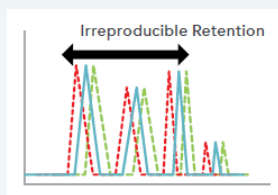
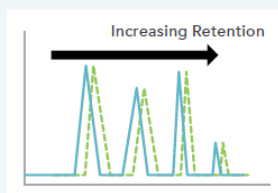
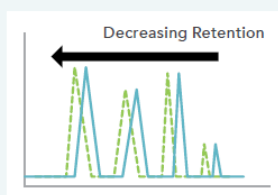




## Retention Time Shifts

Peak retention times drift or move.

### Symptom



### Possible Cause

Increase in column temperature.

Increase in gas flow rate (linear velocity).

Change of solvent.

Significant loss of stationary phase due to column bleed.

Leak in the injector.

Decrease in column temperature.

Decrease in gas flow rate (linear velocity).

Poor (jerky or erratic) injection for manual injection.

Contaminated column.

Leak in the injector.

Near-empty carrier gas tank.

### Suggested Remedy

Check GC oven temperature and adjust as necessary. Ensure run conditions do not exceed the minimum temperature limits of the column.

Inject a detectable unretained sample such as methane to determine the linear gas velocity. Adjust gas pressure to obtain proper values for your analytical method.

Use the same solvent for standards and samples.

Reduce oven temperature. Ensure run conditions do not exceed the maximum temperature limit of the column.

Replace the column if necessary.

Find the leak and fix it. Check the septum first. Change if necessary.

Check GC oven temperature and adjust as necessary. Ensure run conditions do not exceed the maximum temperature limits of the column.

Inject a detectable unretained sample such as methane to determine the linear gas velocity. Adjust gas pressure to obtain proper values for your analytical method.

Use smooth, steady plunger depression. Use autosampler.

Bake out the column. Cut 4 inches off the end of the column. Solvent rinse or replace the column.

Find the leak and fix it. Check the septum first. Change if necessary.

Check and replace the tank if necessary.