

Orthoamide, LXV [1]. Kondensationsreaktionen von Amidinen, Guanidinen, Hydrazin und Hydrazin-Derivaten mit Orthoamiden von Alkincarbonsäuren

Orthoamides, LXV [1]. Condensation Reactions of Amidines, Guanidines, Hydrazine and Hydrazine Derivatives with Orthoamides of Alkyne Carboxylic Acids

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The orthoamide derivatives **4** react with amidines **10** and guanidines **11** to give 4-dimethylamino-pyrimidines **12**. The 3-dimethylamino-pyrazoles **13a–c** can be prepared from orthoamides **4** and hydrazine. The hydrazine derivative **14**, whose constitution was established by crystal structure analysis, is obtained in low yield when hydrazine is added dropwise to a boiling solution of **4d** in THF.

Methyl- and phenylhydrazine, undergo reaction with the orthoamides **4a, c** yielding mixtures of the isomeric pyrazoles **19** and **20**. The reaction of **4c** with acylhydrazines **21a–e** affords the pyrazole **13b**. The pyrazole **26** is produced in the reaction of **4a** and acet-hydrazide according to this scheme, whereas **4a** reacts with aromatic acid hydrazides **21c–e** to give condensation products, which are presumably amidrazones **28**. The 4,5-diaza-octatetraene derivative **30** results from the reaction of **4c** with *p*-toluenesulfonylhydrazide. Ketene amins **34a–c** are the products of the reaction of the orthoamides **4b–d** with 4,4-dimethylthiosemicarbazide **34**, which cyclize on heating to give high-melting pyrazolethiones **35a–c**. According to the crystal structure analysis of **35c** the compounds have zwitterionic character and are associated *via* hydrogen bridges in the solid state.

Key words: Orthoamides of Alkynecarboxylic Acids, Ketene Amins, 2,3-Dihydro-pyrazolethiones, Crystal Structure Analysis