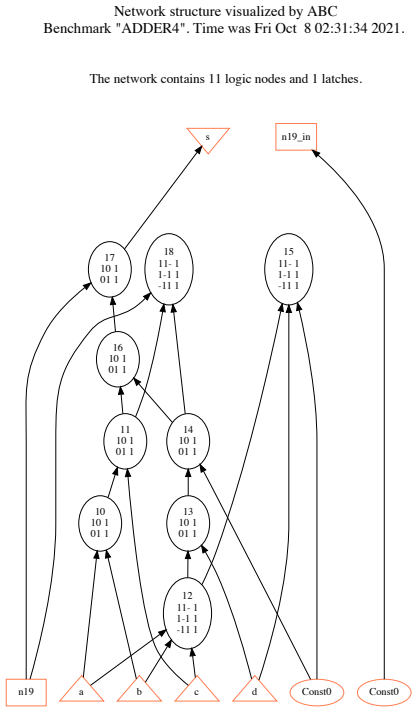
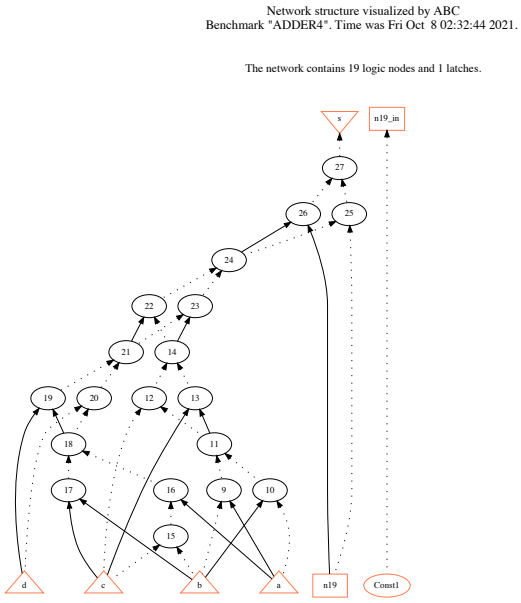
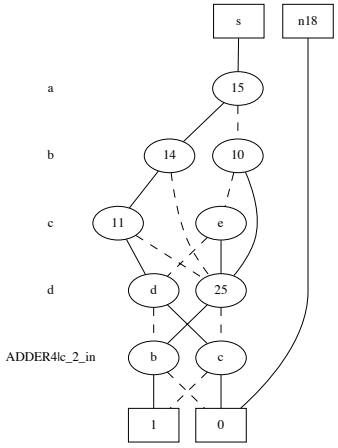
1.(b)-3 : visualize network structure



1.(b)-5 : AIG



1.(b)-7 : BDD



2.(a)-1

By the definition of official website of abc, command aig converts local functions of the nodes to AIGs. While command strash transforms the current network into an AIG by one-level structural hashing. The resulting AIG is a logic network composed of two-input AND gates and inverters represented as complemented attributes on the edges. Structural hashing is a purely combinational transformation, which does not modify the number and positions of latches.

2.(a)-2

By the definition of official website of abc, command bdd converts local functions of the nodes to BDDs. While the command collapse recursively composes the fanin nodes into the fanout nodes resulting in a network, in which each CO is produced by a node, whose fanins are CIs. Collapsing is performed by building global functions using BDDs and is, therefore, limited to relatively small circuits. After collapsing, the node functions are represented using BDDs.

2.(b)

Again from the website, command “logic” transforms the AIG into a logic network with the SOP representation of the two-input AND-gates.