

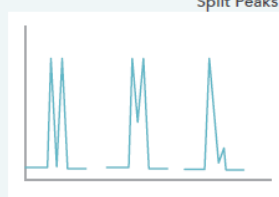


عیب یابی در GC

مشکل شماره ۹: شکافتگی پیکها

Split Peaks Peaks are duplicated or separated.

Symptom



Possible Cause

Poor (jerky or erratic) injection for manual injection.

Bad column installation.

Solvent mismatch: polarity of the stationary phase does not match the polarity of the solvent.

Wrong inlet liner is not vaporizing samples in one location.

Fluctuations in column temperature.

Mixed sample solvent for splitless or on-column injections.

Improper use of "solvent effect" refocusing techniques result in broad, distorted peaks because solutes are not refocused into a narrow band near the beginning of the column. The solvent must form a compact, continuous flooded zone in the column. If the solvent does not wet the stationary phase sufficiently (as might be the case for methanol used with a nonpolar phase), the flood zone may be several meters long and not of uniform thickness.

Suggested Remedy

Use smooth, steady plunger depression. Use autosampler.

Reinstall column.

Change solvents, use a very large split ratio, install a retention gap, or change the stationary phase.

Use a liner with glass wool in the middle of the liner if possible.

Repair temperature control system.

Use a single solvent.

Install a retention gap (5 meters of uncoated but deactivated

to reduce or eliminate the problem.

Change solvent or GC column phase.

Use a very high split ratio.