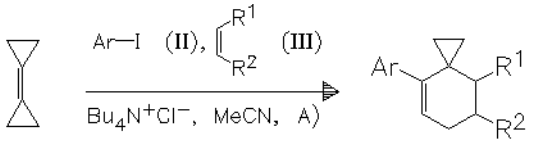
polyphenyl derivatives

Q 0700

11 - 085

Cyclopropyl Building Blocks in Organic Synthesis. Part 54. Nitrogen-Based Linkers. Part 6. New Efficient Multicomponent Reactions with C–C Coupling for Combinatorial Application in Liquid and on Solid Phase. — Domino-Heck–Diels–Alder reaction of highly reactive bicyclopropylidene (I) with aryl iodides (II) and dienophiles (III) or (V) provides an elegant access to spiro[2.5]octene derivatives (IV) and (VI), respectively. A wide range of iodoarenes as well as dienophiles can be applied in this reaction. Use of polyiodoarenes allows for the formation of more complex symmetrical systems like (VIII). — (DE MEIJERE, ARMIN; NUESKE, HANNO; ES-SAYED, MAZEN; LABAHN, THOMAS; SCHROEN, MAARTEN; BRAESE, STEFAN; Angew. Chem., Int. Ed. 38 (1999) 24, 3669-3672; Inst. Org. Chem., Georg-August-Univ., D-37077 Goettingen, Germany; EN)

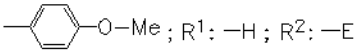


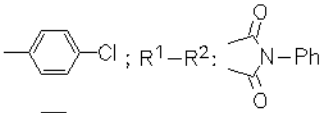
I IV

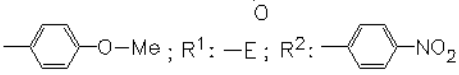
E: —CO—O—Me

A): K_2CO_3, $Pd(O-Ac)_2/PPh_3$ (1:2) (cat.), 80°C

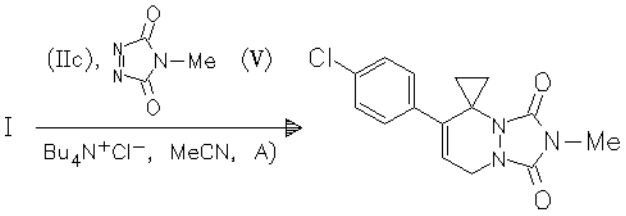
a Ar: —Ph ; R^1: —H ; R^2: —E 95%

b Ar:  ; R^1: —H ; R^2: —E 92%

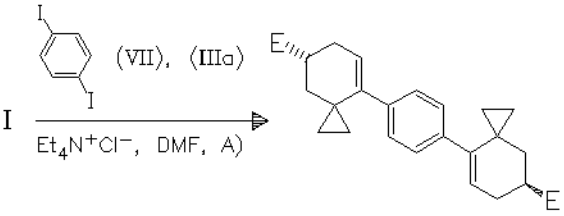
c Ar:  ; R^1—R^2: 23%

d Ar:  ; R^1: —E ; R^2: 40%

e Ar:  ; R^1: —H ; R^2: —E 81%



VI 55%



VIII 64%