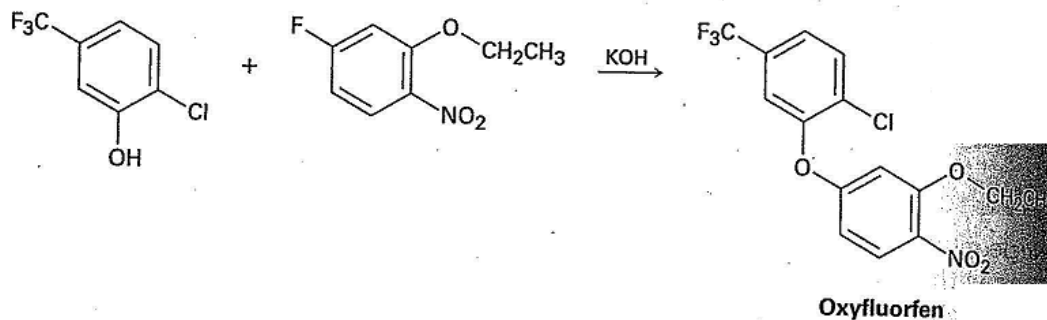


Problem 16.16

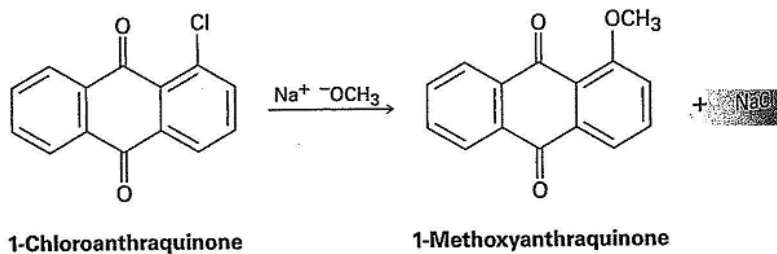
The herbicide oxyfluorfen can be prepared by reaction between a phenol and an aryl fluoride. Propose a mechanism.

**Problem 16.17**

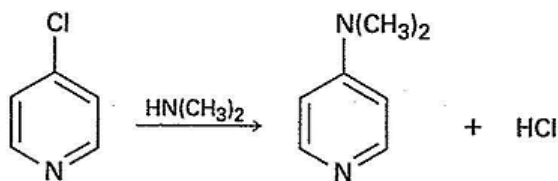
Treatment of *p*-bromotoluene with NaOH at 300 °C yields a mixture of *two* products. Treatment of *m*-bromotoluene with NaOH yields a mixture of *three* products. Explain.

Problem 16.61

Propose a mechanism for the reaction of 1-chloroanthraquinone with methoxide ion to give the substitution product 1-methoxyanthraquinone. Use curved arrows to show the electron flow in each step.

**Problem 16.62**

4-Chloropyridine undergoes reaction with dimethylamine to yield 4-dimethylaminopyridine. Propose a mechanism for the reaction.

**Problem 16.63**

p-Bromotoluene reacts with potassium amide to give a mixture of *m*- and *p*-methylaniline. Explain.