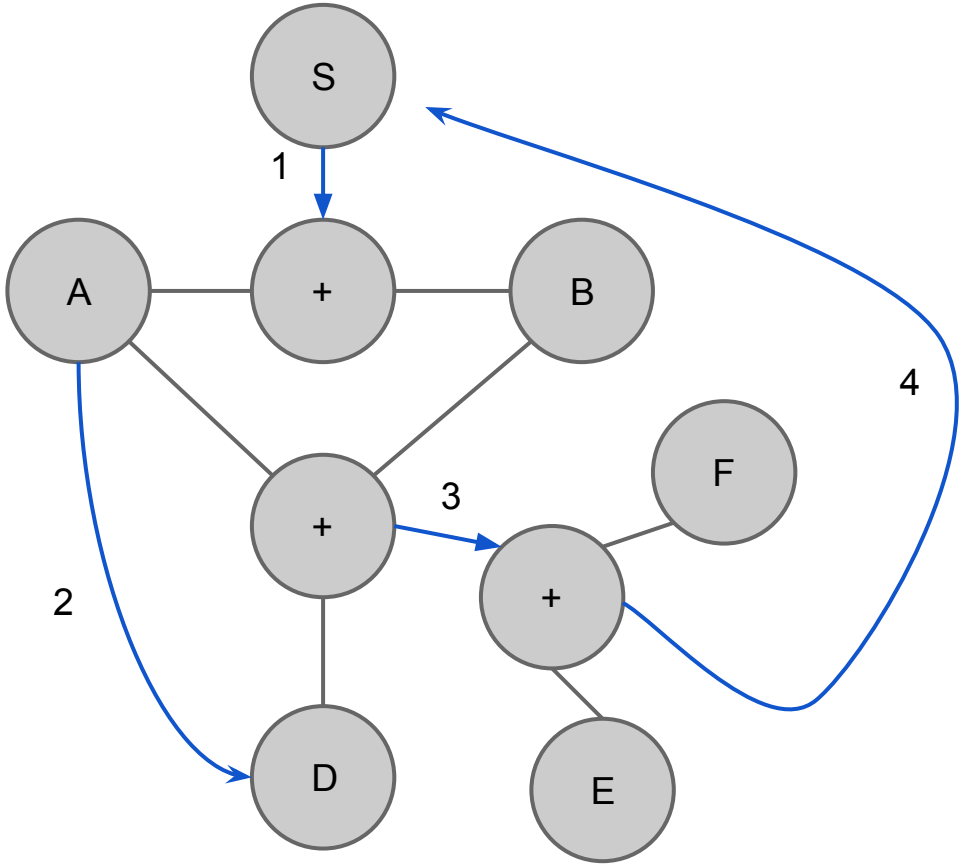

S → A + B (1)
A → D (2)
A + B + D → E + F (3)
E + F → S (4)

The grey edges are not directed. The blue edges are directed connecting the reactos to the products.

The plus sign in the 4th reaction has three adjacents : F,E and S.
The dif_side boolean for the first two is false (because the plus sign with F and E are in the same side). But the boolean for S, -being in the different side- is true.
The toself parent in each adjecent points to itself as a vertex. The parent pointer in each adjecent points to the chemical or the plus sign that has made it: for instance the parent in reaction 4 the parent of S is the plus sign. In reaction 1, the parent of the plus sign is S.