Number of vertices $n = 4$.
Adjacencies of Graph

1. vertex 1 adjacent to 3 4
2. vertex 2 adjacent to 3 4
3. vertex 3 adjacent to 1 2
4. vertex 4 adjacent to 1 2

Size of automorphism group of the graph=8
Full group: $|Aut(polytope)| = 384$
Restricted group: $|Aut(G) \times switch| = 64$
Number of orbits for the full group : 1
List of orbits of facets for the full group: Total number of orbits = 1 Total number of facets = 16

1. Inequality 1 with incidence 4 and stabilizer of size 24. Orbit size is 16 nature: 4-cycle inequality, C=[1, 4, 2, 3] F=[1, 4]

(1,3) : 1	(1,4) : -1	(2,3) : 1	(2,4) : 1		

Number of orbits for the restricted group : 2
List of orbits of facets for the restricted group: Total number of orbits = 2 Total number of facets = 16

1. Inequality 1 with incidence 4 and stabilizer of size 8. Orbit size is 8 nature: 4-cycle inequality, C=[1, 4, 2, 3] F=[1, 4]

(1,3) : 1	(1,4) : -1	(2,3) : 1	(2,4) : 1		

2. Inequality 2 with incidence 4 and stabilizer of size 8. Orbit size is 8 nature: edge inequality e=[2, 3]

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