## On smooth lattice polytopes with high codegree

Toric geometry provides a bridge between the theory of polytopes and algebraic geometry: there is a one to one correspondence that associates to each lattice polytope P a polarized toric variety (X, L). For instance, there is a combinatorial invariant of the polytope P, called codegree, that can be interpreted as a geometric invariant of the pair (X, L), that plays an important role in Adjunction Theory and Mori Theory. Exploring this idea, Dickenstein, Di Rocco and Piene, and later Dickenstein and Nill classified smooth lattice polytopes with codegree  $\geq \frac{n+3}{2}$ . They belong to a special class of polytopes, called Cayley Polytopes.

In this work we improve the above mentioned result, providing a classification of smooth lattice polytopes with codegree  $\geq \frac{n+1}{2}$ , under some additional hypothesis.