

Title (en)

RYLENE MONOIMIDE DERIVATES AND USE THEREOF AS PHOTOSENSITIZERS IN SOLAR CELLS AND PHOTODETECTORS

Title (de)

RYLENMONOIMIDDERIVATE UND VERWENDUNG DAVON ALS PHOTOSENSITIZER IN SOLARZELLEN UND PHOTODETEKTOREN

Title (fr)

DÉRIVÉS DE MONOIMIDE D'ARYLÈNE ET LEUR UTILISATION À TITRE DE PHOTOSENSIBILISATEURS DANS DES CELLULES SOLAIRES ET DE PHOTODÉTECTEURS

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Application

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Abstract (en)

[origin: WO2013118068A1] The present invention relates to compounds of the formulae Ia, Ib and Ic in which R are identical or different aryloxy, arylthio, hetaryloxy, hetarylthio, aryl, diarylamino or dialkylamino radicals, n when m is 0: 0, 1, 2 or 3, when m is 1: 0, 1, 2, 3, 4 or 5, m is 0 or 1, A is -COOM, -SO₃M or -PO₃M, M is hydrogen, an alkali metal cation or [NR']₄⁺, R' is hydrogen or alkyl, where the R' radicals may be the same or different, B is C1-C6-alkylene or 1,4-phenylene, where the phenylene radical may be 2 mono-or polysubstituted by alkyl, nitro, cyano and/or halogen, L is a chemical single bond or a bridge of the formula -(Het)Ar-or -(Het)Ar-(Het)Ar- which may be mono-or polysubstituted by phenyl, alkyl, alkoxy, alkylthio and/or -NR₄R₅ and in which (Het)Ar is aryl or hetaryl which may be fused to saturated or unsaturated 5-to 18-membered rings which may comprise heteroatoms, where, in the case of two (Het)Ar, these may be the same or different, q is 0 or 1, R₁, R₂ are each independently radicals of the formula IIa, IIb or IIc R₃ is phenyl, alkyl, alkoxy, alkylthio or -NR₆R₇, X is C(R₈R₉)₂, NR₁₀, oxygen or sulfur, R₄ to R₁₀ are each independently hydrogen, alkyl whose carbon chain may be interrupted by one or more -O-, -S-, -CO-, -SO- and/or -SO₂-moieties, or aryl or hetaryl, each of which may be mono-or polysubstituted by alkyl, alkoxy and/or alkylthio, p is 0, 1, 2, 3, 4 or 5, Y is NR₁₁ or sulfur, and R₁₁ is hydrogen, alkyl whose carbon chain may be interrupted by one or more -O-, -S-, -CO-, -SO- and/or -SO₂-moieties, or aryl, hetaryl, aralkyl or hetaralkyl. The present invention further relates to the use of compounds of the formulae Ia, Ib and Ic or mixtures of compounds of the formulae Ia, Ib and Ic and/or isomers thereof or mixtures of isomers of the compounds of the formulae Ia, Ib and Ic as photosensitizers in solar cells and photodetectors, and to solar cells and photodetectors comprising compounds of the formulae Ia, Ib and Ic or mixtures of compounds of the formulae Ia, Ib and Ic and/or isomers thereof or mixtures of isomers of the compounds of the formulae Ia, Ib and Ic as photosensitizers.

IPC 8 full level

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- [A] WO 2007054470 A1 20070518 - BASF AG [DE], et al
- See references of WO 2013118068A1

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