

Title (en)
MODIFIED POLY(ETHYNYLENE PHENYLENE ETHYNYLENE SILYLENE) POLYMERS, COMPOSITIONS CONTAINING SAME, PREPARATION METHODS THEREOF AND CURED PRODUCTS

Title (de)
MODIFIZIERTE POLY(ETHINYLEN- PHENYLEN-ETHINYLEN-SILYLEN)-POLYMERE, DIESE ENTHALTENDE ZUSAMMENSETZUNGEN, HERSTELLUNGSVERFAHREN DAFÜR UND GEHÄRTETE PRODUKTE

Title (fr)
POLYMERES MODIFIES DE POLY(ETHYNYLENE PHENYLENE ETHYNYLENE SILYLENE), COMPOSITIONS LES CONTENANT, LEURS PROCEDES DE PREPARATION ET PRODUITS DURCIS

Publication
EP 1682607 A2 20060726 (FR)

Application
EP 04805820 A 20041110

Priority
• FR 2004050577 W 20041110
• FR 0350832 A 20031113

Abstract (en)
[origin: FR2862307A1] Modified poly(ethynylene-phenylene-ethynylene-silylene) polymers (I) produced by selective addition of a monofunctional compound (II) to the acetylenic bonds of a poly(ethynylene-phenylene-ethynylene-silylene) polymer (III) are new. Independent claims are also included for: (1) producing (I) by introducing (III) into a reactor, adding (II) and optionally a catalyst, reacting the mixture until selective addition of (II) to the acetylenic bonds of (III) is complete, and recovering the product; (2) composition comprising (II), (III) and optionally a catalyst; (3) modified poly(ethynylene-phenylene-ethynylene-silylene) polymer of formula (VII); (4) poly(ethynylene-phenylene-ethynylene-silylene) polymer of formula (IIa); (5) matrix for composite materials comprising (I) or (VII). [Image] -[CC-W o-CC-X o] r-[CC-Y o-CC-Z o-CC] s- (IIa) R 1', R 2' : H, 1-20C alkyl, 3-20C cycloalkyl, 1-20C alkoxy, 6-20C aryl, 6-20C aryloxy, 2-20C alkenyl, 3-20C cycloalkenyl or 2-20C alkynyl, all optionally substituted with halo, alkyl, alkoxy, aryl, aryloxy, NH 2, disubstituted amino or silyl; R 3' : 1-20C alkyl, 10-20C alkenyl or 6-20C aryl; R 4' : phenylene substituted with 0-4 of R 5', or a group with at least two aromatic rings linked by a covalent bond or divalent group; R 5' : halo, 1-20C alkyl, 3-20C cycloalkyl, 1-20C alkoxy, 6-20C aryl, 6-20C aryloxy, 2-20C alkenyl, 3-20C cycloalkenyl, 2-20C alkynyl, NH 2, disubstituted amino or silyl, all optionally substituted with halo, alkyl, alkoxy, aryl, aryloxy, NH 2, disubstituted amino or silyl; x, y, z : 0-1000; r, s : 1-1000; X o, Z o SiR 9R 10(OSiR 11R 12) m1 or SiR 9R 10(SiR 11R 12) n1; m1, n1 : 1-1000; R 9-R 12H, 1-20C alkyl, 2-20C alkenyl, 2-20C alkynyl or 6-20C aryl, all optionally substituted with halo, alkyl, alkoxy, phenoxy, disubstituted amino or silyl; W o, Y oCH 2(O) iR 13(O) iCH 2, 3-R 17-6-R 18-1,2-phenylene, 3-R 17-5-R 19-6-R 18-1,2-phenylene, 3-R 17-4-R 20-5-R 19-6-R 18-1,2-phenylene, 2-R 17-4-R 18-6-R 19-1,3-phenylene, 2-R 17-4-R 18-5-R 19-6-R 20-1,3-phenylene, 2-R 17-3-R 18-5-R 19-6-R 20-1,4-phenylene or a divalent heterocyclic group; i : 0 or 1; R 13a divalent group comprising one or more rings; R 17-R 20H, 1-20C alkyl, 3-20C cycloalkyl, 1-20C alkoxy, 6-20C aryl, 6-20C aryloxy, 2-20C substituted amino or 1-10C silanyl, all optionally substituted with halo, alkoxy, phenoxy, disubstituted amino or silyl.

IPC 8 full level
C08G 77/52 (2006.01); **C08G 77/60** (2006.01); **C08K 5/54** (2006.01); **C08L 83/16** (2006.01)

CPC (source: EP US)
C08G 77/52 (2013.01 - EP US); **C08G 77/60** (2013.01 - EP US); **C08L 83/16** (2013.01 - EP US)

Citation (search report)
See references of WO 2005049733A2

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

DOCDB simple family (publication)
FR 2862307 A1 20050520; **FR 2862307 B1 20060428**; CA 2521453 A1 20050602; EP 1682607 A2 20060726; JP 2007511632 A 20070510; US 2007083015 A1 20070412; WO 2005049733 A2 20050602; WO 2005049733 A3 20060202

DOCDB simple family (application)
FR 0350832 A 20031113; CA 2521453 A 20041110; EP 04805820 A 20041110; FR 2004050577 W 20041110; JP 2006538910 A 20041110; US 57837004 A 20041110