

Number of vertices $n = 5$.

Adjacencies of Graph

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

Size of automorphism group of the graph=8

Full group: $|Aut(polytope)| = 128$

Restricted group: $|Aut(G) \times switch| = 128$

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 = 24

1. Inequality 1 with incidence 12 and stabilizer of size 8. Orbit size is 16 nature: 3-cycle inequality, $C=[2, 5, 1]$ $F=[2, 5]$

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

2. Inequality 2 with incidence 8 and stabilizer of size 16. Orbit size is 8 nature: 4-cycle inequality, $C=[2, 5, 3, 4]$ $F=[2, 5]$

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