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Supplements A, B and C to "Efficient Kidney Exchange with Dichotomous Preferences"

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Abstract: This document contains the supplementary material to "Efficient Kidney Exchange with Dichotomous Preferences" by Yao Cheng and Zaifu Yang (2017).

Keywords: Kidney Exchange, Efficiency, Matching, Simulation.
JEL classification: C78, D47.

Supplement A: Tables for Two-Way Exchange

1 Instruction

We explain how to read tables in Supplements A, B and C. For instance, let us look at the first row of Table A1 in Supplement A. We read as $e_0 = BA = \#(B, A)$, $e_3 = OAB = \#(O, AB)$, $b_3 = A - AAB + ABAc + ABAi + BOc + BOi - OB = \#A^d - \#(A, AB) + \#(AB, A)^c + \#(AB, A)^i + \#(B, O)^c + \#(B, O)^i - \#(O, B)$ and $N10 = e_0 + e_1 + e_2 + e_3 + e_4 + e_5 + a_1 + a_2 + b_1 + b_2 + b_3 + X_3 = N_{10}$, where N_{10} is the number given in Proposition 3.3 of Cheng and Yang (2017).

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Table A1: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
1	BA	OA	OB	OAB	AAB	BAB	0	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
2	BA	OA	OB	OAB	AAB	BAB	0	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
3	BA	OA	OB	OAB	AAB	BAB	0	0	0	0	AB - BA	0	N1
4	BA	OA	OB	OAB	AAB	ABBi	0	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
5	BA	OA	OB	OAB	AAB	ABBi	0	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
6	BA	OA	OB	OAB	AAB	ABBi	0	0	0	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N5
7	BA	OA	OB	OAB	AAB	ABBi	0	0	0	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB	N1
8	BA	OA	OB	OAB	AAB	ABBi	0	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
9	BA	OA	OB	OAB	AAB	ABBi	0	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
10	BA	OA	OB	OAB	AAB	ABBi	0	0	0	-ABBi + BAB	AB - BA	0	N1
11	BA	OA	OB	OAB	ABAi	BAB	0	0	A + ABAc	0	BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
12	BA	OA	OB	OAB	ABAi	BAB	0	0	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
13	BA	OA	OB	OAB	ABAi	BAB	0	0	A + ABAc	0	AB - BA	ABOc + ABOi + O - OAB	N2
14	BA	OA	OB	OAB	ABAi	BAB	0	0	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi	N1
15	BA	OA	OB	OAB	ABAi	BAB	0	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
16	BA	OA	OB	OAB	ABAi	BAB	0	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
17	BA	OA	OB	OAB	ABAi	BAB	0	0	AAB - ABAi	0	AB - BA	0	N1
18	BA	OA	OB	OAB	ABAi	ABBi	0	0	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
19	BA	OA	OB	OAB	ABAi	ABBi	0	0	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
20	BA	OA	OB	OAB	ABAi	ABBi	0	0	A + ABAc	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N4
21	BA	OA	OB	OAB	ABAi	ABBi	0	0	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - B + BAB	N1
22	BA	OA	OB	OAB	ABAi	ABBi	0	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
23	BA	OA	OB	OAB	ABAi	ABBi	0	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
24	BA	OA	OB	OAB	ABAi	ABBi	0	0	A + ABAc	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N2
25	BA	OA	OB	OAB	ABAi	ABBi	0	0	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi	N1
26	BA	OA	OB	OAB	ABAi	ABBi	0	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
27	BA	OA	OB	OAB	ABAi	ABBi	0	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
28	BA	OA	OB	OAB	ABAi	ABBi	0	0	AAB - ABAi	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N5
29	BA	OA	OB	OAB	ABAi	ABBi	0	0	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB	N1
30	BA	OA	OB	OAB	ABAi	ABBi	0	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
31	BA	OA	OB	OAB	ABAi	ABBi	0	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
32	BA	OA	OB	OAB	ABAi	ABBi	0	0	AAB - ABAi	-ABBi + BAB	AB - BA	0	N1
33	BA	OA	OB	ABOi	AAB	BAB	0	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
34	BA	OA	OB	ABOi	AAB	BAB	0	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
35	BA	OA	OB	ABOi	AAB	BAB	0	0	0	0	AB - BA	ABOc + O	N3
36	BA	OA	OB	ABOi	AAB	BAB	0	0	0	0	AB - BA	-ABOi + OAB	N1
37	BA	OA	OB	ABOi	AAB	ABBi	0	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N12
38	BA	OA	OB	ABOi	AAB	ABBi	0	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
39	BA	OA	OB	ABOi	AAB	ABBi	0	0	0	ABBc + B	AB - BA	ABOc + O	N5
40	BA	OA	OB	ABOi	AAB	ABBi	0	0	0	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB + OAB	N1
41	BA	OA	OB	ABOi	AAB	ABBi	0	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
42	BA	OA	OB	ABOi	AAB	ABBi	0	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
43	BA	OA	OB	ABOi	AAB	ABBi	0	0	0	-ABBi + BAB	AB - BA	ABOc + O	N3
44	BA	OA	OB	ABOi	AAB	ABBi	0	0	0	-ABBi + BAB	AB - BA	-ABOi + OAB	N1
45	BA	OA	OB	ABOi	ABAi	BAB	0	0	A + ABAc	0	BOc + BOi - OB	ABOc + O	N10

Table A2: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
46	BA	OA	OB	ABOi	ABAi	BAB	0	0	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
47	BA	OA	OB	ABOi	ABAi	BAB	0	0	A + ABAc	0	AB - BA	ABOc + O	N2
48	BA	OA	OB	ABOi	ABAi	BAB	0	0	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi - ABOi + OAB	N1
49	BA	OA	OB	ABOi	ABAi	BAB	0	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
50	BA	OA	OB	ABOi	ABAi	BAB	0	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
51	BA	OA	OB	ABOi	ABAi	BAB	0	0	AAB - ABAi	0	AB - BA	ABOc + O	N3
52	BA	OA	OB	ABOi	ABAi	BAB	0	0	AAB - ABAi	0	AB - BA	-ABOi + OAB	N1
53	BA	OA	OB	ABOi	ABAi	ABBi	0	0	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + O	N12
54	BA	OA	OB	ABOi	ABAi	ABBi	0	0	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
55	BA	OA	OB	ABOi	ABAi	ABBi	0	0	A + ABAc	ABBc + B	AB - BA	ABOc + O	N4
56	BA	OA	OB	ABOi	ABAi	ABBi	0	0	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - ABOi - B + BAB + OAB	N1
57	BA	OA	OB	ABOi	ABAi	ABBi	0	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + O	N10
58	BA	OA	OB	ABOi	ABAi	ABBi	0	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
59	BA	OA	OB	ABOi	ABAi	ABBi	0	0	A + ABAc	-ABBi + BAB	AB - BA	ABOc + O	N2
60	BA	OA	OB	ABOi	ABAi	ABBi	0	0	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi - ABOi + OAB	N1
61	BA	OA	OB	ABOi	ABAi	ABBi	0	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N12
62	BA	OA	OB	ABOi	ABAi	ABBi	0	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
63	BA	OA	OB	ABOi	ABAi	ABBi	0	0	AAB - ABAi	ABBc + B	AB - BA	ABOc + O	N5
64	BA	OA	OB	ABOi	ABAi	ABBi	0	0	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB + OAB	N1
65	BA	OA	OB	ABOi	ABAi	ABBi	0	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
66	BA	OA	OB	ABOi	ABAi	ABBi	0	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
67	BA	OA	OB	ABOi	ABAi	ABBi	0	0	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + O	N3
68	BA	OA	OB	ABOi	ABAi	ABBi	0	0	AAB - ABAi	-ABBi + BAB	AB - BA	-ABOi + OAB	N1
69	BA	OA	BOi	OAB	AAB	BAB	0	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
70	BA	OA	BOi	OAB	AAB	BAB	0	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
71	BA	OA	BOi	OAB	AAB	BAB	0	-BOi + OB	0	0	AB - BA	0	N1
72	BA	OA	BOi	OAB	AAB	BAB	0	BOc	0	0	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N10
73	BA	OA	BOi	OAB	AAB	BAB	0	BOc	0	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
74	BA	OA	BOi	OAB	AAB	BAB	0	BOc	0	0	AB - BA	ABOc + ABOi + O - OAB	N11
75	BA	OA	BOi	OAB	AAB	BAB	0	BOc	0	0	AB - BA	-BOc - BOi + OB	N1
76	BA	OA	BOi	OAB	AAB	ABBi	0	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
77	BA	OA	BOi	OAB	AAB	ABBi	0	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
78	BA	OA	BOi	OAB	AAB	ABBi	0	-BOi + OB	0	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N5
79	BA	OA	BOi	OAB	AAB	ABBi	0	-BOi + OB	0	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB	N1
80	BA	OA	BOi	OAB	AAB	ABBi	0	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
81	BA	OA	BOi	OAB	AAB	ABBi	0	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
82	BA	OA	BOi	OAB	AAB	ABBi	0	-BOi + OB	0	-ABBi + BAB	AB - BA	0	N1
83	BA	OA	BOi	OAB	AAB	ABBi	0	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N12
84	BA	OA	BOi	OAB	AAB	ABBi	0	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
85	BA	OA	BOi	OAB	AAB	ABBi	0	BOc	0	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N13
86	BA	OA	BOi	OAB	AAB	ABBi	0	BOc	0	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB - BOc - BOi + OB	N1
87	BA	OA	BOi	OAB	AAB	ABBi	0	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N10
88	BA	OA	BOi	OAB	AAB	ABBi	0	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
89	BA	OA	BOi	OAB	AAB	ABBi	0	BOc	0	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N11
90	BA	OA	BOi	OAB	AAB	ABBi	0	BOc	0	-ABBi + BAB	AB - BA	-BOc - BOi + OB	N1

Table A3: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
91	BA	OA	BOi	OAB	ABAi	BAB	0	-BOi + OB	A + ABAc	0	BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
92	BA	OA	BOi	OAB	ABAi	BAB	0	-BOi + OB	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
93	BA	OA	BOi	OAB	ABAi	BAB	0	-BOi + OB	A + ABAc	0	AB - BA	ABOc + ABOi + O - OAB	N2
94	BA	OA	BOi	OAB	ABAi	BAB	0	-BOi + OB	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi	N1
95	BA	OA	BOi	OAB	ABAi	BAB	0	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
96	BA	OA	BOi	OAB	ABAi	BAB	0	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
97	BA	OA	BOi	OAB	ABAi	BAB	0	-BOi + OB	AAB - ABAi	0	AB - BA	0	N1
98	BA	OA	BOi	OAB	ABAi	BAB	0	BOc	A + ABAc	0	0	ABOc + ABOi + O - OAB	N10
99	BA	OA	BOi	OAB	ABAi	BAB	0	BOc	A + ABAc	0	0	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
100	BA	OA	BOi	OAB	ABAi	BAB	0	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N10
101	BA	OA	BOi	OAB	ABAi	BAB	0	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
102	BA	OA	BOi	OAB	ABAi	BAB	0	BOc	AAB - ABAi	0	AB - BA	ABOc + ABOi + O - OAB	N11
103	BA	OA	BOi	OAB	ABAi	BAB	0	BOc	AAB - ABAi	0	AB - BA	-BOc - BOi + OB	N1
104	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
105	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
106	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	A + ABAc	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N4
107	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - B + BAB	N1
108	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
109	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
110	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N2
111	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi	N1
112	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
113	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
114	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N5
115	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB	N1
116	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
117	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
118	BA	OA	BOi	OAB	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	-ABBi + BAB	AB - BA	0	N1
119	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	A + ABAc	ABBc + B	0	ABOc + ABOi + O - OAB	N12
120	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	A + ABAc	ABBc + B	0	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
121	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	A + ABAc	-ABBi + BAB	0	ABOc + ABOi + O - OAB	N10
122	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	A + ABAc	-ABBi + BAB	0	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
123	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N12
124	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
125	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	AAB - ABAi	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N13
126	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB - BOc - BOi + OB	N1
127	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N10
128	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
129	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N11
130	BA	OA	BOi	OAB	ABAi	ABBi	0	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	-BOc - BOi + OB	N1
131	BA	OA	BOi	ABOi	AAB	BAB	0	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
132	BA	OA	BOi	ABOi	AAB	BAB	0	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
133	BA	OA	BOi	ABOi	AAB	BAB	0	-BOi + OB	0	0	AB - BA	ABOc + O	N3
134	BA	OA	BOi	ABOi	AAB	BAB	0	-BOi + OB	0	0	AB - BA	-ABOi + OAB	N1
135	BA	OA	BOi	ABOi	AAB	BAB	0	BOc	0	0	A - AAB + ABAc + ABAi	ABOc + O	N10

Table A4: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
136	BA	OA	BOi	ABOi	AAB	BAB	0	BOc	0	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
137	BA	OA	BOi	ABOi	AAB	BAB	0	BOc	0	0	AB - BA	ABOc + O	N11
138	BA	OA	BOi	ABOi	AAB	BAB	0	BOc	0	0	AB - BA	-ABOi - BOc - BOi + OAB + OB	N1
139	BA	OA	BOi	ABOi	AAB	ABBi	0	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N12
140	BA	OA	BOi	ABOi	AAB	ABBi	0	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
141	BA	OA	BOi	ABOi	AAB	ABBi	0	-BOi + OB	0	ABBc + B	AB - BA	ABOc + O	N5
142	BA	OA	BOi	ABOi	AAB	ABBi	0	-BOi + OB	0	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB + OAB	N1
143	BA	OA	BOi	ABOi	AAB	ABBi	0	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
144	BA	OA	BOi	ABOi	AAB	ABBi	0	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
145	BA	OA	BOi	ABOi	AAB	ABBi	0	-BOi + OB	0	-ABBi + BAB	AB - BA	ABOc + O	N3
146	BA	OA	BOi	ABOi	AAB	ABBi	0	-BOi + OB	0	-ABBi + BAB	AB - BA	-ABOi + OAB	N1
147	BA	OA	BOi	ABOi	AAB	ABBi	0	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	ABOc + O	N12
148	BA	OA	BOi	ABOi	AAB	ABBi	0	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
149	BA	OA	BOi	ABOi	AAB	ABBi	0	BOc	0	ABBc + B	AB - BA	ABOc + O	N13
150	BA	OA	BOi	ABOi	AAB	ABBi	0	BOc	0	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB - BOc - BOi + OAB + OB	N1
151	BA	OA	BOi	ABOi	AAB	ABBi	0	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + O	N10
152	BA	OA	BOi	ABOi	AAB	ABBi	0	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
153	BA	OA	BOi	ABOi	AAB	ABBi	0	BOc	0	-ABBi + BAB	AB - BA	ABOc + O	N11
154	BA	OA	BOi	ABOi	AAB	ABBi	0	BOc	0	-ABBi + BAB	AB - BA	-ABOi - BOc - BOi + OAB + OB	N1
155	BA	OA	BOi	ABOi	ABAi	BAB	0	-BOi + OB	A + ABAc	0	BOc + BOi - OB	ABOc + O	N10
156	BA	OA	BOi	ABOi	ABAi	BAB	0	-BOi + OB	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
157	BA	OA	BOi	ABOi	ABAi	BAB	0	-BOi + OB	A + ABAc	0	AB - BA	ABOc + O	N2
158	BA	OA	BOi	ABOi	ABAi	BAB	0	-BOi + OB	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi - ABOi + OAB	N1
159	BA	OA	BOi	ABOi	ABAi	BAB	0	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
160	BA	OA	BOi	ABOi	ABAi	BAB	0	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
161	BA	OA	BOi	ABOi	ABAi	BAB	0	-BOi + OB	AAB - ABAi	0	AB - BA	ABOc + O	N3
162	BA	OA	BOi	ABOi	ABAi	BAB	0	-BOi + OB	AAB - ABAi	0	AB - BA	-ABOi + OAB	N1
163	BA	OA	BOi	ABOi	ABAi	BAB	0	BOc	A + ABAc	0	0	ABOc + O	N10
164	BA	OA	BOi	ABOi	ABAi	BAB	0	BOc	A + ABAc	0	0	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
165	BA	OA	BOi	ABOi	ABAi	BAB	0	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	ABOc + O	N10
166	BA	OA	BOi	ABOi	ABAi	BAB	0	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
167	BA	OA	BOi	ABOi	ABAi	BAB	0	BOc	AAB - ABAi	0	AB - BA	ABOc + O	N11
168	BA	OA	BOi	ABOi	ABAi	BAB	0	BOc	AAB - ABAi	0	AB - BA	-ABOi - BOc - BOi + OAB + OB	N1
169	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + O	N12
170	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
171	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	A + ABAc	ABBc + B	AB - BA	ABOc + O	N4
172	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - ABOi - B + BAB + OAB	N1
173	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + O	N10
174	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
175	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	ABOc + O	N2
176	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi - ABOi + OAB	N1
177	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N12

Table A5: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
178	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
179	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	ABOc + O	N5
180	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB + OAB	N1
181	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
182	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
183	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + O	N3
184	BA	OA	BOi	ABOi	ABAi	ABBi	0	-BOi + OB	AAB - ABAi	-ABBi + BAB	AB - BA	-ABOi + OAB	N1
185	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	A + ABAc	ABBc + B	0	ABOc + O	N12
186	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	A + ABAc	ABBc + B	0	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
187	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	A + ABAc	-ABBi + BAB	0	ABOc + O	N10
188	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	A + ABAc	-ABBi + BAB	0	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
189	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	ABOc + O	N12
190	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
191	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	AAB - ABAi	ABBc + B	AB - BA	ABOc + O	N13
192	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB - BOc - BOi + OAB + OB	N1
193	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + O	N10
194	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
195	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + O	N11
196	BA	OA	BOi	ABOi	ABAi	ABBi	0	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	-ABOi - BOc - BOi + OAB + OB	N1
197	BA	AOi	OB	OAB	AAB	BAB	-AOi + OA	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
198	BA	AOi	OB	OAB	AAB	BAB	-AOi + OA	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
199	BA	AOi	OB	OAB	AAB	BAB	-AOi + OA	0	0	0	AB - BA	0	N1
200	BA	AOi	OB	OAB	AAB	BAB	AOc	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
201	BA	AOi	OB	OAB	AAB	BAB	AOc	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
202	BA	AOi	OB	OAB	AAB	BAB	AOc	0	0	0	AB - BA	ABOc + ABOi + O - OAB	N7
203	BA	AOi	OB	OAB	AAB	BAB	AOc	0	0	0	AB - BA	-AOc - AOi + OA	N1
204	BA	AOi	OB	OAB	AAB	ABBi	-AOi + OA	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
205	BA	AOi	OB	OAB	AAB	ABBi	-AOi + OA	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
206	BA	AOi	OB	OAB	AAB	ABBi	-AOi + OA	0	0	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N5
207	BA	AOi	OB	OAB	AAB	ABBi	-AOi + OA	0	0	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB	N1
208	BA	AOi	OB	OAB	AAB	ABBi	-AOi + OA	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
209	BA	AOi	OB	OAB	AAB	ABBi	-AOi + OA	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
210	BA	AOi	OB	OAB	AAB	ABBi	-AOi + OA	0	0	-ABBi + BAB	AB - BA	0	N1
211	BA	AOi	OB	OAB	AAB	ABBi	AOc	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N16
212	BA	AOi	OB	OAB	AAB	ABBi	AOc	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OB	N1
213	BA	AOi	OB	OAB	AAB	ABBi	AOc	0	0	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N9
214	BA	AOi	OB	OAB	AAB	ABBi	AOc	0	0	ABBc + B	AB - BA	-ABBc - ABBi - AOc - AOi - B + BAB + OA	N1
215	BA	AOi	OB	OAB	AAB	ABBi	AOc	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
216	BA	AOi	OB	OAB	AAB	ABBi	AOc	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
217	BA	AOi	OB	OAB	AAB	ABBi	AOc	0	0	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N7

Table A6: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
218	BA	AOi	OB	OAB	AAB	ABBi	AOc	0	0	-ABBi + BAB	AB - BA	-AOc - AOi + OA	N1
219	BA	AOi	OB	OAB	ABAi	BAB	-AOi + OA	0	A + ABAc	0	BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
220	BA	AOi	OB	OAB	ABAi	BAB	-AOi + OA	0	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
221	BA	AOi	OB	OAB	ABAi	BAB	-AOi + OA	0	A + ABAc	0	AB - BA	ABOc + ABOi + O - OAB	N2
222	BA	AOi	OB	OAB	ABAi	BAB	-AOi + OA	0	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi	N1
223	BA	AOi	OB	OAB	ABAi	BAB	-AOi + OA	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
224	BA	AOi	OB	OAB	ABAi	BAB	-AOi + OA	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
225	BA	AOi	OB	OAB	ABAi	BAB	-AOi + OA	0	AAB - ABAi	0	AB - BA	0	N1
226	BA	AOi	OB	OAB	ABAi	BAB	AOc	0	A + ABAc	0	BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
227	BA	AOi	OB	OAB	ABAi	BAB	AOc	0	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
228	BA	AOi	OB	OAB	ABAi	BAB	AOc	0	A + ABAc	0	AB - BA	ABOc + ABOi + O - OAB	N6
229	BA	AOi	OB	OAB	ABAi	BAB	AOc	0	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi - AOc - AOi + OA	N1
230	BA	AOi	OB	OAB	ABAi	BAB	AOc	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
231	BA	AOi	OB	OAB	ABAi	BAB	AOc	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
232	BA	AOi	OB	OAB	ABAi	BAB	AOc	0	AAB - ABAi	0	AB - BA	ABOc + ABOi + O - OAB	N7
233	BA	AOi	OB	OAB	ABAi	BAB	AOc	0	AAB - ABAi	0	AB - BA	-AOc - AOi + OA	N1
234	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
235	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
236	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	A + ABAc	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N4
237	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - B + BAB	N1
238	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
239	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
240	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	A + ABAc	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N2
241	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi	N1
242	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
243	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
244	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N5
245	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB	N1
246	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
247	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
248	BA	AOi	OB	OAB	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	-ABBi + BAB	AB - BA	0	N1
249	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + ABOi + O - OAB	N16
250	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OB	N1
251	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	A + ABAc	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N8
252	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B + BAB + OA	N1
253	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
254	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
255	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	A + ABAc	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N6
256	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi - AOc - AOi + OA	N1
257	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N16
258	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OB	N1

Table A7: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
259	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	AAB - ABAi	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N9
260	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - AOc - AOi - B + BAB + OA	N1
261	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
262	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
263	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N7
264	BA	AOi	OB	OAB	ABAi	ABBi	AOc	0	AAB - ABAi	-ABBi + BAB	AB - BA	-AOc - AOi + OA	N1
265	BA	AOi	OB	ABOi	AAB	BAB	-AOi + OA	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
266	BA	AOi	OB	ABOi	AAB	BAB	-AOi + OA	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
267	BA	AOi	OB	ABOi	AAB	BAB	-AOi + OA	0	0	0	AB - BA	ABOc + O	N3
268	BA	AOi	OB	ABOi	AAB	BAB	-AOi + OA	0	0	0	AB - BA	-ABOi + OAB	N1
269	BA	AOi	OB	ABOi	AAB	BAB	AOc	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N14
270	BA	AOi	OB	ABOi	AAB	BAB	AOc	0	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
271	BA	AOi	OB	ABOi	AAB	BAB	AOc	0	0	0	AB - BA	ABOc + O	N7
272	BA	AOi	OB	ABOi	AAB	BAB	AOc	0	0	0	AB - BA	-ABOi - AOc - AOi + OA + OAB	N1
273	BA	AOi	OB	ABOi	AAB	ABBi	-AOi + OA	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N12
274	BA	AOi	OB	ABOi	AAB	ABBi	-AOi + OA	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
275	BA	AOi	OB	ABOi	AAB	ABBi	-AOi + OA	0	0	ABBc + B	AB - BA	ABOc + O	N5
276	BA	AOi	OB	ABOi	AAB	ABBi	-AOi + OA	0	0	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB + OAB	N1
277	BA	AOi	OB	ABOi	AAB	ABBi	-AOi + OA	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
278	BA	AOi	OB	ABOi	AAB	ABBi	-AOi + OA	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
279	BA	AOi	OB	ABOi	AAB	ABBi	-AOi + OA	0	0	-ABBi + BAB	AB - BA	ABOc + O	N3
280	BA	AOi	OB	ABOi	AAB	ABBi	-AOi + OA	0	0	-ABBi + BAB	AB - BA	-ABOi + OAB	N1
281	BA	AOi	OB	ABOi	AAB	ABBi	AOc	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N16
282	BA	AOi	OB	ABOi	AAB	ABBi	AOc	0	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OAB + OB	N1
283	BA	AOi	OB	ABOi	AAB	ABBi	AOc	0	0	ABBc + B	AB - BA	ABOc + O	N9
284	BA	AOi	OB	ABOi	AAB	ABBi	AOc	0	0	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - AOc - AOi - B + BAB + OA + OAB	N1
285	BA	AOi	OB	ABOi	AAB	ABBi	AOc	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N14
286	BA	AOi	OB	ABOi	AAB	ABBi	AOc	0	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
287	BA	AOi	OB	ABOi	AAB	ABBi	AOc	0	0	-ABBi + BAB	AB - BA	ABOc + O	N7
288	BA	AOi	OB	ABOi	AAB	ABBi	AOc	0	0	-ABBi + BAB	AB - BA	-ABOi - AOc - AOi + OA + OAB	N1
289	BA	AOi	OB	ABOi	ABAi	BAB	-AOi + OA	0	A + ABAc	0	BOc + BOi - OB	ABOc + O	N10
290	BA	AOi	OB	ABOi	ABAi	BAB	-AOi + OA	0	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
291	BA	AOi	OB	ABOi	ABAi	BAB	-AOi + OA	0	A + ABAc	0	AB - BA	ABOc + O	N2
292	BA	AOi	OB	ABOi	ABAi	BAB	-AOi + OA	0	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi - ABOi + OAB	N1
293	BA	AOi	OB	ABOi	ABAi	BAB	-AOi + OA	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
294	BA	AOi	OB	ABOi	ABAi	BAB	-AOi + OA	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
295	BA	AOi	OB	ABOi	ABAi	BAB	-AOi + OA	0	AAB - ABAi	0	AB - BA	ABOc + O	N3
296	BA	AOi	OB	ABOi	ABAi	BAB	-AOi + OA	0	AAB - ABAi	0	AB - BA	-ABOi + OAB	N1
297	BA	AOi	OB	ABOi	ABAi	BAB	AOc	0	A + ABAc	0	BOc + BOi - OB	ABOc + O	N14
298	BA	AOi	OB	ABOi	ABAi	BAB	AOc	0	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
299	BA	AOi	OB	ABOi	ABAi	BAB	AOc	0	A + ABAc	0	AB - BA	ABOc + O	N6

Table A8: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
300	BA	AOi	OB	ABOi	ABAi	BAB	AOc	0	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi - ABOi - AOc - AOi + OA + OAB	N1
301	BA	AOi	OB	ABOi	ABAi	BAB	AOc	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N14
302	BA	AOi	OB	ABOi	ABAi	BAB	AOc	0	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
303	BA	AOi	OB	ABOi	ABAi	BAB	AOc	0	AAB - ABAi	0	AB - BA	ABOc + O	N7
304	BA	AOi	OB	ABOi	ABAi	BAB	AOc	0	AAB - ABAi	0	AB - BA	-ABOi - AOc - AOi + OA + OAB	N1
305	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + O	N12
306	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
307	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	A + ABAc	ABBc + B	AB - BA	ABOc + O	N4
308	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - ABOi - B + BAB + OAB	N1
309	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + O	N10
310	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
311	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	A + ABAc	-ABBi + BAB	AB - BA	ABOc + O	N2
312	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi - ABOi + OAB	N1
313	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N12
314	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
315	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	ABBc + B	AB - BA	ABOc + O	N5
316	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB + OAB	N1
317	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
318	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
319	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + O	N3
320	BA	AOi	OB	ABOi	ABAi	ABBi	-AOi + OA	0	AAB - ABAi	-ABBi + BAB	AB - BA	-ABOi + OAB	N1
321	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + O	N16
322	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OAB + OB	N1
323	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	A + ABAc	ABBc + B	AB - BA	ABOc + O	N8
324	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B + BAB + OA + OAB	N1
325	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + O	N14
326	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
327	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	A + ABAc	-ABBi + BAB	AB - BA	ABOc + O	N6
328	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi - ABOi - AOc - AOi + OA + OAB	N1
329	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N16
330	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OAB + OB	N1
331	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	AAB - ABAi	ABBc + B	AB - BA	ABOc + O	N9
332	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - AOc - AOi - B + BAB + OA + OAB	N1
333	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N14
334	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
335	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + O	N7
336	BA	AOi	OB	ABOi	ABAi	ABBi	AOc	0	AAB - ABAi	-ABBi + BAB	AB - BA	-ABOi - AOc - AOi + OA + OAB	N1

Table A9: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
337	BA	AOi	BOi	OAB	AAB	BAB	-AOi + OA	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
338	BA	AOi	BOi	OAB	AAB	BAB	-AOi + OA	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
339	BA	AOi	BOi	OAB	AAB	BAB	-AOi + OA	-BOi + OB	0	0	AB - BA	0	N1
340	BA	AOi	BOi	OAB	AAB	BAB	-AOi + OA	BOc	0	0	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N10
341	BA	AOi	BOi	OAB	AAB	BAB	-AOi + OA	BOc	0	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
342	BA	AOi	BOi	OAB	AAB	BAB	-AOi + OA	BOc	0	0	AB - BA	ABOc + ABOi + O - OAB	N11
343	BA	AOi	BOi	OAB	AAB	BAB	-AOi + OA	BOc	0	0	AB - BA	-BOc - BOi + OB	N1
344	BA	AOi	BOi	OAB	AAB	BAB	AOc	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
345	BA	AOi	BOi	OAB	AAB	BAB	AOc	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
346	BA	AOi	BOi	OAB	AAB	BAB	AOc	-BOi + OB	0	0	AB - BA	ABOc + ABOi + O - OAB	N7
347	BA	AOi	BOi	OAB	AAB	BAB	AOc	-BOi + OB	0	0	AB - BA	-AOc - AOi + OA	N1
348	BA	AOi	BOi	OAB	AAB	BAB	AOc	BOc	0	0	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N14
349	BA	AOi	BOi	OAB	AAB	BAB	AOc	BOc	0	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
350	BA	AOi	BOi	OAB	AAB	BAB	AOc	BOc	0	0	AB - BA	ABOc + ABOi + O - OAB	N15
351	BA	AOi	BOi	OAB	AAB	BAB	AOc	BOc	0	0	AB - BA	-AOc - AOi - BOc - BOi + OA + OB	N1
352	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
353	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
354	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	-BOi + OB	0	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N5
355	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	-BOi + OB	0	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB	N1
356	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
357	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
358	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	-BOi + OB	0	-ABBi + BAB	AB - BA	0	N1
359	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N12
360	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
361	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	BOc	0	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N13
362	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	BOc	0	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB - BOc - BOi + OB	N1
363	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N10
364	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
365	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	BOc	0	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N11
366	BA	AOi	BOi	OAB	AAB	ABBi	-AOi + OA	BOc	0	-ABBi + BAB	AB - BA	-BOc - BOi + OB	N1
367	BA	AOi	BOi	OAB	AAB	ABBi	AOc	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N16
368	BA	AOi	BOi	OAB	AAB	ABBi	AOc	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OB	N1
369	BA	AOi	BOi	OAB	AAB	ABBi	AOc	-BOi + OB	0	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N9
370	BA	AOi	BOi	OAB	AAB	ABBi	AOc	-BOi + OB	0	ABBc + B	AB - BA	-ABBc - ABBi - AOc - AOi - B + BAB + OA	N1
371	BA	AOi	BOi	OAB	AAB	ABBi	AOc	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
372	BA	AOi	BOi	OAB	AAB	ABBi	AOc	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
373	BA	AOi	BOi	OAB	AAB	ABBi	AOc	-BOi + OB	0	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N7
374	BA	AOi	BOi	OAB	AAB	ABBi	AOc	-BOi + OB	0	-ABBi + BAB	AB - BA	-AOc - AOi + OA	N1
375	BA	AOi	BOi	OAB	AAB	ABBi	AOc	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N16
376	BA	AOi	BOi	OAB	AAB	ABBi	AOc	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OB	N1

Table A10: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
377	BA	AOi	BOi	OAB	AAB	ABBi	AOc	BOc	0	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N17
378	BA	AOi	BOi	OAB	AAB	ABBi	AOc	BOc	0	ABBc + B	AB - BA	-ABBc - ABBi - AOc - AOi - B + BAB - BOc - BOi + OA + OB	N1
379	BA	AOi	BOi	OAB	AAB	ABBi	AOc	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N14
380	BA	AOi	BOi	OAB	AAB	ABBi	AOc	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
381	BA	AOi	BOi	OAB	AAB	ABBi	AOc	BOc	0	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N15
382	BA	AOi	BOi	OAB	AAB	ABBi	AOc	BOc	0	-ABBi + BAB	AB - BA	-AOc - AOi - BOc - BOi + OA + OB	N1
383	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	-BOi + OB	A + ABAc	0	BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
384	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	-BOi + OB	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
385	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	-BOi + OB	A + ABAc	0	AB - BA	ABOc + ABOi + O - OAB	N2
386	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	-BOi + OB	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi	N1
387	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
388	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
389	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	-BOi + OB	AAB - ABAi	0	AB - BA	0	N1
390	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	BOc	A + ABAc	0	0	ABOc + ABOi + O - OAB	N10
391	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	BOc	A + ABAc	0	0	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
392	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N10
393	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
394	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	BOc	AAB - ABAi	0	AB - BA	ABOc + ABOi + O - OAB	N11
395	BA	AOi	BOi	OAB	ABAi	BAB	-AOi + OA	BOc	AAB - ABAi	0	AB - BA	-BOc - BOi + OB	N1
396	BA	AOi	BOi	OAB	ABAi	BAB	AOc	-BOi + OB	A + ABAc	0	BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
397	BA	AOi	BOi	OAB	ABAi	BAB	AOc	-BOi + OB	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
398	BA	AOi	BOi	OAB	ABAi	BAB	AOc	-BOi + OB	A + ABAc	0	AB - BA	ABOc + ABOi + O - OAB	N6
399	BA	AOi	BOi	OAB	ABAi	BAB	AOc	-BOi + OB	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi - AOc - AOi + OA	N1
400	BA	AOi	BOi	OAB	ABAi	BAB	AOc	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
401	BA	AOi	BOi	OAB	ABAi	BAB	AOc	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
402	BA	AOi	BOi	OAB	ABAi	BAB	AOc	-BOi + OB	AAB - ABAi	0	AB - BA	ABOc + ABOi + O - OAB	N7
403	BA	AOi	BOi	OAB	ABAi	BAB	AOc	-BOi + OB	AAB - ABAi	0	AB - BA	-AOc - AOi + OA	N1
404	BA	AOi	BOi	OAB	ABAi	BAB	AOc	BOc	A + ABAc	0	0	ABOc + ABOi + O - OAB	N14
405	BA	AOi	BOi	OAB	ABAi	BAB	AOc	BOc	A + ABAc	0	0	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
406	BA	AOi	BOi	OAB	ABAi	BAB	AOc	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N14
407	BA	AOi	BOi	OAB	ABAi	BAB	AOc	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
408	BA	AOi	BOi	OAB	ABAi	BAB	AOc	BOc	AAB - ABAi	0	AB - BA	ABOc + ABOi + O - OAB	N15
409	BA	AOi	BOi	OAB	ABAi	BAB	AOc	BOc	AAB - ABAi	0	AB - BA	-AOc - AOi - BOc - BOi + OA + OB	N1
410	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
411	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
412	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N4
413	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - B + BAB	N1
414	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
415	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
416	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N2
417	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi	N1

Table A11: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
418	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N12
419	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
420	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N5
421	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB	N1
422	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N10
423	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
424	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	-ABBi + BAB	AB - BA	0	N1
425	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	A + ABAc	ABBc + B	0	ABOc + ABOi + O - OAB	N12
426	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	A + ABAc	ABBc + B	0	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
427	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	A + ABAc	-ABBi + BAB	0	ABOc + ABOi + O - OAB	N10
428	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	A + ABAc	-ABBi + BAB	0	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
429	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N12
430	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - B - BA + BAB - BOc - BOi + OB	N1
431	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N13
432	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - B + BAB - BOc - BOi + OB	N1
433	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N10
434	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - BA - BOc - BOi + OB	N1
435	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N11
436	BA	AOi	BOi	OAB	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	-BOc - BOi + OB	N1
437	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + ABOi + O - OAB	N16
438	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OB	N1
439	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N8
440	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B + BAB + OA	N1
441	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
442	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
443	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N6
444	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi - AOc - AOi + OA	N1
445	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N16
446	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OB	N1
447	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N9
448	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - AOc - AOi - B + BAB + OA	N1
449	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + ABOi + O - OAB	N14
450	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
451	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N7
452	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	-ABBi + BAB	AB - BA	-AOc - AOi + OA	N1
453	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	A + ABAc	ABBc + B	0	ABOc + ABOi + O - OAB	N16
454	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	A + ABAc	ABBc + B	0	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OB	N1
455	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	A + ABAc	-ABBi + BAB	0	ABOc + ABOi + O - OAB	N14
456	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	A + ABAc	-ABBi + BAB	0	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
457	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N16

Table A12: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
458	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OB	N1
459	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	AAB - ABAi	ABBc + B	AB - BA	ABOc + ABOi + O - OAB	N17
460	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - AOc - AOi - B + BAB - BOc - BOi + OA + OB	N1
461	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + ABOi + O - OAB	N14
462	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - AOc - AOi - BA - BOc - BOi + OA + OB	N1
463	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + ABOi + O - OAB	N15
464	BA	AOi	BOi	OAB	ABAi	ABBi	AOc	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	-AOc - AOi - BOc - BOi + OA + OB	N1
465	BA	AOi	BOi	ABOi	AAB	BAB	-AOi + OA	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
466	BA	AOi	BOi	ABOi	AAB	BAB	-AOi + OA	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
467	BA	AOi	BOi	ABOi	AAB	BAB	-AOi + OA	-BOi + OB	0	0	AB - BA	ABOc + O	N3
468	BA	AOi	BOi	ABOi	AAB	BAB	-AOi + OA	-BOi + OB	0	0	AB - BA	-ABOi + OAB	N1
469	BA	AOi	BOi	ABOi	AAB	BAB	-AOi + OA	BOc	0	0	A - AAB + ABAc + ABAi	ABOc + O	N10
470	BA	AOi	BOi	ABOi	AAB	BAB	-AOi + OA	BOc	0	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
471	BA	AOi	BOi	ABOi	AAB	BAB	-AOi + OA	BOc	0	0	AB - BA	ABOc + O	N11
472	BA	AOi	BOi	ABOi	AAB	BAB	-AOi + OA	BOc	0	0	AB - BA	-ABOi - BOc - BOi + OAB + OB	N1
473	BA	AOi	BOi	ABOi	AAB	BAB	AOc	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N14
474	BA	AOi	BOi	ABOi	AAB	BAB	AOc	-BOi + OB	0	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
475	BA	AOi	BOi	ABOi	AAB	BAB	AOc	-BOi + OB	0	0	AB - BA	ABOc + O	N7
476	BA	AOi	BOi	ABOi	AAB	BAB	AOc	-BOi + OB	0	0	AB - BA	-ABOi - AOc - AOi + OA + OAB	N1
477	BA	AOi	BOi	ABOi	AAB	BAB	AOc	BOc	0	0	A - AAB + ABAc + ABAi	ABOc + O	N14
478	BA	AOi	BOi	ABOi	AAB	BAB	AOc	BOc	0	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
479	BA	AOi	BOi	ABOi	AAB	BAB	AOc	BOc	0	0	AB - BA	ABOc + O	N15
480	BA	AOi	BOi	ABOi	AAB	BAB	AOc	BOc	0	0	AB - BA	-ABOi - AOc - AOi - BOc - BOi + OA + OAB + OB	N1
481	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N12
482	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
483	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	-BOi + OB	0	ABBc + B	AB - BA	ABOc + O	N5
484	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	-BOi + OB	0	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB + OAB	N1
485	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
486	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
487	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	-BOi + OB	0	-ABBi + BAB	AB - BA	ABOc + O	N3
488	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	-BOi + OB	0	-ABBi + BAB	AB - BA	-ABOi + OAB	N1
489	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	ABOc + O	N12
490	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
491	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	BOc	0	ABBc + B	AB - BA	ABOc + O	N13
492	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	BOc	0	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB - BOc - BOi + OAB + OB	N1
493	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + O	N10
494	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
495	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	BOc	0	-ABBi + BAB	AB - BA	ABOc + O	N11
496	BA	AOi	BOi	ABOi	AAB	ABBi	-AOi + OA	BOc	0	-ABBi + BAB	AB - BA	-ABOi - BOc - BOi + OAB + OB	N1

Table A13: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
497	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N16
498	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	-BOi + OB	0	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OAB + OB	N1
499	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	-BOi + OB	0	ABBc + B	AB - BA	ABOc + O	N9
500	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	-BOi + OB	0	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - AOc - AOi - B + BAB + OA + OAB	N1
501	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N14
502	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	-BOi + OB	0	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
503	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	-BOi + OB	0	-ABBi + BAB	AB - BA	ABOc + O	N7
504	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	-BOi + OB	0	-ABBi + BAB	AB - BA	-ABOi - AOc - AOi + OA + OAB	N1
505	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	ABOc + O	N16
506	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	BOc	0	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OAB + OB	N1
507	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	BOc	0	ABBc + B	AB - BA	ABOc + O	N17
508	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	BOc	0	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - AOc - AOi - B + BAB - BOc - BOi + OA + OAB + OB	N1
509	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + O	N14
510	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	BOc	0	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
511	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	BOc	0	-ABBi + BAB	AB - BA	ABOc + O	N15
512	BA	AOi	BOi	ABOi	AAB	ABBi	AOc	BOc	0	-ABBi + BAB	AB - BA	-ABOi - AOc - AOi - BOc - BOi + OA + OAB + OB	N1
513	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	-BOi + OB	A + ABAc	0	BOc + BOi - OB	ABOc + O	N10
514	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	-BOi + OB	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
515	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	-BOi + OB	A + ABAc	0	AB - BA	ABOc + O	N2
516	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	-BOi + OB	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi - ABOi + OAB	N1
517	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
518	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
519	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	-BOi + OB	AAB - ABAi	0	AB - BA	ABOc + O	N3
520	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	-BOi + OB	AAB - ABAi	0	AB - BA	-ABOi + OAB	N1
521	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	BOc	A + ABAc	0	0	ABOc + O	N10
522	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	BOc	A + ABAc	0	0	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
523	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	ABOc + O	N10
524	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
525	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	BOc	AAB - ABAi	0	AB - BA	ABOc + O	N11
526	BA	AOi	BOi	ABOi	ABAi	BAB	-AOi + OA	BOc	AAB - ABAi	0	AB - BA	-ABOi - BOc - BOi + OAB + OB	N1
527	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	-BOi + OB	A + ABAc	0	BOc + BOi - OB	ABOc + O	N14
528	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	-BOi + OB	A + ABAc	0	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
529	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	-BOi + OB	A + ABAc	0	AB - BA	ABOc + O	N6
530	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	-BOi + OB	A + ABAc	0	AB - BA	-A + AAB - ABAc - ABAi - ABOi - AOc - AOi + OA + OAB	N1
531	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N14
532	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	-BOi + OB	AAB - ABAi	0	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
533	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	-BOi + OB	AAB - ABAi	0	AB - BA	ABOc + O	N7
534	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	-BOi + OB	AAB - ABAi	0	AB - BA	-ABOi - AOc - AOi + OA + OAB	N1
535	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	BOc	A + ABAc	0	0	ABOc + O	N14

Table A14: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
536	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	BOc	A + ABAc	0	0	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
537	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	ABOc + O	N14
538	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	BOc	AAB - ABAi	0	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
539	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	BOc	AAB - ABAi	0	AB - BA	ABOc + O	N15
540	BA	AOi	BOi	ABOi	ABAi	BAB	AOc	BOc	AAB - ABAi	0	AB - BA	-ABOi - AOc - AOi - BOc - BOi + OA + OAB + OB	N1
541	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + O	N12
542	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
543	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	ABBc + B	AB - BA	ABOc + O	N4
544	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - ABOi - B + BAB + OAB	N1
545	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + O	N10
546	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
547	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	ABOc + O	N2
548	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi - ABOi + OAB	N1
549	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N12
550	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
551	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	ABOc + O	N5
552	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB + OAB	N1
553	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N10
554	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
555	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + O	N3
556	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	-BOi + OB	AAB - ABAi	-ABBi + BAB	AB - BA	-ABOi + OAB	N1
557	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	A + ABAc	ABBc + B	0	ABOc + O	N12
558	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	A + ABAc	ABBc + B	0	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
559	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	A + ABAc	-ABBi + BAB	0	ABOc + O	N10
560	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	A + ABAc	-ABBi + BAB	0	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
561	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	ABOc + O	N12
562	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - B - BA + BAB - BOc - BOi + OAB + OB	N1
563	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	ABBc + B	AB - BA	ABOc + O	N13
564	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - B + BAB - BOc - BOi + OAB + OB	N1
565	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + O	N10
566	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - BA - BOc - BOi + OAB + OB	N1
567	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + O	N11
568	BA	AOi	BOi	ABOi	ABAi	ABBi	-AOi + OA	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	-ABOi - BOc - BOi + OAB + OB	N1
569	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	ABOc + O	N16
570	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	ABBc + B	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OAB + OB	N1

Table A15: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ under two-way mechanism.

Serial	e_0	e_1	e_2	e_3	e_4	e_5	a_1	a_2	b_1	b_2	b_3	X_3	Result
571	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	ABBc + B	AB - BA	ABOc + O	N8
572	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	ABBc + B	AB - BA	-A + AAB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B + BAB + OA + OAB	N1
573	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	ABOc + O	N14
574	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	-ABBi + BAB	BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
575	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	ABOc + O	N6
576	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	A + ABAc	-ABBi + BAB	AB - BA	-A + AAB - ABAc - ABAi - ABOi - AOc - AOi + OA + OAB	N1
577	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N16
578	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OAB + OB	N1
579	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	ABOc + O	N9
580	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - AOc - AOi - B + BAB + OA + OAB	N1
581	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	ABOc + O	N14
582	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi + BOc + BOi - OB	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
583	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + O	N7
584	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	-BOi + OB	AAB - ABAi	-ABBi + BAB	AB - BA	-ABOi - AOc - AOi + OA + OAB	N1
585	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	A + ABAc	ABBc + B	0	ABOc + O	N16
586	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	A + ABAc	ABBc + B	0	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OAB + OB	N1
587	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	A + ABAc	-ABBi + BAB	0	ABOc + O	N14
588	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	A + ABAc	-ABBi + BAB	0	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
589	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	ABOc + O	N16
590	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	AAB - ABAi	ABBc + B	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABBc - ABBi - ABOi - AOc - AOi - B - BA + BAB - BOc - BOi + OA + OAB + OB	N1
591	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	AAB - ABAi	ABBc + B	AB - BA	ABOc + O	N17
592	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	AAB - ABAi	ABBc + B	AB - BA	-ABBc - ABBi - ABOi - AOc - AOi - B + BAB - BOc - BOi + OA + OAB + OB	N1
593	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	ABOc + O	N14
594	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	AAB - ABAi	-ABBi + BAB	A - AAB + ABAc + ABAi	-A + AAB + AB - ABAc - ABAi - ABOi - AOc - AOi - BA - BOc - BOi + OA + OAB + OB	N1
595	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	ABOc + O	N15
596	BA	AOi	BOi	ABOi	ABAi	ABBi	AOc	BOc	AAB - ABAi	-ABBi + BAB	AB - BA	-ABOi - AOc - AOi - BOc - BOi + OA + OAB + OB	N1

Supplement B: Tables for Three-Way Exchange

Table B1: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (1) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	w_1	w_2	w_3	w_4	$2*g_5$	Serial
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*(ABO + O)	A1
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*(-AO - BO + OA)	A2
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*(-AO - BO + OA)	A3
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*(-AO - BO + OA)	A4
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*(-AO - BO + OA)	A5
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*(-AO - BO + OA)	A6
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*(-AO - BO + OA)	A7
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*(-AO - BO + OA)	A8
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*(-AO - BO + OA)	A9
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A10
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A11
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A12
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A13
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A14
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A15
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A16
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A17
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A18
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A19
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A20
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A21
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A22
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	2*AAB	A23
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(ABO + O)	A24
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-AO - BO + OA)	A25
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-AO - BO + OA)	A26
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-AO - BO + OA)	A27
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-AO - BO + OA)	A28
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-AO - BO + OA)	A29
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-A + AAB + AB - ABA - BA - BO)	A30
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-A + AAB + AB - ABA - BA - BO)	A31
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-A + AAB + AB - ABA - BA - BO)	A32
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-A + AAB + AB - ABA - BA - BO)	A33
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-A + AAB + AB - ABA - BA - BO)	A34
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	ABB + B	AAB	A - AAB - AB + ABA + BA + BO	0	A35
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	ABB + B	AAB	A - AAB - AB + ABA + BA + BO	0	A36
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	ABB + B	AAB	A - AAB - AB + ABA + BA + BO	0	A37
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	ABB + B	AAB	A - AAB - AB + ABA + BA + BO	0	A38
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	ABB + B	AAB	A - AAB - AB + ABA + BA + BO	0	A39
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*(ABO + O)	A40
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*(-AO - BO + OA)	A41
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*(-AO - BO + OA)	A42

Table B2: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (1) under three-way exchanges.

Serial	$2*g_6$	$2*g_7$	$2*g_8$	w_5	Result
A1	0	0	0	0	N12
A2	2*(ABO + AO + BO + O - OA)	0	0	0	N12
A3	2*OB	0	2*(ABO + AO + BO + O - OA - OB)	0	N12
A4	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + AO + BA + 2*BO + O - OA - OB	N3
A5	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB + AO - B + BA + BAB + 2*BO - OA + OAB - OB	N1
A6	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
A7	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
A8	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
A9	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
A10	2*(-AAB + ABO + O)	0	0	0	N12
A11	2*OB	2*(-AAB + ABO + O - OB)	0	0	N12
A12	2*OB	2*(-AAB - AO - BO + OA)	2*(ABO + AO + BO + O - OA - OB)	0	N12
A13	2*OB	2*(-AAB - AO - BO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
A14	2*OB	2*(-AAB - AO - BO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	-AAB - AB - ABB - AO - B + BA + BAB + OA + OAB - OB	N1
A15	2*OB	2*(-AAB - AO - BO + OA)	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
A16	2*OB	2*(-AAB - AO - BO + OA)	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
A17	2*OB	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
A18	2*OB	2*(-A + AB - ABA - BA - BO)	0	-AAB - AB - ABB - AO - B + BA + BAB + OA + OAB - OB	N1
A19	2*(-A - ABA - ABB - B + BAB)	2*(A - AAB + ABA + ABB + ABO + B - BAB + O)	0	0	N12
A20	2*(-A - ABA - ABB - B + BAB)	2*(-AAB - AO - BO + OA)	0	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
A21	2*(-A - ABA - ABB - B + BAB)	2*(-AAB - AO - BO + OA)	0	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
A22	2*(-A - ABA - ABB - B + BAB)	2*(-A + AB - ABA - BA - BO)	0	2*A - AAB - AB + 2*ABA + ABB + ABO + B + BA - BAB + BO + O	N17
A23	2*(-A - ABA - ABB - B + BAB)	2*(-A + AB - ABA - BA - BO)	0	2*A - AAB - AB + 2*ABA + ABB - AO + B + BA - BAB + OA + OAB + OB	N1
A24	0	0	0	0	N15
A25	2*(ABO + AO + BO + O - OA)	0	0	0	N15
A26	2*OB	0	0	ABO + AO + BO + O - OA - OB	N3
A27	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
A28	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
A29	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
A30	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N15
A31	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
A32	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
A33	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
A34	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
A35	2*(ABO + O)	0	0	0	N15
A36	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
A37	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
A38	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
A39	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
A40	0	0	0	0	N12
A41	2*(ABO + AO + BO + O - OA)	0	0	0	N12
A42	2*OB	0	2*(ABO + AO + BO + O - OA - OB)	0	N12

Table B3: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$,
$(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (1) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	w_1	w_2	w_3	w_4	$2*g_5$	Serial
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*(-AO - BO + OA)	A43
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*(-AO - BO + OA)	A44
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*(-AO - BO + OA)	A45
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*(-AO - BO + OA)	A46
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*(-AO - BO + OA)	A47
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*(-AO - BO + OA)	A48
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A49
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A50
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A51
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A52
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A53
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A54
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A55
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A56
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A57
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A58
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A59
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A60
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A61
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	2*AAB	A62
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(ABO + O)	A63
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-AO - BO + OA)	A64
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-AO - BO + OA)	A65
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-AO - BO + OA)	A66
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-AO - BO + OA)	A67
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-AO - BO + OA)	A68
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-A + AAB + AB - ABA - BA - BO)	A69
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-A + AAB + AB - ABA - BA - BO)	A70
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-A + AAB + AB - ABA - BA - BO)	A71
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-A + AAB + AB - ABA - BA - BO)	A72
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	2*(-A + AAB + AB - ABA - BA - BO)	A73
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(ABO + O)	A74
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(-AB - AO + BA + OA)	A75
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(-AB - AO + BA + OA)	A76
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(-AB - AO + BA + OA)	A77
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(-AB - AO + BA + OA)	A78
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(-AB - AO + BA + OA)	A79
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(-A + AAB - ABA)	A80
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(-A + AAB - ABA)	A81
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(-A + AAB - ABA)	A82
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(-A + AAB - ABA)	A83
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	2*(-A + AAB - ABA)	A84

Table B4: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (1) under three-way exchanges.

Serial	$2*g_6$	$2*g_7$	$2*g_8$	w_5	Result
A43	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + AO + BA + 2*BO + O - OA - OB	N3
A44	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB + AO - B + BA + BAB + 2*BO - OA + OAB - OB	N1
A45	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
A46	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
A47	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
A48	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
A49	2*(-AAB + ABO + O)	0	0	0	N12
A50	2*OB	2*(-AAB + ABO + O - OB)	0	0	N12
A51	2*OB	2*(-AAB - AO - BO + OA)	2*(ABO + AO + BO + O - OA - OB)	0	N12
A52	2*OB	2*(-AAB - AO - BO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
A53	2*OB	2*(-AAB - AO - BO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	-AAB - AB - ABB - AO - B + BA + BAB + OA + OAB - OB	N1
A54	2*OB	2*(-AAB - AO - BO + OA)	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
A55	2*OB	2*(-AAB - AO - BO + OA)	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
A56	2*OB	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
A57	2*OB	2*(-A + AB - ABA - BA - BO)	0	-AAB - AB - ABB - AO - B + BA + BAB + OA + OAB - OB	N1
A58	2*(-A - ABA - ABB - B + BAB)	2*(A - AAB + ABA + ABB + ABO + B - BAB + O)	0	0	N12
A59	2*(-A - ABA - ABB - B + BAB)	2*(-AAB - AO - BO + OA)	0	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
A60	2*(-A - ABA - ABB - B + BAB)	2*(-AAB - AO - BO + OA)	0	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
A61	2*(-A - ABA - ABB - B + BAB)	2*(-A + AB - ABA - BA - BO)	0	2*A - AAB - AB + 2*ABA + ABB + ABO + B + BA - BAB + BO + O	N17
A62	2*(-A - ABA - ABB - B + BAB)	2*(-A + AB - ABA - BA - BO)	0	2*A - AAB - AB + 2*ABA + ABB - AO + B + BA - BAB + OA + OAB + OB	N1
A63	0	0	0	0	N15
A64	2*(ABO + AO + BO + O - OA)	0	0	0	N15
A65	2*OB	0	0	ABO + AO + BO + O - OA - OB	N3
A66	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
A67	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
A68	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
A69	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N15
A70	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
A71	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
A72	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
A73	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
A74	0	0	0	0	N15
A75	2*(AB + ABO + AO - BA + O - OA)	0	0	0	N15
A76	2*(AB - BA - BO + OB)	0	0	ABO + AO + BO + O - OA - OB	N3
A77	2*(AB - BA - BO + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
A78	2*(-ABB - B + BAB)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
A79	2*(-ABB - B + BAB)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
A80	2*(A - AAB + ABA + ABO + O)	0	0	0	N15
A81	2*(AB - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
A82	2*(AB - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
A83	2*(-ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
A84	2*(-ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1

Table B5: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (2) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	w_2	Serial
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	B1
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	B2
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	B3
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	B4
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	B5
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	B6
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	B7
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	B8
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	B9
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	B10
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	B11
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	B12
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	B13
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	B14
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	B15
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	B16
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	B17
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	B18
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	B19
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	B20
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	B21
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	B22
0	0	2*(A + ABA)	2*OA	0	ABB + B	B23
0	0	2*(A + ABA)	2*OA	0	ABB + B	B24
0	0	2*(A + ABA)	2*OA	0	ABB + B	B25
0	0	2*(A + ABA)	2*OA	0	ABB + B	B26
0	0	2*(A + ABA)	2*OA	0	ABB + B	B27
0	0	2*(A + ABA)	2*OA	0	ABB + B	B28
0	0	2*(A + ABA)	2*OA	0	ABB + B	B29
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	B30
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	B31
0	0	2*(AB - BA)	0	OA	ABB + B	B32
0	0	2*(AB - BA)	0	OA	ABB + B	B33
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	B34
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	B35
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	B36
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	B37
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	B38
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	B39
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	B40
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	B41
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	B42
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	B43
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	B44

Table B6: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (3) under three-way exchanges.

Serial	w_3	w_4	s_1	$2*g_8$	w_5	Result
B1	0	OB	BO - OA - OB	2*(ABO + O)	0	N8
B2	0	OB	BO - OA - OB	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N3
B3	0	OB	BO - OA - OB	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
B4	0	OB	BO - OA - OB	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N10
B5	0	OB	BO - OA - OB	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
B6	0	OB	-A + AB - ABA - BA - OA	0	ABO + O	N3
B7	0	OB	-A + AB - ABA - BA - OA	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B8	0	OB	0	0	ABO + O	N3
B9	0	OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B10	A - AB + ABA - AO + BA + OA	OB	0	0	ABO + O	N3
B11	A - AB + ABA - AO + BA + OA	OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B12	0	OB	BO - OA - OB	2*(ABO + O)	0	N8
B13	0	OB	BO - OA - OB	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N3
B14	0	OB	BO - OA - OB	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
B15	0	OB	BO - OA - OB	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N10
B16	0	OB	BO - OA - OB	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
B17	0	OB	-A + AB - ABA - BA - OA	0	ABO + O	N3
B18	0	OB	-A + AB - ABA - BA - OA	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B19	0	OB	0	0	ABO + O	N3
B20	0	OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B21	A - AB + ABA - AO + BA + OA	OB	0	0	ABO + O	N3
B22	A - AB + ABA - AO + BA + OA	OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B23	0	OB	BO - OA - OB	2*(ABO + O)	0	N8
B24	0	OB	BO - OA - OB	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N3
B25	0	OB	BO - OA - OB	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
B26	0	OB	BO - OA - OB	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N10
B27	0	OB	BO - OA - OB	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
B28	0	OB	-A + AB - ABA - BA - OA	0	ABO + O	N3
B29	0	OB	-A + AB - ABA - BA - OA	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B30	0	OB	0	0	ABO + O	N3
B31	0	OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B32	A - AB + ABA + BA	OB	0	0	ABO + O	N3
B33	A - AB + ABA + BA	OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B34	0	OB	BO - OA - OB	2*(ABO + O)	0	N8
B35	0	OB	BO - OA - OB	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N3
B36	0	OB	BO - OA - OB	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
B37	0	OB	BO - OA - OB	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N10
B38	0	OB	BO - OA - OB	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
B39	0	OB	-A + AB - ABA - BA - OA	0	ABO + O	N3
B40	0	OB	-A + AB - ABA - BA - OA	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B41	0	OB	0	0	ABO + O	N3
B42	0	OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
B43	A - AB + ABA + BA	OB	0	0	ABO + O	N3
B44	A - AB + ABA + BA	OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1

Table B7: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (3) under three-way exchanges.

Serial	$2*g_1$	$2*g_2$	w_1	w_2	w_3	w_4	s_1	$2*g_7$	w_5	Result
C1	2*(AB - BA)	0	AO	-AB + BA + BAB	AAB	BO	0	0	ABO + O	N17
C2	2*(AB - BA)	0	AO	-AB + BA + BAB	AAB	BO	0	0	-AO - BO + OA + OAB + OB	N1
C3	2*BAB	2*BO	AO	0	AAB	0	A - AAB + ABA - BAB	2*(ABO + O)	0	N11
C4	2*BAB	2*BO	AO	0	AAB	0	A - AAB + ABA - BAB	2*(-AO - BO + OA)	ABO + AO + BO + O - OA	N10
C5	2*BAB	2*BO	AO	0	AAB	0	A - AAB + ABA - BAB	2*(-AO - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
C6	2*BAB	2*BO	AO	0	AAB	0	A - AAB + ABA - BAB	2*(-A + AAB + AB - ABA - BA - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N17
C7	2*BAB	2*BO	AO	0	AAB	0	A - AAB + ABA - BAB	2*(-A + AAB + AB - ABA - BA - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
C8	2*BAB	2*BO	AO	0	AAB	0	AB - BA - BAB - BO	0	ABO + O	N17
C9	2*BAB	2*BO	AO	0	AAB	0	AB - BA - BAB - BO	0	-AO - BO + OA + OAB + OB	N1
C10	2*BAB	2*(AB - BA - BAB)	AO	0	AAB	-AB + BA + BAB + BO	0	0	ABO + O	N17
C11	2*BAB	2*(AB - BA - BAB)	AO	0	AAB	-AB + BA + BAB + BO	0	0	-AO - BO + OA + OAB + OB	N1

Table B8: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (4) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_4$	w_1	w_2	w_3	w_4	Serial
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	D1
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	D2
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	D3
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	D4
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	D5
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	D6
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	D7
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	D8
2*BAB	0	2*OA	0	0	AAB	OB	D9
2*BAB	0	2*OA	0	0	AAB	OB	D10
2*BAB	0	2*OA	0	0	AAB	OB	D11
2*BAB	0	2*OA	0	0	AAB	OB	D12
2*BAB	0	2*OA	0	0	AAB	OB	D13
2*BAB	0	2*OA	0	0	AAB	OB	D14
2*BAB	0	2*OA	0	0	AAB	OB	D15
2*BAB	0	2*OA	0	0	AAB	OB	D16
2*BAB	0	2*OA	0	0	AAB	OB	D17
2*BAB	0	2*OA	0	0	AAB	OB	D18
2*BAB	0	2*OA	0	0	AAB	OB	D19
2*BAB	0	2*OA	0	0	AAB	OB	D20
2*BAB	0	2*OA	0	0	AAB	OB	D21
2*BAB	0	2*OA	0	0	AAB	OB	D22
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	D23
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	D24
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	D25
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	D26

Table B9: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (4) under three-way exchanges.

Serial	c_2	c_3	s_1	w_5	Result
D1	A - AAB - AB + ABA + BA	BO - OB	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N10
D2	A - AAB - AB + ABA + BA	BO - OB	0	OAB	N1
D3	A - AAB - AB + ABA + BA	AB + ABB + B - BA - BAB	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N3
D4	A - AAB - AB + ABA + BA	AB + ABB + B - BA - BAB	0	OAB	N1
D5	AO - OA	BO - OB	0	ABO + AO + BO + O - OA - OB	N17
D6	AO - OA	BO - OB	0	OAB	N1
D7	AO - OA	AB + ABB + B - BA - BAB	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N7
D8	AO - OA	AB + ABB + B - BA - BAB	0	OAB	N1
D9	A - AAB + ABA - BAB	BO - OA - OB	0	A - AAB + ABA + ABO - BAB + BO + O - OA - OB	N10
D10	A - AAB + ABA - BAB	BO - OA - OB	0	AB - BA - BAB - OA + OAB	N1
D11	A - AAB + ABA - BAB	ABB + B	-ABB - B + BO - OA - OB	A - AAB + ABA + ABB + ABO + B - BAB + O	N10
D12	A - AAB + ABA - BAB	ABB + B	-ABB - B + BO - OA - OB	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
D13	A - AAB + ABA - BAB	ABB + B	AB - BA - BAB - OA	A - AAB + ABA + ABB + ABO + B - BAB + O	N3
D14	A - AAB + ABA - BAB	ABB + B	AB - BA - BAB - OA	OAB	N1
D15	AO	BO - OA - OB	A - AAB + ABA - AO - BAB	ABO + AO + BO + O - OA - OB	N10
D16	AO	BO - OA - OB	A - AAB + ABA - AO - BAB	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
D17	AO	BO - OA - OB	AB - BA - BAB - OA	ABO + AO + BO + O - OA - OB	N17
D18	AO	BO - OA - OB	AB - BA - BAB - OA	OAB	N1
D19	AO	ABB + B	A - AAB + ABA - ABB - AO - B - BAB + BO - OA - OB	ABB + ABO + AO + B + O	N10
D20	AO	ABB + B	A - AAB + ABA - ABB - AO - B - BAB + BO - OA - OB	-A + AAB + AB - ABA + ABB + AO + B - BA - BO + OAB + OB	N1
D21	AO	ABB + B	AB - BA - BAB - OA	ABB + ABO + AO + B + O	N2
D22	AO	ABB + B	AB - BA - BAB - OA	OAB	N1
D23	A - AAB + ABA - BAB	-AB + BA + BAB + BO - OB	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N10
D24	A - AAB + ABA - BAB	-AB + BA + BAB + BO - OB	0	OAB	N1
D25	A - AAB + ABA - BAB	ABB + B	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N3
D26	A - AAB + ABA - BAB	ABB + B	0	OAB	N1

Table B10: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (4) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_4$	w_1	w_2	w_3	w_4	Serial
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	D27
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	D28
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	D29
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	D30
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D31
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D32
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D33
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D34
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D35
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D36
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D37
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D38
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D39
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D40
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D41
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D42
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D43
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	D44
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	D45
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	D46
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	D47
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	D48
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	D49
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	D50
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	D51
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	D52

Table B11: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (4) under three-way exchanges.

Serial	c_2	c_3	s_1	w_5	Result
D27	AB + AO - BA - BAB - OA	-AB + BA + BAB + BO - OB	0	ABO + AO + BO + O - OA - OB	N17
D28	AB + AO - BA - BAB - OA	-AB + BA + BAB + BO - OB	0	OAB	N1
D29	AB + AO - BA - BAB - OA	ABB + B	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N7
D30	AB + AO - BA - BAB - OA	ABB + B	0	OAB	N1
D31	A - AAB + ABA - BAB	BO - OA - OB	0	A - AAB + ABA + ABO - BAB + BO + O - OA - OB	N10
D32	A - AAB + ABA - BAB	BO - OA - OB	0	AB - BA - BAB - OA + OAB	N1
D33	A - AAB + ABA - BAB	ABB + B	-ABB - B + BO - OA - OB	A - AAB + ABA + ABB + ABO + B - BAB + O	N10
D34	A - AAB + ABA - BAB	ABB + B	-ABB - B + BO - OA - OB	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
D35	A - AAB + ABA - BAB	ABB + B	AB - BA - BAB - OA	A - AAB + ABA + ABB + ABO + B - BAB + O	N3
D36	A - AAB + ABA - BAB	ABB + B	AB - BA - BAB - OA	OAB	N1
D37	AO	BO - OA - OB	A - AAB + ABA - AO - BAB	ABO + AO + BO + O - OA - OB	N10
D38	AO	BO - OA - OB	A - AAB + ABA - AO - BAB	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
D39	AO	BO - OA - OB	AB - BA - BAB - OA	ABO + AO + BO + O - OA - OB	N17
D40	AO	BO - OA - OB	AB - BA - BAB - OA	OAB	N1
D41	AO	ABB + B	A - AAB + ABA - ABB - AO - B - BAB + BO - OA - OB	ABB + ABO + AO + B + O	N10
D42	AO	ABB + B	A - AAB + ABA - ABB - AO - B - BAB + BO - OA - OB	-A + AAB + AB - ABA + ABB + AO + B - BA - BO + OAB + OB	N1
D43	AO	ABB + B	AB - BA - BAB - OA	ABB + ABO + AO + B + O	N2
D44	AO	ABB + B	AB - BA - BAB - OA	OAB	N1
D45	A - AAB + ABA - BAB	-AB + BA + BAB + BO - OB	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N10
D46	A - AAB + ABA - BAB	-AB + BA + BAB + BO - OB	0	OAB	N1
D47	A - AAB + ABA - BAB	ABB + B	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N3
D48	A - AAB + ABA - BAB	ABB + B	0	OAB	N1
D49	AB + AO - BA - BAB - OA	-AB + BA + BAB + BO - OB	0	ABO + AO + BO + O - OA - OB	N17
D50	AB + AO - BA - BAB - OA	-AB + BA + BAB + BO - OB	0	OAB	N1
D51	AB + AO - BA - BAB - OA	ABB + B	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N7
D52	AB + AO - BA - BAB - OA	ABB + B	0	OAB	N1

Table B12: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (5) under three-way exchanges.

Serial	$2*g_1$	w_1	w_2	w_3	w_4	c_2	w_5	Result
E1	2*(AB - BA)	OA	ABB + B	AAB	OB	A - AAB - AB + ABA + BA	A - AAB - AB + ABA + ABO + BA + O	N3
E2	2*(AB - BA)	OA	ABB + B	AAB	OB	A - AAB - AB + ABA + BA	-AB - ABB - B + BA + BAB + OAB	N1
E3	2*(AB - BA)	OA	ABB + B	AAB	OB	AO - OA	ABO + AO + O - OA	N7
E4	2*(AB - BA)	OA	ABB + B	AAB	OB	AO - OA	-AB - ABB - B + BA + BAB + OAB	N1

Table B13: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (6) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	w_2	Serial
0	0	2*(A + ABA)	2*OA	0	-A - ABA + BAB	F1
0	0	2*(A + ABA)	2*OA	0	-A - ABA + BAB	F2
0	0	2*(A + ABA)	2*OA	0	-A - ABA + BAB	F3
0	0	2*(A + ABA)	2*OA	0	-A - ABA + BAB	F4
0	0	2*(A + ABA)	2*OA	0	-A - ABA + BAB	F5
0	0	2*(A + ABA)	2*OA	0	-A - ABA + BAB	F6
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F7
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F8
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F9
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F10
0	0	2*(AB - BA)	0	OA	-AB + BA + BAB	F11
0	0	2*(AB - BA)	0	OA	-AB + BA + BAB	F12
0	0	2*(AB - BA)	0	OA	-AB + BA + BAB	F13
0	0	2*(AB - BA)	0	OA	-AB + BA + BAB	F14
0	0	2*BAB	2*OA	0	0	F15
0	0	2*BAB	2*OA	0	0	F16
0	0	2*BAB	2*OA	0	0	F17
0	0	2*BAB	2*OA	0	0	F18
0	0	2*BAB	2*OA	0	0	F19
0	0	2*BAB	2*OA	0	0	F20
0	0	2*BAB	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	F21
0	0	2*BAB	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	F22
0	0	2*BAB	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	F23
0	0	2*BAB	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	F24
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	-A - ABA + BAB	F25
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	-A - ABA + BAB	F26
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	-A - ABA + BAB	F27
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	-A - ABA + BAB	F28
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	-A - ABA + BAB	F29
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	-A - ABA + BAB	F30
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F31
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F32
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F33

Table B14: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (6) under three-way exchanges.

Serial	w_3	w_4	c_3	s_1	w_5	Result
F1	0	OB	BO - OA - OB	0	ABO + BO + O - OA - OB	N10
F2	0	OB	BO - OA - OB	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
F3	0	OB	A + ABA + ABB + B - BAB	-A - ABA - ABB - B + BAB + BO - OA - OB	A + ABA + ABB + ABO + B - BAB + O	N10
F4	0	OB	A + ABA + ABB + B - BAB	-A - ABA - ABB - B + BAB + BO - OA - OB	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
F5	0	OB	A + ABA + ABB + B - BAB	-A + AB - ABA - BA - OA	A + ABA + ABB + ABO + B - BAB + O	N3
F6	0	OB	A + ABA + ABB + B - BAB	-A + AB - ABA - BA - OA	AAB + OAB	N1
F7	0	OB	A - AB + ABA + BA + BO - OB	0	A - AB + ABA + ABO + BA + BO + O - OB	N10
F8	0	OB	A - AB + ABA + BA + BO - OB	0	AAB + OAB	N1
F9	0	OB	A + ABA + ABB + B - BAB	0	A + ABA + ABB + ABO + B - BAB + O	N3
F10	0	OB	A + ABA + ABB + B - BAB	0	AAB + OAB	N1
F11	A - AB + ABA + BA	OB	BO - OB	0	ABO + BO + O - OB	N10
F12	A - AB + ABA + BA	OB	BO - OB	0	-A + AAB + AB - ABA - BA + OAB	N1
F13	A - AB + ABA + BA	OB	AB + ABB + B - BA - BAB	0	AB + ABB + ABO + B - BA - BAB + O	N3
F14	A - AB + ABA + BA	OB	AB + ABB + B - BA - BAB	0	-A + AAB + AB - ABA - BA + OAB	N1
F15	A + ABA - BAB	OB	BO - OA - OB	0	ABO + BO + O - OA - OB	N10
F16	A + ABA - BAB	OB	BO - OA - OB	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
F17	A + ABA - BAB	OB	ABB + B	-ABB - B + BO - OA - OB	ABB + ABO + B + O	N10
F18	A + ABA - BAB	OB	ABB + B	-ABB - B + BO - OA - OB	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
F19	A + ABA - BAB	OB	ABB + B	AB - BA - BAB - OA	ABB + ABO + B + O	N3
F20	A + ABA - BAB	OB	ABB + B	AB - BA - BAB - OA	-A + AAB - ABA + BAB + OAB	N1
F21	A + ABA - BAB	OB	-AB + BA + BAB + BO - OB	0	-AB + ABO + BA + BAB + BO + O - OB	N10
F22	A + ABA - BAB	OB	-AB + BA + BAB + BO - OB	0	-A + AAB - ABA + BAB + OAB	N1
F23	A + ABA - BAB	OB	ABB + B	0	ABB + ABO + B + O	N3
F24	A + ABA - BAB	OB	ABB + B	0	-A + AAB - ABA + BAB + OAB	N1
F25	0	OB	BO - OA - OB	0	ABO + BO + O - OA - OB	N10
F26	0	OB	BO - OA - OB	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
F27	0	OB	A + ABA + ABB + B - BAB	-A - ABA - ABB - B + BAB + BO - OA - OB	A + ABA + ABB + ABO + B - BAB + O	N10
F28	0	OB	A + ABA + ABB + B - BAB	-A - ABA - ABB - B + BAB + BO - OA - OB	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
F29	0	OB	A + ABA + ABB + B - BAB	-A + AB - ABA - BA - OA	A + ABA + ABB + ABO + B - BAB + O	N3
F30	0	OB	A + ABA + ABB + B - BAB	-A + AB - ABA - BA - OA	AAB + OAB	N1
F31	0	OB	A - AB + ABA + BA + BO - OB	0	A - AB + ABA + ABO + BA + BO + O - OB	N10
F32	0	OB	A - AB + ABA + BA + BO - OB	0	AAB + OAB	N1
F33	0	OB	A + ABA + ABB + B - BAB	0	A + ABA + ABB + ABO + B - BAB + O	N3

Table B15: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (6) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	w_2	Serial
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F34
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	-AB + BA + BAB	F35
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	-AB + BA + BAB	F36
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	-AB + BA + BAB	F37
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	-AB + BA + BAB	F38
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	F39
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	F40
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	F41
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	F42
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	F43
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	F44
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	F45
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	F46
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	F47
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	F48
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	-A - ABA + BAB	F49
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	-A - ABA + BAB	F50
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	-A - ABA + BAB	F51
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	-A - ABA + BAB	F52
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	-A - ABA + BAB	F53
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	-A - ABA + BAB	F54
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F55
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F56
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F57
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F58
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	-AB - AO + BA + BAB + OA	F59
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	-AB - AO + BA + BAB + OA	F60
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	-AB - AO + BA + BAB + OA	F61
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	-AB - AO + BA + BAB + OA	F62
0	2*(-AO + OA)	2*BAB	2*AO	0	0	F63
0	2*(-AO + OA)	2*BAB	2*AO	0	0	F64
0	2*(-AO + OA)	2*BAB	2*AO	0	0	F65
0	2*(-AO + OA)	2*BAB	2*AO	0	0	F66

Table B16: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (6) under three-way exchanges.

Serial	w_3	w_4	c_3	s_1	w_5	Result
F34	0	OB	A + ABA + ABB + B - BAB	0	AAB + OAB	N1
F35	A - AB + ABA + BA	OB	BO - OB	0	ABO + BO + O - OB	N10
F36	A - AB + ABA + BA	OB	BO - OB	0	-A + AAB + AB - ABA - BA + OAB	N1
F37	A - AB + ABA + BA	OB	AB + ABB + B - BA - BAB	0	AB + ABB + ABO + B - BA - BAB + O	N3
F38	A - AB + ABA + BA	OB	AB + ABB + B - BA - BAB	0	-A + AAB + AB - ABA - BA + OAB	N1
F39	A + ABA - BAB	OB	BO - OA - OB	0	ABO + BO + O - OA - OB	N10
F40	A + ABA - BAB	OB	BO - OA - OB	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
F41	A + ABA - BAB	OB	ABB + B	-ABB - B + BO - OA - OB	ABB + ABO + B + O	N10
F42	A + ABA - BAB	OB	ABB + B	-ABB - B + BO - OA - OB	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
F43	A + ABA - BAB	OB	ABB + B	AB - BA - BAB - OA	ABB + ABO + B + O	N3
F44	A + ABA - BAB	OB	ABB + B	AB - BA - BAB - OA	-A + AAB - ABA + BAB + OAB	N1
F45	A + ABA - BAB	OB	-AB + BA + BAB + BO - OB	0	-AB + ABO + BA + BAB + BO + O - OB	N10
F46	A + ABA - BAB	OB	-AB + BA + BAB + BO - OB	0	-A + AAB - ABA + BAB + OAB	N1
F47	A + ABA - BAB	OB	ABB + B	0	ABB + ABO + B + O	N3
F48	A + ABA - BAB	OB	ABB + B	0	-A + AAB - ABA + BAB + OAB	N1
F49	0	OB	BO - OA - OB	0	ABO + BO + O - OA - OB	N10
F50	0	OB	BO - OA - OB	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
F51	0	OB	A + ABA + ABB + B - BAB	-A - ABA - ABB - B + BAB + BO - OA - OB	A + ABA + ABB + ABO + B - BAB + O	N10
F52	0	OB	A + ABA + ABB + B - BAB	-A - ABA - ABB - B + BAB + BO - OA - OB	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
F53	0	OB	A + ABA + ABB + B - BAB	-A + AB - ABA - BA - OA	A + ABA + ABB + ABO + B - BAB + O	N3
F54	0	OB	A + ABA + ABB + B - BAB	-A + AB - ABA - BA - OA	AAB + OAB	N1
F55	0	OB	A - AB + ABA + BA + BO - OB	0	A - AB + ABA + ABO + BA + BO + O - OB	N10
F56	0	OB	A - AB + ABA + BA + BO - OB	0	AAB + OAB	N1
F57	0	OB	A + ABA + ABB + B - BAB	0	A + ABA + ABB + ABO + B - BAB + O	N3
F58	0	OB	A + ABA + ABB + B - BAB	0	AAB + OAB	N1
F59	A - AB + ABA - AO + BA + OA	OB	AO + BO - OA - OB	0	ABO + AO + BO + O - OA - OB	N10
F60	A - AB + ABA - AO + BA + OA	OB	AO + BO - OA - OB	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
F61	A - AB + ABA - AO + BA + OA	OB	AB + ABB + AO + B - BA - BAB - OA	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N3
F62	A - AB + ABA - AO + BA + OA	OB	AB + ABB + AO + B - BA - BAB - OA	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
F63	A + ABA - BAB	OB	BO - OA - OB	0	ABO + BO + O - OA - OB	N10
F64	A + ABA - BAB	OB	BO - OA - OB	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
F65	A + ABA - BAB	OB	ABB + B	-ABB - B + BO - OA - OB	ABB + ABO + B + O	N10
F66	A + ABA - BAB	OB	ABB + B	-ABB - B + BO - OA - OB	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1

Table B17: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (6) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	w_2	Serial
0	2*(-AO + OA)	2*BAB	2*AO	0	0	F67
0	2*(-AO + OA)	2*BAB	2*AO	0	0	F68
0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	F69
0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	F70
0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	F71
0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	F72
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	-A - ABA + BAB	F73
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	-A - ABA + BAB	F74
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	-A - ABA + BAB	F75
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	-A - ABA + BAB	F76
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	-A - ABA + BAB	F77
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	-A - ABA + BAB	F78
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F79
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F80
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F81
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	-A - ABA + BAB	F82
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	-AB - AO + BA + BAB + OA	F83
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	-AB - AO + BA + BAB + OA	F84
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	-AB - AO + BA + BAB + OA	F85
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	-AB - AO + BA + BAB + OA	F86
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	F87
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	F88
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	F89
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	F90
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	F91
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	F92
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	F93
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	F94
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	F95
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	F96

Table B18: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (6) under three-way exchanges.

Serial	w_3	w_4	c_3	s_1	w_5	Result
F67	A + ABA - BAB	OB	ABB + B	AB - BA - BAB - OA	ABB + ABO + B + O	N3
F68	A + ABA - BAB	OB	ABB + B	AB - BA - BAB - OA	-A + AAB - ABA + BAB + OAB	N1
F69	A + ABA - BAB	OB	-AB + BA + BAB + BO - OB	0	-AB + ABO + BA + BAB + BO + O - OB	N10
F70	A + ABA - BAB	OB	-AB + BA + BAB + BO - OB	0	-A + AAB - ABA + BAB + OAB	N1
F71	A + ABA - BAB	OB	ABB + B	0	ABB + ABO + B + O	N3
F72	A + ABA - BAB	OB	ABB + B	0	-A + AAB - ABA + BAB + OAB	N1
F73	0	OB	BO - OA - OB	0	ABO + BO + O - OA - OB	N10
F74	0	OB	BO - OA - OB	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
F75	0	OB	A + ABA + ABB + B - BAB	-A - ABA - ABB - B + BAB + BO - OA - OB	A + ABA + ABB + ABO + B - BAB + O	N10
F76	0	OB	A + ABA + ABB + B - BAB	-A - ABA - ABB - B + BAB + BO - OA - OB	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
F77	0	OB	A + ABA + ABB + B - BAB	-A + AB - ABA - BA - OA	A + ABA + ABB + ABO + B - BAB + O	N3
F78	0	OB	A + ABA + ABB + B - BAB	-A + AB - ABA - BA - OA	AAB + OAB	N1
F79	0	OB	A - AB + ABA + BA + BO - OB	0	A - AB + ABA + ABO + BA + BO + O - OB	N10
F80	0	OB	A - AB + ABA + BA + BO - OB	0	AAB + OAB	N1
F81	0	OB	A + ABA + ABB + B - BAB	0	A + ABA + ABB + ABO + B - BAB + O	N3
F82	0	OB	A + ABA + ABB + B - BAB	0	AAB + OAB	N1
F83	A - AB + ABA - AO + BA + OA	OB	AO + BO - OA - OB	0	ABO + AO + BO + O - OA - OB	N10
F84	A - AB + ABA - AO + BA + OA	OB	AO + BO - OA - OB	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
F85	A - AB + ABA - AO + BA + OA	OB	AB + ABB + AO + B - BA - BAB - OA	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N3
F86	A - AB + ABA - AO + BA + OA	OB	AB + ABB + AO + B - BA - BAB - OA	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
F87	A + ABA - BAB	OB	BO - OA - OB	0	ABO + BO + O - OA - OB	N10
F88	A + ABA - BAB	OB	BO - OA - OB	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
F89	A + ABA - BAB	OB	ABB + B	-ABB - B + BO - OA - OB	ABB + ABO + B + O	N10
F90	A + ABA - BAB	OB	ABB + B	-ABB - B + BO - OA - OB	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
F91	A + ABA - BAB	OB	ABB + B	AB - BA - BAB - OA	ABB + ABO + B + O	N3
F92	A + ABA - BAB	OB	ABB + B	AB - BA - BAB - OA	-A + AAB - ABA + BAB + OAB	N1
F93	A + ABA - BAB	OB	-AB + BA + BAB + BO - OB	0	-AB + ABO + BA + BAB + BO + O - OB	N10
F94	A + ABA - BAB	OB	-AB + BA + BAB + BO - OB	0	-A + AAB - ABA + BAB + OAB	N1
F95	A + ABA - BAB	OB	ABB + B	0	ABB + ABO + B + O	N3
F96	A + ABA - BAB	OB	ABB + B	0	-A + AAB - ABA + BAB + OAB	N1

Table B19: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (7) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_4$	w_1	w_2	Serial
2*(AB - BA)	0	0	OA	-AB + BA + BAB	G1
2*(AB - BA)	0	0	OA	-AB + BA + BAB	G2
2*(AB - BA)	0	0	OA	-AB + BA + BAB	G3
2*(AB - BA)	0	0	OA	-AB + BA + BAB	G4
2*BAB	0	2*BO	-BO + OA	0	G5
2*BAB	0	2*BO	-BO + OA	0	G6
2*BAB	0	2*BO	-BO + OA	0	G7
2*BAB	0	2*BO	-BO + OA	0	G8
2*BAB	0	2*BO	-BO + OA	0	G9
2*BAB	0	2*BO	-BO + OA	0	G10
2*BAB	0	2*OA	0	0	G11
2*BAB	0	2*OA	0	0	G12
2*BAB	0	2*OA	0	0	G13
2*BAB	0	2*OA	0	0	G14
2*BAB	0	2*OA	0	0	G15
2*BAB	0	2*OA	0	0	G16
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	G17
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	G18
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	G19
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	G20
2*BAB	2*(-AO + OA)	2*(AO + BO - OA)	-BO + OA	0	G21
2*BAB	2*(-AO + OA)	2*(AO + BO - OA)	-BO + OA	0	G22
2*BAB	2*(-AO + OA)	2*(AO + BO - OA)	-BO + OA	0	G23
2*BAB	2*(-AO + OA)	2*(AO + BO - OA)	-BO + OA	0	G24
2*BAB	2*(-AO + OA)	2*(AO + BO - OA)	-BO + OA	0	G25
2*BAB	2*(-AO + OA)	2*(AO + BO - OA)	-BO + OA	0	G26
2*BAB	2*(-AO + OA)	2*AO	0	0	G27
2*BAB	2*(-AO + OA)	2*AO	0	0	G28
2*BAB	2*(-AO + OA)	2*AO	0	0	G29
2*BAB	2*(-AO + OA)	2*AO	0	0	G30
2*BAB	2*(-AO + OA)	2*AO	0	0	G31
2*BAB	2*(-AO + OA)	2*AO	0	0	G32
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	G33
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	G34
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	G35
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	G36

Table B20: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (7) under three-way exchanges.

Serial	w_3	w_4	c_2	s_1	w_5	Result
G1	AAB	BO	A - AAB - AB + ABA + BA	0	A - AAB - AB + ABA + ABO + BA + O	N10
G2	AAB	BO	A - AAB - AB + ABA + BA	0	-BO + OAB + OB	N1
G3	AAB	BO	AO - OA	0	ABO + AO + O - OA	N17
G4	AAB	BO	AO - OA	0	-BO + OAB + OB	N1
G5	AAB	0	A - AAB + ABA - BAB	0	A - AAB + ABA + ABO - BAB + O	N10
G6	AAB	0	A - AAB + ABA - BAB	0	AB - BA - BAB - BO + OAB + OB	N1
G7	AAB	0	AO + BO - OA	A - AAB + ABA - AO - BAB - BO + OA	ABO + AO + BO + O - OA	N10
G8	AAB	0	AO + BO - OA	A - AAB + ABA - AO - BAB - BO + OA	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
G9	AAB	0	AO + BO - OA	AB - BA - BAB - BO	ABO + AO + BO + O - OA	N17
G10	AAB	0	AO + BO - OA	AB - BA - BAB - BO	OAB + OB	N1
G11	AAB	BO - OA	A - AAB + ABA - BAB	0	A - AAB + ABA + ABO - BAB + O	N10
G12	AAB	BO - OA	A - AAB + ABA - BAB	0	AB - BA - BAB - BO + OAB + OB	N1
G13	AAB	BO - OA	AO	A - AAB + ABA - AO - BAB	ABO + AO + O	N10
G14	AAB	BO - OA	AO	A - AAB + ABA - AO - BAB	-A + AAB + AB - ABA + AO - BA - BO + OAB + OB	N1
G15	AAB	BO - OA	AO	AB - BA - BAB - OA	ABO + AO + O	N17
G16	AAB	BO - OA	AO	AB - BA - BAB - OA	-BO + OA + OAB + OB	N1
G17	AAB	-AB + BA + BAB + BO	A - AAB + ABA - BAB	0	A - AAB + ABA + ABO - BAB + O	N10
G18	AAB	-AB + BA + BAB + BO	A - AAB + ABA - BAB	0	AB - BA - BAB - BO + OAB + OB	N1
G19	AAB	-AB + BA + BAB + BO	AB + AO - BA - BAB - OA	0	AB + ABO + AO - BA - BAB + O - OA	N17
G20	AAB	-AB + BA + BAB + BO	AB + AO - BA - BAB - OA	0	AB - BA - BAB - BO + OAB + OB	N1
G21	AAB	0	A - AAB + ABA - BAB	0	A - AAB + ABA + ABO - BAB + O	N10
G22	AAB	0	A - AAB + ABA - BAB	0	AB - BA - BAB - BO + OAB + OB	N1
G23	AAB	0	AO + BO - OA	A - AAB + ABA - AO - BAB - BO + OA	ABO + AO + BO + O - OA	N10
G24	AAB	0	AO + BO - OA	A - AAB + ABA - AO - BAB - BO + OA	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
G25	AAB	0	AO + BO - OA	AB - BA - BAB - BO	ABO + AO + BO + O - OA	N17
G26	AAB	0	AO + BO - OA	AB - BA - BAB - BO	OAB + OB	N1
G27	AAB	BO - OA	A - AAB + ABA - BAB	0	A - AAB + ABA + ABO - BAB + O	N10
G28	AAB	BO - OA	A - AAB + ABA - BAB	0	AB - BA - BAB - BO + OAB + OB	N1
G29	AAB	BO - OA	AO	A - AAB + ABA - AO - BAB	ABO + AO + O	N10
G30	AAB	BO - OA	AO	A - AAB + ABA - AO - BAB	-A + AAB + AB - ABA + AO - BA - BO + OAB + OB	N1
G31	AAB	BO - OA	AO	AB - BA - BAB - OA	ABO + AO + O	N17
G32	AAB	BO - OA	AO	AB - BA - BAB - OA	-BO + OA + OAB + OB	N1
G33	AAB	-AB + BA + BAB + BO	A - AAB + ABA - BAB	0	A - AAB + ABA + ABO - BAB + O	N10
G34	AAB	-AB + BA + BAB + BO	A - AAB + ABA - BAB	0	AB - BA - BAB - BO + OAB + OB	N1
G35	AAB	-AB + BA + BAB + BO	AB + AO - BA - BAB - OA	0	AB + ABO + AO - BA - BAB + O - OA	N17
G36	AAB	-AB + BA + BAB + BO	AB + AO - BA - BAB - OA	0	AB - BA - BAB - BO + OAB + OB	N1

Table B21: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (8) under three-way exchanges.

Serial	$2*g_1$	$2*g_2$	w_1	w_2	w_3	w_4	c_3	w_5	Result
H1	2*(AB - BA)	0	AO	-AB + BA + BAB	AAB	OB	BO - OB	ABO + BO + O - OB	N17
H2	2*(AB - BA)	0	AO	-AB + BA + BAB	AAB	OB	BO - OB	-AO + OA + OAB	N1
H3	2*(AB - BA)	0	AO	-AB + BA + BAB	AAB	OB	AB + ABB + B - BA - BAB	AB + ABB + ABO + B - BA - BAB + O	N7
H4	2*(AB - BA)	0	AO	-AB + BA + BAB	AAB	OB	AB + ABB + B - BA - BAB	-AO + OA + OAB	N1
H5	2*BAB	2*(AB - BA - BAB)	AO	0	AAB	OB	-AB + BA + BAB + BO - OB	-AB + ABO + BA + BAB + BO + O - OB	N17
H6	2*BAB	2*(AB - BA - BAB)	AO	0	AAB	OB	-AB + BA + BAB + BO - OB	-AB - AO + BA + BAB + OA + OAB	N1
H7	2*BAB	2*(AB - BA - BAB)	AO	0	AAB	OB	ABB + B	ABB + ABO + B + O	N7
H8	2*BAB	2*(AB - BA - BAB)	AO	0	AAB	OB	ABB + B	-AB - AO + BA + BAB + OA + OAB	N1

Table B22: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (9) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	Serial
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	-BO + OA	I1
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	-BO + OA	I2
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	I3
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	I4
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	I5
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	I6
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	I7
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	I8
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AO + BO - OA)	-BO + OA	I9
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AO + BO - OA)	-BO + OA	I10
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	I11
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	I12
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	I13
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	I14
0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	-BO + OA	I15
0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	-BO + OA	I16
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	I17
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	I18
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	I19
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	I20
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	I21
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	I22
0	2*(-AO + OA)	2*BAB	2*(AO + BO - OA)	-BO + OA	I23
0	2*(-AO + OA)	2*BAB	2*(AO + BO - OA)	-BO + OA	I24
0	2*(-AO + OA)	2*BAB	2*AO	0	I25
0	2*(-AO + OA)	2*BAB	2*AO	0	I26
0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	I27
0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	I28

Table B23: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (9) under three-way exchanges.

Serial	w_2	w_3	w_4	w_5	Result
I1	-A - ABA + BAB	0	0	ABO + O	N10
I2	-A - ABA + BAB	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I3	-A - ABA + BAB	0	BO - OA	ABO + O	N10
I4	-A - ABA + BAB	0	BO - OA	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I5	-A - ABA + BAB	0	A - AB + ABA + BA + BO	ABO + O	N10
I6	-A - ABA + BAB	0	A - AB + ABA + BA + BO	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I7	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	AO + BO - OA	ABO + O	N10
I8	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	AO + BO - OA	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I9	0	A + ABA - BAB	0	ABO + O	N10
I10	0	A + ABA - BAB	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I11	0	A + ABA - BAB	BO - OA	ABO + O	N10
I12	0	A + ABA - BAB	BO - OA	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I13	0	A + ABA - BAB	-AB + BA + BAB + BO	ABO + O	N10
I14	0	A + ABA - BAB	-AB + BA + BAB + BO	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I15	-A - ABA + BAB	0	0	ABO + O	N10
I16	-A - ABA + BAB	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I17	-A - ABA + BAB	0	BO - OA	ABO + O	N10
I18	-A - ABA + BAB	0	BO - OA	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I19	-A - ABA + BAB	0	A - AB + ABA + BA + BO	ABO + O	N10
I20	-A - ABA + BAB	0	A - AB + ABA + BA + BO	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I21	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	AO + BO - OA	ABO + O	N10
I22	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	AO + BO - OA	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I23	0	A + ABA - BAB	0	ABO + O	N10
I24	0	A + ABA - BAB	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I25	0	A + ABA - BAB	BO - OA	ABO + O	N10
I26	0	A + ABA - BAB	BO - OA	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I27	0	A + ABA - BAB	-AB + BA + BAB + BO	ABO + O	N10
I28	0	A + ABA - BAB	-AB + BA + BAB + BO	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1

Table B24: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (9) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	Serial
2*(A - AAB + ABA)	0	2*AAB	2*BO	-BO + OA	I29
2*(A - AAB + ABA)	0	2*AAB	2*BO	-BO + OA	I30
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	I31
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	I32
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	I33
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	I34
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	I35
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	I36
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*BO	-BO + OA	I37
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*BO	-BO + OA	I38
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	I39
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	I40
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	-AB + BA + BAB + OA	I41
2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	-AB + BA + BAB + OA	I42
0	0	2*(A + ABA)	2*BO	-BO + OA	I43
0	0	2*(A + ABA)	2*BO	-BO + OA	I44
0	0	2*(A + ABA)	2*OA	0	I45
0	0	2*(A + ABA)	2*OA	0	I46
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	I47
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	I48
0	0	2*(AB - BA)	0	OA	I49
0	0	2*(AB - BA)	0	OA	I50
0	0	2*BAB	2*BO	-BO + OA	I51
0	0	2*BAB	2*BO	-BO + OA	I52
0	0	2*BAB	2*OA	0	I53
0	0	2*BAB	2*OA	0	I54
0	0	2*BAB	2*(AB - BA - BAB)	-AB + BA + BAB + OA	I55
0	0	2*BAB	2*(AB - BA - BAB)	-AB + BA + BAB + OA	I56

Table B25: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (9) under three-way exchanges.

Serial	w_2	w_3	w_4	w_5	Result
I29	-A - ABA + BAB	0	0	ABO + O	N10
I30	-A - ABA + BAB	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I31	-A - ABA + BAB	0	BO - OA	ABO + O	N10
I32	-A - ABA + BAB	0	BO - OA	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I33	-A - ABA + BAB	0	A - AB + ABA + BA + BO	ABO + O	N10
I34	-A - ABA + BAB	0	A - AB + ABA + BA + BO	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I35	-AB + BA + BAB	A - AB + ABA + BA	BO	ABO + O	N10
I36	-AB + BA + BAB	A - AB + ABA + BA	BO	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I37	0	A + ABA - BAB	0	ABO + O	N10
I38	0	A + ABA - BAB	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I39	0	A + ABA - BAB	BO - OA	ABO + O	N10
I40	0	A + ABA - BAB	BO - OA	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I41	0	A + ABA - BAB	-AB + BA + BAB + BO	ABO + O	N10
I42	0	A + ABA - BAB	-AB + BA + BAB + BO	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I43	-A - ABA + BAB	0	0	ABO + O	N10
I44	-A - ABA + BAB	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I45	-A - ABA + BAB	0	BO - OA	ABO + O	N10
I46	-A - ABA + BAB	0	BO - OA	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I47	-A - ABA + BAB	0	A - AB + ABA + BA + BO	ABO + O	N10
I48	-A - ABA + BAB	0	A - AB + ABA + BA + BO	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I49	-AB + BA + BAB	A - AB + ABA + BA	BO	ABO + O	N10
I50	-AB + BA + BAB	A - AB + ABA + BA	BO	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I51	0	A + ABA - BAB	0	ABO + O	N10
I52	0	A + ABA - BAB	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I53	0	A + ABA - BAB	BO - OA	ABO + O	N10
I54	0	A + ABA - BAB	BO - OA	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
I55	0	A + ABA - BAB	-AB + BA + BAB + BO	ABO + O	N10
I56	0	A + ABA - BAB	-AB + BA + BAB + BO	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1

Table B26: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (10) under three-way exchanges.

Serial	$2*g_1$	w_1	w_2	w_3	w_4	w_5	Result
J1	2*(AB - BA)	AO	ABB + B	AAB	OB	ABO + O	N7
J2	2*(AB - BA)	AO	ABB + B	AAB	OB	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1

Table B27: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (11) under three-way exchanges.

Serial	$2*g_1$	w_1	w_2	w_3	w_4	$2*u_1$	v_1	v_2
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	OA	K1
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	OA	K2
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	OA	K3
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	OA	K4
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	OA	K5
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AO + BA + OA	K6
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AO + BA + OA	K7
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AO + BA + OA	K8
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AO + BA + OA	K9
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AO + BA + OA	K10
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AO - BO + OA + OB	K11
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AO - BO + OA + OB	K12
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	A - AAB - AB + ABA - AO + BA + OA	K13
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	A - AAB - AB + ABA - AO + BA + OA	K14
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	A - AAB - AB + ABA - AO + BA + OA	K15
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	A - AAB - AB + ABA - AO + BA + OA	K16
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	A - AAB - AB + ABA - AO + BA + OA	K17
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AB - ABB - AO - B + BA + BAB + OA	K18
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AB - ABB - AO - B + BA + BAB + OA	K19
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K20
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K21
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K22
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K23
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K24
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K25
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K26
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K27
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K28
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K29

Table B28: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (11) under three-way exchanges.

Serial	c_2	$2*g_6$	w_5	Result
K1	0	2*(ABO + O)	0	N14
K2	0	2*(-AO - BO + OB)	ABO + AO + BO + O - OB	N7
K3	0	2*(-AO - BO + OB)	-AB - ABB - B + BA + BAB + BO + OA + OAB - OB	N1
K4	0	2*(-AB - ABB - AO - B + BA + BAB)	AB + ABB + ABO + AO + B - BA - BAB + O	N17
K5	0	2*(-AB - ABB - AO - B + BA + BAB)	AB + ABB + B - BA - BAB - BO + OA + OAB + OB	N1
K6	0	2*(ABO + O)	0	N16
K7	0	2*(-BA - BO + OB)	ABO + BA + BO + O - OB	N7
K8	0	2*(-BA - BO + OB)	-AB - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
K9	0	2*(-AB - ABB - B + BAB)	AB + ABB + ABO + B - BAB + O	N17
K10	0	2*(-AB - ABB - B + BAB)	AB + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
K11	0	0	ABO + O	N7
K12	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
K13	0	2*(ABO + O)	0	N15
K14	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
K15	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
K16	0	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
K17	0	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
K18	0	0	ABO + O	N17
K19	0	0	-AO - BO + OA + OAB + OB	N1
K20	A - AAB - AB + ABA	2*(ABO + O)	A - AAB - AB + ABA	N9
K21	A - AAB - AB + ABA	2*(ABO + O)	-AB - ABB - 2*ABO - B - BA + BAB - BO - 2*O + OAB + OB	N1
K22	A - AAB - AB + ABA	2*(-BA - BO + OB)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N3
K23	A - AAB - AB + ABA	2*(-BA - BO + OB)	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
K24	A - AAB - AB + ABA	2*(-AB - ABB - B + BAB)	A - AAB + ABA + ABB + ABO + B - BAB + O	N10
K25	A - AAB - AB + ABA	2*(-AB - ABB - B + BAB)	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
K26	AO - BA - OA	2*(ABO + O)	AO - BA - OA	N16
K27	AO - BA - OA	2*(ABO + O)	-AB - ABB - 2*ABO - B - BA + BAB - BO - 2*O + OAB + OB	N1
K28	AO - BA - OA	2*(-BA - BO + OB)	ABO + AO + BO + O - OA - OB	N7
K29	AO - BA - OA	2*(-BA - BO + OB)	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1

Table B29: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (11) under three-way exchanges.

Serial	$2*g_1$	w_1	w_2	w_3	w_4	$2*u_1$	v_1	v_2
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K30
2*(AB - BA)	OA	ABB + B	AAB	BO	2*BA	0	0	K31
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	AAB	0	K32
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	AAB	0	K33
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	AAB	0	K34
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	AAB	0	K35
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	AAB	0	K36
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA	0	K37
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA	0	K38
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA	0	K39
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA	0	K40
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA	0	K41
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB - ABA - ABB - B + BAB	0	K42
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB - ABA - ABB - B + BAB	0	K43
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA + AO - BA - OA	0	K44
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA + AO - BA - OA	0	K45
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA + AO - BA - OA	0	K46
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA + AO - BA - OA	0	K47
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA + AO - BA - OA	0	K48
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA - BA - BO + OB	0	K49
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA - BA - BO + OB	0	K50
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-BO + OB)	0	0	K51
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-BO + OB)	0	0	K52
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-BO + OB)	0	0	K53
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-BO + OB)	0	0	K54
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-AB - ABB - B + BA + BAB)	0	0	K55
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-AB - ABB - B + BA + BAB)	0	0	K56
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-AB - ABB - B + BA + BAB)	0	0	K57
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-AB - ABB - B + BA + BAB)	0	0	K58

Table B30: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (11) under three-way exchanges.

Serial	c_2	$2*g_6$	w_5	Result
K30	AO - BA - OA	2*(-AB - ABB - B + BAB)	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N17
K31	AO - BA - OA	2*(-AB - ABB - B + BAB)	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
K32	0	2*(ABO + O)	0	N8
K33	0	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N3
K34	0	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
K35	0	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N10
K36	0	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
K37	0	2*(ABO + O)	0	N9
K38	0	2*(-BA - BO + OB)	ABO + BA + BO + O - OB	N3
K39	0	2*(-BA - BO + OB)	-A + AAB - ABA - ABB - B + BA + BAB + BO + OAB - OB	N1
K40	0	2*(-AB - ABB - B + BAB)	AB + ABB + ABO + B - BAB + O	N10
K41	0	2*(-AB - ABB - B + BAB)	-A + AAB + 2*AB - ABA + ABB + B - BA - BAB - BO + OAB + OB	N1
K42	0	0	ABO + O	N10
K43	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
K44	0	2*(ABO + O)	0	N15
K45	0	2*(-AO - BO + OA + OB)	ABO + AO + BO + O - OA - OB	N3
K46	0	2*(-AO - BO + OA + OB)	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
K47	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
K48	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
K49	0	0	ABO + O	N3
K50	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
K51	A - AAB - AB + ABA + BA + BO - OB	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N3
K52	A - AAB - AB + ABA + BA + BO - OB	0	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
K53	AO + BO - OA - OB	0	ABO + AO + BO + O - OA - OB	N7
K54	AO + BO - OA - OB	0	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
K55	A - AAB + ABA + ABB + B - BAB	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N10
K56	A - AAB + ABA + ABB + B - BAB	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
K57	AB + ABB + AO + B - BA - BAB - OA	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N17
K58	AB + ABB + AO + B - BA - BAB - OA	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1

Table B31: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (12) under three-way exchanges.

Serial	$2*g_1$	w_1	w_2	w_3	w_4	v_2	$2*g_6$	w_5	Result
L1	2*(AB - BA)	AO	ABB + B	AAB	BO	AO	2*(ABO + O)	0	N14
L2	2*(AB - BA)	AO	ABB + B	AAB	BO	AO	2*(-AO - BO + OB)	ABO + AO + BO + O - OB	N7
L3	2*(AB - BA)	AO	ABB + B	AAB	BO	AO	2*(-AO - BO + OB)	-AB - ABB - B + BA + BAB + BO + OA + OAB - OB	N1
L4	2*(AB - BA)	AO	ABB + B	AAB	BO	AO	2*(-AB - ABB - AO - B + BA + BAB)	AB + ABB + ABO + AO + B - BA - BAB + O	N17
L5	2*(AB - BA)	AO	ABB + B	AAB	BO	AO	2*(-AB - ABB - AO - B + BA + BAB)	AB + ABB + B - BA - BAB - BO + OA + OAB + OB	N1
L6	2*(AB - BA)	AO	ABB + B	AAB	BO	BA	2*(ABO + O)	0	N16
L7	2*(AB - BA)	AO	ABB + B	AAB	BO	BA	2*(-BA - BO + OB)	ABO + BA + BO + O - OB	N7
L8	2*(AB - BA)	AO	ABB + B	AAB	BO	BA	2*(-BA - BO + OB)	-AB - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
L9	2*(AB - BA)	AO	ABB + B	AAB	BO	BA	2*(-AB - ABB - B + BAB)	AB + ABB + ABO + B - BAB + O	N17
L10	2*(AB - BA)	AO	ABB + B	AAB	BO	BA	2*(-AB - ABB - B + BAB)	AB + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
L11	2*(AB - BA)	AO	ABB + B	AAB	BO	-BO + OB	0	ABO + O	N7
L12	2*(AB - BA)	AO	ABB + B	AAB	BO	-BO + OB	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
L13	2*(AB - BA)	AO	ABB + B	AAB	BO	A - AAB - AB + ABA + BA	2*(ABO + O)	0	N15
L14	2*(AB - BA)	AO	ABB + B	AAB	BO	A - AAB - AB + ABA + BA	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
L15	2*(AB - BA)	AO	ABB + B	AAB	BO	A - AAB - AB + ABA + BA	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
L16	2*(AB - BA)	AO	ABB + B	AAB	BO	A - AAB - AB + ABA + BA	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
L17	2*(AB - BA)	AO	ABB + B	AAB	BO	A - AAB - AB + ABA + BA	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
L18	2*(AB - BA)	AO	ABB + B	AAB	BO	-AB - ABB - B + BA + BAB	0	ABO + O	N17
L19	2*(AB - BA)	AO	ABB + B	AAB	BO	-AB - ABB - B + BA + BAB	0	-AO - BO + OA + OAB + OB	N1

Table B32: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	w_2	w_3	Serial
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	M1
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	M2
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	M3
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	M4
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	M5
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	M6
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	M7
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	M8
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	M9
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	M10
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	M11
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	M12
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	M13
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	M14
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	M15
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	M16
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	M17
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	M18
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	M19
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	M20
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	M21
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	M22
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	M23
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	M24
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	M25
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	M26
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	M27
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	M28
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	M29
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	M30
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	M31
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	M32
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	M33
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	M34
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	M35
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	M36
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	M37
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	M38
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	M39

Table B33: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under three-way exchanges.

Serial	w_4	v_1	$2*g_6$	$2*g_8$	w_5	Result
M1	BO - OA	0	2*(ABO + O)	0	0	N8
M2	BO - OA	0	2*(-BO + OA + OB)	2*(ABO + BO + O - OA - OB)	0	N8
M3	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N3
M4	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
M5	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
M6	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M7	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N10
M8	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M9	A - AB + ABA + BA + BO	0	2*(ABO + O)	0	0	N8
M10	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
M11	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
M12	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N10
M13	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M14	AO + BO - OA	0	2*(ABO + O)	0	0	N15
M15	AO + BO - OA	0	2*(-AO - BO + OA + OB)	0	ABO + AO + BO + O - OA - OB	N3
M16	AO + BO - OA	0	2*(-AO - BO + OA + OB)	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
M17	AO + BO - OA	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
M18	AO + BO - OA	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
M19	BO - OA	0	2*(ABO + O)	0	0	N8
M20	BO - OA	0	2*(-BO + OA + OB)	2*(ABO + BO + O - OA - OB)	0	N8
M21	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N3
M22	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
M23	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
M24	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M25	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N10
M26	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M27	A - AB + ABA + BA + BO	0	2*(ABO + O)	0	0	N8
M28	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
M29	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
M30	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N10
M31	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M32	AO + BO - OA	0	2*(ABO + O)	0	0	N15
M33	AO + BO - OA	0	2*(-AO - BO + OA + OB)	0	ABO + AO + BO + O - OA - OB	N3
M34	AO + BO - OA	0	2*(-AO - BO + OA + OB)	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
M35	AO + BO - OA	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
M36	AO + BO - OA	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
M37	BO - OA	0	2*(ABO + O)	0	0	N8
M38	BO - OA	0	2*(-BO + OA + OB)	2*(ABO + BO + O - OA - OB)	0	N8
M39	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N3

Table B34: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	w_2	w_3	w_4	Serial
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	BO - OA	M40
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	BO - OA	M41
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	BO - OA	M42
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	BO - OA	M43
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	BO - OA	M44
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	M45
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	M46
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	M47
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	M48
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	M49
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M50
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M51
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M52
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M53
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M54
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M55
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M56
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M57
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M58
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M59
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M60
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M61
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M62
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M63
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M64
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M65
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M66
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M67
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	M68
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	BO - OA	M69
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	BO - OA	M70

Table B35: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under three-way exchanges.

Serial	v_1	$2*g_6$	$2*g_8$	w_5	Result
M40	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
M41	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
M42	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M43	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N10
M44	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M45	0	2*(ABO + O)	0	0	N8
M46	0	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
M47	0	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
M48	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N10
M49	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M50	A - AB + ABA + BA	2*(ABO + O)	0	0	N8
M51	A - AB + ABA + BA	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
M52	A - AB + ABA + BA	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
M53	A - AB + ABA + BA	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N10
M54	A - AB + ABA + BA	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M55	BA	2*(ABO + O)	0	0	N9
M56	BA	2*(-BA - BO + OB)	0	ABO + BA + BO + O - OB	N3
M57	BA	2*(-BA - BO + OB)	0	-A + AAB - ABA - ABB - B + BA + BAB + BO + OAB - OB	N1
M58	BA	2*(-AB - ABB - B + BAB)	0	AB + ABB + ABO + B - BAB + O	N10
M59	BA	2*(-AB - ABB - B + BAB)	0	-A + AAB + 2*AB - ABA + ABB + B - BA - BAB - BO + OAB + OB	N1
M60	-AB - ABB - B + BA + BAB	0	0	ABO + O	N10
M61	-AB - ABB - B + BA + BAB	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
M62	AO - OA	2*(ABO + O)	0	0	N15
M63	AO - OA	2*(-AO - BO + OA + OB)	0	ABO + AO + BO + O - OA - OB	N3
M64	AO - OA	2*(-AO - BO + OA + OB)	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
M65	AO - OA	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
M66	AO - OA	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
M67	-BO + OB	0	0	ABO + O	N3
M68	-BO + OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
M69	0	2*(ABO + O)	0	0	N8
M70	0	2*(-BO + OA + OB)	2*(ABO + BO + O - OA - OB)	0	N8

Table B36: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	w_2	w_3	w_4	v_1	Serial
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	BO - OA	0	M71
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	BO - OA	0	M72
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	BO - OA	0	M73
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	BO - OA	0	M74
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	BO - OA	0	M75
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	BO - OA	0	M76
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	0	M77
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	0	M78
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	0	M79
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	0	M80
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	0	M81
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	A - AB + ABA + BA	M82
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	A - AB + ABA + BA	M83
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	A - AB + ABA + BA	M84
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	A - AB + ABA + BA	M85
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	A - AB + ABA + BA	M86
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	BA	M87
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	BA	M88
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	BA	M89
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	BA	M90
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	BA	M91
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	-AB - ABB - B + BA + BAB	M92
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	-AB - ABB - B + BA + BAB	M93
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	AO - OA	M94
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	AO - OA	M95
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	AO - OA	M96
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	AO - OA	M97
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	AO - OA	M98
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	-BO + OB	M99
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	BO	-BO + OB	M100

Table B37: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under three-way exchanges.

Serial	$2*g_6$	$2*g_8$	w_5	Result
M71	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N3
M72	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
M73	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
M74	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M75	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N10
M76	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M77	2*(ABO + O)	0	0	N8
M78	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
M79	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
M80	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N10
M81	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M82	2*(ABO + O)	0	0	N8
M83	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
M84	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
M85	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N10
M86	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
M87	2*(ABO + O)	0	0	N9
M88	2*(-BA - BO + OB)	0	ABO + BA + BO + O - OB	N3
M89	2*(-BA - BO + OB)	0	-A + AAB - ABA - ABB - B + BA + BAB + BO + OAB - OB	N1
M90	2*(-AB - ABB - B + BAB)	0	AB + ABB + ABO + B - BAB + O	N10
M91	2*(-AB - ABB - B + BAB)	0	-A + AAB + 2*AB - ABA + ABB + B - BA - BAB - BO + OAB + OB	N1
M92	0	0	ABO + O	N10
M93	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
M94	2*(ABO + O)	0	0	N15
M95	2*(-AO - BO + OA + OB)	0	ABO + AO + BO + O - OA - OB	N3
M96	2*(-AO - BO + OA + OB)	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
M97	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
M98	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
M99	0	0	ABO + O	N3
M100	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1

Table B38: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (14) under three-way exchanges.

$2*g_1$	$2*g_2$	w_1	w_2	w_3	w_4	$2*u_2$	v_3	v_4	Serial
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	-A + AAB - ABA + BAB	AAB	OB	0	0	0	NN1
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	-A + AAB - ABA + BAB	AAB	OB	0	0	0	NN2
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	-A + AAB - ABA + BAB	AAB	OB	0	0	0	NN3
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	-A + AAB - ABA + BAB	AAB	OB	0	0	0	NN4
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	BAB	0	NN5
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	BAB	0	NN6
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	BAB	0	NN7
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	BAB	0	NN8
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	BAB	0	NN9
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-ABB - B + BA + BAB	0	NN10
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-ABB - B + BA + BAB	0	NN11
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-ABB - B + BA + BAB	0	NN12
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-ABB - B + BA + BAB	0	NN13
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-ABB - B + BA + BAB	0	NN14
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-A + AAB - ABA - ABB - B + BAB	0	NN15
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-A + AAB - ABA - ABB - B + BAB	0	NN16
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - B + BA + BAB + BO - OB	0	NN17
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - B + BA + BAB + BO - OB	0	NN18
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - B + BA + BAB + BO - OB	0	NN19
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - B + BA + BAB + BO - OB	0	NN20
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - B + BA + BAB + BO - OB	0	NN21
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - AO - B + BA + BAB + OA	0	NN22
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - AO - B + BA + BAB + OA	0	NN23
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-A + AAB - ABA)	0	0	NN24
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-A + AAB - ABA)	0	0	NN25
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-A + AAB - ABA)	0	0	NN26
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-A + AAB - ABA)	0	0	NN27
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	OB	NN28
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	OB	NN29
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	OB	NN30
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	OB	NN31

Table B39: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (14) under three-way exchanges.

Serial	c_3	$2*g_5$	w_5	Result
NN1	A - AAB - AB + ABA + BA + BO - OB	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N17
NN2	A - AAB - AB + ABA + BA + BO - OB	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
NN3	A - AAB + ABA + ABB + B - BAB	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N7
NN4	A - AAB + ABA + ABB + B - BAB	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
NN5	0	2*(ABO + O)	0	N4
NN6	0	2*(-AB - ABB - AO - B + BA + OA)	AB + ABB + ABO + AO + B - BA + O - OA	N3
NN7	0	2*(-AB - ABB - AO - B + BA + OA)	-A + AAB + AB - ABA + AO - BA + BAB - OA + OAB	N1
NN8	0	2*(-A + AAB - ABA - ABB - B)	A - AAB + ABA + ABB + ABO + B + O	N7
NN9	0	2*(-A + AAB - ABA - ABB - B)	A - AAB - AB + ABA - AO + BA + BAB + OA + OAB	N1
NN10	0	2*(ABO + O)	0	N5
NN11	0	2*(-AB - AO + OA)	AB + ABO + AO + O - OA	N3
NN12	0	2*(-AB - AO + OA)	-A + AAB + AB - ABA - ABB + AO - B + BAB - OA + OAB	N1
NN13	0	2*(-A + AAB - ABA - BA)	A - AAB + ABA + ABO + BA + O	N7
NN14	0	2*(-A + AAB - ABA - BA)	A - AAB - AB + ABA - ABB - AO - B + 2*BA + BAB + OA + OAB	N1
NN15	0	0	ABO + O	N7
NN16	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
NN17	0	2*(ABO + O)	0	N15
NN18	0	2*(-AO - BO + OA + OB)	ABO + AO + BO + O - OA - OB	N3
NN19	0	2*(-AO - BO + OA + OB)	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
NN20	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
NN21	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
NN22	0	0	ABO + O	N3
NN23	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
NN24	A - AAB - AB + ABA + BA + BO - OB	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N17
NN25	A - AAB - AB + ABA + BA + BO - OB	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
NN26	A - AAB + ABA + ABB + B - BAB	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N7
NN27	A - AAB + ABA + ABB + B - BAB	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
NN28	0	2*(ABO + O)	0	N11
NN29	0	2*(-AO - BO + OA)	ABO + AO + BO + O - OA	N10
NN30	0	2*(-AO - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
NN31	0	2*(-A + AAB + AB - ABA - BA - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N17

Table B40: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (14) under three-way exchanges.

$2*g_1$	$2*g_2$	w_1	w_2	w_3	w_4	$2*u_2$	v_3	v_4	Serial
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	OB	NN32
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	AB - BO + OB	NN33
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	AB - BO + OB	NN34
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	AB - BO + OB	NN35
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	AB - BO + OB	NN36
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	AB - BO + OB	NN37
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	-AO - BO + OA + OB	NN38
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	-AO - BO + OA + OB	NN39
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	NN40
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	NN41
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	NN42
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	NN43
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	NN44
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	-A + AAB + AB - ABA - BA - BO + OB	NN45
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	-A + AAB + AB - ABA - BA - BO + OB	NN46
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB - AO + BA + OA)	0	0	NN47
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB - AO + BA + OA)	0	0	NN48
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB - AO + BA + OA)	0	0	NN49
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB - AO + BA + OA)	0	0	NN50
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN51
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN52
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN53
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN54
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN55
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN56
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN57
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN58
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN59
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN60
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN61
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*BA	0	0	NN62

Table B41: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (14) under three-way exchanges.

Serial	c_3	$2*g_5$	w_5	Result
NN32	0	2*(-A + AAB + AB - ABA - BA - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
NN33	0	2*(ABO + O)	0	N13
NN34	0	2*(-AB - AO + OA)	AB + ABO + AO + O - OA	N10
NN35	0	2*(-AB - AO + OA)	-A + AAB + 2*AB - ABA + AO - BA - BO - OA + OAB + OB	N1
NN36	0	2*(-A + AAB - ABA - BA)	A - AAB + ABA + ABO + BA + O	N17
NN37	0	2*(-A + AAB - ABA - BA)	A - AAB + ABA - AO + BA - BO + OA + OAB + OB	N1
NN38	0	0	ABO + O	N10
NN39	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
NN40	0	2*(ABO + O)	0	N15
NN41	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
NN42	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
NN43	0	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
NN44	0	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
NN45	0	0	ABO + O	N17
NN46	0	0	-AO - BO + OA + OAB + OB	N1
NN47	AO + BO - OA - OB	0	ABO + AO + BO + O - OA - OB	N10
NN48	AO + BO - OA - OB	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
NN49	AB + ABB + AO + B - BA - BAB - OA	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N3
NN50	AB + ABB + AO + B - BA - BAB - OA	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
NN51	-AB + BO - OB	2*(ABO + O)	-AB + BO - OB	N13
NN52	-AB + BO - OB	2*(ABO + O)	-A + AAB - AB - ABA - 2*ABO - AO - BA - 2*O + OA + OAB	N1
NN53	-AB + BO - OB	2*(-AB - AO + OA)	ABO + AO + BO + O - OA - OB	N10
NN54	-AB + BO - OB	2*(-AB - AO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
NN55	-AB + BO - OB	2*(-A + AAB - ABA - BA)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N17
NN56	-AB + BO - OB	2*(-A + AAB - ABA - BA)	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
NN57	ABB + B - BA - BAB	2*(ABO + O)	ABB + B - BA - BAB	N5
NN58	ABB + B - BA - BAB	2*(ABO + O)	-A + AAB - AB - ABA - 2*ABO - AO - BA - 2*O + OA + OAB	N1
NN59	ABB + B - BA - BAB	2*(-AB - AO + OA)	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N3
NN60	ABB + B - BA - BAB	2*(-AB - AO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
NN61	ABB + B - BA - BAB	2*(-A + AAB - ABA - BA)	A - AAB + ABA + ABB + ABO + B - BAB + O	N7
NN62	ABB + B - BA - BAB	2*(-A + AAB - ABA - BA)	A - AAB - AB + ABA - AO + BA + OA + OAB	N1

Table B42: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (15) under three-way exchanges.

Serial	$2*g_1$	$2*g_2$	w_1	w_2	w_3	w_4	v_3	$2*g_5$	w_5	Result
O1	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	ABB + B	AAB	OB	0	0	ABO + O	N7
O2	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	ABB + B	AAB	OB	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
O3	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	ABB + B	2*(ABO + O)	0	N4
O4	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	ABB + B	2*(-AB - ABB - AO - B + BA + OA)	AB + ABB + ABO + AO + B - BA + O - OA	N3
O5	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	ABB + B	2*(-AB - ABB - AO - B + BA + OA)	-A + AAB + AB - ABA + AO - BA + BAB - OA + OAB	N1
O6	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	ABB + B	2*(-A + AAB - ABA - ABB - B)	A - AAB + ABA + ABB + ABO + B + O	N7
O7	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	ABB + B	2*(-A + AAB - ABA - ABB - B)	A - AAB - AB + ABA - AO + BA + BAB + OA + OAB	N1
O8	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	BA	2*(ABO + O)	0	N5
O9	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	BA	2*(-AB - AO + OA)	AB + ABO + AO + O - OA	N3
O10	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	BA	2*(-AB - AO + OA)	-A + AAB + AB - ABA - ABB + AO - B + BAB - OA + OAB	N1
O11	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	BA	2*(-A + AAB - ABA - BA)	A - AAB + ABA + ABO + BA + O	N7
O12	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	BA	2*(-A + AAB - ABA - BA)	A - AAB - AB + ABA - ABB - AO - B + 2*BA + BAB + OA + OAB	N1
O13	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-A + AAB - ABA	0	ABO + O	N7
O14	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-A + AAB - ABA	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
O15	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB + BA + BO - OB	2*(ABO + O)	0	N15
O16	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB + BA + BO - OB	2*(-AO - BO + OA + OB)	ABO + AO + BO + O - OA - OB	N3
O17	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB + BA + BO - OB	2*(-AO - BO + OA + OB)	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
O18	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB + BA + BO - OB	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
O19	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB + BA + BO - OB	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
O20	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB - AO + BA + OA	0	ABO + O	N3
O21	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB - AO + BA + OA	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1

Table B43: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (16) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	w_1	w_2	w_3	Serial
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	P1
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	P2
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	P3
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	P4
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	P5
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	P6
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	P7
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	P8
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	P9
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	P10
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	P11
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	P12
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	P13
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	P14
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	P15
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	P16
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	P17
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	P18
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	P19
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	P20
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	P21
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	-A + AAB - ABA + BAB	AAB	P22
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	-A + AAB - ABA + BAB	AAB	P23
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	P24
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	P25
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	P26
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	P27
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	P28
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	P29
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	P30
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	P31
0	2*BO	2*(AB - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	P32

Table B44: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (16) under three-way exchanges.

Serial	w_4	v_4	$2*g_5$	$2*g_7$	w_5	Result
P1	0	0	2*(ABO + O)	0	0	N11
P2	0	0	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N10
P3	0	0	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P4	0	0	2*AAB	2*(-AAB + ABO + O)	0	N11
P5	0	0	2*AAB	2*(-AAB - AO - BO + OA)	ABO + AO + BO + O - OA	N10
P6	0	0	2*AAB	2*(-AAB - AO - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P7	0	0	2*AAB	2*(-A + AB - ABA - BA - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N17
P8	0	0	2*AAB	2*(-A + AB - ABA - BA - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
P9	0	0	2*(ABO + O)	0	0	N11
P10	0	0	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N10
P11	0	0	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P12	0	0	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
P13	0	0	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
P14	0	0	2*(ABO + O)	0	0	N11
P15	0	0	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N10
P16	0	0	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P17	0	0	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA + ABO - BAB + O)	0	N11
P18	0	0	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA - AO - BAB - BO + OA)	ABO + AO + BO + O - OA	N10
P19	0	0	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA - AO - BAB - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P20	0	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N17
P21	0	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
P22	A - AAB - AB + ABA + BA + BO	0	0	0	ABO + O	N17
P23	A - AAB - AB + ABA + BA + BO	0	0	0	-AO - BO + OA + OAB + OB	N1
P24	0	0	2*(ABO + O)	0	0	N11
P25	0	0	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N10
P26	0	0	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P27	0	0	2*AAB	2*(-AAB + ABO + O)	0	N11
P28	0	0	2*AAB	2*(-AAB - AO - BO + OA)	ABO + AO + BO + O - OA	N10
P29	0	0	2*AAB	2*(-AAB - AO - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P30	0	0	2*AAB	2*(-A + AB - ABA - BA - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N17
P31	0	0	2*AAB	2*(-A + AB - ABA - BA - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
P32	0	0	2*(ABO + O)	0	0	N11

Table B45: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (16) under three-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	w_1	w_2	w_3	w_4	v_4	Serial
0	2*BO	2*(AB - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	P33
0	2*BO	2*(AB - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	P34
0	2*BO	2*(AB - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	P35
0	2*BO	2*(AB - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	P36
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	P37
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	P38
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	P39
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	P40
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	P41
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	P42
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	P43
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	P44
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB + BA + BO	P45
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB + BA + BO	P46
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB + BA + BO	P47
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB + BA + BO	P48
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB + BA + BO	P49
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	BA	P50
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	BA	P51
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	BA	P52
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	BA	P53
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	BA	P54
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB - AO + BA + OA	P55
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB - AO + BA + OA	P56
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	ABB + B - BAB	P57
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	ABB + B - BAB	P58
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	ABB + B - BAB	P59
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	ABB + B - BAB	P60
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	ABB + B - BAB	P61
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-A + AAB - ABA	P62
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-A + AAB - ABA	P63

Table B46: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (16) under three-way exchanges.

Serial	$2*g_5$	$2*g_7$	w_5	Result
P33	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N10
P34	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P35	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
P36	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
P37	2*(ABO + O)	0	0	N11
P38	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N10
P39	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P40	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA + ABO - BAB + O)	0	N11
P41	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA - AO - BAB - BO + OA)	ABO + AO + BO + O - OA	N10
P42	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA - AO - BAB - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P43	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N17
P44	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
P45	2*(ABO + O)	0	0	N11
P46	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N10
P47	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
P48	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
P49	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
P50	2*(ABO + O)	0	0	N13
P51	2*(-AB - AO + OA)	0	AB + ABO + AO + O - OA	N10
P52	2*(-AB - AO + OA)	0	-A + AAB + 2*AB - ABA + AO - BA - BO - OA + OAB + OB	N1
P53	2*(-A + AAB - ABA - BA)	0	A - AAB + ABA + ABO + BA + O	N17
P54	2*(-A + AAB - ABA - BA)	0	A - AAB + ABA - AO + BA - BO + OA + OAB + OB	N1
P55	0	0	ABO + O	N10
P56	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
P57	2*(ABO + O)	0	0	N15
P58	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
P59	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
P60	2*(-A + AAB - ABA - ABB - B + BAB)	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
P61	2*(-A + AAB - ABA - ABB - B + BAB)	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
P62	0	0	ABO + O	N17
P63	0	0	-AO - BO + OA + OAB + OB	N1

Table B47: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	a_8	$2*b_4$	Serial
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*(ABO + O)	Y1
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*(-AO - BO + OA)	Y2
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*(-AO - BO + OA)	Y3
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*(-AO - BO + OA)	Y4
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*(-AO - BO + OA)	Y5
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*(-AO - BO + OA)	Y6
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*(-AO - BO + OA)	Y7
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*(-AO - BO + OA)	Y8
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*(-AO - BO + OA)	Y9
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y10
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y11
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y12
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y13
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y14
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y15
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y16
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y17
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y18
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y19
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y20
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y21
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y22
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	2*AAB	Y23
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	2*(ABO + O)	Y24
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	2*(-AO - BO + OA)	Y25
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	2*(-AO - BO + OA)	Y26
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	2*AAB	Y27
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	2*AAB	Y28
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	2*AAB	Y29
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	2*AAB	Y30
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	2*AAB	Y31
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(ABO + O)	Y32
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	Y33
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	Y34
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	Y35
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	Y36
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	Y37
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	Y38
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	Y39
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	Y40
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	Y41
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	Y42
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	2*(ABO + O)	Y43
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	Y44
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	Y45

Table B48: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y1	0	0	0	0	N12
Y2	2*(ABO + AO + BO + O - OA)	0	0	0	N12
Y3	2*OB	0	2*(ABO + AO + BO + O - OA - OB)	0	N12
Y4	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + AO + BA + 2*BO + O - OA - OB	N3
Y5	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB + AO - B + BA + BAB + 2*BO - OA + OAB - OB	N1
Y6	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
Y7	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
Y8	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
Y9	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
Y10	2*(-AAB + ABO + O)	0	0	0	N12
Y11	2*OB	2*(-AAB + ABO + O - OB)	0	0	N12
Y12	2*OB	2*(-AAB - AO - BO + OA)	2*(ABO + AO + BO + O - OA - OB)	0	N12
Y13	2*OB	2*(-AAB - AO - BO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
Y14	2*OB	2*(-AAB - AO - BO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	-AAB - AB - ABB - AO - B + BA + BAB + OA + OAB - OB	N1
Y15	2*OB	2*(-AAB - AO - BO + OA)	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
Y16	2*OB	2*(-AAB - AO - BO + OA)	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
Y17	2*OB	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
Y18	2*OB	2*(-A + AB - ABA - BA - BO)	0	-AAB - AB - ABB - AO - B + BA + BAB + OA + OAB - OB	N1
Y19	2*(-A - ABA - ABB - B + BAB)	2*(A - AAB + ABA + ABB + ABO + B - BAB + O)	0	0	N12
Y20	2*(-A - ABA - ABB - B + BAB)	2*(-AAB - AO - BO + OA)	0	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
Y21	2*(-A - ABA - ABB - B + BAB)	2*(-AAB - AO - BO + OA)	0	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
Y22	2*(-A - ABA - ABB - B + BAB)	2*(-A + AB - ABA - BA - BO)	0	2*A - AAB - AB + 2*ABA + ABB + ABO + B + BA - BAB + BO + O	N17
Y23	2*(-A - ABA - ABB - B + BAB)	2*(-A + AB - ABA - BA - BO)	0	2*A - AAB - AB + 2*ABA + ABB - AO + B + BA - BAB + OA + OAB + OB	N1
Y24	0	0	0	0	N11
Y25	0	0	0	ABO + AO + BO + O - OA	N10
Y26	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y27	0	2*(-AAB + ABO + O)	0	0	N11
Y28	0	2*(-AAB - AO - BO + OA)	0	ABO + AO + BO + O - OA	N10
Y29	0	2*(-AAB - AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y30	0	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
Y31	0	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
Y32	0	0	0	0	N15
Y33	2*(ABO + AO + BO + O - OA)	0	0	0	N15
Y34	2*OB	0	0	ABO + AO + BO + O - OA - OB	N3
Y35	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
Y36	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
Y37	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
Y38	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N15
Y39	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
Y40	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
Y41	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
Y42	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
Y43	0	0	0	0	N11
Y44	0	0	0	ABO + AO + BO + O - OA	N10
Y45	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1

Table B49: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	a_8	Serial
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	Y46
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	Y47
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	Y48
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	Y49
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	Y50
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	Y51
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	Y52
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	Y53
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	Y54
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	Y55
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	Y56
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	Y57
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	Y58
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	Y59
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	Y60
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	Y61
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	Y62
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	Y63
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	0	0	0	Y64
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	0	0	0	Y65
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	Y66
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	Y67
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	Y68
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	Y69
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	Y70
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	Y71
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	Y72
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	Y73
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	BO - OA - OB	Y74
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	BO - OA - OB	Y75
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	BO - OA - OB	Y76
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	BO - OA - OB	Y77
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	BO - OA - OB	Y78
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	-A + AB - ABA - BA - OA	Y79
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	-A + AB - ABA - BA - OA	Y80
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	BO - OA	0	Y81
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	BO - OA	0	Y82
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	0	Y83
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	0	Y84
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	Y85
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	Y86
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	-A + AB - ABA - BA - OA	Y87
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	-A + AB - ABA - BA - OA	Y88
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	0	Y89
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	0	Y90

Table B50: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y46	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
Y47	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
Y48	2*(ABO + O)	0	0	0	0	N11
Y49	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N10
Y50	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y51	2*(-A + AAB - ABA + BAB)	0	2*(A - AAB + ABA + ABO - BAB + O)	0	0	N11
Y52	2*(-A + AAB - ABA + BAB)	0	2*(A - AAB + ABA - AO - BAB - BO + OA)	0	ABO + AO + BO + O - OA	N10
Y53	2*(-A + AAB - ABA + BAB)	0	2*(A - AAB + ABA - AO - BAB - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y54	2*(-A + AAB - ABA + BAB)	0	2*(AB - BA - BAB - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
Y55	2*(-A + AAB - ABA + BAB)	0	2*(AB - BA - BAB - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
Y56	0	2*(ABO + O)	0	0	0	N8
Y57	0	2*OB	0	2*(ABO + O - OB)	0	N8
Y58	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y59	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y60	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y61	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y62	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y63	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y64	0	0	0	0	ABO + O	N10
Y65	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y66	0	2*(ABO + O)	0	0	0	N8
Y67	0	2*(-BO + OA + OB)	0	2*(ABO + BO + O - OA - OB)	0	N8
Y68	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y69	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y70	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y71	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y72	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y73	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y74	0	0	0	2*(ABO + O)	0	N8
Y75	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y76	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y77	0	0	0	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y78	0	0	0	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y79	0	0	0	0	ABO + O	N3
Y80	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y81	0	0	0	0	ABO + O	N10
Y82	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y83	0	0	0	0	ABO + BO + O - OA - OB	N10
Y84	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
Y85	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y86	0	0	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y87	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N3
Y88	0	0	0	0	AAB + OAB	N1
Y89	0	2*(ABO + O)	0	0	0	N8
Y90	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N3

Table B51: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	Serial
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	Y91
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	Y92
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	Y93
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	OB	Y94
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	OB	Y95
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	A - AB + ABA + BA + BO	Y96
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	A - AB + ABA + BA + BO	Y97
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	OB	Y98
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	OB	Y99
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	OB	Y100
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	OB	Y101
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	AO + BO - OA	Y102
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	AO + BO - OA	Y103
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	AO + BO - OA	Y104
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	AO + BO - OA	Y105
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	AO + BO - OA	Y106
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	OB	Y107
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	OB	Y108
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	AO + BO - OA	Y109
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	AO + BO - OA	Y110
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	OB	Y111
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	OB	Y112
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	OB	Y113
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	OB	Y114
BA	0	2*(-AO + OA)	2*BAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	A + ABA - BAB	0	Y115
BA	0	2*(-AO + OA)	2*BAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	A + ABA - BAB	0	Y116
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	BO - OA	Y117
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	BO - OA	Y118
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	Y119
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	Y120
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	Y121
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	Y122
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	Y123
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	Y124
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	-AB + BA + BAB + BO	Y125
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	-AB + BA + BAB + BO	Y126
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	Y127
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	Y128
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	Y129
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	Y130

Table B52: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y91	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y92	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y93	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y94	0	0	0	0	0	ABO + O	N3
Y95	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y96	0	0	0	0	0	ABO + O	N10
Y97	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y98	0	0	0	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N10
Y99	0	0	0	0	0	AAB + OAB	N1
Y100	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N3
Y101	0	0	0	0	0	AAB + OAB	N1
Y102	0	0	2*(ABO + O)	0	0	0	N15
Y103	0	0	2*(-AO - BO + OA + OB)	0	0	ABO + AO + BO + O - OA - OB	N3
Y104	0	0	2*(-AO - BO + OA + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
Y105	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
Y106	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
Y107	0	0	0	0	0	ABO + O	N3
Y108	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y109	0	0	0	0	0	ABO + O	N10
Y110	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y111	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N10
Y112	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
Y113	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N3
Y114	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
Y115	0	0	0	0	0	ABO + O	N10
Y116	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y117	0	0	0	0	0	ABO + O	N10
Y118	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y119	0	0	0	0	0	ABO + BO + O - OA - OB	N10
Y120	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
Y121	-ABB - B + BO - OA - OB	0	0	0	0	ABB + ABO + B + O	N10
Y122	-ABB - B + BO - OA - OB	0	0	0	0	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
Y123	AB - BA - BAB - OA	0	0	0	0	ABB + ABO + B + O	N3
Y124	AB - BA - BAB - OA	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y125	0	0	0	0	0	ABO + O	N10
Y126	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y127	0	0	0	0	0	-AB + ABO + BA + BAB + BO + O - OB	N10
Y128	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y129	0	0	0	0	0	ABB + ABO + B + O	N3
Y130	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1

Table B53: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	Serial
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y131
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y132
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y133
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y134
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y135
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y136
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y137
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y138
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y139
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y140
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	Y141
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	ABB + B	AO	0	A + ABA	OB	Y142
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	ABB + B	AO	0	A + ABA	OB	Y143
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	ABB + B	AO	0	A + ABA	OB	Y144
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	ABB + B	AO	0	A + ABA	OB	Y145
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	ABB + B	AO	0	A + ABA	OB	Y146
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	BA	AO	ABB + B - BA	A + ABA	OB	Y147
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	BA	AO	ABB + B - BA	A + ABA	OB	Y148
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	BA	AO	ABB + B - BA	A + ABA	OB	Y149
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	BA	AO	ABB + B - BA	A + ABA	OB	Y150
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	BA	AO	ABB + B - BA	A + ABA	OB	Y151
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-A + AAB - ABA	AO	A - AAB + ABA + ABB + B	A + ABA	OB	Y152
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-A + AAB - ABA	AO	A - AAB + ABA + ABB + B	A + ABA	OB	Y153
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB + BA + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	Y154
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB + BA + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	Y155
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB + BA + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	Y156
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB + BA + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	Y157
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB + BA + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	Y158
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB - AO + BA + OA	AO	AB + ABB + AO + B - BA - OA	A + ABA	OB	Y159
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB - AO + BA + OA	AO	AB + ABB + AO + B - BA - OA	A + ABA	OB	Y160
BA	0	2*(AB - BA)	0	0	0	0	0	-AB + BA + BO	0	0	AO	BAB	A + ABA	0	Y161
BA	0	2*(AB - BA)	0	0	0	0	0	-AB + BA + BO	0	0	AO	BAB	A + ABA	0	Y162
BA	0	2*(AB - BA)	0	0	0	0	0	-AB + BA + BO	0	0	AO	BAB	A + ABA	0	Y163
BA	0	2*(AB - BA)	0	0	0	0	0	-AB + BA + BO	0	0	AO	BAB	A + ABA	0	Y164
BA	0	2*(AB - BA)	0	0	0	0	0	-AB + BA + BO	0	0	AO	BAB	A + ABA	0	Y165
BA	0	2*(AB - BA)	0	0	0	0	0	BA	0	0	AO	BAB	A + ABA	-AB + BO	Y166
BA	0	2*(AB - BA)	0	0	0	0	0	BA	0	0	AO	BAB	A + ABA	-AB + BO	Y167
BA	0	2*(AB - BA)	0	0	0	0	0	BA	0	0	AO	BAB	A + ABA	-AB + BO	Y168
BA	0	2*(AB - BA)	0	0	0	0	0	BA	0	0	AO	BAB	A + ABA	-AB + BO	Y169
BA	0	2*(AB - BA)	0	0	0	0	0	BA	0	0	AO	BAB	A + ABA	-AB + BO	Y170

Table B54: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y131	0	2*(ABO + O)	0	0	0	0	N15
Y132	0	2*(-AB - AO + BA + OA)	2*(AB + ABO + AO - BA + O - OA)	0	0	0	N15
Y133	0	2*(-AB - AO + BA + OA)	2*(AB - BA - BO + OB)	0	0	ABO + AO + BO + O - OA - OB	N3
Y134	0	2*(-AB - AO + BA + OA)	2*(AB - BA - BO + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
Y135	0	2*(-AB - AO + BA + OA)	2*(-ABB - B + BAB)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
Y136	0	2*(-AB - AO + BA + OA)	2*(-ABB - B + BAB)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
Y137	0	2*(-A + AAB - ABA)	2*(A - AAB + ABA + ABO + O)	0	0	0	N15
Y138	0	2*(-A + AAB - ABA)	2*(AB - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
Y139	0	2*(-A + AAB - ABA)	2*(AB - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
Y140	0	2*(-A + AAB - ABA)	2*(-ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
Y141	0	2*(-A + AAB - ABA)	2*(-ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
Y142	0	2*(ABO + O)	0	0	0	0	N4
Y143	0	2*(-AB - ABB - AO - B + BA + OA)	0	0	0	AB + ABB + ABO + AO + B - BA + O - OA	N3
Y144	0	2*(-AB - ABB - AO - B + BA + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA + BAB - OA + OAB	N1
Y145	0	2*(-A + AAB - ABA - ABB - B)	0	0	0	A - AAB + ABA + ABB + ABO + B + O	N7
Y146	0	2*(-A + AAB - ABA - ABB - B)	0	0	0	A - AAB - AB + ABA - AO + BA + BAB + OA + OAB	N1
Y147	0	2*(ABO + O)	0	0	0	0	N5
Y148	0	2*(-AB - AO + OA)	0	0	0	AB + ABO + AO + O - OA	N3
Y149	0	2*(-AB - AO + OA)	0	0	0	-A + AAB + AB - ABA - ABB + AO - B + BAB - OA + OAB	N1
Y150	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB + ABA + ABO + BA + O	N7
Y151	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB - AB + ABA - ABB - AO - B + 2*BA + BAB + OA + OAB	N1
Y152	0	0	0	0	0	ABO + O	N7
Y153	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
Y154	0	2*(ABO + O)	0	0	0	0	N15
Y155	0	2*(-AO - BO + OA + OB)	0	0	0	ABO + AO + BO + O - OA - OB	N3
Y156	0	2*(-AO - BO + OA + OB)	0	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
Y157	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
Y158	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
Y159	0	0	0	0	0	ABO + O	N3
Y160	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y161	0	2*(ABO + O)	0	0	0	0	N11
Y162	0	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N10
Y163	0	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y164	0	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
Y165	0	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
Y166	0	2*(ABO + O)	0	0	0	0	N13
Y167	0	2*(-AB - AO + OA)	0	0	0	AB + ABO + AO + O - OA	N10
Y168	0	2*(-AB - AO + OA)	0	0	0	-A + AAB + 2*AB - ABA + AO - BA - BO - OA + OAB + OB	N1
Y169	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB + ABA + ABO + BA + O	N17
Y170	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB + ABA - AO + BA - BO + OA + OAB + OB	N1

Table B55: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	Serial
BA	0	2*(AB - BA)	0	0	0	0	0	-AB - AO + BA + OA	0	0	AO	BAB	A + ABA	AO + BO - OA	Y171
BA	0	2*(AB - BA)	0	0	0	0	0	-AB - AO + BA + OA	0	0	AO	BAB	A + ABA	AO + BO - OA	Y172
BA	0	2*(AB - BA)	0	0	0	0	0	ABB + B - BAB	0	0	AO	BAB	A + ABA	-AB - ABB - B + BA + BAB + BO	Y173
BA	0	2*(AB - BA)	0	0	0	0	0	ABB + B - BAB	0	0	AO	BAB	A + ABA	-AB - ABB - B + BA + BAB + BO	Y174
BA	0	2*(AB - BA)	0	0	0	0	0	ABB + B - BAB	0	0	AO	BAB	A + ABA	-AB - ABB - B + BA + BAB + BO	Y175
BA	0	2*(AB - BA)	0	0	0	0	0	ABB + B - BAB	0	0	AO	BAB	A + ABA	-AB - ABB - B + BA + BAB + BO	Y176
BA	0	2*(AB - BA)	0	0	0	0	0	ABB + B - BAB	0	0	AO	BAB	A + ABA	-AB - ABB - B + BA + BAB + BO	Y177
BA	0	2*(AB - BA)	0	0	0	0	0	-A + AAB - ABA	0	0	AO	BAB	A + ABA	A - AAB - AB + ABA + BA + BO	Y178
BA	0	2*(AB - BA)	0	0	0	0	0	-A + AAB - ABA	0	0	AO	BAB	A + ABA	A - AAB - AB + ABA + BA + BO	Y179
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	BAB	AO	0	A + ABA	OB	Y180
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	BAB	AO	0	A + ABA	OB	Y181
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	BAB	AO	0	A + ABA	OB	Y182
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	BAB	AO	0	A + ABA	OB	Y183
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	BAB	AO	0	A + ABA	OB	Y184
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-ABB - B + BA + BAB	AO	ABB + B - BA	A + ABA	OB	Y185
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-ABB - B + BA + BAB	AO	ABB + B - BA	A + ABA	OB	Y186
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-ABB - B + BA + BAB	AO	ABB + B - BA	A + ABA	OB	Y187
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-ABB - B + BA + BAB	AO	ABB + B - BA	A + ABA	OB	Y188
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-ABB - B + BA + BAB	AO	ABB + B - BA	A + ABA	OB	Y189
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-A + AAB - ABA - ABB - B + BAB	AO	A - AAB + ABA + ABB + B	A + ABA	OB	Y190
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-A + AAB - ABA - ABB - B + BAB	AO	A - AAB + ABA + ABB + B	A + ABA	OB	Y191
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - B + BA + BAB + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	Y192
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - B + BA + BAB + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	Y193
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - B + BA + BAB + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	Y194
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - B + BA + BAB + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	Y195
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - B + BA + BAB + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	Y196
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - AO - B + BA + BAB + OA	AO	AB + ABB + AO + B - BA - OA	A + ABA	OB	Y197
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - AO - B + BA + BAB + OA	AO	AB + ABB + AO + B - BA - OA	A + ABA	OB	Y198
BA	0	2*(AB - BA)	0	0	0	2*(-A + AAB - ABA)	0	0	0	0	AO	BAB	A + ABA	OB	Y199
BA	0	2*(AB - BA)	0	0	0	2*(-A + AAB - ABA)	0	0	0	0	AO	BAB	A + ABA	OB	Y200
BA	0	2*(AB - BA)	0	0	0	2*(-A + AAB - ABA)	0	0	0	0	AO	BAB	A + ABA	OB	Y201
BA	0	2*(AB - BA)	0	0	0	2*(-A + AAB - ABA)	0	0	0	0	AO	BAB	A + ABA	OB	Y202
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	OB	0	0	AO	BAB	A + ABA	0	Y203
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	OB	0	0	AO	BAB	A + ABA	0	Y204
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	OB	0	0	AO	BAB	A + ABA	0	Y205
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	OB	0	0	AO	BAB	A + ABA	0	Y206
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	OB	0	0	AO	BAB	A + ABA	0	Y207
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB - BO + OB	0	0	AO	BAB	A + ABA	-AB + BO	Y208
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB - BO + OB	0	0	AO	BAB	A + ABA	-AB + BO	Y209
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB - BO + OB	0	0	AO	BAB	A + ABA	-AB + BO	Y210

Table B56: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y171	0	0	0	0	0	ABO + O	N10
Y172	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y173	0	2*(ABO + O)	0	0	0	0	N15
Y174	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
Y175	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
Y176	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
Y177	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
Y178	0	0	0	0	0	ABO + O	N17
Y179	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
Y180	0	2*(ABO + O)	0	0	0	0	N4
Y181	0	2*(-AB - ABB - AO - B + BA + OA)	0	0	0	AB + ABB + ABO + AO + B - BA + O - OA	N3
Y182	0	2*(-AB - ABB - AO - B + BA + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA + BAB - OA + OAB	N1
Y183	0	2*(-A + AAB - ABA - ABB - B)	0	0	0	A - AAB + ABA + ABB + ABO + B + O	N7
Y184	0	2*(-A + AAB - ABA - ABB - B)	0	0	0	A - AAB - AB + ABA - AO + BA + BAB + OA + OAB	N1
Y185	0	2*(ABO + O)	0	0	0	0	N5
Y186	0	2*(-AB - AO + OA)	0	0	0	AB + ABO + AO + O - OA	N3
Y187	0	2*(-AB - AO + OA)	0	0	0	-A + AAB + AB - ABA - ABB + AO - B + BAB - OA + OAB	N1
Y188	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB + ABA + ABO + BA + O	N7
Y189	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB - AB + ABA - ABB - AO - B + 2*BA + BAB + OA + OAB	N1
Y190	0	0	0	0	0	ABO + O	N7
Y191	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
Y192	0	2*(ABO + O)	0	0	0	0	N15
Y193	0	2*(-AO - BO + OA + OB)	0	0	0	ABO + AO + BO + O - OA - OB	N3
Y194	0	2*(-AO - BO + OA + OB)	0	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
Y195	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
Y196	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
Y197	0	0	0	0	0	ABO + O	N3
Y198	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y199	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N17
Y200	0	0	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
Y201	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N7
Y202	0	0	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
Y203	0	2*(ABO + O)	0	0	0	0	N11
Y204	0	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N10
Y205	0	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y206	0	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
Y207	0	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
Y208	0	2*(ABO + O)	0	0	0	0	N13
Y209	0	2*(-AB - AO + OA)	0	0	0	AB + ABO + AO + O - OA	N10
Y210	0	2*(-AB - AO + OA)	0	0	0	-A + AAB + 2*AB - ABA + AO - BA - BO - OA + OAB + OB	N1

Table B57: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	Serial
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB - BO + OB	0	0	AO	BAB	A + ABA	-AB + BO	Y211
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB - BO + OB	0	0	AO	BAB	A + ABA	-AB + BO	Y212
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	-AO - BO + OA + OB	0	0	AO	BAB	A + ABA	AO + BO - OA	Y213
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	-AO - BO + OA + OB	0	0	AO	BAB	A + ABA	AO + BO - OA	Y214
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	0	0	AO	BAB	A + ABA	-AB - ABB - B + BA + BAB + BO	Y215
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	0	0	AO	BAB	A + ABA	-AB - ABB - B + BA + BAB + BO	Y216
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	0	0	AO	BAB	A + ABA	-AB - ABB - B + BA + BAB + BO	Y217
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	0	0	AO	BAB	A + ABA	-AB - ABB - B + BA + BAB + BO	Y218
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	0	0	AO	BAB	A + ABA	-AB - ABB - B + BA + BAB + BO	Y219
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	-A + AAB + AB - ABA - BA - BO + OB	0	0	AO	BAB	A + ABA	A - AAB - AB + ABA + BA + BO	Y220
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	-A + AAB + AB - ABA - BA - BO + OB	0	0	AO	BAB	A + ABA	A - AAB - AB + ABA + BA + BO	Y221
BA	0	2*(AB - BA)	0	0	0	2*(-AB - AO + BA + OA)	0	0	0	0	AO	BAB	A + ABA	OB	Y222
BA	0	2*(AB - BA)	0	0	0	2*(-AB - AO + BA + OA)	0	0	0	0	AO	BAB	A + ABA	OB	Y223
BA	0	2*(AB - BA)	0	0	0	2*(-AB - AO + BA + OA)	0	0	0	0	AO	BAB	A + ABA	OB	Y224
BA	0	2*(AB - BA)	0	0	0	2*(-AB - AO + BA + OA)	0	0	0	0	AO	BAB	A + ABA	OB	Y225
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y226
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y227
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y228
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y229
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y230
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y231
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y232
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y233
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y234
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y235
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y236
BA	0	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	AO	BAB	A + ABA	OB	Y237
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y238
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y239
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y240
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y241
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y242
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y243
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y244
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y245
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y246
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y247
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y248
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y249
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y250

Table B58: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y211	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB + ABA + ABO + BA + O	N17
Y212	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB + ABA - AO + BA - BO + OA + OAB + OB	N1
Y213	0	0	0	0	0	ABO + O	N10
Y214	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y215	0	2*(ABO + O)	0	0	0	0	N15
Y216	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
Y217	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
Y218	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
Y219	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
Y220	0	0	0	0	0	ABO + O	N17
Y221	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
Y222	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N10
Y223	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
Y224	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N3
Y225	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
Y226	0	2*(ABO + O)	0	0	0	-AB + BO - OB	N13
Y227	0	2*(ABO + O)	0	0	0	-A + AAB - AB - ABA - 2*ABO - AO - BA - 2*O + OA + OAB	N1
Y228	0	2*(-AB - AO + OA)	0	0	0	ABO + AO + BO + O - OA - OB	N10
Y229	0	2*(-AB - AO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
Y230	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N17
Y231	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
Y232	0	2*(ABO + O)	0	0	0	ABB + B - BA - BAB	N5
Y233	0	2*(ABO + O)	0	0	0	-A + AAB - AB - ABA - 2*ABO - AO - BA - 2*O + OA + OAB	N1
Y234	0	2*(-AB - AO + OA)	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N3
Y235	0	2*(-AB - AO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
Y236	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N7
Y237	0	2*(-A + AAB - ABA - BA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
Y238	0	2*(ABO + O)	0	0	0	0	N12
Y239	0	2*(-AO - BO + OA)	2*(ABO + AO + BO + O - OA)	0	0	0	N12
Y240	0	2*(-AO - BO + OA)	2*OB	0	2*(ABO + AO + BO + O - OA - OB)	0	N12
Y241	0	2*(-AO - BO + OA)	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + AO + BA + 2*BO + O - OA - OB	N3
Y242	0	2*(-AO - BO + OA)	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB + AO - B + BA + BAB + 2*BO - OA + OAB - OB	N1
Y243	0	2*(-AO - BO + OA)	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
Y244	0	2*(-AO - BO + OA)	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
Y245	0	2*(-AO - BO + OA)	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
Y246	0	2*(-AO - BO + OA)	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
Y247	0	2*AAB	2*(-AAB + ABO + O)	0	0	0	N12
Y248	0	2*AAB	2*OB	2*(-AAB + ABO + O - OB)	0	0	N12
Y249	0	2*AAB	2*OB	2*(-AAB - AO - BO + OA)	2*(ABO + AO + BO + O - OA - OB)	0	N12
Y250	0	2*AAB	2*OB	2*(-AAB - AO - BO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6

Table B59: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	Serial
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y251
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y252
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y253
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y254
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y255
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y256
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y257
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y258
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y259
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	Y260
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	Y261
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	Y262
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	Y263
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	Y264
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	Y265
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	Y266
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	Y267
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	Y268
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y269
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y270
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y271
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y272
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y273
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y274
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y275
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y276
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y277
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y278
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	Y279
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	Y280
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	Y281
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	Y282
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	Y283
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	Y284
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	Y285
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	Y286
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	Y287
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	Y288
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	Y289
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	Y290

Table B60: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y251	0	2*AAB	2*OB	2*(-AAB - AO - BO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	-AAB - AB - ABB - AO - B + BA + BAB + OA + OAB - OB	N1
Y252	0	2*AAB	2*OB	2*(-AAB - AO - BO + OA)	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
Y253	0	2*AAB	2*OB	2*(-AAB - AO - BO + OA)	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
Y254	0	2*AAB	2*OB	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
Y255	0	2*AAB	2*OB	2*(-A + AB - ABA - BA - BO)	0	-AAB - AB - ABB - AO - B + BA + BAB + OA + OAB - OB	N1
Y256	0	2*AAB	2*(-A - ABA - ABB - B + BAB)	2*(A - AAB + ABA + ABB + ABO + B - BAB + O)	0	0	N12
Y257	0	2*AAB	2*(-A - ABA - ABB - B + BAB)	2*(-AAB - AO - BO + OA)	0	A + ABA + ABB + ABO + AO + B - BAB + BO + O - OA	N10
Y258	0	2*AAB	2*(-A - ABA - ABB - B + BAB)	2*(-AAB - AO - BO + OA)	0	AAB + AB + ABB + AO + B - BA - BAB - OA + OAB + OB	N1
Y259	0	2*AAB	2*(-A - ABA - ABB - B + BAB)	2*(-A + AB - ABA - BA - BO)	0	2*A - AAB - AB + 2*ABA + ABB + ABO + B + BA - BAB + BO + O	N17
Y260	0	2*AAB	2*(-A - ABA - ABB - B + BAB)	2*(-A + AB - ABA - BA - BO)	0	2*A - AAB - AB + 2*ABA + ABB - AO + B + BA - BAB + OA + OAB + OB	N1
Y261	0	2*(ABO + O)	0	0	0	0	N11
Y262	0	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N10
Y263	0	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y264	0	2*AAB	0	2*(-AAB + ABO + O)	0	0	N11
Y265	0	2*AAB	0	2*(-AAB - AO - BO + OA)	0	ABO + AO + BO + O - OA	N10
Y266	0	2*AAB	0	2*(-AAB - AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y267	0	2*AAB	0	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
Y268	0	2*AAB	0	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
Y269	0	2*(ABO + O)	0	0	0	0	N15
Y270	0	2*(-AO - BO + OA)	2*(ABO + AO + BO + O - OA)	0	0	0	N15
Y271	0	2*(-AO - BO + OA)	2*OB	0	0	ABO + AO + BO + O - OA - OB	N3
Y272	0	2*(-AO - BO + OA)	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
Y273	0	2*(-AO - BO + OA)	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
Y274	0	2*(-AO - BO + OA)	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
Y275	0	2*(-A + AAB + AB - ABA - BA - BO)	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N15
Y276	0	2*(-A + AAB + AB - ABA - BA - BO)	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
Y277	0	2*(-A + AAB + AB - ABA - BA - BO)	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
Y278	0	2*(-A + AAB + AB - ABA - BA - BO)	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
Y279	0	2*(-A + AAB + AB - ABA - BA - BO)	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
Y280	0	2*(ABO + O)	0	0	0	0	N11
Y281	0	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N10
Y282	0	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y283	0	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
Y284	0	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
Y285	0	2*(ABO + O)	0	0	0	0	N11
Y286	0	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N10
Y287	0	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y288	0	2*(-A + AAB - ABA + BAB)	0	2*(A - AAB + ABA + ABO - BAB + O)	0	0	N11
Y289	0	2*(-A + AAB - ABA + BAB)	0	2*(A - AAB + ABA - AO - BAB - BO + OA)	0	ABO + AO + BO + O - OA	N10
Y290	0	2*(-A + AAB - ABA + BAB)	0	2*(A - AAB + ABA - AO - BAB - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1

Table B61: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	Serial
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	Y291
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	Y292
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	Y293
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	Y294
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	Y295
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	Y296
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	Y297
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	Y298
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	Y299
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	Y300
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	0	0	Y301
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	0	0	Y302
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	Y303
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	Y304
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	Y305
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	Y306
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	Y307
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	Y308
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	Y309
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	Y310
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	Y311
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	Y312
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	Y313
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	Y314
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	Y315
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	Y316
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	Y317
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	BO - OA	Y318
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	BO - OA	Y319
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	Y320
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	Y321
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	Y322
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	Y323
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	Y324
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	Y325
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	Y326
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	Y327
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	Y328
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	Y329
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	Y330

Table B62: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y291	0	2*(-A + AAB - ABA + BAB)	0	2*(AB - BA - BAB - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
Y292	0	2*(-A + AAB - ABA + BAB)	0	2*(AB - BA - BAB - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
Y293	0	0	2*(ABO + O)	0	0	0	N8
Y294	0	0	2*OB	0	2*(ABO + O - OB)	0	N8
Y295	0	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y296	0	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y297	0	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y298	0	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y299	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y300	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y301	0	0	0	0	0	ABO + O	N10
Y302	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y303	0	0	2*(ABO + O)	0	0	0	N8
Y304	0	0	2*(-BO + OA + OB)	0	2*(ABO + BO + O - OA - OB)	0	N8
Y305	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y306	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y307	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y308	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y309	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y310	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y311	BO - OA - OB	0	0	0	2*(ABO + O)	0	N8
Y312	BO - OA - OB	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y313	BO - OA - OB	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y314	BO - OA - OB	0	0	0	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y315	BO - OA - OB	0	0	0	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y316	-A + AB - ABA - BA - OA	0	0	0	0	ABO + O	N3
Y317	-A + AB - ABA - BA - OA	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y318	0	0	0	0	0	ABO + O	N10
Y319	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y320	0	0	0	0	0	ABO + BO + O - OA - OB	N10
Y321	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
Y322	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y323	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y324	-A + AB - ABA - BA - OA	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N3
Y325	-A + AB - ABA - BA - OA	0	0	0	0	AAB + OAB	N1
Y326	0	0	2*(ABO + O)	0	0	0	N8
Y327	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y328	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y329	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y330	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1

Table B63: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y331
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y332
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y333
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y334
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y335
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y336
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y337
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y338
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	Y339
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	Y340
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	Y341
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	Y342
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	Y343
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	Y344
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	Y345
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	Y346
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	Y347
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	Y348
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	Y349
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	Y350
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	Y351
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	Y352
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	Y353
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	Y354
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	Y355
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	Y356
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	Y357
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	Y358
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	Y359
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	Y360
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	Y361
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y362
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y363
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y364
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y365
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y366
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y367
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	Y368
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	Y369
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	Y370

Table B64: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	p_3	p_4	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y331	0	OB	0	0	0	0	0	ABO + O	N3
Y332	0	OB	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y333	0	A - AB + ABA + BA + BO	0	0	0	0	0	ABO + O	N10
Y334	0	A - AB + ABA + BA + BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y335	0	OB	0	0	0	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N10
Y336	0	OB	0	0	0	0	0	AAB + OAB	N1
Y337	0	OB	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N3
Y338	0	OB	0	0	0	0	0	AAB + OAB	N1
Y339	A - AB + ABA - AO + BA + OA	AO + BO - OA	0	0	2*(ABO + O)	0	0	0	N15
Y340	A - AB + ABA - AO + BA + OA	AO + BO - OA	0	0	2*(-AO - BO + OA + OB)	0	0	ABO + AO + BO + O - OA - OB	N3
Y341	A - AB + ABA - AO + BA + OA	AO + BO - OA	0	0	2*(-AO - BO + OA + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
Y342	A - AB + ABA - AO + BA + OA	AO + BO - OA	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
Y343	A - AB + ABA - AO + BA + OA	AO + BO - OA	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
Y344	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	ABO + O	N3
Y345	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y346	A - AB + ABA - AO + BA + OA	AO + BO - OA	0	0	0	0	0	ABO + O	N10
Y347	A - AB + ABA - AO + BA + OA	AO + BO - OA	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y348	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N10
Y349	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
Y350	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N3
Y351	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
Y352	A + ABA - BAB	0	0	0	0	0	0	ABO + O	N10
Y353	A + ABA - BAB	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y354	A + ABA - BAB	BO - OA	0	0	0	0	0	ABO + O	N10
Y355	A + ABA - BAB	BO - OA	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y356	A + ABA - BAB	OB	0	0	0	0	0	ABO + BO + O - OA - OB	N10
Y357	A + ABA - BAB	OB	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
Y358	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	ABB + ABO + B + O	N10
Y359	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
Y360	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	ABB + ABO + B + O	N3
Y361	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y362	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	ABO + O	N10
Y363	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y364	A + ABA - BAB	OB	0	0	0	0	0	-AB + ABO + BA + BAB + BO + O - OB	N10
Y365	A + ABA - BAB	OB	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y366	A + ABA - BAB	OB	0	0	0	0	0	ABB + ABO + B + O	N3
Y367	A + ABA - BAB	OB	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y368	AAB	A - AAB - AB + ABA + BA + BO	0	0	2*(ABO + O)	0	0	0	N15
Y369	AAB	A - AAB - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
Y370	AAB	A - AAB - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1

Table B65: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	Y371
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	Y372
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	Y373
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	Y374
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	Y375
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	Y376
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	Y377
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	Y378
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	Y379
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	Y380
BA	2*(AB - BA)	0	0	0	0	0	0	0	AO	0	0	ABB + B	Y381
BA	2*(AB - BA)	0	0	0	0	0	0	0	AO	0	0	ABB + B	Y382
BA	2*(AB - BA)	0	0	0	0	0	0	0	AO	0	0	ABB + B	Y383
BA	2*(AB - BA)	0	0	0	0	0	0	0	AO	0	0	ABB + B	Y384
BA	2*(AB - BA)	0	0	0	0	0	0	0	AO	0	0	ABB + B	Y385
BA	2*(AB - BA)	0	0	0	0	0	0	0	BA	0	AO - BA	ABB + B	Y386
BA	2*(AB - BA)	0	0	0	0	0	0	0	BA	0	AO - BA	ABB + B	Y387
BA	2*(AB - BA)	0	0	0	0	0	0	0	BA	0	AO - BA	ABB + B	Y388
BA	2*(AB - BA)	0	0	0	0	0	0	0	BA	0	AO - BA	ABB + B	Y389
BA	2*(AB - BA)	0	0	0	0	0	0	0	BA	0	AO - BA	ABB + B	Y390
BA	2*(AB - BA)	0	0	0	0	0	0	0	-BO + OB	0	AO + BO - OB	ABB + B	Y391
BA	2*(AB - BA)	0	0	0	0	0	0	0	-BO + OB	0	AO + BO - OB	ABB + B	Y392
BA	2*(AB - BA)	0	0	0	0	0	0	0	A - AAB - AB + ABA + BA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	Y393
BA	2*(AB - BA)	0	0	0	0	0	0	0	A - AAB - AB + ABA + BA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	Y394
BA	2*(AB - BA)	0	0	0	0	0	0	0	A - AAB - AB + ABA + BA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	Y395
BA	2*(AB - BA)	0	0	0	0	0	0	0	A - AAB - AB + ABA + BA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	Y396
BA	2*(AB - BA)	0	0	0	0	0	0	0	A - AAB - AB + ABA + BA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	Y397
BA	2*(AB - BA)	0	0	0	0	0	0	0	-AB - ABB - B + BA + BAB	0	AB + ABB + AO + B - BA - BAB	ABB + B	Y398
BA	2*(AB - BA)	0	0	0	0	0	0	0	-AB - ABB - B + BA + BAB	0	AB + ABB + AO + B - BA - BAB	ABB + B	Y399
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	ABB + B	Y400
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	ABB + B	Y401
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	Y402
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	Y403
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	Y404
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	Y405
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	Y406
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	Y407
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	Y408
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	Y409
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	Y410

Table B66: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	p_3	p_4	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y371	AAB	A - AAB - AB + ABA + BA + BO	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
Y372	AAB	A - AAB - AB + ABA + BA + BO	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
Y373	AAB	OB	0	0	0	0	0	ABO + O	N7
Y374	AAB	OB	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
Y375	AAB	A - AAB - AB + ABA + BA + BO	0	0	0	0	0	ABO + O	N17
Y376	AAB	A - AAB - AB + ABA + BA + BO	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
Y377	AAB	OB	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N17
Y378	AAB	OB	0	0	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
Y379	AAB	OB	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N7
Y380	AAB	OB	0	0	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
Y381	AAB	BO	0	0	2*(ABO + O)	0	0	0	N14
Y382	AAB	BO	0	0	2*(-AO - BO + OB)	0	0	ABO + AO + BO + O - OB	N7
Y383	AAB	BO	0	0	2*(-AO - BO + OB)	0	0	-AB - ABB - B + BA + BAB + BO + OA + OAB - OB	N1
Y384	AAB	BO	0	0	2*(-AB - ABB - AO - B + BA + BAB)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O	N17
Y385	AAB	BO	0	0	2*(-AB - ABB - AO - B + BA + BAB)	0	0	AB + ABB + B - BA - BAB - BO + OA + OAB + OB	N1
Y386	AAB	BO	0	0	2*(ABO + O)	0	0	0	N16
Y387	AAB	BO	0	0	2*(-BA - BO + OB)	0	0	ABO + BA + BO + O - OB	N7
Y388	AAB	BO	0	0	2*(-BA - BO + OB)	0	0	-AB - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
Y389	AAB	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	AB + ABB + ABO + B - BAB + O	N17
Y390	AAB	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	AB + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
Y391	AAB	BO	0	0	0	0	0	ABO + O	N7
Y392	AAB	BO	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
Y393	AAB	BO	0	0	2*(ABO + O)	0	0	0	N15
Y394	AAB	BO	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
Y395	AAB	BO	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
Y396	AAB	BO	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
Y397	AAB	BO	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
Y398	AAB	BO	0	0	0	0	0	ABO + O	N17
Y399	AAB	BO	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
Y400	AAB	OB	0	0	0	0	0	ABO + O	N7
Y401	AAB	OB	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
Y402	AAB	BO	0	0	0	0	0	ABO + O	N17
Y403	AAB	BO	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
Y404	AAB	OB	0	0	0	0	0	ABO + BO + O - OB	N17
Y405	AAB	OB	0	0	0	0	0	-AO + OA + OAB	N1
Y406	AAB	OB	0	0	0	0	0	AB + ABB + ABO + B - BA - BAB + O	N7
Y407	AAB	OB	0	0	0	0	0	-AO + OA + OAB	N1
Y408	AAB	0	A - AAB + ABA - BAB	0	0	2*(ABO + O)	0	0	N11
Y409	AAB	0	A - AAB + ABA - BAB	0	0	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N10
Y410	AAB	0	A - AAB + ABA - BAB	0	0	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1

Table B67: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	Y411
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	Y412
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	Y413
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	Y414
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	Y415
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	Y416
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	Y417
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	Y418
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	Y419
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	Y420
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y421
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y422
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y423
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y424
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y425
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y426
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y427
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y428
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y429
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y430
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y431
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y432
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y433
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y434
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y435
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y436
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y437
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y438
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y439
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	Y440
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y441
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y442
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y443
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y444
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y445
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y446
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y447
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y448
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y449
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y450

Table B68: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	p_3	p_4	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y411	AAB	0	A - AAB + ABA - BAB	0	0	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N17
Y412	AAB	0	A - AAB + ABA - BAB	0	0	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
Y413	AAB	0	AB - BA - BAB - BO	0	0	0	0	ABO + O	N17
Y414	AAB	0	AB - BA - BAB - BO	0	0	0	0	-AO - BO + OA + OAB + OB	N1
Y415	AAB	0	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N10
Y416	AAB	0	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
Y417	AAB	0	A - AAB + ABA - AO - BAB - BO + OA	0	0	0	0	ABO + AO + BO + O - OA	N10
Y418	AAB	0	A - AAB + ABA - AO - BAB - BO + OA	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y419	AAB	0	AB - BA - BAB - BO	0	0	0	0	ABO + AO + BO + O - OA	N17
Y420	AAB	0	AB - BA - BAB - BO	0	0	0	0	OAB + OB	N1
Y421	AAB	BO - OA	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N10
Y422	AAB	BO - OA	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
Y423	AAB	BO - OA	A - AAB + ABA - AO - BAB	0	0	0	0	ABO + AO + O	N10
Y424	AAB	BO - OA	A - AAB + ABA - AO - BAB	0	0	0	0	-A + AAB + AB - ABA + AO - BA - BO + OAB + OB	N1
Y425	AAB	BO - OA	AB - BA - BAB - OA	0	0	0	0	ABO + AO + O	N17
Y426	AAB	BO - OA	AB - BA - BAB - OA	0	0	0	0	-BO + OA + OAB + OB	N1
Y427	AAB	OB	0	0	0	0	0	A - AAB + ABA + ABO - BAB + BO + O - OA - OB	N10
Y428	AAB	OB	0	0	0	0	0	AB - BA - BAB - OA + OAB	N1
Y429	AAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N10
Y430	AAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y431	AAB	OB	AB - BA - BAB - OA	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N3
Y432	AAB	OB	AB - BA - BAB - OA	0	0	0	0	OAB	N1
Y433	AAB	OB	A - AAB + ABA - AO - BAB	0	0	0	0	ABO + AO + BO + O - OA - OB	N10
Y434	AAB	OB	A - AAB + ABA - AO - BAB	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
Y435	AAB	OB	AB - BA - BAB - OA	0	0	0	0	ABO + AO + BO + O - OA - OB	N17
Y436	AAB	OB	AB - BA - BAB - OA	0	0	0	0	OAB	N1
Y437	AAB	OB	A - AAB + ABA - ABB - AO - B - BAB + BO - OA - OB	0	0	0	0	ABB + ABO + AO + B + O	N10
Y438	AAB	OB	A - AAB + ABA - ABB - AO - B - BAB + BO - OA - OB	0	0	0	0	-A + AAB + AB - ABA + ABB + AO + B - BA - BO + OAB + OB	N1
Y439	AAB	OB	AB - BA - BAB - OA	0	0	0	0	ABB + ABO + AO + B + O	N2
Y440	AAB	OB	AB - BA - BAB - OA	0	0	0	0	OAB	N1
Y441	AAB	-AB + BA + BAB + BO	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N10
Y442	AAB	-AB + BA + BAB + BO	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
Y443	AAB	-AB + BA + BAB + BO	0	0	0	0	0	AB + ABO + AO - BA - BAB + O - OA	N17
Y444	AAB	-AB + BA + BAB + BO	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
Y445	AAB	OB	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N10
Y446	AAB	OB	0	0	0	0	0	OAB	N1
Y447	AAB	OB	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N3
Y448	AAB	OB	0	0	0	0	0	OAB	N1
Y449	AAB	OB	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N17
Y450	AAB	OB	0	0	0	0	0	OAB	N1

Table B69: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y451
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y452
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	Y453
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	Y454
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	Y455
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	Y456
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	Y457
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	Y458
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y459
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y460
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y461
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y462
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y463
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y464
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y465
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y466
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	Y467
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	Y468
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y469
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y470
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y471
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y472
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y473
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y474
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y475
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y476
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y477
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y478
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y479
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y480
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y481
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y482
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	Y483
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y484
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y485
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y486
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y487
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y488
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y489
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y490
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y491

Table B70: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	p_3	p_4	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y451	AAB	OB	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N7
Y452	AAB	OB	0	0	0	0	0	OAB	N1
Y453	AAB	-AB + BA + BAB + BO	0	0	0	0	0	ABO + O	N17
Y454	AAB	-AB + BA + BAB + BO	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
Y455	AAB	OB	0	0	0	0	0	-AB + ABO + BA + BAB + BO + O - OB	N17
Y456	AAB	OB	0	0	0	0	0	-AB - AO + BA + BAB + OA + OAB	N1
Y457	AAB	OB	0	0	0	0	0	ABB + ABO + B + O	N7
Y458	AAB	OB	0	0	0	0	0	-AB - AO + BA + BAB + OA + OAB	N1
Y459	0	0	0	0	2*(ABO + O)	0	0	0	N8
Y460	0	0	0	0	2*OB	0	2*(ABO + O - OB)	0	N8
Y461	0	0	0	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y462	0	0	0	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y463	0	0	0	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y464	0	0	0	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y465	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y466	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y467	0	0	0	0	0	0	0	ABO + O	N10
Y468	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y469	0	BO - OA	0	0	2*(ABO + O)	0	0	0	N8
Y470	0	BO - OA	0	0	2*(-BO + OA + OB)	0	2*(ABO + BO + O - OA - OB)	0	N8
Y471	0	BO - OA	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y472	0	BO - OA	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y473	0	BO - OA	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y474	0	BO - OA	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y475	0	BO - OA	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y476	0	BO - OA	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y477	0	OB	BO - OA - OB	0	0	0	2*(ABO + O)	0	N8
Y478	0	OB	BO - OA - OB	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y479	0	OB	BO - OA - OB	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y480	0	OB	BO - OA - OB	0	0	0	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y481	0	OB	BO - OA - OB	0	0	0	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y482	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	ABO + O	N3
Y483	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y484	0	BO - OA	0	0	0	0	0	ABO + O	N10
Y485	0	BO - OA	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y486	0	OB	0	0	0	0	0	ABO + BO + O - OA - OB	N10
Y487	0	OB	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
Y488	0	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y489	0	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y490	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N3
Y491	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	AAB + OAB	N1

Table B71: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y492
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y493
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y494
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y495
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y496
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y497
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y498
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y499
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y500
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y501
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y502
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y503
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y504
BA	0	0	2*(AB - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	Y505
BA	0	0	2*(AB - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	Y506
BA	0	0	2*(AB - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	Y507
BA	0	0	2*(AB - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	Y508
BA	0	0	2*(AB - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	Y509
BA	0	0	2*(AB - BA)	0	0	0	BA	0	0	0	OA	ABB + B	Y510
BA	0	0	2*(AB - BA)	0	0	0	BA	0	0	0	OA	ABB + B	Y511
BA	0	0	2*(AB - BA)	0	0	0	BA	0	0	0	OA	ABB + B	Y512
BA	0	0	2*(AB - BA)	0	0	0	BA	0	0	0	OA	ABB + B	Y513
BA	0	0	2*(AB - BA)	0	0	0	BA	0	0	0	OA	ABB + B	Y514
BA	0	0	2*(AB - BA)	0	0	0	-AB - ABB - B + BA + BAB	0	0	0	OA	ABB + B	Y515
BA	0	0	2*(AB - BA)	0	0	0	-AB - ABB - B + BA + BAB	0	0	0	OA	ABB + B	Y516
BA	0	0	2*(AB - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	Y517
BA	0	0	2*(AB - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	Y518
BA	0	0	2*(AB - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	Y519
BA	0	0	2*(AB - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	Y520
BA	0	0	2*(AB - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	Y521
BA	0	0	2*(AB - BA)	0	0	0	-BO + OB	0	0	0	OA	ABB + B	Y522
BA	0	0	2*(AB - BA)	0	0	0	-BO + OB	0	0	0	OA	ABB + B	Y523
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	ABB + B	Y524
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	ABB + B	Y525
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y526
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y527
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y528
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y529
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y530
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y531
BA	0	0	2*BAB	2*BO	0	0	0	0	0	0	-BO + OA	0	Y532

Table B72: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	p_3	p_4	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y492	0	A - AB + ABA + BA + BO	0	0	2*(ABO + O)	0	0	0	N8
Y493	0	A - AB + ABA + BA + BO	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y494	0	A - AB + ABA + BA + BO	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y495	0	A - AB + ABA + BA + BO	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y496	0	A - AB + ABA + BA + BO	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y497	0	OB	0	0	0	0	0	ABO + O	N3
Y498	0	OB	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y499	0	A - AB + ABA + BA + BO	0	0	0	0	0	ABO + O	N10
Y500	0	A - AB + ABA + BA + BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y501	0	OB	0	0	0	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N10
Y502	0	OB	0	0	0	0	0	AAB + OAB	N1
Y503	0	OB	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N3
Y504	0	OB	0	0	0	0	0	AAB + OAB	N1
Y505	0	BO	0	0	2*(ABO + O)	0	0	0	N8
Y506	0	BO	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y507	0	BO	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y508	0	BO	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y509	0	BO	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y510	A - AB + ABA	BO	0	0	2*(ABO + O)	0	0	0	N9
Y511	A - AB + ABA	BO	0	0	2*(-BA - BO + OB)	0	0	ABO + BA + BO + O - OB	N3
Y512	A - AB + ABA	BO	0	0	2*(-BA - BO + OB)	0	0	-A + AAB - ABA - ABB - B + BA + BAB + BO + OAB - OB	N1
Y513	A - AB + ABA	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	AB + ABB + ABO + B - BAB + O	N10
Y514	A - AB + ABA	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	-A + AAB + 2*AB - ABA + ABB + B - BA - BAB - BO + OAB + OB	N1
Y515	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	ABO + O	N10
Y516	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y517	A - AB + ABA - AO + BA + OA	BO	0	0	2*(ABO + O)	0	0	0	N15
Y518	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AO - BO + OA + OB)	0	0	ABO + AO + BO + O - OA - OB	N3
Y519	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AO - BO + OA + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
Y520	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
Y521	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
Y522	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	ABO + O	N3
Y523	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y524	A - AB + ABA + BA	OB	0	0	0	0	0	ABO + O	N3
Y525	A - AB + ABA + BA	OB	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y526	A - AB + ABA + BA	BO	0	0	0	0	0	ABO + O	N10
Y527	A - AB + ABA + BA	BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y528	A - AB + ABA + BA	OB	0	0	0	0	0	ABO + BO + O - OB	N10
Y529	A - AB + ABA + BA	OB	0	0	0	0	0	-A + AAB + AB - ABA - BA + OAB	N1
Y530	A - AB + ABA + BA	OB	0	0	0	0	0	AB + ABB + ABO + B - BA - BAB + O	N3
Y531	A - AB + ABA + BA	OB	0	0	0	0	0	-A + AAB + AB - ABA - BA + OAB	N1
Y532	A + ABA - BAB	0	0	0	0	0	0	ABO + O	N10

Table B73: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	0	0	2*BAB	2*BO	0	0	0	0	0	0	-BO + OA	0	Y533
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	Y534
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	Y535
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	Y536
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	Y537
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	Y538
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	Y539
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	Y540
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	Y541
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y542
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y543
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y544
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y545
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y546
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y547
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y548
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y549
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y550
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y551
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y552
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y553
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y554
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	Y555
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	Y556
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	Y557
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y558
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y559
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y560
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y561
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y562
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y563
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y564
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y565
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y566
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y567
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y568
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y569
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y570
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y571
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	Y572
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y573

Table B74: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	p_3	p_4	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	$2*a_9$	Result
Y533	A + ABA - BAB	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y534	A + ABA - BAB	BO - OA	0	0	0	0	0	ABO + O	N10
Y535	A + ABA - BAB	BO - OA	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y536	A + ABA - BAB	OB	0	0	0	0	0	ABO + BO + O - OA - OB	N10
Y537	A + ABA - BAB	OB	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
Y538	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	ABB + ABO + B + O	N10
Y539	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
Y540	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	ABB + ABO + B + O	N3
Y541	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y542	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	ABO + O	N10
Y543	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y544	A + ABA - BAB	OB	0	0	0	0	0	-AB + ABO + BA + BAB + BO + O - OB	N10
Y545	A + ABA - BAB	OB	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y546	A + ABA - BAB	OB	0	0	0	0	0	ABB + ABO + B + O	N3
Y547	A + ABA - BAB	OB	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y548	0	0	0	0	2*(ABO + O)	0	0	0	N8
Y549	0	0	0	0	2*OB	0	2*(ABO + O - OB)	0	N8
Y550	0	0	0	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y551	0	0	0	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y552	0	0	0	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y553	0	0	0	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y554	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y555	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y556	0	0	0	0	0	0	0	ABO + O	N10
Y557	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y558	0	BO - OA	0	0	2*(ABO + O)	0	0	0	N8
Y559	0	BO - OA	0	0	2*(-BO + OA + OB)	0	2*(ABO + BO + O - OA - OB)	0	N8
Y560	0	BO - OA	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y561	0	BO - OA	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y562	0	BO - OA	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y563	0	BO - OA	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y564	0	BO - OA	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y565	0	BO - OA	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y566	0	OB	BO - OA - OB	0	0	0	2*(ABO + O)	0	N8
Y567	0	OB	BO - OA - OB	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y568	0	OB	BO - OA - OB	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y569	0	OB	BO - OA - OB	0	0	0	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N10
Y570	0	OB	BO - OA - OB	0	0	0	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y571	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	ABO + O	N3
Y572	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y573	0	BO - OA	0	0	0	0	0	ABO + O	N10

Table B75: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y574
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y575
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y576
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y577
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y578
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y579
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	Y580
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y581
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y582
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y583
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y584
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y585
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y586
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	Y587
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y588
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y589
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y590
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y591
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y592
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	Y593
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	Y594
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	Y595
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	Y596
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	Y597
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	Y598
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	BA	0	0	0	OA	ABB + B	Y599
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	BA	0	0	0	OA	ABB + B	Y600
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	BA	0	0	0	OA	ABB + B	Y601
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	BA	0	0	0	OA	ABB + B	Y602
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	BA	0	0	0	OA	ABB + B	Y603
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	-AB - ABB - B + BA + BAB	0	0	0	OA	ABB + B	Y604
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	-AB - ABB - B + BA + BAB	0	0	0	OA	ABB + B	Y605
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	Y606
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	Y607
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	Y608
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	Y609
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	Y610
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	-BO + OB	0	0	0	OA	ABB + B	Y611
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	-BO + OB	0	0	0	OA	ABB + B	Y612
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	ABB + B	Y613
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	ABB + B	Y614

Table B76: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	p_3	p_4	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y574	0	BO - OA	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y575	0	OB	0	0	0	0	0	ABO + BO + O - OA - OB	N10
Y576	0	OB	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
Y577	0	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y578	0	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y579	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N3
Y580	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	AAB + OAB	N1
Y581	0	A - AB + ABA + BA + BO	0	0	2*(ABO + O)	0	0	0	N8
Y582	0	A - AB + ABA + BA + BO	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y583	0	A - AB + ABA + BA + BO	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y584	0	A - AB + ABA + BA + BO	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y585	0	A - AB + ABA + BA + BO	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y586	0	OB	0	0	0	0	0	ABO + O	N3
Y587	0	OB	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y588	0	A - AB + ABA + BA + BO	0	0	0	0	0	ABO + O	N10
Y589	0	A - AB + ABA + BA + BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y590	0	OB	0	0	0	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N10
Y591	0	OB	0	0	0	0	0	AAB + OAB	N1
Y592	0	OB	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N3
Y593	0	OB	0	0	0	0	0	AAB + OAB	N1
Y594	0	BO	0	0	2*(ABO + O)	0	0	0	N8
Y595	0	BO	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y596	0	BO	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y597	0	BO	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y598	0	BO	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y599	A - AB + ABA	BO	0	0	2*(ABO + O)	0	0	0	N9
Y600	A - AB + ABA	BO	0	0	2*(-BA - BO + OB)	0	0	ABO + BA + BO + O - OB	N3
Y601	A - AB + ABA	BO	0	0	2*(-BA - BO + OB)	0	0	-A + AAB - ABA - ABB - B + BA + BAB + BO + OAB - OB	N1
Y602	A - AB + ABA	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	AB + ABB + ABO + B - BAB + O	N10
Y603	A - AB + ABA	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	-A + AAB + 2*AB - ABA + ABB + B - BA - BAB - BO + OAB + OB	N1
Y604	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	ABO + O	N10
Y605	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y606	A - AB + ABA - AO + BA + OA	BO	0	0	2*(ABO + O)	0	0	0	N15
Y607	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AO - BO + OA + OB)	0	0	ABO + AO + BO + O - OA - OB	N3
Y608	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AO - BO + OA + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
Y609	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
Y610	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
Y611	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	ABO + O	N3
Y612	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y613	A - AB + ABA + BA	OB	0	0	0	0	0	ABO + O	N3
Y614	A - AB + ABA + BA	OB	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1

Table B77: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y615
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y616
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y617
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y618
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y619
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y620
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*BO	0	0	0	0	0	0	-BO + OA	0	Y621
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*BO	0	0	0	0	0	0	-BO + OA	0	Y622
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	Y623
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	Y624
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	Y625
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	Y626
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	Y627
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	Y628
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	Y629
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	Y630
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y631
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y632
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y633
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y634
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y635
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y636
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	OA	0	0	ABB + B	Y637
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	OA	0	0	ABB + B	Y638
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	OA	0	0	ABB + B	Y639
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	OA	0	0	ABB + B	Y640
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	OA	0	0	ABB + B	Y641
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AO + BA + OA	0	AO - BA	ABB + B	Y642
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AO + BA + OA	0	AO - BA	ABB + B	Y643
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AO + BA + OA	0	AO - BA	ABB + B	Y644
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AO + BA + OA	0	AO - BA	ABB + B	Y645
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AO + BA + OA	0	AO - BA	ABB + B	Y646
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AO - BO + OA + OB	0	AO + BO - OB	ABB + B	Y647
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AO - BO + OA + OB	0	AO + BO - OB	ABB + B	Y648
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	Y649
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	Y650
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	Y651
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	Y652
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	Y653
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AB - ABB - AO - B + BA + BAB + OA	0	AB + ABB + AO + B - BA - BAB	ABB + B	Y654
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AB - ABB - AO - B + BA + BAB + OA	0	AB + ABB + AO + B - BA - BAB	ABB + B	Y655

Table B78: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	p_3	p_4	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y615	A - AB + ABA + BA	BO	0	0	0	0	0	ABO + O	N10
Y616	A - AB + ABA + BA	BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y617	A - AB + ABA + BA	OB	0	0	0	0	0	ABO + BO + O - OB	N10
Y618	A - AB + ABA + BA	OB	0	0	0	0	0	-A + AAB + AB - ABA - BA + OAB	N1
Y619	A - AB + ABA + BA	OB	0	0	0	0	0	AB + ABB + ABO + B - BA - BAB + O	N3
Y620	A - AB + ABA + BA	OB	0	0	0	0	0	-A + AAB + AB - ABA - BA + OAB	N1
Y621	A + ABA - BAB	0	0	0	0	0	0	ABO + O	N10
Y622	A + ABA - BAB	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y623	A + ABA - BAB	BO - OA	0	0	0	0	0	ABO + O	N10
Y624	A + ABA - BAB	BO - OA	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y625	A + ABA - BAB	OB	0	0	0	0	0	ABO + BO + O - OA - OB	N10
Y626	A + ABA - BAB	OB	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
Y627	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	ABB + ABO + B + O	N10
Y628	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
Y629	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	ABB + ABO + B + O	N3
Y630	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y631	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	ABO + O	N10
Y632	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y633	A + ABA - BAB	OB	0	0	0	0	0	-AB + ABO + BA + BAB + BO + O - OB	N10
Y634	A + ABA - BAB	OB	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y635	A + ABA - BAB	OB	0	0	0	0	0	ABB + ABO + B + O	N3
Y636	A + ABA - BAB	OB	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
Y637	AAB	BO	0	0	2*(ABO + O)	0	0	0	N14
Y638	AAB	BO	0	0	2*(-AO - BO + OB)	0	0	ABO + AO + BO + O - OB	N7
Y639	AAB	BO	0	0	2*(-AO - BO + OB)	0	0	-AB - ABB - B + BA + BAB + BO + OA + OAB - OB	N1
Y640	AAB	BO	0	0	2*(-AB - ABB - AO - B + BA + BAB)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O	N17
Y641	AAB	BO	0	0	2*(-AB - ABB - AO - B + BA + BAB)	0	0	AB + ABB + B - BA - BAB - BO + OA + OAB + OB	N1
Y642	AAB	BO	0	0	2*(ABO + O)	0	0	0	N16
Y643	AAB	BO	0	0	2*(-BA - BO + OB)	0	0	ABO + BA + BO + O - OB	N7
Y644	AAB	BO	0	0	2*(-BA - BO + OB)	0	0	-AB - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
Y645	AAB	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	AB + ABB + ABO + B - BAB + O	N17
Y646	AAB	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	AB + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
Y647	AAB	BO	0	0	0	0	0	ABO + O	N7
Y648	AAB	BO	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
Y649	AAB	BO	0	0	2*(ABO + O)	0	0	0	N15
Y650	AAB	BO	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N7
Y651	AAB	BO	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
Y652	AAB	BO	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N17
Y653	AAB	BO	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
Y654	AAB	BO	0	0	0	0	0	ABO + O	N17
Y655	AAB	BO	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1

Table B79: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y656
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y657
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y658
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y659
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y660
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y661
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y662
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y663
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y664
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y665
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y666
BA	2*(AB - BA)	0	0	0	2*BA	0	0	0	0	0	OA	ABB + B	Y667
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	AAB	0	0	0	OA	ABB + B	Y668
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	AAB	0	0	0	OA	ABB + B	Y669
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	AAB	0	0	0	OA	ABB + B	Y670
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	AAB	0	0	0	OA	ABB + B	Y671
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	AAB	0	0	0	OA	ABB + B	Y672
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA	0	0	0	OA	ABB + B	Y673
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA	0	0	0	OA	ABB + B	Y674
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA	0	0	0	OA	ABB + B	Y675
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA	0	0	0	OA	ABB + B	Y676
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA	0	0	0	OA	ABB + B	Y677
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB - ABA - ABB - B + BAB	0	0	0	OA	ABB + B	Y678
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB - ABA - ABB - B + BAB	0	0	0	OA	ABB + B	Y679
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA + AO - BA - OA	0	0	0	OA	ABB + B	Y680
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA + AO - BA - OA	0	0	0	OA	ABB + B	Y681
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA + AO - BA - OA	0	0	0	OA	ABB + B	Y682
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA + AO - BA - OA	0	0	0	OA	ABB + B	Y683
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA + AO - BA - OA	0	0	0	OA	ABB + B	Y684
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA - BA - BO + OB	0	0	0	OA	ABB + B	Y685
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA - BA - BO + OB	0	0	0	OA	ABB + B	Y686
BA	2*(AB - BA)	0	0	0	2*(-BO + OB)	0	0	0	0	0	OA	ABB + B	Y687
BA	2*(AB - BA)	0	0	0	2*(-BO + OB)	0	0	0	0	0	OA	ABB + B	Y688
BA	2*(AB - BA)	0	0	0	2*(-BO + OB)	0	0	0	0	0	OA	ABB + B	Y689
BA	2*(AB - BA)	0	0	0	2*(-BO + OB)	0	0	0	0	0	OA	ABB + B	Y690
BA	2*(AB - BA)	0	0	0	2*(-AB - ABB - B + BA + BAB)	0	0	0	0	0	OA	ABB + B	Y691
BA	2*(AB - BA)	0	0	0	2*(-AB - ABB - B + BA + BAB)	0	0	0	0	0	OA	ABB + B	Y692
BA	2*(AB - BA)	0	0	0	2*(-AB - ABB - B + BA + BAB)	0	0	0	0	0	OA	ABB + B	Y693
BA	2*(AB - BA)	0	0	0	2*(-AB - ABB - B + BA + BAB)	0	0	0	0	0	OA	ABB + B	Y694
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	ABB + B	Y695
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	ABB + B	Y696
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	ABB + B	Y697
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	ABB + B	Y698
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y699
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y700
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y701
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y702

Table B80: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	p_3	p_4	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y656	AAB	BO	0	0	2*(ABO + O)	0	0	A - AAB - AB + ABA	N9
Y657	AAB	BO	0	0	2*(ABO + O)	0	0	-AB - ABB - 2*ABO - B - BA + BAB - BO - 2*O + OAB + OB	N1
Y658	AAB	BO	0	0	2*(-BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N3
Y659	AAB	BO	0	0	2*(-BA - BO + OB)	0	0	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y660	AAB	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N10
Y661	AAB	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y662	AAB	BO	0	0	2*(ABO + O)	0	0	AO - BA - OA	N16
Y663	AAB	BO	0	0	2*(ABO + O)	0	0	-AB - ABB - 2*ABO - B - BA + BAB - BO - 2*O + OAB + OB	N1
Y664	AAB	BO	0	0	2*(-BA - BO + OB)	0	0	ABO + AO + BO + O - OA - OB	N7
Y665	AAB	BO	0	0	2*(-BA - BO + OB)	0	0	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y666	AAB	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N17
Y667	AAB	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y668	0	BO	0	0	2*(ABO + O)	0	0	0	N8
Y669	0	BO	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N3
Y670	0	BO	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y671	0	BO	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N10
Y672	0	BO	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y673	A - AB + ABA	BO	0	0	2*(ABO + O)	0	0	0	N9
Y674	A - AB + ABA	BO	0	0	2*(-BA - BO + OB)	0	0	ABO + BA + BO + O - OB	N3
Y675	A - AB + ABA	BO	0	0	2*(-BA - BO + OB)	0	0	-A + AAB - ABA - ABB - B + BA + BAB + BO + OAB - OB	N1
Y676	A - AB + ABA	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	AB + ABB + ABO + B - BAB + O	N10
Y677	A - AB + ABA	BO	0	0	2*(-AB - ABB - B + BAB)	0	0	-A + AAB + 2*AB - ABA + ABB + B - BA - BAB - BO + OAB + OB	N1
Y678	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	ABO + O	N10
Y679	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
Y680	A - AB + ABA - AO + BA + OA	BO	0	0	2*(ABO + O)	0	0	0	N15
Y681	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AO - BO + OA + OB)	0	0	ABO + AO + BO + O - OA - OB	N3
Y682	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AO - BO + OA + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
Y683	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N10
Y684	A - AB + ABA - AO + BA + OA	BO	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
Y685	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	ABO + O	N3
Y686	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
Y687	AAB	BO	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N3
Y688	AAB	BO	0	0	0	0	0	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y689	AAB	BO	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N7
Y690	AAB	BO	0	0	0	0	0	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
Y691	AAB	BO	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N10
Y692	AAB	BO	0	0	0	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y693	AAB	BO	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N17
Y694	AAB	BO	0	0	0	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y695	AAB	OB	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + O	N3
Y696	AAB	OB	0	0	0	0	0	-AB - ABB - B + BA + BAB + OAB	N1
Y697	AAB	OB	0	0	0	0	0	ABO + AO + O - OA	N7
Y698	AAB	OB	0	0	0	0	0	-AB - ABB - B + BA + BAB + OAB	N1
Y699	AAB	BO	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + O	N10
Y700	AAB	BO	0	0	0	0	0	-BO + OAB + OB	N1
Y701	AAB	BO	0	0	0	0	0	ABO + AO + O - OA	N17
Y702	AAB	BO	0	0	0	0	0	-BO + OAB + OB	N1

Table B81: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y703
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y704
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y705
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y706
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y707
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y708
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y709
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	Y710
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	Y711
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	Y712
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	Y713
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	Y714
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	Y715
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	Y716
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y717
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y718
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y719
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y720
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y721
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y722
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y723
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y724
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y725
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y726
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y727
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y728
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y729
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y730
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y731
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y732
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y733
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y734
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y735
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	Y736
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y737
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y738
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y739
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y740
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y741
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y742
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y743
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y744
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y745
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y746
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y747
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	Y748

Table B82: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in three-way mechanism.

Serial	p_3	p_4	a_8	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
Y703	AAB	OB	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N10
Y704	AAB	OB	0	0	0	0	0	OAB	N1
Y705	AAB	OB	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N3
Y706	AAB	OB	0	0	0	0	0	OAB	N1
Y707	AAB	OB	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N17
Y708	AAB	OB	0	0	0	0	0	OAB	N1
Y709	AAB	OB	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N7
Y710	AAB	OB	0	0	0	0	0	OAB	N1
Y711	AAB	0	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N10
Y712	AAB	0	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
Y713	AAB	0	A - AAB + ABA - AO - BAB - BO + OA	0	0	0	0	ABO + AO + BO + O - OA	N10
Y714	AAB	0	A - AAB + ABA - AO - BAB - BO + OA	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
Y715	AAB	0	AB - BA - BAB - BO	0	0	0	0	ABO + AO + BO + O - OA	N17
Y716	AAB	0	AB - BA - BAB - BO	0	0	0	0	OAB + OB	N1
Y717	AAB	BO - OA	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N10
Y718	AAB	BO - OA	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
Y719	AAB	BO - OA	A - AAB + ABA - AO - BAB	0	0	0	0	ABO + AO + O	N10
Y720	AAB	BO - OA	A - AAB + ABA - AO - BAB	0	0	0	0	-A + AAB + AB - ABA + AO - BA - BO + OAB + OB	N1
Y721	AAB	BO - OA	AB - BA - BAB - OA	0	0	0	0	ABO + AO + O	N17
Y722	AAB	BO - OA	AB - BA - BAB - OA	0	0	0	0	-BO + OA + OAB + OB	N1
Y723	AAB	OB	0	0	0	0	0	A - AAB + ABA + ABO - BAB + BO + O - OA - OB	N10
Y724	AAB	OB	0	0	0	0	0	AB - BA - BAB - OA + OAB	N1
Y725	AAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N10
Y726	AAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
Y727	AAB	OB	AB - BA - BAB - OA	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N3
Y728	AAB	OB	AB - BA - BAB - OA	0	0	0	0	OAB	N1
Y729	AAB	OB	A - AAB + ABA - AO - BAB	0	0	0	0	ABO + AO + BO + O - OA - OB	N10
Y730	AAB	OB	A - AAB + ABA - AO - BAB	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
Y731	AAB	OB	AB - BA - BAB - OA	0	0	0	0	ABO + AO + BO + O - OA - OB	N17
Y732	AAB	OB	AB - BA - BAB - OA	0	0	0	0	OAB	N1
Y733	AAB	OB	A - AAB + ABA - ABB - AO - B - BAB + BO - OA - OB	0	0	0	0	ABB + ABO + AO + B + O	N10
Y734	AAB	OB	A - AAB + ABA - ABB - AO - B - BAB + BO - OA - OB	0	0	0	0	-A + AAB + AB - ABA + ABB + AO + B - BA - BO + OAB + OB	N1
Y735	AAB	OB	AB - BA - BAB - OA	0	0	0	0	ABB + ABO + AO + B + O	N2
Y736	AAB	OB	AB - BA - BAB - OA	0	0	0	0	OAB	N1
Y737	AAB	-AB + BA + BAB + BO	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N10
Y738	AAB	-AB + BA + BAB + BO	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
Y739	AAB	-AB + BA + BAB + BO	0	0	0	0	0	AB + ABO + AO - BA - BAB + O - OA	N17
Y740	AAB	-AB + BA + BAB + BO	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
Y741	AAB	OB	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N10
Y742	AAB	OB	0	0	0	0	0	OAB	N1
Y743	AAB	OB	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N3
Y744	AAB	OB	0	0	0	0	0	OAB	N1
Y745	AAB	OB	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N17
Y746	AAB	OB	0	0	0	0	0	OAB	N1
Y747	AAB	OB	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N7
Y748	AAB	OB	0	0	0	0	0	OAB	N1

Supplement C: Tables for Four-Way Exchange

Table C1: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (1) under four-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	w_1	w_2	w_3	w_4	$3*d_1$	$2*g_5$	Serial
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(ABO + O)	0	R1
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R2
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R3
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R4
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R5
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R6
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R7
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R8
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R9
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA + ABO + BA + BO + O)	R10
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	R11
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	R12
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	R13
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	R14
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	R15
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	R16
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	R17
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	R18
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	R19
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	R20
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*(A + ABA + ABB + ABO + B - BAB + O)	R21
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*(A + ABA + ABB - AO + B - BAB - BO + OA)	R22
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*(A + ABA + ABB - AO + B - BAB - BO + OA)	R23
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	R24
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	R25
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	R26
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	R27
0	2*BO	2*(A + ABA)	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	R28
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(ABO + O)	R29
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	R30
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	R31
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	R32
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	R33
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	R34
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	R35
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	R36
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	R37
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	R38
0	2*BO	2*(AB - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	R39
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(ABO + O)	R40
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(-AB - AO + BA + OA)	R41
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(-AB - AO + BA + OA)	R42
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(-AB - AO + BA + OA)	R43
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(-AB - AO + BA + OA)	R44
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(-AB - AO + BA + OA)	R45
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(-A + AAB - ABA)	R46
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(-A + AAB - ABA)	R47

Table C2: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (1) under four-way exchanges.

Serial	$2*g_6$	$2*g_7$	$2*g_8$	w_5	Result
R1	0	0	0	0	N7
R2	2*(ABO + AO + BO + O - OA)	0	0	0	N5
R3	2*OB	0	2*(ABO + AO + BO + O - OA - OB)	0	N5
R4	2*OB	0	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
R5	2*OB	0	2*(-A + AB - ABA + AO - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
R6	2*OB	0	2*(-A - ABA - ABB + AO - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
R7	2*OB	0	2*(-A - ABA - ABB + AO - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
R8	2*(-A - ABA - ABB + AO - B + BAB + BO - OA)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
R9	2*(-A - ABA - ABB + AO - B + BAB + BO - OA)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
R10	0	0	0	0	N10
R11	2*(ABO + AO + BO + O - OA)	0	0	0	N10
R12	2*OB	0	0	ABO + AO + BO + O - OA - OB	N2
R13	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
R14	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
R15	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
R16	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N10
R17	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
R18	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
R19	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
R20	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
R21	0	0	0	0	N8
R22	0	0	0	ABO + AO + BO + O - OA	N6
R23	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
R24	0	2*(A - AAB + ABA + ABB + ABO + B - BAB + O)	0	0	N8
R25	0	2*(A - AAB + ABA + ABB - AO + B - BAB - BO + OA)	0	ABO + AO + BO + O - OA	N6
R26	0	2*(A - AAB + ABA + ABB - AO + B - BAB - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
R27	0	2*(AB + ABB + B - BA - BAB - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
R28	0	2*(AB + ABB + B - BA - BAB - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
R29	0	0	0	0	N10
R30	2*(ABO + AO + BO + O - OA)	0	0	0	N10
R31	2*OB	0	0	ABO + AO + BO + O - OA - OB	N2
R32	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
R33	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
R34	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
R35	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N10
R36	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
R37	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
R38	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
R39	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
R40	0	0	0	0	N10
R41	2*(AB + ABO + AO - BA + O - OA)	0	0	0	N10
R42	2*(AB - BA - BO + OB)	0	0	ABO + AO + BO + O - OA - OB	N2
R43	2*(AB - BA - BO + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
R44	2*(-ABB - B + BAB)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
R45	2*(-ABB - B + BAB)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
R46	2*(A - AAB + ABA + ABO + O)	0	0	0	N10
R47	2*(AB - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4

Table C3: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (1) under four-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	w_1	w_2	w_3	w_4	$3*d_1$	$2*g_5$	Serial
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(-A + AAB - ABA)	R48
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(-A + AAB - ABA)	R49
0	2*(AB - BA)	0	AO	ABB + B	A + ABA	-AB + BA + BO	0	2*(-A + AAB - ABA)	R50
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(ABO + O)	0	R51
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R52
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R53
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R54
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R55
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R56
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R57
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R58
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-AO - BO + OA)	0	R59
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA + ABO + BA + BO + O)	R60
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	R61
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	R62
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	R63
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	R64
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	R65
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	R66
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	R67
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	R68
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	R69
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	R70
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*(A + ABA + ABB + ABO + B - BAB + O)	R71
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*(A + ABA + ABB - AO + B - BAB - BO + OA)	R72
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*(A + ABA + ABB - AO + B - BAB - BO + OA)	R73
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	R74
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	R75
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	R76
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	R77
2*(A - AAB + ABA)	2*BO	2*AAB	AO	ABB + B	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	R78
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(ABO + O)	R79
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	R80
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	R81
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	R82
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	R83
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-AO - BO + OA)	R84
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	R85
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	R86
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	R87
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	R88
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	ABB + B	A - AB + ABA + BA + BO	0	0	2*(-A + AAB + AB - ABA - BA - BO)	R89
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	ABB + B	AAB	A - AAB - AB + ABA + BA + BO	0	0	R90
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	ABB + B	AAB	A - AAB - AB + ABA + BA + BO	0	0	R91
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	ABB + B	AAB	A - AAB - AB + ABA + BA + BO	0	0	R92
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	ABB + B	AAB	A - AAB - AB + ABA + BA + BO	0	0	R93
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	ABB + B	AAB	A - AAB - AB + ABA + BA + BO	0	0	R94

Table C4: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (1) under four-way exchanges.

Serial	$2*g_6$	$2*g_7$	$2*g_8$	w_5	Result
R48	2*(AB - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
R49	2*(-ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
R50	2*(-ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
R51	0	0	0	0	N7
R52	2*(ABO + AO + BO + O - OA)	0	0	0	N5
R53	2*OB	0	2*(ABO + AO + BO + O - OA - OB)	0	N5
R54	2*OB	0	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
R55	2*OB	0	2*(-A + AB - ABA + AO - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
R56	2*OB	0	2*(-A - ABA - ABB + AO - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
R57	2*OB	0	2*(-A - ABA - ABB + AO - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
R58	2*(-A - ABA - ABB + AO - B + BAB + BO - OA)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
R59	2*(-A - ABA - ABB + AO - B + BAB + BO - OA)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
R60	0	0	0	0	N10
R61	2*(ABO + AO + BO + O - OA)	0	0	0	N10
R62	2*OB	0	0	ABO + AO + BO + O - OA - OB	N2
R63	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
R64	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
R65	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
R66	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N10
R67	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
R68	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
R69	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
R70	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
R71	0	0	0	0	N8
R72	0	0	0	ABO + AO + BO + O - OA	N6
R73	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
R74	0	2*(A - AAB + ABA + ABB + ABO + B - BAB + O)	0	0	N8
R75	0	2*(A - AAB + ABA + ABB - AO + B - BAB - BO + OA)	0	ABO + AO + BO + O - OA	N6
R76	0	2*(A - AAB + ABA + ABB - AO + B - BAB - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
R77	0	2*(AB + ABB + B - BA - BAB - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
R78	0	2*(AB + ABB + B - BA - BAB - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
R79	0	0	0	0	N10
R80	2*(ABO + AO + BO + O - OA)	0	0	0	N10
R81	2*OB	0	0	ABO + AO + BO + O - OA - OB	N2
R82	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
R83	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
R84	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
R85	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N10
R86	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
R87	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
R88	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
R89	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
R90	2*(ABO + O)	0	0	0	N10
R91	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
R92	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
R93	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
R94	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1

Table C5: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (4) under four-way exchanges.

$2*g_1$	$2*g_2$	$2*g_4$	w_1	w_2	w_3	w_4	Serial
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	S1
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	S2
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	S3
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	S4
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	S5
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	S6
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	S7
2*(AB - BA)	0	0	OA	-AB + BA + BAB	AAB	OB	S8
2*BAB	0	2*OA	0	0	AAB	OB	S9
2*BAB	0	2*OA	0	0	AAB	OB	S10
2*BAB	0	2*OA	0	0	AAB	OB	S11
2*BAB	0	2*OA	0	0	AAB	OB	S12
2*BAB	0	2*OA	0	0	AAB	OB	S13
2*BAB	0	2*OA	0	0	AAB	OB	S14
2*BAB	0	2*OA	0	0	AAB	OB	S15
2*BAB	0	2*OA	0	0	AAB	OB	S16
2*BAB	0	2*OA	0	0	AAB	OB	S17
2*BAB	0	2*OA	0	0	AAB	OB	S18
2*BAB	0	2*OA	0	0	AAB	OB	S19
2*BAB	0	2*OA	0	0	AAB	OB	S20
2*BAB	0	2*OA	0	0	AAB	OB	S21
2*BAB	0	2*OA	0	0	AAB	OB	S22
2*BAB	0	2*OA	0	0	AAB	OB	S23
2*BAB	0	2*OA	0	0	AAB	OB	S24
2*BAB	0	2*OA	0	0	AAB	OB	S25
2*BAB	0	2*OA	0	0	AAB	OB	S26
2*BAB	0	2*OA	0	0	AAB	OB	S27
2*BAB	0	2*OA	0	0	AAB	OB	S28
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	S29
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	S30
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	S31
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	S32

Table C6: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (4) under four-way exchanges.

Serial	c_2	c_3	c_4	s_1	w_5	Result
S1	A - AAB - AB + ABA + BA	BO - OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
S2	A - AAB - AB + ABA + BA	BO - OB	0	0	OAB	N1
S3	A - AAB - AB + ABA + BA	AB + ABB + B - BA - BAB	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
S4	A - AAB - AB + ABA + BA	AB + ABB + B - BA - BAB	0	0	OAB	N1
S5	AO - OA	BO - OB	0	0	ABO + AO + BO + O - OA - OB	N11
S6	AO - OA	BO - OB	0	0	OAB	N1
S7	AO - OA	AB + ABB + B - BA - BAB	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N4
S8	AO - OA	AB + ABB + B - BA - BAB	0	0	OAB	N1
S9	A - AAB + ABA - BAB	BO - OA - OB	0	0	A - AAB + ABA + ABO - BAB + BO + O - OA - OB	N6
S10	A - AAB + ABA - BAB	BO - OA - OB	0	0	AB - BA - BAB - OA + OAB	N1
S11	A - AAB + ABA - BAB	ABB + B	0	-ABB - B + BO - OA - OB	A - AAB + ABA + ABB + ABO + B - BAB + O	N6
S12	A - AAB + ABA - BAB	ABB + B	0	-ABB - B + BO - OA - OB	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
S13	A - AAB + ABA - BAB	ABB + B	0	AB - BA - BAB - OA	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
S14	A - AAB + ABA - BAB	ABB + B	0	AB - BA - BAB - OA	OAB	N1
S15	AO	BO - OA - OB	0	A - AAB + ABA - AO - BAB	ABO + AO + BO + O - OA - OB	N6
S16	AO	BO - OA - OB	0	A - AAB + ABA - AO - BAB	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
S17	AO	BO - OA - OB	0	AB - BA - BAB - OA	ABO + AO + BO + O - OA - OB	N11
S18	AO	BO - OA - OB	0	AB - BA - BAB - OA	OAB	N1
S19	AO	ABB + B	A - AAB + ABA - AO - BAB	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA - OB	A - AAB + ABA + ABB + ABO + B - BAB + O	N6
S20	AO	ABB + B	A - AAB + ABA - AO - BAB	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA - OB	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
S21	AO	ABB + B	A - AAB + ABA - AO - BAB	-A + AAB + AB - ABA + AO - BA - OA	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
S22	AO	ABB + B	A - AAB + ABA - AO - BAB	-A + AAB + AB - ABA + AO - BA - OA	OAB	N1
S23	AO	ABB + B	-ABB - B + BO - OA - OB	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OB	ABO + AO + BO + O - OA - OB	N6
S24	AO	ABB + B	-ABB - B + BO - OA - OB	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OB	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
S25	AO	ABB + B	-ABB - B + BO - OA - OB	AB + ABB + B - BA - BAB - BO + OB	ABO + AO + BO + O - OA - OB	N11
S26	AO	ABB + B	-ABB - B + BO - OA - OB	AB + ABB + B - BA - BAB - BO + OB	OAB	N1
S27	AO	ABB + B	AB - BA - BAB - OA	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N4
S28	AO	ABB + B	AB - BA - BAB - OA	0	OAB	N1
S29	A - AAB + ABA - BAB	-AB + BA + BAB + BO - OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
S30	A - AAB + ABA - BAB	-AB + BA + BAB + BO - OB	0	0	OAB	N1
S31	A - AAB + ABA - BAB	ABB + B	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
S32	A - AAB + ABA - BAB	ABB + B	0	0	OAB	N1

Table C7: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (4) under four-way exchanges.

$2*g_1$	$2*g_2$	$2*g_4$	w_1	w_2	w_3	w_4	Serial
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	S33
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	S34
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	S35
2*BAB	0	2*(AB - BA - BAB)	-AB + BA + BAB + OA	0	AAB	OB	S36
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S37
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S38
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S39
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S40
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S41
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S42
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S43
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S44
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S45
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S46
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S47
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S48
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S49
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S50
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S51
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S52
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S53
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S54
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S55
2*BAB	2*(-AO + OA)	2*AO	0	0	AAB	OB	S56
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	S57
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	S58
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	S59
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	S60
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	S61
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	S62
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	S63
2*BAB	2*(-AO + OA)	2*(AB + AO - BA - BAB - OA)	-AB + BA + BAB + OA	0	AAB	OB	S64

Table C8: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (4) under four-way exchanges.

Serial	c_2	c_3	c_4	s_1	w_5	Result
S33	AB + AO - BA - BAB - OA	-AB + BA + BAB + BO - OB	0	0	ABO + AO + BO + O - OA - OB	N11
S34	AB + AO - BA - BAB - OA	-AB + BA + BAB + BO - OB	0	0	OAB	N1
S35	AB + AO - BA - BAB - OA	ABB + B	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N4
S36	AB + AO - BA - BAB - OA	ABB + B	0	0	OAB	N1
S37	A - AAB + ABA - BAB	BO - OA - OB	0	0	A - AAB + ABA + ABO - BAB + BO + O - OA - OB	N6
S38	A - AAB + ABA - BAB	BO - OA - OB	0	0	AB - BA - BAB - OA + OAB	N1
S39	A - AAB + ABA - BAB	ABB + B	0	-ABB - B + BO - OA - OB	A - AAB + ABA + ABB + ABO + B - BAB + O	N6
S40	A - AAB + ABA - BAB	ABB + B	0	-ABB - B + BO - OA - OB	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
S41	A - AAB + ABA - BAB	ABB + B	0	AB - BA - BAB - OA	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
S42	A - AAB + ABA - BAB	ABB + B	0	AB - BA - BAB - OA	OAB	N1
S43	AO	BO - OA - OB	0	A - AAB + ABA - AO - BAB	ABO + AO + BO + O - OA - OB	N6
S44	AO	BO - OA - OB	0	A - AAB + ABA - AO - BAB	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
S45	AO	BO - OA - OB	0	AB - BA - BAB - OA	ABO + AO + BO + O - OA - OB	N11
S46	AO	BO - OA - OB	0	AB - BA - BAB - OA	OAB	N1
S47	AO	ABB + B	A - AAB + ABA - AO - BAB	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA - OB	A - AAB + ABA + ABB + ABO + B - BAB + O	N6
S48	AO	ABB + B	A - AAB + ABA - AO - BAB	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA - OB	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
S49	AO	ABB + B	A - AAB + ABA - AO - BAB	-A + AAB + AB - ABA + AO - BA - OA	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
S50	AO	ABB + B	A - AAB + ABA - AO - BAB	-A + AAB + AB - ABA + AO - BA - OA	OAB	N1
S51	AO	ABB + B	-ABB - B + BO - OA - OB	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OB	ABO + AO + BO + O - OA - OB	N6
S52	AO	ABB + B	-ABB - B + BO - OA - OB	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OB	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
S53	AO	ABB + B	-ABB - B + BO - OA - OB	AB + ABB + B - BA - BAB - BO + OB	ABO + AO + BO + O - OA - OB	N11
S54	AO	ABB + B	-ABB - B + BO - OA - OB	AB + ABB + B - BA - BAB - BO + OB	OAB	N1
S55	AO	ABB + B	AB - BA - BAB - OA	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N4
S56	AO	ABB + B	AB - BA - BAB - OA	0	OAB	N1
S57	A - AAB + ABA - BAB	-AB + BA + BAB + BO - OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
S58	A - AAB + ABA - BAB	-AB + BA + BAB + BO - OB	0	0	OAB	N1
S59	A - AAB + ABA - BAB	ABB + B	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
S60	A - AAB + ABA - BAB	ABB + B	0	0	OAB	N1
S61	AB + AO - BA - BAB - OA	-AB + BA + BAB + BO - OB	0	0	ABO + AO + BO + O - OA - OB	N11
S62	AB + AO - BA - BAB - OA	-AB + BA + BAB + BO - OB	0	0	OAB	N1
S63	AB + AO - BA - BAB - OA	ABB + B	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N4
S64	AB + AO - BA - BAB - OA	ABB + B	0	0	OAB	N1

Table C9: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (11) under four-way exchanges.

Serial	$2*g_1$	w_1	w_2	w_3	w_4	$2*u_1$	v_1	v_2
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	OA	T1
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	OA	T2
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	OA	T3
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	OA	T4
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	OA	T5
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AO - BO + OA + OB	T6
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AO - BO + OA + OB	T7
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	A - AAB - AB + ABA - AO + BA + OA	T8
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	A - AAB - AB + ABA - AO + BA + OA	T9
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	A - AAB - AB + ABA - AO + BA + OA	T10
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	A - AAB - AB + ABA - AO + BA + OA	T11
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	A - AAB - AB + ABA - AO + BA + OA	T12
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AB - ABB - AO - B + BA + BAB + OA	T13
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(AO - OA)	0	-AB - ABB - AO - B + BA + BAB + OA	T14
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA + AO - BA - OA	0	T15
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA + AO - BA - OA	0	T16
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA + AO - BA - OA	0	T17
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA + AO - BA - OA	0	T18
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA + AO - BA - OA	0	T19
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA - BA - BO + OB	0	T20
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB + AB - ABA - BA - BO + OB	0	T21
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	AAB	0	T22
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	AAB	0	T23
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	AAB	0	T24
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	AAB	0	T25
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	AAB	0	T26
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB - ABA - ABB - B + BAB	0	T27
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(A - AAB - AB + ABA + BA)	-A + AAB - ABA - ABB - B + BAB	0	T28
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-BO + OB)	0	0	T29
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-BO + OB)	0	0	T30
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-BO + OB)	0	0	T31
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-BO + OB)	0	0	T32
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-AB - ABB - B + BA + BAB)	0	0	T33
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-AB - ABB - B + BA + BAB)	0	0	T34
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-AB - ABB - B + BA + BAB)	0	0	T35
2*(AB - BA)	OA	ABB + B	AAB	BO	2*(-AB - ABB - B + BA + BAB)	0	0	T36

Table C10: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (11) under four-way exchanges.

Serial	c_2	$2*g_6$	w_5	Result
T1	0	2*(ABO + O)	0	N9
T2	0	2*(-AO - BO + OB)	ABO + AO + BO + O - OB	N4
T3	0	2*(-AO - BO + OB)	-AB - ABB - B + BA + BAB + BO + OA + OAB - OB	N1
T4	0	2*(-AB - ABB - AO - B + BA + BAB)	AB + ABB + ABO + AO + B - BA - BAB + O	N11
T5	0	2*(-AB - ABB - AO - B + BA + BAB)	AB + ABB + B - BA - BAB - BO + OA + OAB + OB	N1
T6	0	0	ABO + O	N4
T7	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
T8	0	2*(ABO + O)	0	N10
T9	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
T10	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
T11	0	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
T12	0	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
T13	0	0	ABO + O	N11
T14	0	0	-AO - BO + OA + OAB + OB	N1
T15	0	2*(ABO + O)	0	N10
T16	0	2*(-AO - BO + OA + OB)	ABO + AO + BO + O - OA - OB	N2
T17	0	2*(-AO - BO + OA + OB)	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
T18	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
T19	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
T20	0	0	ABO + O	N2
T21	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
T22	0	2*(ABO + O)	0	N5
T23	0	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N2
T24	0	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
T25	0	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N6
T26	0	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
T27	0	0	ABO + O	N6
T28	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
T29	A - AAB - AB + ABA + BA + BO - OB	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N2
T30	A - AAB - AB + ABA + BA + BO - OB	0	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
T31	AO + BO - OA - OB	0	ABO + AO + BO + O - OA - OB	N4
T32	AO + BO - OA - OB	0	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
T33	A - AAB + ABA + ABB + B - BAB	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N6
T34	A - AAB + ABA + ABB + B - BAB	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
T35	AB + ABB + AO + B - BA - BAB - OA	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N11
T36	AB + ABB + AO + B - BA - BAB - OA	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1

Table C11: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (12) under four-way exchanges.

Serial	$2*g_1$	w_1	w_2	w_3	w_4	v_2	$2*g_6$	w_5	Result
U1	2*(AB - BA)	AO	ABB + B	AAB	BO	AO	2*(ABO + O)	0	N9
U2	2*(AB - BA)	AO	ABB + B	AAB	BO	AO	2*(-AO - BO + OB)	ABO + AO + BO + O - OB	N4
U3	2*(AB - BA)	AO	ABB + B	AAB	BO	AO	2*(-AO - BO + OB)	-AB - ABB - B + BA + BAB + BO + OA + OAB - OB	N1
U4	2*(AB - BA)	AO	ABB + B	AAB	BO	AO	2*(-AB - ABB - AO - B + BA + BAB)	AB + ABB + ABO + AO + B - BA - BAB + O	N11
U5	2*(AB - BA)	AO	ABB + B	AAB	BO	AO	2*(-AB - ABB - AO - B + BA + BAB)	AB + ABB + B - BA - BAB - BO + OA + OAB + OB	N1
U6	2*(AB - BA)	AO	ABB + B	AAB	BO	-BO + OB	0	ABO + O	N4
U7	2*(AB - BA)	AO	ABB + B	AAB	BO	-BO + OB	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
U8	2*(AB - BA)	AO	ABB + B	AAB	BO	A - AAB - AB + ABA + BA	2*(ABO + O)	0	N10
U9	2*(AB - BA)	AO	ABB + B	AAB	BO	A - AAB - AB + ABA + BA	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
U10	2*(AB - BA)	AO	ABB + B	AAB	BO	A - AAB - AB + ABA + BA	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
U11	2*(AB - BA)	AO	ABB + B	AAB	BO	A - AAB - AB + ABA + BA	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
U12	2*(AB - BA)	AO	ABB + B	AAB	BO	A - AAB - AB + ABA + BA	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
U13	2*(AB - BA)	AO	ABB + B	AAB	BO	-AB - ABB - B + BA + BAB	0	ABO + O	N11
U14	2*(AB - BA)	AO	ABB + B	AAB	BO	-AB - ABB - B + BA + BAB	0	-AO - BO + OA + OAB + OB	N1

Table C12: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under four-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	w_2	w_3	Serial
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	V1
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	V2
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	V3
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	V4
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	V5
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	V6
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	V7
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	ABB + B	0	V8
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	V9
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	V10
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	V11
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	V12
2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	V13
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	V14
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	V15
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	V16
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	V17
2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	V18
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	V19
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	V20
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	V21
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	V22
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	V23
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	V24
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	V25
0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	ABB + B	0	V26
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	V27
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	V28
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	V29
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	V30
0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + BA + OA	ABB + B	0	V31
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	V32
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	V33
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	V34
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	V35

Table C13: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under four-way exchanges.

Serial	w_4	v_1	$2*g_6$	$2*g_8$	w_5	Result
V1	BO - OA	0	2*(ABO + O)	0	0	N5
V2	BO - OA	0	2*(-BO + OA + OB)	2*(ABO + BO + O - OA - OB)	0	N5
V3	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
V4	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
V5	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
V6	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V7	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N6
V8	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V9	A - AB + ABA + BA + BO	0	2*(ABO + O)	0	0	N5
V10	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
V11	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
V12	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N6
V13	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V14	AO + BO - OA	0	2*(ABO + O)	0	0	N10
V15	AO + BO - OA	0	2*(-AO - BO + OA + OB)	0	ABO + AO + BO + O - OA - OB	N2
V16	AO + BO - OA	0	2*(-AO - BO + OA + OB)	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
V17	AO + BO - OA	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
V18	AO + BO - OA	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
V19	BO - OA	0	2*(ABO + O)	0	0	N5
V20	BO - OA	0	2*(-BO + OA + OB)	2*(ABO + BO + O - OA - OB)	0	N5
V21	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
V22	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
V23	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
V24	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V25	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N6
V26	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V27	A - AB + ABA + BA + BO	0	2*(ABO + O)	0	0	N5
V28	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
V29	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
V30	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N6
V31	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V32	AO + BO - OA	0	2*(ABO + O)	0	0	N10
V33	AO + BO - OA	0	2*(-AO - BO + OA + OB)	0	ABO + AO + BO + O - OA - OB	N2
V34	AO + BO - OA	0	2*(-AO - BO + OA + OB)	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
V35	AO + BO - OA	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6

Table C14: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under four-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	w_2	w_3	Serial
0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	V36
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	V37
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	V38
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	V39
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	V40
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	V41
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	V42
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	V43
2*(A - AAB + ABA)	0	2*AAB	2*OA	0	ABB + B	0	V44
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	V45
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	V46
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	V47
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	V48
2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	V49
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V50
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V51
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V52
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V53
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V54
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V55
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V56
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V57
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V58
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V59
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V60
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V61
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V62
2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	OA	ABB + B	A - AB + ABA + BA	V63
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	V64
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	V65

Table C15: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under four-way exchanges.

Serial	w_4	v_1	$2*g_6$	$2*g_8$	w_5	Result
V36	AO + BO - OA	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
V37	BO - OA	0	2*(ABO + O)	0	0	N5
V38	BO - OA	0	2*(-BO + OA + OB)	2*(ABO + BO + O - OA - OB)	0	N5
V39	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
V40	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
V41	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
V42	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V43	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N6
V44	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V45	A - AB + ABA + BA + BO	0	2*(ABO + O)	0	0	N5
V46	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
V47	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
V48	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N6
V49	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V50	BO	AO - OA	2*(ABO + O)	0	0	N10
V51	BO	AO - OA	2*(-AO - BO + OA + OB)	0	ABO + AO + BO + O - OA - OB	N2
V52	BO	AO - OA	2*(-AO - BO + OA + OB)	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
V53	BO	AO - OA	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
V54	BO	AO - OA	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
V55	BO	-BO + OB	0	0	ABO + O	N2
V56	BO	-BO + OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
V57	BO	A - AB + ABA + BA	2*(ABO + O)	0	0	N5
V58	BO	A - AB + ABA + BA	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
V59	BO	A - AB + ABA + BA	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
V60	BO	A - AB + ABA + BA	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N6
V61	BO	A - AB + ABA + BA	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V62	BO	-AB - ABB - B + BA + BAB	0	0	ABO + O	N6
V63	BO	-AB - ABB - B + BA + BAB	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
V64	BO - OA	0	2*(ABO + O)	0	0	N5
V65	BO - OA	0	2*(-BO + OA + OB)	2*(ABO + BO + O - OA - OB)	0	N5

Table C16: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under four-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	$2*g_4$	w_1	w_2	w_3	Serial
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	V66
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	V67
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	V68
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	V69
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	V70
0	0	2*(A + ABA)	2*OA	0	ABB + B	0	V71
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	V72
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	V73
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	V74
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	V75
0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	A - AB + ABA + BA + OA	ABB + B	0	V76
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V77
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V78
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V79
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V80
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V81
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V82
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V83
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V84
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V85
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V86
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V87
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V88
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V89
0	0	2*(AB - BA)	0	OA	ABB + B	A - AB + ABA + BA	V90

Table C17: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (13) under four-way exchanges.

Serial	w_4	v_1	$2*g_6$	$2*g_8$	w_5	Result
V66	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
V67	BO - OA	0	2*(-BO + OA + OB)	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
V68	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
V69	BO - OA	0	2*(-BO + OA + OB)	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V70	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N6
V71	BO - OA	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V72	A - AB + ABA + BA + BO	0	2*(ABO + O)	0	0	N5
V73	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
V74	A - AB + ABA + BA + BO	0	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
V75	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N6
V76	A - AB + ABA + BA + BO	0	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V77	BO	AO - OA	2*(ABO + O)	0	0	N10
V78	BO	AO - OA	2*(-AO - BO + OA + OB)	0	ABO + AO + BO + O - OA - OB	N2
V79	BO	AO - OA	2*(-AO - BO + OA + OB)	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
V80	BO	AO - OA	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
V81	BO	AO - OA	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
V82	BO	-BO + OB	0	0	ABO + O	N2
V83	BO	-BO + OB	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
V84	BO	A - AB + ABA + BA	2*(ABO + O)	0	0	N5
V85	BO	A - AB + ABA + BA	2*(-A + AB - ABA - BA - BO + OB)	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
V86	BO	A - AB + ABA + BA	2*(-A + AB - ABA - BA - BO + OB)	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
V87	BO	A - AB + ABA + BA	2*(-A - ABA - ABB - B + BAB)	0	A + ABA + ABB + ABO + B - BAB + O	N6
V88	BO	A - AB + ABA + BA	2*(-A - ABA - ABB - B + BAB)	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
V89	BO	-AB - ABB - B + BA + BAB	0	0	ABO + O	N6
V90	BO	-AB - ABB - B + BA + BAB	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1

Table C18: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (14) under four-way exchanges.

$2*g_1$	$2*g_2$	w_1	w_2	w_3	w_4	$2*u_2$	v_3	Serial
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	-A + AAB - ABA + BAB	AAB	OB	0	0	W1
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	-A + AAB - ABA + BAB	AAB	OB	0	0	W2
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	-A + AAB - ABA + BAB	AAB	OB	0	0	W3
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	-A + AAB - ABA + BAB	AAB	OB	0	0	W4
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	BAB	W5
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	BAB	W6
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	BAB	W7
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	BAB	W8
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	BAB	W9
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-A + AAB - ABA - ABB - B + BAB	W10
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-A + AAB - ABA - ABB - B + BAB	W11
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - B + BA + BAB + BO - OB	W12
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - B + BA + BAB + BO - OB	W13
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - B + BA + BAB + BO - OB	W14
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - B + BA + BAB + BO - OB	W15
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - B + BA + BAB + BO - OB	W16
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - AO - B + BA + BAB + OA	W17
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(ABB + B - BAB)	-AB - ABB - AO - B + BA + BAB + OA	W18
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-A + AAB - ABA)	0	W19
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-A + AAB - ABA)	0	W20
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-A + AAB - ABA)	0	W21
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-A + AAB - ABA)	0	W22
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W23
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W24
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W25
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W26
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W27
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W28
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W29
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W30
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W31
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W32
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W33
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W34
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W35
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB + BA + BO - OB)	0	W36
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB - AO + BA + OA)	0	W37
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB - AO + BA + OA)	0	W38
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB - AO + BA + OA)	0	W39
0	2*(AB - BA)	AO	BAB	A + ABA	OB	2*(-AB - AO + BA + OA)	0	W40

Table C19: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (14) under four-way exchanges.

Serial	v_4	c_3	$2*g_5$	w_5	Result
W1	0	A - AAB - AB + ABA + BA + BO - OB	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N11
W2	0	A - AAB - AB + ABA + BA + BO - OB	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
W3	0	A - AAB + ABA + ABB + B - BAB	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N4
W4	0	A - AAB + ABA + ABB + B - BAB	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
W5	0	0	2*(ABO + O)	0	N3
W6	0	0	2*(-AB - ABB - AO - B + BA + OA)	AB + ABB + ABO + AO + B - BA + O - OA	N2
W7	0	0	2*(-AB - ABB - AO - B + BA + OA)	-A + AAB + AB - ABA + AO - BA + BAB - OA + OAB	N1
W8	0	0	2*(-A + AAB - ABA - ABB - B)	A - AAB + ABA + ABB + ABO + B + O	N4
W9	0	0	2*(-A + AAB - ABA - ABB - B)	A - AAB - AB + ABA - AO + BA + BAB + OA + OAB	N1
W10	0	0	0	ABO + O	N4
W11	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
W12	0	0	2*(ABO + O)	0	N10
W13	0	0	2*(-AO - BO + OA + OB)	ABO + AO + BO + O - OA - OB	N2
W14	0	0	2*(-AO - BO + OA + OB)	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
W15	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
W16	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
W17	0	0	0	ABO + O	N2
W18	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
W19	0	A - AAB - AB + ABA + BA + BO - OB	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N11
W20	0	A - AAB - AB + ABA + BA + BO - OB	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
W21	0	A - AAB + ABA + ABB + B - BAB	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N4
W22	0	A - AAB + ABA + ABB + B - BAB	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
W23	AB + ABB + B - BA - BAB - BO + OB	0	2*(ABO + O)	0	N10
W24	AB + ABB + B - BA - BAB - BO + OB	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
W25	AB + ABB + B - BA - BAB - BO + OB	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
W26	AB + ABB + B - BA - BAB - BO + OB	0	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
W27	AB + ABB + B - BA - BAB - BO + OB	0	2*(-A + AAB - ABA - ABB - B + BAB)	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
W28	-A + AAB + AB - ABA - BA - BO + OB	0	0	ABO + O	N11
W29	-A + AAB + AB - ABA - BA - BO + OB	0	0	-AO - BO + OA + OAB + OB	N1
W30	OB	0	2*(ABO + O)	0	N8
W31	OB	0	2*(-AO - BO + OA)	ABO + AO + BO + O - OA	N6
W32	OB	0	2*(-AO - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
W33	OB	0	2*(-A + AAB + AB - ABA - BA - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N11
W34	OB	0	2*(-A + AAB + AB - ABA - BA - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
W35	-AO - BO + OA + OB	0	0	ABO + O	N6
W36	-AO - BO + OA + OB	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
W37	0	AO + BO - OA - OB	0	ABO + AO + BO + O - OA - OB	N6
W38	0	AO + BO - OA - OB	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
W39	0	AB + ABB + AO + B - BA - BAB - OA	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N2
W40	0	AB + ABB + AO + B - BA - BAB - OA	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1

Table C20: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (15) under four-way exchanges.

Serial	$2*g_1$	$2*g_2$	w_1	w_2	w_3	w_4	v_3	$2*g_5$	w_5	Result
AA1	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	ABB + B	AAB	OB	0	0	ABO + O	N4
AA2	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	AO	ABB + B	AAB	OB	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
AA3	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	ABB + B	2*(ABO + O)	0	N3
AA4	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	ABB + B	2*(-AB - ABB - AO - B + BA + OA)	AB + ABB + ABO + AO + B - BA + O - OA	N2
AA5	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	ABB + B	2*(-AB - ABB - AO - B + BA + OA)	-A + AAB + AB - ABA + AO - BA + BAB - OA + OAB	N1
AA6	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	ABB + B	2*(-A + AAB - ABA - ABB - B)	A - AAB + ABA + ABB + ABO + B + O	N4
AA7	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	ABB + B	2*(-A + AAB - ABA - ABB - B)	A - AAB - AB + ABA - AO + BA + BAB + OA + OAB	N1
AA8	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-A + AAB - ABA	0	ABO + O	N4
AA9	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-A + AAB - ABA	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
AA10	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB + BA + BO - OB	2*(ABO + O)	0	N10
AA11	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB + BA + BO - OB	2*(-AO - BO + OA + OB)	ABO + AO + BO + O - OA - OB	N2
AA12	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB + BA + BO - OB	2*(-AO - BO + OA + OB)	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
AA13	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB + BA + BO - OB	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
AA14	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB + BA + BO - OB	2*(-A + AAB + AB - ABA - BA - BO + OB)	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
AA15	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB - AO + BA + OA	0	ABO + O	N2
AA16	0	2*(AB - BA)	AO	ABB + B	A + ABA	OB	-AB - AO + BA + OA	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1

Table C21: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (16) under four-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	w_1	w_2	w_3	Serial
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	AB1
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	AB2
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	AB3
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	AB4
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	AB5
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	AB6
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	AB7
2*(A - AAB + ABA)	2*BO	2*AAB	AO	-A - ABA + BAB	0	AB8
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	AB9
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	AB10
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	AB11
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	AB12
2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	AB13
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	AB14
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	AB15
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	AB16
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	AB17
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	AB18
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	AB19
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	AB20
2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	AO	0	A + ABA - BAB	AB21
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	-A + AAB - ABA + BAB	AAB	AB22
2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	AO	-A + AAB - ABA + BAB	AAB	AB23
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	AB24
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	AB25
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	AB26
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	AB27
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	AB28
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	AB29

Table C22: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (16) under four-way exchanges.

Serial	w_4	v_4	$2*g_5$	$2*g_7$	w_5	Result
AB1	0	0	2*(ABO + O)	0	0	N8
AB2	0	0	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N6
AB3	0	0	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
AB4	0	0	2*AAB	2*(-AAB + ABO + O)	0	N8
AB5	0	0	2*AAB	2*(-AAB - AO - BO + OA)	ABO + AO + BO + O - OA	N6
AB6	0	0	2*AAB	2*(-AAB - AO - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
AB7	0	0	2*AAB	2*(-A + AB - ABA - BA - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N11
AB8	0	0	2*AAB	2*(-A + AB - ABA - BA - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
AB9	0	0	2*(ABO + O)	0	0	N8
AB10	0	0	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N6
AB11	0	0	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
AB12	0	0	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
AB13	0	0	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
AB14	0	0	2*(ABO + O)	0	0	N8
AB15	0	0	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N6
AB16	0	0	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
AB17	0	0	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA + ABO - BAB + O)	0	N8
AB18	0	0	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA - AO - BAB - BO + OA)	ABO + AO + BO + O - OA	N6
AB19	0	0	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA - AO - BAB - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
AB20	0	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N11
AB21	0	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
AB22	A - AAB - AB + ABA + BA + BO	0	0	0	ABO + O	N11
AB23	A - AAB - AB + ABA + BA + BO	0	0	0	-AO - BO + OA + OAB + OB	N1
AB24	0	0	2*(ABO + O)	0	0	N8
AB25	0	0	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N6
AB26	0	0	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
AB27	0	0	2*AAB	2*(-AAB + ABO + O)	0	N8
AB28	0	0	2*AAB	2*(-AAB - AO - BO + OA)	ABO + AO + BO + O - OA	N6
AB29	0	0	2*AAB	2*(-AAB - AO - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1

Table C23: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (16) under four-way exchanges.

$2*g_1$	$2*g_2$	$2*g_3$	w_1	w_2	w_3	w_4	v_4	Serial
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	0	0	AB30
0	2*BO	2*(A + ABA)	AO	-A - ABA + BAB	0	0	0	AB31
0	2*BO	2*(AB - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	AB32
0	2*BO	2*(AB - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	AB33
0	2*BO	2*(AB - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	AB34
0	2*BO	2*(AB - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	AB35
0	2*BO	2*(AB - BA - BO)	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	AB36
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	AB37
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	AB38
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	AB39
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	AB40
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	AB41
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	AB42
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	AB43
0	2*BO	2*BAB	AO	0	A + ABA - BAB	0	0	AB44
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	ABB + B - BAB	AB45
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	ABB + B - BAB	AB46
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	ABB + B - BAB	AB47
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	ABB + B - BAB	AB48
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	ABB + B - BAB	AB49
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-A + AAB - ABA	AB50
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-A + AAB - ABA	AB51
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB + BA + BO	AB52
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB + BA + BO	AB53
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB + BA + BO	AB54
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB + BA + BO	AB55
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB + BA + BO	AB56
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB - AO + BA + OA	AB57
0	2*(AB - BA)	0	AO	BAB	A + ABA	-AB + BA + BO	-AB - AO + BA + OA	AB58

Table C24: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in situation (16) under four-way exchanges.

Serial	$2*g_5$	$2*g_7$	w_5	Result
AB30	2*AAB	2*(-A + AB - ABA - BA - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N11
AB31	2*AAB	2*(-A + AB - ABA - BA - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
AB32	2*(ABO + O)	0	0	N8
AB33	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N6
AB34	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
AB35	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
AB36	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
AB37	2*(ABO + O)	0	0	N8
AB38	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N6
AB39	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
AB40	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA + ABO - BAB + O)	0	N8
AB41	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA - AO - BAB - BO + OA)	ABO + AO + BO + O - OA	N6
AB42	2*(-A + AAB - ABA + BAB)	2*(A - AAB + ABA - AO - BAB - BO + OA)	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
AB43	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB - BO)	A - AAB - AB + ABA + ABO + BA + BO + O	N11
AB44	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB - BO)	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
AB45	2*(ABO + O)	0	0	N10
AB46	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
AB47	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
AB48	2*(-A + AAB - ABA - ABB - B + BAB)	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
AB49	2*(-A + AAB - ABA - ABB - B + BAB)	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
AB50	0	0	ABO + O	N11
AB51	0	0	-AO - BO + OA + OAB + OB	N1
AB52	2*(ABO + O)	0	0	N8
AB53	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N6
AB54	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
AB55	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
AB56	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
AB57	0	0	ABO + O	N6
AB58	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1

Table C25: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	a_8	c_4	$3*d_1$	$2*b_4$	Serial
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(ABO + O)	0	X1
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	0	X2
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	0	X3
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	0	X4
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	0	X5
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	0	X6
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	0	X7
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	0	X8
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	0	X9
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA + ABO + BA + BO + O)	X10
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	X11
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	X12
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	X13
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	X14
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*(A - AB + ABA - AO + BA + OA)	X15
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	X16
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	X17
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	X18
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	X19
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	2*AAB	X20
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	2*(A + ABA + ABB + ABO + B - BAB + O)	X21
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	2*(A + ABA + ABB - AO + B - BAB - BO + OA)	X22
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	2*(A + ABA + ABB - AO + B - BAB - BO + OA)	X23
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	X24
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	X25
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	X26
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	X27
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	2*AAB	X28
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	2*(ABO + O)	X29
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	2*(-AO - BO + OA)	X30
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	2*(-AO - BO + OA)	X31
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	2*AAB	X32
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	2*AAB	X33
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	2*AAB	X34
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	2*AAB	X35
BA	0	2*BO	2*(A + ABA)	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	2*AAB	X36
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(ABO + O)	X37
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(-AO - BO + OA)	X38
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(-AO - BO + OA)	X39
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(-AO - BO + OA)	X40

Table C26: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X1	0	0	0	0	N7
X2	2*(ABO + AO + BO + O - OA)	0	0	0	N5
X3	2*OB	0	2*(ABO + AO + BO + O - OA - OB)	0	N5
X4	2*OB	0	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X5	2*OB	0	2*(-A + AB - ABA + AO - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X6	2*OB	0	2*(-A - ABA - ABB + AO - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
X7	2*OB	0	2*(-A - ABA - ABB + AO - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X8	2*(-A - ABA - ABB + AO - B + BAB + BO - OA)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X9	2*(-A - ABA - ABB + AO - B + BAB + BO - OA)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X10	0	0	0	0	N10
X11	2*(ABO + AO + BO + O - OA)	0	0	0	N10
X12	2*OB	0	0	ABO + AO + BO + O - OA - OB	N2
X13	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X14	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X15	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X16	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N10
X17	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
X18	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
X19	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
X20	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
X21	0	0	0	0	N8
X22	0	0	0	ABO + AO + BO + O - OA	N6
X23	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X24	0	2*(A - AAB + ABA + ABB + ABO + B - BAB + O)	0	0	N8
X25	0	2*(A - AAB + ABA + ABB - AO + B - BAB - BO + OA)	0	ABO + AO + BO + O - OA	N6
X26	0	2*(A - AAB + ABA + ABB - AO + B - BAB - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X27	0	2*(AB + ABB + B - BA - BAB - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X28	0	2*(AB + ABB + B - BA - BAB - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X29	0	0	0	0	N8
X30	0	0	0	ABO + AO + BO + O - OA	N6
X31	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X32	0	2*(-AAB + ABO + O)	0	0	N8
X33	0	2*(-AAB - AO - BO + OA)	0	ABO + AO + BO + O - OA	N6
X34	0	2*(-AAB - AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X35	0	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X36	0	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X37	0	0	0	0	N10
X38	2*(ABO + AO + BO + O - OA)	0	0	0	N10
X39	2*OB	0	0	ABO + AO + BO + O - OA - OB	N2
X40	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1

Table C27: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	a_8	c_4	$3*d_1$	$2*b_4$	Serial
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(-AO - BO + OA)	X41
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(-AO - BO + OA)	X42
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	X43
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	X44
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	X45
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	X46
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	X47
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	0	0	2*(ABO + O)	X48
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	0	0	2*(-AO - BO + OA)	X49
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	0	0	2*(-AO - BO + OA)	X50
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	X51
BA	0	2*BO	2*(AB - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	X52
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	2*(ABO + O)	X53
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	2*(-AO - BO + OA)	X54
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	2*(-AO - BO + OA)	X55
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	2*(-A + AAB - ABA + BAB)	X56
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	2*(-A + AAB - ABA + BAB)	X57
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	2*(-A + AAB - ABA + BAB)	X58
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	2*(-A + AAB - ABA + BAB)	X59
BA	0	2*BO	2*BAB	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	2*(-A + AAB - ABA + BAB)	X60
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	0	X61
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	0	X62
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	0	X63
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	0	X64
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	0	X65
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	0	X66
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	0	X67
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	0	X68
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	0	0	0	0	0	0	X69
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	0	0	0	0	0	0	X70
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	0	0	0	X71
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	0	0	0	X72
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	0	0	0	X73
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	0	0	0	X74
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	0	0	0	X75
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	0	0	0	X76
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	0	0	0	X77
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	BO - OA	0	0	0	0	X78
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	BO - OA - OB	0	0	0	X79
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	BO - OA - OB	0	0	0	X80

Table C28: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X41	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X42	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X43	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N10
X44	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
X45	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
X46	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
X47	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
X48	0	0	0	0	N8
X49	0	0	0	ABO + AO + BO + O - OA	N6
X50	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X51	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X52	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X53	0	0	0	0	N8
X54	0	0	0	ABO + AO + BO + O - OA	N6
X55	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X56	0	2*(A - AAB + ABA + ABO - BAB + O)	0	0	N8
X57	0	2*(A - AAB + ABA - AO - BAB - BO + OA)	0	ABO + AO + BO + O - OA	N6
X58	0	2*(A - AAB + ABA - AO - BAB - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X59	0	2*(AB - BA - BAB - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X60	0	2*(AB - BA - BAB - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X61	2*(ABO + O)	0	0	0	N5
X62	2*OB	0	2*(ABO + O - OB)	0	N5
X63	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X64	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X65	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
X66	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X67	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X68	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X69	0	0	0	ABO + O	N6
X70	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X71	2*(ABO + O)	0	0	0	N5
X72	2*(-BO + OA + OB)	0	2*(ABO + BO + O - OA - OB)	0	N5
X73	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X74	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X75	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
X76	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X77	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X78	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X79	0	0	2*(ABO + O)	0	N5
X80	0	0	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N2

Table C29: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	Serial
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	X81
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	X82
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	X83
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	X84
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	ABB + B	0	OB	X85
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	BO - OA	X86
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	BO - OA	X87
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	X88
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	X89
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	X90
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	X91
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	X92
BA	0	2*(-AO + OA)	2*(A + ABA)	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	OB	X93
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	X94
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	X95
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	X96
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	X97
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	A - AB + ABA + BA + BO	X98
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	OB	X99
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	OB	X100
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	A - AB + ABA + BA + BO	X101
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	A - AB + ABA + BA + BO	X102
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	OB	X103
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	OB	X104
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	OB	X105
BA	0	2*(-AO + OA)	2*(A + ABA)	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	OB	X106
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	AO + BO - OA	X107
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	AO + BO - OA	X108
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	AO + BO - OA	X109
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	AO + BO - OA	X110
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	AO + BO - OA	X111
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	OB	X112
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	OB	X113
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	AO + BO - OA	X114
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	AO + BO - OA	X115
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	OB	X116
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	OB	X117
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	OB	X118
BA	0	2*(-AO + OA)	2*(AB + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	A - AB + ABA - AO + BA + OA	OB	X119
BA	0	2*(-AO + OA)	2*BAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	A + ABA - BAB	0	X120

Table C30: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X81	BO - OA - OB	0	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X82	BO - OA - OB	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N6
X83	BO - OA - OB	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X84	-A + AB - ABA - BA - OA	0	0	0	0	0	0	ABO + O	N2
X85	-A + AB - ABA - BA - OA	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X86	0	0	0	0	0	0	0	ABO + O	N6
X87	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X88	0	0	0	0	0	0	0	ABO + BO + O - OA - OB	N6
X89	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
X90	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X91	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X92	-A + AB - ABA - BA - OA	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N2
X93	-A + AB - ABA - BA - OA	0	0	0	0	0	0	AAB + OAB	N1
X94	0	0	0	0	2*(ABO + O)	0	0	0	N5
X95	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
X96	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X97	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X98	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X99	0	0	0	0	0	0	0	ABO + O	N2
X100	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X101	0	0	0	0	0	0	0	ABO + O	N6
X102	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X103	0	0	0	0	0	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N6
X104	0	0	0	0	0	0	0	AAB + OAB	N1
X105	0	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N2
X106	0	0	0	0	0	0	0	AAB + OAB	N1
X107	0	0	0	0	2*(ABO + O)	0	0	0	N10
X108	0	0	0	0	2*(-AO - BO + OA + OB)	0	0	ABO + AO + BO + O - OA - OB	N2
X109	0	0	0	0	2*(-AO - BO + OA + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X110	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X111	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X112	0	0	0	0	0	0	0	ABO + O	N2
X113	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X114	0	0	0	0	0	0	0	ABO + O	N6
X115	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X116	0	0	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N6
X117	0	0	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
X118	0	0	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N2
X119	0	0	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
X120	0	0	0	0	0	0	0	ABO + O	N6

Table C31: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	Serial
BA	0	2*(-AO + OA)	2*BAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	A + ABA - BAB	0	X121
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	BO - OA	X122
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	BO - OA	X123
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	X124
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	X125
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	X126
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	X127
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	X128
BA	0	2*(-AO + OA)	2*BAB	2*AO	0	0	0	0	0	0	0	0	A + ABA - BAB	OB	X129
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	-AB + BA + BAB + BO	X130
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	-AB + BA + BAB + BO	X131
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	X132
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	X133
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	X134
BA	0	2*(-AO + OA)	2*BAB	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	X135
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X136
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X137
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X138
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X139
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X140
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X141
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X142
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X143
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X144
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X145
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	A + ABA	-AB + BA + BO	X146
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	ABB + B	AO	0	A + ABA	OB	X147
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	ABB + B	AO	0	A + ABA	OB	X148
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	ABB + B	AO	0	A + ABA	OB	X149
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	ABB + B	AO	0	A + ABA	OB	X150
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	ABB + B	AO	0	A + ABA	OB	X151
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-A + AAB - ABA	AO	A - AAB + ABA + ABB + B	A + ABA	OB	X152
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-A + AAB - ABA	AO	A - AAB + ABA + ABB + B	A + ABA	OB	X153
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB + BA + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	X154
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB + BA + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	X155
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB + BA + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	X156
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB + BA + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	X157
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB + BA + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	OB	X158
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB - AO + BA + OA	AO	AB + ABB + AO + B - BA - OA	A + ABA	OB	X159
BA	0	2*(AB - BA)	0	0	0	0	0	0	0	-AB - AO + BA + OA	AO	AB + ABB + AO + B - BA - OA	A + ABA	OB	X160

Table C32: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X121	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X122	0	0	0	0	0	0	0	ABO + O	N6
X123	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X124	0	0	0	0	0	0	0	ABO + BO + O - OA - OB	N6
X125	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
X126	-ABB - B + BO - OA - OB	0	0	0	0	0	0	ABB + ABO + B + O	N6
X127	-ABB - B + BO - OA - OB	0	0	0	0	0	0	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
X128	AB - BA - BAB - OA	0	0	0	0	0	0	ABB + ABO + B + O	N2
X129	AB - BA - BAB - OA	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X130	0	0	0	0	0	0	0	ABO + O	N6
X131	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X132	0	0	0	0	0	0	0	-AB + ABO + BA + BAB + BO + O - OB	N6
X133	0	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X134	0	0	0	0	0	0	0	ABB + ABO + B + O	N2
X135	0	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X136	0	0	0	2*(ABO + O)	0	0	0	0	N10
X137	0	0	0	2*(-AB - AO + BA + OA)	2*(AB + ABO + AO - BA + O - OA)	0	0	0	N10
X138	0	0	0	2*(-AB - AO + BA + OA)	2*(AB - BA - BO + OB)	0	0	ABO + AO + BO + O - OA - OB	N2
X139	0	0	0	2*(-AB - AO + BA + OA)	2*(AB - BA - BO + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X140	0	0	0	2*(-AB - AO + BA + OA)	2*(-ABB - B + BAB)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X141	0	0	0	2*(-AB - AO + BA + OA)	2*(-ABB - B + BAB)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X142	0	0	0	2*(-A + AAB - ABA)	2*(A - AAB + ABA + ABO + O)	0	0	0	N10
X143	0	0	0	2*(-A + AAB - ABA)	2*(AB - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
X144	0	0	0	2*(-A + AAB - ABA)	2*(AB - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
X145	0	0	0	2*(-A + AAB - ABA)	2*(-ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
X146	0	0	0	2*(-A + AAB - ABA)	2*(-ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
X147	0	0	0	2*(ABO + O)	0	0	0	0	N3
X148	0	0	0	2*(-AB - ABB - AO - B + BA + OA)	0	0	0	AB + ABB + ABO + AO + B - BA + O - OA	N2
X149	0	0	0	2*(-AB - ABB - AO - B + BA + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA + BAB - OA + OAB	N1
X150	0	0	0	2*(-A + AAB - ABA - ABB - B)	0	0	0	A - AAB + ABA + ABB + ABO + B + O	N4
X151	0	0	0	2*(-A + AAB - ABA - ABB - B)	0	0	0	A - AAB - AB + ABA - AO + BA + BAB + OA + OAB	N1
X152	0	0	0	0	0	0	0	ABO + O	N4
X153	0	0	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
X154	0	0	0	2*(ABO + O)	0	0	0	0	N10
X155	0	0	0	2*(-AO - BO + OA + OB)	0	0	0	ABO + AO + BO + O - OA - OB	N2
X156	0	0	0	2*(-AO - BO + OA + OB)	0	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X157	0	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
X158	0	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
X159	0	0	0	0	0	0	0	ABO + O	N2
X160	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1

Table C33: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	Serial
BA	0	2*(AB - BA)	0	0	0	0	0	ABB + B - BAB	0	0	AO	BAB	A + ABA	X161
BA	0	2*(AB - BA)	0	0	0	0	0	ABB + B - BAB	0	0	AO	BAB	A + ABA	X162
BA	0	2*(AB - BA)	0	0	0	0	0	ABB + B - BAB	0	0	AO	BAB	A + ABA	X163
BA	0	2*(AB - BA)	0	0	0	0	0	ABB + B - BAB	0	0	AO	BAB	A + ABA	X164
BA	0	2*(AB - BA)	0	0	0	0	0	ABB + B - BAB	0	0	AO	BAB	A + ABA	X165
BA	0	2*(AB - BA)	0	0	0	0	0	-A + AAB - ABA	0	0	AO	BAB	A + ABA	X166
BA	0	2*(AB - BA)	0	0	0	0	0	-A + AAB - ABA	0	0	AO	BAB	A + ABA	X167
BA	0	2*(AB - BA)	0	0	0	0	0	-AB + BA + BO	0	0	AO	BAB	A + ABA	X168
BA	0	2*(AB - BA)	0	0	0	0	0	-AB + BA + BO	0	0	AO	BAB	A + ABA	X169
BA	0	2*(AB - BA)	0	0	0	0	0	-AB + BA + BO	0	0	AO	BAB	A + ABA	X170
BA	0	2*(AB - BA)	0	0	0	0	0	-AB + BA + BO	0	0	AO	BAB	A + ABA	X171
BA	0	2*(AB - BA)	0	0	0	0	0	-AB + BA + BO	0	0	AO	BAB	A + ABA	X172
BA	0	2*(AB - BA)	0	0	0	0	0	-AB - AO + BA + OA	0	0	AO	BAB	A + ABA	X173
BA	0	2*(AB - BA)	0	0	0	0	0	-AB - AO + BA + OA	0	0	AO	BAB	A + ABA	X174
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	BAB	AO	0	A + ABA	X175
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	BAB	AO	0	A + ABA	X176
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	BAB	AO	0	A + ABA	X177
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	BAB	AO	0	A + ABA	X178
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	BAB	AO	0	A + ABA	X179
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-A + AAB - ABA - ABB - B + BAB	AO	A - AAB + ABA + ABB + B	A + ABA	X180
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-A + AAB - ABA - ABB - B + BAB	AO	A - AAB + ABA + ABB + B	A + ABA	X181
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - B + BA + BAB + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	X182
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - B + BA + BAB + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	X183
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - B + BA + BAB + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	X184
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - B + BA + BAB + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	X185
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - B + BA + BAB + BO - OB	AO	AB + ABB + B - BA - BO + OB	A + ABA	X186
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - AO - B + BA + BAB + OA	AO	AB + ABB + AO + B - BA - OA	A + ABA	X187
BA	0	2*(AB - BA)	0	0	0	2*(ABB + B - BAB)	0	0	0	-AB - ABB - AO - B + BA + BAB + OA	AO	AB + ABB + AO + B - BA - OA	A + ABA	X188
BA	0	2*(AB - BA)	0	0	0	2*(-A + AAB - ABA)	0	0	0	0	AO	BAB	A + ABA	X189
BA	0	2*(AB - BA)	0	0	0	2*(-A + AAB - ABA)	0	0	0	0	AO	BAB	A + ABA	X190
BA	0	2*(AB - BA)	0	0	0	2*(-A + AAB - ABA)	0	0	0	0	AO	BAB	A + ABA	X191
BA	0	2*(AB - BA)	0	0	0	2*(-A + AAB - ABA)	0	0	0	0	AO	BAB	A + ABA	X192
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	0	0	AO	BAB	A + ABA	X193
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	0	0	AO	BAB	A + ABA	X194
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	0	0	AO	BAB	A + ABA	X195
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	0	0	AO	BAB	A + ABA	X196
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	AB + ABB + B - BA - BAB - BO + OB	0	0	AO	BAB	A + ABA	X197
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	-A + AAB + AB - ABA - BA - BO + OB	0	0	AO	BAB	A + ABA	X198
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	-A + AAB + AB - ABA - BA - BO + OB	0	0	AO	BAB	A + ABA	X199
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	OB	0	0	AO	BAB	A + ABA	X200

Table C34: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	p_4	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X161	-AB - ABB - B + BA + BAB + BO	0	0	0	2*(ABO + O)	0	0	0	0	N10
X162	-AB - ABB - B + BA + BAB + BO	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X163	-AB - ABB - B + BA + BAB + BO	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X164	-AB - ABB - B + BA + BAB + BO	0	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
X165	-AB - ABB - B + BA + BAB + BO	0	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
X166	A - AAB - AB + ABA + BA + BO	0	0	0	0	0	0	0	ABO + O	N11
X167	A - AAB - AB + ABA + BA + BO	0	0	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
X168	0	0	0	0	2*(ABO + O)	0	0	0	0	N8
X169	0	0	0	0	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N6
X170	0	0	0	0	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X171	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X172	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X173	AO + BO - OA	0	0	0	0	0	0	0	ABO + O	N6
X174	AO + BO - OA	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X175	OB	0	0	0	2*(ABO + O)	0	0	0	0	N3
X176	OB	0	0	0	2*(-AB - ABB - AO - B + BA + OA)	0	0	0	AB + ABB + ABO + AO + B - BA + O - OA	N2
X177	OB	0	0	0	2*(-AB - ABB - AO - B + BA + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA + BAB - OA + OAB	N1
X178	OB	0	0	0	2*(-A + AAB - ABA - ABB - B)	0	0	0	A - AAB + ABA + ABB + ABO + B + O	N4
X179	OB	0	0	0	2*(-A + AAB - ABA - ABB - B)	0	0	0	A - AAB - AB + ABA - AO + BA + BAB + OA + OAB	N1
X180	OB	0	0	0	0	0	0	0	ABO + O	N4
X181	OB	0	0	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
X182	OB	0	0	0	2*(ABO + O)	0	0	0	0	N10
X183	OB	0	0	0	2*(-AO - BO + OA + OB)	0	0	0	ABO + AO + BO + O - OA - OB	N2
X184	OB	0	0	0	2*(-AO - BO + OA + OB)	0	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X185	OB	0	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
X186	OB	0	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
X187	OB	0	0	0	0	0	0	0	ABO + O	N2
X188	OB	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X189	OB	0	0	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N11
X190	OB	0	0	0	0	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
X191	OB	0	0	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N4
X192	OB	0	0	0	0	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
X193	-AB - ABB - B + BA + BAB + BO	0	0	0	2*(ABO + O)	0	0	0	0	N10
X194	-AB - ABB - B + BA + BAB + BO	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X195	-AB - ABB - B + BA + BAB + BO	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X196	-AB - ABB - B + BA + BAB + BO	0	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
X197	-AB - ABB - B + BA + BAB + BO	0	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
X198	A - AAB - AB + ABA + BA + BO	0	0	0	0	0	0	0	ABO + O	N11
X199	A - AAB - AB + ABA + BA + BO	0	0	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
X200	0	0	0	0	2*(ABO + O)	0	0	0	0	N8

Table C35: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	a_8	c_4	$3*d_1$	Serial
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	OB	0	0	AO	BAB	A + ABA	0	0	0	0	X201
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	OB	0	0	AO	BAB	A + ABA	0	0	0	0	X202
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	OB	0	0	AO	BAB	A + ABA	0	0	0	0	X203
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	OB	0	0	AO	BAB	A + ABA	0	0	0	0	X204
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	-AO - BO + OA + OB	0	0	AO	BAB	A + ABA	AO + BO - OA	0	0	0	X205
BA	0	2*(AB - BA)	0	0	0	2*(-AB + BA + BO - OB)	0	-AO - BO + OA + OB	0	0	AO	BAB	A + ABA	AO + BO - OA	0	0	0	X206
BA	0	2*(AB - BA)	0	0	0	2*(-AB - AO + BA + OA)	0	0	0	0	AO	BAB	A + ABA	OB	0	0	0	X207
BA	0	2*(AB - BA)	0	0	0	2*(-AB - AO + BA + OA)	0	0	0	0	AO	BAB	A + ABA	OB	0	0	0	X208
BA	0	2*(AB - BA)	0	0	0	2*(-AB - AO + BA + OA)	0	0	0	0	AO	BAB	A + ABA	OB	0	0	0	X209
BA	0	2*(AB - BA)	0	0	0	2*(-AB - AO + BA + OA)	0	0	0	0	AO	BAB	A + ABA	OB	0	0	0	X210
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(ABO + O)	X211
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	X212
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	X213
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	X214
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	X215
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	X216
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	X217
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	X218
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-AO - BO + OA)	X219
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X220
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X221
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X222
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X223
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X224
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X225
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X226
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X227
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X228
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X229
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A + AB - ABA - BA - BO)	X230
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	X231
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	X232
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	X233
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	X234
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	X235
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	X236
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	X237
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	ABB + B	0	0	0	0	3*(-A - ABA - ABB - B + BAB)	X238
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	X239
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	X240

Table C36: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X201	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N6
X202	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X203	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X204	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X205	0	0	0	0	ABO + O	N6
X206	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X207	0	0	0	0	ABO + AO + BO + O - OA - OB	N6
X208	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
X209	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N2
X210	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
X211	0	0	0	0	0	N7
X212	0	2*(ABO + AO + BO + O - OA)	0	0	0	N5
X213	0	2*OB	0	2*(ABO + AO + BO + O - OA - OB)	0	N5
X214	0	2*OB	0	2*(-A + AB - ABA + AO - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X215	0	2*OB	0	2*(-A + AB - ABA + AO - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X216	0	2*OB	0	2*(-A - ABA - ABB + AO - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
X217	0	2*OB	0	2*(-A - ABA - ABB + AO - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X218	0	2*(-A - ABA - ABB + AO - B + BAB + BO - OA)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X219	0	2*(-A - ABA - ABB + AO - B + BAB + BO - OA)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X220	2*(A - AB + ABA + ABO + BA + BO + O)	0	0	0	0	N10
X221	2*(A - AB + ABA - AO + BA + OA)	2*(ABO + AO + BO + O - OA)	0	0	0	N10
X222	2*(A - AB + ABA - AO + BA + OA)	2*OB	0	0	ABO + AO + BO + O - OA - OB	N2
X223	2*(A - AB + ABA - AO + BA + OA)	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X224	2*(A - AB + ABA - AO + BA + OA)	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X225	2*(A - AB + ABA - AO + BA + OA)	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X226	2*AAB	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N10
X227	2*AAB	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
X228	2*AAB	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
X229	2*AAB	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
X230	2*AAB	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
X231	2*(A + ABA + ABB + ABO + B - BAB + O)	0	0	0	0	N8
X232	2*(A + ABA + ABB - AO + B - BAB - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N6
X233	2*(A + ABA + ABB - AO + B - BAB - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X234	2*AAB	0	2*(A - AAB + ABA + ABB + ABO + B - BAB + O)	0	0	N8
X235	2*AAB	0	2*(A - AAB + ABA + ABB - AO + B - BAB - BO + OA)	0	ABO + AO + BO + O - OA	N6
X236	2*AAB	0	2*(A - AAB + ABA + ABB - AO + B - BAB - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X237	2*AAB	0	2*(AB + ABB + B - BA - BAB - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X238	2*AAB	0	2*(AB + ABB + B - BA - BAB - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X239	2*(ABO + O)	0	0	0	0	N8
X240	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N6

Table C37: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	a_8	c_4	$3*d_1$	Serial
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	X241
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	X242
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	X243
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	X244
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	X245
BA	2*(A - AAB + ABA)	2*BO	2*AAB	0	0	0	0	0	0	0	AO	-A - ABA + BAB	0	0	0	0	0	X246
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X247
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X248
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X249
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X250
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X251
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X252
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X253
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X254
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X255
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X256
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA + BA + BO	0	0	0	0	X257
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	0	0	X258
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	0	0	X259
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	0	0	X260
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	0	0	X261
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	0	0	0	0	AO	-AB + BA + BAB + BO	A - AB + ABA + BA + BO	0	0	0	0	X262
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	X263
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	X264
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	X265
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	X266
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	X267
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	X268
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	X269
BA	2*(A - AAB + ABA)	2*BO	2*(-A + AAB - ABA + BAB)	0	0	0	0	0	0	0	AO	0	A + ABA - BAB	0	0	0	0	X270
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	X271
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	X272
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	X273
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	X274
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	X275
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	X276
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	X277
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	ABB + B	0	0	0	0	0	X278
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	0	0	0	0	0	X279
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	0	0	0	0	0	X280

Table C38: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X241	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X242	2*AAB	0	2*(-AAB + ABO + O)	0	0	N8
X243	2*AAB	0	2*(-AAB - AO - BO + OA)	0	ABO + AO + BO + O - OA	N6
X244	2*AAB	0	2*(-AAB - AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X245	2*AAB	0	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X246	2*AAB	0	2*(-A + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X247	2*(ABO + O)	0	0	0	0	N10
X248	2*(-AO - BO + OA)	2*(ABO + AO + BO + O - OA)	0	0	0	N10
X249	2*(-AO - BO + OA)	2*OB	0	0	ABO + AO + BO + O - OA - OB	N2
X250	2*(-AO - BO + OA)	2*OB	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X251	2*(-AO - BO + OA)	2*(-AB - ABB - B + BA + BAB + BO)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X252	2*(-AO - BO + OA)	2*(-AB - ABB - B + BA + BAB + BO)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X253	2*(-A + AAB + AB - ABA - BA - BO)	2*(A - AAB - AB + ABA + ABO + BA + BO + O)	0	0	0	N10
X254	2*(-A + AAB + AB - ABA - BA - BO)	2*OB	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
X255	2*(-A + AAB + AB - ABA - BA - BO)	2*OB	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
X256	2*(-A + AAB + AB - ABA - BA - BO)	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
X257	2*(-A + AAB + AB - ABA - BA - BO)	2*(-AB - ABB - B + BA + BAB + BO)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
X258	2*(ABO + O)	0	0	0	0	N8
X259	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N6
X260	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X261	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X262	2*(-A + AAB + AB - ABA - BA - BO)	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X263	2*(ABO + O)	0	0	0	0	N8
X264	2*(-AO - BO + OA)	0	0	0	ABO + AO + BO + O - OA	N6
X265	2*(-AO - BO + OA)	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X266	2*(-A + AAB - ABA + BAB)	0	2*(A - AAB + ABA + ABO - BAB + O)	0	0	N8
X267	2*(-A + AAB - ABA + BAB)	0	2*(A - AAB + ABA - AO - BAB - BO + OA)	0	ABO + AO + BO + O - OA	N6
X268	2*(-A + AAB - ABA + BAB)	0	2*(A - AAB + ABA - AO - BAB - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X269	2*(-A + AAB - ABA + BAB)	0	2*(AB - BA - BAB - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X270	2*(-A + AAB - ABA + BAB)	0	2*(AB - BA - BAB - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X271	0	2*(ABO + O)	0	0	0	N5
X272	0	2*OB	0	2*(ABO + O - OB)	0	N5
X273	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X274	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X275	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
X276	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X277	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X278	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X279	0	0	0	0	ABO + O	N6
X280	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1

Table C39: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	Serial
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X281
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X282
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X283
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X284
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X285
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X286
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X287
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X288
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X289
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X290
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X291
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X292
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X293
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X294
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	ABB + B	0	X295
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	X296
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	X297
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	X298
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	X299
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	X300
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	X301
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	X302
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*AO	0	0	0	0	0	0	0	-A - ABA + BAB	0	X303
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	X304
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	X305
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	X306
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	X307
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	X308
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	X309
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	0	X310
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	X311
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	X312
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	X313
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	X314
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	X315
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*AAB	2*(-A + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	0	X316
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	X317
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	X318
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	X319
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	A - AB + ABA - AO + BA + OA	X320

Table C40: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	p_4	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X281	BO - OA	0	0	0	0	2*(ABO + O)	0	0	0	N5
X282	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(ABO + BO + O - OA - OB)	0	N5
X283	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X284	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X285	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
X286	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X287	BO - OA	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X288	BO - OA	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X289	OB	BO - OA - OB	0	0	0	0	0	2*(ABO + O)	0	N5
X290	OB	BO - OA - OB	0	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X291	OB	BO - OA - OB	0	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X292	OB	BO - OA - OB	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N6
X293	OB	BO - OA - OB	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X294	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	ABO + O	N2
X295	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X296	BO - OA	0	0	0	0	0	0	0	ABO + O	N6
X297	BO - OA	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X298	OB	0	0	0	0	0	0	0	ABO + BO + O - OA - OB	N6
X299	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
X300	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X301	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X302	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N2
X303	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	AAB + OAB	N1
X304	A - AB + ABA + BA + BO	0	0	0	0	2*(ABO + O)	0	0	0	N5
X305	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
X306	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X307	A - AB + ABA + BA + BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X308	A - AB + ABA + BA + BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X309	OB	0	0	0	0	0	0	0	ABO + O	N2
X310	OB	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X311	A - AB + ABA + BA + BO	0	0	0	0	0	0	0	ABO + O	N6
X312	A - AB + ABA + BA + BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X313	OB	0	0	0	0	0	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N6
X314	OB	0	0	0	0	0	0	0	AAB + OAB	N1
X315	OB	0	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N2
X316	OB	0	0	0	0	0	0	0	AAB + OAB	N1
X317	AO + BO - OA	0	0	0	0	2*(ABO + O)	0	0	0	N10
X318	AO + BO - OA	0	0	0	0	2*(-AO - BO + OA + OB)	0	0	ABO + AO + BO + O - OA - OB	N2
X319	AO + BO - OA	0	0	0	0	2*(-AO - BO + OA + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X320	AO + BO - OA	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6

Table C41: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	X321
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	X322
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	ABB + B	X323
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	X324
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	X325
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	X326
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	X327
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	X328
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB + AB - ABA + AO - BA - OA)	0	0	0	0	0	0	0	AO	-AB - AO + BA + BAB + OA	X329
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	X330
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	X331
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	X332
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	X333
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	X334
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	X335
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	X336
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	X337
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	X338
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*AO	0	0	0	0	0	0	0	0	X339
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X340
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X341
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X342
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X343
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X344
BA	2*(A - AAB + ABA)	2*(-AO + OA)	2*(-A + AAB - ABA + BAB)	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X345
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	X346
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	X347
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	X348
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	X349
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	X350
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	X351
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	ABB + B	X352
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	X353
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	X354
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	X355
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	X356
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	X357
BA	2*(A - AAB + ABA)	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	0	AO	-A + AAB - ABA + BAB	X358
BA	2*(AB - BA)	0	0	0	0	0	0	0	AO	0	0	ABB + B	X359
BA	2*(AB - BA)	0	0	0	0	0	0	0	AO	0	0	ABB + B	X360

Table C42: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	p_3	p_4	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X321	A - AB + ABA - AO + BA + OA	AO + BO - OA	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X322	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	0	0	ABO + O	N2
X323	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X324	A - AB + ABA - AO + BA + OA	AO + BO - OA	0	0	0	0	0	0	0	ABO + O	N6
X325	A - AB + ABA - AO + BA + OA	AO + BO - OA	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X326	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N6
X327	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
X328	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N2
X329	A - AB + ABA - AO + BA + OA	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
X330	A + ABA - BAB	0	0	0	0	0	0	0	0	ABO + O	N6
X331	A + ABA - BAB	0	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X332	A + ABA - BAB	BO - OA	0	0	0	0	0	0	0	ABO + O	N6
X333	A + ABA - BAB	BO - OA	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X334	A + ABA - BAB	OB	0	0	0	0	0	0	0	ABO + BO + O - OA - OB	N6
X335	A + ABA - BAB	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
X336	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	0	0	ABB + ABO + B + O	N6
X337	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	0	0	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
X338	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	0	0	ABB + ABO + B + O	N2
X339	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X340	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	ABO + O	N6
X341	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X342	A + ABA - BAB	OB	0	0	0	0	0	0	0	-AB + ABO + BA + BAB + BO + O - OB	N6
X343	A + ABA - BAB	OB	0	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X344	A + ABA - BAB	OB	0	0	0	0	0	0	0	ABB + ABO + B + O	N2
X345	A + ABA - BAB	OB	0	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X346	AAB	A - AAB - AB + ABA + BA + BO	0	0	0	0	2*(ABO + O)	0	0	0	N10
X347	AAB	A - AAB - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
X348	AAB	A - AAB - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
X349	AAB	A - AAB - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
X350	AAB	A - AAB - AB + ABA + BA + BO	0	0	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
X351	AAB	OB	0	0	0	0	0	0	0	ABO + O	N4
X352	AAB	OB	0	0	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
X353	AAB	A - AAB - AB + ABA + BA + BO	0	0	0	0	0	0	0	ABO + O	N11
X354	AAB	A - AAB - AB + ABA + BA + BO	0	0	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
X355	AAB	OB	0	0	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N11
X356	AAB	OB	0	0	0	0	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
X357	AAB	OB	0	0	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N4
X358	AAB	OB	0	0	0	0	0	0	0	A - AAB - AB + ABA - AO + BA + OA + OAB	N1
X359	AAB	BO	0	0	0	0	2*(ABO + O)	0	0	0	N9
X360	AAB	BO	0	0	0	0	2*(-AO - BO + OB)	0	0	ABO + AO + BO + O - OB	N4

Table C43: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*(AB - BA)	0	0	0	0	0	0	0	AO	0	0	ABB + B	X361
BA	2*(AB - BA)	0	0	0	0	0	0	0	AO	0	0	ABB + B	X362
BA	2*(AB - BA)	0	0	0	0	0	0	0	AO	0	0	ABB + B	X363
BA	2*(AB - BA)	0	0	0	0	0	0	0	-BO + OB	0	AO + BO - OB	ABB + B	X364
BA	2*(AB - BA)	0	0	0	0	0	0	0	-BO + OB	0	AO + BO - OB	ABB + B	X365
BA	2*(AB - BA)	0	0	0	0	0	0	0	A - AAB - AB + ABA + BA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	X366
BA	2*(AB - BA)	0	0	0	0	0	0	0	A - AAB - AB + ABA + BA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	X367
BA	2*(AB - BA)	0	0	0	0	0	0	0	A - AAB - AB + ABA + BA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	X368
BA	2*(AB - BA)	0	0	0	0	0	0	0	A - AAB - AB + ABA + BA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	X369
BA	2*(AB - BA)	0	0	0	0	0	0	0	A - AAB - AB + ABA + BA	0	-A + AAB + AB - ABA + AO - BA	ABB + B	X370
BA	2*(AB - BA)	0	0	0	0	0	0	0	-AB - ABB - B + BA + BAB	0	AB + ABB + AO + B - BA - BAB	ABB + B	X371
BA	2*(AB - BA)	0	0	0	0	0	0	0	-AB - ABB - B + BA + BAB	0	AB + ABB + AO + B - BA - BAB	ABB + B	X372
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	ABB + B	X373
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	ABB + B	X374
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	X375
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	X376
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	X377
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	X378
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	X379
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	AO	-AB + BA + BAB	X380
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	X381
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	X382
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	X383
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	X384
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	X385
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	X386
BA	2*BAB	2*BO	0	0	0	0	0	0	0	0	AO	0	X387
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	X388
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	X389
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	X390
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	X391
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	X392
BA	2*BAB	2*(-AO + OA)	0	2*(AO + BO - OA)	0	0	0	0	0	0	-BO + OA	0	X393
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X394
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X395
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X396
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X397
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X398
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X399
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X400

Table C44: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	p_3	p_4	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X361	AAB	BO	0	0	0	0	2*(-AO - BO + OB)	0	0	-AB - ABB - B + BA + BAB + BO + OA + OAB - OB	N1
X362	AAB	BO	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O	N11
X363	AAB	BO	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB)	0	0	AB + ABB + B - BA - BAB - BO + OA + OAB + OB	N1
X364	AAB	BO	0	0	0	0	0	0	0	ABO + O	N4
X365	AAB	BO	0	0	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
X366	AAB	BO	0	0	0	0	2*(ABO + O)	0	0	0	N10
X367	AAB	BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
X368	AAB	BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
X369	AAB	BO	0	0	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
X370	AAB	BO	0	0	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
X371	AAB	BO	0	0	0	0	0	0	0	ABO + O	N11
X372	AAB	BO	0	0	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
X373	AAB	OB	0	0	0	0	0	0	0	ABO + O	N4
X374	AAB	OB	0	0	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
X375	AAB	BO	0	0	0	0	0	0	0	ABO + O	N11
X376	AAB	BO	0	0	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
X377	AAB	OB	0	0	0	0	0	0	0	ABO + BO + O - OB	N11
X378	AAB	OB	0	0	0	0	0	0	0	-AO + OA + OAB	N1
X379	AAB	OB	0	0	0	0	0	0	0	AB + ABB + ABO + B - BA - BAB + O	N4
X380	AAB	OB	0	0	0	0	0	0	0	-AO + OA + OAB	N1
X381	AAB	0	A - AAB + ABA - BAB	0	0	0	0	2*(ABO + O)	0	0	N8
X382	AAB	0	A - AAB + ABA - BAB	0	0	0	0	2*(-AO - BO + OA)	0	ABO + AO + BO + O - OA	N6
X383	AAB	0	A - AAB + ABA - BAB	0	0	0	0	2*(-AO - BO + OA)	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X384	AAB	0	A - AAB + ABA - BAB	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA + ABO + BA + BO + O	N11
X385	AAB	0	A - AAB + ABA - BAB	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO)	0	A - AAB - AB + ABA - AO + BA + OA + OAB + OB	N1
X386	AAB	0	AB - BA - BAB - BO	0	0	0	0	0	0	ABO + O	N11
X387	AAB	0	AB - BA - BAB - BO	0	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
X388	AAB	0	0	0	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N6
X389	AAB	0	0	0	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
X390	AAB	0	A - AAB + ABA - AO - BAB - BO + OA	0	0	0	0	0	0	ABO + AO + BO + O - OA	N6
X391	AAB	0	A - AAB + ABA - AO - BAB - BO + OA	0	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X392	AAB	0	AB - BA - BAB - BO	0	0	0	0	0	0	ABO + AO + BO + O - OA	N11
X393	AAB	0	AB - BA - BAB - BO	0	0	0	0	0	0	OAB + OB	N1
X394	AAB	BO - OA	0	0	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N6
X395	AAB	BO - OA	0	0	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
X396	AAB	BO - OA	A - AAB + ABA - AO - BAB	0	0	0	0	0	0	ABO + AO + O	N6
X397	AAB	BO - OA	A - AAB + ABA - AO - BAB	0	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - BO + OAB + OB	N1
X398	AAB	BO - OA	AB - BA - BAB - OA	0	0	0	0	0	0	ABO + AO + O	N11
X399	AAB	BO - OA	AB - BA - BAB - OA	0	0	0	0	0	0	-BO + OA + OAB + OB	N1
X400	AAB	OB	0	0	0	0	0	0	0	A - AAB + ABA + ABO - BAB + BO + O - OA - OB	N6

Table C45: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X401
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X402
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X403
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X404
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X405
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X406
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X407
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X408
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X409
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X410
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X411
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X412
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X413
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X414
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X415
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X416
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X417
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X418
BA	2*BAB	2*(-AO + OA)	0	2*AO	0	0	0	0	0	0	0	0	X419
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X420
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X421
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X422
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X423
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X424
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X425
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X426
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X427
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X428
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X429
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X430
BA	2*BAB	2*(-AO + OA)	0	2*(AB + AO - BA - BAB - OA)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X431
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	X432
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	X433
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	X434
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	X435
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	X436
BA	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	0	0	AO	0	X437
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X438
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X439
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X440

Table C46: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	p_3	p_4	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X401	AAB	OB	0	0	0	0	0	0	0	AB - BA - BAB - OA + OAB	N1
X402	AAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N6
X403	AAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X404	AAB	OB	AB - BA - BAB - OA	0	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
X405	AAB	OB	AB - BA - BAB - OA	0	0	0	0	0	0	OAB	N1
X406	AAB	OB	A - AAB + ABA - AO - BAB	0	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N6
X407	AAB	OB	A - AAB + ABA - AO - BAB	0	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
X408	AAB	OB	AB - BA - BAB - OA	0	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N11
X409	AAB	OB	AB - BA - BAB - OA	0	0	0	0	0	0	OAB	N1
X410	AAB	OB	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA - OB	A - AAB + ABA - AO - BAB	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N6
X411	AAB	OB	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA - OB	A - AAB + ABA - AO - BAB	0	0	0	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X412	AAB	OB	-A + AAB + AB - ABA + AO - BA - OA	A - AAB + ABA - AO - BAB	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
X413	AAB	OB	-A + AAB + AB - ABA + AO - BA - OA	A - AAB + ABA - AO - BAB	0	0	0	0	0	OAB	N1
X414	AAB	OB	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OB	-ABB - B + BO - OA - OB	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N6
X415	AAB	OB	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OB	-ABB - B + BO - OA - OB	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
X416	AAB	OB	AB + ABB + B - BA - BAB - BO + OB	-ABB - B + BO - OA - OB	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N11
X417	AAB	OB	AB + ABB + B - BA - BAB - BO + OB	-ABB - B + BO - OA - OB	0	0	0	0	0	OAB	N1
X418	AAB	OB	0	AB - BA - BAB - OA	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N4
X419	AAB	OB	0	AB - BA - BAB - OA	0	0	0	0	0	OAB	N1
X420	AAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N6
X421	AAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
X422	AAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	AB + ABO + AO - BA - BAB + O - OA	N11
X423	AAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
X424	AAB	OB	0	0	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
X425	AAB	OB	0	0	0	0	0	0	0	OAB	N1
X426	AAB	OB	0	0	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
X427	AAB	OB	0	0	0	0	0	0	0	OAB	N1
X428	AAB	OB	0	0	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N11
X429	AAB	OB	0	0	0	0	0	0	0	OAB	N1
X430	AAB	OB	0	0	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N4
X431	AAB	OB	0	0	0	0	0	0	0	OAB	N1
X432	AAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	ABO + O	N11
X433	AAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
X434	AAB	OB	0	0	0	0	0	0	0	-AB + ABO + BA + BAB + BO + O - OB	N11
X435	AAB	OB	0	0	0	0	0	0	0	-AB - AO + BA + BAB + OA + OAB	N1
X436	AAB	OB	0	0	0	0	0	0	0	ABB + ABO + B + O	N4
X437	AAB	OB	0	0	0	0	0	0	0	-AB - AO + BA + BAB + OA + OAB	N1
X438	0	0	0	0	0	0	2*(ABO + O)	0	0	0	N5
X439	0	0	0	0	0	0	2*OB	0	2*(ABO + O - OB)	0	N5
X440	0	0	0	0	0	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + BA + BO + O - OB	N2

Table C47: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X441
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X442
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X443
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X444
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X445
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	X446
BA	0	0	2*(A + ABA)	2*BO	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	X447
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X448
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X449
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X450
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X451
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X452
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X453
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X454
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X455
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X456
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X457
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X458
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X459
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X460
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X461
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	ABB + B	X462
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X463
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X464
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X465
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X466
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X467
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X468
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X469
BA	0	0	2*(A + ABA)	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X470
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X471
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X472
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X473
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X474
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X475
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X476
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X477
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X478
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X479
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X480

Table C48: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	p_3	p_4	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X441	0	0	0	0	0	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X442	0	0	0	0	0	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
X443	0	0	0	0	0	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X444	0	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X445	0	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X446	0	0	0	0	0	0	0	0	0	ABO + O	N6
X447	0	0	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X448	0	BO - OA	0	0	0	0	2*(ABO + O)	0	0	0	N5
X449	0	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(ABO + BO + O - OA - OB)	0	N5
X450	0	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X451	0	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X452	0	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
X453	0	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X454	0	BO - OA	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X455	0	BO - OA	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X456	0	OB	BO - OA - OB	0	0	0	0	0	2*(ABO + O)	0	N5
X457	0	OB	BO - OA - OB	0	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X458	0	OB	BO - OA - OB	0	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X459	0	OB	BO - OA - OB	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N6
X460	0	OB	BO - OA - OB	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X461	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	ABO + O	N2
X462	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X463	0	BO - OA	0	0	0	0	0	0	0	ABO + O	N6
X464	0	BO - OA	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X465	0	OB	0	0	0	0	0	0	0	ABO + BO + O - OA - OB	N6
X466	0	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
X467	0	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X468	0	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X469	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N2
X470	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	AAB + OAB	N1
X471	0	A - AB + ABA + BA + BO	0	0	0	0	2*(ABO + O)	0	0	0	N5
X472	0	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
X473	0	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X474	0	A - AB + ABA + BA + BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X475	0	A - AB + ABA + BA + BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X476	0	OB	0	0	0	0	0	0	0	ABO + O	N2
X477	0	OB	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X478	0	A - AB + ABA + BA + BO	0	0	0	0	0	0	0	ABO + O	N6
X479	0	A - AB + ABA + BA + BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X480	0	OB	0	0	0	0	0	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N6

Table C49: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X481
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X482
BA	0	0	2*(A + ABA)	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X483
BA	0	0	2*(AB - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	X484
BA	0	0	2*(AB - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	X485
BA	0	0	2*(AB - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	X486
BA	0	0	2*(AB - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	X487
BA	0	0	2*(AB - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	X488
BA	0	0	2*(AB - BA)	0	0	0	-BO + OB	0	0	0	OA	ABB + B	X489
BA	0	0	2*(AB - BA)	0	0	0	-BO + OB	0	0	0	OA	ABB + B	X490
BA	0	0	2*(AB - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	X491
BA	0	0	2*(AB - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	X492
BA	0	0	2*(AB - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	X493
BA	0	0	2*(AB - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	X494
BA	0	0	2*(AB - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	X495
BA	0	0	2*(AB - BA)	0	0	0	-AB - ABB - B + BA + BAB	0	0	0	OA	ABB + B	X496
BA	0	0	2*(AB - BA)	0	0	0	-AB - ABB - B + BA + BAB	0	0	0	OA	ABB + B	X497
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	ABB + B	X498
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	ABB + B	X499
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X500
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X501
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X502
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X503
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X504
BA	0	0	2*(AB - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X505
BA	0	0	2*BAB	2*BO	0	0	0	0	0	0	-BO + OA	0	X506
BA	0	0	2*BAB	2*BO	0	0	0	0	0	0	-BO + OA	0	X507
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	X508
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	X509
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	X510
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	X511
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	X512
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	X513
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	X514
BA	0	0	2*BAB	2*OA	0	0	0	0	0	0	0	0	X515
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X516
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X517
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X518
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X519
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X520

Table C50: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	p_3	p_4	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X481	0	OB	0	0	0	0	0	0	0	AAB + OAB	N1
X482	0	OB	0	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N2
X483	0	OB	0	0	0	0	0	0	0	AAB + OAB	N1
X484	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(ABO + O)	0	0	0	N10
X485	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AO - BO + OA + OB)	0	0	ABO + AO + BO + O - OA - OB	N2
X486	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AO - BO + OA + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X487	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X488	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X489	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	0	0	ABO + O	N2
X490	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X491	0	BO	0	0	0	0	2*(ABO + O)	0	0	0	N5
X492	0	BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
X493	0	BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X494	0	BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X495	0	BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X496	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	0	0	ABO + O	N6
X497	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X498	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	ABO + O	N2
X499	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X500	A - AB + ABA + BA	BO	0	0	0	0	0	0	0	ABO + O	N6
X501	A - AB + ABA + BA	BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X502	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	ABO + BO + O - OB	N6
X503	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA + OAB	N1
X504	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	AB + ABB + ABO + B - BA - BAB + O	N2
X505	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA + OAB	N1
X506	A + ABA - BAB	0	0	0	0	0	0	0	0	ABO + O	N6
X507	A + ABA - BAB	0	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X508	A + ABA - BAB	BO - OA	0	0	0	0	0	0	0	ABO + O	N6
X509	A + ABA - BAB	BO - OA	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X510	A + ABA - BAB	OB	0	0	0	0	0	0	0	ABO + BO + O - OA - OB	N6
X511	A + ABA - BAB	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
X512	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	0	0	ABB + ABO + B + O	N6
X513	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	0	0	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
X514	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	0	0	ABB + ABO + B + O	N2
X515	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X516	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	ABO + O	N6
X517	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X518	A + ABA - BAB	OB	0	0	0	0	0	0	0	-AB + ABO + BA + BAB + BO + O - OB	N6
X519	A + ABA - BAB	OB	0	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X520	A + ABA - BAB	OB	0	0	0	0	0	0	0	ABB + ABO + B + O	N2

Table C51: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	0	0	2*BAB	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X521
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X522
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X523
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X524
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X525
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X526
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X527
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X528
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	ABB + B	X529
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	X530
BA	2*(A - AAB + ABA)	0	2*AAB	2*BO	0	0	0	0	0	0	-BO + OA	-A - ABA + BAB	X531
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X532
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X533
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X534
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X535
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X536
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X537
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X538
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X539
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X540
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X541
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X542
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X543
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X544
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X545
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	ABB + B	X546
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X547
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X548
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X549
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X550
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X551
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X552
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X553
BA	2*(A - AAB + ABA)	0	2*AAB	2*OA	0	0	0	0	0	0	0	-A - ABA + BAB	X554
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X555
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X556
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X557
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X558
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X559
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X560

Table C52: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	p_3	p_4	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X521	A + ABA - BAB	OB	0	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X522	0	0	0	0	0	0	2*(ABO + O)	0	0	0	N5
X523	0	0	0	0	0	0	2*OB	0	2*(ABO + O - OB)	0	N5
X524	0	0	0	0	0	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X525	0	0	0	0	0	0	2*OB	0	2*(-A + AB - ABA - BA - BO)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X526	0	0	0	0	0	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
X527	0	0	0	0	0	0	2*OB	0	2*(-A - ABA - ABB - B + BAB - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X528	0	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X529	0	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X530	0	0	0	0	0	0	0	0	0	ABO + O	N6
X531	0	0	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X532	0	BO - OA	0	0	0	0	2*(ABO + O)	0	0	0	N5
X533	0	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(ABO + BO + O - OA - OB)	0	N5
X534	0	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X535	0	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A + AB - ABA - BA - OA)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X536	0	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	A + ABA + ABB + ABO + B - BAB + O	N6
X537	0	BO - OA	0	0	0	0	2*(-BO + OA + OB)	0	2*(-A - ABA - ABB - B + BAB + BO - OA - OB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X538	0	BO - OA	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X539	0	BO - OA	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X540	0	OB	BO - OA - OB	0	0	0	0	0	2*(ABO + O)	0	N5
X541	0	OB	BO - OA - OB	0	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	A - AB + ABA + ABO + BA + BO + O - OB	N2
X542	0	OB	BO - OA - OB	0	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X543	0	OB	BO - OA - OB	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	A + ABA + ABB + ABO + B - BAB + O	N6
X544	0	OB	BO - OA - OB	0	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X545	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	ABO + O	N2
X546	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X547	0	BO - OA	0	0	0	0	0	0	0	ABO + O	N6
X548	0	BO - OA	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X549	0	OB	0	0	0	0	0	0	0	ABO + BO + O - OA - OB	N6
X550	0	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
X551	0	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X552	0	OB	-A - ABA - ABB - B + BAB + BO - OA - OB	0	0	0	0	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X553	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N2
X554	0	OB	-A + AB - ABA - BA - OA	0	0	0	0	0	0	AAB + OAB	N1
X555	0	A - AB + ABA + BA + BO	0	0	0	0	2*(ABO + O)	0	0	0	N5
X556	0	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
X557	0	A - AB + ABA + BA + BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X558	0	A - AB + ABA + BA + BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X559	0	A - AB + ABA + BA + BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X560	0	OB	0	0	0	0	0	0	0	ABO + O	N2

Table C53: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	Serial
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	ABB + B	X561
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X562
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X563
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X564
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X565
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X566
BA	2*(A - AAB + ABA)	0	2*AAB	2*(-A + AB - ABA - BA)	0	0	0	0	0	0	A - AB + ABA + BA + OA	-A - ABA + BAB	X567
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	X568
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	X569
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	X570
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	X571
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	AO - OA	0	0	0	OA	ABB + B	X572
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	-BO + OB	0	0	0	OA	ABB + B	X573
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	-BO + OB	0	0	0	OA	ABB + B	X574
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	X575
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	X576
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	X577
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	X578
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	A - AB + ABA + BA	0	0	0	OA	ABB + B	X579
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	-AB - ABB - B + BA + BAB	0	0	0	OA	ABB + B	X580
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	-AB - ABB - B + BA + BAB	0	0	0	OA	ABB + B	X581
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	ABB + B	X582
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	ABB + B	X583
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X584
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X585
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X586
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X587
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X588
BA	2*(A - AAB + ABA)	0	2*(-A + AAB + AB - ABA - BA)	0	0	0	0	0	0	0	OA	-AB + BA + BAB	X589
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*BO	0	0	0	0	0	0	-BO + OA	0	X590
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*BO	0	0	0	0	0	0	-BO + OA	0	X591
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	X592
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	X593
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	X594
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	X595
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	X596
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	X597
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	X598
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*OA	0	0	0	0	0	0	0	0	X599
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	X600

Table C54: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	p_3	p_4	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X561	0	OB	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X562	0	A - AB + ABA + BA + BO	0	0	0	0	0	0	0	ABO + O	N6
X563	0	A - AB + ABA + BA + BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X564	0	OB	0	0	0	0	0	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N6
X565	0	OB	0	0	0	0	0	0	0	AAB + OAB	N1
X566	0	OB	0	0	0	0	0	0	0	A + ABA + ABB + ABO + B - BAB + O	N2
X567	0	OB	0	0	0	0	0	0	0	AAB + OAB	N1
X568	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(ABO + O)	0	0	0	N10
X569	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AO - BO + OA + OB)	0	0	ABO + AO + BO + O - OA - OB	N2
X570	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AO - BO + OA + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X571	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X572	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X573	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	0	0	ABO + O	N2
X574	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X575	0	BO	0	0	0	0	2*(ABO + O)	0	0	0	N5
X576	0	BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
X577	0	BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X578	0	BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X579	0	BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X580	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	0	0	ABO + O	N6
X581	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X582	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	ABO + O	N2
X583	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X584	A - AB + ABA + BA	BO	0	0	0	0	0	0	0	ABO + O	N6
X585	A - AB + ABA + BA	BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X586	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	ABO + BO + O - OB	N6
X587	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA + OAB	N1
X588	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	AB + ABB + ABO + B - BA - BAB + O	N2
X589	A - AB + ABA + BA	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA + OAB	N1
X590	A + ABA - BAB	0	0	0	0	0	0	0	0	ABO + O	N6
X591	A + ABA - BAB	0	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X592	A + ABA - BAB	BO - OA	0	0	0	0	0	0	0	ABO + O	N6
X593	A + ABA - BAB	BO - OA	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X594	A + ABA - BAB	OB	0	0	0	0	0	0	0	ABO + BO + O - OA - OB	N6
X595	A + ABA - BAB	OB	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - OA + OAB	N1
X596	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	0	0	ABB + ABO + B + O	N6
X597	A + ABA - BAB	OB	-ABB - B + BO - OA - OB	0	0	0	0	0	0	-A + AAB + AB - ABA + ABB + B - BA - BO + OAB + OB	N1
X598	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	0	0	ABB + ABO + B + O	N2
X599	A + ABA - BAB	OB	AB - BA - BAB - OA	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X600	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	ABO + O	N6

Table C55: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	Serial
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	X601
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	X602
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	X603
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	X604
BA	2*(A - AAB + ABA)	0	2*(-A + AAB - ABA + BAB)	2*(AB - BA - BAB)	0	0	0	0	0	0	X605
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	OA	0	X606
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	OA	0	X607
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	OA	0	X608
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	OA	0	X609
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	OA	0	X610
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AO - BO + OA + OB	0	X611
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AO - BO + OA + OB	0	X612
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA	0	X613
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA	0	X614
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA	0	X615
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA	0	X616
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	A - AAB - AB + ABA - AO + BA + OA	0	X617
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AB - ABB - AO - B + BA + BAB + OA	0	X618
BA	2*(AB - BA)	0	0	0	2*(AO - OA)	0	0	0	-AB - ABB - AO - B + BA + BAB + OA	0	X619
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA + AO - BA - OA	0	0	0	X620
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA + AO - BA - OA	0	0	0	X621
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA + AO - BA - OA	0	0	0	X622
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA + AO - BA - OA	0	0	0	X623
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA + AO - BA - OA	0	0	0	X624
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA - BA - BO + OB	0	0	0	X625
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB + AB - ABA - BA - BO + OB	0	0	0	X626
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	AAB	0	0	0	X627
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	AAB	0	0	0	X628
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	AAB	0	0	0	X629
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	AAB	0	0	0	X630
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	AAB	0	0	0	X631
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB - ABA - ABB - B + BAB	0	0	0	X632
BA	2*(AB - BA)	0	0	0	2*(A - AAB - AB + ABA + BA)	0	-A + AAB - ABA - ABB - B + BAB	0	0	0	X633
BA	2*(AB - BA)	0	0	0	2*(-BO + OB)	0	0	0	0	0	X634
BA	2*(AB - BA)	0	0	0	2*(-BO + OB)	0	0	0	0	0	X635
BA	2*(AB - BA)	0	0	0	2*(-BO + OB)	0	0	0	0	0	X636
BA	2*(AB - BA)	0	0	0	2*(-BO + OB)	0	0	0	0	0	X637
BA	2*(AB - BA)	0	0	0	2*(-AB - ABB - B + BA + BAB)	0	0	0	0	0	X638
BA	2*(AB - BA)	0	0	0	2*(-AB - ABB - B + BA + BAB)	0	0	0	0	0	X639
BA	2*(AB - BA)	0	0	0	2*(-AB - ABB - B + BA + BAB)	0	0	0	0	0	X640

Table C56: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	p_1	p_2	p_3	p_4	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X601	-AB + BA + BAB + OA	0	A + ABA - BAB	-AB + BA + BAB + BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X602	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	0	0	0	0	0	0	0	-AB + ABO + BA + BAB + BO + O - OB	N6
X603	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	0	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X604	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	0	0	0	0	0	0	0	ABB + ABO + B + O	N2
X605	-AB + BA + BAB + OA	0	A + ABA - BAB	OB	0	0	0	0	0	0	0	-A + AAB - ABA + BAB + OAB	N1
X606	0	ABB + B	AAB	BO	0	0	0	0	2*(ABO + O)	0	0	0	N9
X607	0	ABB + B	AAB	BO	0	0	0	0	2*(-AO - BO + OB)	0	0	ABO + AO + BO + O - OB	N4
X608	0	ABB + B	AAB	BO	0	0	0	0	2*(-AO - BO + OB)	0	0	-AB - ABB - B + BA + BAB + BO + OA + OAB - OB	N1
X609	0	ABB + B	AAB	BO	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O	N11
X610	0	ABB + B	AAB	BO	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB)	0	0	AB + ABB + B - BA - BAB - BO + OA + OAB + OB	N1
X611	AO + BO - OB	ABB + B	AAB	BO	0	0	0	0	0	0	0	ABO + O	N4
X612	AO + BO - OB	ABB + B	AAB	BO	0	0	0	0	0	0	0	-AB - ABB - AO - B + BA + BAB + OA + OAB	N1
X613	-A + AAB + AB - ABA + AO - BA	ABB + B	AAB	BO	0	0	0	0	2*(ABO + O)	0	0	0	N10
X614	-A + AAB + AB - ABA + AO - BA	ABB + B	AAB	BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N4
X615	-A + AAB + AB - ABA + AO - BA	ABB + B	AAB	BO	0	0	0	0	2*(-A + AAB + AB - ABA - BA - BO + OB)	0	0	A - AAB - 2*AB + ABA - ABB - AO - B + 2*BA + BAB + BO + OA + OAB - OB	N1
X616	-A + AAB + AB - ABA + AO - BA	ABB + B	AAB	BO	0	0	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N11
X617	-A + AAB + AB - ABA + AO - BA	ABB + B	AAB	BO	0	0	0	0	2*(-A + AAB - ABA - ABB - B + BAB)	0	0	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OAB + OB	N1
X618	AB + ABB + AO + B - BA - BAB	ABB + B	AAB	BO	0	0	0	0	0	0	0	ABO + O	N11
X619	AB + ABB + AO + B - BA - BAB	ABB + B	AAB	BO	0	0	0	0	0	0	0	-AO - BO + OA + OAB + OB	N1
X620	OA	ABB + B	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(ABO + O)	0	0	0	N10
X621	OA	ABB + B	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AO - BO + OA + OB)	0	0	ABO + AO + BO + O - OA - OB	N2
X622	OA	ABB + B	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AO - BO + OA + OB)	0	0	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA + OAB - OB	N1
X623	OA	ABB + B	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N6
X624	OA	ABB + B	A - AB + ABA - AO + BA + OA	BO	0	0	0	0	2*(-AB - ABB - AO - B + BA + BAB + OA)	0	0	-A + AAB + 2*AB - ABA + ABB + AO + B - 2*BA - BAB - BO - OA + OAB + OB	N1
X625	OA	ABB + B	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	0	0	ABO + O	N2
X626	OA	ABB + B	A - AB + ABA + BA + BO - OB	BO	0	0	0	0	0	0	0	-A + AAB - ABA - ABB - B + BAB + OAB	N1
X627	OA	ABB + B	0	BO	0	0	0	0	2*(ABO + O)	0	0	0	N5
X628	OA	ABB + B	0	BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	A - AB + ABA + ABO + BA + BO + O - OB	N2
X629	OA	ABB + B	0	BO	0	0	0	0	2*(-A + AB - ABA - BA - BO + OB)	0	0	AAB - AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X630	OA	ABB + B	0	BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	A + ABA + ABB + ABO + B - BAB + O	N6
X631	OA	ABB + B	0	BO	0	0	0	0	2*(-A - ABA - ABB - B + BAB)	0	0	AAB + AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X632	OA	ABB + B	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	0	0	ABO + O	N6
X633	OA	ABB + B	A + ABA + ABB + B - BAB	BO	0	0	0	0	0	0	0	-A + AAB + AB - ABA - BA - BO + OAB + OB	N1
X634	OA	ABB + B	AAB	BO	0	0	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N2
X635	OA	ABB + B	AAB	BO	0	0	0	0	0	0	0	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X636	OA	ABB + B	AAB	BO	0	0	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N4
X637	OA	ABB + B	AAB	BO	0	0	0	0	0	0	0	-AB - ABB - B + BA + BAB + BO + OAB - OB	N1
X638	OA	ABB + B	AAB	BO	0	0	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N6
X639	OA	ABB + B	AAB	BO	0	0	0	0	0	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X640	OA	ABB + B	AAB	BO	0	0	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N11

Table C57: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	Serial
BA	2*(AB - BA)	0	0	0	2*(-AB - ABB - B + BA + BAB)	0	0	0	0	0	OA	ABB + B	AAB	BO	X641
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	ABB + B	AAB	OB	X642
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	ABB + B	AAB	OB	X643
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	ABB + B	AAB	OB	X644
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	ABB + B	AAB	OB	X645
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	BO	X646
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	BO	X647
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	BO	X648
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	BO	X649
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	OB	X650
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	OB	X651
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	OB	X652
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	OB	X653
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	OB	X654
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	OB	X655
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	OB	X656
BA	2*(AB - BA)	0	0	0	0	0	0	0	0	0	OA	-AB + BA + BAB	AAB	OB	X657
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	AAB	0	X658
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	AAB	0	X659
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	AAB	0	X660
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	AAB	0	X661
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	AAB	0	X662
BA	2*BAB	0	0	2*BO	0	0	0	0	0	0	-BO + OA	0	AAB	0	X663
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	BO - OA	X664
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	BO - OA	X665
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	BO - OA	X666
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	BO - OA	X667
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	BO - OA	X668
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	BO - OA	X669
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X670

Table C58: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X641	0	0	0	0	0	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X642	0	0	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + O	N2
X643	0	0	0	0	0	0	0	-AB - ABB - B + BA + BAB + OAB	N1
X644	0	0	0	0	0	0	0	ABO + AO + O - OA	N4
X645	0	0	0	0	0	0	0	-AB - ABB - B + BA + BAB + OAB	N1
X646	0	0	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + O	N6
X647	0	0	0	0	0	0	0	-BO + OAB + OB	N1
X648	0	0	0	0	0	0	0	ABO + AO + O - OA	N11
X649	0	0	0	0	0	0	0	-BO + OAB + OB	N1
X650	0	0	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
X651	0	0	0	0	0	0	0	OAB	N1
X652	0	0	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
X653	0	0	0	0	0	0	0	OAB	N1
X654	0	0	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N11
X655	0	0	0	0	0	0	0	OAB	N1
X656	0	0	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N4
X657	0	0	0	0	0	0	0	OAB	N1
X658	0	0	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N6
X659	0	0	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
X660	A - AAB + ABA - AO - BAB - BO + OA	0	0	0	0	0	0	ABO + AO + BO + O - OA	N6
X661	A - AAB + ABA - AO - BAB - BO + OA	0	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB + OB	N1
X662	AB - BA - BAB - BO	0	0	0	0	0	0	ABO + AO + BO + O - OA	N11
X663	AB - BA - BAB - BO	0	0	0	0	0	0	OAB + OB	N1
X664	0	0	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N6
X665	0	0	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
X666	A - AAB + ABA - AO - BAB	0	0	0	0	0	0	ABO + AO + O	N6
X667	A - AAB + ABA - AO - BAB	0	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - BO + OAB + OB	N1
X668	AB - BA - BAB - OA	0	0	0	0	0	0	ABO + AO + O	N11
X669	AB - BA - BAB - OA	0	0	0	0	0	0	-BO + OA + OAB + OB	N1
X670	0	0	0	0	0	0	0	A - AAB + ABA + ABO - BAB + BO + O - OA - OB	N6

Table C59: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

b_0	$2*b_1$	$2*b_2$	$2*b_3$	$2*b_{21}$	$2*e_1$	$2*e_2$	$2*f_2$	$2*f_3$	$2*f_4$	$2*f_5$	p_1	p_2	p_3	p_4	Serial
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X671
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X672
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X673
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X674
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X675
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X676
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X677
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X678
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X679
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X680
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X681
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X682
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X683
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X684
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X685
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X686
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X687
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X688
BA	2*BAB	0	0	2*OA	0	0	0	0	0	0	0	0	AAB	OB	X689
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	-AB + BA + BAB + BO	X690
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	-AB + BA + BAB + BO	X691
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	-AB + BA + BAB + BO	X692
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	-AB + BA + BAB + BO	X693
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	OB	X694
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	OB	X695
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	OB	X696
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	OB	X697
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	OB	X698
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	OB	X699
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	OB	X700
BA	2*BAB	0	0	2*(AB - BA - BAB)	0	0	0	0	0	0	-AB + BA + BAB + OA	0	AAB	OB	X701

Table C60: The maximum number of feasible transplants from pairs of types $(O-A)$, $(O-B)$, $(O-AB)$, $(A-AB)$, $(B-AB)$, $(A-B)$ in four-way mechanism.

Serial	a_8	c_4	$3*d_1$	$2*b_4$	$2*b_5$	$2*b_6$	$2*b_7$	a_9	Result
X671	0	0	0	0	0	0	0	AB - BA - BAB - OA + OAB	N1
X672	-ABB - B + BO - OA - OB	0	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N6
X673	-ABB - B + BO - OA - OB	0	0	0	0	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X674	AB - BA - BAB - OA	0	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
X675	AB - BA - BAB - OA	0	0	0	0	0	0	OAB	N1
X676	A - AAB + ABA - AO - BAB	0	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N6
X677	A - AAB + ABA - AO - BAB	0	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
X678	AB - BA - BAB - OA	0	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N11
X679	AB - BA - BAB - OA	0	0	0	0	0	0	OAB	N1
X680	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA - OB	A - AAB + ABA - AO - BAB	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N6
X681	-A + AAB - ABA - ABB + AO - B + BAB + BO - OA - OB	A - AAB + ABA - AO - BAB	0	0	0	0	0	AB + ABB + B - BA - BAB - BO + OAB + OB	N1
X682	-A + AAB + AB - ABA + AO - BA - OA	A - AAB + ABA - AO - BAB	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
X683	-A + AAB + AB - ABA + AO - BA - OA	A - AAB + ABA - AO - BAB	0	0	0	0	0	OAB	N1
X684	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OB	-ABB - B + BO - OA - OB	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N6
X685	A - AAB + ABA + ABB - AO + B - BAB - BO + OA + OB	-ABB - B + BO - OA - OB	0	0	0	0	0	-A + AAB + AB - ABA + AO - BA - OA + OAB	N1
X686	AB + ABB + B - BA - BAB - BO + OB	-ABB - B + BO - OA - OB	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N11
X687	AB + ABB + B - BA - BAB - BO + OB	-ABB - B + BO - OA - OB	0	0	0	0	0	OAB	N1
X688	0	AB - BA - BAB - OA	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N4
X689	0	AB - BA - BAB - OA	0	0	0	0	0	OAB	N1
X690	0	0	0	0	0	0	0	A - AAB + ABA + ABO - BAB + O	N6
X691	0	0	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
X692	0	0	0	0	0	0	0	AB + ABO + AO - BA - BAB + O - OA	N11
X693	0	0	0	0	0	0	0	AB - BA - BAB - BO + OAB + OB	N1
X694	0	0	0	0	0	0	0	A - AAB - AB + ABA + ABO + BA + BO + O - OB	N6
X695	0	0	0	0	0	0	0	OAB	N1
X696	0	0	0	0	0	0	0	A - AAB + ABA + ABB + ABO + B - BAB + O	N2
X697	0	0	0	0	0	0	0	OAB	N1
X698	0	0	0	0	0	0	0	ABO + AO + BO + O - OA - OB	N11
X699	0	0	0	0	0	0	0	OAB	N1
X700	0	0	0	0	0	0	0	AB + ABB + ABO + AO + B - BA - BAB + O - OA	N4
X701	0	0	0	0	0	0	0	OAB	N1