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13. Combinatorics

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Yoshida, Tomoyuki, Hokkaido Univ., Japan

Exponential formulas and Krull-Schmidt categories

For a skeletally small and locally finite category $\mathcal{E}$, the generating function is defined by the formal summation

$$\mathcal{E}(t) := \sum_{X} \frac{1}{|\mathrm{Aut}(X)|} t^{X}.$$

Then an exponential formula

$$\mathcal{E}(t) = \exp\left(\mathrm{Con}(\mathcal{E})(t)\right)$$

holds if and only if the category $\mathcal{E}$ is a strict Krull-Schmidt category.