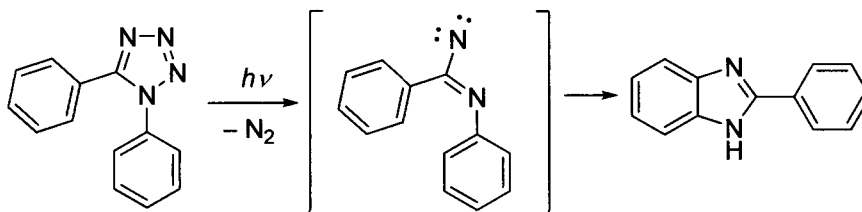
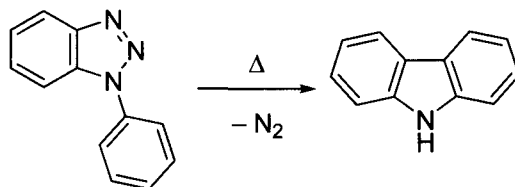


When treated with heat or light nitrogen, can be eliminated from tetrazoles and 1,2,3-triazoles. Nitrile imides can be formed by photolysis or thermolysis of 2,5-disubstituted tetrazoles.⁸ The nitrile imides can then react via 1,3-dipolar cycloaddition or 1,5-electrocyclization. Photolysis of 1,5-diphenyltetrazole yields 2-phenylbenzimidazole.²⁴



The preparation of carbazoles involving the pyrolysis of 1-phenyl-1,2,3-benzotriazole prepared from *ortho*-amino-diphenylamine and nitrous acid is known as the Graebe-Ullmann reaction. It is known that this reaction involves the cyclization of a diradical or iminocarbene intermediate, which isomerizes to carbazole via a [1,3]-hydrogen shift.



The Huisgen tetrazole rearrangement is the formation of a 2,4-disubstituted 1,3,4-oxadiazole from a *C*-substituted tetrazole by reaction with an acid chloride in the presence of a base at elevated temperature.²⁵ The intermediate acyl-tetrazole is prone to ring opening due to decreased aromaticity. The loss of N_2 and resultant ring closure provides the 1,3,4-oxadiazole ring. Recently the Huisgen tetrazole rearrangement has been used to synthesize 1,3,4-oxadiazole containing HIV-1 non-nucleoside reverse transcriptase inhibitors.²⁶

