

有机锡催化 γ -甲酰基烷基腈异构化成吡啶酮的反应

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摘要 本文首次以醛与二乙胺反应合成烯胺,后者在现丙烯腈反应生成相变的 γ -甲酰基烷基腈。新发现在有机锡存在下, γ -甲酰基烷基腈能以较高的收率异构化成5-烷基-3,4-二氢-2-吡啶酮。通过元素分析,IR, ¹H NMR和MS确定了新化合物的结构。对三种有机锡(BuSnO₃/2, cat.1; Bu₂SnO, cat.2; Bu₃SnF, cat.3)的催化活性进行了比较并从催化剂用量,反应温度和反应时间等方面重点考察了Bu₂SnO, cat.2; Bu₃SnF, cat.3)的催化活性进行了比较并从催化剂用量,反应温度和反应时间等方面重点考察了BuSnO₃/2的催化活性。通过比较可知有机锡比无水氯化氢和氧化铝能更好地催化这一反应。

关键词 [催化剂](#) [吡啶酮](#) [腈](#) [甲酰基](#) [烷基](#) [异构化](#) [有机锡](#)

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The isomerization of γ -Formoyl nitriles to pyridones catalyzed by organotin

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Abstract The enamines were prepared by condensation of aldehydes with Et₂NH for the first time and reacted with CH₂=CN to give corresponding γ -formoyl nitriles. It was discovered by the author that γ -formoyl nitriles could isomerize to 5-alkyl-3,4-dihydro-2-pyridones with high yield in the presence of organotin. The structures of new compounds were confirmed by elemental analysis. IR, ¹H NMR and MS. The catalytic activity of three kinds of organotin (BuSnO₃/2, cat.1; Bu₂SnO, cat.2; Bu₃SnF, cat.3) were compared. The cat.1 was studied in catalyst quantity used, reaction temperature and reaction time. The results indicated that through compared as catalyst. Organotins were better than alumina or anhydrous hydrochloride for the isomerization of γ -formoyl nitriles.

Key words [CATALYST](#) [PYRIDINONE](#) [NITRILE](#) [FORMYL](#) [ALKYL](#) [ISOMERIZATION](#) [ORGANOTIN](#)

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