

Number of vertices $n = 6$.

Adjacencies of Graph

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

Size of automorphism group of the graph=48

Full group: $|Aut(polytope)| = 1536$

Restricted group: $|Aut(G) \times switch| = 1536$

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 = 56

1. Inequality 1 with incidence 24 and stabilizer of size 48. Orbit size is 32

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

2. Inequality 2 with incidence 16 and stabilizer of size 64. Orbit size is 24

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