

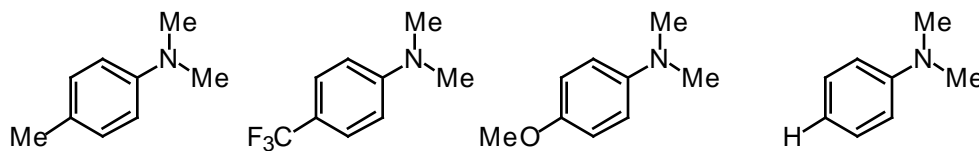
## Organic Cume February 1998

Recently, Professor Patrick Mariano gave a colloquium here. The following questions are based on that colloquium.

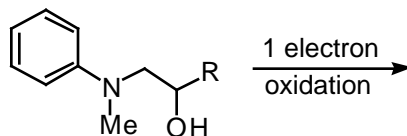
1. (5 pts) If a single electron is removed from N,N-dimethylaniline, what is the product? Draw a Lewis structure.

2. (5 pts) If the product from question 1 reacts with base, what is formed? Draw a Lewis structure.

3. (5 pts) The rate of the reaction of the radical cations of the compounds shown below with base is different. Rank them with respect to the rate of their reaction with base (1=fastest, 4=slowest, etc.).



4. (5 pts) Loss of an electron from the compound below leads to a reaction. Show what that reaction is.



5 (5 pts) When molecules like the one shown below are oxidized in methanol, TMSOMe is formed. Show a mechanism for the formation of this compound.

