Lessons from Total Synthesis of Hybrid Natural Products

Keisuke Suzuki*

Department of Chemistry, Tokyo Institute of Technology
ksuzuki@chem.titech.ac.jp

Hybridization in biosynthetic pathway is one of the Nature’s secrets for generating molecular diversity. A typical example is the C and/or O-glycosylation of the polycyclic scaffolds derived from the type-II polyketide biosynthesis, providing diverse bioactive molecules. The chemical syntheses of such hybrid molecules are often challenging due to the difficulties in assembling the distinct classes of molecular entities, which attracted us for long time to study the strategy and tactics needed along the line.¹

During such efforts, we have been fascinated by beautiful assembly of the polycyclic compounds produced by the polyketide synthase (PKS). The post-PKS modifications enhance the molecular diversity, not only by hybridization, but also by several modes of dimerization. In this talk, recent study on the naphthocycline-class polyketide dimer will be discussed.²

References