pyrrole derivatives

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Antiarthritic and Suppressor Cell Inducing Activity of Azaspiranes: Structure-Function Relationships of a Novel Class of Immunomodulatory Agents. — Corey epoxidation of the ketones (I) followed by boron trifluoride catalyzed rearrangement gives the branched aldehydes (IV). These are cyclized with methyl vinyl ketone (V). Subsequent hydrogenation forms the cyclohexanones (VII). Consecutive coupling of these with ethyl cyanoacetate (VIII) and potassium cyanide (X), followed by hydrolysis and dehydration, leads to the formation of the anhydrides (XI). Their reaction with diamines such as (XII) and subsequent reduction with lithium aluminum hydride produce the about forty title azaspiranes, e. g. (XIII). Several compounds of this series show good antiarthritic and suppressor-cell inducing activity. — (BADGER, A. M.; SCHWARTZ, D. A.; PICKER, D. H.; DORMAN, J. W.; BRADLEY, F. C.; CHEESEMAN, E. N.; DIMARTINO, M. J.; HANNA, N.; MIRABELLI, C. K.; J. Med. Chem. 33 (1990) 11, 2963-2970; Dep. Immunol. Mol. Pharm., Smith KlinePFrench Lab., King of Prussia, PA 19406-0939, USA; EN)