indole derivatives, isoindole derivatives

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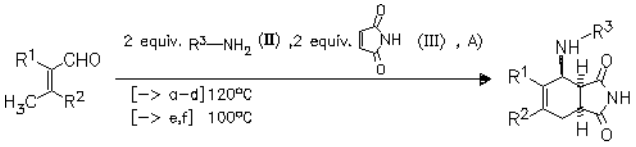
02 - 136

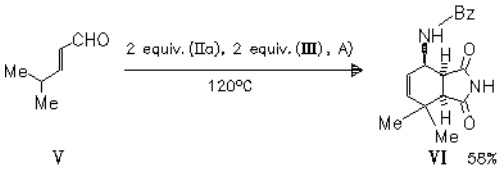
Facile Three-Component Coupling Procedure for the Synthesis of Substituted Tetrahydroisoindole-1,3-diones from α,β-Unsaturated Aldehydes. — A novel efficient one-pot synthesis of amino-substituted tetrahydroisoindole diones is developed. The acid-catalyzed condensation reaction of α,β-unsaturated aldehydes (I), (V) and (VII) with amides or sulfonamides (II) provides amidodiene intermediates which are trapped subsequently by cycloaddition to maleimide (III). All adducts exclusively possess an endo bicyclic system and all-syn configuration. — (JACOBI VON WANGELIN, AXEL; NEUMANN, HELFRIED; GOERDES, DIRK; SPANNENBERG, ANKE; BELLER, MATTHIAS; Org. Lett. 3 (2001) 18, 2895-2898; Inst. Org. Katalyseforsch., Univ. Rostock, D-18055 Rostock, Germany; EN)



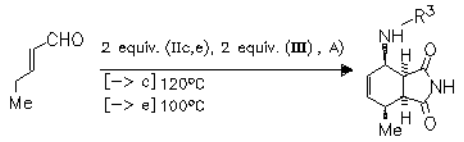
I IV

A): Ac_2O, TosOH (cat.), NMP

a	R^1, R^2: —H ; R^3: —Bz	91%
b	R^1, R^2: —H ; R^3: —SO_2—Ph	79%
c	R^1: —Me ; R^2: —H ; R^3: —Ac	82%
d	R^1: —H ; R^2: —Me ; R^3: —Bz	69%
e	R^1: —Me ; R^2: —H ; R^3: —CO—NMe_2	48%
f	R^1: —H ; R^2: —Me ; R^3: —CO—NMe_2	56%



V VI 58%



VII VIII

A): Ac_2O, TosOH (cat.), NMP

c 77%
e 62%