PHARMACEUTICAL *Application Briefs*

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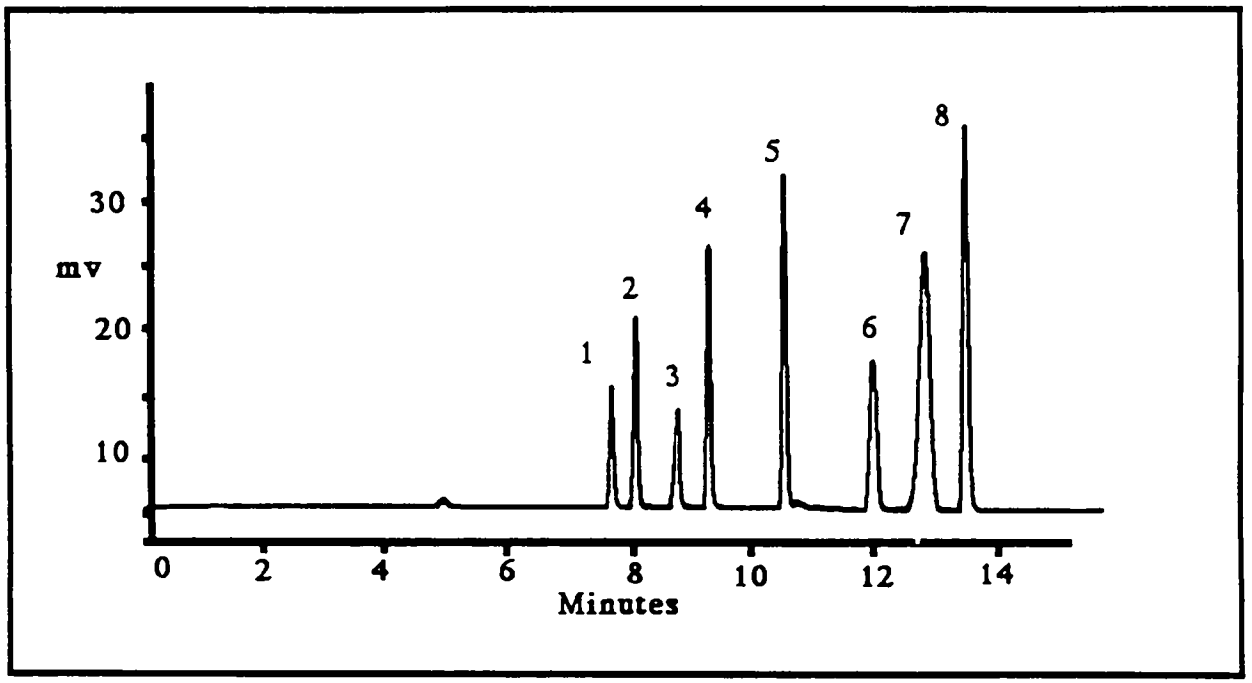
Rx 027 10/90

Rx Prescription for success

CAPILLARY ELECTROPHORESIS SEPARATION OF PENICILLIN RELATED ANTIBIOTICS



CONDITIONS ON WATERS QUANTA™ 4000

MODE:	MECC
BUFFER:	0.02M NaH_2PO_4 0.02M $Na_2B_4O_7$ pH = 9
MODIFIER:	50 mM SDS
CAPILLARY:	75 µm i.d. x 60 cm
VOLTAGE:	+ 18 KV
DETECTOR:	214 nm
INJECTION:	5 sec Hydrostatic

PEAK IDENTIFICATION:

1. Amoxicillin
2. Ampicillin
3. 6-Amino penicillanic acid
4. Oxacillin
5. Cloxacillin
6. Ticarcillin
7. Nafcillin
8. Dicloxacillin

SAMPLE MATRIX: **Standard Solution 0.12 mg/ml in H_2O**

REFERENCE:
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Author: Peter Rahn

INTERESTING FACTS

1. Capillary electrophoresis provides the efficiency and resolution to quickly separate related compounds. In this example peak 3, 6-amino penicillanic acid, is the building block for the seven antibiotics shown in this separation.

2. The Quanta 4000 provides excellent sensitivity for these antibiotics. Previous work has shown that the calibration curves are linear on the Quanta 4000 and therefore it is feasible to quantitate any impurities present.

3. Another important tool provided by CE is the identification and quantitation of related materials due to cross contamination. The selectivity of CE would provide a rapid tool to positively identify cross contamination.