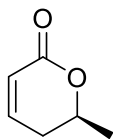


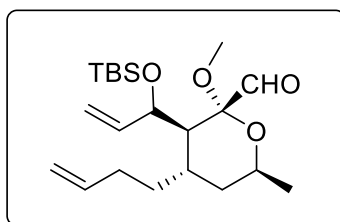
Total synthesis of Marineosin A

Bing Xu, Guang Li, and Yian Shi

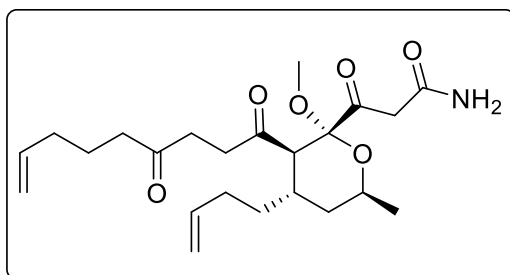
Org. Lett. **2016**, 18, 2028-2031



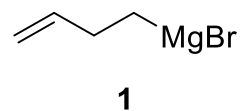
1-8



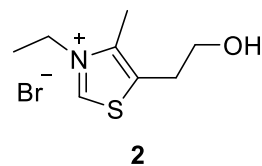
9-14



- 1) CuI, **1**
- 2) EtNⁱPr₂, Bu₂BOTf, propenal
- 3) TBSOTf, 2,6-lutidine
- 4) Thiazole, n-BuLi
- 5) p-TsOH, MeOH
- 6) MeOTf
- 7) NaBH₄
- 8) AgNO₃



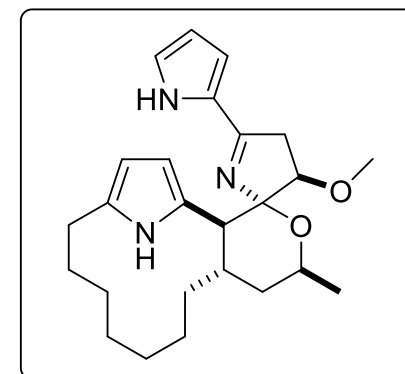
- 9) MeCN, LiHMDS
- 10) NaH, MeI
- 11) H₂O₂, K₂CO₃
- 12) TBAF
- 13) TPAP, NMO
- 14) **2**, Et₃N, 5-hexenal



14) Name of reaction? **Stetter**

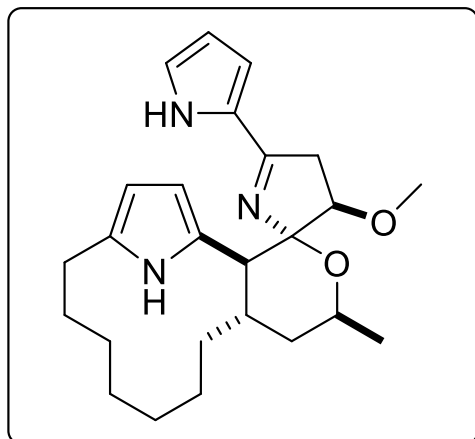
14) Draw mechanism and role of **2**?

See second page



Marineosin A

15-19



Marineosin A

- 15) $\text{BF}_3 \cdot \text{Et}_2\text{O}$
- 16) Grubbs II
- 17) Pd/C , H_2
- 18) NH_4Ac , MW
- 19) Tf_2O , pyrrole

18) Name of reaction? **Paal-Knorr synthesis**

19) Name of reaction? **Vilsmeier pyrrole reaction**

Stetter mechanism:

