

Number of vertices $n = 5$.

Adjacencies of Graph

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

Size of automorphism group of the graph=12

Full group: $|Aut(polytope)| = 4608$

Restricted group: $|Aut(G) \times switch| = 192$

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 = 36

1. Inequality 1 with incidence 8 and stabilizer of size 128. Orbit size is 36
nature: edge inequality $e=[1, 5]$

$(1,3) : 0$	$(1,4) : 0$	$(1,5) : 1$	$(2,3) : 0$	$(2,4) : 0$	$(2,5) : 0$
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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 = 36

1. Inequality 1 with incidence 8 and stabilizer of size 16. Orbit size is 12
nature: edge inequality $e=[1, 5]$

$(1,3) : 0$	$(1,4) : 0$	$(1,5) : 1$	$(2,3) : 0$	$(2,4) : 0$	$(2,5) : 0$
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2. Inequality 2 with incidence 8 and stabilizer of size 8. Orbit size is 24
nature: 4-cycle inequality, $C=[2, 5, 1, 4]$ $F=[2, 5]$

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