

Number of vertices $n = 7$.

Adjacencies of Graph

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

Size of automorphism group of the graph=48

Full group: $|Aut(polytope)| = 3072$

Restricted group: $|Aut(G) \times switch| = 3072$

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 = 80

1. Inequality 1 with incidence 48 and stabilizer of size 96. Orbit size is 32
nature: 3-cycle inequality, $C=[1, 3, 7]$ $F=[1, 3]$

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

2. Inequality 2 with incidence 32 and stabilizer of size 64. Orbit size is 48
nature: 4-cycle inequality, $C=[3, 6, 2, 4]$ $F=[3, 6]$

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