Title: DIPYRRIN BASED MATERIALS FOR PHOTOVOLTAICs, COMPOUNDS CAPABLE OF UNDERGOING SYMMETRY BREAKING INTRAMOLECULAR CHARGE TRANSFER IN A POLARIZING MEDIUM AND ORGANIC PHOTOVOLTAIC DEVICES COMPRISING THE SAME

Abstract: The present disclosure generally relates to organic photosensitive optoelectronic devices comprising at least one boron dipyrrolyl compound. In addition, the present disclosure relates to methods of making organic photosensitive optoelectronic devices comprising at least one boron dipyrrolyl compound. The present disclosure also generally relates to chromophoric compounds that combine strong absorption of light at visible wavelengths with the ability to undergo symmetry-breaking intramolecular charge transfer (ICT), and their use for the generation of free carriers in organic photovoltaic cells (OPVs) and electric-field-stabilized geminate polaron pairs. The present disclosure also relates to the synthesis of such compounds, methods of manufacture, and applications in photovoltaic systems and organic lasers.

FIG. 35
Designated States (unless otherwise indicated, for every
Mnd of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,
LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

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Previous Correction:
see Notice of 3 April 2014
**INTERNATIONAL SEARCH REPORT**

**International application No**

PCT/US2013/041079

**A. CLASSIFICATION OF SUBJECT MATTER**

INV. HO1L51/00

ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

HO1L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data, CHEM ABS Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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<th>Relevant to claim No.</th>
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<td>1, 2, 1-20, 22-24</td>
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[Continued...]

**Date of the actual completion of the international search**

14 February 2014

**Date of mailing of the international search report**

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**Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk**

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Wolfbauer, Georg

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