	21	21	7	4	-5.82237	24	24	23	23	50.05302
24	17	6	-137.79980	13	13	12	12	66.67158	21	21	7	5	3.58119	24	24	24	17	0.78300
24	17	7	40.87795	13	13	13	10	-10.33509	21	21	7	6	1.50664	24	24	24	18	-2.74590
24	17	8	-49.76861	13	13	13	11	-16.14108	21	21	7	7	9.28501	24	24	24	19	-3.51393
24	17	9	3.99895	13	13	13	12	19.37586	21	21	8	1	-3.30883	24	24	24	20	-1.32449
24	18	1	6.20259	13	13	13	13	186.51167	21	21	8	2	-2.01821	24	24	24	21	-15.37194
24	18	2	-9.13706	14	14	1	1	-25.30186	21	21	8	3	1.97188	24	24	24	22	25.29032
24	18	3	-6.27925	14	14	2	1	6.10125	21	21	8	4	4.06451	24	24	24	23	37.95818
24	18	4	-24.92179	14	14	2	2	-77.24382	21	21	8	5	6.92481	24	24	24	24	120.23068
24	18	5	47.30553	14	14	3	1	-2.17123	21	21	8	6	3.69137					
24	18	6	-37.60663	14	14	3	2	-30.13344	21	21	8	7	-3.05066					

Table S42: The quartic potential energy surface of Thiophene. The calculation was done by using B3LYP/6-311++G(2d,2p) method. The force constants (FI) are in cm^{-1} units.

I	J	FI(I,J)
1	1	3254.75354
2	2	3215.49528
3	3	1438.74372
4	4	1395.88433
5	5	1106.56438
6	6	1051.92152
7	7	834.44660
8	8	613.37050
9	9	921.09465
10	10	688.52717
11	11	579.07513
12	12	888.38998
13	13	722.95145
14	14	462.60144
15	15	3252.20804
16	16	3202.11783
17	17	1549.75407
18	18	1284.56364
19	19	1106.52005
20	20	877.80812
21	21	746.25542

I	J	K	FI(I,J,K)
1	1	1	-1284.97057
2	1	1	-242.41869
2	2	1	-396.73366
2	2	2	1241.04596
3	1	1	25.46320
3	2	1	3.92227
3	2	2	-4.06720
3	3	1	46.38242
3	3	2	-157.76396
3	3	3	-2.93327
4	1	1	-31.52050
4	2	1	4.13573
4	2	2	-36.41169
4	3	1	-3.12381
4	3	2	-50.00429
4	3	3	-165.65090
4	4	1	181.13201
4	4	2	21.67332
4	4	3	79.87933
4	4	4	-81.20465
5	1	1	-8.74777
5	2	1	0.27526
5	2	2	-8.32132
5	3	1	26.48783
5	3	2	-131.01653
5	3	3	-58.03225
5	4	1	-144.12266
5	4	2	-99.42633
5	4	3	45.13088
5	4	4	-48.96010
5	5	1	217.41741
5	5	2	-117.55399
5	5	3	22.95506
5	5	4	-29.88778
5	5	5	-13.48413
6	1	1	-23.64238
6	2	1	2.64316
6	2	2	-30.92303
6	3	1	-22.06827
6	3	2	71.66932
6	3	3	-178.83128
6	4	1	-111.76740
6	4	2	3.09492
6	4	3	-25.67454
6	4	4	-38.52470
6	5	1	90.55346
6	5	2	131.72384
6	5	3	35.68306
6	5	4	-6.94291
6	5	5	-15.25115
6	6	1	97.22091
6	6	2	-62.41522
6	6	3	-129.78943
6	6	4	-52.02771
6	6	5	30.99622
6	6	6	-159.47457
7	1	1	-15.32704
7	2	2	-16.41998
7	3	1	25.77221
7	3	2	-72.92206
7	3	3	11.27592
7	4	1	32.67688
7	4	2	-32.03455

I	J	K	FI(I,J,K)
21	15	3	-9.52204
21	15	4	43.71432
21	15	5	-58.50257
21	15	6	-20.78190
21	15	7	-0.82641
21	15	8	5.78108
21	16	1	0.86124
21	16	2	1.87470
21	16	3	55.54330
21	16	4	32.14243
21	16	5	62.39260
21	16	6	-54.89447
21	16	7	38.10395
21	16	8	-14.62872
21	17	1	-31.00664
21	17	2	44.93364
21	17	3	17.57486
21	17	4	-6.99412
21	17	5	8.98650
21	17	6	2.83545
21	17	7	25.67769
21	17	8	1.65903
21	18	1	-27.20852
21	18	2	-79.13493
21	18	3	-6.79708
21	18	4	-31.37311
21	18	5	-9.50900
21	18	6	16.65319
21	18	7	37.82017
21	18	8	21.82521
21	19	1	-61.43096
21	19	2	41.31784
21	19	3	0.65203
21	19	4	-1.46496
21	19	5	14.87367
21	19	6	-14.17067
21	19	7	-8.67544
21	19	8	1.04181
21	20	1	18.40284
21	20	2	13.48314
21	20	3	-0.54114
21	20	4	-28.77377
21	20	5	-8.57052
21	20	7	58.12657
21	20	8	37.47473
21	21	1	19.52913
21	21	2	-23.28867
21	21	3	7.55718
21	21	4	37.36311
21	21	5	-8.20973
21	21	6	-3.45571
21	21	7	-106.35120
21	21	8	-72.81143

I	J	K	L	FI(I,J,K,L)
1	1	1	1	485.84215
2	1	1	1	115.36830
2	2	1	1	60.82810
2	2	2	1	-113.55813
2	2	2	2	487.24041
3	1	1	1	-10.23259
3	2	1	1	-2.71906
3	2	2	1	-0.40261
3	2	2	2	-3.55804
3	3	1	1	-5.61477
3	3	2	1	19.69538
3	3	2	2	-82.83165
3	3	3	1	0.19021
3	3	3	2	-1.61168
3	3	3	3	49.96104
4	1	1	1	12.70944
4	2	1	1	1.40504
4	2	2	1	3.97086
4	2	2	2	-15.71363
4	3	1	1	-5.87369
4	3	2	2	-38.98454
4	3	3	1	-4.03275
4	3	3	2	3.94311
4	3	3	3	-2.35381
4	4	1	1	-114.69421
4	4	2	1	-24.67966
4	4	2	2	-26.78293
4	4	3	1	3.59113
4	4	3	2	0.30435
4	4	3	3	23.51446
4	4	4	1	-8.37233

I	J	K	L	FI(I,J,K,L)
12	12	6	2	3.50620
12	12	6	3	-10.91632
12	12	6	4	-16.38844
12	12	6	5	0.32542
12	12	6	6	13.51007
12	12	7	1	-1.27823
12	12	7	2	1.96155
12	12	7	3	10.44704
12	12	7	4	8.19268
12	12	7	5	6.51309
12	12	7	6	-8.92914
12	12	7	7	4.16347
12	12	8	1	-2.68643
12	12	8	3	-3.56597
12	12	8	4	1.58126
12	12	8	5	-7.99159
12	12	8	6	-0.72896
12	12	8	7	-1.48081
12	12	9	9	186.59503
12	12	10	9	-2.86113
12	12	10	10	249.78436
12	12	11	9	79.84882
12	12	11	10	59.04310
12	12	11	11	33.13119
12	12	12	12	173.07835
13	12	1	1	213.10385
13	12	2	2	-206.98379
13	12	3	3	18.24664
13	12	4	4	-17.58771
13	12	5	5	0.55643
13	12	6	6	-0.98263
13	12	7	7	5.28955
13	12	9	9	174.25233
13	12	10	10	-260.49381
13	12	11	11	42.76343
13	12	12	12	19.82877
13	13	1	1	-290.54781
13	13	2	1	-9.96057
13	13	2	2	-257.38472
13	13	3	1	4.20967
13	13	3	2	-0.51084
13	13	3	3	14.99285
13	13	4	1	-6.62829
13	13	4	2	4.04638
13	13	4	3	6.08079
13	13	4	4	25.24255
13	13	5	1	-1.74445
13	13	5	2	0.36675
13	13	5	3	20.52126
13	13	5	4	-18.53256
13	13	5	5	52.68509
13	13	6	1	-5.81811
13	13	6	2	3.80576
13	13	6	3	-13.20529
13	13	6	4	-24.20362
13	13	6	5	3.55190
13	13	6	6	22.26700
13	13	7	1	-0.86269
13	13	7	2	2.00926
13	13	7	3	12.12671
13	13	7	4	10.53296
13	13	7	5	7.31678
13	13	7	6	-12.12985
13	13	7	7	7.66614
13	13	8	1	-1.93973
13	13	8	2	-0.19622
13	13	8	3	-5.57388
13	13	8	4	4.40250
13	13	8	5	-12.78499
13	13	8	6	-1.11505
13	13	8	7	-1.23882
13	13	8	8	1.26184
13	13	9	9	245.84401
13	13	10	9	-28.56199
13	13	10	10	390.27394
13	13	11	9	86.35203
13	13	11	10	83.56180
13	13	11	11	46.19397
13	13	12	12	282.18735
13	13	13	12	-17.65173
13	13	13	13	387.68708
14	12	1	1	49.64133
14	12	2	2	41.55122
14	12	3	3	-5.91630
14	12	4	4	-8.24852
14	12	5	5	-9.09529
14	12	6	6	-3.91703

I	J	K	L	FI(I,J,K,L)
19	15	11	11	1.98125
19	15	12	12	3.37942
19	15	13	13	-2.31317
19	15	14	14	1.19410
19	15	15	15	2.85929
19	16	1	1	1.03243
19	16	2	2	-1.41503
19	16	3	3	-0.07083
19	16	4	4	1.34230
19	16	5	5	2.12676
19	16	6	6	-1.18176
19	16	7	7	1.04397
19	16	8	8	0.42916
19	16	9	9	-0.59673
19	16	10	10	1.01792
19	16	11	11	-0.40437
19	16	12	12	-2.11881
19	16	13	13	-0.56251
19	16	15	15	1.33758
19	16	16	15	-0.53090
19	16	16	16	0.84637
19	17	1	1	-47.21361
19	17	2	2	-65.99176
19	17	3	3	-0.33799
19	17	4	4	2.78159
19	17	5	5	28.38805
19	17	6	6	12.46008
19	17	7	7	7.55981
19	17	8	8	1.57369
19	17	9	9	16.96203
19	17	10	10	18.25571
19	17	11	11	8.67866
19	17	12	12	15.25372
19	17	13	13	22.37359
19	17	14	14	8.21075
19	17	15	15	-46.70546
19	17	16	16	-66.91750
19	17	17	15	0.54153
19	17	17	16	1.81620
19	17	17	17	-12.53687
19	18	1	1	-119.77856
19	18	2	2	84.17281
19	18	3	3	-21.82687
19	18	4	4	27.89093
19	18	5	5	12.31553
19	18	6	6	7.12425
19	18	7	7	-3.79569
19	18	9	9	-16.68860
19	18	10	10	45.13509
19	18	12	12	5.03547
19	18	13	13	10.86550
19	18	14	14	2.28550
19	18	15	15	-126.65311
19	18	16	16	91.63845
19	18	17	17	-13.45202
19	18	18	15	4.19164
19	18	18	16	-2.42857
19	18	18	17	26.66039
19	18	18	18	11.61453
19	19	1	1	-149.95793
19	19	2	1	-20.12728
19	19	2	2	-79.34588
19	19	3	1	0.13983
19	19	3	2	-1.07956
19	19	3	3	14.94273
19	19	4	1	-3.89896
19	19	4	2	0.72696
19	19	4	3	0.58412
19	19	4	4	41.89066
19	19	5	1	-2.35749
19	19	5	2	2.14245
19	19	5	3	14.83159
19	19	5	4	-31.76395
19	19	5	5	74.66642
19	19	6	1	-2.16548
19	19	6	2	-1.07625
19	19	6	3	-12.12958
19	19	6	4	-28.00950
19	19	6	5	17.91292
19	19	6	6	23.87009
19	19	7	1	2.10331
19	19	7	2	2.53960
19	19	7	3	9.33458
19	19	7	4	11.93626
19	19	7	5	1.20233
19	19	7	6	-11.21877
19	19	7	7	5.92570

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
7	4	3	-22.97765	4	4	4	2	-3.07191	14	12	7	7	-1.39658	19	19	8	1	-2.50803
7	4	4	-33.80262	4	4	4	3	-10.07253	14	12	8	8	-1.06192	19	19	8	2	-1.30135
7	5	1	-13.08980	4	4	4	4	27.16072	14	12	9	9	-53.51629	19	19	8	3	-4.11194
7	5	2	-94.70428	5	1	1	1	0.82582	14	12	10	10	-75.45076	19	19	8	4	7.20814
7	5	3	-5.29138	5	2	1	1	0.64175	14	12	11	11	-10.15706	19	19	8	5	-15.49537
7	5	4	27.50361	5	2	2	1	1.41960	14	12	12	12	-67.26106	19	19	8	6	-3.55699
7	5	5	-6.15209	5	2	2	2	-6.18296	14	13	1	1	-53.89470	19	19	8	7	-0.96246
7	6	1	-33.53173	5	3	1	1	-2.91279	14	13	2	2	37.37124	19	19	8	8	2.74985
7	6	2	44.93439	5	3	2	2	-96.77573	14	13	3	3	-3.88257	19	19	9	9	19.79220
7	6	3	-14.22444	5	3	3	1	0.25422	14	13	4	4	5.52118	19	19	10	9	-9.29411
7	6	4	-6.29845	5	3	3	2	-1.81806	14	13	5	5	1.07015	19	19	10	10	57.42048
7	6	5	-17.81080	5	3	3	3	2.89081	14	13	6	6	0.99597	19	19	11	9	6.80872
7	6	6	-31.14219	5	4	1	1	114.09146	14	13	7	7	1.29054	19	19	11	10	12.43335
7	7	1	21.39547	5	4	2	2	-38.94125	14	13	9	9	-29.39559	19	19	11	11	-1.10475
7	7	2	-38.72100	5	4	3	3	16.11638	14	13	10	10	76.11058	19	19	12	12	29.62272
7	7	3	1.67583	5	4	4	1	3.83145	14	13	11	11	-4.96902	19	19	13	12	-13.01944
7	7	4	38.31749	5	4	4	2	0.75460	14	13	12	12	10.38177	19	19	13	13	48.67400
7	7	5	17.51355	5	4	4	3	-4.84985	14	13	13	12	-66.18643	19	19	14	12	-9.06814
7	7	6	-14.77613	5	4	4	4	-22.86630	14	13	13	13	16.84389	19	19	14	13	2.24180
7	7	7	-140.29738	5	5	1	1	-130.07948	14	14	1	1	-17.04979	19	19	14	14	-4.43502
8	1	1	-7.08969	5	5	2	1	-3.06435	14	14	2	1	-3.29729	19	19	15	15	-152.50523
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8	3	1	-9.33998	5	5	3	2	-1.63366	14	14	3	2	2.32704	19	19	17	15	3.78458
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8	3	3	-0.57054	5	5	4	1	-1.85147	14	14	4	1	0.17992	19	19	17	17	19.60309
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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16	12	11	-208.72600	8	6	3	3	3.08436	16	16	11	11	-66.33804	20	20	14	13	1.70248
16	13	9	-487.27501	8	6	4	4	-5.04223	16	16	12	12	-218.50287	20	20	14	14	-2.08352
16	13	10	-60.05535	8	6	5	5	0.13486	16	16	13	12	-221.36311	20	20	15	15	-33.84678
16	13	11	-197.95556	8	6	6	1	-0.37514	16	16	13	13	-256.44483	20	20	16	15	-5.80807
16	14	9	78.13763	8	6	6	2	0.33751	16	16	14	12	41.53057	20	20	16	16	-2.06628
16	14	10	53.90201	8	6	6	3	-2.70918	16	16	14	13	40.81964	20	20	17	15	-1.77062
16	14	11	37.40848	8	6	6	4	1.26892	16	16	14	14	-7.90518	20	20	17	16	1.08379

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
16	15	1	-173.48513	8	6	6	5	-7.30539	16	16	15	15	30.91569	20	20	17	17	-10.20131
16	15	2	-284.14199	8	7	1	1	-4.27492	16	16	16	15	-87.47518	20	20	18	15	-3.40792
16	15	3	0.30937	8	7	2	2	10.90620	16	16	16	16	523.74555	20	20	18	16	-1.20783
16	15	4	3.04173	8	7	3	3	-1.71264	17	15	1	1	-19.23827	20	20	18	17	1.73981
16	15	5	0.40371	8	7	4	4	3.32460	17	15	2	2	-3.53799	20	20	18	18	8.02176
16	15	6	1.19269	8	7	5	5	-3.20719	17	15	3	3	2.36535	20	20	19	15	-3.18549
16	15	7	-0.51406	8	7	6	6	-1.54089	17	15	4	4	7.50381	20	20	19	16	-0.36343
16	15	8	-1.12879	8	7	7	1	-1.32368	17	15	5	5	3.23856	20	20	19	17	7.55039
16	16	1	-367.54546	8	7	7	2	-0.71387	17	15	6	6	0.53764	20	20	19	18	9.94015
16	16	2	1300.36184	8	7	7	3	-2.17305	17	15	7	7	-1.50836	20	20	19	19	9.24353
16	16	3	1.65634	8	7	7	4	-5.24332	17	15	8	8	0.31817	20	20	20	15	3.43063
16	16	4	-36.04948	8	7	7	5	-1.34053	17	15	9	9	0.21813	20	20	20	17	2.18270
16	16	5	-8.87307	8	7	7	6	3.13356	17	15	10	10	14.54512	20	20	20	18	-1.73730
16	16	6	-25.98638	8	7	7	7	9.41675	17	15	11	11	-1.28918	20	20	20	19	-4.92504
16	16	7	-15.92143	8	8	1	1	-5.82448	17	15	12	12	4.19937	20	20	20	20	2.00391
16	16	8	-3.14214	8	8	2	1	-0.11949	17	15	13	13	10.22383	21	15	1	1	-1.10530
17	12	9	21.33796	8	8	2	2	-5.27261	17	15	14	14	-1.09633	21	15	2	2	-0.25809
17	12	10	10.44904	8	8	3	1	-0.22017	17	15	15	15	-19.64637	21	15	3	3	-0.17292
17	12	11	12.99785	8	8	3	2	0.38049	17	16	1	1	-2.32453	21	15	4	4	-1.56302
17	13	9	10.39740	8	8	3	3	0.96654	17	16	2	2	10.35494	21	15	5	5	-0.22318
17	13	10	-7.24498	8	8	4	1	-1.28661	17	16	3	3	-4.17368	21	15	6	6	-0.27216
17	13	11	-23.09181	8	8	4	2	-0.27000	17	16	4	4	1.40308	21	15	7	7	0.78621
17	14	9	-26.69752	8	8	4	3	1.50322	17	16	5	5	0.67574	21	15	8	8	0.72503
17	14	10	-15.23226	8	8	4	4	-0.46820	17	16	6	6	2.11581	21	15	9	9	-0.16191
17	14	11	51.02851	8	8	5	1	1.56850	17	16	7	7	1.52520	21	15	11	11	0.30546
17	15	1	50.65492	8	8	5	2	0.58541	17	16	8	8	0.33604	21	15	12	12	-0.95144
17	15	2	3.63874	8	8	5	3	1.29191	17	16	9	9	0.15420	21	15	13	13	0.61257
17	15	3	36.16176	8	8	5	4	0.27785	17	16	10	10	2.14804	21	15	15	15	-1.13128
17	15	4	-74.78025	8	8	5	5	3.09885	17	16	11	11	-1.78081	21	16	1	1	-0.04801
17	15	5	71.44355	8	8	6	1	0.82054	17	16	12	12	-0.55240	21	16	2	2	2.87306
17	15	6	22.55662	8	8	6	2	0.30378	17	16	13	13	-2.52156	21	16	3	3	2.16064
17	15	7	8.03476	8	8	6	3	-1.19914	17	16	14	14	2.01038	21	16	4	4	0.27177
17	15	8	-16.48582	8	8	6	4	-1.30691	17	16	15	15	-2.65725	21	16	5	5	1.21949
17	16	1	-1.77772	8	8	6	6	1.70956	17	16	16	15	-3.47902	21	16	6	6	3.48674
17	16	2	28.11226	8	8	7	1	-1.32158	17	16	16	16	13.03092	21	16	7	7	-0.21071
17	16	3	-124.32238	8	8	7	2	-0.16016	17	17	1	1	-17.14511	21	16	9	9	1.44384
17	16	4	-49.66231	8	8	7	3	0.18859	17	17	2	1	9.99026	21	16	10	10	0.14517
17	16	5	-92.93768	8	8	7	4	-0.67670	17	17	2	2	-59.00093	21	16	11	11	-0.43243
17	16	6	69.64907	8	8	7	5	1.22260	17	17	3	1	5.33969	21	16	12	12	1.39776
17	16	7	-56.48753	8	8	7	6	0.71842	17	17	3	2	-5.94673	21	16	13	13	0.39015
17	16	8	23.04278	8	8	7	7	4.52125	17	17	3	3	31.00221	21	16	15	15	-0.23464
17	17	1	66.15161	8	8	8	1	-0.83803	17	17	4	1	-7.09731	21	16	16	16	1.93803
17	17	2	-80.24776	8	8	8	2	-0.14027	17	17	4	3	-25.69464	21	17	1	1	9.60448
17	17	3	196.96940	8	8	8	3	-1.32196	17	17	4	4	22.21328	21	17	2	2	31.22404
17	17	4	-158.25262	8	8	8	4	2.97137	17	17	5	1	0.22135	21	17	3	3	-8.80096
17	17	5	-79.68943	8	8	8	5	-1.03254	17	17	5	2	2.05113	21	17	4	4	-3.19089
17	17	6	-70.84292	8	8	8	6	0.77089	17	17	5	3	-2.82015	21	17	5	5	-11.10681
17	17	7	15.47834	8	8	8	7	1.07927	17	17	5	4	13.67711	21	17	6	6	-7.60133
17	17	8	-4.86385	8	8	8	8	-2.07821	17	17	5	5	21.48474	21	17	7	7	-7.22326
18	12	9	-0.89249	9	9	1	1	-66.43049	17	17	6	1	0.40509	21	17	8	8	0.57024
18	12	10	10.71248	9	9	2	1	66.45195	17	17	6	2	-1.55609	21	17	9	9	-8.29789
18	12	11	19.47043	9	9	2	2	-319.41855	17	17	6	3	-21.48476	21	17	10	10	-5.20810
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18	13	10	-8.08657	9	9	3	2	-3.41463	17	17	6	5	-2.33187	21	17	12	12	-5.87161
18	13	11	-15.31412	9	9	3	3	20.97975	17	17	6	6	3.81361	21	17	13	13	-10.89528
18	14	9	13.17393	9	9	4	1	-1.09628	17	17	7	1	0.46449	21	17	14	14	0.88141
18	14	10	12.19609	9	9	4	2	3.15444	17	17	7	2	1.38655	21	17	15	15	8.97070
18	14	11	19.45612	9	9	4	3	6.54226	17	17	7	3	12.17920	21	17	16	16	32.73493
18	15	1	8.59183	9	9	4	4	1.92299	17	17	7	4	5.35930	21	17	17	15	-0.74861
18	15	2	2.01734	9	9	5	1	0.81504	17	17	7	5	4.65507	21	17	17	16	1.12298
18	15	3	-15.29365	9	9	5	2	0.97903	17	17	7	6	-2.46046	21	17	17	17	-1.69750
18	15	4	-177.72719	9	9	5	3	22.32948	17	17	7	7	-2.50427	21	18	1	1	19.90336
18	15	5	136.17672	9	9	5	4	5.00357	17	17	8	1	-1.07534	21	18	2	2	-44.16678
18	15	6	125.78802	9	9	5	5	28.61996	17	17	8	2	-0.54536	21	18	3	3	10.47457
18	15	7	-44.22765	9	9	6	1	-0.10121	17	17	8	3	-4.96011	21	18	4	4	-5.18857
18	15	8	-26.03695	9	9	6	3	-15.27203	17	17	8	4	-1.48932	21	18	5	5	5.65736
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18	16	2	-3.08924	9	9	6	5	-15.43297	17	17	8	6	0.18223	21	18	7	7	-4.16345
18	16	3	138.34259	9	9	6	6	10.43765	17	17	8	7	1.18081	21	18	8	8	-0.30365
18	16	4	25.40871	9	9	7	1	-0.86116	17	17	8	8	-1.13883	21	18	9	9	12.59228
18	16	5	186.15831	9	9	7	2	3.57028	17	17	9	9	4.91865	21	18	10	10	-8.60277
18	16	6	-81.42864	9	9	7	3	14.78543	17	17	10	9	-0.42352	21	18	11	11	2.24159
18	16	7	84.67077	9	9	7	4	7.22189	17	17	10	10	5.57677	21	18	12	12	4.77908
18	16	8	-45.11465	9	9	7	5	13.80425	17	17	11	9	12.42904	21	18	13	13	4.41484
18	17	1	41.56590	9	9	7	6	-9.93228	17	17	11	10	4.10200	21	18	14	14	1.89139
18	17	2	124.72557	9	9	7	7	7.08736	17	17	11	11	-17.49808	21	18	15	15	22.19141
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18	17	4	-35.16805	9	9	8	2	-0.62505	17	17	13	12	5.94792	21	18	17	17	6.07996
18	17	5	-26.33495	9	9	8	3	-4.47821	17	17	13	13	10.17366	21	18	18	15	-2.35339
18	17	6	8.14683	9	9	8	4	-1.30985	17	17	14	12	-8.16191	21	18	18	16	3.17322
18	17	7	-19.21123	9	9	8	5	-6.84876	17	17	14	13	-1.31293	21	18	18	17	-10.95635
18	18	1	196.92638	9	9	8	6	3.73585	17	17	14	14	-19.83579	21	18	18	18	6.27515
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18	18	3	8.96969	9	9	8	8	0.27991	17	17	16	15	6.92813	21	19	2	2	35.85684
18	18	4	-11.66476	9	9	9	9	348.98782	17	17	16	16	-60.14563	21	19	3	3	-6.90772
18	18	5	-20.71405	10	9	1	1	136.31995	17	17	17	15	6.95716	21	19	4	4	-8.75541
18	18	6	-17.71667	10	9	2	2	-102.26990	17	17	17	16	-3.20959	21	19	5	5	-22.93489
18	18	7	-27.09809	10	9	3	3	8.37119	17	17	17	17	43.66141	21	19	6	6	-5.81384

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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19	12	9	-16.89183	10	9	5	5	-2.30088	18	15	2	2	0.81113	21	19	8	8	-1.40061
19	12	10	21.25970	10	9	6	6	-2.86349	18	15	3	3	1.75821	21	19	9	9	-10.61359
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19	13	9	6.89393	10	9	8	8	-0.24285	18	15	5	5	0.37156	21	19	11	11	-2.36011
19	13	10	14.67332	10	9	9	9	61.33054	18	15	6	6	-1.36931	21	19	12	12	-9.95723
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19	14	9	-5.62499	10	10	2	1	-107.40853	18	15	8	8	1.37846	21	19	14	14	-0.93033
19	14	10	-2.04643	10	10	2	2	-70.65502	18	15	9	9	0.30130	21	19	15	15	28.03475
19	14	11	-20.90538	10	10	3	1	2.29176	18	15	10	10	2.67310	21	19	16	16	36.60097
19	15	1	-10.56446	10	10	3	2	-1.02254	18	15	11	11	-0.13254	21	19	17	17	-5.91616
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19	15	3	13.42467	10	10	4	1	-4.18680	18	15	13	13	1.68176	21	19	19	15	-0.19933
19	15	4	-164.22578	10	10	4	2	0.34516	18	15	15	15	-4.57188	21	19	19	16	0.68511
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19	15	6	114.53897	10	10	4	4	36.87798	18	16	2	2	1.78187	21	19	19	18	-0.77567
19	15	7	-28.60448	10	10	5	1	-4.70598	18	16	3	3	1.74593	21	19	19	19	-20.24390
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19	16	3	-100.65965	10	10	5	5	49.71198	18	16	8	8	0.18399	21	20	4	4	1.00534
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19	16	6	99.44986	10	10	6	3	-5.80906	18	16	11	11	0.30298	21	20	7	7	-10.56356
19	16	7	-74.61531	10	10	6	4	-30.21975	18	16	12	12	5.03451	21	20	8	8	-4.18673
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19	17	1	75.75230	10	10	6	6	17.95899	18	16	14	14	-0.58858	21	20	11	11	-0.51304
19	17	2	-59.72810	10	10	7	1	-0.85048	18	16	15	15	-0.46189	21	20	12	12	2.01441
19	17	3	-89.53437	10	10	7	2	0.46280	18	16	16	15	1.44319	21	20	13	13	1.72210
19	17	4	69.04106	10	10	7	3	3.52181	18	16	16	16	-1.39133	21	20	14	14	3.34034
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19	18	1	142.40398	10	10	8	1	-2.74285	18	17	5	5	-6.79634	21	20	20	15	-0.17385
19	18	2	166.35233	10	10	8	2	-0.82688	18	17	6	6	-4.59303	21	20	20	16	-0.11963
19	18	3	-5.00655	10	10	8	4	9.71951	18	17	7	7	-5.87197	21	20	20	17	-2.54290
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19	18	6	7.61595	10	10	8	7	4.94163	18	17	10	10	12.78977	21	20	20	20	-0.73615
19	18	7	-22.58140	10	10	8	8	1.03679	18	17	11	11	-7.90816	21	21	1	1	-6.64870
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19	19	1	229.94250	10	10	10	9	-181.40428	18	17	13	13	-6.64628	21	21	2	2	-17.86107
19	19	2	-48.82514	10	10	10	10	667.73080	18	17	14	14	-5.05152	21	21	3	1	0.20052
19	19	3	42.25907	11	9	1	1	10.66420	18	17	15	15	-35.87649	21	21	3	2	-1.62996
19	19	4	-23.45477	11	9	2	2	-141.62592	18	17	16	16	84.74044	21	21	3	3	-3.50652
19	19	5	-27.94913	11	9	3	3	22.12433	18	17	17	15	4.46832	21	21	4	1	1.34830
19	19	6	-19.22500	11	9	4	4	2.72122	18	17	17	16	0.83071	21	21	4	2	-0.51680
19	19	7	-8.72540	11	9	5	5	12.79719	18	17	17	17	3.16623	21	21	4	3	0.84787
19	19	8	13.48897	11	9	6	6	9.57414	18	18	1	1	-118.29262	21	21	4	4	3.68298
20	12	9	9.67872	11	9	7	7	3.67036	18	18	2	1	1.84455	21	21	5	1	-0.28776
20	12	10	32.95373	11	9	9	9	97.39414	18	18	2	2	-129.10090	21	21	5	2	-1.08282
20	13	9	28.39763	11	10	1	1	-66.58754	18	18	3	1	1.44765	21	21	5	3	4.20189
20	13	10	-15.08921	11	10	2	2	-54.07772	18	18	3	2	-3.32970	21	21	5	4	0.46804
20	13	11	-19.91286	11	10	3	3	9.44748	18	18	3	3	21.39588	21	21	5	5	7.19351
20	14	9	-0.76126	11	10	4	4	6.59771	18	18	4	1	-3.98594	21	21	6	1	-0.45099
20	14	10	16.81665	11	10	5	5	12.44817	18	18	4	2	-2.87421	21	21	6	2	0.38204
20	14	11	-1.90930	11	10	6	6	10.74299	18	18	4	3	7.83441	21	21	6	3	-7.00448
20	15	1	0.18116	11	10	7	7	1.45460	18	18	4	4	27.74380	21	21	6	4	-4.91816
20	15	2	3.63872	11	10	9	9	67.77627	18	18	5	1	3.72402	21	21	6	5	-1.43611
20	15	3	10.02557	11	10	10	9	-19.03732	18	18	5	2	-2.04158	21	21	6	6	-1.67590
20	15	4	84.96227	11	10	10	10	114.94699	18	18	5	3	24.63546	21	21	7	1	-0.72027
20	15	5	-86.82013	11	11	1	1	-16.86528	18	18	5	4	-20.83184	21	21	7	2	-0.32471
20	15	6	-57.80139	11	11	2	1	12.12152	18	18	5	5	58.21551	21	21	7	3	2.29594
20	15	7	14.74058	11	11	2	2	-64.75116	18	18	6	1	0.38234	21	21	7	4	-6.47937
20	15	8	25.23320	11	11	3	1	-1.09529	18	18	6	3	-17.39942	21	21	7	5	2.72118
20	16	1	4.30920	11	11	3	2	-1.20740	18	18	6	4	-26.61249	21	21	7	7	19.04289
20	16	2	-15.61696	11	11	3	3	-19.58339	18	18	6	5	3.62015	21	21	8	1	-1.21266
20	16	3	-8.63087	11	11	4	1	0.46169	18	18	6	6	24.33234	21	21	8	2	-0.15297
20	16	4	1.07965	11	11	4	2	1.17350	18	18	7	1	0.48184	21	21	8	3	-3.42191
20	16	5	-29.77340	11	11	4	3	8.30779	18	18	7	2	2.16651	21	21	8	4	-2.85775
20	16	6	-9.06724	11	11	4	4	-12.07578	18	18	7	3	13.04569	21	21	8	5	-1.60259
20	16	7	-0.45476	11	11	5	1	0.99726	18	18	7	4	14.37723	21	21	8	6	2.63705
20	16	8	6.51849	11	11	5	2	0.45246	18	18	7	5	8.69493	21	21	8	7	11.73950
20	17	1	-25.22614	11	11	5	3	10.02292	18	18	7	6	-14.22334	21	21	8	8	5.09128
20	17	2	-3.53267	11	11	5	4	-2.89456	18	18	7	7	12.01548	21	21	9	9	3.14741
20	17	3	5.69835	11	11	5	5	2.20165	18	18	8	1	-1.86188	21	21	10	9	1.19998
20	17	4	42.36686	11	11	6	1	1.00279	18	18	8	2	-0.87628	21	21	10	10	-0.47669
20	17	5	11.77000	11	11	6	3	-8.98933	18	18	8	3	-6.12615	21	21	11	9	2.63940
20	17	6	10.21941	11	11	6	4	-6.87968	18	18	8	4	5.05411	21	21	11	10	1.32568
20	17	7	-32.70268	11	11	6	5	-1.55148	18	18	8	5	-13.10019	21	21	11	11	0.86212
20	17	8	-4.63613	11	11	6	6	-9.47029	18	18	8	6	-0.61393	21	21	12	12	1.66262
20	18	1	-86.19763	11	11	7	1	-0.46631	18	18	8	7	-0.48148	21	21	13	12	2.81908
20	18	2	-4.00660	11	11	7	2	-0.41301	18	18	8	8	2.03182	21	21	13	13	4.62593
20	18	3	-8.84581	11	11	7	3	-1.59627	18	18	9	9	28.29950	21	21	14	12	-1.25545
20	18	4	29.86811	11	11	7	4	2.84457	18	18	10	9	-2.29111	21	21	14	14	-6.94586
20	18	5	-30.12367	11	11	7	5	3.73406	18	18	10	10	43.54037	21	21	15	15	-6.33004
20	18	6	6.44732	11	11	7	6	-3.32488	18	18	11	9	11.52472	21	21	16	15	2.12810

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
20	18	7	-26.30250	11	11	7	7	-0.57693	18	18	11	10	10.97556	21	21	16	16	-18.07402
20	18	8	-17.56546	11	11	8	1	-0.44621	18	18	11	11	0.80961	21	21	17	15	-0.10804
20	19	1	-94.72586	11	11	8	4	-0.65126	18	18	12	12	29.12506	21	21	17	16	-1.48854
20	19	2	-36.44523	11	11	8	5	-2.20346	18	18	13	12	1.18335	21	21	17	17	2.22909
20	19	3	5.27688	11	11	8	6	1.95536	18	18	13	13	44.81029	21	21	18	15	-0.85060
20	19	4	11.17237	11	11	8	7	-0.62830	18	18	14	12	-8.88863	21	21	18	16	1.34041
20	19	5	-8.12232	11	11	9	9	69.86832	18	18	14	13	1.08360	21	21	18	17	-1.32616
20	19	6	-34.97243	11	11	10	9	10.03826	18	18	14	14	-3.94883	21	21	18	18	8.58838
20	19	7	24.26298	11	11	10	10	26.48361	18	18	15	15	-118.09641	21	21	19	15	-0.15476
20	19	8	-4.12535	11	11	11	9	14.09307	18	18	16	15	1.32815	21	21	19	16	-0.88471
20	20	1	35.85982	11	11	11	10	16.05960	18	18	16	16	-129.91401	21	21	19	17	2.78310
20	20	2	13.18999	11	11	11	11	24.50286	18	18	17	15	3.97203	21	21	19	18	-2.53466
20	20	3	-17.00584	12	12	1	1	-204.74608	18	18	17	16	0.27275	21	21	19	19	5.80862
20	20	4	13.43689	12	12	2	1	1.29998	18	18	17	17	16.68498	21	21	20	15	0.15732
20	20	5	19.14540	12	12	2	2	-218.48656	18	18	18	15	2.53710	21	21	20	16	0.45301
20	20	6	-9.51301	12	12	3	1	-1.25396	18	18	18	16	5.79176	21	21	20	17	2.54876
20	20	7	-49.77687	12	12	3	2	-0.19284	18	18	18	17	-12.52116	21	21	20	18	3.00449
20	20	8	-28.37975	12	12	3	3	10.79807	18	18	18	18	52.39754	21	21	20	19	-2.20026
21	12	9	6.88598	12	12	4	1	-4.42589	19	15	1	1	2.56154	21	21	20	20	5.12117
21	12	10	-12.95504	12	12	4	2	0.45389	19	15	2	2	0.25647	21	21	21	15	0.75661
21	12	11	-2.59617	12	12	4	3	2.90365	19	15	3	3	0.49289	21	21	21	16	0.51553
21	13	9	0.62671	12	12	4	4	14.29157	19	15	4	4	4.05746	21	21	21	17	-4.47358
21	13	10	-2.73868	12	12	5	1	3.39634	19	15	5	5	-2.83817	21	21	21	18	-4.78494
21	13	11	-3.94363	12	12	5	2	-2.58727	19	15	6	6	-2.37205	21	21	21	19	-2.22505
21	14	9	0.90056	12	12	5	3	16.30930	19	15	7	7	-1.61578	21	21	21	20	-9.32639
21	14	11	5.60459	12	12	5	4	-10.41233	19	15	8	8	1.90517	21	21	21	21	16.74697
21	15	1	4.41596	12	12	5	5	33.54148	19	15	9	9	1.32901					
21	15	2	1.37905	12	12	6	1	-1.68352	19	15	10	10	-3.11176					

Table S43: The quartic potential energy surface of Thiophene-d4. The calculation was done by using B3LYP/6-311++G(2d,2p) method. The force constants (FI) are in cm^{-1} units.

I	J	FI(I,J)
1	1	2417.81227
2	2	2376.61514
3	3	1403.63729
4	4	1265.19821
5	5	901.67754
6	6	798.70722
7	7	735.08106
8	8	594.13073
9	9	767.90298
10	10	533.76588
11	11	495.37316
12	12	702.50967
13	13	539.52261
14	14	421.91169
15	15	2409.02605
16	16	2361.75934
17	17	1487.12065
18	18	1043.48636
19	19	860.79530
20	20	764.04221
21	21	711.63857

I	J	K	FI(I,J,K)
1	1	1	-669.34054
2	1	1	-155.75720
2	2	1	-476.29663
2	2	2	504.13705
3	1	1	72.88802
3	2	1	23.59625
3	2	2	10.09948
3	3	1	87.68736
3	3	2	-81.08136
3	3	3	129.37739
4	1	1	-51.16347
4	2	1	28.84680
4	2	2	-80.83329
4	3	1	-21.66597
4	3	2	-57.76723
4	3	3	-219.54829
4	4	1	66.38089
4	4	2	-0.89254
4	4	3	-45.87044
4	4	4	-91.19211
5	1	1	-46.64606
5	2	1	0.41604
5	2	2	-48.39903
5	3	1	19.66556
5	3	2	8.08530
5	3	3	-112.42026
5	4	1	-45.45761
5	4	2	-41.05191
5	4	3	-53.19996
5	4	4	-100.43247
5	5	1	80.15575
5	5	2	20.48247
5	5	3	-54.86432
5	5	4	-30.65724
5	5	5	-95.28668
6	1	1	-5.37258
6	2	1	-3.52631
6	2	2	3.86614
6	3	1	-34.83960
6	3	2	37.30514
6	3	3	32.64184
6	4	1	35.62635
6	4	2	57.18942
6	4	3	-41.59551
6	4	4	-2.95420
6	5	1	-62.26218
6	5	2	-61.09874
6	5	3	-19.51901
6	5	4	-16.88361
6	5	5	-15.57758
6	6	1	131.30810
6	6	2	-48.53656
6	6	3	-2.95619
6	6	4	-8.40753
6	6	5	-3.96452
6	6	6	-3.47079
7	1	1	-14.82034
7	2	1	-9.99768
7	2	2	-4.10996
7	3	1	23.70573
7	3	2	-49.47572

I	J	K	FI(I,J,K)
21	15	6	66.54527
21	15	7	-5.65723
21	15	8	18.31646
21	16	1	-3.56067
21	16	2	17.38951
21	16	3	32.28029
21	16	4	34.54839
21	16	5	-32.49507
21	16	6	-59.21231
21	16	7	82.92034
21	16	8	-16.38731
21	17	1	-31.78849
21	17	2	24.51461
21	17	3	39.75310
21	17	4	-16.87750
21	17	5	21.56355
21	17	6	-3.36828
21	17	7	22.57831
21	17	8	3.68839
21	18	1	5.67861
21	18	2	78.77875
21	18	3	-7.74651
21	18	4	38.53803
21	18	5	-44.55601
21	18	6	-9.02336
21	18	7	-33.54570
21	18	8	-35.85248
21	19	1	39.09473
21	19	2	-48.83302
21	19	3	-1.33821
21	19	4	8.52854
21	19	5	2.67327
21	19	6	3.33784
21	19	7	-4.85787
21	19	8	-5.97025
21	20	1	-55.06461
21	20	2	-5.12626
21	20	3	-5.34768
21	20	4	18.04336
21	20	5	-32.60263
21	20	6	-11.62267
21	20	7	-26.67959
21	20	8	-28.77562
21	21	1	46.29396
21	21	2	-37.22644
21	21	3	-2.65052
21	21	4	41.39300
21	21	5	-51.29302
21	21	6	6.73424
21	21	7	-56.84776
21	21	8	-60.89026

I	J	K	L	FI(I,J,K,L)
1	1	1	1	186.62221
2	1	1	1	67.64311
2	2	1	1	96.89946
2	2	2	1	-66.74040
2	2	2	2	192.02892
3	1	1	1	-17.96587
3	2	1	1	-8.72897
3	2	2	1	-5.88263
3	2	2	2	-1.73763
3	3	1	1	-3.02750
3	3	2	1	4.54344
3	3	2	2	-15.84771
3	3	3	1	8.87718
3	3	3	3	63.06879
4	1	1	1	10.73656
4	2	1	1	-2.33856
4	2	2	1	13.11136
4	2	2	2	-22.84167
4	3	1	1	1.38692
4	3	2	2	-7.59995
4	3	3	1	-12.37452
4	3	3	2	6.22305
4	3	3	3	-6.21584
4	4	1	1	-22.93521
4	4	2	1	-8.73733
4	4	2	2	-11.68767
4	4	3	1	1.14670
4	4	3	2	10.32927
4	4	3	3	29.25007
4	4	4	1	-4.35070
4	4	4	2	3.11535

I	J	K	L	FI(I,J,K,L)
12	12	6	6	12.20272
12	12	7	1	-1.68121
12	12	7	2	-2.05403
12	12	7	3	3.82223
12	12	7	4	6.76316
12	12	7	5	-5.75618
12	12	7	6	-3.84324
12	12	7	7	9.69153
12	12	8	1	-1.56279
12	12	8	2	0.52968
12	12	8	3	-2.10549
12	12	8	4	1.13341
12	12	8	5	-3.23716
12	12	8	6	5.23798
12	12	8	7	-0.28732
12	12	8	8	0.56810
12	12	9	9	39.11047
12	12	10	9	1.40315
12	12	10	10	97.22788
12	12	11	9	-51.02424
12	12	11	10	13.33620
12	12	11	11	43.45665
12	12	12	12	37.88931
13	12	1	1	62.27658
13	12	2	2	-67.90301
13	12	3	3	6.59002
13	12	4	4	-1.83455
13	12	5	5	-5.94295
13	12	6	6	3.51238
13	12	7	7	9.83105
13	12	8	8	-1.09880
13	12	9	9	65.67555
13	12	10	10	-118.30726
13	12	11	11	56.78515
13	12	12	12	17.59781
13	13	1	1	-137.42420
13	13	2	1	1.63164
13	13	2	2	-144.21977
13	13	3	1	10.55009
13	13	3	2	2.88407
13	13	3	3	2.53836
13	13	4	1	-10.52932
13	13	4	2	10.39224
13	13	4	3	1.19292
13	13	4	4	1.74769
13	13	5	1	-8.74272
13	13	5	2	2.62377
13	13	5	3	1.36790
13	13	5	4	-7.36761
13	13	5	5	7.67594
13	13	6	1	-0.44900
13	13	6	2	-0.81500
13	13	6	3	-10.17236
13	13	6	4	2.56779
13	13	6	5	-6.95482
13	13	6	6	23.36326
13	13	7	1	-1.25021
13	13	7	2	-1.34951
13	13	7	3	6.61694
13	13	7	4	10.25289
13	13	7	5	-9.76870
13	13	7	6	-7.07693
13	13	7	7	17.28799
13	13	8	1	-0.53082
13	13	8	2	1.35263
13	13	8	3	-4.43260
13	13	8	4	2.28064
13	13	8	5	-4.73290
13	13	8	6	10.44358
13	13	8	7	-0.52406
13	13	8	8	2.95872
13	13	9	9	86.71148
13	13	10	9	7.99159
13	13	10	10	168.14671
13	13	11	9	-77.72055
13	13	11	10	24.61474
13	13	11	11	68.23253
13	13	12	12	118.39626
13	13	13	12	17.23205
13	13	13	13	188.75840
14	12	1	1	52.41178
14	12	2	2	30.38450
14	12	3	3	-9.95660
14	12	4	4	-4.07478
14	12	5	5	-5.01810

I	J	K	L	FI(I,J,K,L)
19	15	14	14	0.64627
19	15	15	15	-6.27601
19	16	1	1	-4.78870
19	16	2	2	-3.93378
19	16	3	3	-3.36269
19	16	4	4	-4.20965
19	16	5	5	0.86791
19	16	6	6	-0.65249
19	16	7	7	-0.21306
19	16	8	8	0.33227
19	16	9	9	0.41385
19	16	10	10	0.84321
19	16	11	11	2.37947
19	16	12	12	2.59632
19	16	13	13	2.59211
19	16	14	14	0.92006
19	16	15	15	-5.15984
19	16	16	15	2.81776
19	16	16	16	-7.63965
19	17	1	1	11.23702
19	17	2	2	20.78536
19	17	3	3	10.21229
19	17	4	4	7.50378
19	17	5	5	-0.99479
19	17	6	6	-5.95213
19	17	7	7	-7.10421
19	17	8	8	-1.48268
19	17	9	9	-4.36915
19	17	10	10	-2.80050
19	17	11	11	-4.53841
19	17	12	12	-4.90960
19	17	13	13	-4.35262
19	17	14	14	-4.15208
19	17	15	15	9.42735
19	17	16	16	22.03042
19	17	17	15	1.19320
19	17	17	16	-0.69811
19	17	17	17	16.56020
19	18	1	1	-3.15716
19	18	2	2	33.50981
19	18	3	3	-9.31979
19	18	4	4	0.59427
19	18	5	5	2.49217
19	18	6	6	-6.71843
19	18	7	7	-8.13069
19	18	8	8	1.45138
19	18	9	9	-5.97597
19	18	10	10	2.96575
19	18	11	11	-4.28610
19	18	12	12	-4.14486
19	18	13	13	-6.54614
19	18	15	15	-9.40667
19	18	16	16	39.74828
19	18	17	17	-7.48243
19	18	18	15	-0.42394
19	18	18	16	0.98148
19	18	18	17	-5.56689
19	18	18	18	-4.04946
19	19	1	1	-13.50880
19	19	2	1	14.26521
19	19	2	2	-33.97105
19	19	3	2	-3.35623
19	19	3	3	-4.40980
19	19	4	1	-1.13020
19	19	4	2	2.01326
19	19	4	3	-0.54513
19	19	4	4	1.35584
19	19	5	1	-0.40540
19	19	5	2	0.25139
19	19	5	3	-2.16122
19	19	5	4	-1.14973
19	19	5	5	1.47135
19	19	6	1	1.04151
19	19	6	2	-1.03047
19	19	6	3	-4.69006
19	19	6	4	-2.98990
19	19	6	5	0.63662
19	19	6	6	12.11987
19	19	7	1	0.19238
19	19	7	2	0.86638
19	19	7	3	6.89340
19	19	7	4	2.58771
19	19	7	5	-3.23344
19	19	7	6	-8.70185
19	19	7	7	10.08232

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
7	3	3	53.97576	4	4	4	3	18.54806	14	12	6	6	-5.57882	19	19	8	1	-0.17606
7	4	1	47.66764	4	4	4	4	10.96566	14	12	7	7	-2.69917	19	19	8	2	0.16297
7	4	2	-21.09988	5	1	1	1	9.78397	14	12	8	8	-2.11945	19	19	8	3	-2.06602
7	4	3	21.64253	5	2	1	1	3.14880	14	12	9	9	-23.08316	19	19	8	4	-0.66023
7	4	4	-5.89868	5	2	2	1	8.04004	14	12	10	10	-80.00731	19	19	8	6	3.85809
7	5	1	-53.34261	5	2	2	2	-5.75265	14	12	11	11	-7.83736	19	19	8	7	-2.58607
7	5	2	2.75775	5	3	1	1	-7.69536	14	12	12	12	-45.02888	19	19	8	8	2.08091
7	5	3	10.90402	5	3	2	2	5.28328	14	13	1	1	-52.47593	19	19	9	9	4.48592
7	5	4	34.25269	5	3	3	1	-1.70258	14	13	2	2	3.03112	19	19	10	9	-1.37113
7	5	5	-33.87943	5	3	3	2	7.71945	14	13	3	3	-0.32034	19	19	10	10	-0.66894
7	6	1	3.63067	5	3	3	3	13.48981	14	13	4	4	3.53018	19	19	11	9	-5.66453
7	6	2	122.02278	5	4	1	1	29.33691	14	13	5	5	6.08159	19	19	11	10	2.46568
7	6	3	9.76696	5	4	2	2	15.16081	14	13	6	6	2.91914	19	19	11	11	1.09541
7	6	4	-3.29947	5	4	3	3	19.94827	14	13	8	8	1.78086	19	19	12	12	2.81356
7	6	5	1.33986	5	4	4	1	-1.16658	14	13	9	9	-9.55570	19	19	13	12	5.07954
7	6	6	-6.56614	5	4	4	2	4.11307	14	13	10	10	92.19329	19	19	13	13	6.51029
7	7	1	82.74846	5	4	4	3	12.81948	14	13	11	11	-11.94994	19	19	14	12	-2.11859
7	7	2	-73.09135	5	4	4	4	11.07458	14	13	12	12	22.97020	19	19	14	13	-1.42453
7	7	3	-19.95877	5	5	1	1	-33.55230	14	13	13	12	-53.85977	19	19	14	14	-1.87684
7	7	4	28.17949	5	5	2	1	-16.29178	14	13	13	13	30.01401	19	19	15	15	-10.12954
7	7	5	-35.87687	5	5	2	2	-11.57732	14	14	1	1	-37.18848	19	19	16	15	11.05871
7	7	6	-29.71394	5	5	3	1	0.49464	14	14	2	1	-18.48075	19	19	16	16	-36.87658
7	7	7	-45.33120	5	5	3	2	3.50656	14	14	2	2	-13.37519	19	19	17	15	0.17415
8	1	1	-1.47267	5	5	3	3	13.68218	14	14	3	1	0.88991	19	19	17	16	-3.38670
8	2	1	3.96499	5	5	4	1	-0.24672	14	14	3	2	3.30367	19	19	17	17	-1.15735
8	2	2	-6.08889	5	5	4	2	3.66661	14	14	3	3	-15.60661	19	19	18	15	-0.22407
8	3	1	-17.80747	5	5	4	3	9.40510	14	14	4	1	-0.72120	19	19	18	16	0.45435
8	3	2	9.32357	5	5	4	4	15.75712	14	14	4	2	-0.53875	19	19	18	17	1.93209
8	3	3	11.03682	5	5	5	1	-6.07510	14	14	4	3	5.31526	19	19	18	18	7.76114
8	4	1	15.60086	5	5	5	2	-0.21460	14	14	4	4	-3.61938	19	19	19	15	-0.78608
8	4	2	26.05562	5	5	5	3	11.68390	14	14	5	1	-0.96486	19	19	19	16	-0.50157
8	4	4	-4.52063	5	5	5	4	-0.13817	14	14	5	2	-0.65579	19	19	19	17	-5.02855
8	5	1	-28.69928	5	5	5	5	19.21711	14	14	5	3	2.46285	19	19	19	18	-5.92841
8	5	2	-21.96644	6	1	1	1	5.20065	14	14	5	4	-0.77488	19	19	19	19	6.29051
8	5	3	2.76773	6	2	1	1	1.65769	14	14	5	5	-0.38995	20	15	1	1	-6.85493
8	5	4	18.22180	6	2	2	1	-1.64322	14	14	6	1	-1.35648	20	15	2	2	0.23641
8	5	5	-20.07458	6	2	2	2	5.45481	14	14	6	2	-0.58792	20	15	3	3	0.82349
8	6	1	55.60436	6	3	1	1	17.84645	14	14	6	3	-2.67784	20	15	4	4	5.08139
8	6	2	-5.17978	6	3	2	2	31.12510	14	14	6	4	2.39049	20	15	5	5	-3.71613
8	6	3	1.06454	6	3	3	1	-0.59289	14	14	6	5	-1.95770	20	15	7	7	0.74142
8	6	4	6.78978	6	3	3	2	1.39470	14	14	6	6	1.21967	20	15	8	8	2.00171
8	6	5	2.11638	6	3	3	3	13.67185	14	14	7	1	-1.32197	20	15	9	9	1.39389
8	6	6	-1.26005	6	4	1	1	-24.90043	14	14	7	2	-0.42540	20	15	10	10	0.45413
8	7	1	17.40659	6	4	2	2	12.47122	14	14	7	3	-2.31540	20	15	12	12	1.85306
8	7	2	44.10870	6	4	3	3	-1.46333	14	14	7	4	1.72383	20	15	14	14	1.82944
8	7	3	1.38418	6	4	4	1	-1.98787	14	14	7	5	-2.96373	20	15	15	15	-7.61876
8	7	4	9.54477	6	4	4	2	-3.24075	14	14	7	6	0.84613	20	16	1	1	-1.05812
8	7	5	-20.54137	6	4	4	3	2.57848	14	14	7	7	-1.04129	20	16	2	2	-0.99386
8	7	6	2.59798	6	4	4	4	6.19069	14	14	8	2	0.41389	20	16	3	3	-0.42464
8	7	7	-17.97969	6	5	1	1	34.77851	14	14	8	3	-1.09998	20	16	4	4	1.08819
8	8	1	31.14467	6	5	2	2	-2.20547	14	14	8	4	2.42659	20	16	5	5	-2.42600
8	8	2	3.69459	6	5	3	3	3.06679	14	14	8	5	-2.64276	20	16	6	6	-0.54514
8	8	3	1.31978	6	5	4	4	-1.32866	14	14	8	6	1.51013	20	16	7	7	-0.49157
8	8	4	13.44522	6	5	5	1	2.12117	14	14	8	7	-0.58396	20	16	8	8	0.70632
8	8	5	-34.28334	6	5	5	2	3.49245	14	14	8	8	-0.80295	20	16	9	9	-0.55625
8	8	6	14.23581	6	5	5	3	-0.45540	14	14	9	9	5.06274	20	16	12	12	-0.97468
8	8	7	-10.94767	6	5	5	4	7.51485	14	14	10	9	9.06400	20	16	13	13	-0.71869
8	8	8	-32.09875	6	5	5	5	-5.66499	14	14	10	10	45.84751	20	16	14	14	0.80945
9	9	1	106.70601	6	6	1	1	-59.34437	14	14	11	10	2.13616	20	16	15	15	-0.69982
9	9	2	-166.16534	6	6	2	1	1.57254	14	14	11	11	4.23171	20	16	16	16	0.10821
9	9	3	-4.18766	6	6	2	2	-64.44943	14	14	12	12	17.44972	20	17	1	1	-22.90140
9	9	4	33.07501	6	6	3	1	4.63173	14	14	13	12	-15.37115	20	17	2	2	-12.44635
9	9	5	1.02125	6	6	3	2	0.99383	14	14	13	13	27.06395	20	17	3	3	-4.65494
9	9	6	-2.33382	6	6	3	3	5.27059	14	14	14	12	-8.42410	20	17	4	4	6.60803
9	9	7	12.33881	6	6	4	1	-4.58502	14	14	14	13	12.32260	20	17	5	5	4.04736
9	9	8	-2.62106	6	6	4	2	3.10437	14	14	14	14	8.91972	20	17	6	6	8.75279
10	9	1	69.30181	6	6	4	3	1.68938	15	15	1	1	203.24063	20	17	7	7	5.09637
10	9	2	106.17749	6	6	4	4	6.36467	15	15	2	1	91.36838	20	17	8	8	1.00184
10	9	3	4.10450	6	6	5	1	-3.44246	15	15	2	2	80.90127	20	17	9	9	3.36255
10	9	4	-7.68561	6	6	5	2	1.94078	15	15	3	1	-20.40313	20	17	10	10	9.38398
10	9	5	-1.26104	6	6	5	3	0.50623	15	15	3	2	-10.03322	20	17	11	11	1.93017
10	9	6	14.18627	6	6	5	4	-7.28114	15	15	3	3	-2.05689	20	17	12	12	4.47191
10	9	7	-6.55287	6	6	5	5	11.40627	15	15	4	1	10.19711	20	17	13	13	7.36418
10	9	8	7.39183	6	6	6	2	-0.15183	15	15	4	2	1.25115	20	17	14	14	2.81314
10	10	1	440.29435	6	6	6	3	-11.56376	15	15	4	3	2.89220	20	17	15	15	-24.87930
10	10	2	214.82887	6	6	6	4	2.53839	15	15	4	4	-25.13360	20	17	16	16	-10.76787
10	10	3	17.27239	6	6	6	5	-7.56671	15	15	5	1	10.35353	20	17	17	15	4.54646
10	10	4	7.13050	6	6	6	6	36.51470	15	15	5	2	4.68467	20	17	17	16	-0.34348
10	10	5	37.80481	7	1	1	1	7.14895	15	15	5	3	-10.07402	20	17	17	17	-2.41847
10	10	6	-14.47110	7	2	1	1	3.67338	15	15	5	4	31.71650	20	18	1	1	49.18275
10	10	7	1.17370	7	2	2	1	1.43499	15	15	5	5	-37.87888	20	18	2	2	2.06702
10	10	8	-7.02348	7	2	2	2	-2.90024	15	15	6	1	6.26621	20	18	3	3	-1.90862
11	9	1	-101.31759	7	3	1	1	-0.78152	15	15	6	2	0.73165	20	18	4	4	-5.60369
11	9	2	184.80451	7	3	2	2	-26.45345	15	15	6	3	15.62930	20	18	5	5	-8.51018
11	9	3	-5.45667	7	3	3	1	2.46057	15	15	6	4	-31.53102	20	18	6	6	-11.91544
11	9	4	15.51566	7	3	3	2	-1.72164	15	15	6	5	41.30531	20	18	7	7	-0.43988
11	9	5	6.33520	7	3	3	3	9.70359	15	15	6	6	-58.88542	20	18	8	8	-0.84048
11	9	6	5.37003	7	4	1	1	-25.05355	15	15	7	1	7.66737	20	18	9	9	0.31882

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
11	9	7	-5.52949	7	4	2	2	-26.24378	15	15	7	2	4.78440	20	18	10	10	-25.79255
11	9	8	1.16328	7	4	3	3	-1.48913	15	15	7	3	3.58441	20	18	11	11	1.67851
11	10	1	32.96775	7	4	4	1	-4.83692	15	15	7	4	-25.18356	20	18	12	12	-8.30579
11	10	2	-51.25265	7	4	4	2	1.97871	15	15	7	5	29.72296	20	18	13	13	-10.55696
11	10	3	-15.72079	7	4	4	3	-6.85801	15	15	7	6	-24.99423	20	18	14	14	-4.33645
11	10	4	11.50856	7	4	4	4	1.56671	15	15	7	7	-30.08648	20	18	15	15	57.56963
11	10	5	-8.95206	7	5	1	1	28.05874	15	15	8	1	0.43786	20	18	16	16	-6.68290
11	10	6	-6.27313	7	5	2	2	19.78974	15	15	8	2	-1.37340	20	18	17	17	-4.06098
11	10	7	7.07092	7	5	3	3	-6.12075	15	15	8	3	6.53067	20	18	18	15	1.25542
11	10	8	2.11606	7	5	4	4	-3.57915	15	15	8	4	-16.82130	20	18	18	16	-1.23942
11	11	1	75.09417	7	5	5	1	1.80773	15	15	8	5	21.43527	20	18	18	17	6.41973
11	11	2	-162.82016	7	5	5	2	-1.07278	15	15	8	6	-26.57771	20	18	18	18	-8.62785
11	11	3	-33.03783	7	5	5	3	-2.07151	15	15	8	7	-13.78551	20	19	1	1	20.67391
11	11	4	47.40485	7	5	5	4	-0.57659	15	15	8	8	-12.87694	20	19	2	2	16.27767
11	11	5	7.81949	7	5	5	5	-1.62321	15	15	9	9	-28.53622	20	19	3	3	-7.30765
11	11	6	-3.04534	7	6	1	1	-15.25562	15	15	10	9	-49.40772	20	19	4	4	-2.56819
11	11	7	-6.43812	7	6	2	2	41.80075	15	15	10	10	-230.89693	20	19	5	5	-3.69993
11	11	8	0.99789	7	6	3	3	-4.51147	15	15	11	9	10.81375	20	19	6	6	-10.76323
12	12	1	221.09703	7	6	4	4	1.03484	15	15	11	10	-8.75671	20	19	7	7	-4.41214
12	12	2	-71.55132	7	6	5	5	4.32414	15	15	11	11	-12.59627	20	19	8	8	-0.52724
12	12	4	18.63103	7	6	6	1	-0.17641	15	15	12	12	-96.61925	20	19	9	9	-2.26229
12	12	5	9.30794	7	6	6	2	0.21152	15	15	13	12	85.23741	20	19	10	10	-9.86081
12	12	6	17.75209	7	6	6	3	6.74825	15	15	13	13	-137.10909	20	19	11	11	-1.69416
12	12	8	12.80275	7	6	6	4	11.52217	15	15	14	12	56.64829	20	19	12	12	-4.54318
13	12	1	-82.13466	7	6	6	5	-11.89444	15	15	14	13	-62.61897	20	19	13	13	-8.57652
13	12	2	-291.67614	7	6	6	6	-10.49508	15	15	14	14	-41.49953	20	19	14	14	-0.63189
13	12	3	-1.57458	7	7	1	1	-33.36441	15	15	15	15	225.73071	20	19	15	15	21.63268
13	12	4	6.15879	7	7	2	1	13.68921	16	15	1	1	53.34654	20	19	16	16	15.72002
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13	13	1	352.35078	7	7	4	1	-2.32106	16	15	6	6	1.24729	20	19	19	18	1.17327
13	13	2	-124.70381	7	7	4	2	4.79611	16	15	7	7	10.98967	20	19	19	19	-4.04159
13	13	3	-16.08790	7	7	4	3	6.46022	16	15	8	8	-2.98358	20	20	1	1	-80.32496
13	13	4	31.59318	7	7	4	4	4.48305	16	15	9	9	33.17655	20	20	2	1	-40.78599
13	13	5	22.91252	7	7	5	1	-2.14201	16	15	10	10	-82.53558	20	20	2	2	-26.71468
13	13	6	-7.84765	7	7	5	2	1.55284	16	15	11	11	32.02168	20	20	3	1	5.94032
13	13	7	-4.21542	7	7	5	3	0.50306	16	15	12	12	-1.30316	20	20	3	2	3.08685
13	13	8	4.72970	7	7	5	4	-6.95637	16	15	13	13	0.92189	20	20	3	3	-2.43891
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14	12	3	-25.61328	7	7	6	3	-12.40871	16	16	1	1	81.08403	20	20	4	3	-3.73729
14	12	4	-2.14008	7	7	6	4	-1.29573	16	16	2	1	-91.42561	20	20	4	4	9.43403
14	12	5	6.56566	7	7	6	5	1.13726	16	16	2	2	210.40599	20	20	5	1	-3.38968
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14	13	1	104.91607	7	7	7	3	7.06118	16	16	3	3	-19.16795	20	20	5	4	-14.95152
14	13	2	108.51746	7	7	7	4	6.63909	16	16	4	1	13.14854	20	20	5	5	18.29779
14	13	3	-25.30177	7	7	7	5	-4.04646	16	16	4	2	-25.02765	20	20	6	1	0.82302
14	13	4	-7.50835	7	7	7	6	-15.25410	16	16	4	3	-12.50952	20	20	6	2	0.86006
14	13	5	0.76108	7	7	7	7	26.75719	16	16	4	4	-12.12057	20	20	6	3	-6.94131
14	13	6	10.21587	8	1	1	1	0.45779	16	16	5	1	7.88490	20	20	6	4	15.10327
14	13	7	-7.46981	8	2	1	1	-1.40404	16	16	5	2	-9.39108	20	20	6	5	-20.51172
14	13	8	-6.51839	8	2	2	1	0.40641	16	16	5	3	5.23262	20	20	6	6	27.42290
14	14	1	63.12468	8	2	2	2	-1.98864	16	16	5	4	10.98151	20	20	7	1	0.11949
14	14	2	30.09625	8	3	1	1	6.85482	16	16	5	5	-9.05333	20	20	7	2	0.19897
14	14	3	-52.49464	8	3	2	2	8.95774	16	16	6	1	0.16092	20	20	7	3	-3.96494
14	14	4	15.73943	8	3	3	1	-1.43253	16	16	6	2	1.72070	20	20	7	4	9.66295
14	14	5	11.09405	8	3	3	2	-0.93471	16	16	6	3	33.04666	20	20	7	5	-10.66569
14	14	6	-5.20109	8	3	3	3	-1.64026	16	16	6	4	19.04670	20	20	7	6	13.72583
14	14	8	-1.25180	8	4	1	1	-14.23613	16	16	6	5	-9.20867	20	20	7	7	12.93352
15	12	9	-119.79308	8	4	2	2	1.17195	16	16	6	6	-65.79983	20	20	8	1	-0.80710
15	12	10	-249.49783	8	4	3	3	-2.71473	16	16	7	1	-1.44767	20	20	8	2	-0.16439
15	12	11	64.94563	8	4	4	1	-0.59220	16	16	7	2	0.93382	20	20	8	3	-2.44976
15	13	9	-8.66008	8	4	4	2	-2.00639	16	16	7	3	-30.43763	20	20	8	4	5.89857
15	13	10	358.43097	8	4	4	3	-0.22595	16	16	7	4	-26.11022	20	20	8	5	-7.65177
15	13	11	83.71490	8	4	4	4	0.35880	16	16	7	5	18.52593	20	20	8	6	12.25028
15	14	9	68.65116	8	5	1	1	18.52007	16	16	7	6	52.59840	20	20	8	7	8.00325
15	14	10	185.39272	8	5	2	2	2.29373	16	16	7	7	-58.86842	20	20	8	8	7.60540
15	14	11	2.41011	8	5	3	3	0.35605	16	16	8	1	1.36315	20	20	9	9	0.83315
15	15	1	-706.63454	8	5	4	4	-1.69918	16	16	8	2	-3.14700	20	20	10	9	7.00875
15	15	2	-270.63443	8	5	5	1	0.28733	16	16	8	3	9.45716	20	20	10	10	32.89268
15	15	3	82.15012	8	5	5	2	0.63232	16	16	8	4	4.03239	20	20	11	9	-0.57472
15	15	4	-44.68324	8	5	5	3	-1.50250	16	16	8	5	-0.57505	20	20	11	10	1.58817
15	15	5	-43.69247	8	5	5	4	0.31474	16	16	8	6	-18.67618	20	20	12	12	9.90505
15	15	6	-7.29545	8	5	5	5	-0.40677	16	16	8	7	12.88485	20	20	13	12	-13.41632
15	15	7	-16.08991	8	6	1	1	-25.45941	16	16	8	8	-5.88777	20	20	13	13	19.57447
15	15	8	-1.75353	8	6	2	2	-19.67338	16	16	9	9	-109.43520	20	20	14	12	-8.37074
16	12	9	153.61753	8	6	3	3	2.90310	16	16	10	9	23.58774	20	20	14	13	9.73606
16	12	10	-155.53822	8	6	4	4	3.51496	16	16	10	10	-41.38043	20	20	14	14	2.90125
16	12	11	-175.77674	8	6	5	5	5.76916	16	16	11	9	99.01891	20	20	15	15	-89.89501
16	13	9	260.14326	8	6	6	1	-0.20189	16	16	11	10	-28.77927	20	20	16	15	-31.90031
16	13	10	54.08700	8	6	6	2	0.17236	16	16	11	11	-89.04919	20	20	16	16	-16.88981
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16	14	10	81.26364	8	6	6	5	-5.17945	16	16	13	13	-146.13310	20	20	17	17	0.38961
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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16	15	3	6.94111	8	7	3	3	0.13243	16	16	15	15	59.07038	20	20	18	18	20.27765
16	15	4	19.16969	8	7	4	4	3.31623	16	16	16	15	-71.14239	20	20	19	15	1.02945
16	15	5	-1.70127	8	7	5	5	6.56618	16	16	16	16	235.07684	20	20	19	16	0.68187
16	15	6	-1.91324	8	7	6	6	-1.87905	17	15	1	1	-25.07695	20	20	19	17	-3.09639
16	15	7	-9.67584	8	7	7	1	-1.20889	17	15	2	2	-14.20475	20	20	19	18	5.28118
16	15	8	3.71678	8	7	7	2	-0.14065	17	15	3	3	12.98113	20	20	19	19	3.21905
16	16	1	-443.45662	8	7	7	3	-3.20654	17	15	4	4	4.02591	20	20	20	15	-2.44696
16	16	2	631.14322	8	7	7	4	-1.93168	17	15	5	5	1.78623	20	20	20	16	-1.46192
16	16	3	22.47610	8	7	7	5	2.44107	17	15	6	6	7.24887	20	20	20	17	12.05678
16	16	4	-77.02481	8	7	7	6	8.09174	17	15	7	7	2.69713	20	20	20	18	-26.11787
16	16	5	-41.12404	8	7	7	7	-1.54565	17	15	8	8	1.00083	20	20	20	19	-10.57859
16	16	6	3.34692	8	8	1	1	-11.90072	17	15	9	9	0.65731	20	20	20	20	39.85177
16	16	7	-0.49055	8	8	2	1	-3.88885	17	15	10	10	24.46313	21	15	1	1	-1.38365
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17	12	9	19.90160	8	8	3	1	0.62478	17	15	12	12	7.64789	21	15	3	3	-0.17218
17	12	10	21.19019	8	8	3	2	0.36986	17	15	13	13	17.61928	21	15	4	4	-0.36556
17	12	11	19.71643	8	8	3	3	0.16746	17	15	14	14	1.64633	21	15	5	5	1.61876
17	13	9	-5.83754	8	8	4	1	-0.53910	17	15	15	15	-27.07974	21	15	6	6	0.15471
17	13	10	-31.80687	8	8	4	2	0.20704	17	16	1	1	-2.46899	21	15	7	7	-0.30501
17	13	11	-31.76409	8	8	4	3	0.42711	17	16	2	2	18.47233	21	15	8	8	1.10960
17	14	9	30.41632	8	8	4	4	0.88448	17	16	3	3	-6.95117	21	15	9	9	0.50271
17	14	10	-16.27405	8	8	5	1	-0.86252	17	16	4	4	5.69564	21	15	10	10	1.63798
17	14	11	33.99005	8	8	5	4	-2.48888	17	16	5	5	0.82478	21	15	11	11	0.48450
17	15	1	104.55138	8	8	5	5	5.55054	17	16	6	6	-1.97983	21	15	12	12	-0.13704
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17	15	4	-48.11850	8	8	6	3	-0.95295	17	16	10	10	7.65028	21	16	1	1	0.26113
17	15	5	27.50075	8	8	6	4	0.29999	17	16	11	11	-7.86266	21	16	2	2	7.09287
17	15	6	-37.17793	8	8	6	5	-2.23320	17	16	12	12	-2.67343	21	16	3	3	1.32817
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17	16	2	77.34598	8	8	7	3	0.87510	17	16	16	15	-12.94687	21	16	7	7	-0.26499
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17	16	5	23.36663	8	8	8	1	-1.51246	17	17	2	1	1.40886	21	16	10	10	0.50138
17	16	6	27.71440	8	8	8	2	-0.39578	17	17	2	2	-12.51679	21	16	11	11	-1.79699
17	16	7	-44.47878	8	8	8	3	-1.72511	17	17	3	1	16.31416	21	16	13	13	-1.94493
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17	17	1	78.27420	8	8	8	5	-0.56348	17	17	3	3	44.17374	21	16	16	15	-0.98580
17	17	2	-18.81532	8	8	8	6	2.75323	17	17	4	1	-8.16082	21	16	16	16	4.80942
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17	17	4	-119.04545	8	8	8	8	-0.55027	17	17	4	3	-28.67560	21	17	2	2	18.81372
17	17	5	-55.41403	9	9	1	1	-39.00209	17	17	4	4	1.62794	21	17	3	3	1.24774
17	17	6	52.75865	9	9	2	1	42.44185	17	17	5	1	0.70264	21	17	4	4	-4.54778
17	17	7	16.60144	9	9	2	2	-99.11973	17	17	5	2	2.97896	21	17	5	5	-5.80241
17	17	8	5.19017	9	9	3	1	0.57004	17	17	5	3	-9.29383	21	17	6	6	-6.08058
18	12	9	-4.34478	9	9	3	2	-3.40013	17	17	5	4	2.45319	21	17	7	7	-8.91963
18	12	10	-12.51980	9	9	3	3	-10.32706	17	17	5	5	0.81375	21	17	8	8	-0.49112
18	12	11	-11.80389	9	9	4	1	-2.09400	17	17	6	1	-3.24476	21	17	9	9	-3.22971
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18	13	10	3.94266	9	9	4	3	-0.78070	17	17	6	3	8.18698	21	17	11	11	-3.87253
18	13	11	12.15639	9	9	4	4	-10.73829	17	17	6	4	-4.06248	21	17	12	12	-3.64290
18	14	9	11.72550	9	9	5	1	-0.64180	17	17	6	5	-2.02466	21	17	13	13	-6.95478
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18	14	11	-5.31603	9	9	5	3	-3.19763	17	17	7	1	0.75773	21	17	16	16	20.87115
18	15	1	9.06500	9	9	5	4	-6.50551	17	17	7	2	-2.75696	21	17	17	15	-1.07453
18	15	2	4.98066	9	9	5	5	-2.90354	17	17	7	3	7.67960	21	17	17	16	2.09516
18	15	3	-13.66812	9	9	6	1	-0.52693	17	17	7	4	6.06835	21	17	17	17	5.48520
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18	15	8	22.76935	9	9	6	6	8.78030	17	17	8	2	-0.85471	21	18	5	5	8.38526
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18	16	2	1.59379	9	9	7	2	0.78961	17	17	8	4	-2.45016	21	18	7	7	-4.57756
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18	16	5	-11.98643	9	9	7	5	-1.81193	17	17	8	8	-1.03847	21	18	10	10	6.04767
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18	16	7	-70.96053	9	9	7	7	9.59705	17	17	10	9	0.51293	21	18	12	12	-3.32073
18	16	8	37.79497	9	9	8	1	-0.99143	17	17	10	10	0.39445	21	18	13	13	-5.00962
18	17	1	-20.22029	9	9	8	2	0.61664	17	17	11	9	-11.44504	21	18	14	14	-1.71566
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18	17	5	17.09371	9	9	8	7	-2.22116	17	17	13	12	1.31586	21	18	18	15	-0.25105
18	17	6	-4.73631	9	9	8	8	0.39037	17	17	13	13	-0.87199	21	18	18	16	1.04813
18	17	7	24.79877	9	9	9	9	125.48451	17	17	14	12	-11.32972	21	18	18	17	-7.32616
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18	18	2	-24.70450	10	9	4	4	4.26071	17	17	15	15	-2.66342	21	19	3	3	7.07168
18	18	3	-13.75996	10	9	5	5	4.96808	17	17	16	15	-0.30962	21	19	4	4	4.48620
18	18	4	26.19010	10	9	6	6	0.41563	17	17	16	16	-11.63861	21	19	5	5	2.24596
18	18	5	-42.70717	10	9	7	7	-2.28563	17	17	17	15	16.73201	21	19	6	6	12.12974
18	18	6	8.87829	10	9	8	8	0.92839	17	17	17	16	-6.52607	21	19	7	7	10.29081

I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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19	12	9	-0.90934	10	10	2	1	-105.34831	18	15	2	2	-1.60482	21	19	10	10	2.89452
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19	13	10	-8.49017	10	10	3	3	-5.39844	18	15	7	7	0.71006	21	19	15	15	-9.54159
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19	14	10	-2.54489	10	10	4	3	-6.73473	18	15	10	10	2.38345	21	19	18	18	8.17998
19	14	11	12.98294	10	10	4	4	2.38537	18	15	11	11	0.43471	21	19	19	15	0.23441
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19	15	8	18.83705	10	10	6	4	11.64596	18	16	4	4	0.60931	21	20	4	4	0.50964
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19	16	2	-6.52726	10	10	6	6	18.72166	18	16	6	6	-0.25028	21	20	6	6	-12.51276
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19	16	6	-65.70561	10	10	7	4	8.57506	18	16	11	11	0.59828	21	20	10	10	-13.16545
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19	17	1	-11.30910	10	10	7	7	5.45086	18	16	14	14	0.76629	21	20	13	13	-9.37528
19	17	2	10.42923	10	10	8	1	0.48038	18	16	15	15	-0.77628	21	20	14	14	-3.85054
19	17	3	66.75574	10	10	8	2	0.40483	18	16	16	15	-2.56889	21	20	15	15	25.51130
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19	17	7	21.75572	10	10	8	5	-7.64353	18	17	2	2	-17.19342	21	20	18	18	-4.36903
19	17	8	2.61607	10	10	8	6	11.54680	18	17	3	3	-5.94544	21	20	19	19	-3.81097
19	18	1	-13.95536	10	10	8	7	7.86544	18	17	4	4	4.94899	21	20	20	15	-0.22810
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19	18	3	-6.63342	10	10	9	9	38.29276	18	17	6	6	1.92127	21	20	20	17	-4.91847
19	18	4	16.93148	10	10	10	9	80.00166	18	17	7	7	4.43390	21	20	20	18	9.62348
19	18	5	-10.78373	10	10	10	10	352.36402	18	17	8	8	-0.36735	21	20	20	19	4.39645
19	18	6	8.61249	11	9	1	1	21.63123	18	17	9	9	4.47326	21	20	20	20	-13.10339
19	18	7	-11.92502	11	9	2	2	86.14745	18	17	10	10	-6.64617	21	21	1	1	-13.47306
19	18	8	-1.67528	11	9	3	3	-22.19429	18	17	11	11	4.77353	21	21	2	1	10.18467
19	19	1	33.62581	11	9	4	4	-6.72012	18	17	12	12	2.48946	21	21	2	2	-27.92553
19	19	2	-53.60836	11	9	5	5	-3.32506	18	17	13	13	1.56487	21	21	3	1	0.19877
19	19	3	2.24769	11	9	6	6	-8.47596	18	17	15	15	12.78720	21	21	3	2	-0.92573
19	19	4	-10.70020	11	9	7	7	-10.21210	18	17	16	16	-21.38690	21	21	3	3	-1.96864
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20	14	10	-6.71682	11	10	9	9	24.75797	18	18	3	3	-2.98542	21	21	5	5	7.57358
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I	J	K	FI(I,J,K)	I	J	K	L	FI(I,J,,K,L)	I	J	K	L	FI(I,J,K,L)	I	J	K	L	FI(I,J,K,L)
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20	20	3	-9.81865	12	12	2	2	-97.60171	18	18	17	15	2.49631	21	21	19	16	-0.24594
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21	13	10	-10.74282	12	12	5	1	-3.99058	19	15	2	2	0.11794	21	21	20	19	-3.33061
21	13	11	-7.79708	12	12	5	2	2.44232	19	15	3	3	0.26102	21	21	20	20	7.79017
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21	15	1	9.41379	12	12	6	1	-3.18854	19	15	9	9	-0.84271	21	21	21	19	6.44352
21	15	2	0.86891	12	12	6	2	0.89045	19	15	10	10	5.15224	21	21	21	20	0.85657
21	15	3	-19.79898	12	12	6	3	-7.74332	19	15	11	11	-1.79200	21	21	21	21	15.04684
21	15	4	22.34146	12	12	6	4	2.06962	19	15	12	12	-1.16340					
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