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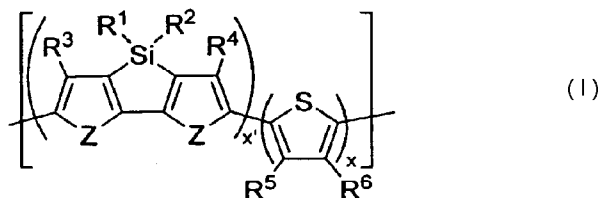
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(54) Title: SILOLE-BASED POLYMERS AND SEMICONDUCTOR MATERIALS PREPARED FROM THE SAME



(57) Abstract: The present teachings provide silole-based polymers that can be used as p-type semiconductors. More specifically, the present teachings provide polymers that include a repeating unit of Formula I: wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, Z, x, and x' are as defined herein. The present teachings also provide methods of preparing these polymers, and relate to various compositions, composites, and devices that incorporate these polymers.



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**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/US2007/011451

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. H01B1/12 H01L51/00

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)  
H01B H01L

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 practical, search terms used)

EPO-Internal, WPI Data, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LIU, LUO, JEN: "Efficient green-light-emitting diodes from silole-containing copolymers" CHEMISTRY OF MATERIALS, vol. 15, 31 July 2003 (2003-07-31), - 2003 pages 3496-3500, XP002453803 cited in the application scheme 1 the whole document  ----- -/--	1-3, 6-8, 10, 11, 15-20

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents :

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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2007/011451

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>OHSHTA J ET AL: "Synthesis and properties of dithienosiloles" JOURNAL OF ORGANOMETALLIC CHEMISTRY, ELSEVIER-SEQUOIA S.A. LAUSANNE, CH, vol. 553, no. 1-2, 25 February 1998 (1998-02-25), pages 487-491, XP004204950 ISSN: 0022-328X the whole document -----</p>	1-20
Y	<p>CHAN, MCKIERNAN, TOWNS, HOLMES: "Poly(2,7-dibenzosilole): a blue light emitting polymer" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol. 127, 5 May 2005 (2005-05-05), - 2005 pages 7662-7663, XP002453804 cited in the application the whole document -----</p>	1-20