ReidemeisterThree@*k* gives all the knots that can be obtained by applying one third Reidemeister move to the knot *k*, which is given in modified DT form.

```
ReidemeisterThree@k_MDT :=
  ReidemeisterThree@k = Block[{b, f, n = Length@k,
     p = List @@ Build@k // (#ᵀ ⋃ (Abs@Reverse@# Sign@#)ᵀ)ᵀ[[2]] &,
     v, y = {}},
    b = Abs@p // #[[Mod[#[[1]] + {1, -1}, 2 n, 1]]] &;
    Do[f = Mod[Abs@p[[i]] + {1, -1}, 2 n, 1]
       // If[OddQ@i, Abs@p[[#]], #] &;
     Do[If[{c, i - 1, i}
        // Total[Sign@p[[#]]]^2 == 1 && MemberQ[(Abs@p[[#]] ⋃ #)[[2 ;; 3]], i] &,
       v = p[[{Abs@p[[c]], Abs@p[[i - Mod[i, 2]]], i - Mod[i + 1, 2]}]]/2;
       If[DuplicateFreeQ@v,
        AppendTo[y, k /.
           (v[[#1]] → -Abs@v[[#2]] Sign@v[[#3]] & @@@
             {{1, 2, 3}, {2, 3, 1}, {3, 1, 2}})]]],
      {c, b ⋂ f}];
     b = f, {i, 2, 2 n}];
    KnotSort[Minimal /@ y ⋃ {}]];
```