

Number of vertices $n = 6$.

Adjacencies of Graph

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

Size of automorphism group of the graph=12

Full group: $|Aut(polytope)| = 384$

Restricted group: $|Aut(G) \times switch| = 384$

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 = 48

1. Inequality 1 with incidence 24 and stabilizer of size 16. Orbit size is 24 nature: 3-cycle inequality, $C=[2, 6, 1]$ $F=[2, 6]$

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

2. Inequality 2 with incidence 16 and stabilizer of size 16. Orbit size is 24 nature: 4-cycle inequality, $C=[3, 5, 2, 6]$ $F=[3, 5]$

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