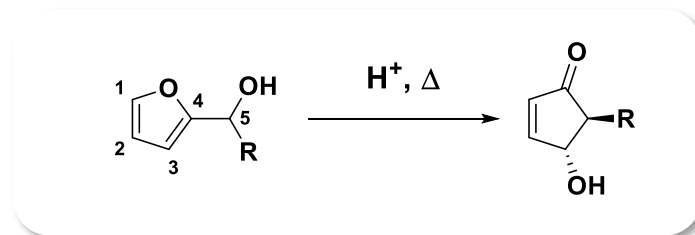


# The Piancatelli R/A

Stratingh Synthetic Problem Session

Thursday, Nov. 18th, 2021

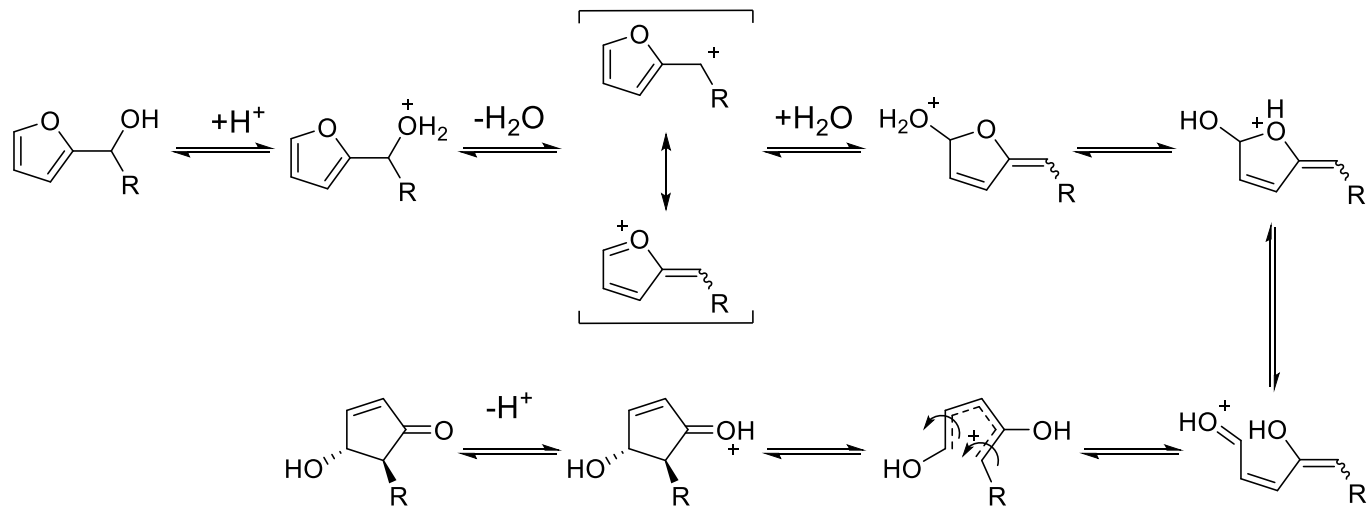
# Synthesis of substituted cyclopentenones from 2-furylcarbinols



more recent procedures use lewis acids such as dysprosium(III) triflate

Piancatelli and co-workers, *Tetrahedron Lett.* **1976**, 17, 3555–3558

## Proposed mechanism



- compare to Nazarov cyclization
- 'anti' stereochemistry because of conrotatory  $4\pi$ -electrocyclic rearrangement.

# Intramolecular Version – Aza & oxa-Piancatelli R/A

Instead of H<sub>2</sub>O as the nucleophile, an intramolecular attack of an amine or alcohol group can provide access to spirocyclic structures.

