

Addendum

Efficient Asymmetric Synthesis of α -Amino Acids from α -Keto Acids and Ammonia with Conservation of the Chiral Reagent

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In this paper we reported high asymmetric induction in the catalytic hydrogenation of certain alkylidenedioxopiperazines derived from L-proline and described, *inter alia*, the preparation of optically active L-alanine from pyruvic acid and ammonia. We cited earlier, related work^{1,2} but, to avoid misunderstanding, now wish to elaborate further. Poisel and Schmidt¹ showed that hydrogenation of arylidene derivatives of glycyl-L-proline anhydride occurred with >90% asymmetric induction and described the preparation of L-phenylalanine, *N*-methyl-L-phenylalanine, and L-dopa. Their approach differed from ours in detail and was not directly applicable to the synthesis of aliphatic amino-acids in optically active form. Attention is drawn generally to the important contributions made by Schmidt *et al.*, to the chemistry of cyclodipeptides derived from proline.^{2,3}

¹ H. Poisel and U. Schmidt, *Chem. Ber.*, 1973, **106**, 3408.

² J. Hausler and U. Schmidt, *Chem. Ber.*, 1974, **107**, 2804.

³ J. Hausler and U. Schmidt, *Chem. Ber.*, 1974, **107**, 145; and earlier papers in this series.