A-polynomials and Mahler's measure

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Abstract. Given any hyperbolic 3-manifold with at least one cusp, one can define a polynomial of two variables $A(x, y)$ called an *A*-polynomial of the manifold. For these polynomials, it is possible to explicitly evaluate the logarithmic Mahler measure $m\big(A(x, y)\big)$ as a sum of dilogarithms of algebraic numbers (called shapes). In principal, the definition of the polynomial and the shapes is straightforward, but the complexity of the computations in specific examples can be quite high. We will describe what goes in to these computations and present some instructive examples of what comes out.