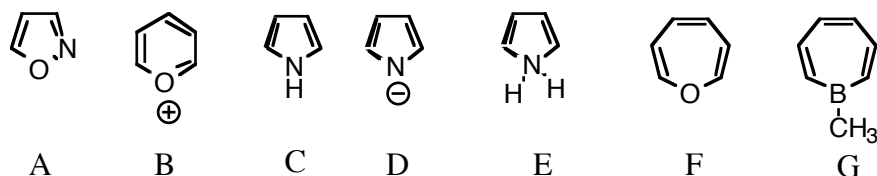


## Exercises KJ 5220

Nov. 4, 2009

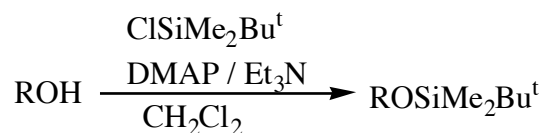
1.

Indicate which of the heterocycles listed below can be formally regarded as aromatic, explain



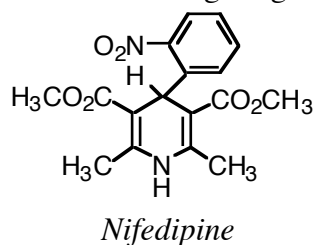
2.

A standard protocol for silylation of hydroxy groups is shown below. Explain the role of DMAP



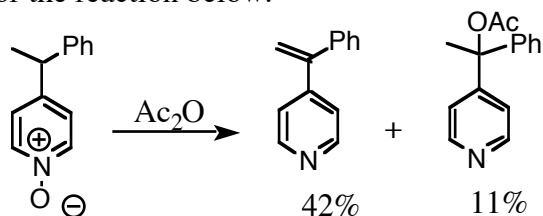
3.

Suggest a synthesis of the Ca-channel blocking drug Nifedipine



4.

Suggest mechanism for the reaction below.

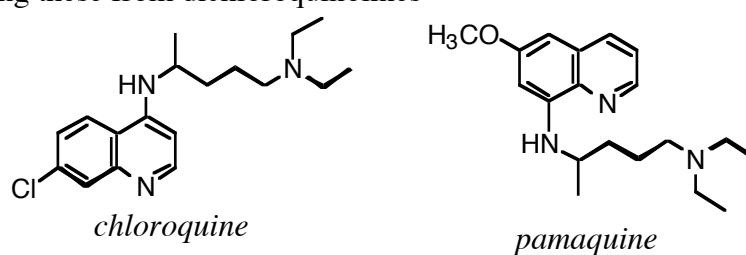


5.

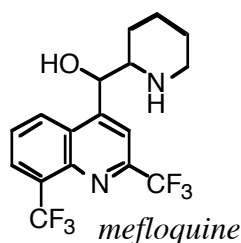
$\text{C}_9\text{H}_8\text{N}_2\text{O}_2$  is formed when 2-methyl-5-nitropyridine is reacted with bromoacetone followed by  $\text{NaHCO}_3$ . Explain.

6.

(a) The structure of two antimalaria drugs are shown below. Discuss the possibilities of synthesizing these from dichloroquinolines



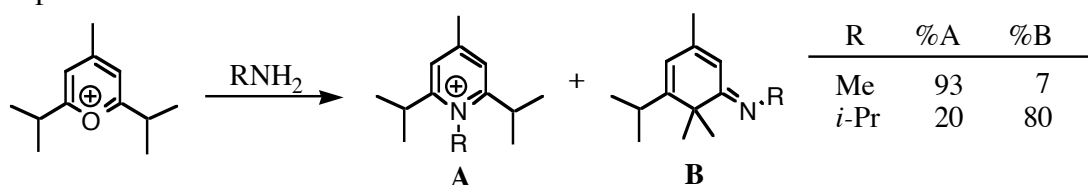
(b) Show how Mefloquine can be synthesized from 4-bromo-2,8-di(trifluoromethyl)quinoline.



(c) Suggest a synthesis of 4-bromo-2,8-di(trifluoromethyl)quinoline from 2-(trifluoromethyl)aniline.

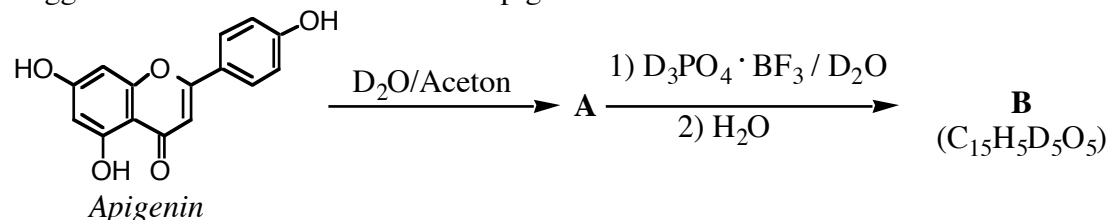
7.

Explain the reaction below



8.

Suggest structures for the deuterated apigenines **A** and **B**



mefloquine  
J Med Chem 1971

apigenin  
Tetrahedron 2000, Pages 913-916