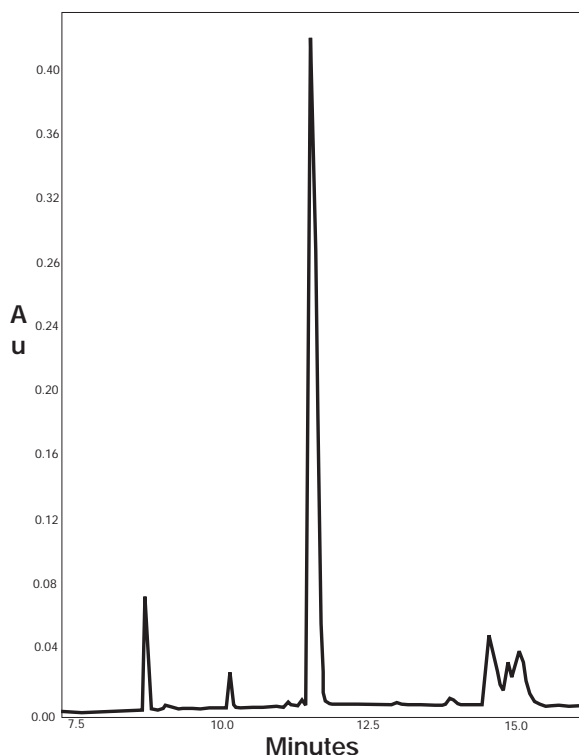


- **Low pH yet High EOF**
- **Shorter Analysis Times**
- **Simple, Easy, Fast**

## Amoxicillin

The separation of Amoxicillin by Capillary Electrophoresis is very easy, reliable and quick. By dissolving the Amoxicillin (Sigma Cat. No. A8523) in 10% ethyleneglycol, optimized separation of the last three peaks is achieved.



### Method Conditions:

Voltage: 30 kV

Capillary: MicroSolvCE Bare Fused Silica, 75µ X 60cm

Injection: 5 sec pressure

Run Buffer: CElixir Accelerator(B) Solution pH 2.5

Organic Additive: Ethylene Glycol

Detection: UV 192nm

### Method:

Using a Beckman Coulter MDQ HPCE System and a 75µ Bare Fused Silica Capillary, the analysis of Amoxicillin was easily accomplished. The 10 mg of the sample was dissolved in 4ml of CEwater™ to which 4µl of HCL 32% was added. The capillary was conditioned according to the CElixir Operating and Trouble Shooting manual and a five second pressure injection was performed. The separation was completed within 16 minutes.

### Discussion and Rationale:

Since Amoxicillin has a carboxylic group (pK 2.4) and an amino group (pK 7.4), at pH 2.5 the carboxylic group is more than 50% ionized. The net charge of the molecule is most likely below 5. CElixir Accelerator Solution (B), pH 2.5 was then selected as the run buffer.

### Comments:

Using CElixir, the main peak migrates at 59% of the time of EOF which is 11.22. Using conventional buffers at pH 2.5 (when there is weak or no EOF) is impractical. It is also impractical to use conventional buffers and analyze molecules containing both carboxylic acid groups and amino groups but the high EOF of CElixir makes it PRACTICAL.

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