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Amidines P 0330

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Platinum-Catalyzed Synthesis of Trichloroamidines. — A mild platinum-catalyzed method for the formation of free amidines from the reaction of amines and trichloroacetonitrile (II) is developed. This protocol provides access to novel amidines that in some cases (VIIb,c) are not accessible via the direct reaction of amines and halogenated nitriles. Unfortunately, no reaction is observed for the less nucleophilic aniline under given conditions. — (DUNSFORD, J. J.; CAMP*, J. E.; Tetrahedron Lett. 54 (2013) 34, 4522-4523, http://dx.doi.org/10.1016/j.tetlet.2013.06.062; Sch. Chem., Univ. Nottingham, Nottingham NG7 2RD, UK; Eng.) — H. Haber

$$\mathsf{tBu-NH_2} \xrightarrow{2.2 \text{ equiv. Cl}_3\mathsf{C-CN (II)}} \mathsf{A)} \qquad \mathsf{tBu-NH_2} \xrightarrow{\mathsf{NH}} \mathsf{Bn-NH_2} \xrightarrow{\mathsf{2.2 equiv. (II)}} \mathsf{Bn-NH_2} \xrightarrow{\mathsf{NH_2}} \mathsf{Bn-NH_2}$$

$$\mathsf{III} \quad \mathsf{72\%} \qquad \mathsf{IV} \qquad \mathsf{V} \quad \mathsf{86\%}$$

A): 10 mol% PtCl₂ (cat.), CH_2Cl_2 , 25°C, [20 h]