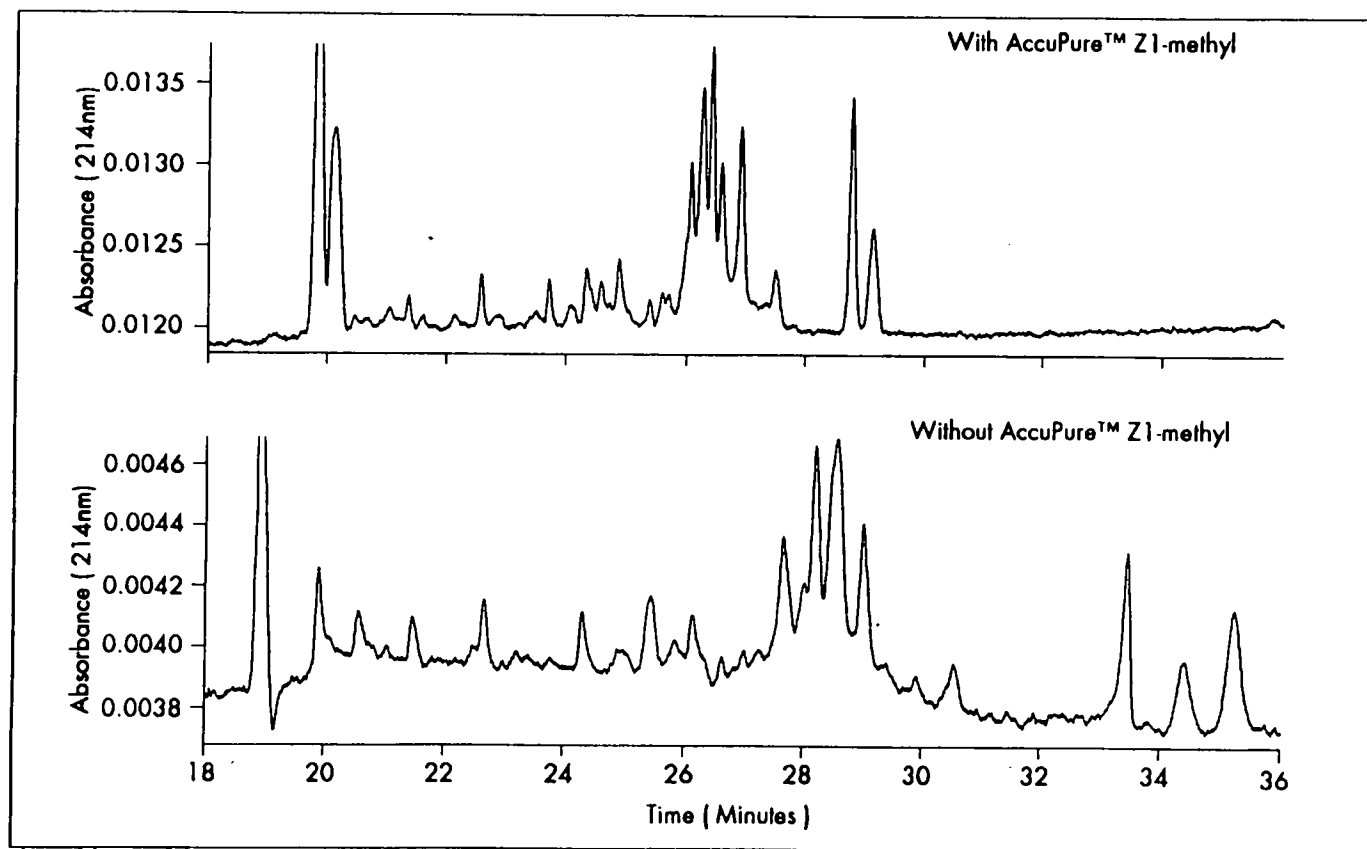


## Capillary Electrophoresis of Snake Venom Proteins



The addition of the zwitterionic reagent AccuPure™ Z1-methyl improves resolution and reproducibility in capillary electrophoresis of complex protein samples.

### Conditions:

Sample: Lyophilized *Crotalus atrox* venom (Sigma V-7000)

Capillary: 50  $\mu$  x 60cm

Buffer: 350mM Sodium with or without 1.0M AccuPure™ Z1-methyl to pH 6.8 with phosphate.

Voltage: 10kV

Detection: 214nm

Injection: Hydrostatic; 13sec with AccuPure™ Z1-methyl 10sec without AccuPure™ Z1-methyl

Sample Concentration: 2mg/ml in 0.05M Tris-Cl, pH7.5

Sample Preparation: Centrifuge 14,000g, 4°, 10min

**Objective:**

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The separation of complex protein samples by capillary electrophoresis has proven difficult because the proteins directly interact with the wall of the capillary, degrading peak shape, resolution, and reproducibility. To some extent, this effect can be managed by increasing the ionic strength of the electrolyte, but this approach leads to excessive Ohmic heating. To avoid thermal denaturation of the proteins and loss of reproducibility, the voltage must be reduced, thereby extending the run time and degrading resolution. As an alternative, a zwitterionic reagent, trimethylammoniumpropylsulfonate (AccuPure™ Z1-methyl), has been developed to give effectively high ionic strength that does not increase current because the reagent has no net charge. The elimination of wall interactions and the use of high voltage sharpens the peaks to give improved resolution. In addition, the wall of the capillary remains clean to give reproducible separations.

**Details:**

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**System:**

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Quanta 4000

**References:**

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