Application Note
CD Spectroscopy

CD measurement of α-pinene gas in the vacuum-UV region

Introduction

The J-1500 CD spectrometer has recently been updated to provide better signal detection and resolution for a variety of sample choices. The enhanced optical system increases the light throughput and the new electronics include the latest in digital lock-in technology, which allows for a small signal in a very noisy environment to be detected. These features ensure that CD spectra can obtained by the J-1500 for strongly absorbing and high signal-to-noise (S/N) samples across the spectrum and into the vacuum-UV region.

The CD spectra measurement in the vacuum-UV region of (1R)-(+)-α-pinene gas and (1S)-(-)-α-pinene gas is reported below.

JASCO J-1500 CD spectrometer
View product information at www.jascoinc.com

Keywords

J-1500, circular dichroism, vacuum-UV region, α-pinene, gas measurement

Experimental

Measurement conditions	
Data acquisition interval	0.1 nm
Spectral bandwidth	1 nm
Accumulations	1
Path length	10 nm
Scan speed	20 nm/min
Response time	1 sec

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Results

The vacuum-UV CD spectra of (1R)-(+)-α-pinene gas and (1S)-(-)-α-pinene gas are shown in Figure 1. The symmetrical CD spectra with high S/N were obtained at wavelengths as low as 163 nm and the sharp bands specific to gas samples can clearly be seen.

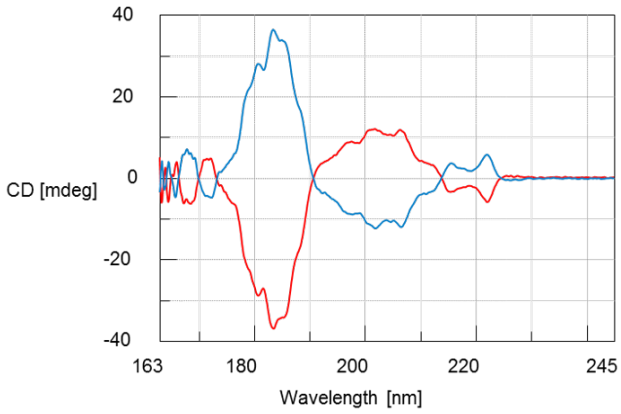

Figure 1. Vacuum-UV CD spectra of α-pinene gas

Conclusion

This application note demonstrates that gas samples can be obtained using the J-1500 CD spectrometer with high signal-to-noise in the vacuum-UV region.

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