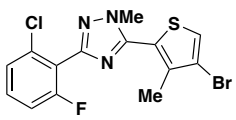
# Lecture 17: Higher Order Azoles/Bridgehead Heterocycles

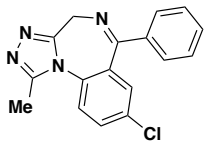


**Study music:** Stuck With You - Huey Lewis and the News

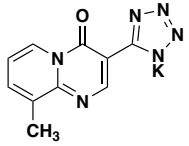
**Syntheses discussed:**



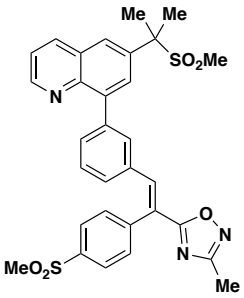
Dow, insecticide
OPRD, 2009, 13, 1125



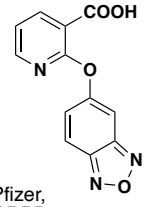
Alprazolam
treatment of anxiety
US 3709898



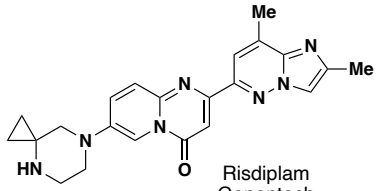
treatment of asthma
Chem. Pharm. Bull,, 1995, 43, 683



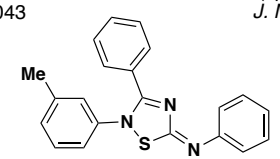
Merck, PDE4 inhibitor
OPRD, 2006, 10, 36



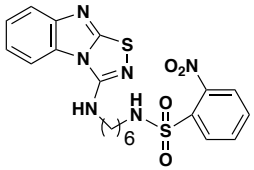
Pfizer,
ORPD, 2003, 7, 1043



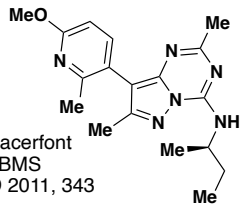
Risdiplam
Genentech
(spinal muscular atrophy)
*J. Med. Chem.* 2018, 6501



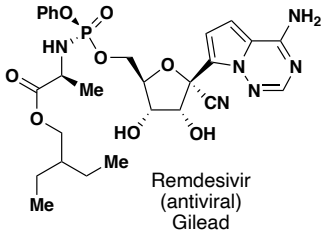
Adenosine A1 receptors modulator
JMC, 2005. 48, 1145



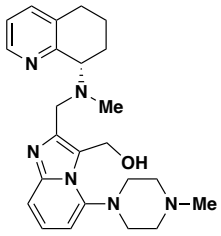
JOC, 2005, 70, 6230



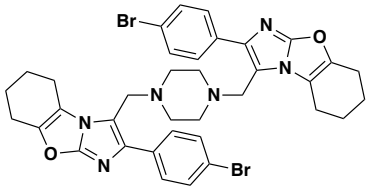
pexacerfont
BMS
OPRD 2011, 343



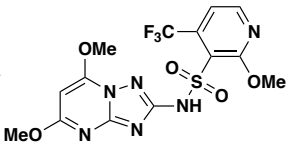
Remdesivir
(antiviral)
Gilead
*J. Med. Chem.* 2017, 60, 1648



GlaxoSmithKline,
CXCR4 Antagonist
OPRD, 2009, 13, 781



Tet, 1997, 53, 6959



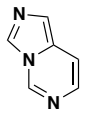
Dow, Crop protection agent
OPRD, 2006, 10, 1167

***Reading assignment:*** **HC chapters 23-26**

**Problems of the day:**

**1** Propose a synthesis of Alprazolam:

**2** Propose two different synthetic routes to the compound below:



**3** Propose a synthesis of Risdipalm

**4** Propose a synthesis of the nucleobase of Remdesivir

**5**

