

Flype@l gives a list of lists of all of the knots that  
 can be obtained by applying one flype to each knot of the list l.

Flype@l\_List :=

Flype@l =

If[l == {}, l, Block[{a, c, e, n = Length@l[[1]],  
 p = List@@Build[Abs/@l[[1]]] //

(#<sup>T</sup> ∪ Reverse@#<sup>T</sup>)<sup>T</sup>[[2]] &, y = {}},

Do[c = Mod[2 i - 1 + s[[1]] Range@o, 2 n, 1];

For[

e = Max@Mod[Complement[p[[c]], c] - s[[2]] 2 l[[1, i]],  
 2 n, 1],

e < Mod[s[[2]] (2 i - 1 - 2 l[[1, i]]), 2 n, 1],

e++,

c = c ∪ Mod[2 l[[1, i]] + s[[2]] Range@e, 2 n, 1];

If[Sort@p[[c]] == c,

y = Join[y, {1, Convert /@ (Mod[

(a = Abs@#) +

Which[Mod[s[[1]] (a - 2 i + 1),

2 n, 1] ≤ o, -s[[1]],

Mod[s[[2]] (a - 2 l[[1, i]]), 2 n, 1] ≤ e,

-s[[2]],

a == 2 i - 1, s[[1]] o,

a == 2 Abs@l[[1, i]], s[[2]] e,

True, 0],

2 n, 1] Sign@# &

// Map[#, Build/@l, {3}] &)}<sup>T</sup>]]],

{i, n},

{s, {{1, 1}, {1, -1}, {-1, 1}}},

{o, 2, Mod[s[[1]] (2 l[[1, i]] - 2 i + 1), 2 n, 1] - 1}];

KnotSort /@ If[Dimensions@y == {2}, y, (y ∪ {})]];