A Computational Framework to Guide the Novel Biochemical Synthetic Pathways

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Currently, the bio-based product is spotlighted as the future-promising resource. There have been several systematical attempts to produce bio-based products from microorganisms. Compared to the previous studies, our framework is more suitable to the synthesis of a metabolite which is not presently produced from any microorganism. Through our framework, several desired attributes for synthesis of novel compounds have been achieved, such as consideration of whole metabolic network, synthesis design based on a target chemical, and applicable candidates for the real experimentation. We are expecting to be able to provide experimentally feasible candidates of biochemical synthesis so that our framework can contribute to production of high value added chemicals from microorganisms.

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