

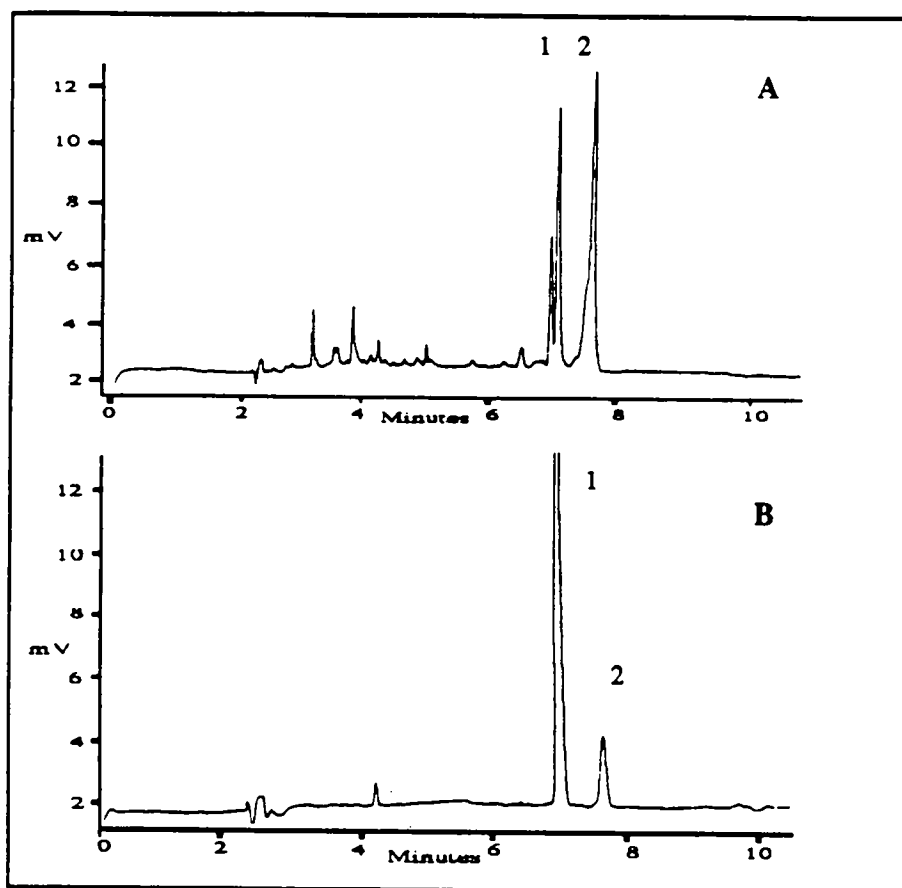


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**R<sub>x</sub>** Prescription for success

Rx 023 12/90

### CAPILLARY ELECTROPHORESIS PROVIDES A STABILITY INDICATING METHOD FOR ANTIBIOTICS



#### CONDITIONS ON WATERS QUANTA™ 4000

MODE: MECC  
BUFFER: 20 mM  $\text{Na}_2\text{B}_4\text{O}_7$ ,  
pH = 9.1  
MODIFIER: 50 mM SDS  
CAPILLARY: 75  $\mu\text{m}$  x 60 cm  
VOLTAGE: + 27 KV  
DETECTOR: 214 nm  
INJECTION: 10 sec Hydrostatic

#### PEAK IDENTIFICATION:

1. Antibiotic
2. Oxidation Product of Antibiotic

SAMPLE MATRIX: A. Crude Antibiotic  
B. Purified Antibiotic

REFERENCE: John Van Antwerp and Larry Mugavero,  
Application Chemists, Morristown, N.J. Laboratory

## INTERESTING FACTS

1. In the impure antibiotic CE separation, the Quanta 4000 easily detects impurities at very low concentrations. Only the large linear dynamic range of the UV detector, and the extremely quiet baseline of the Quanta 4000 provides good quantitation of these small impurities. Under both CE separation conditions, the impurity level was quantitated at 1 %.
2. CE provides an alternative technology to HPLC, GC or TLC to verify purity.
3. Performing separations above pH 8 minimizes tailing and is beneficial for many antibiotic separations.
4. Capillary Electrophoresis allows fast, rapid separations with high resolving power. In this example, the Quanta 4000 quantitated the antibiotics purity before and after purification.
5. Minimum turn around time is required with CE separations. The Quanta 4000 provides an automated purge cycle to sweep the capillary between injections.