Number of vertices $n = 12$.
Adjacencies of Graph

1. vertex 1 adjacent to 2 3 12
2. vertex 2 adjacent to 1 4 11
3. vertex 3 adjacent to 1 4 5
4. vertex 4 adjacent to 2 3 6
5. vertex 5 adjacent to 3 6 7
6. vertex 6 adjacent to 4 5 8
7. vertex 7 adjacent to 5 8 9
8. vertex 8 adjacent to 6 7 10
9. vertex 9 adjacent to 7 10 11
10. vertex 10 adjacent to 8 9 12
11. vertex 11 adjacent to 2 9 12
12. vertex 12 adjacent to 1 10 11

Size of automorphism group of the graph=24
Full group: $|Aut(polytope)| = 49152$
Restricted group: $|Aut(G) \times switch| = 49152$
Number of orbits for the full group : 6
List of orbits of facets for the full group: Total number of orbits = 6 Total number of facets = 26452

1. Inequality 1 with incidence 1024 and stabilizer of size 1024. Orbit size is 48

(1,2) : -1	(1,3) : 0	(1,12) : 1	(2,4) : 0	(2,11) : 1	(3,4) : 0
(3,5) : 0	(4,6) : 0	(5,6) : 0	(5,7) : 0	(6,8) : 0	(7,8) : 0
(7,9) : 0	(8,10) : 0	(9,10) : 0	(9,11) : 0	(10,12) : 0	(11,12) : 1

2. Inequality 2 with incidence 1024 and stabilizer of size 4096. Orbit size is 12

(1,2) : 1	(1,3) : 0	(1,12) : 0	(2,4) : 0	(2,11) : 0	(3,4) : 0
(3,5) : 0	(4,6) : 0	(5,6) : 0	(5,7) : 0	(6,8) : 0	(7,8) : 0
(7,9) : 0	(8,10) : 0	(9,10) : 0	(9,11) : 0	(10,12) : 0	(11,12) : 0

3. Inequality 3 with incidence 1024 and stabilizer of size 2048. Orbit size is 24

(1,2) : 0	(1,3) : 0	(1,12) : 0	(2,4) : 1	(2,11) : 0	(3,4) : 0
(3,5) : 0	(4,6) : 0	(5,6) : 0	(5,7) : 0	(6,8) : 0	(7,8) : 0
(7,9) : 0	(8,10) : 0	(9,10) : 0	(9,11) : 0	(10,12) : 0	(11,12) : 0

4. Inequality 4 with incidence 224 and stabilizer of size 64. Orbit size is 768

(1,2) : 0	(1,3) : 1	(1,12) : 1	(2,4) : 0	(2,11) : 0	(3,4) : 0
(3,5) : 1	(4,6) : 0	(5,6) : 0	(5,7) : 1	(6,8) : 0	(7,8) : 1
(7,9) : 0	(8,10) : 1	(9,10) : 0	(9,11) : 0	(10,12) : -1	(11,12) : 0

5. Inequality 5 with incidence 72 and stabilizer of size 48. Orbit size is 1024

(1,2) : 0	(1,3) : 0	(1,12) : 0	(2,4) : 1	(2,11) : 1	(3,4) : 1
(3,5) : 1	(4,6) : 0	(5,6) : 0	(5,7) : 1	(6,8) : 0	(7,8) : 1
(7,9) : 0	(8,10) : 1	(9,10) : 0	(9,11) : 0	(10,12) : -1	(11,12) : 1

6. Inequality 6 with incidence 20 and stabilizer of size 2. Orbit size is 24576

(1,2) : 0	(1,3) : 2	(1,12) : -2	(2,4) : 1	(2,11) : 1	(3,4) : 1
(3,5) : 1	(4,6) : 2	(5,6) : -1	(5,7) : 2	(6,8) : 1	(7,8) : 1
(7,9) : 1	(8,10) : 2	(9,10) : -1	(9,11) : 2	(10,12) : 1	(11,12) : 1