Peak Shape Problems: Tailing Peaks

More often than not, GC column problems are traceable to something improperly done during installation. The table below may assist you in identifying and correcting common installation problems highlighted by your **Column Performance Test Mixture.**

Symptom: Tailing Peaks

Possible Cause	Suggested Remedy
Contaminated or active injector liner or column.	Clean or replace injector liner. Solvent rinse or replace the column.
Dead volume due to poorly installed liner or column.	Reinstall liner and column as necessary.
Ragged column end.	Score the tubing lightly with a sapphire scribe or a ceramic scoring wafer before breaking it. Examine the end (a 20-power magnifying glass is recommended). If the break is not clean and the end square, cut the column again. Point the end down while breaking it, and while installing a nut and ferrule, to prevent fragments from entering the column. Reinstall the column.
A bad match between the polarities of the stationary phase and the solvent.	Change the solvent.
A cold region in the sample flow path.	Remove any cold zones in the flow path.
Debris in the liner or column.	Clean or replace the liner. Cut a centimeter or two off the ends of the column and reinstall it.
Injection takes too long.	Improve injection technique.
Split ratio is too low.	Increase split ratio.
Overloading the inlet.	Decrease the sample volume.
Some types of compounds such as alcoholic amines, primary and secondary amines, and carboxylic acids tend to tail.	Try a different column. Make a derivative of the sample