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Introduction:

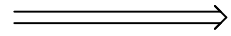
Cyclobutastellettolide B was originally isolated from a *Stelletta* sp. sponge (3.0 mg/1.3 kg) by Stonik et al. in 2019.

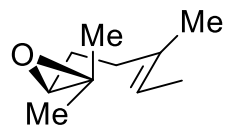
It could significantly increase the reactive oxygen species level in murine peritoneal macrophages and be a potential lead for the development of immunomodulatory agents.

It has an unusual 6/6/4-fused tricyclic core with six stereocenters. Among them, three are contiguous quaternary stereocenters.

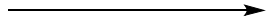
The first enantioselective total synthesis of (+)-cyclobutastellettolide B in 13 steps with a total yield of 31.5%.

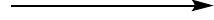
Retro-synthetic route

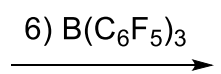




4)





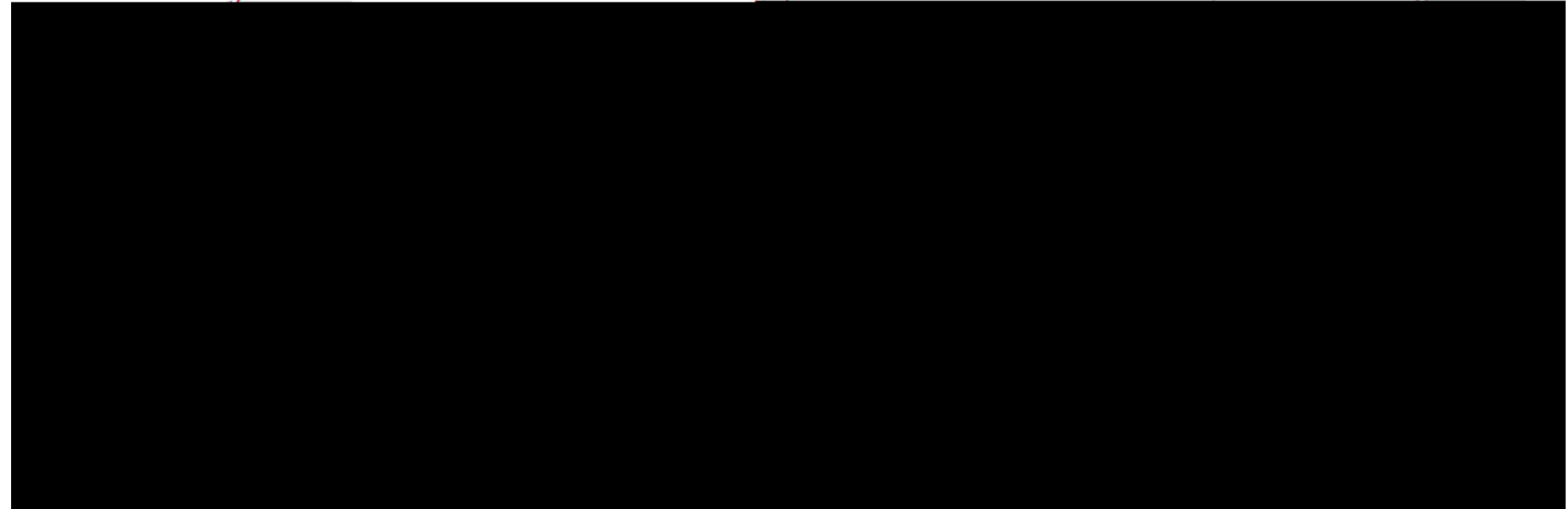


Lewis acid









Thanks for your attention

1. **Effect of the Source of the Halogen**

From the results obtained in the previous section, it was concluded that the bromine atom (CH_2Br_2 versus AlBr_3) in the cyclization... In order to know about the source of the halogen in the reaction, a series of experiments were carried out in which CH_2Br_2 was used as solvent. As shown in these... with AlBr_3 as promoter and dichloromethane or iodomethane as solvents, the results were... experiments were carried out in which the bromine atom at the halogen always comes from the solvent.

The diagram shows a chemical reaction where a substrate reacts with AlBr_3 and CH_2Br_2 to form a product. The reaction conditions are 100°C and 10 min . The product has a bromine atom attached to the ring. The diagram also shows the structure of AlBr_3 and CH_2Br_2 .