Varian Cary 5000

Varian Cary 5000 UV-Vis-NIR Spectrophotometer

Description

The Cary 5000 is a dual beam, ultraviolet, visible light and near infrared spectrophotometer. This instrument can record data from 190 to 3300nm. The Varian software used to run the instrument can display the recorded data as a spectrum (with a user selectable number of peaks and/or valleys labeled) or can display absorbance readings at user chosen fixed wavelengths. When monitoring fixed wavelengths the software allows the user to create an absorbance versus concentration response list so that unknown samples can be read directly in concentration. Additional software modules are available to handle thermal denaturation and kinetics measurements.

For liquid samples, temperature is controlled from within the Varian software via an external temperature controller which drives a Peltier heat pump attached to the sample holders for both the sample and reference beams. Thermocouples in the sample holders are used to provide feedback to regulate the sample temperature. In addition, there is a second pair of thermocouples which the user can place in the sample cuvettes to monitor actual sample temperature. The controller also drives a pair of magnet stirrers so that samples can be mixed during analysis.

For solid samples a Glan-Thompson polarizer is available for measuring optical rotation as well as a pair of 1/4 wave depolarizers for use with highly polarized samples. For use with opaque samples and surface coatings, both fixed and variable angle specular reflectance accessories are available.

The Varian software runs in Windows XP and the workstation is part of the laboratory network. Hard copy printing is handled by the laboratory's workgroup printer. Electronic data can be retrieved either by use of a USB flash drive or by e-mailing the data as an attachment.
The purchase of this equipment was funded by the Student Technology Fee.

Location
Bagley 83

Training Required
Yes

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