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**Horn et al.**

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(54) **MODULAR OPTICAL DETECTOR SYSTEM**

(56) **References Cited**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 223 days.

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(57) **ABSTRACT**

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(51) **Int. Cl.**

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(52) **U.S. Cl.** ..... **250/216**; 250/239; 250/353

(58) **Field of Classification Search** ..... 250/216,  
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See application file for complete search history.

A modular optical detector system. The detector system is designed to detect the presence of molecules or molecular species by inducing fluorescence with exciting radiation and detecting the emitted fluorescence. Because the system is capable of accurately detecting and measuring picomolar concentrations it is ideally suited for use with microchemical analysis systems generally and capillary chromatographic systems in particular. By employing a modular design, the detector system provides both the ability to replace various elements of the detector system without requiring extensive realignment or recalibration of the components as well as minimal user interaction with the system. In addition, the modular concept provides for the use and addition of a wide variety of components, including optical elements (lenses and filters), light sources, and detection means, to fit particular needs.

**9 Claims, 3 Drawing Sheets**

