

FACTS ABOUT TWISTS

Convention

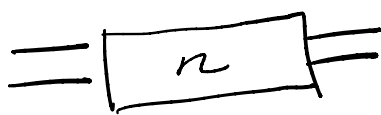


positive horizontal twists

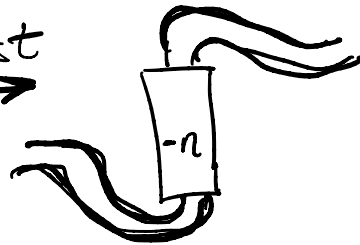


negative vertical twists

Thus



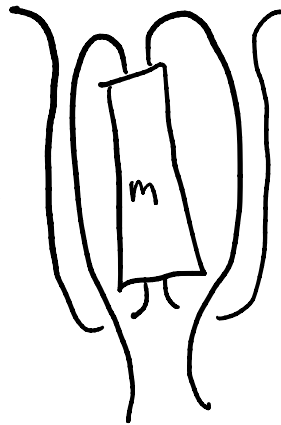
twist →



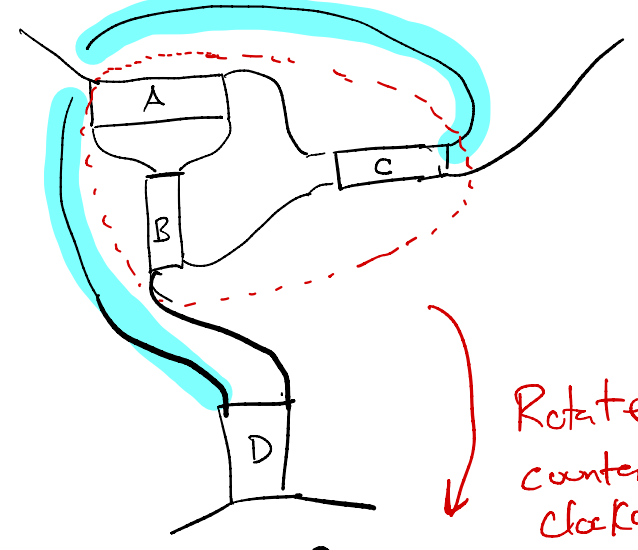
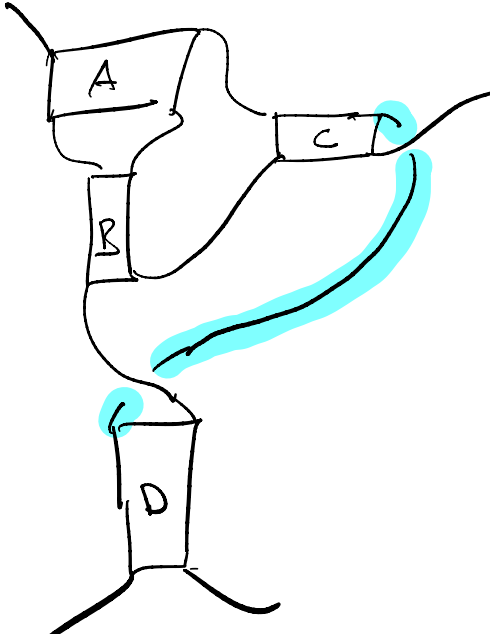
Also notice



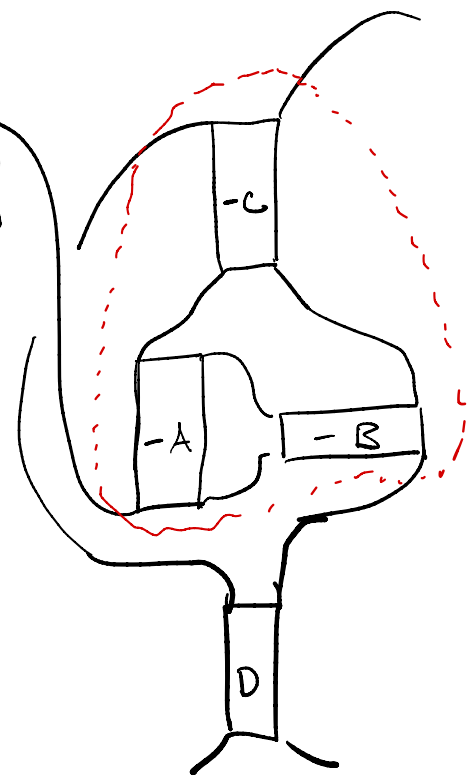
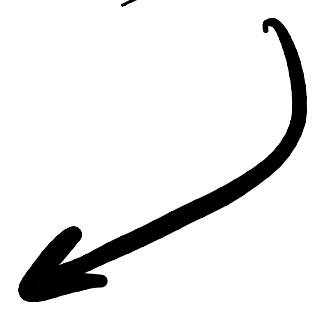
vertical
flip →



Thus we have the following isotopies:

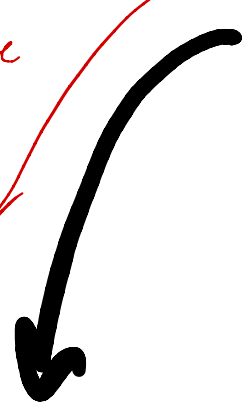


Rotate counter clockwise



$[A, B, C-1, D+1]$
 $C < 0, D > 0$

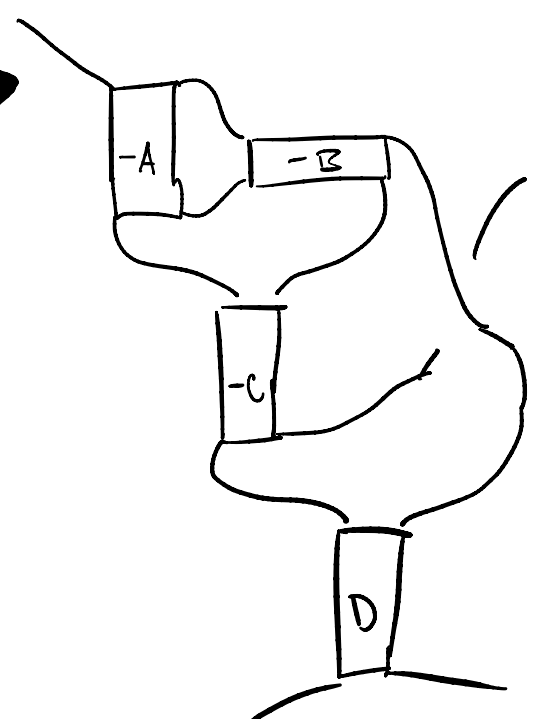
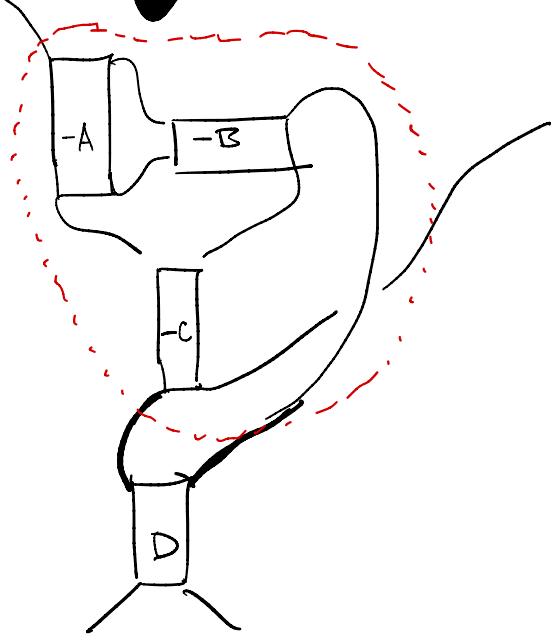
Rotate front to back



$[-A, -B, -C, 1, D]$



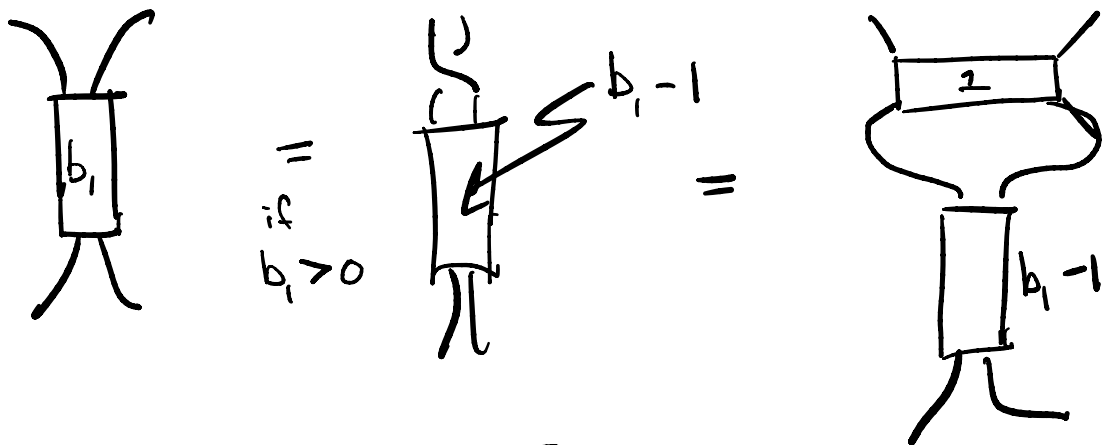
Reposition



Conway

Given a rational tangle T
there exists a unique Conway sequence
 $[a_1, \dots, a_n]$ s.t. n is odd and
all a_i have the same sign.

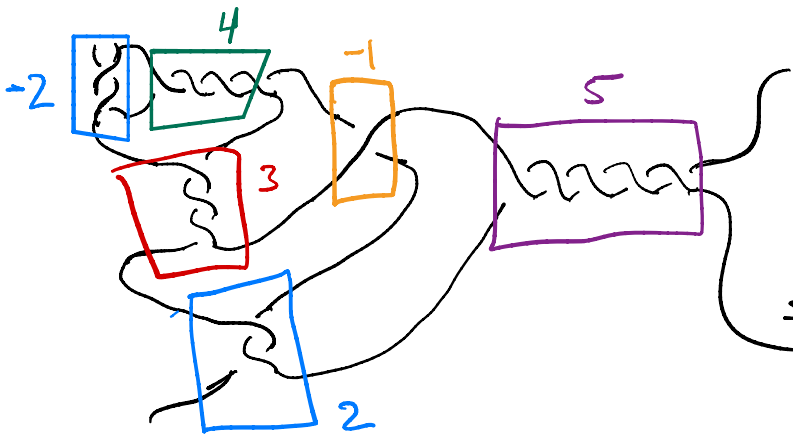
pf let $[b_1, \dots, b_m]$ be a Conway
sequence w/ m even (using notation
convention from Adams).



and so $[b_1, \dots, b_m] = [2, b_1 - 1, b_2, \dots, b_m]$

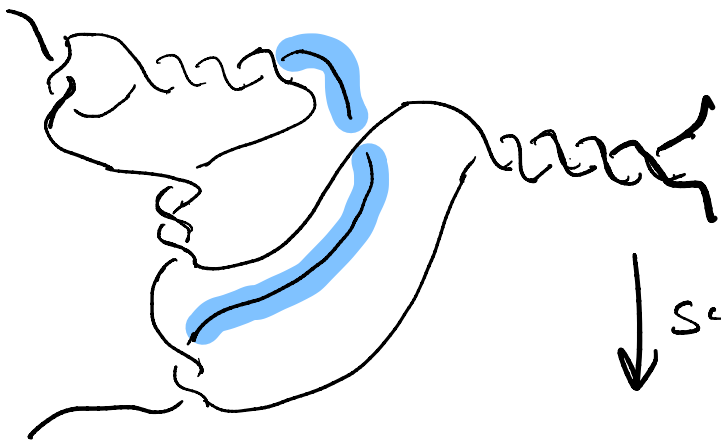
To make all the signs use the trick from
the previous page.

Ex



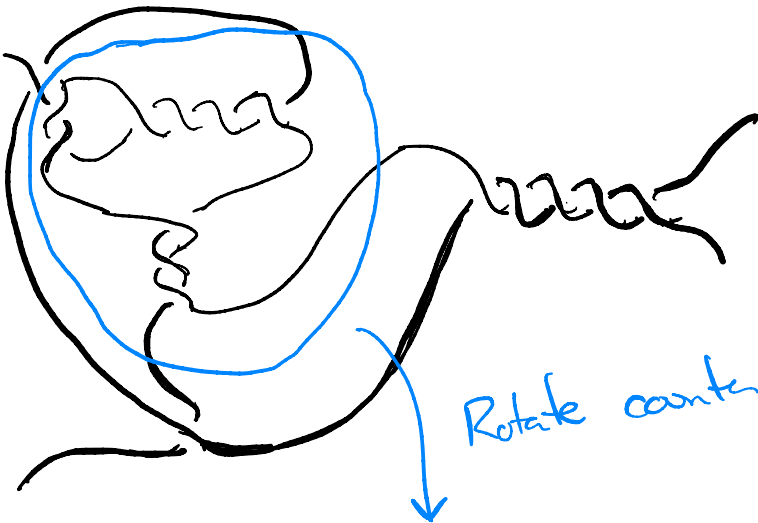
$$[-2, 4, 3, -1, 2, 5]$$

$$= 5 + \frac{1}{2 + \frac{1}{-1 + \frac{1}{3 + \frac{1}{4 + \frac{1}{-2}}}}} = 61/9$$

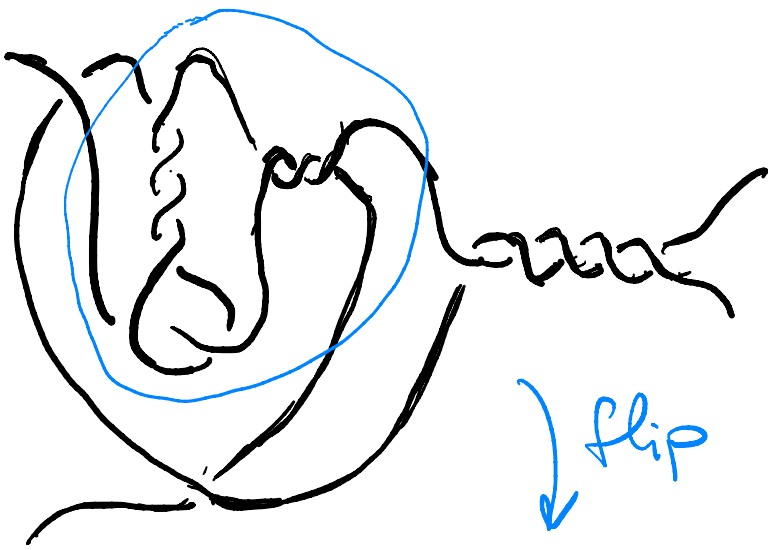


$$[-2, 4, 3, -1, 2, 5]$$

↑ ↑



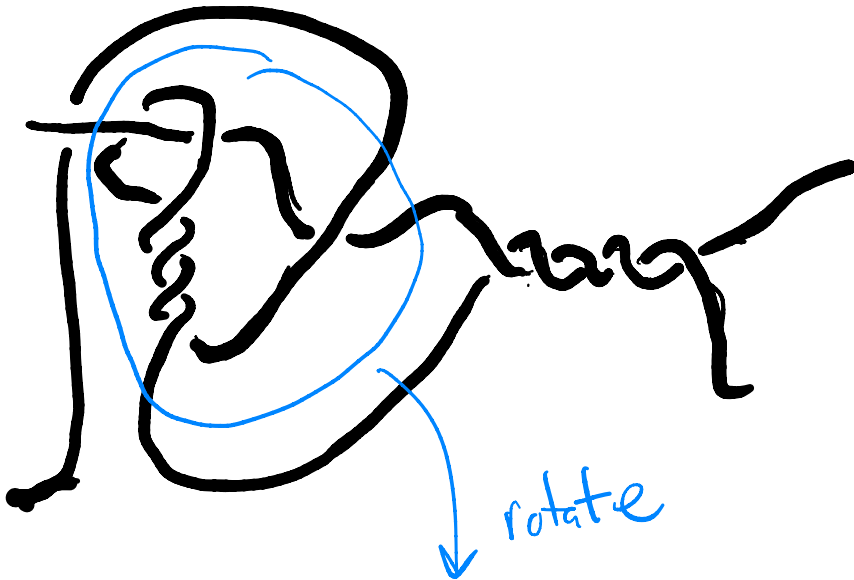
Rotate counter-clockwise

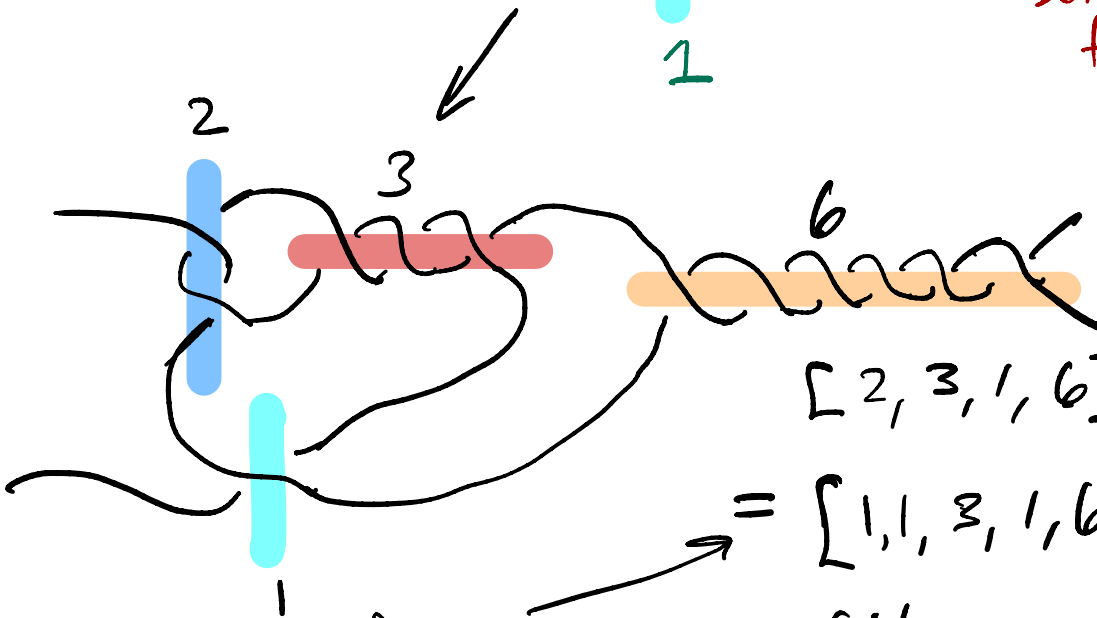
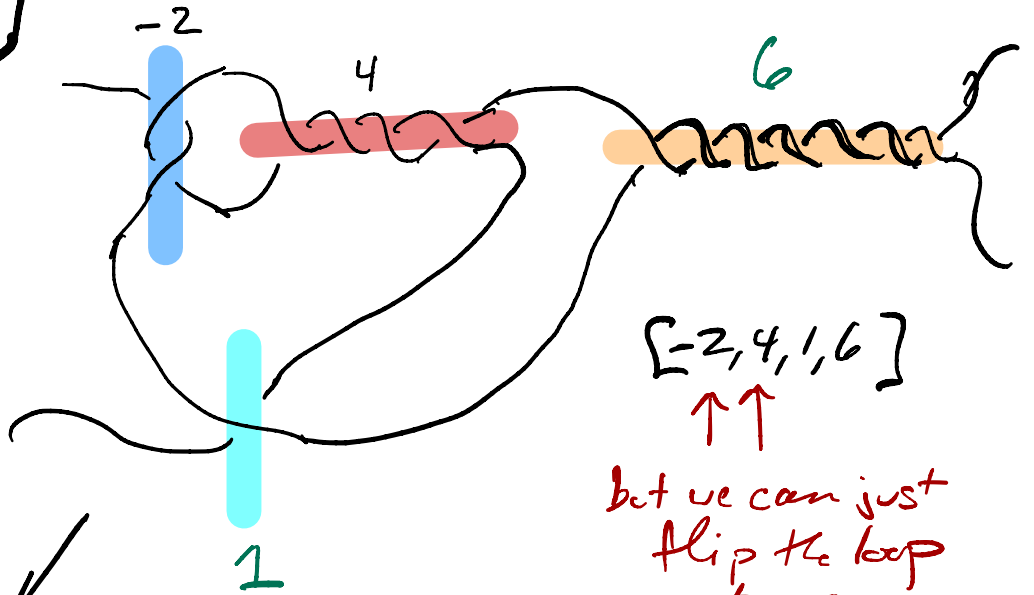
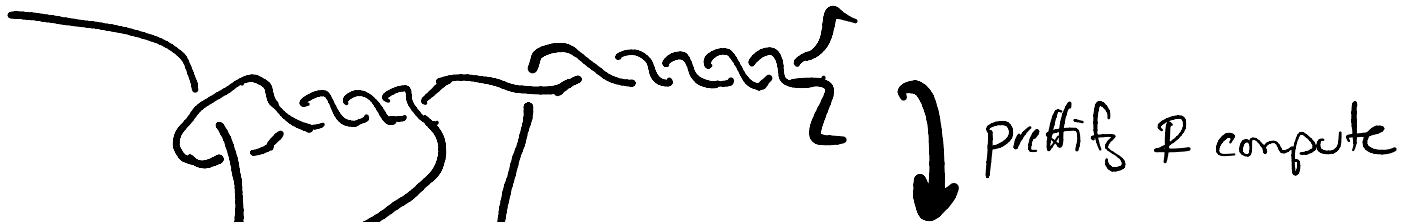
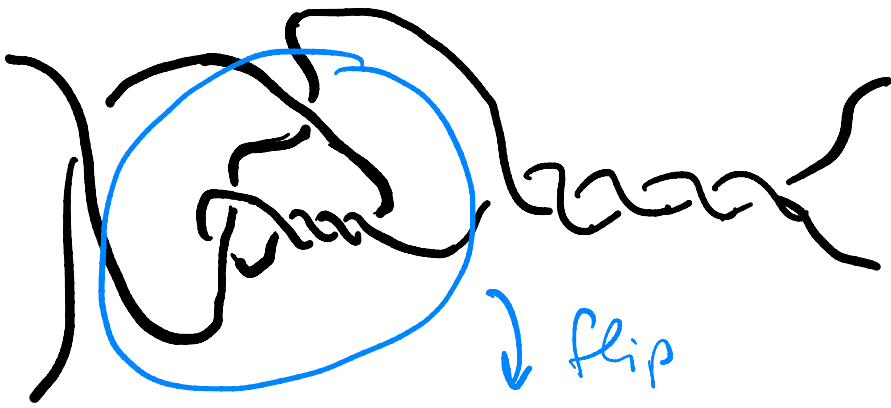


$[2, -4, -2, 1, 5]$



flip strand





if we want the length to be odd.

$$= [1, 1, 3, 1, 6] = 6 + \frac{1}{1 + \frac{1}{3 + \frac{1}{1 + \frac{1}{1}}}}$$

It worked!!

