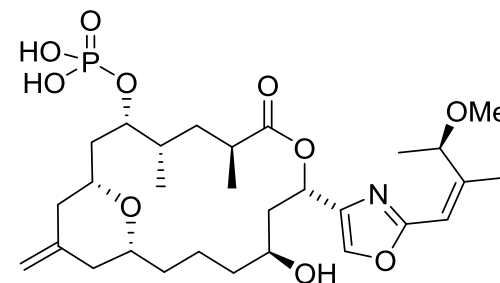


Total Synthesis of (-)-Enigmazole A

Keisuke Sakurai, Makoto Sasaki, and Haruhiko Fuwa

ACIE **2018**, 57, 5143-5146

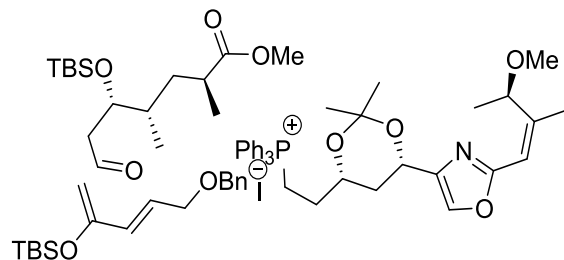
- Marine macrolide enigmazole A is first isolated by Gustafson and co-workers from a Papua New Guinean sponge *Cinachyrella enigmatica*.
- Detailed NMR experiments shows it has an 18-membered tetrahydropyran-containing macrolactone and a 2, 4-disubstituted oxazole appendage.
- In the isolation paper the author claimed its potent cytotoxic activity, assessed in the NCI-60 panel of human tumor cell lines. More interestingly, several side fractions can selectively inhibited the proliferation of cells expressing kinase-domain-mutated c-Kit.



enigmazole A

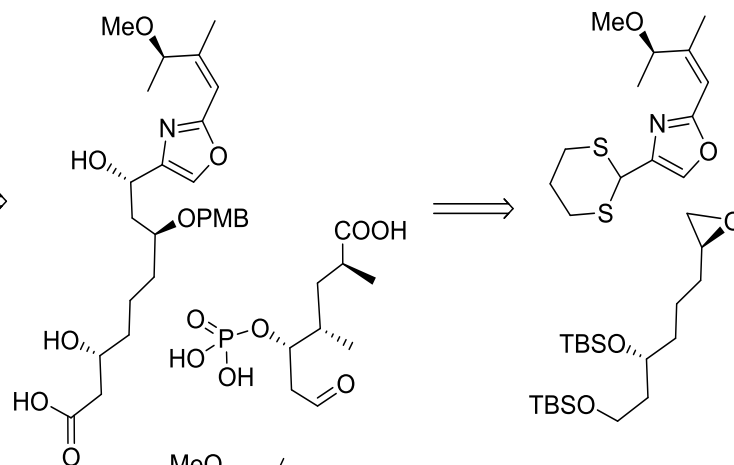
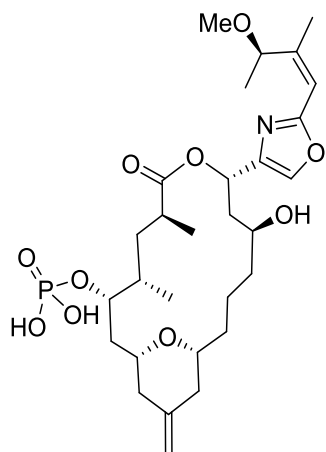
Previous Work and retro-synthesis

Keck
esterification
Hetero-D-A
Wittig reaction



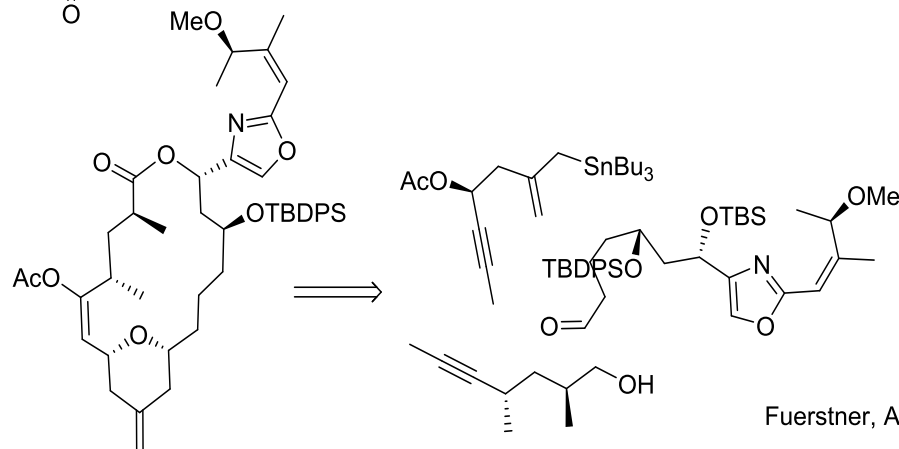
Molinski, JACS, **2010**, 10286 22 steps

Yamaguchi
esterification
Petasis-Ferrier
rearrangement



Smith III, JACS, **2015**, 15426 22 steps

Yamaguchi
esterification
RCM
pi-acid catalysis



Fuerstner, ACIE, **2016**, 1406 23 steps

