

Tagetitoxin

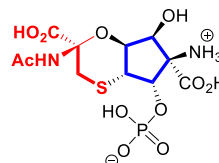
1937 identified as a plant pathogen
(*Pseudomonas syringae*)
1981 isolated and partially characterized
1989-2016 structure revisions
July 2020: first synthesis published

Structural Features

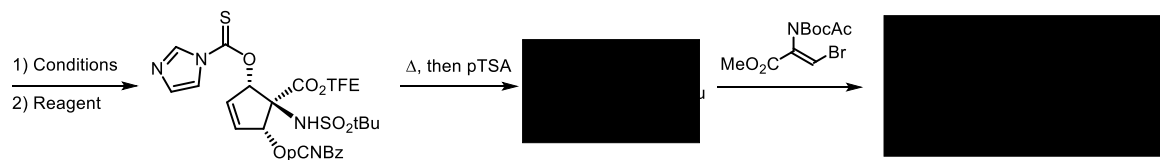
- fully oxidized cyclopentane core
- multiple polar functional groups (practical issues)
- more heteroatoms than carbon atoms
- unknown absolute configuration

Retrosynthetic Analysis

- 1) core contraction
- 2) cyclopentane functionalization
- 3) cystein incorporation



Baran, P. *et al*, *J. Am. Chem. Soc.*,
DOI: 10.1021/jacs.0c06641 20 Jul 2020

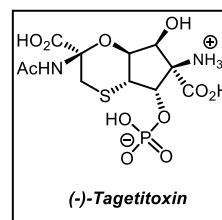


OsO₄ (cat.)
(acidic work up)
[oxidant]

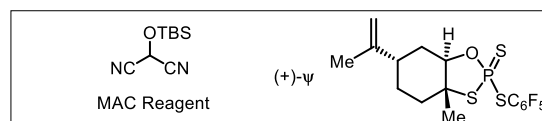
1)
2) TfOH
3) Bu₃SnH, acetone,
H⁺

1) MeOH, Et₃N
2) (+)-ψ

1) SeO₂
2) TMSOK
then MeONH₂•HCl



2 diastereoisomers
[separation]



SOLUTION

