# Synthesis and Structure Revision of Marine Cyanobacteria-Derived Natural Product Lagunamide C

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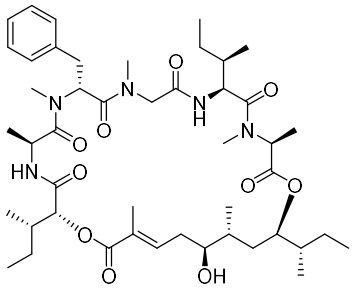
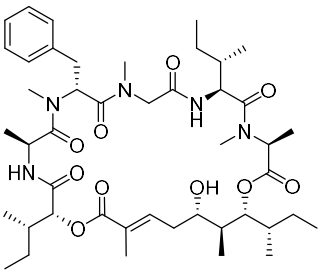
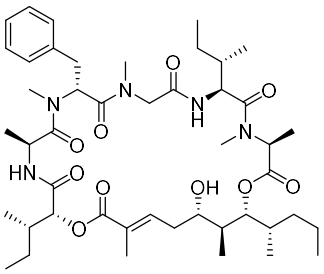
Lagunamide C, a 27-membered cyclodepsipeptide, was isolated from the marine cyanobacteria *Lyngbya majuscule* in 2011 by Tripathi et al.[1] and exhibits potent cytotoxicity against several cancer cells, comparable to that of the 26-membered analog lagunamide A.[2] The structural difference between the above compounds lies only in the presence or absence of a methylene carbon in the aliphatic acid moiety. However, it is known that the biological activity of cyclopeptides is strongly dependent on the conformation of their structure[3]. It should be interesting that the lagunamide families show comparable cytotoxicity regardless of the difference in the ring size of the cyclopeptide structure. Therefore, we planned the total synthesis of lagunamide C to elucidate its relationships between conformation and biological activity. In this presentation, we will report the total synthesis of the putative structure of lagunamide C and structure revision of lagunamide C to the related analog odoamide.



Lagunamide C (**1**, Putative structure)
$IC_{50}$ 2.4 nM against A549



Lagunamide A
$IC_{50}$ 2.9 nM against A549



Odoamide
(Revised structure of Lagunamide C)

## Referrences

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