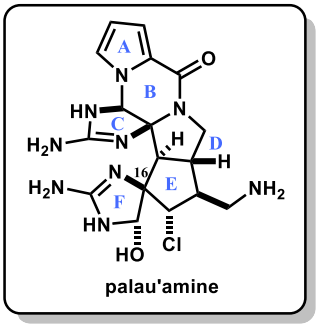
A02−18

Palau'amineの高効率合成研究

（徳島大院薬）難波康祐



Originally isolated from a sponge, *Stylotella agminate*, in 1993
as a novel class of pyrrole-imidazole alkaloids

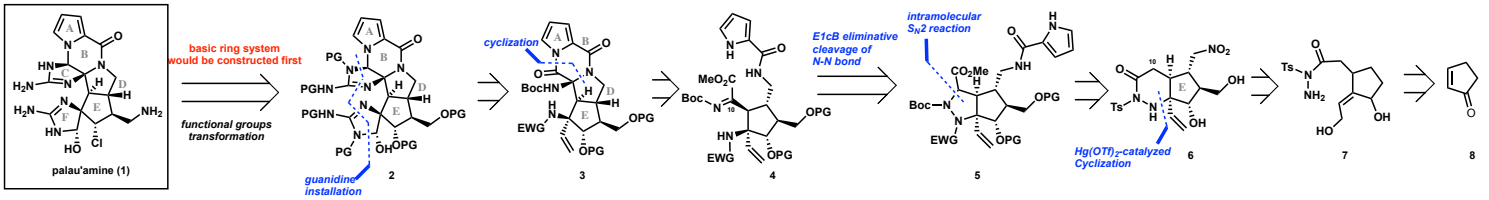
Isolation, Structure determination ： Scheuer, P. J. *et al*. *J. Am. Chem. Soc*. **1993**, *115*, 3376-3377.
Structure revision ： Kock, M. (**2007**), Quinn, R. J. (**2007**), Matsunaga, S. (**2007**)

Bioactivity ： immunosuppressive activity

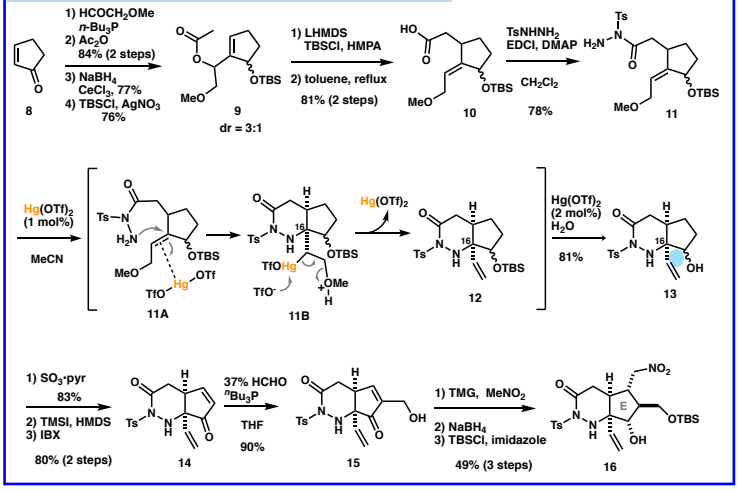
Structual feature ：
1. A trans-bicyclo[3.3.0]octane skeleton
2. Fully substituted complex cyclopentane ring
3. Eight contiguous stereogenic centers including a nitrogen-substituted quaternary carbon center

Total synthesis ： Baran, Phil S. *et al*. *Angew. Chem. Int. Ed*. **2010**, *49*, 1095-1098.
Baran, Phil S. *et al*. *J. Am. Chem. Soc*. **2011**, *133*, 14710-14726.
Namba, K. *et al*. *Nature Communications*, **2015**, *6*, 8731.

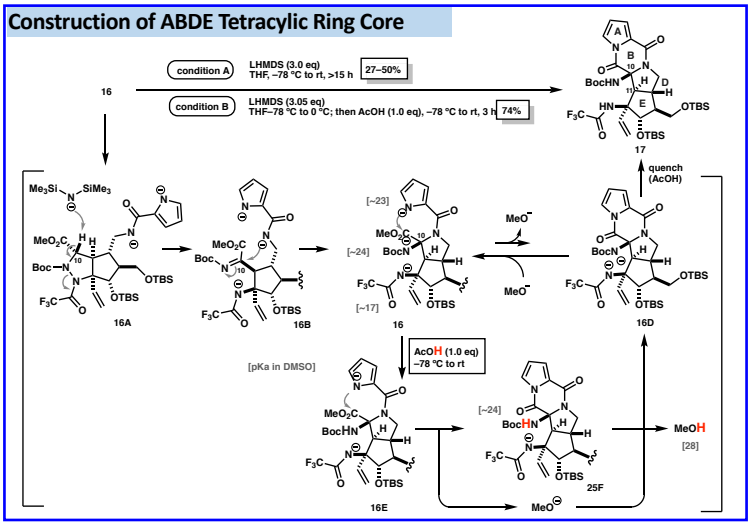
Synthetic Plan of Palau'amine



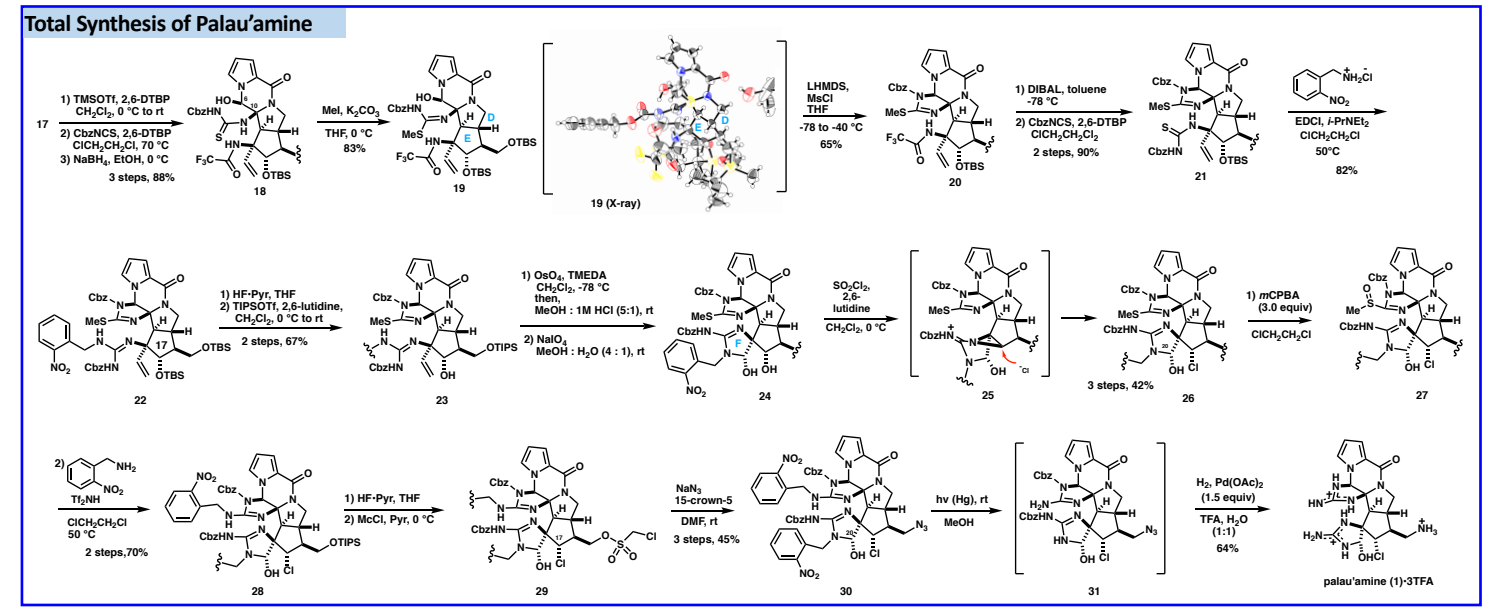
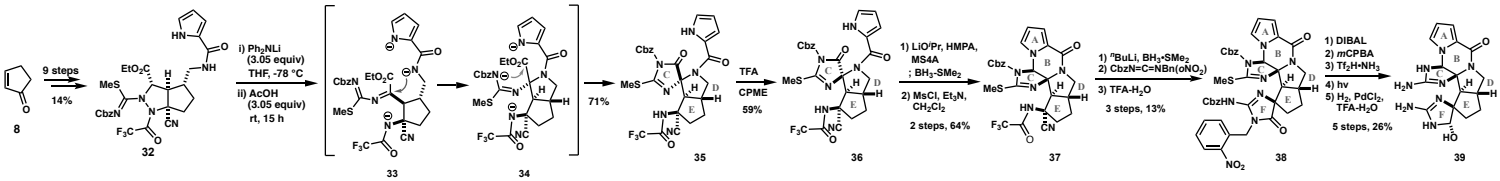
Synthesis of Cyclization Reaction Precursor



Construction of ABDE Tetracylic Ring Core



Total Synthesis of Palau'amine



Efficient Synthesis of Palau'amine Analog