

Mannich Bases as Synthetic Intermediates: Synthesis of 3- and 4-Functionalized 2-Pyrazolines

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The reaction of styryl ketonic Mannich bases **2a–c** with phenylhydrazine leads to 3-functionalized 2-pyrazolines **4** or **6** depending on the reaction conditions. 3- $[\beta$ -(Arylamino)ethyl]-2-pyrazolines **8a,b** were obtained *via* transamination between the methiodide salt **7** and primary arylamines. Treatment of 1-(*p*-anisyl)-1,2,5-tri(*N*-piperidino)pentan-3-one (**11**) with phenylhydrazine affords the 3,4-difunctionalized 2-pyrazoline **12**. The reactions of the keto bases **19** or **21** with hydrazines lead to 4-functionalized 2-pyrazolines **20** and **22**, the *N*-Mannich bases **23** and **24** are obtained from **22a**. The synthesis of 3- $[\beta$ -(phenylthio)ethyl]-2-pyrazolines **28a,b** has been achieved by treating **26** or **27** with phenylhydrazine.

Key words: Styryl Ketonic Mannich Bases, 3- and 4-Functionalized 2-Pyrazolines