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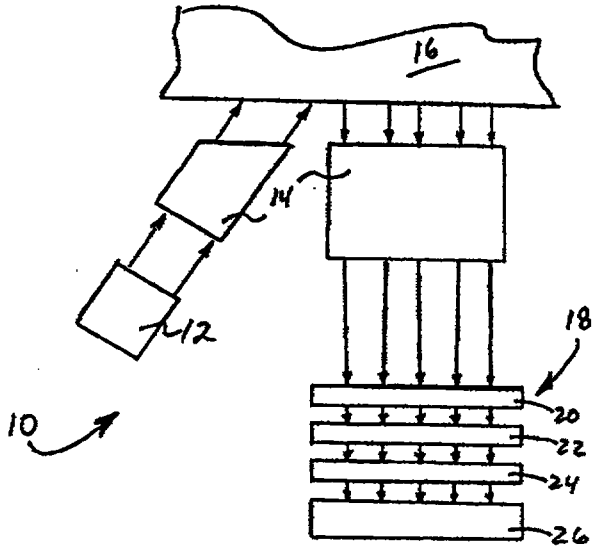
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(57) Abstract

A method and apparatus are described for determining the concentration of an analyte present in a sample using multi-spectral analysis in the near infrared and mid-infrared ranges. Incident radiation containing a plurality of distinct, nonoverlapping regions of wavelengths in the range of approximately 1100 to 5000 nm is used to scan a sample. Diffusively reflected radiation emerging from the sample is detected, and a value indicative of the concentration of the analyte is obtained using an application of chemometrics techniques. Information obtained from each nonoverlapping region of wavelengths can be cross-correlated in order to remove background interferences.