
GC-AED Tips and Tricks

◆ GC-AED Resources

● Diablo Analytical Web Page:

- ◆ <http://www.diab.com>
- ◆ GC AED Support Information

● HP Web Page

- ◆ <http://chem.external.hp.com>
- ◆ Application notes in PDF format

● AED E-Mail Discussion List:

- ◆ Send message to aedlist@diab.com with a subject of SUBSCRIBE

● GC-AED Training Course



AED Data Rate / Peak Width

- ◆ Slower data rates enhance sensitivity!
 - Set the Peak Width in the “Main AED Screen” to the widest value (slowest data rate) that still gives you adequate data points across your peaks (8-10).
 - Watch out for AED-NT “feature”:
 - ◆ If you specify the widest peak width (0.432 min / 0.625 Hz), it will be reset to the narrowest peak width the next time you load the method.
 - Test this on your system:
 - ◆ Run a sample at the fastest data rate and repeat at the slowest data rate
 - ◆ Compare the S/N

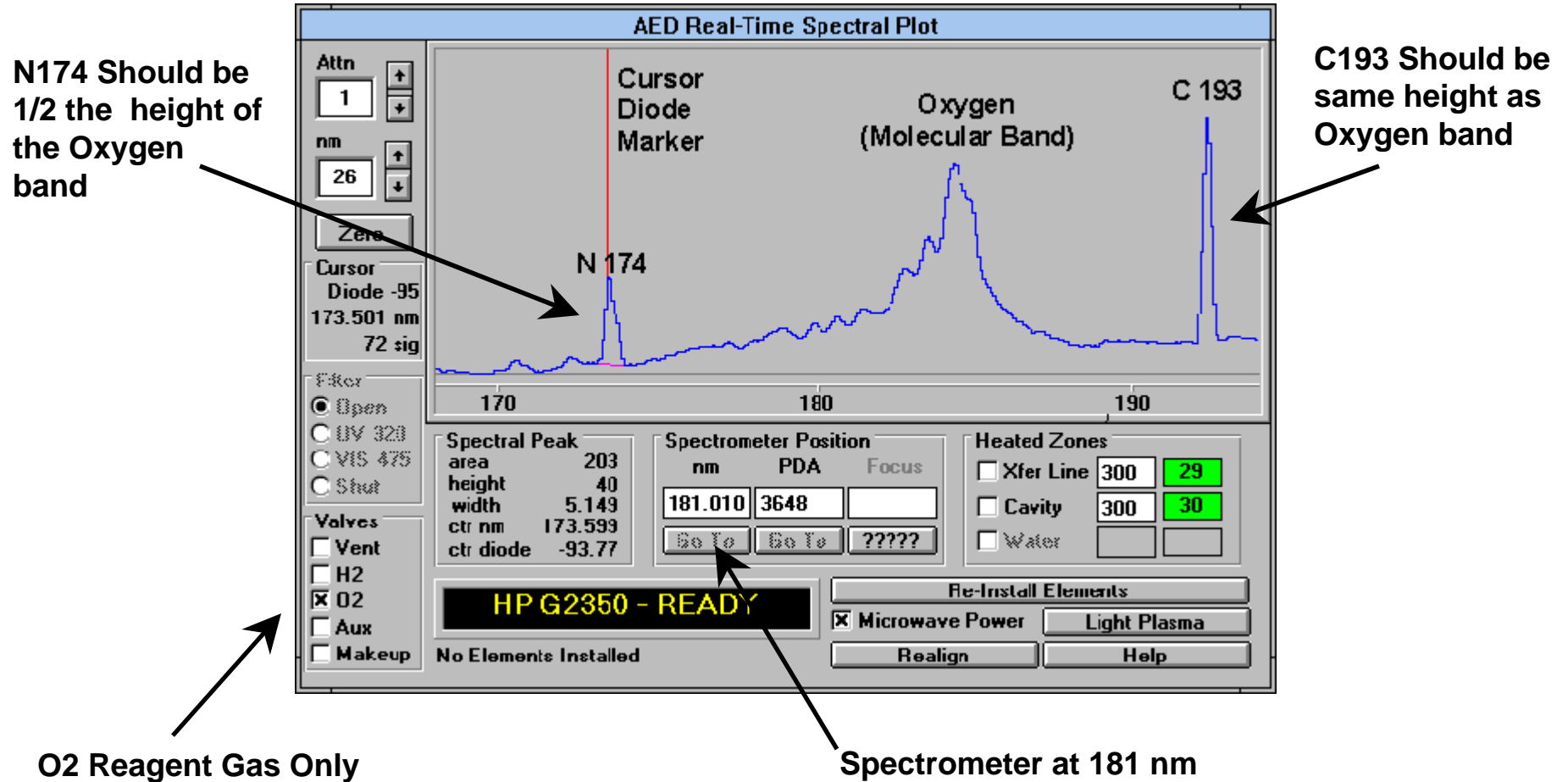


Why is my Fly-ash Filter Black?

- ◆ Does your Fly-ash Filter turn black quickly?
 - Check your reagent gas pressures
 - ◆ Petroleum (high hydrocarbon) samples require higher O₂ and H₂ pressures than the “checkout” conditions.
 - ◆ For Oxygen 171, make sure that you don’t set N₂/CH₄ pressure too high, while having the H₂ pressure too low.
 - Make sure you are venting your solvent(s) and any other “major” peaks.
 - Make sure you aren’t injecting too much sample onto the column



Is my Gas System OK?



Why do I have Negative Peaks?

- ◆ Always Check your Suppression!
 - $\text{Chrom} = \text{Raw Chrom} - [\text{BackAmt}] * \text{Background Chrom}$
 - BackAmt too high gives negative peaks where carbon is present
 - BackAmt too low gives positive interference peaks where carbon is present
 - Start with “Auto Back Amount” and then fine tune if necessary



Other “Tidbits”

- ◆ 530 um Columns can be used in the AED with the proper gas union installed
 - Watch out for high bleed causing SiO₂ formation
- ◆ Metal capillary columns can be used if positioned carefully
- ◆ Be careful using “Gas Saver” during a run
 - Causes a baseline upset on the C and N chromatograms due to the change in split ratio changing the dilution of inlet leaks

