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(54) **ACENE-THIOPHENE SEMICONDUCTORS**

(75) Inventor: **Christopher P. Gerlach**, Saint Paul, MN (US)

(73) Assignee: **3M Innovative Properties Company**, St. Paul, MN (US)

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See application file for complete search history.

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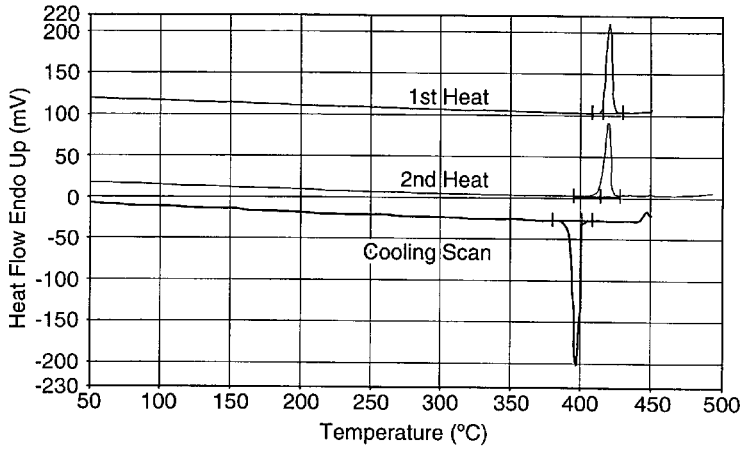
Primary Examiner—Mark Kopec
(74) *Attorney, Agent, or Firm*—Kent S. Kokko

(57) **ABSTRACT**

Acene-thiophene compounds are disclosed that are useful as organic semiconductors. The compounds, when used as the semiconductor layer in organic thin-film transistors exhibit device characteristics, like charge-carrier mobilities and current on/off ratios, that are comparable to those of pentacene. Also described are semiconductor devices comprising at least one compound of the invention; and articles comprising the semiconductor devices such as thin film transistors or transistor arrays, and electroluminescent lamps.

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