

Title (en)
PROCESS FOR THE COVALENT COUPLING OF TWO MOLECULES BY MEANS OF A DIELS-ALDER REACTION WITH INVERSE ELECTRON REQUIREMENT

Title (de)
VERFAHREN ZUR KOVALENTEN VERKNÜPFUNG ZWEIER MOLEKÜLE MITTELS DIELS-ALDER-REAKTION MIT INVERSEM ELEKTRONENBEDARF

Title (fr)
PROCÉDÉ DE LIAISON COVALENTE DE DEUX MOLÉCULES PAR RÉACTION DE DIELS-ALDER AVEC DEMANDE INVERSE D'ÉLECTRONS

Publication
EP 2044035 A1 20090408 (DE)

Application
EP 07726066 A 20070618

Priority
• EP 2007005361 W 20070618
• EP 06012414 A 20060616
• EP 07726066 A 20070618

Abstract (en)
[origin: EP1867638A1] Process to combine two molecules through inverse electron demand Diels-Alder-reaction comprises reacting diazines, triazines or tetrazines containing electron withdrawing substituents on a ring as diene component, where the electron withdrawing groups are halogen, carbonyl group containing derivatives, cyano, sulfur- or phosphorus derivative, with an isolated double bond- and/or triple bond in a (hetero)carbocyclic ring or an isolated olefinic double- and/or a triple bond in a hydrocarbon chain which optionally contains hetero atoms, as dienophile component. Process to combine two molecules through inverse electron demand Diels-Alder-reaction comprises reacting diazines, triazines or tetrazines containing electron withdrawing substituents on a ring as donating component, where the electron withdrawing groups are halogen, carbonyl group containing derivatives such as -COOR or C(O)NR₂, CX₃, cyano, sulfur derivatives such as SO₂R or SO₃R, or phosphorus derivative such as PR₂, with an isolated double- and/or triple bond in a (hetero)carbocyclic ring or an isolated olefinic double- and/or a triple bond in a hydrocarbon chain which optionally contains hetero atoms, as dienophile component. R : alkyl, aryl, hetero cyclic ring (all optionally substituted by alkyl, OH, SH, halo, aryl, heterocyclic, nitro, carboxyamido or amino) or H; and X : halo.

IPC 8 full level
C07D 237/26 (2006.01); **C07D 221/22** (2006.01); **C07D 471/04** (2006.01); **C07D 491/04** (2006.01); **C07D 491/08** (2006.01); **C07H 17/00** (2006.01); **C07K 7/00** (2006.01)

CPC (source: EP US)
C07D 221/22 (2013.01 - EP US); **C07D 237/26** (2013.01 - EP US); **C07D 471/04** (2013.01 - EP US); **C07D 491/04** (2013.01 - EP US); **C07D 491/08** (2013.01 - EP US)

Citation (examination)
E. G. KOVALEV ET AL: "Cycloaddition to sym-tetrazines (the carboni-lindsey reaction) (review)", CHEMISTRY OF HETEROCYCLIC COMPOUNDS, vol. 17, no. 11, 1 November 1981 (1981-11-01), pages 1063 - 1076, XP055047342, ISSN: 0009-3122, DOI: 10.1007/BF00506453

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA HR MK RS

DOCDB simple family (publication)
EP 1867638 A1 20071219; EP 2044035 A1 20090408; JP 2009539911 A 20091119; JP 5641735 B2 20141217; US 2010016545 A1 20100121; US 8552183 B2 20131008; WO 2007144200 A1 20071221

DOCDB simple family (application)
EP 06012414 A 20060616; EP 07726066 A 20070618; EP 2007005361 W 20070618; JP 2009514713 A 20070618; US 30498207 A 20070618