Number of vertices $n = 7$.
Adjacencies of Graph

1. vertex 1 adjacent to 2 3 4 7
2. vertex 2 adjacent to 1 3 5 7
3. vertex 3 adjacent to 1 2 6 7
4. vertex 4 adjacent to 1 5 6 7
5. vertex 5 adjacent to 2 4 6 7
6. vertex 6 adjacent to 3 4 5 7
7. vertex 7 adjacent to 1 2 3 4 5 6

Size of automorphism group of the graph=12
Full group: $|Aut(polytope)| = 768$
Restricted group: $|Aut(G) \times switch| = 768$
Number of orbits for the full group : 5
List of orbits of facets for the full group: Total number of orbits = 5 Total number of facets = 452

1. Inequality 1 with incidence 48 and stabilizer of size 32. Orbit size is 24
   nature: 3-cycle inequality, C=[2, 7, 1] F=[2, 7]

(1,2) : 1	(1,3) : 0	(1,4) : 0	(1,7) : 1	(2,3) : 0	(2,5) : 0
(2,7) : -1	(3,6) : 0	(3,7) : 0	(4,5) : 0	(4,6) : 0	(4,7) : 0
(5,6) : 0	(5,7) : 0	(6,7) : 0			

2. Inequality 2 with incidence 48 and stabilizer of size 64. Orbit size is 12
   nature: 3-cycle inequality, C=[1, 4, 7] F=[1, 4]

(1,2) : 0	(1,3) : 0	(1,4) : -1	(1,7) : 1	(2,3) : 0	(2,5) : 0
(2,7) : 0	(3,6) : 0	(3,7) : 0	(4,5) : 0	(4,6) : 0	(4,7) : 1
(5,6) : 0	(5,7) : 0	(6,7) : 0			

3. Inequality 3 with incidence 48 and stabilizer of size 96. Orbit size is 8
   nature: 3-cycle inequality, C=[2, 3, 1] F=[2, 3]

(1,2) : 1	(1,3) : 1	(1,4) : 0	(1,7) : 0	(2,3) : -1	(2,5) : 0
(2,7) : 0	(3,6) : 0	(3,7) : 0	(4,5) : 0	(4,6) : 0	(4,7) : 0
(5,6) : 0	(5,7) : 0	(6,7) : 0			

4. Inequality 4 with incidence 32 and stabilizer of size 32. Orbit size is 24 nature: 4-cycle inequality, C=[4, 5, 2, 1] F=[4, 5]

(1,2) : 1	(1,3) : 0	(1,4) : 1	(1,7) : 0	(2,3) : 0	(2,5) : 1
(2,7) : 0	(3,6) : 0	(3,7) : 0	(4,5) : -1	(4,6) : 0	(4,7) : 0
(5,6) : 0	(5,7) : 0	(6,7) : 0			

5. Inequality 5 with incidence 19 and stabilizer of size 2. Orbit size is 384 nature: unknown

(1,2) : 1	(1,3) : 0	(1,4) : 1	(1,7) : 0	(2,3) : -1	(2,5) : 1
(2,7) : 1	(3,6) : 1	(3,7) : 0	(4,5) : -1	(4,6) : 1	(4,7) : -1
(5,6) : 1	(5,7) : -1	(6,7) : 1			