Waters Application Notebook

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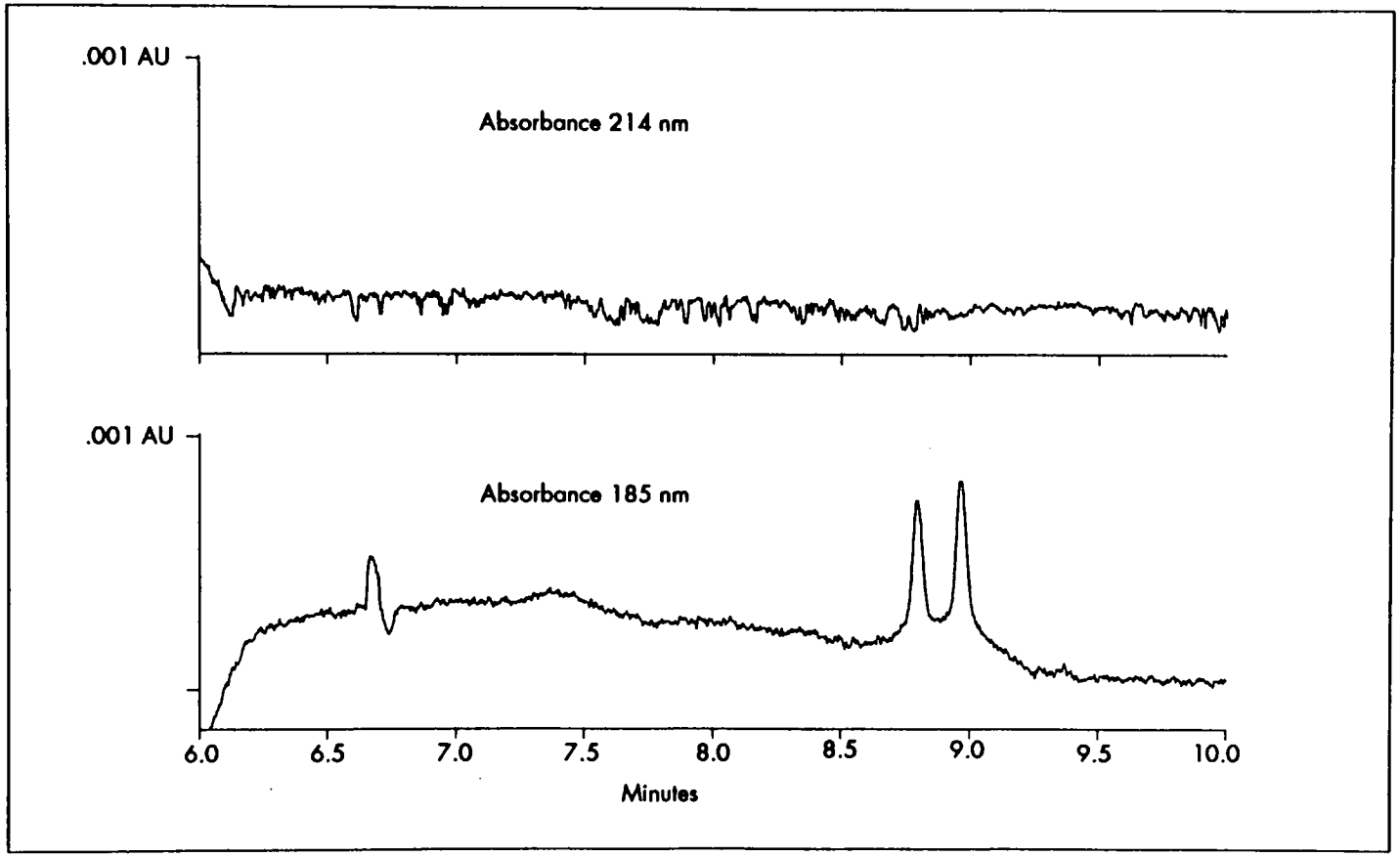
Enhanced Sensitivity For Capillary Electrophoresis Pharmaceutical Analyses



Conditions:

Capillary: AccuSep™ 50 µm x 60 cm fused silica

Buffer: 20 mM Sodium phosphate, pH 6.8

Additive: 170 mM SDS

Applied Voltage: 17 KV

Injection: 30 sec hydrostatic

Detection: UV absorbance as indicated

Sample: L-buthionine-(R,S)-sulfoximine (BSO) 65 ug/ml in water

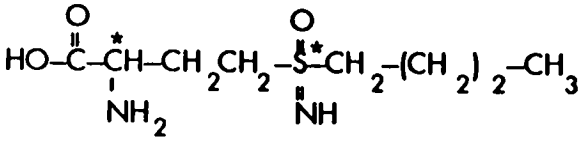
The 185 nm Ultra UV option for the Quanta™ 4000 can be used to enhance sensitivity for compounds that may not be detected at other wavelengths.

Objective:

The objective of this application note is to illustrate the benefit in terms of sensitivity of the 185 nm wavelength option for the Waters Quanta 4000. The separation of the diastereomers should also be noted.

Details:

This sample was provided by Dr. David Lloyd, Oncology Department, McGill University, Montreal, Canada. The drug is currently undergoing phase 1 clinical trials under the auspices of the Division of Cancer Treatment, National Cancer Institute. Only CE at 185 nm can provide the necessary sensitivity to determine the therapeutic plasma concentration levels of the two diastereomers when administered intravenously. The structure of BSO is shown below.



*chiral centers

System:

Waters Quanta™ 4000 System with Ultra UV option; 845 Data System with LACE and SAT/IN interface.

References:

Buffer conditions and sample courtesy of Dr. David Lloyd, Oncology Department, McGill University, Montreal Canada.