

Pyrrole derivatives

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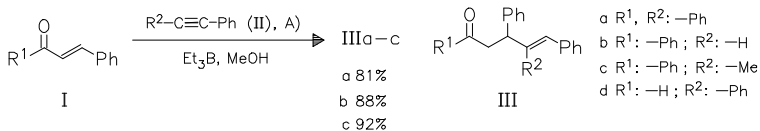
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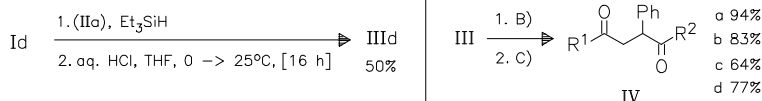
Enone—Alkyne Reductive Coupling: A Versatile Entry to Substituted Pyrroles.

— A three-step procedure, consisting of the Ni-catalyzed coupling of enones or enals with alkynes, oxidative cleavage and Paal—Knorr cyclization with ammonium acetate or anilines, allows the preparation of variously multisubstituted pyrrole derivatives.

The cyclization step is carried out under microwave-assisted conditions. Similar approach is applied to complex substrates to proceed intramolecularly leading to polycyclic derivatives with fused carbocyclic and heterocyclic rings. Acid-catalyzed condensation of the 1,4-dicarbonyl compound (IVc) affords furan (VIII). — (THOMPSON, B. B.; MONTGOMERY*, J.; *Org. Lett.* 13 (2011) 13, 3289-3291, <http://dx.doi.org/10.1021/ol201133n>; Dep. Chem., Univ. Mich., Ann Arbor, MI 48109, USA; Eng.) — R. Studel

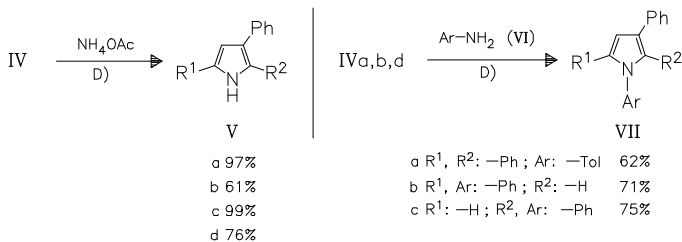


A): Ni(cod)₂/PCy₃ (1:2) (cat.), THF, 50°C



B): O₃, CH₂Cl₂, -78°C

C): PPh₃, -78 → 25°C, [16 h]



D): microwaves, mol. sieves, THF/AcOH (1:1), 170°C, [15 min]

