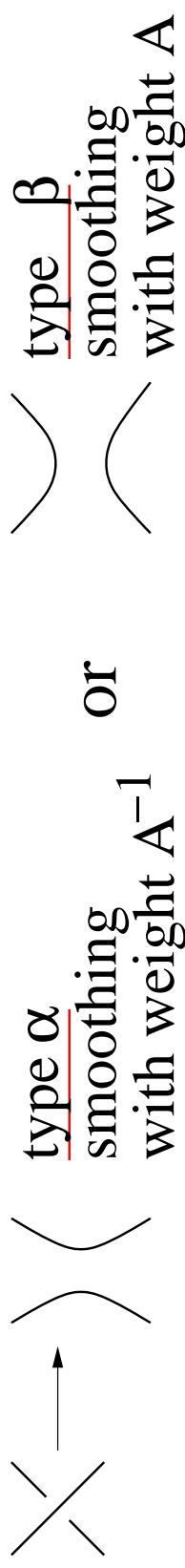


The Bracket Polynomial

Let $d = -\bar{A}^2 - A^2$, let U represent the unknot and let Q represent a virtual knot diagram with only virtual crossings.

Each crossing may be smoothed as shown:



A state of the diagram consists of a choice of smoothing type for each crossing. For a state s , let $|s|$ denote the number of closed curves in the state s and let S represent the collection of all states. Let C = the number of type α minus the number of type β smoothings. We will denote the bracket polynomial of a virtual knot diagram K as $\langle K \rangle$

$$\langle K \rangle = \sum_s A^C d^{|s|} S^{-1}$$

Note that this polynomial is invariant under the Reidemeister II and III moves and the virtual Reidemeister moves.

