

## On the Kodaira dimension of the moduli space of nodal curves

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**Abstract.** We show that the compactification of the moduli space of  $n$ -nodal curves of geometric genus  $g$ , i.e.,  $\overline{\mathcal{N}}_{g,n} := \overline{\mathcal{M}}_{g,2n}/G$ , with  $G := (\mathbb{Z}_2)^n \rtimes S_n$ , is of general type for  $g \geq 24$ , for all  $n \in \mathbb{N}$ . While this is a fairly easy result, it requires completely different techniques to extend it to low genus  $5 \leq g \leq 23$ . Here we need that the number of nodes varies in a band  $n_{\min}(g) \leq n \leq n_{\max}(g)$ , where  $n_{\max}(g)$  is the largest integer smaller than (or in some cases equal to)  $\frac{7}{2}(g-1) - 3$ . The lower bound  $n_{\min}(g)$  is close to the bound found in [12, 23] for  $\overline{\mathcal{M}}_{g,2n}$  to be of general type (in many cases it is identical). This will be tabled in Theorem 1.1 which is the main result of this paper.

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