高々星型特異点をもつアフィン平面の極小コンパクト化について

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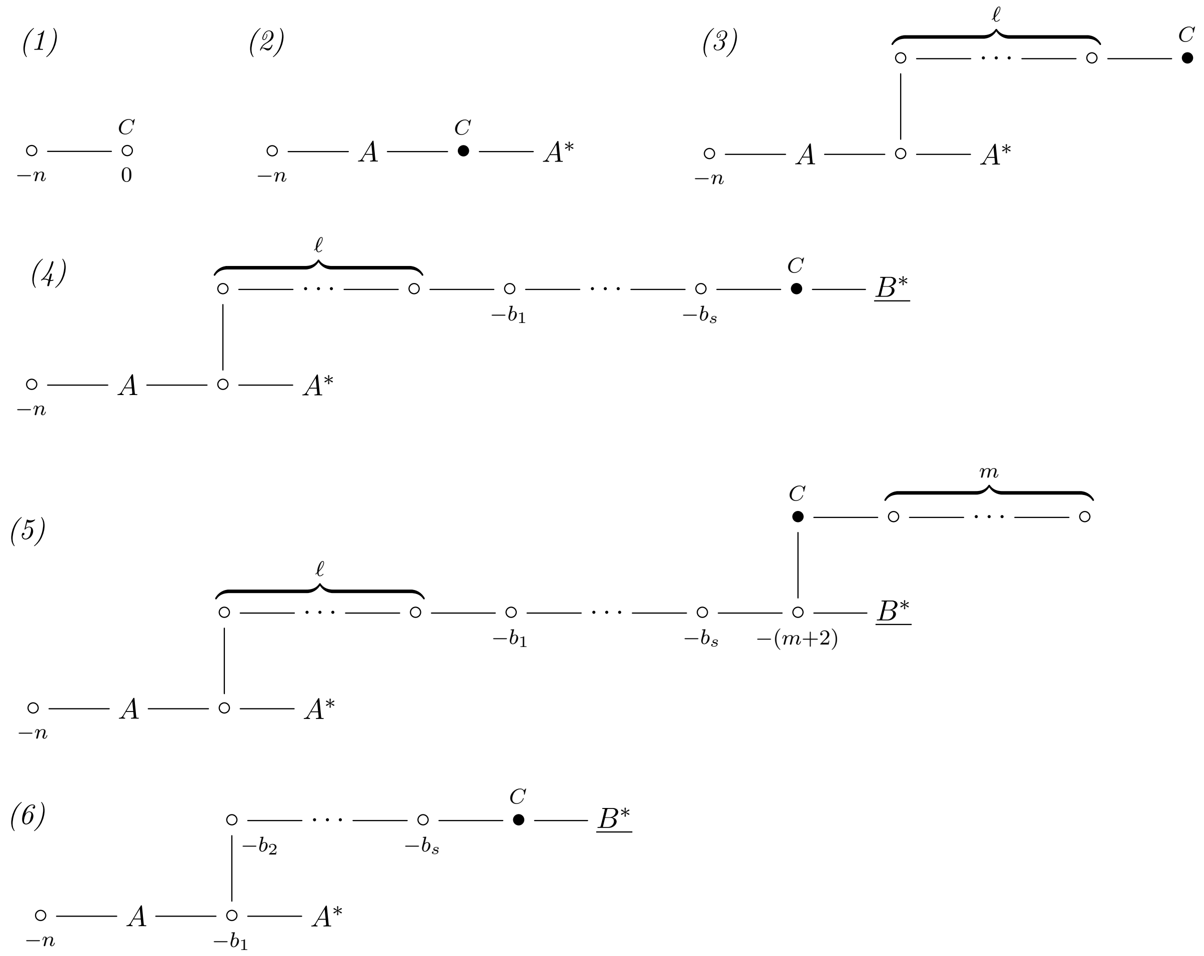
Remark. In the following weighted dual graphs, we omit this weight (resp. we omit this weight and use the vertex $\bullet$ instead of $\circ$) if $m = -2$ (resp. $m = -1$).

Theorem 0.1. *Let (X, Γ) be a minimal compactification of the affine plane $\mathbb{C}^2$ such that $\mathrm{Sing}(X) \neq \emptyset$, let $\pi : V \to X$ be the minimal resolution, let D be the reduced exceptional divisor of π, and C be the proper transform of Γ by π. Assume that X has at most star-shaped singular points. Then the weighted dual graph of $C + D$ is one of the graphs is given as (n) $(n = 1, \dots, 7)$ in the following:*



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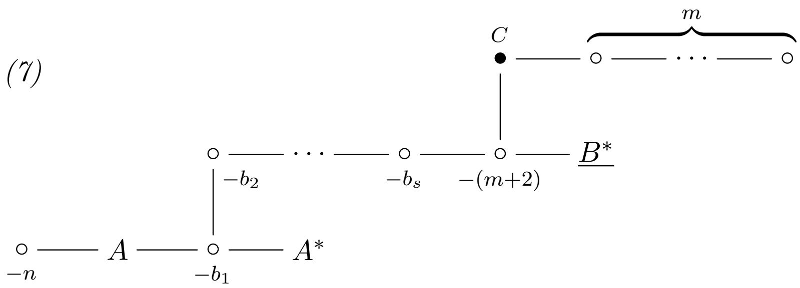
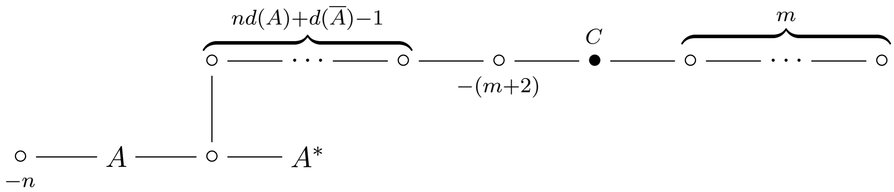
(7)



where, A is an admissible twig, A^* is the adjoint of A, $[b_1, \ldots, b_s]$ is an admissible twig with $b_1 \geq 3$, $\underline{B^*}$ is the adjoint of $[b_1, \ldots, b_s]$ removed the last component, $0 \leq \ell \leq d(A)(nd(A) - d(\overline{A})) - 2$, $m \geq 0$ and $n \geq 2$.

Theorem 0.2. *Let (X, Γ) be a minimal compactification of the affine plane $\mathbb{C}^2$ such that $\mathrm{Sing}(X) \neq \emptyset$, let $\pi : V \to X$ be the minimal resolution, let D be the reduced exceptional divisor of π, and C be the proper transform of Γ by π. Assume that X has at most star-shaped singular points and the canonical divisor K_X is numerically trivial. Then the weighted dual graph of $C+D$*



is given as in the following:
where A is an admissible twig, A^* is the adjoint of A, $m \geq 0$ and $n \geq 2$.

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