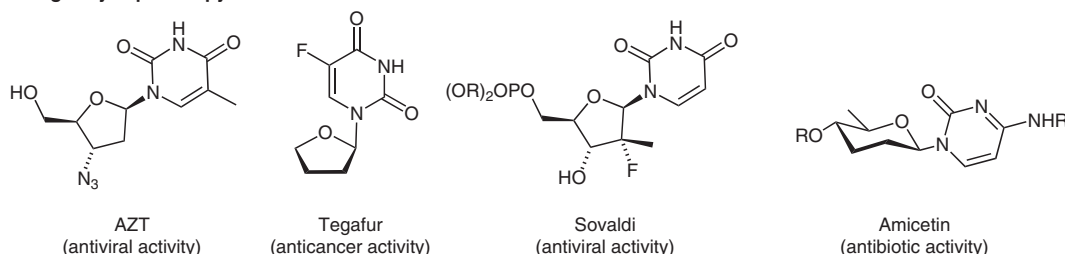
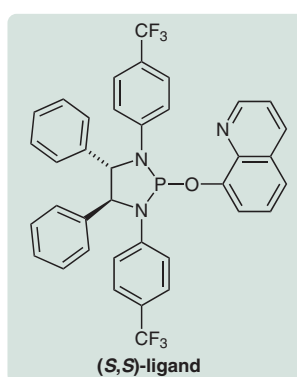
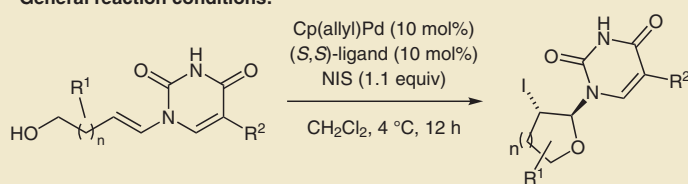


## Palladium-Catalyzed Synthesis of Pyrimidine Nucleoside Analogs

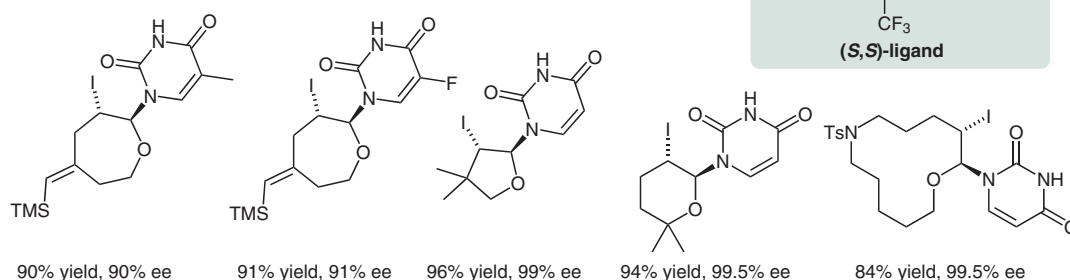
Biologically important pyrimidine nucleoside derivatives:



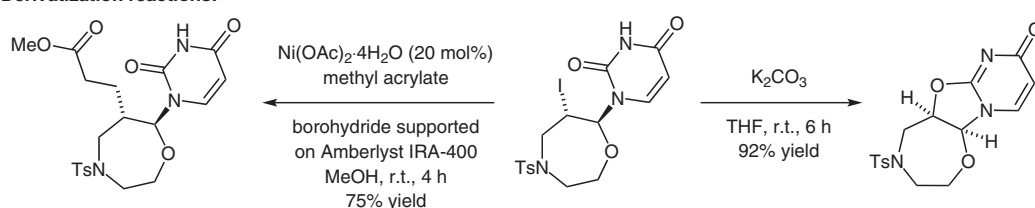
General reaction conditions:



Substrate scope:



Derivatization reactions:



**Significance:** Many FDA approved antiviral and anticancer drugs contain nucleoside analogs. The biologically active nucleosides are synthesized either by derivatization of an intact nucleoside or by coupling a nitrogenous base with a modified sugar (glycosylation reaction). However, all previous methods suffered from poor yields and low diastereoselectivities.

**Comment:** Trost and co-workers reported a new Pd-catalyzed synthesis of pyrimidine nucleoside analogs bearing an iodide substituent. This process occurs in high yields as well as excellent enantio- and diastereoselectivity (*dr* >20:1). The products can be transformed into a variety of new pyrimidine nucleoside analogs. According to the proposed mechanism, the reaction proceeds through a Pd(IV) species, which undergoes reductive elimination to form a C–I bond.