

TopD@ k gives a planar diagram notation
for the knot k , which is given in modified DT form.

TopD@k_MDT := TopD@k =

**Block[{a = Abs /@ k, n = Length@k, o, r},
o = Ordering@a;**

**Do[If[PlanarGraphQ@Graph[Join@@Table[
Array[{v, # - 1} \rightarrow {v, #} &, 3] \cup
{v, 0} \rightarrow {v, 3}}] \cup**

Join@@

**(({v, #[[1]]} \rightarrow {#[[2]], #[[1]] +
(1 - c[[v]] c[[#[[2]]]) / 2},**

{v, 3 - #[[1]]} \rightarrow {#[[2]],

#[[1]] + (1 + c[[v]] c[[#[[2]]]) / 2}} &

**/@ ({#, o[[Mod[v - # / 2, n, 1]]} & /@
{0, 2})),**

{v, n}]]], r = c;

Break[]], {c, Tuples[{1, -1}, n]}};

PD @@

(X_{###} & @@@

Array[{2 # - 1, 2 a[[#], 2 #, Mod[2 a[[#] + 1, 2 n, 1]]

[[If[Sign@k[[#] == 1, ;;, {2, 3, 4, 1}]]]

[[If[r[[#] == 1, ;;, {1, 4, 3, 2}]]] &, n)]]];