Jozef H. Przytycki* (przytyck@gwu.edu), Department of Mathematics, George Washington University, Washington, DC 20052. Polynomial time complexity from Jones polynomial to Khovanov homology.

We discuss here my (old) work on computational complexity of quotients of the Jones, Homflypt, and 2-variable Kauffman polynomials, and refinement due to D.Vertigan: If we expand the Homflypt polynomial $P_L(a, z) = \sum_{m} P_i(v) z^i$ then $P_i(v)$ can be computed in polynomial time (dynamics programming is used here). We propose to use these results to Khovanov and Khovanov-Rozansky homology and we discuss parts of the homology computable in polynomial time. (Received September 09, 2013)