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Bocian et al.

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(54) **ATTACHMENT OF ORGANIC MOLECULES TO GROUP III, IV OR V SUBSTRATES**

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See application file for complete search history.

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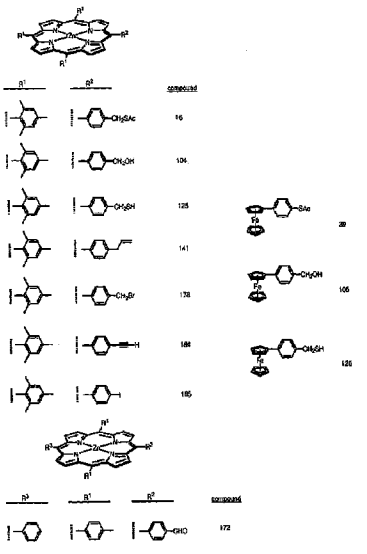
(57) **ABSTRACT**

This invention provides a new procedure for attaching molecules to semiconductor surfaces, in particular silicon. The molecules, which include, but are not limited to porphyrins and ferrocenes, have been previously shown to be attractive candidates for molecular-based information storage. The new attachment procedure is simple, can be completed in short times, requires minimal amounts of material, is compatible with diverse molecular functional groups, and in some instances affords unprecedented attachment motifs. These features greatly enhance the integration of the molecular materials into the processing steps that are needed to create hybrid molecular/semiconductor information storage devices.

19 Claims, 6 Drawing Sheets