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(12) **United States Patent**
Wong et al.(10) **Patent No.:** US 8,802,975 B2
(45) **Date of Patent:** Aug. 12, 2014(54) **COMPOUNDS FOR ORGANIC THIN-FILM SOLAR CELLS AND ORGANIC THIN-FILM SOLAR CELLS**(75) **Inventors:** Ken-Tsung Wong, New Taipei (TW); Hao-Wu Lin, Zhubei (TW); Li-Yen Lin, Wujie Township (TW); Francis Lin, New Taipei (TW); Yi-Hong Chen, New Taipei (TW); Shi-Wen Chiu, Taichung (TW)(73) **Assignees:** Ken-Tsung Wong (TW); Hao-Wu Lin (TW)(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 208 days.(21) **Appl. No.:** 13/342,331(22) **Filed:** Jan. 3, 2012(65) **Prior Publication Data**
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H01L 51/42 (2006.01)(52) **U.S. Cl.**
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USPC 136/263; 544/342; 544/347; 544/333; 548/126(58) **Field of Classification Search**
CPC .. C07D 285/14; C07D 409/04; C07D 417/04; H01L 51/4253; Y02E 10/549
USPC 136/263; 544/342, 347, 333; 548/126
See application file for complete search history.(56) **References Cited**

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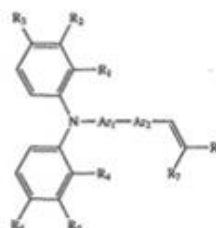
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Primary Examiner — Kristin Vajda

Assistant Examiner — Valerie Rodriguez-Garcia

(74) **Attorney, Agent, or Firm** — Scheneliser, Olsen & Watts LLP(57) **ABSTRACT**

Provided are compounds with a donor moiety, a first acceptor moiety and a second acceptor moiety, as shown by Formula (I):



Formula (I)

With the unique molecular design, compounds of Formula (I) can provide a desirable power conversion efficiency. Moreover, this invention also provides organic thin-film solar cells comprising the above-mentioned compounds.

10 Claims, No Drawings