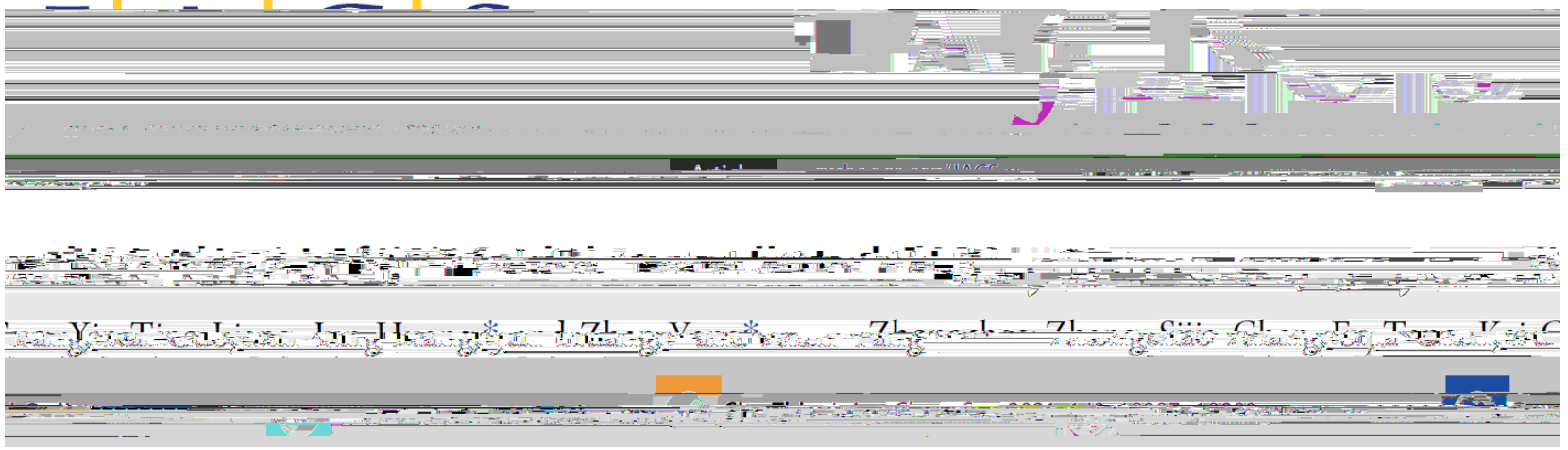


Jiangpeng Liu

Liu Research Group

12/10/2021

Introduction:

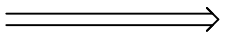
Cyclobutastellettolide B was originally isolated from a Stelletta sp. sponge (3.0 mg/1.3 kg) by Stonik et al. in 2019.

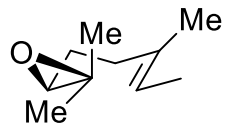
It could significantly increase the reactive oxygen species level in murine peritoneal macrophages and be a potential lead for the development of immunomodulatory agents.

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

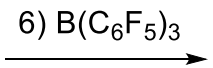
The first enantioselective total synthesis of (+)-cyclobutastellettolide B in 13 steps with a total yield of 31.5%.

Retro-synthetic route




O
Me
Me
Me

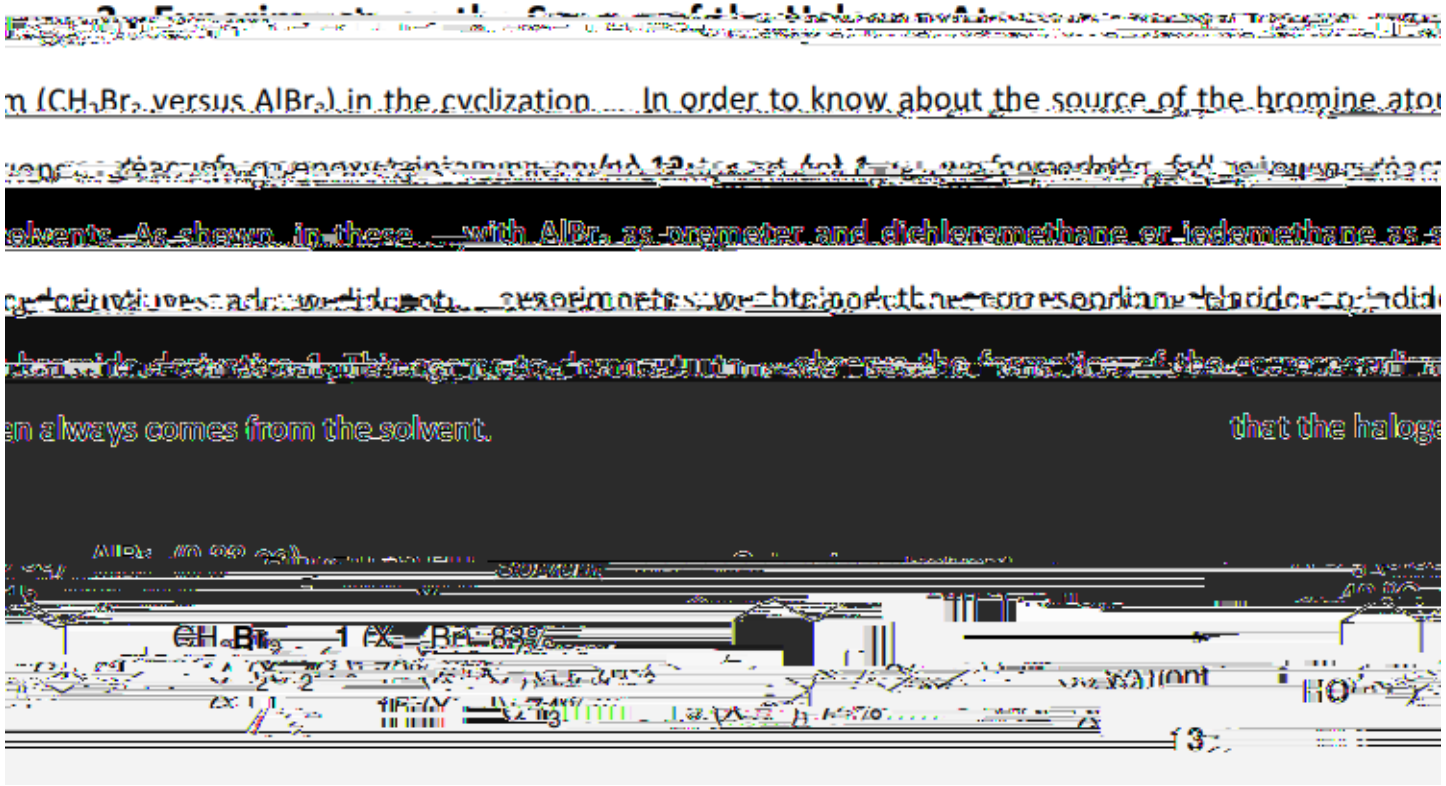
4)



Lewis acid


TS3
14.1
13.8
Me
T
Me
T
Me
T
TS3_Me
TS2
5.9
ΔG sol, 298.15 K

Thanks for your attention



Fontaneda, R.; Fañanás, F. J.; Rodríguez, F. , , 11025ç11028.