Polyarc® v2.0 Troubleshooting Guide

Follow these instructions to troubleshoot a **Polyarc®** that is not functioning properly.
For additional assistance – call 612-787-2721 or email contact@activatedresearch.com

Ask about our **reactor recycling program**

Polyarc® v2.0 reactors are suitable for use with:
Agilent 8890, 7890, 7820, 6890, 5890
Shimadzu 2030
Thermo Fisher, Varian, Bruker, Scion, and more.

Symptom	Possible Problems	Potential Solutions
FID won't light	▪ Insufficient or Excessive hydrogen or air flow ▪ Deteriorated FID jet ▪ Too much air going through the **Polyarc®** ▪ Faulty ignitor coil ▪ Backflow	Do NOT check hydrogen and air flow TO the **Polyarc®** while it is HOT. Your results WILL NOT BE accurate! ▪ Check the hydrogen and air flow rates going to the FID. The **Polyarc®** supplies 35 sccm* of hydrogen to the FID, so the actual flow directly to the FID should be reduced to 1.5 sccm* or less ▪ Air flow to the **Polyarc®** should be less than 3 sccm* ▪ Remove the **Polyarc®** to see if the FID will light without it ▪ Check the condition of the jet and replace if necessary. Consider purchasing a silicon treated jet ▪ Inspect and replace ignitor coil if necessary ▪ Check fittings for leaks to ensure there is no backflow *Refer to the **Polyarc®** installation manual for more details
High quantification error	▪ Sample degradation ▪ Inlet discrimination ▪ Catalyst deactivation	▪ Test a fresh sample ▪ A dirty inlet can result in the preferential absorption, or vaporization, of certain compounds. Inspect and replace/clean the inlet and related parts if necessary ▪ Remove the first 6" of the capillary column ▪ Your reactor may have reached the end of its useful life. Contact ARC to purchase a replacement **Polyarc®** reactor
No signal	▪ Leak in a fitting or septa ▪ Insufficient pressure in inlet ▪ Faulty FID ▪ Catalyst deactivation	▪ Test the system for leaks. Replace the inlet septa if necessary ▪ The **Polyarc®** adds a pressure drop to the FID which can lead to lower column flow rates than are reported by the GC at a given inlet pressure. Increase the inlet pressure by a factor of two (2) ▪ Test the FID without the **Polyarc®** ▪ Your reactor may have reached the end of its useful life. It's possible the second stage catalyst if irreversibly oxidized, especially if the reactor was exposed to air without adequate hydrogen flow rates. Contact ARC to purchase a replacement **Polyarc®** reactor

Symptom	Possible Problems	Potential Solutions
Other	For other GC problems – please refer to the following resources: **Activated Research Company** **Polyarc®** Installation Guide **Agilent** GC Troubleshooting Guides: http://www.agilent.com/search/?N=900015658&Ntt=troubleshooting+guides GC Troubleshooting Video Series: http://www.agilent.com/en-us/products/gas-chromatography/troubleshootingvideos **Restek** Troubleshooting Guides: http://www.restek.com/en/pages/support-and-troubleshooting/?term=troubleshooting GC Troubleshooting Poster: http://www.restek.com/pdfs/GNWC1723-UNV.pdf **LCGC CHROMacademy** GC Troubleshooting and Training Courses: http://www.chromacademy.com/channels/gc-training-courses/troubleshooting/	