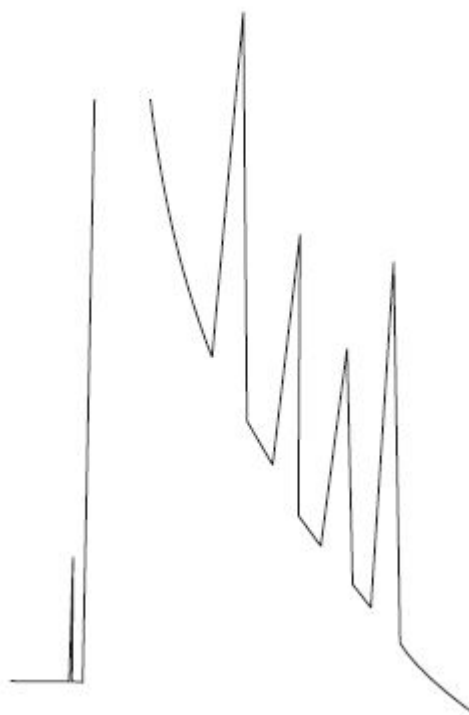
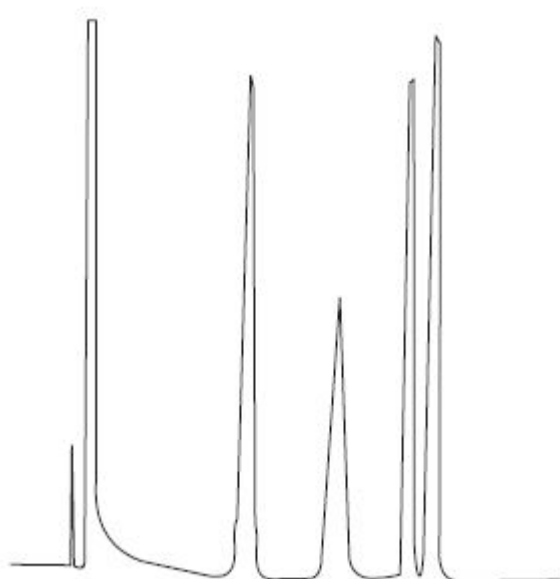


Peak Shape Problems: Broad solvent Peaks/fronts

In this technical tip, we will address a common issue encountered in Gas Chromatography (GC) analysis: Broad solvent peaks/fronts. These distorted solvent's peak shapes can adversely affect the accuracy and reliability of your results making determination of early eluting compounds very difficult. Let's explore possible causes and suggest remedies:

Symptom: Broad solvent peaks / fronts



Normal

Problem

Possible Cause	Suggested Remedy
Bad column installation.	Reinstall column.
Injector leak.	Find and fix leak.
Injection volume too large.	Decrease sample size.
Injection temperature too low.	Increase injection temperature so the entire sample is vaporized "instantly". An injection temperature higher than the temperature limit of the column will not damage the column.
Split ratio is too low.	Increase split ratio.
Column temperature too low.	Increase column temperature. Use a lower boiling solvent.
Initial column temperature too high for splitless injection.	Decrease the initial column temperature. Use a less volatile solvent so the initial column temperature is at least 10°C below the boiling point of the solvent.
Purge time too long (splitless injection).	Use a shorter purge activation time.
Septum purge plugged or turned off.	Remove plug or turn septum purge on.

By addressing these potential causes and implementing the suggested remedies, you can easily overcome the issue of broad solvent peaks/fronts, improving the peak shape and the overall accuracy of your GC analysis.