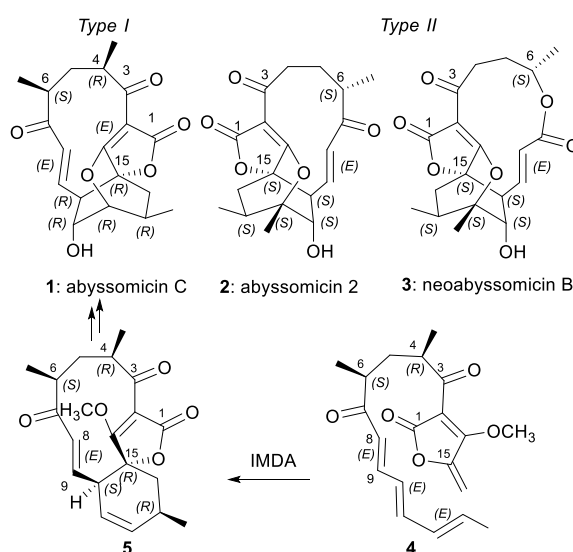


A TASTE OF THE "ABYSS"

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The family of abyssomicins is a class of spirotetronate polyketides with fascinating architectures and interesting biological activities, comprising more than 40 members to date.¹ They are classified as type I, e.g. abyssomicin C (**1**), or type II, e.g. abyssomicin 2 (**2**) and neoabyssomicin B (**3**). Abyssomicin C (**1**) was the first member that drew scientific interest due to its inhibitory activity against methicillin-resistant *Staphylococcus aureus* and other Gram-positive bacteria.²



Consequently, numerous synthetic pathways to **1** and other type I natural products and analogues have been developed. Among them, the biomimetic strategy utilizing the intramolecular Diels-Alder reaction (IMDA) of butenolide derivative **4** to the key intermediate **5** establishing the carbon framework and the stereogenic centres in one step, is the most straightforward. However, it suffers from low overall yields.³ Also, the chemical synthesis of type II carbon frameworks remains unexplored. Given the above, our group efforts to improve the biomimetic approach towards **5** and recent synthetic advances towards type II abyssomicins are illustrated.

References

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