Number of vertices $n = 10$.
Adjacencies of Graph

1. vertex 1 adjacent to 2 3 10
2. vertex 2 adjacent to 1 4 9
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 2 7 10
10. vertex 10 adjacent to 1 8 9

Size of automorphism group of the graph=20
Full group: $|Aut(polytope)| = 10240$
Restricted group: $|Aut(G) \times switch| = 10240$
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 = 1414

1. Inequality 1 with incidence 256 and stabilizer of size 256. Orbit size is 40 nature: 4-cycle inequality, C=[7, 8, 10, 9] F=[7, 8]

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

2. Inequality 2 with incidence 256 and stabilizer of size 1024. Orbit size is 10 nature: edge inequality e=[3, 4]

(1,2) : 0	(1,3) : 0	(1,10) : 0	(2,4) : 0	(2,9) : 0	(3,4) : 1
(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			

3. Inequality 3 with incidence 256 and stabilizer of size 512. Orbit size is 20 nature: edge inequality e=[2, 4]

(1,2) : 0	(1,3) : 0	(1,10) : 0	(2,4) : 1	(2,9) : 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			

4. Inequality 4 with incidence 96 and stabilizer of size 32. Orbit size is 320 nature: 6-cycle inequality, C=[9, 10, 1, 3, 5, 7] F=[9, 10]

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

5. Inequality 5 with incidence 15 and stabilizer of size 10. Orbit size is 1024 nature: unknown

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