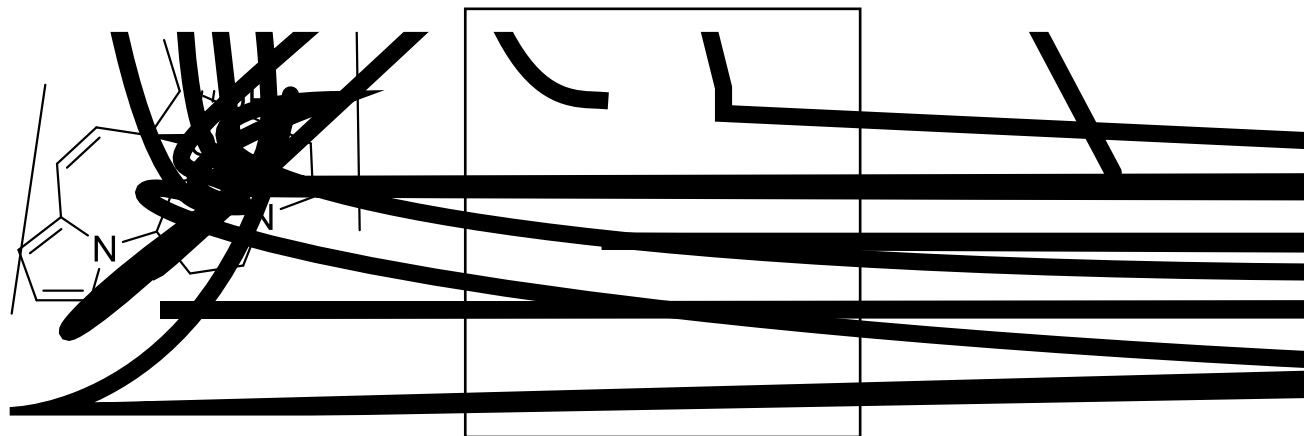


# Total Synthesis of Binopamine I

Yanping Qiu and Joshua C. Pearce



Come from a family of polypyrrole alkaloids

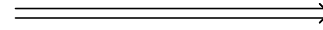
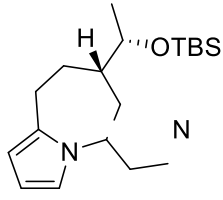
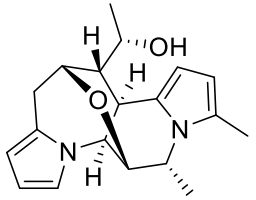
Bipolamines were found in a gene cluster known as ATCC48331

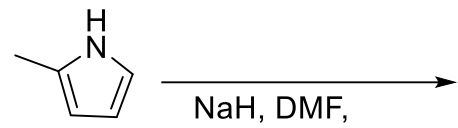
Bipolamines could have potential as antimicrobial agents with an increase of antibiotic resistance

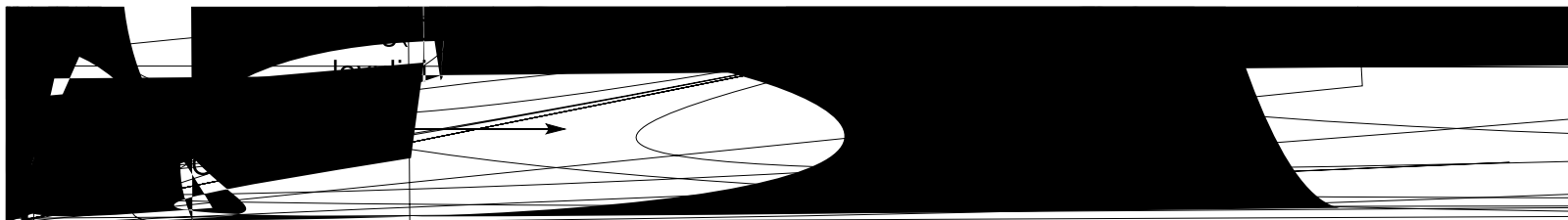
Pentacyclic structure and 7 stereogenic centers with 2 electron-rich pyrroles

Jennifer LaPoff  
Liu Group  
November 16<sup>th</sup>, 2022

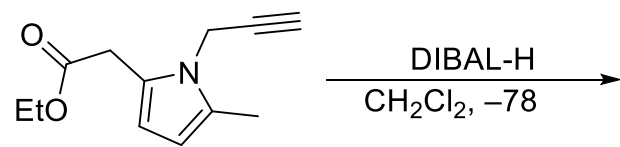
# Retrosynthetic Analysis



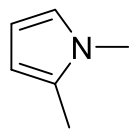




## Paal-Knorr Pyrrole

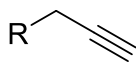


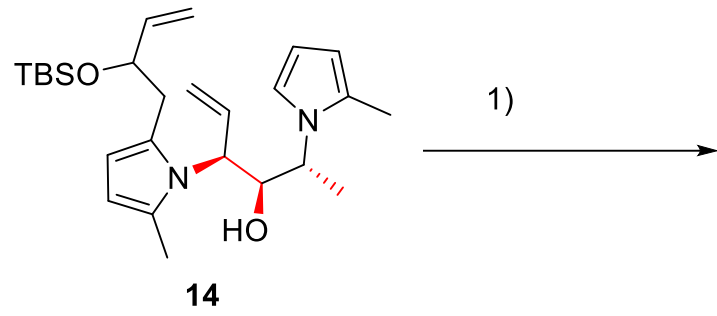
Lewis



dr = 3.7:1  
anti-syn: anti-anti

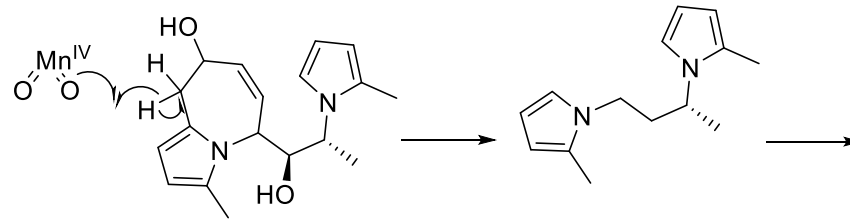
**Krische's**

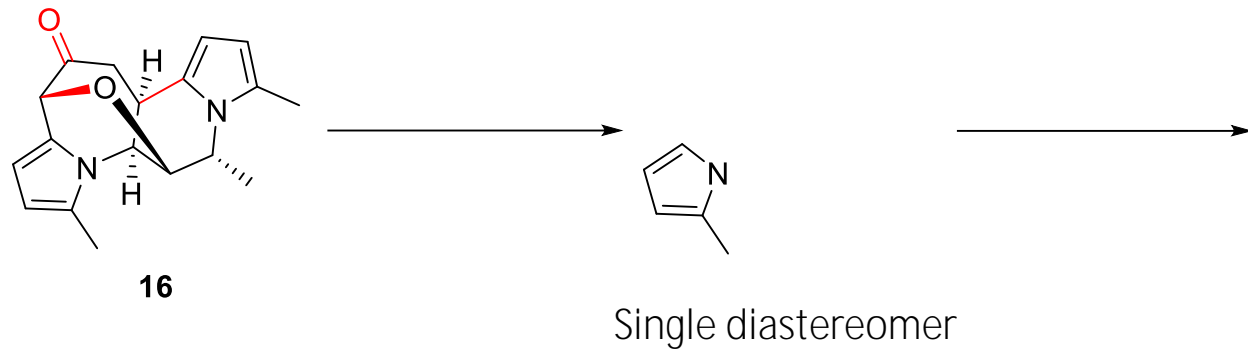




Single diastereomer

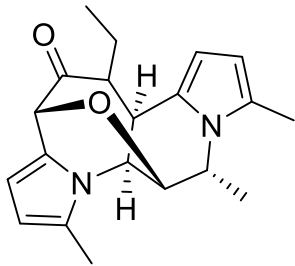
$L_nRu=$



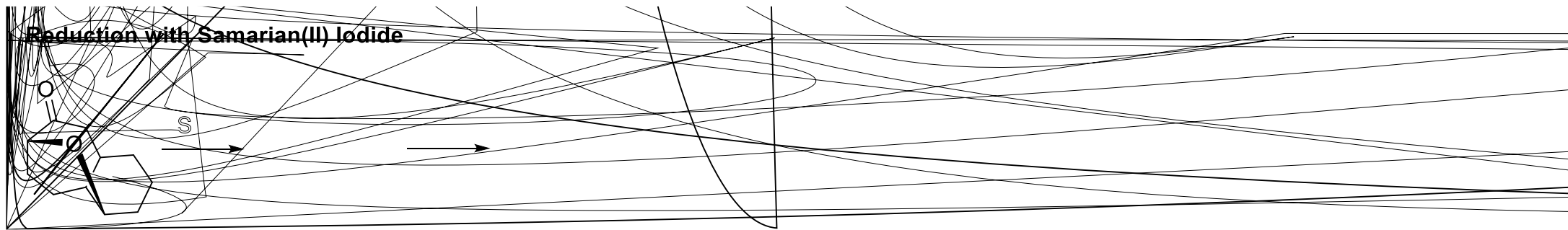


**Lewis**

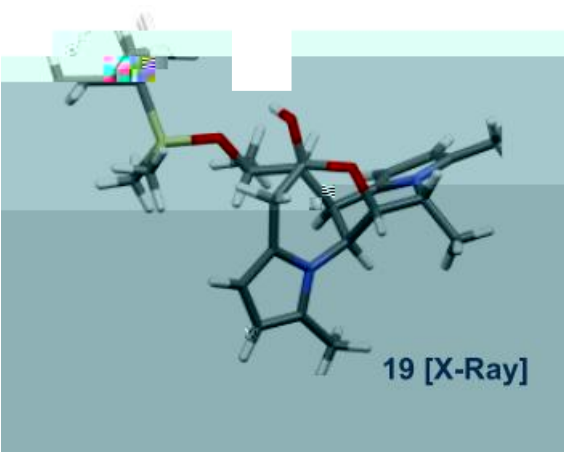
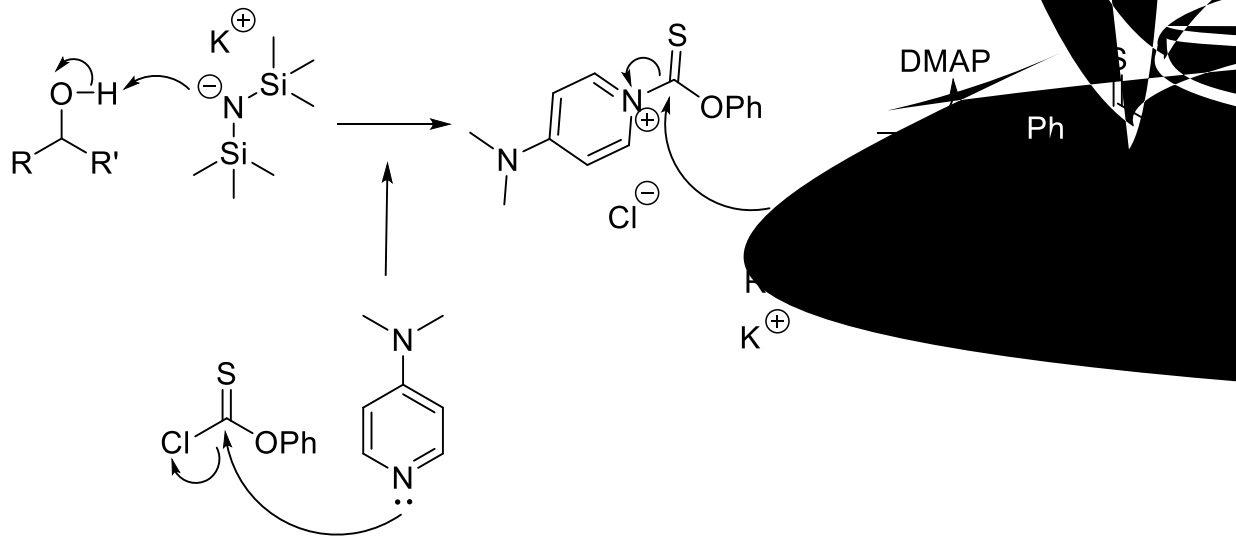


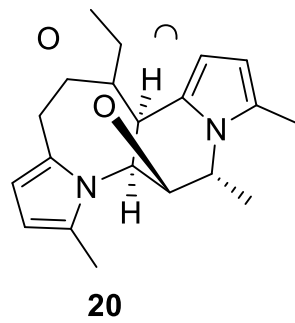


18



Thiocarbonation





15 steps overall