

Synthesis and Properties of 5-Chloro-4-nitropyrazoles

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Abstract—The nitration of 5-chloropyrazoles with a mixture of 100% nitric acid and 65% oleum or a mixture of 60% nitric acid and polyphosphoric acid gave substituted 5-chloro-4-nitropyrazoles in 45–91% yield. The nitration of 3-aryl-5-halopyrazoles was accompanied by introduction of a nitro group into the aromatic ring. 4-Chloropyrazoles failed to undergo nitration under these conditions. The reaction of 5-chloro-1,3-dimethyl-4-nitropyrazole with ethyl cyanoacetate in DMSO in the presence of K_2CO_3 led to the formation of ethyl 2-cyano-2-(1,3-dimethyl-4-nitro-1*H*-pyrazol-5-yl)acetate.

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