

Application Sheet:

***You can use pH as a
Selectivity Tool In CZE!***

In normal HPCE, pH participates not only in the solubility of samples, conformation of certain types of samples but also in the EOF production and resulting speed. The unique approach to CZE that CELixir offers, eliminates pH as a controlling parameter of your EOF. The very dense layer of negative charge produced by CELixir which is exposed to the lumen of the capillary, overwhelms other factors and dictates the speed and flow of your EOF. Since the polymers of CELixir are not affected by pH, this minimizes the effects pH will have on your EOF.

Separate based on Charge to Mass Ratio

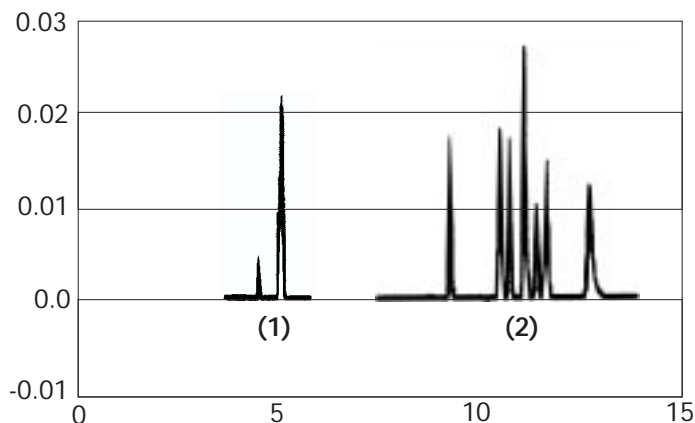
If you have compounds that are very similar, you can improve their CZE separation by optimizing their different ionization potentials and take advantage of resulting differences in charge to mass ratios. For example, if you have two compounds that are similar in size and have similar hydrophobicity but at a certain pH one will be mostly positive and the other may remain mostly neutral or negative, you can separate these compounds easily with CELixir. Any pH you select (with CELixir) will produce a reliable and reproducible EOF. Your CZE method will remain fast.

Exploit Differences in Ionization

If your analytes ionize differently at differing pH, use the maximum ionization for one of those analytes and exploit its electrophoretic mobility to achieve baseline separation. Use CELixir to make this reproducible run after run.

Accelerator pH	CELixir Average Migration Time
1.597	1.921
2.999	1.918
4.030	1.744
5.140	1.656
5.995	1.564
6.998	1.459
7.998	1.401
9.010	1.332
10.03	1.310

This chart shows the average migration time of Dimethylformamide run nine times at each pH. The migration times (EOF) shows little change with pH extremes.



The more ionized a species, the more or less electrophoretic mobility it will have. This chart shows two CZE methods with CELixir at two different pH's. This first chart with two peaks is run at pH 2.5 and the second chart is run with CELixir at pH 5.5.

Develop your CZE Methods with pH, easily.

pH buffer manipulation provides powerful tools for selectivity control.

The more ionized a species, the more or less electrophoretic mobility it will have. This chart shows two CZE methods with CELixir at two different pH's. The first chart with two aniline peaks is run at pH 2.5 and the second chart (with many more peaks from the same sample) is run with CELixir at pH 5.5. The chart on the left shows how EOF will not change while chart two shows that selectivity does change.