

Voltage effects in Capillary Electrophoresis – Tech Information

When the voltage of your CZE method changes, the following can be expected. Changing anyone of these parameters in CZE can reduce your coefficient of variation.

Temperature (Joule Heating): When voltage increases in CZE, a higher field strength results. This can cause temperature gradients in your capillary. Band broadening may result.

Electro Osmotic Flow EOF: The resulting higher field strength due to higher voltages will increase the EOF. This can shorten your analysis time or can cause your analytes to co migrate resulting in loss of resolution.

Migration Time: Changes in voltage can cause a decrease in Migration Time. It can also lessen diffusion of your analytes for more resolution.

Resolution: An increase in voltage can produce greater resolution. When the maximum temperature (Joule Heating) is reached, the resolution will decline.

Electrophoretic Mobility: An increase in voltage can bring an increase in your analytes electrophoretic mobility