Koszul divisors on moduli spaces of curves

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Given a moduli space, what is the "best" effective divisor one can construct on this space? We present a general method of constructing effective divisors on a large class of moduli spaces using the syzygies of the parameterized objects. Applications of this method include:

1. a proof that the moduli space of Prym varieties of dimension g is of general type when $g > 14$,

2. a proof that the moduli space of curves of genus 22 is of general type,

3. shorter (and conceptually different) rederivations of all the Harris-Mumford calculations on the Picard group of the moduli space of curves.