Number of vertices $n = 9$.
Adjacencies of Graph

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

Size of automorphism group of the graph=4320
Full group: $|Aut(polytope)| = 1105920$
Restricted group: $|Aut(G) \times switch| = 1105920$
Number of orbits for the full group : 2
List of orbits of facets for the full group: Total number of orbits = 2 Total number of facets = 76

1. Inequality 1 with incidence 192 and stabilizer of size 15360. Orbit size is 72 nature: 3-cycle inequality, C=[8, 9, 3] F=[8, 9]

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

2. Inequality 2 with incidence 192 and stabilizer of size 276480. Orbit size is 4 nature: 3-cycle inequality, C=[8, 9, 7] F=[8, 9]

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