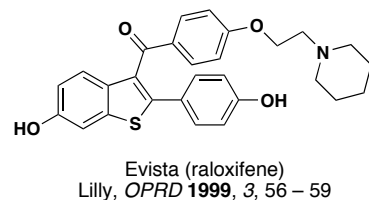
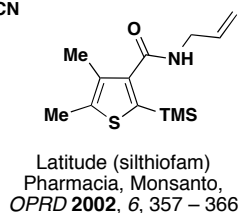
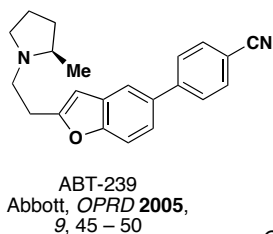
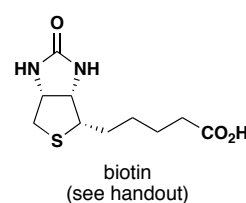
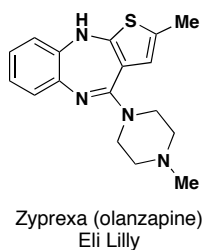
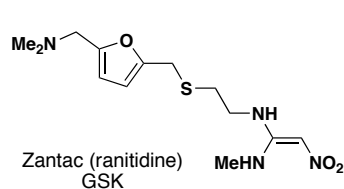


Thursday, April 7<sup>th</sup>, 2011**Background music:** Handel, Water Music (suites 1-3)**Syntheses discussed:***Reading assignment:* Li chapters 4-5; HC chapters 14-15; handouts**Partial list of concepts/transforms discussed:**

General guidelines for ring synthesis vs. ring substitution

Types of cyclization reactions

Paal–Knorr furan/thiophene synthesis

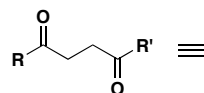
Feist–Benary furan synthesis

Fiessmann thiophene synthesis

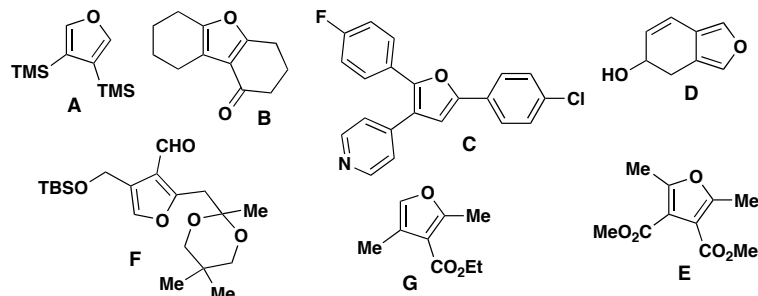
Gewald aminothiophene synthesis

**Problems of the day:**

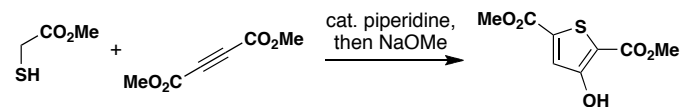
- ① Propose 5 or more conceptual equivalents to a 1,4-diketone:



- ② Propose practical syntheses of the following furans:

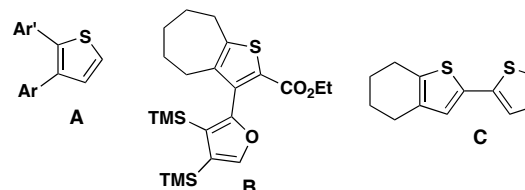


- ③ Provide a mechanism for the following thiophene synthesis:



- ④ How would you synthesize olanzapine?

- ⑤ Propose practical syntheses of the following thiophenes:



- ⑥ Devise a biotin synthesis from a thiophene-based starting material