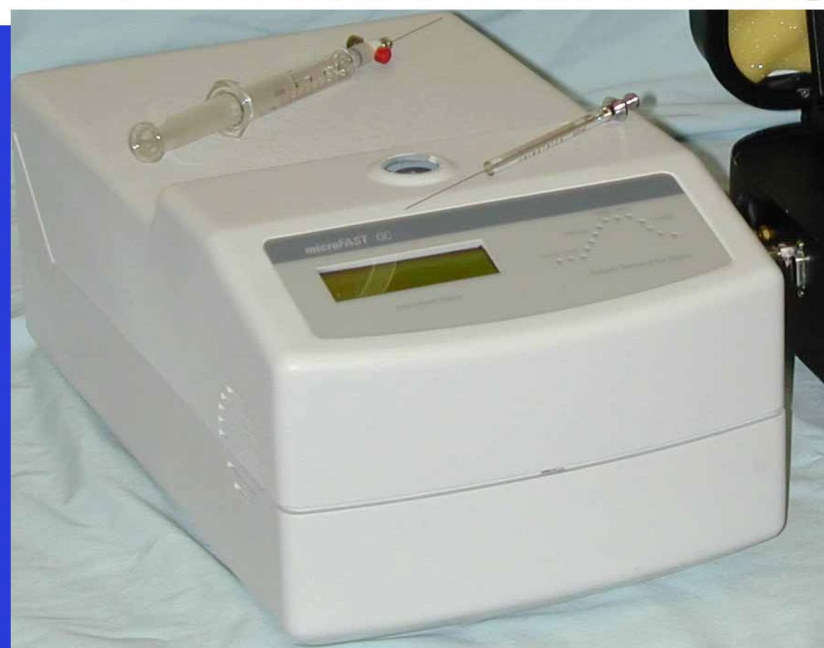


# *the microFAST GC*

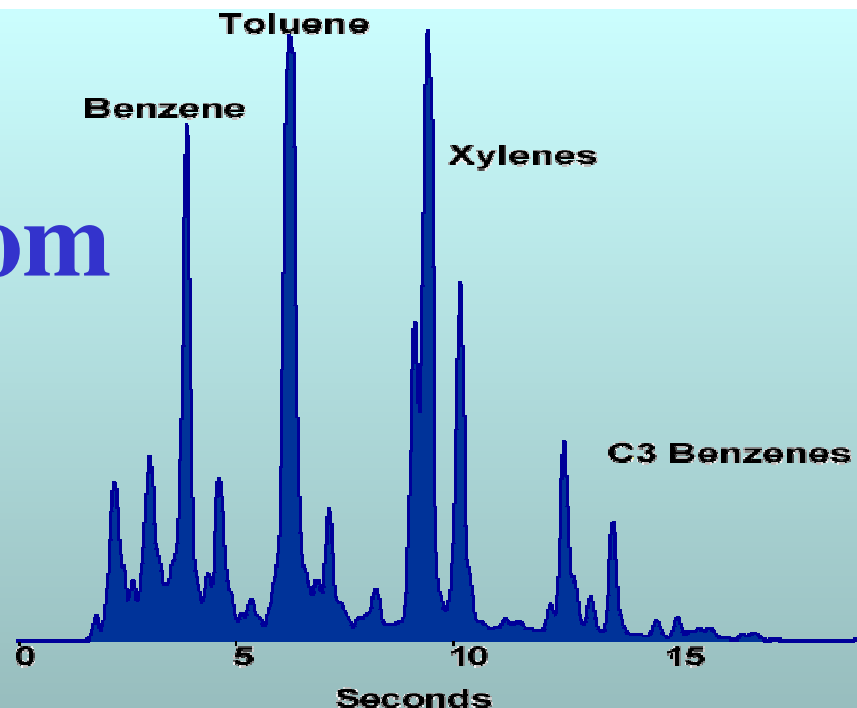
*from ASI*



*in the lab  
or  
in the field*



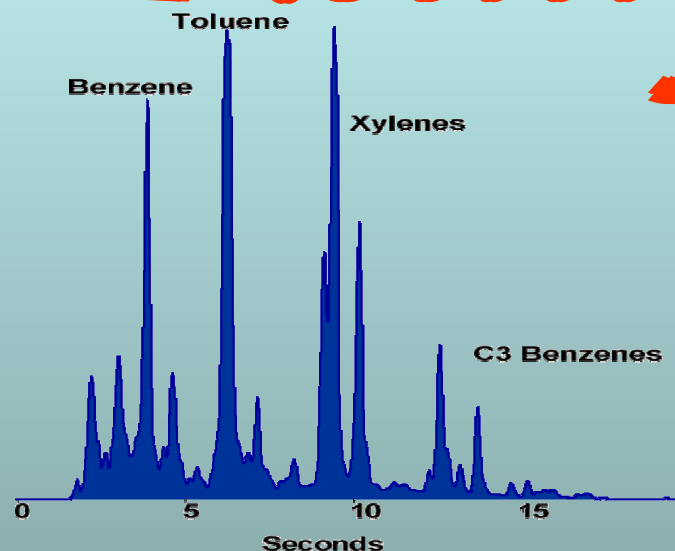
microfastgc.com



# FAST GC

up to 25°C/second

*Really*



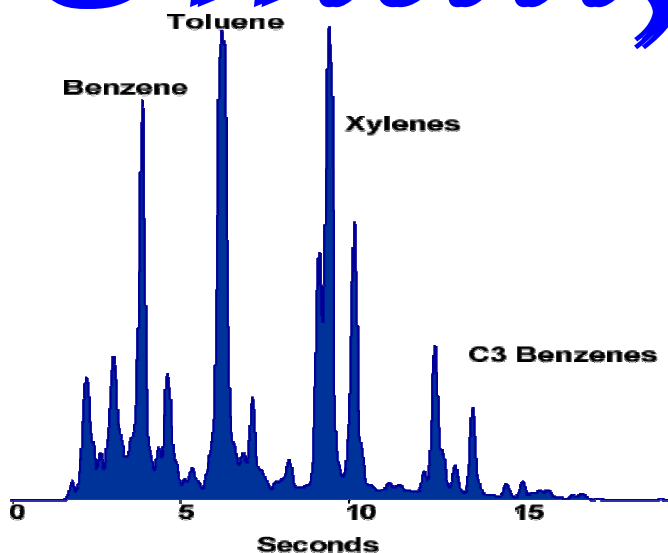
**FAST GC**

try the

**microFAST<sup>TM</sup> GC**

from ASI

*Small,*



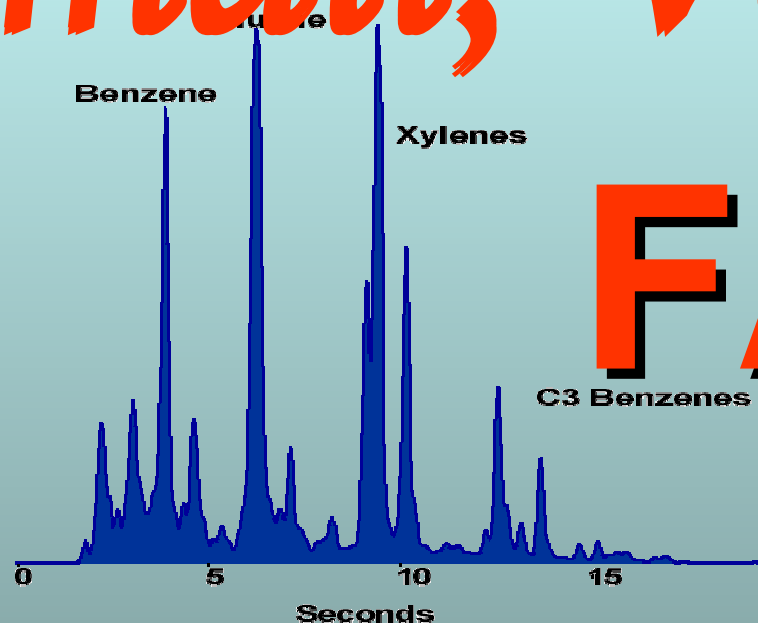
**FAST GC**

*try the*

**icroFAST<sup>TM</sup> GC**

**from ASI**

# Small, Versatile

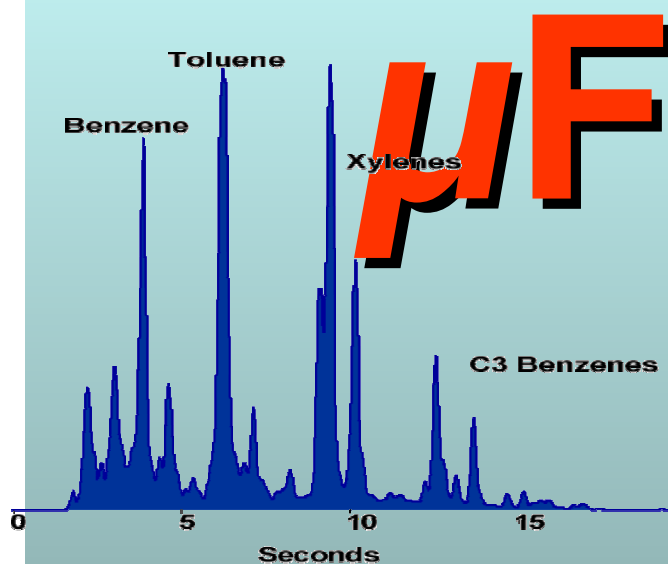


## FAST GC

## microFAST<sup>TM</sup> GC

from ASI

small, fast, versatile



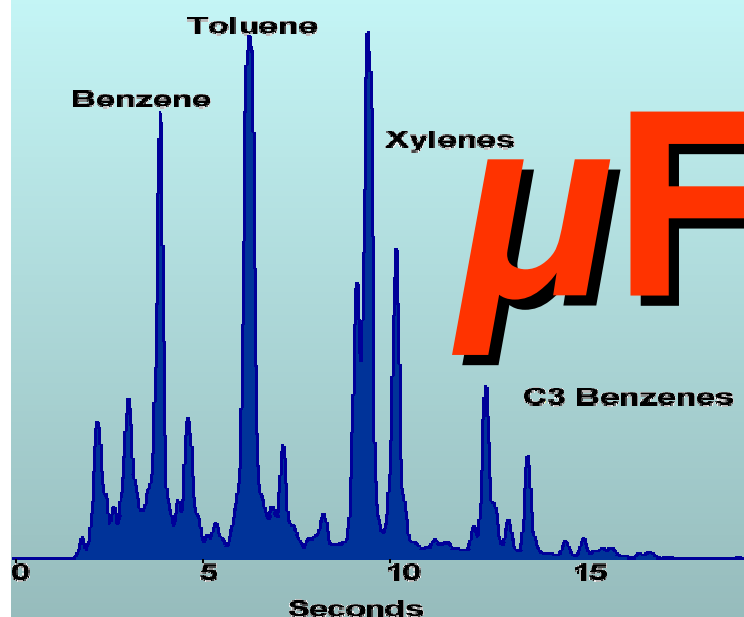
# **μFAST™**

# **GC**

by ASI

- Field and Lab
  - Gases and Liquids
  - Large and Small Volumes
  - Dilute and Concentrated
- Volatiles and Semivolatiles**

small, fast, versatile

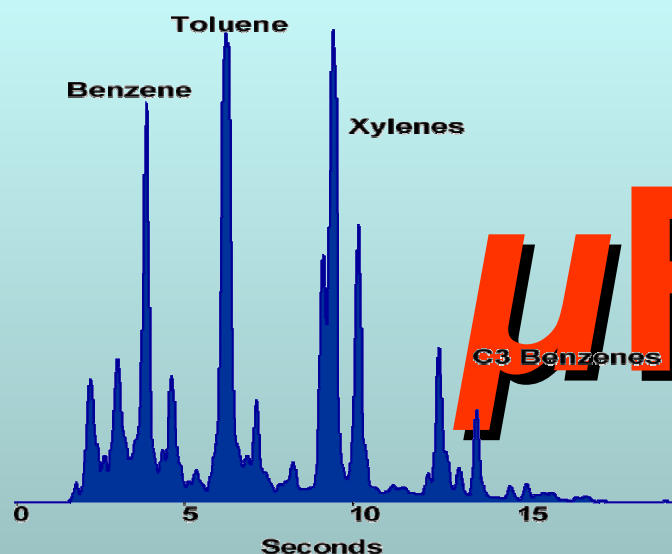


# **$\mu$ FAST™ GC**

by ASI

- Fast Temp. Programming
- Rates from 1°C to 25°C/second
- Electronic Pressure Control
- Two Narrow Bore Columns
- Dual Flame Ionization Detection



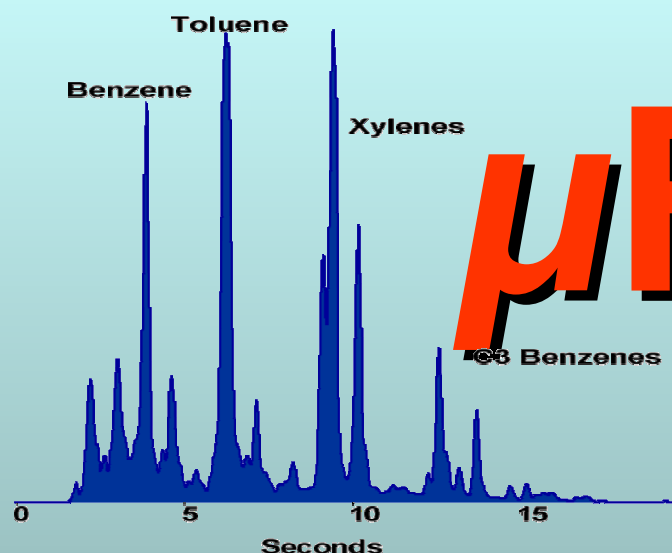


# **μFAST™ GC**

- Low Thermal Mass Oven
- Rapid Cool-Down Times
- Cycle Times 3 to 5 minutes
  - Portable Operations
  - Small footprint
- Autosampler available



small, fast, versatile

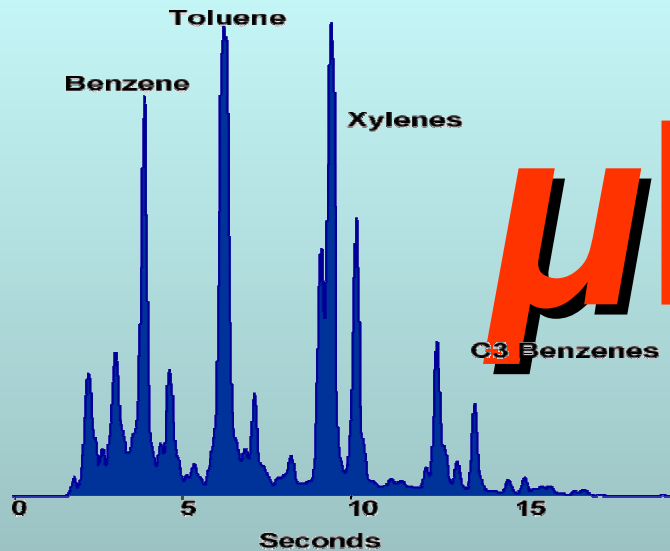


# **$\mu$ FAST™ GC**

**by ASI**

- Solid Sorbent Trap Injector
- Back-Flushing Desorption
- Automatic Purging/Clean-Out Cycle
- Flash Evaporator for Liquids
- Sampling Valve for Gases
- Optional Sample Loop Valve

small, fast, versatile



# **$\mu$ FAST™ GC**

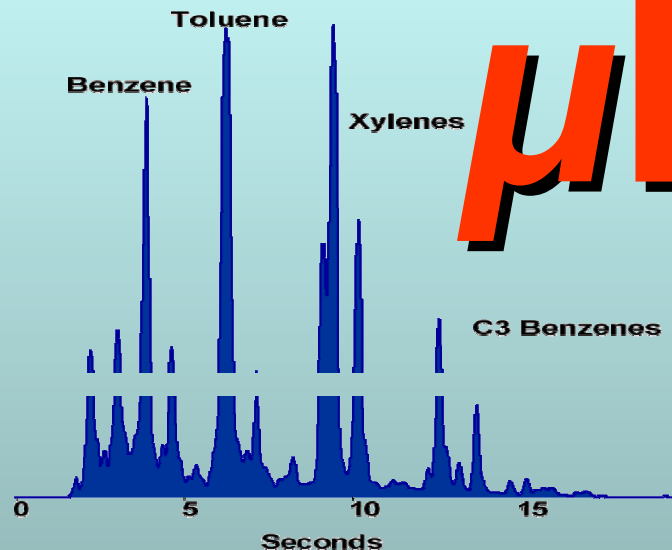
by ASI

- Gases and Dilute Gases
- Large and Small Volumes
- Purge and Trap
- Static & Dynamic Headspace
- SPME & Membrane Extractions

small, fast, versatile

# $\mu$ FAST<sup>TM</sup> GC

by ASI



- Organic Solvent Extracts
- Large Volume Extracts
  - Neat Liquids
  - Aqueous Liquids
- Thermal Desorption Tubes



PortaPack with  
Data Processing  
Computer

microFAST™ GC

*The Ultimate Field Analyzer*

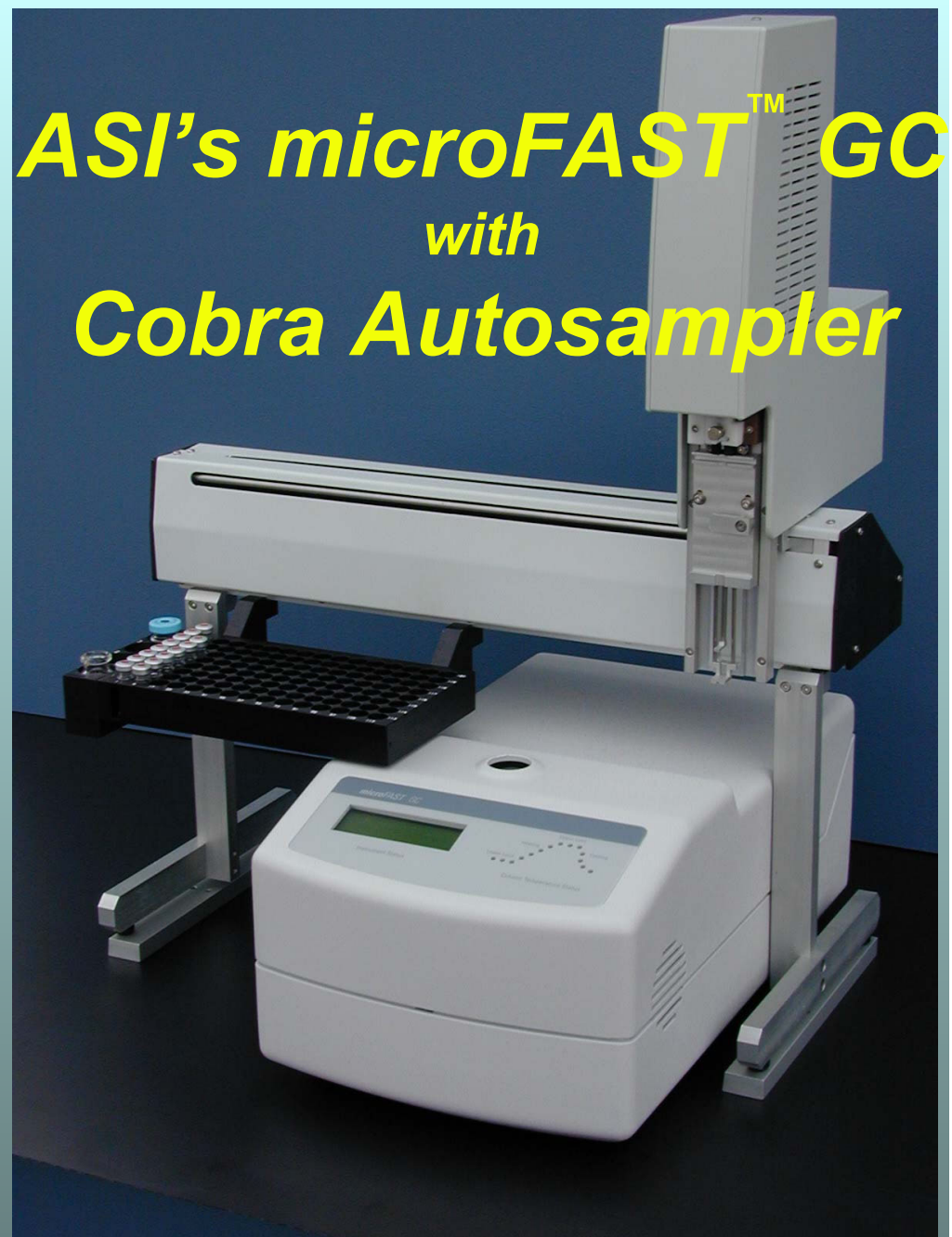
*ASI's microFAST GC*



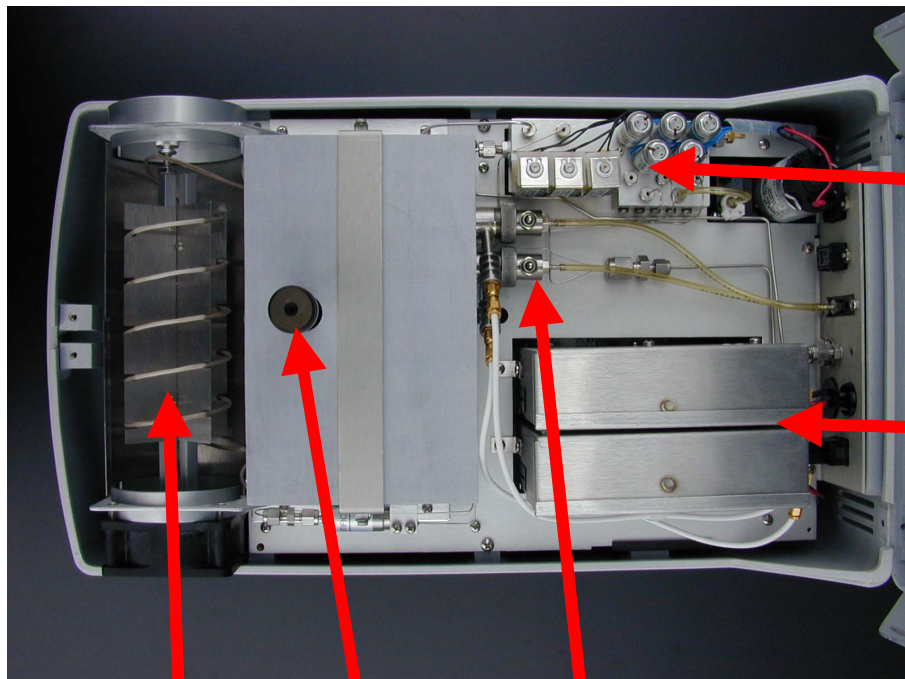
[microfastgc.com](http://microfastgc.com)

Contact:

[Analytical Specialists Inc. \(ASI\)](#)



*Fast, Compact Laboratory GC Analyzer*



**Pneumatic  
Manifold  
with EPC**

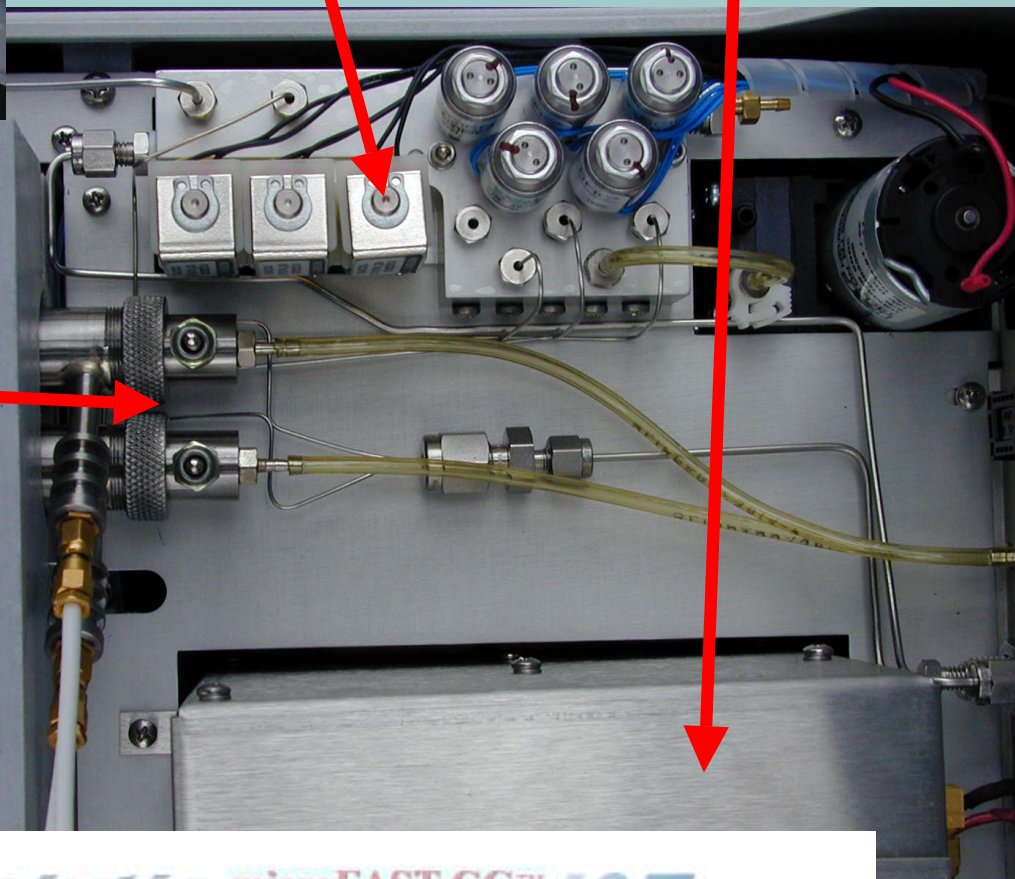
**electrometers**

**injector**

**Columns  
and heater**

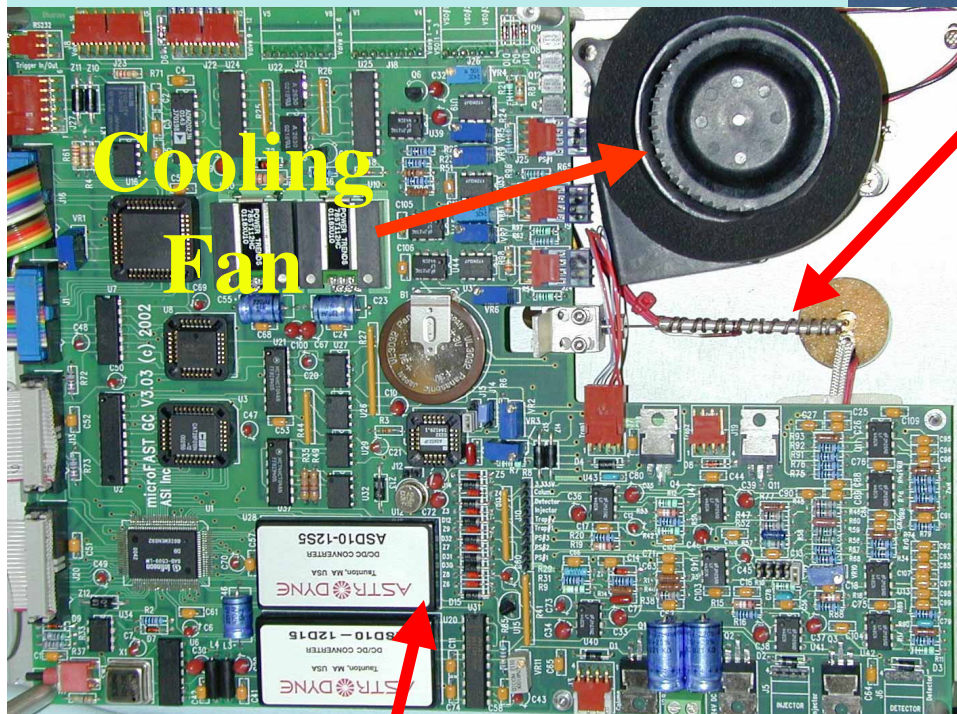
**FIDs**

**$\mu F^{\text{TM}}$  GC**





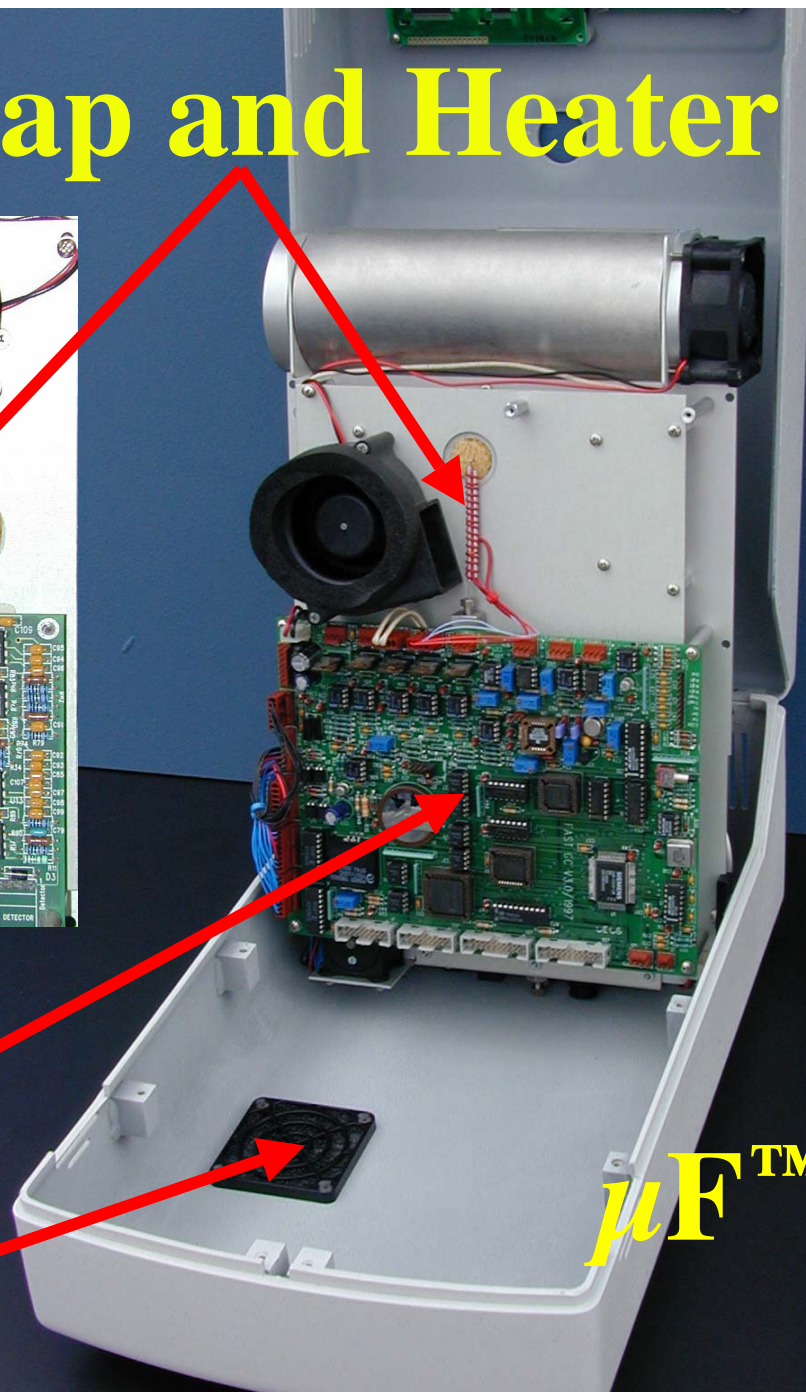
# Trap and Heater



Cooling  
Fan

Electronics Board

vent air inlet



$\mu$ F<sup>TM</sup> GC

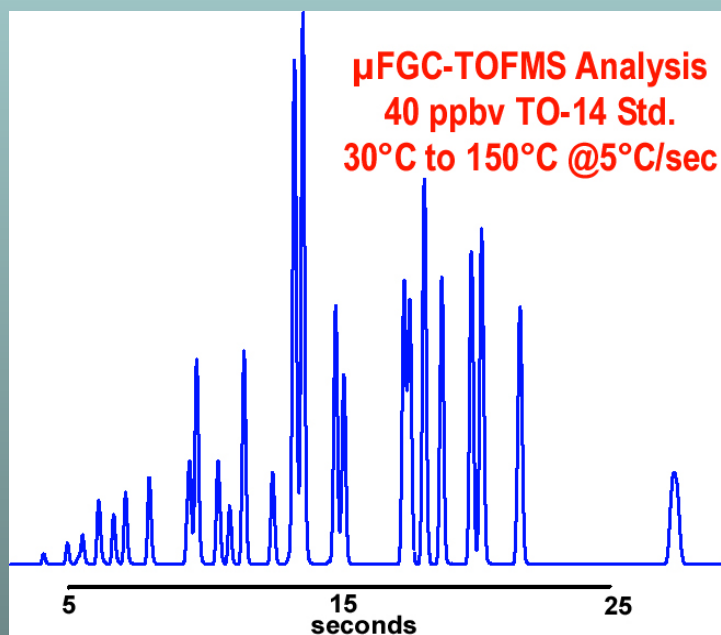




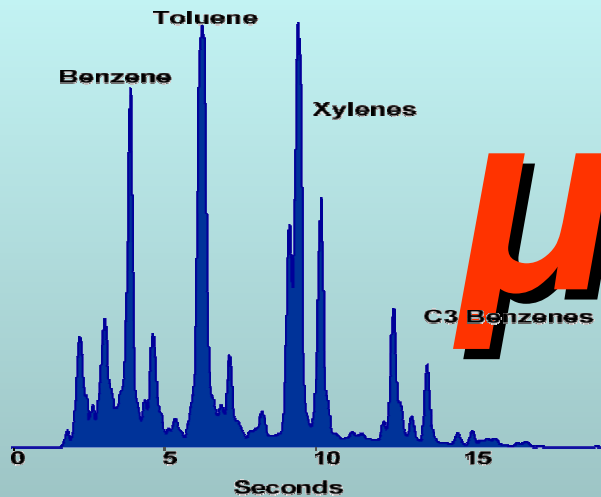
fast, versatile

# $\mu$ FAST™ GC

by ASI



small, fast, versatile



**$\mu$ FAST™**

**GC**

**by ASI**

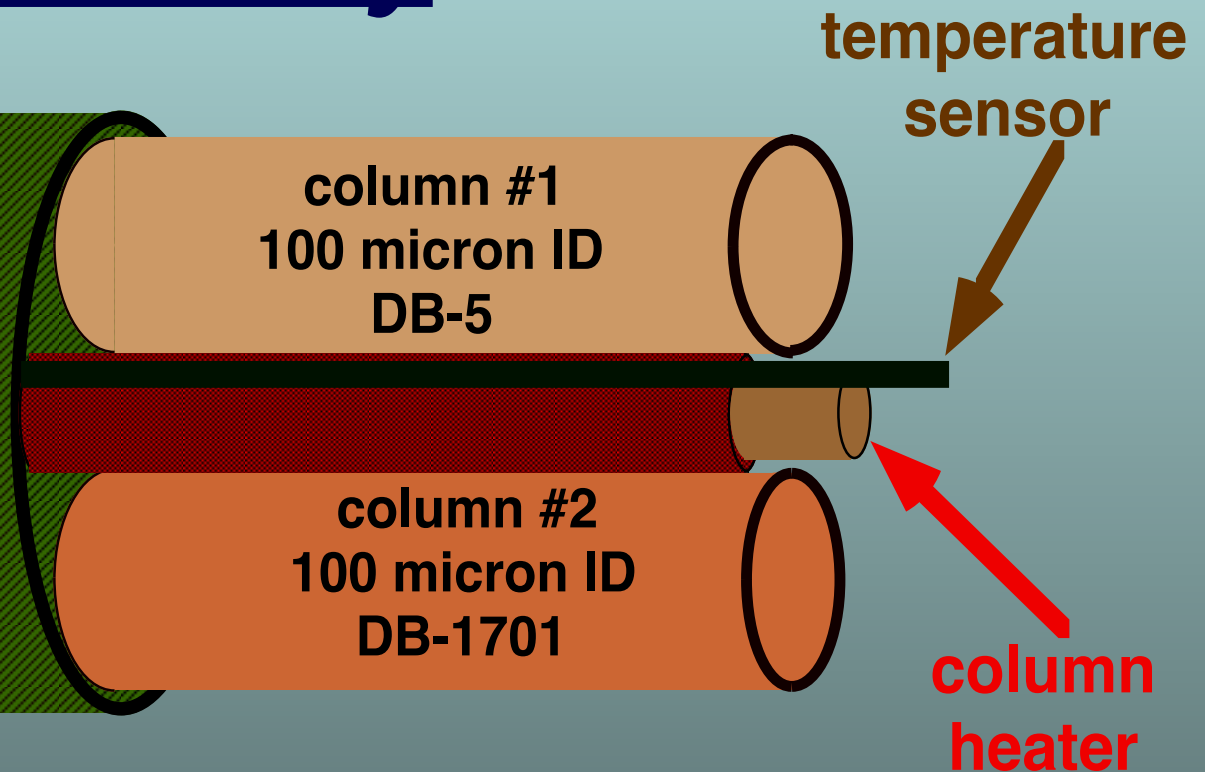
Contact:

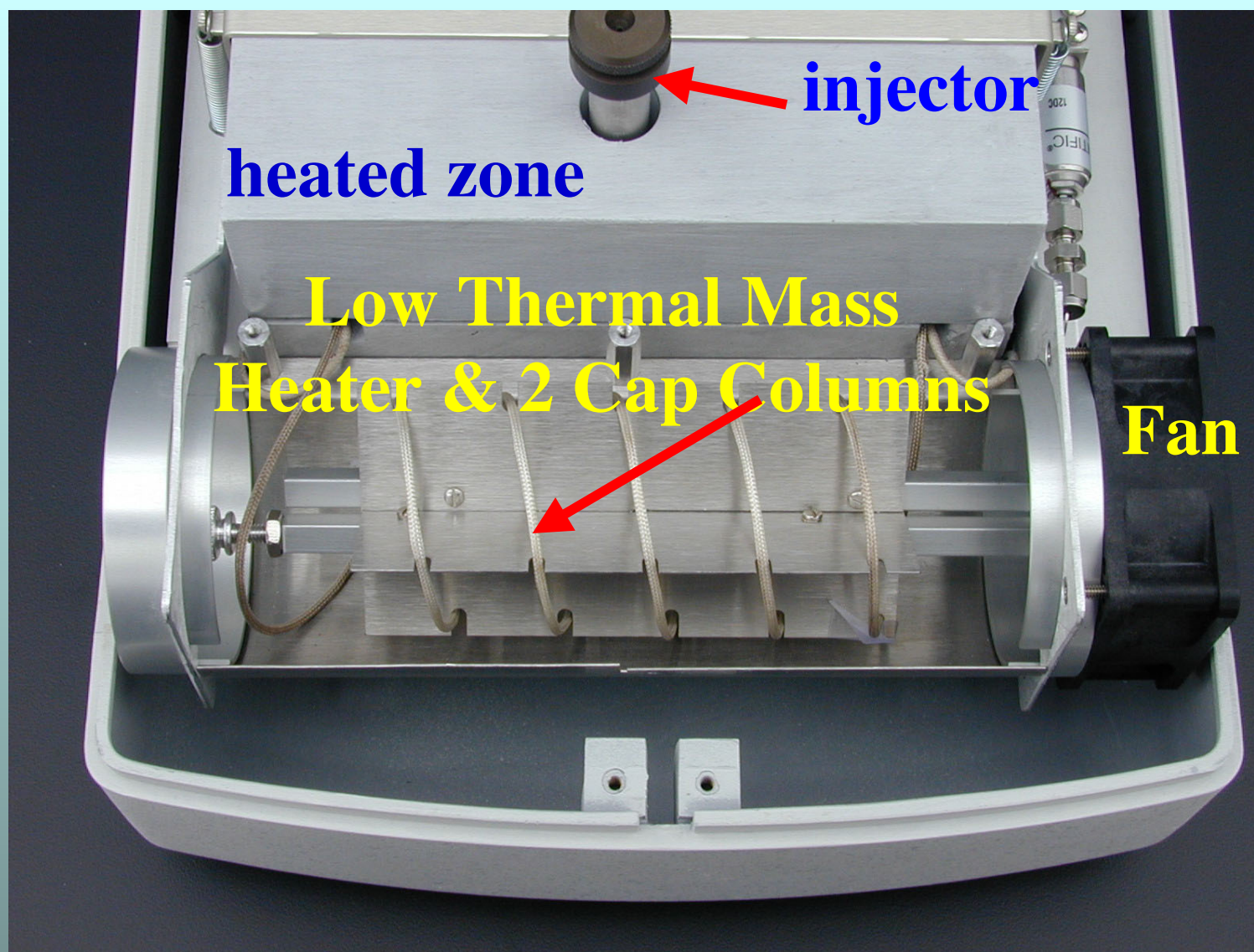
Analytical Specialists Inc. (ASI)

**HRMalytic** **microFAST GC™** '07  
Australian Distributors **ECH**nology  
Tel: 03 9762 2034 Fax: 03 9761 1169 [www.chromtech.net.au](http://www.chromtech.net.au) [info@chromtech.net.au](mailto:info@chromtech.net.au)

*microFAST GC2*  
*analytical columns*  
*assembly*

columns  
oven  
sheath  
1mm ID

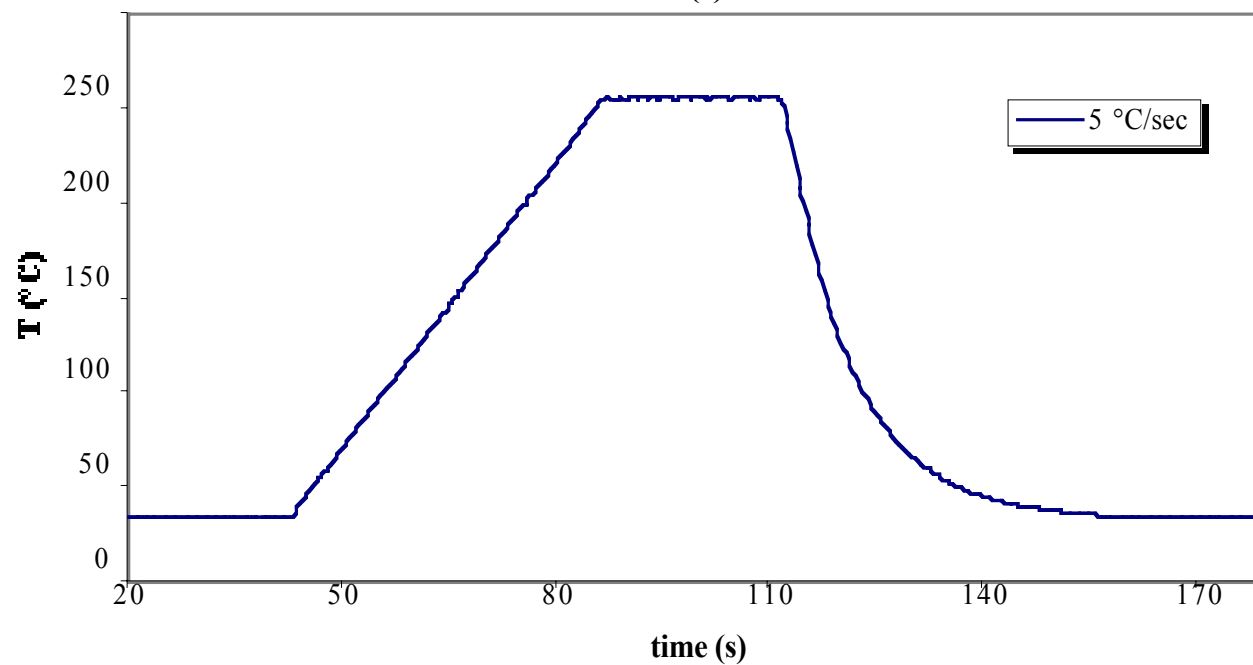
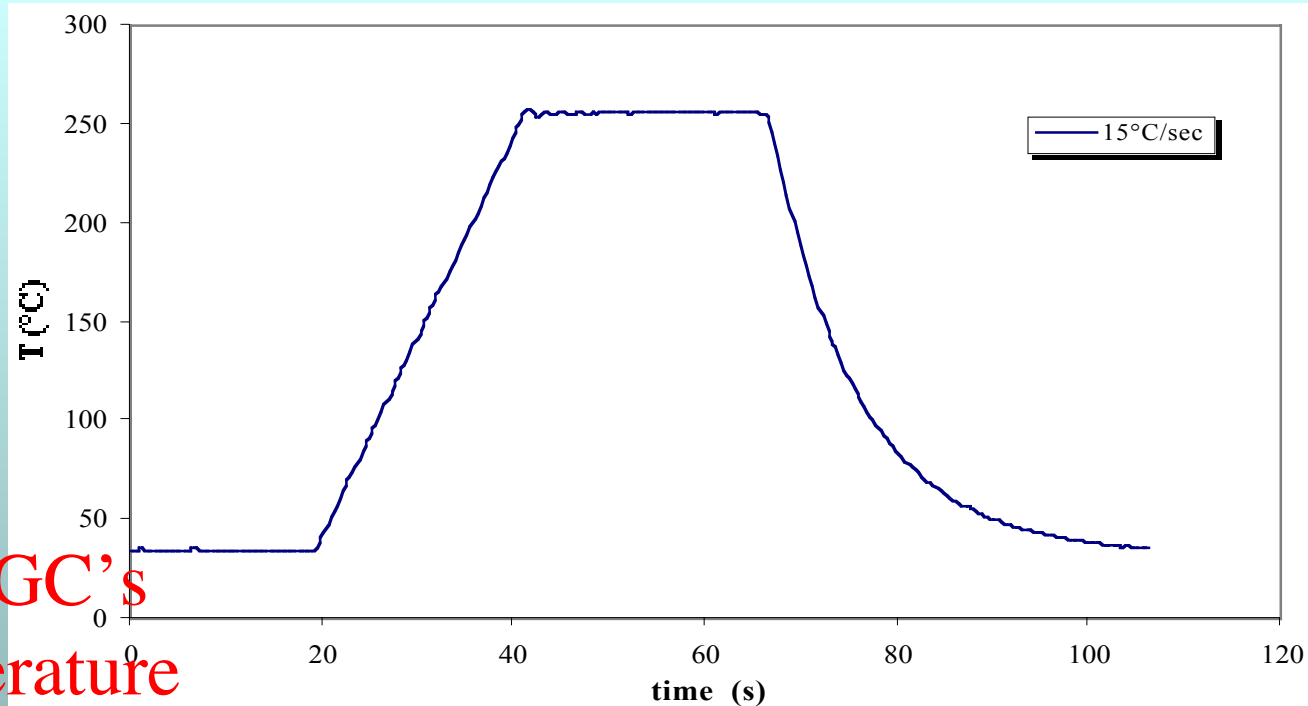




ultra fast temperature programming  
up to 25°C/second

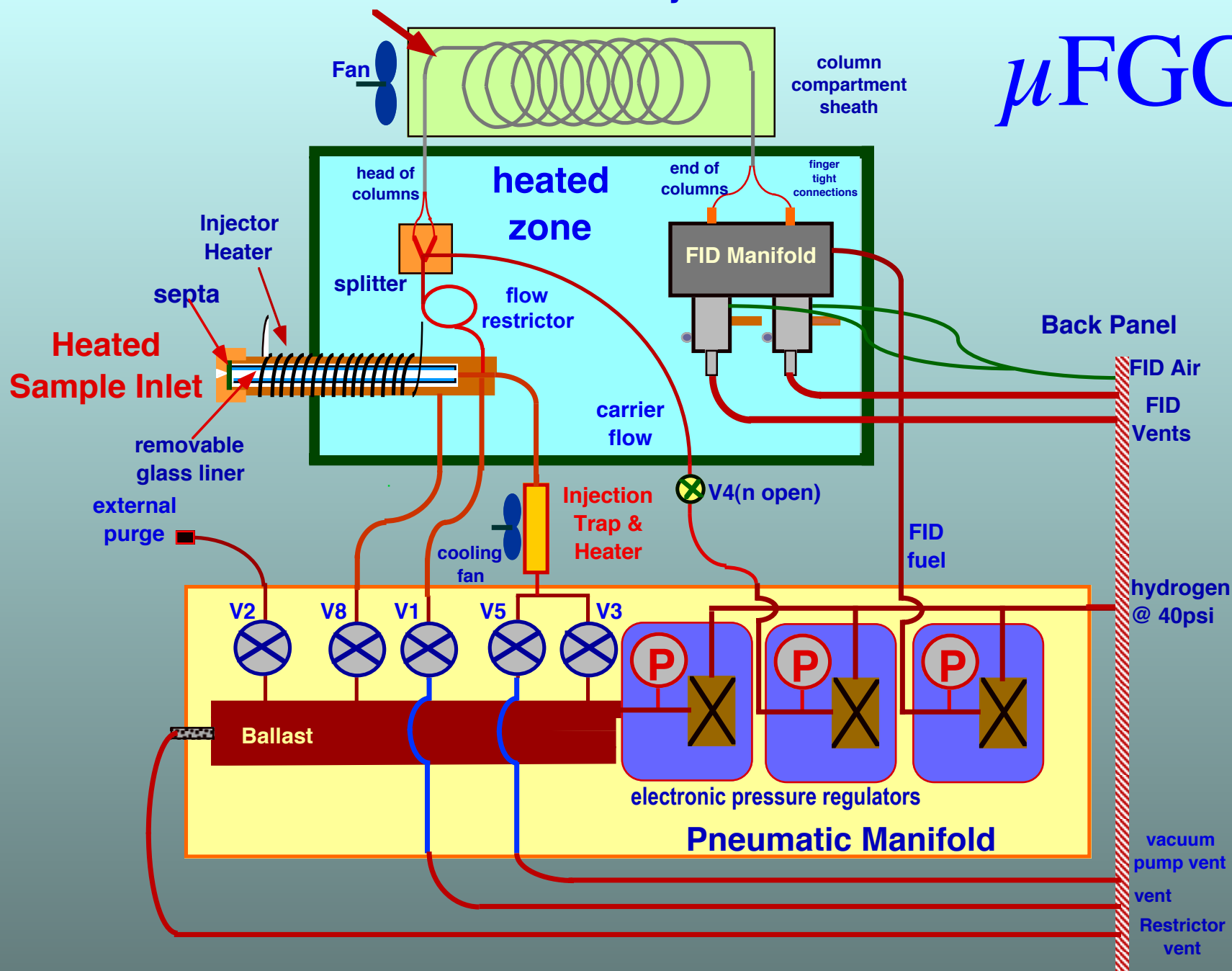


microFAST™ GC's  
Column Temperature  
Verses  
Heating Rates



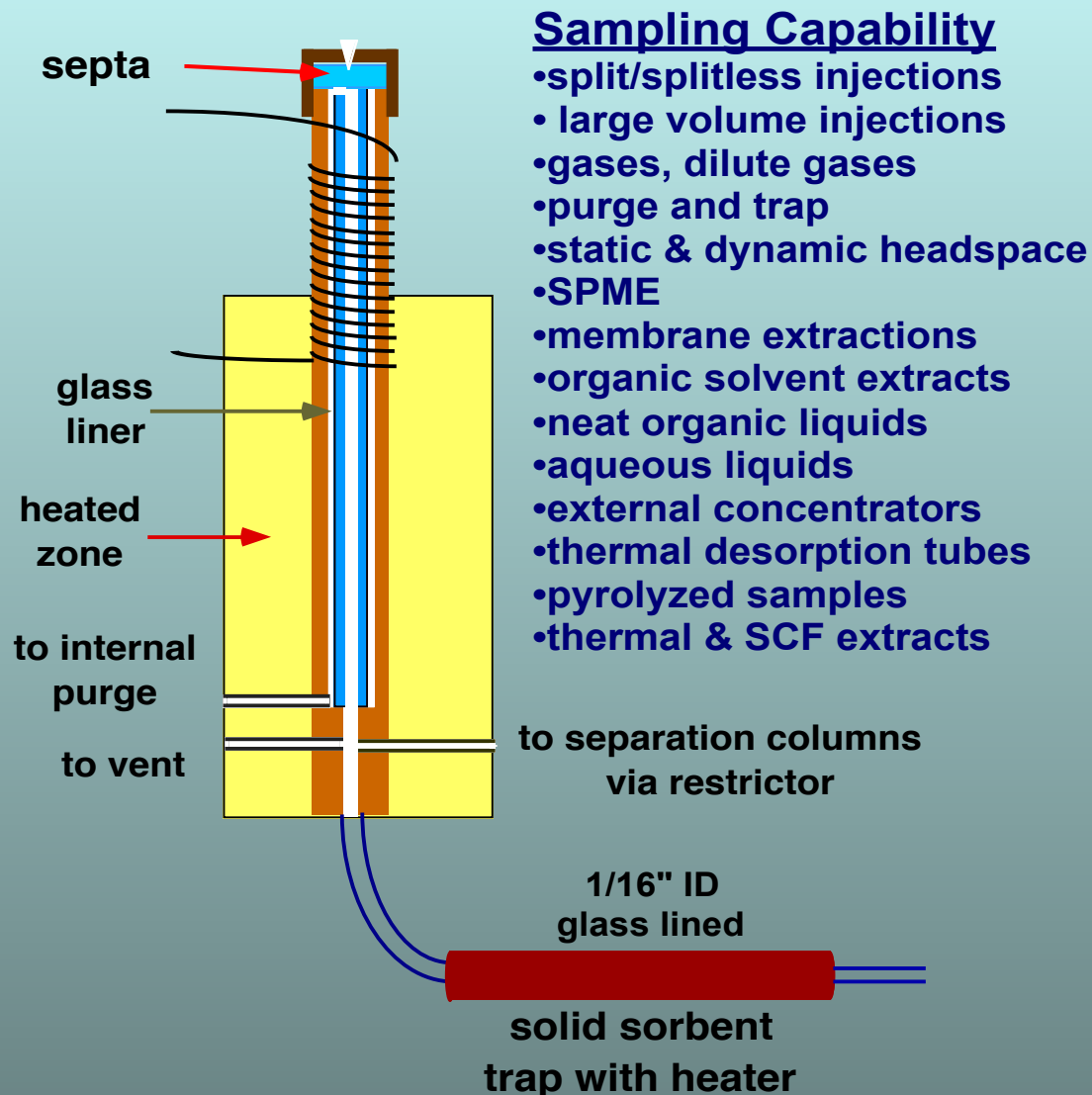
## dual columns and heater assembly

$\mu$ FGC



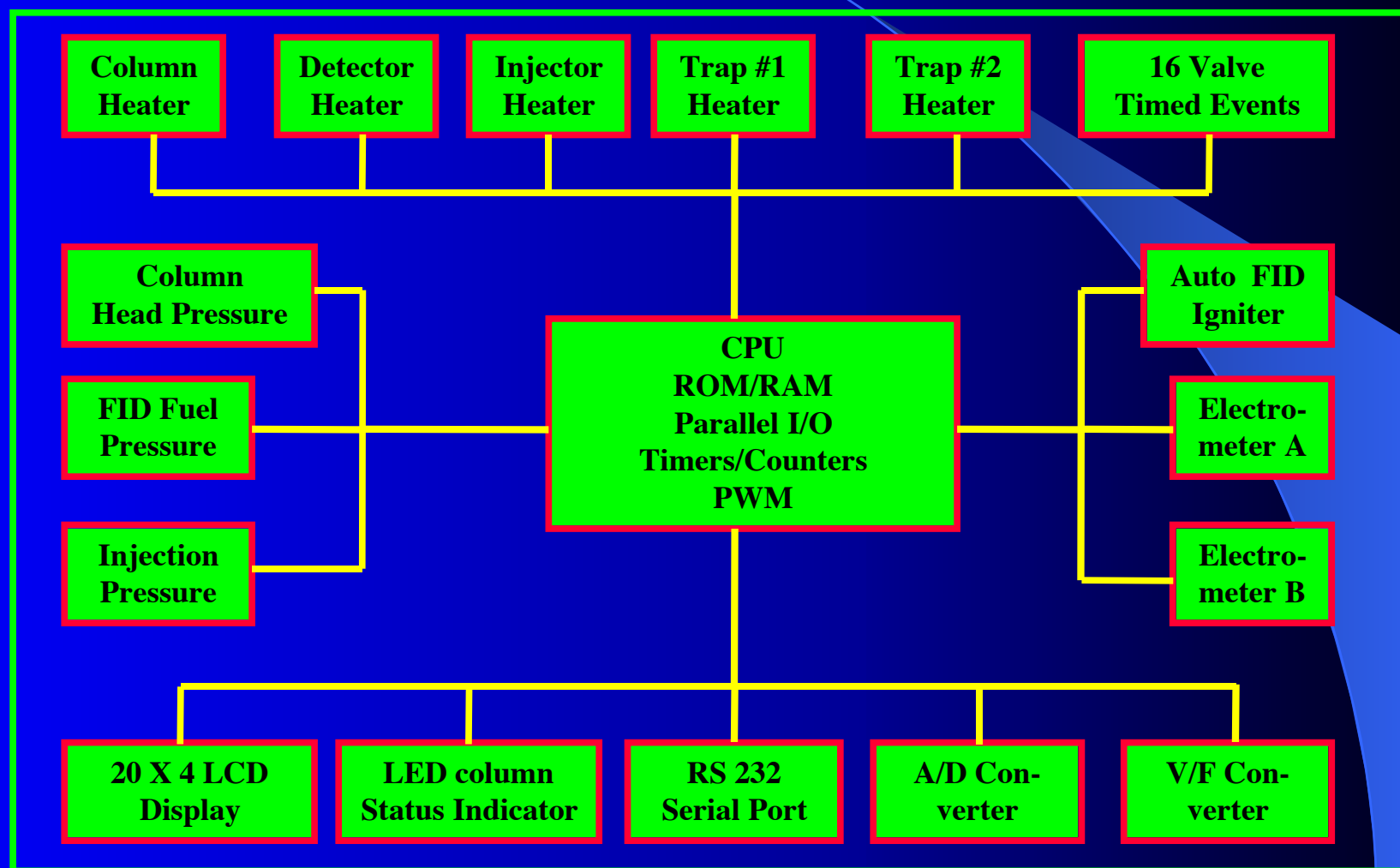
# microFAST GC Injection System

## Volatile and Semivolatile Analytes





# GC Board Block Diagram



# GC Control Frequency

Control	Interval	Frequency	Accuracy
Column Temperature	10 ms	100	$\pm 0.1^{\circ}\text{C}$
Column Head Pressure	40 ms	25	$\pm 0.1\text{psi}$
Injector Temperature	80 ms	12.5	$\pm 0.5^{\circ}\text{C}$
Detector Temperature	80 ms	12.5	$\pm 0.5^{\circ}\text{C}$
Trap Temperature	80 ms	12.5	$\pm 0.5^{\circ}\text{C}$
Injection Pressure	80 ms	12.5	$\pm 0.1\text{psi}$
FID Fuel Pressure	80 ms	12.5	$\pm 0.1\text{psi}$
Valve Events	10 ms	100	
LED Display/Column Status	250 ms	4	
LCD Display	1000 ms	1	

# microFast GC - Method Setup



## Injector

Sample mode **Liquid/SPM**

Injection Time **1000.** ms

Sample Time **15.** s

Injector Temperature **240** oC

Injection Pressure **1.** psi

## Detector

Detector temperature **25** oC

Fuel Pressure **30.** psi

## Sample Concentrator

Trap desorb temperature **275** oC

Trap preheat time **20** s

Trap prepurge time **0.** s

Trap cleanout time **30.** s

## Pressure Program

Initial column pressure **14.** psi

Initial pressure hold **80.** s

Final column pressure **14.** psi

Final pressure hold **50.** s

Pressure prog rate **1.** psi/s

Pressure program length **130** s

Pressure program error indicator: **22**

## Temperature Program

Initial Temperature **40** oC

Initial hold time **0.** s

Final Temperature **250** oC

Final hold time **10.** s

Column heating rate **5.** oC/s

Temperature program length **51** s

## ☐ Auxilliary heater

Heater setpoint  oC

Start time  s

Stop time  s

Read Current

Apply

OK

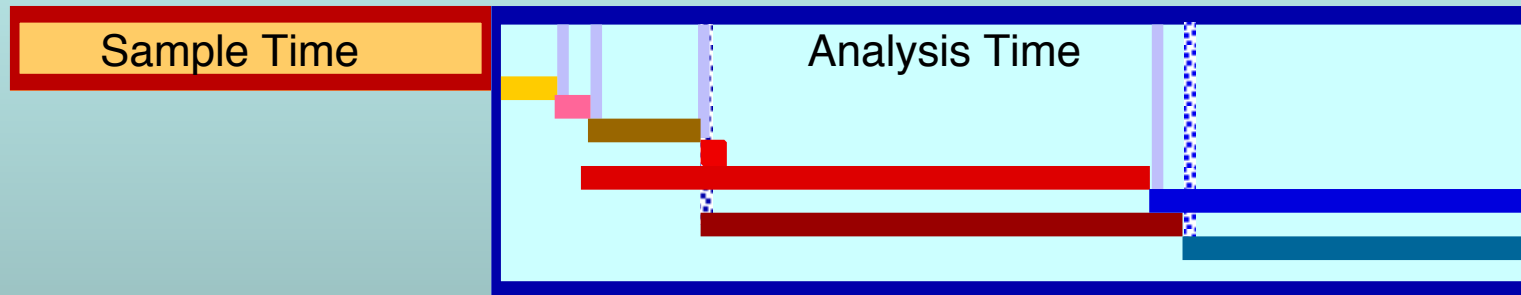
Cancel

# Analytical Cycle

(typically, 3 to 5 minutes)

analytes passed through  
& adsorbed onto trap material

analytes desorbed from trap, injected into  
and separated by columns



Trap prepurge time----- V8+, V5+ at beginning, off at end of "Trap prepurge time"

Equilibrate time----- V8-, V5-, back flow into injector through restrictor

Trap preheat time----- trap heater on, inj. starts at end of "xx" sec "Trap preheat time"

Injection time----- V4- for "xx" ms inj time, V3+, V5+ at end of "Injection Time"

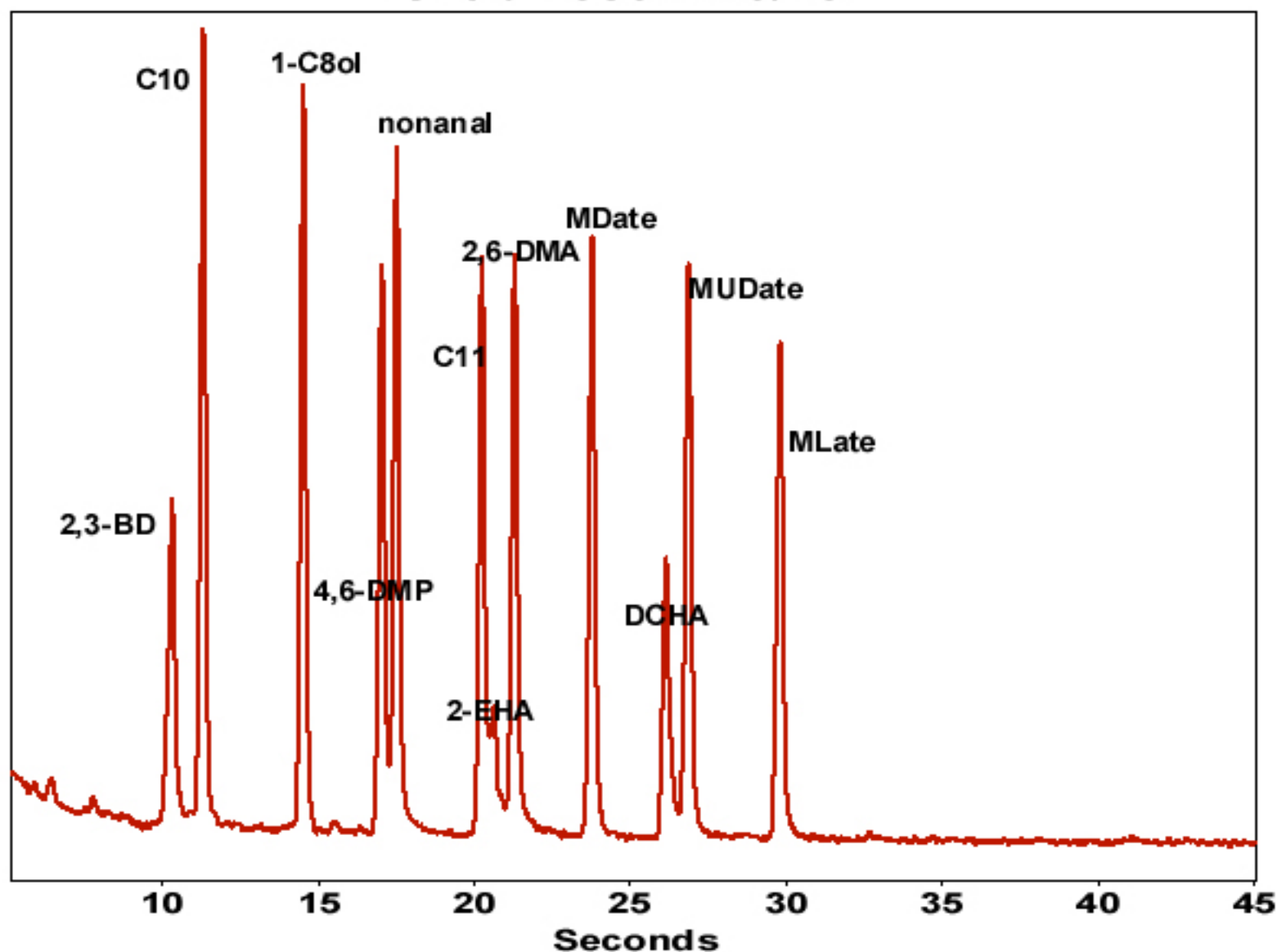
Trap cleanout time-----trap heater turned on for "xx" sec duration of "Trap cleanout time"

trap cooldown time----- trap heater turned off for cooldown

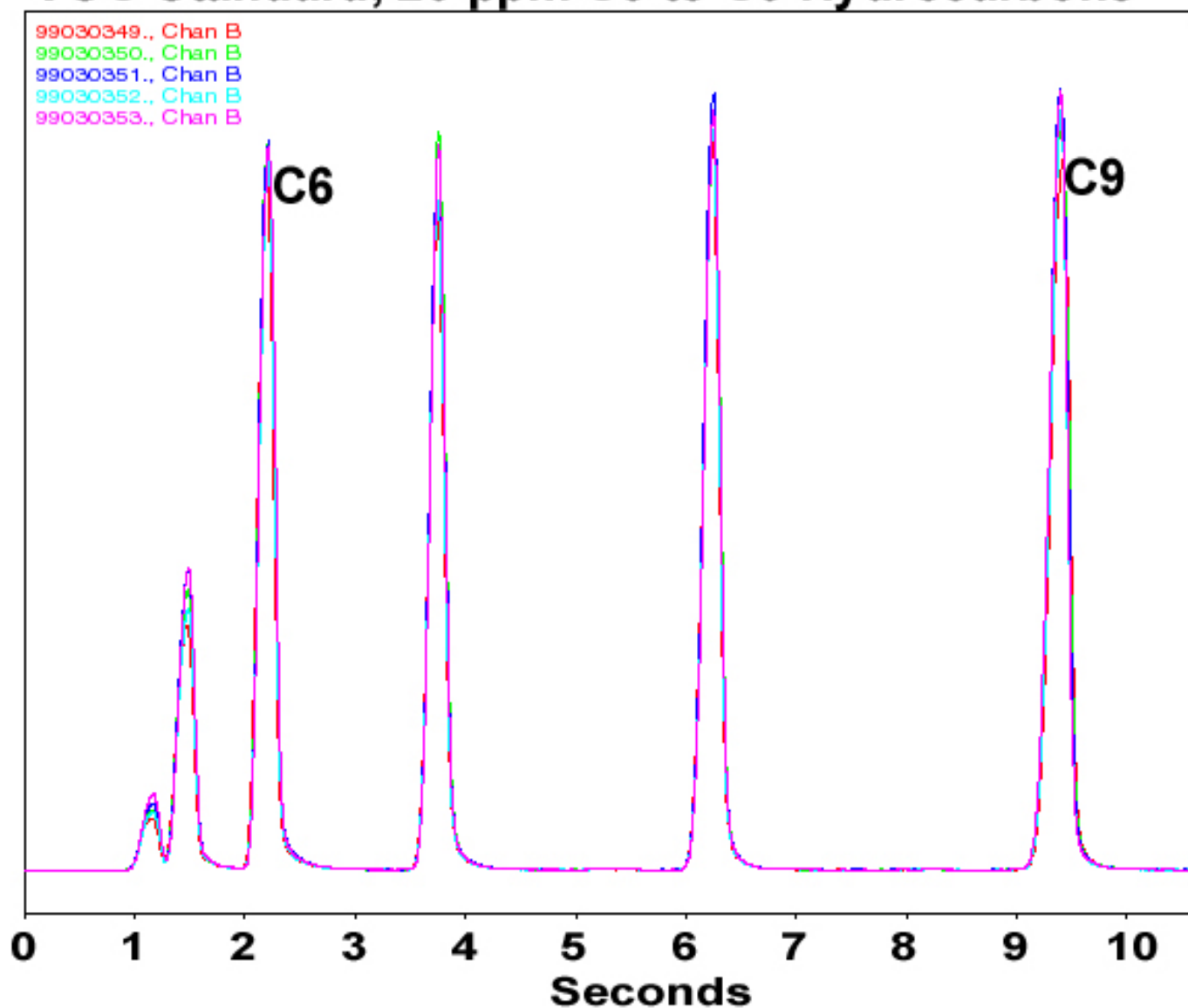
Column separation time--- column temperature/pressure programs begins

column cooldown time----- column heater turned off, pressure resets to "Initial column pressure"

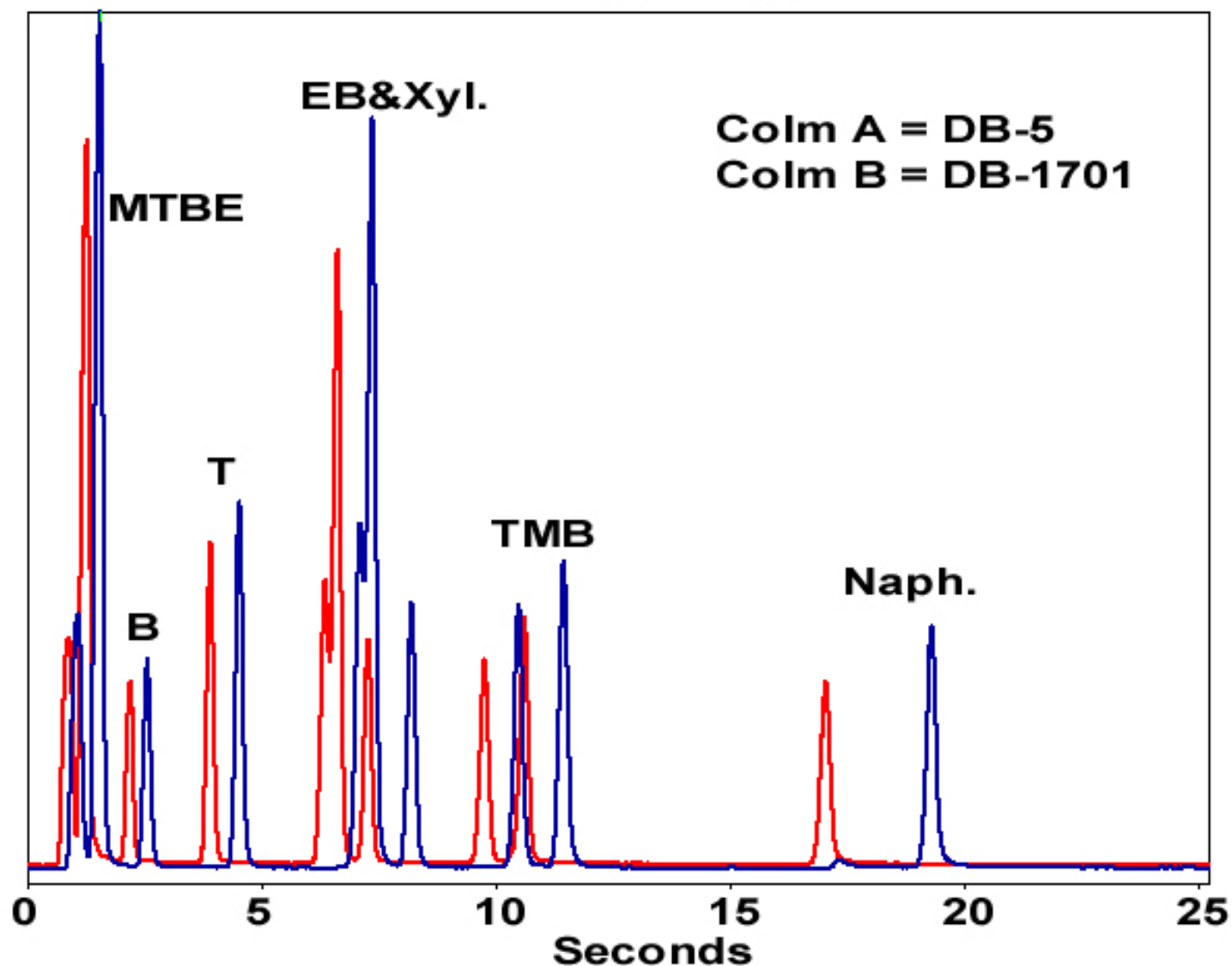
**microFAST GC2: 40°C to 250°C @ 5°C/sec.  
Grob Test Mixture**



## 5 Replicate microFAST GC2 Analyses, 40°C to 140°C @ 5°C/sec. VOC Standard, 20 ppm C5 to C9 Hydrocarbons

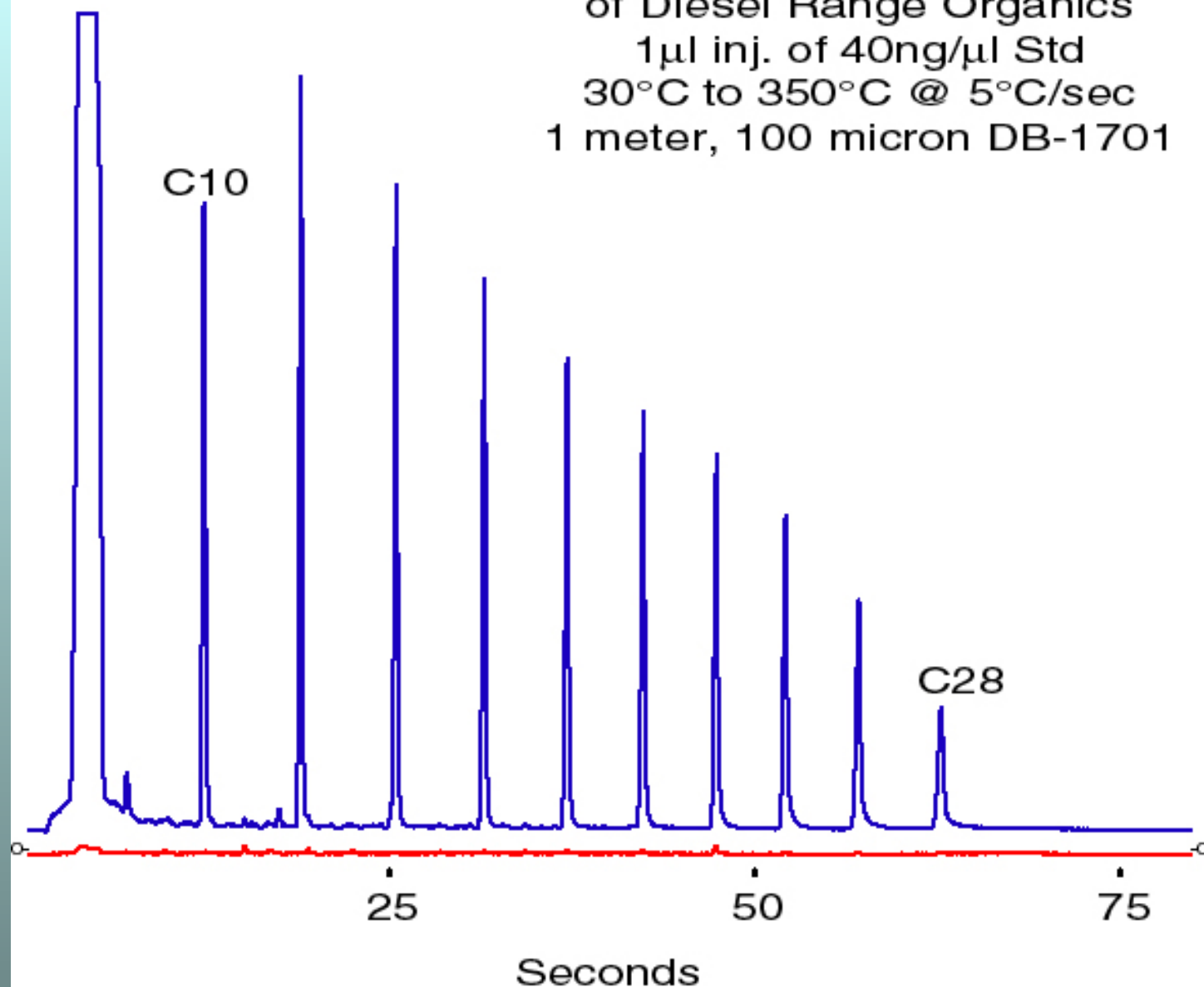


**microFAST GC2 Analysis @ 5°C/sec, 40°C to 150°C**  
**Gasoline Range Organics**





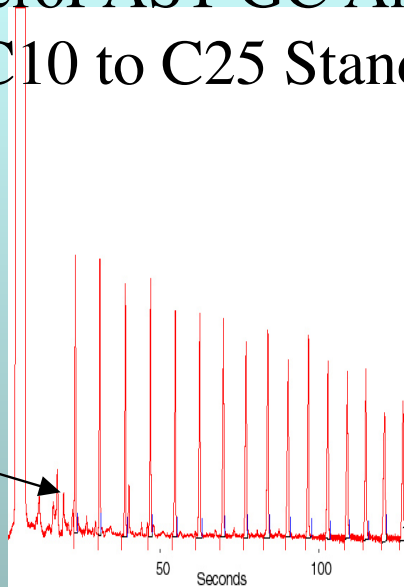
microFAST GC Analysis  
of Diesel Range Organics  
1 $\mu$ l inj. of 40ng/ $\mu$ l Std  
30°C to 350°C @ 5°C/sec  
1 meter, 100 micron DB-1701



# microFAST GC Analysis C10 to C25 Standard

C10

C25

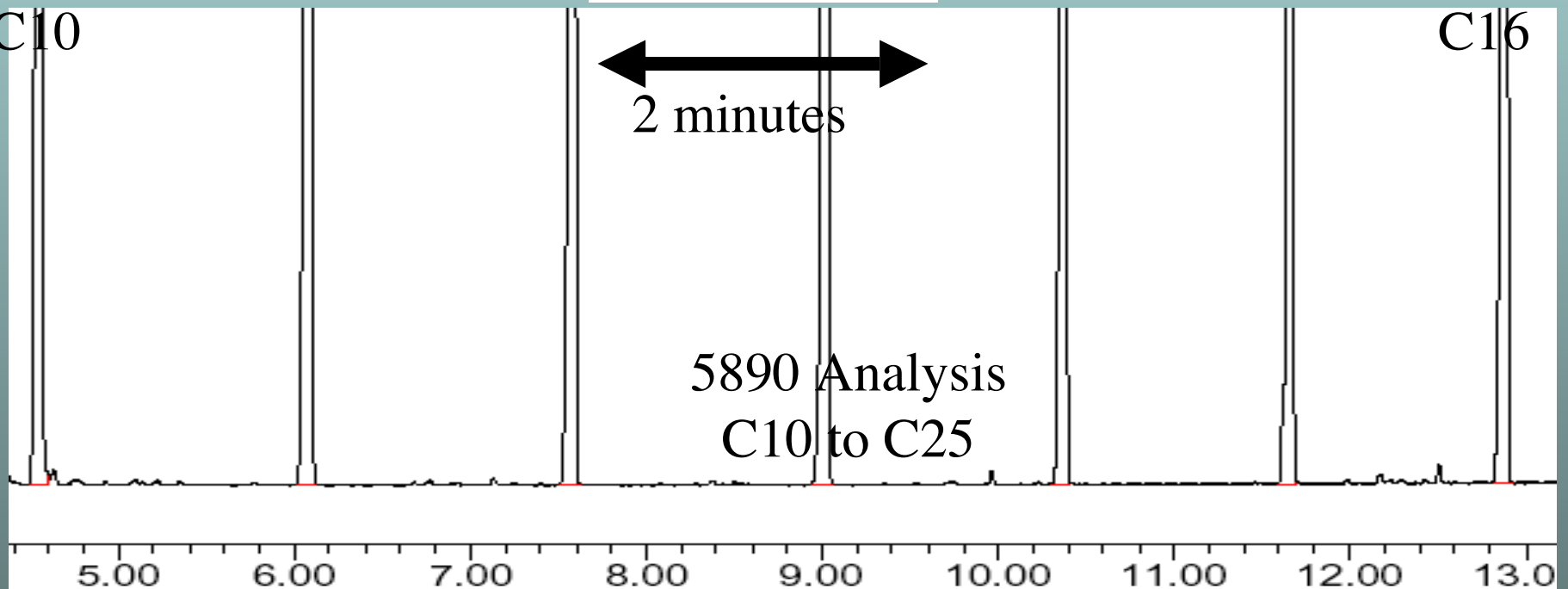


C10

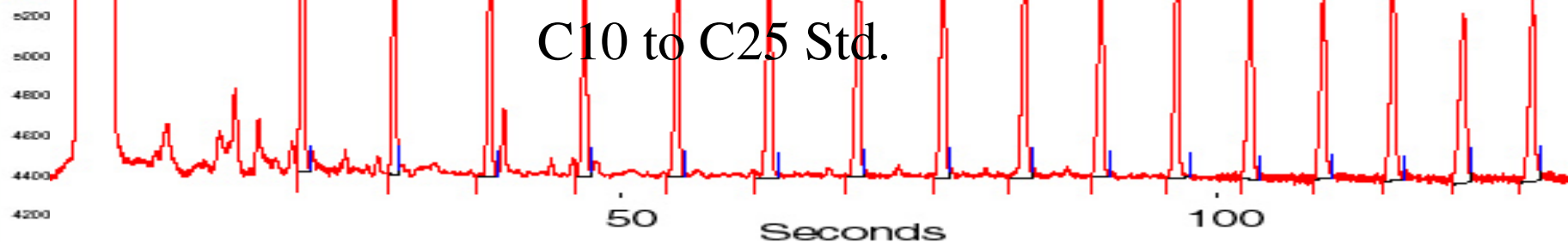
C16

2 minutes

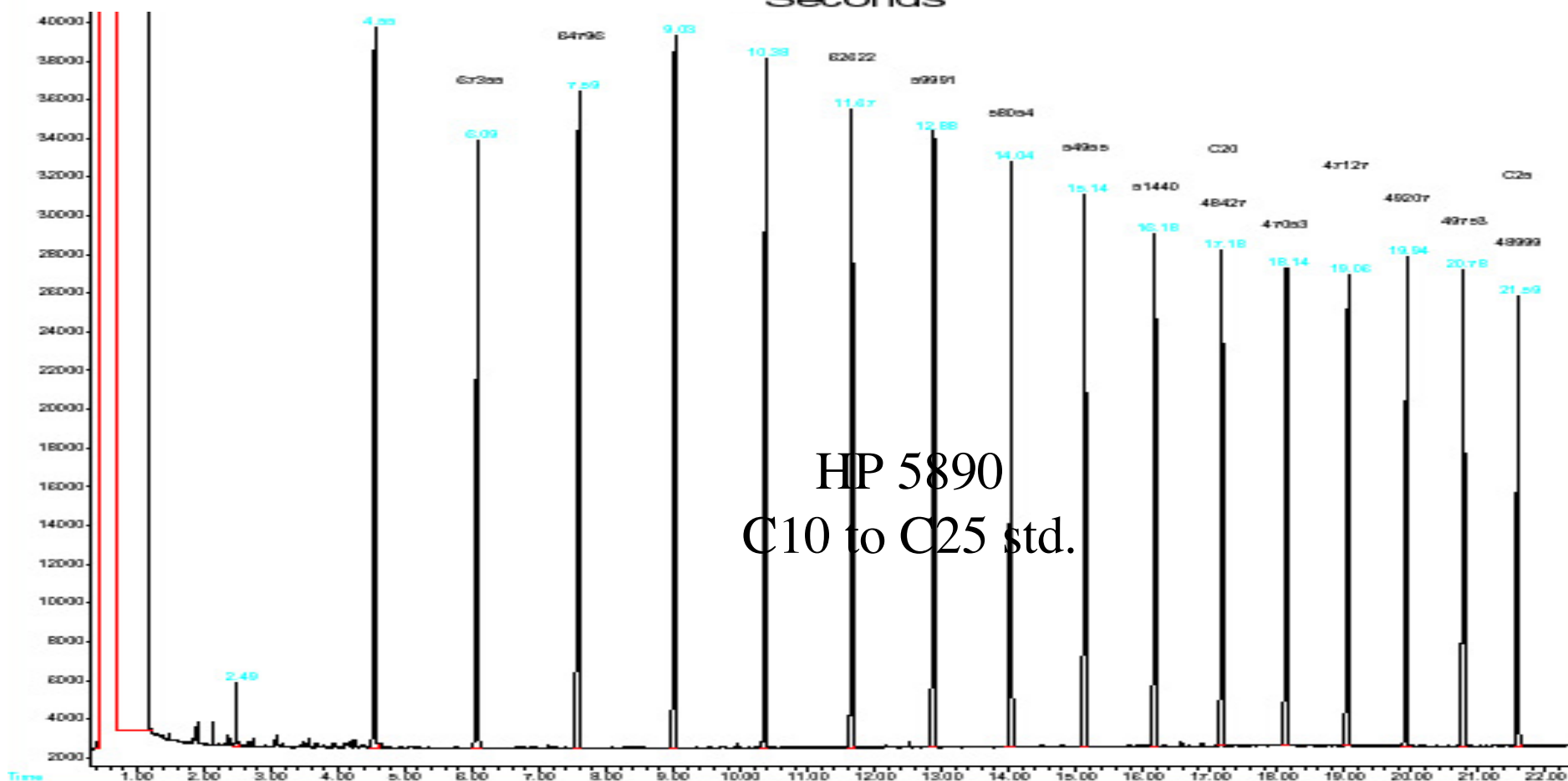
5890 Analysis  
C10 to C25



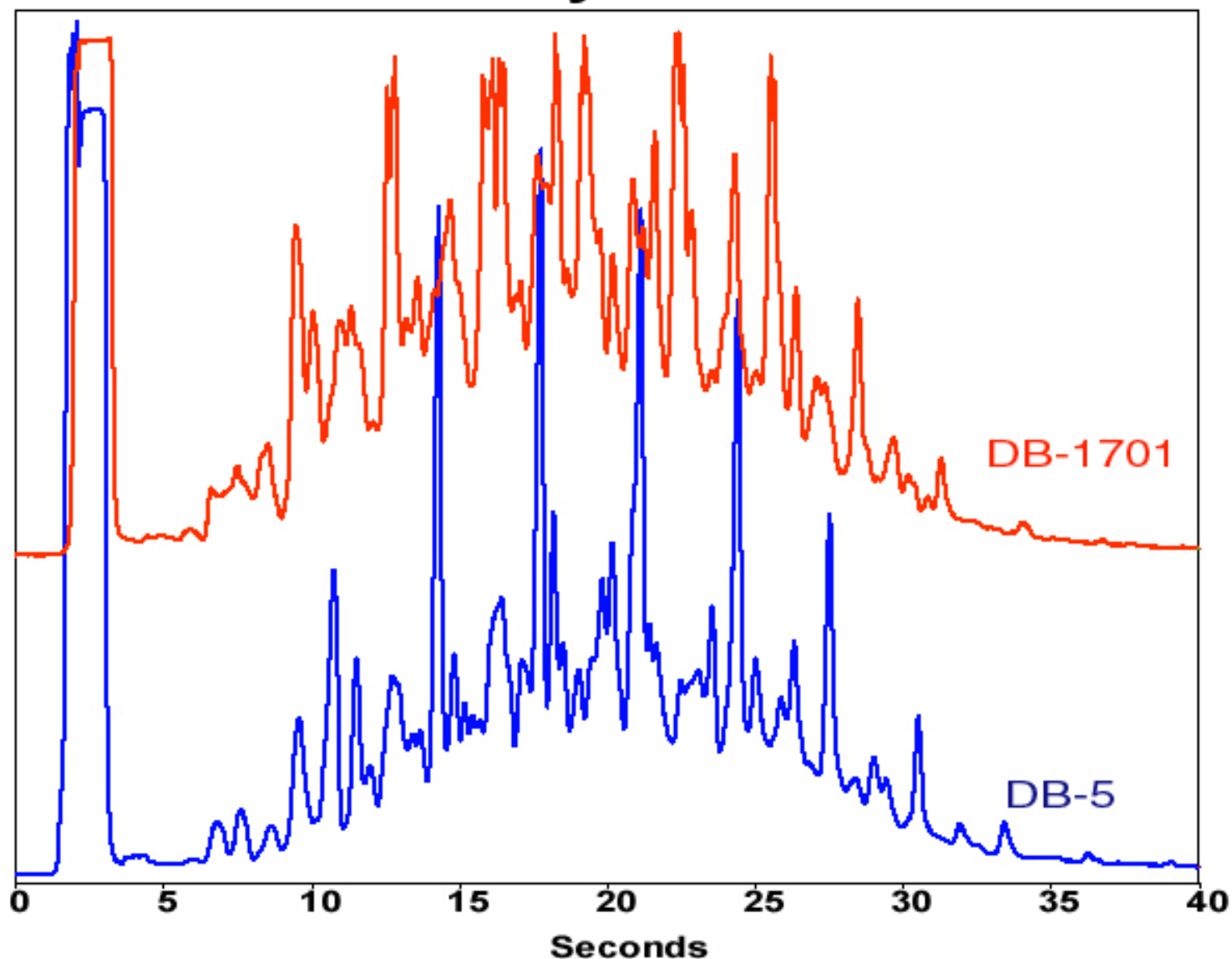
microFAST GC  
C10 to C25 Std.



HP 5890  
C10 to C25 std.



**microFAST GC2: 40°C to 250°C @ 5°C/sec.  
Military Jet Fuel**

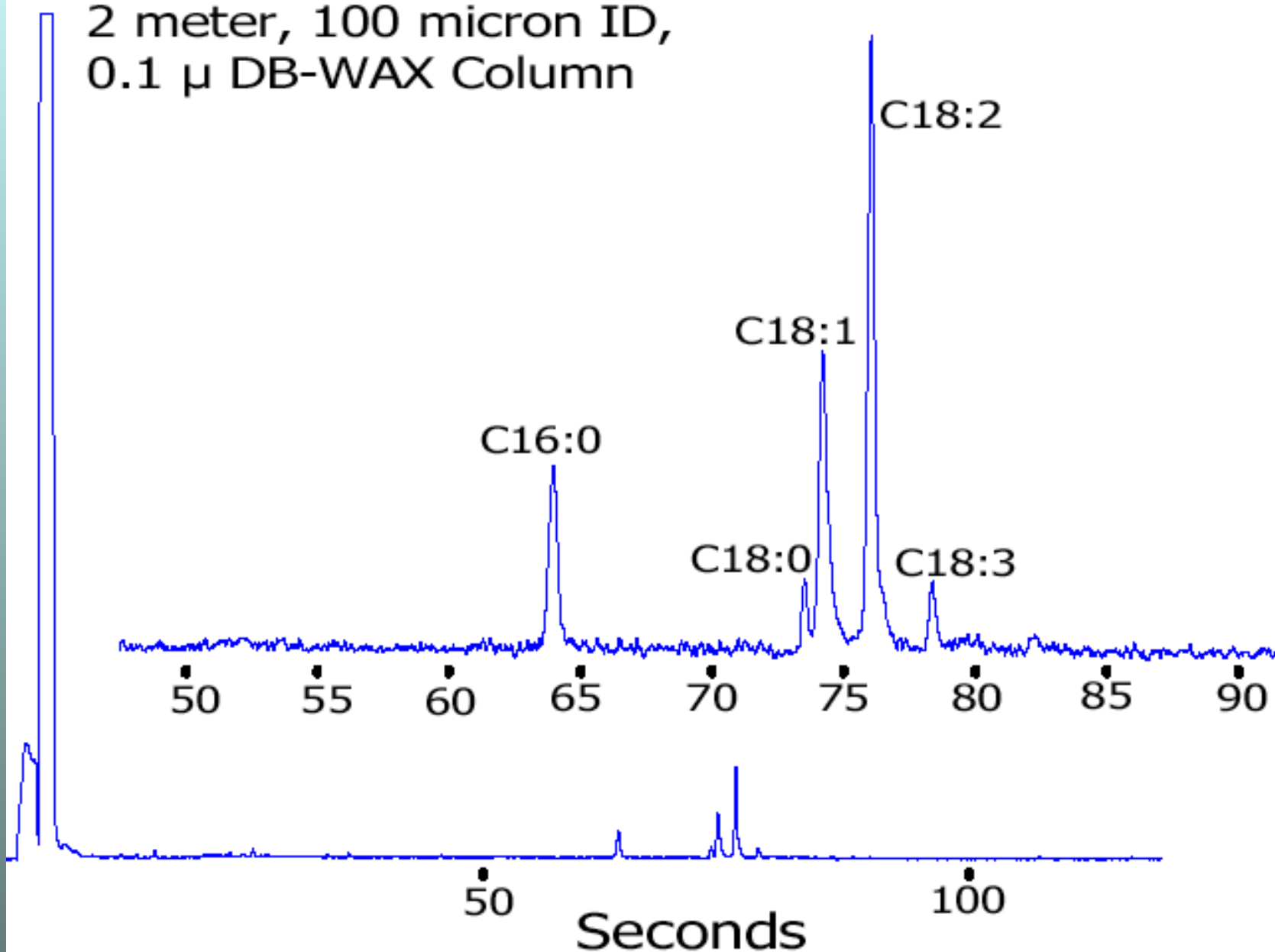


# microFAST GC Analysis of FAME Standards

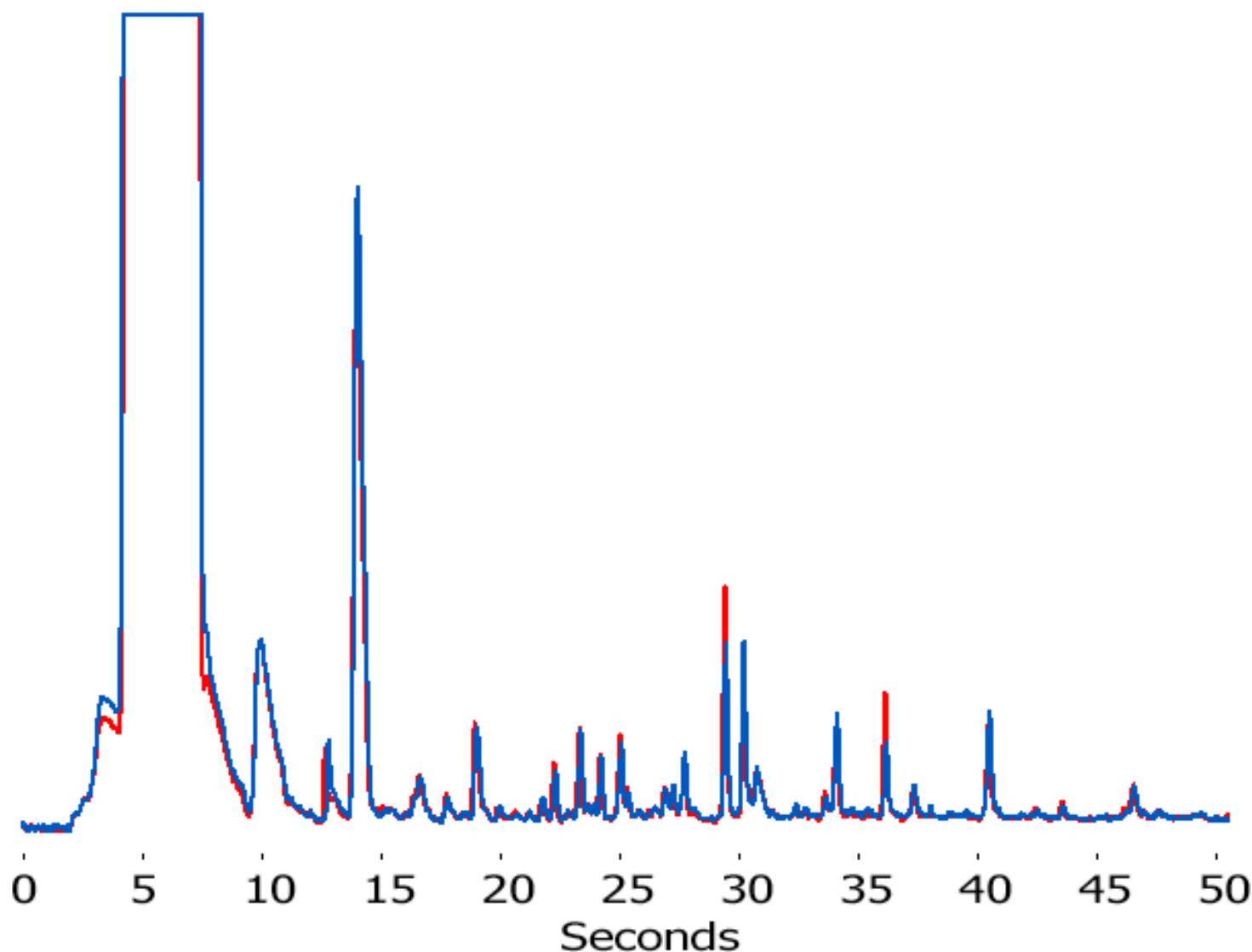
35°C to 250°C @ 5°C/sec., FID

2 meter, 100 micron ID,

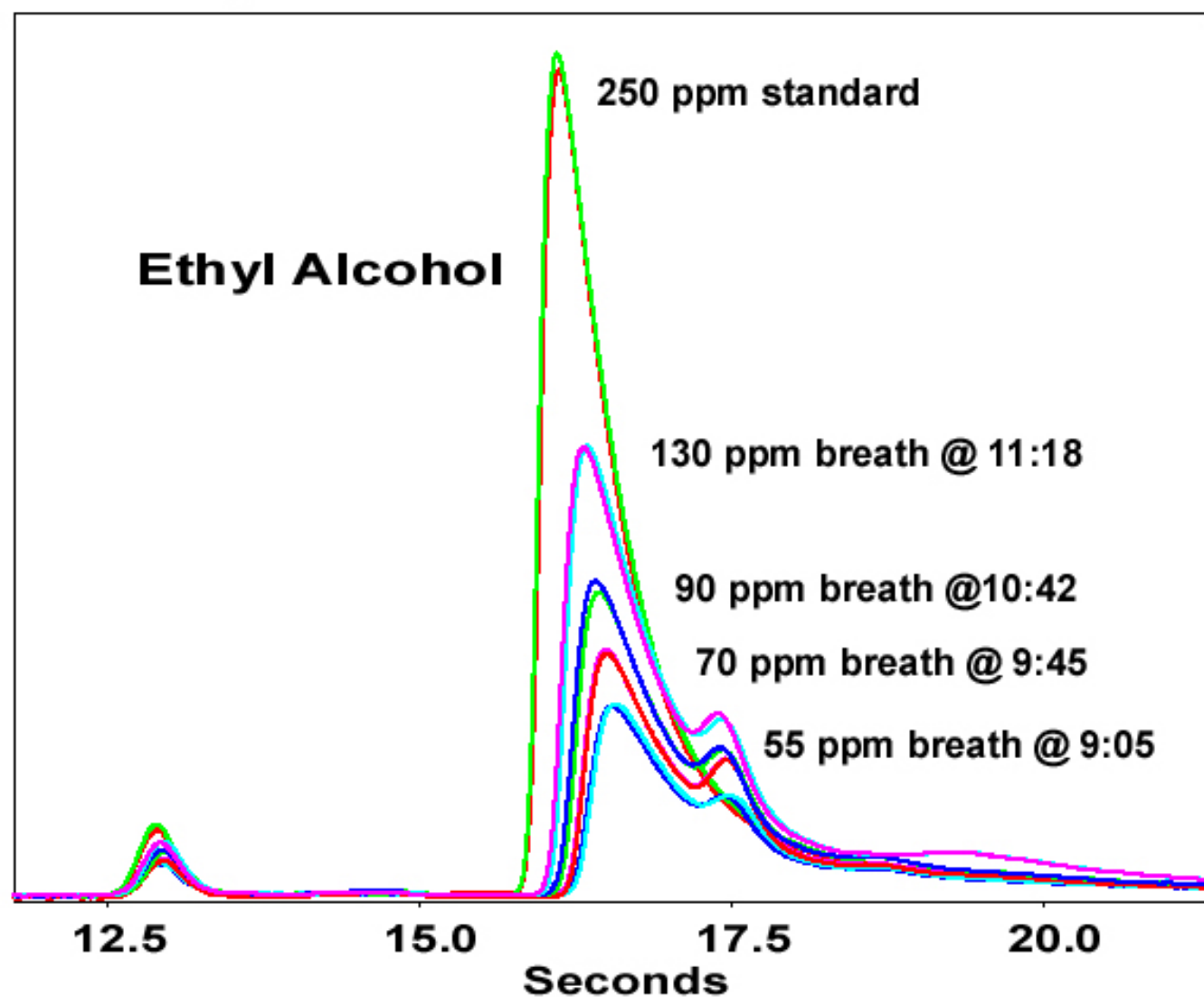
0.1 µm DB-WAX Column



microFAST GC Analysis of Two .8  $\mu$ l neat Johnny Walker Red Samples  
35°C to 260°C @ 5°C/ second, 2 meter, 100 micron OV1701 Column



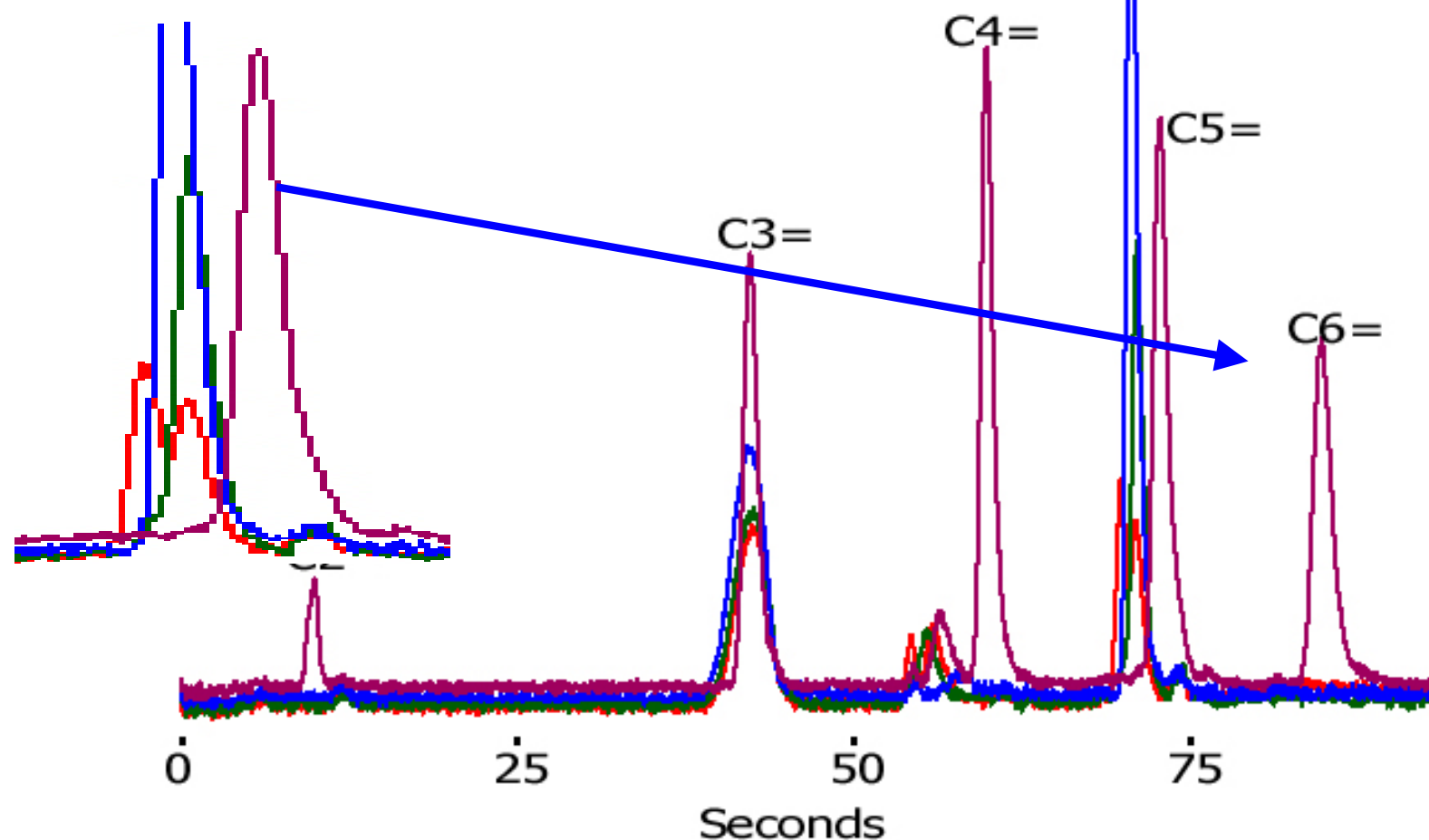
**microFAST GC Analysis of Breath Alcohol Samples**  
**30°C to 150°C @ 10°C/sec, 1m, 350 micron GSQ Column**





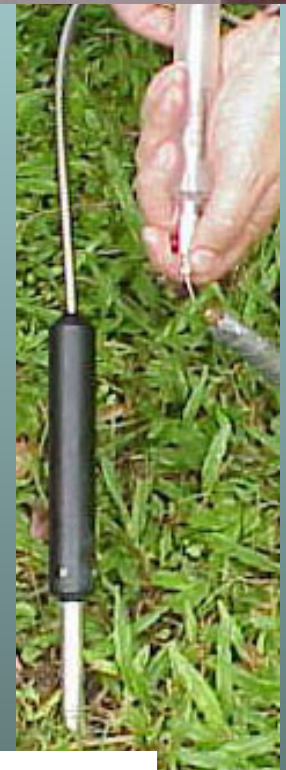
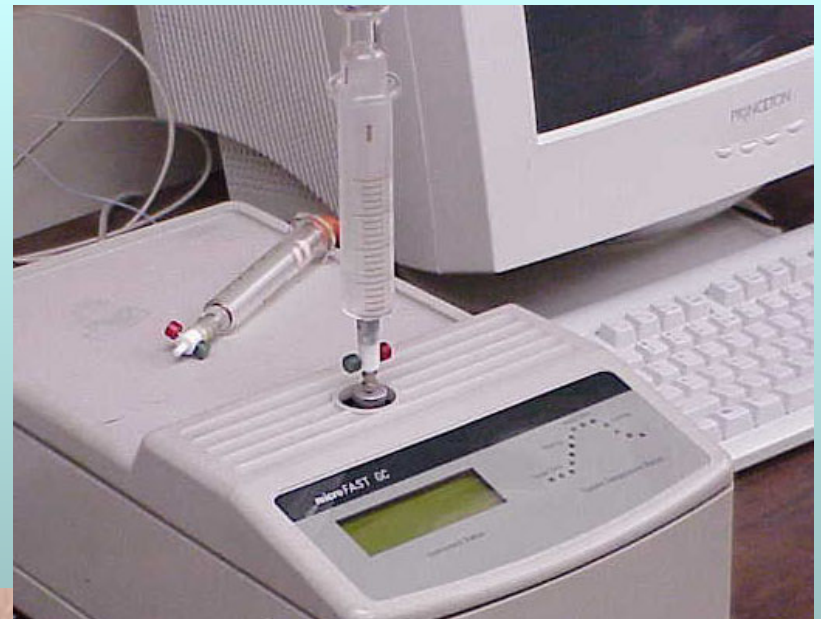
# microFAST GC Analysis

of 10 ml Alkene 250 ppb Std. (C2 to C6)  
and 10ml Deep Breath Samples  
taken from 3 Different Males



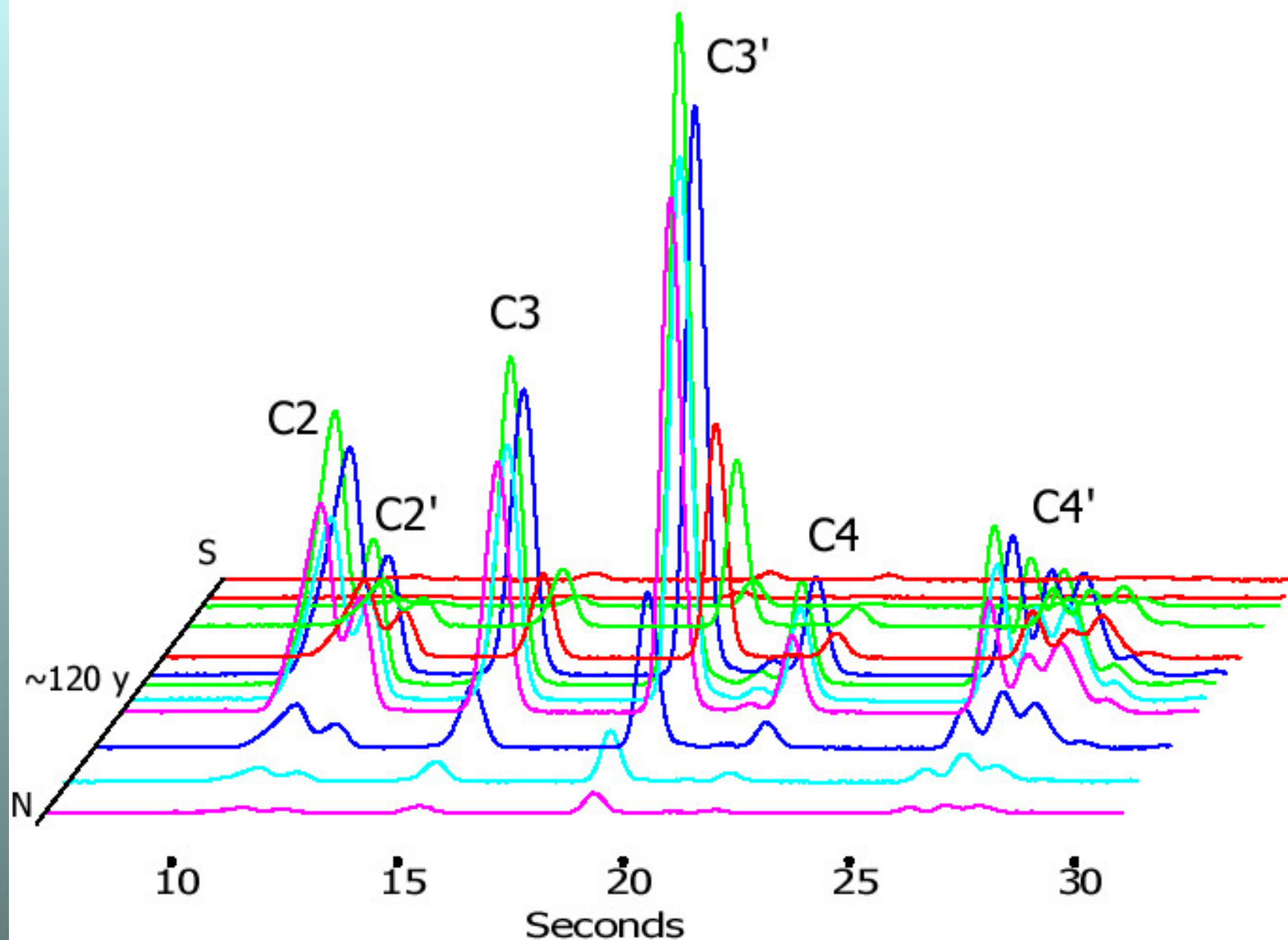
# Soil Gas Sampling and Analysis

In  
15 minutes  
or less

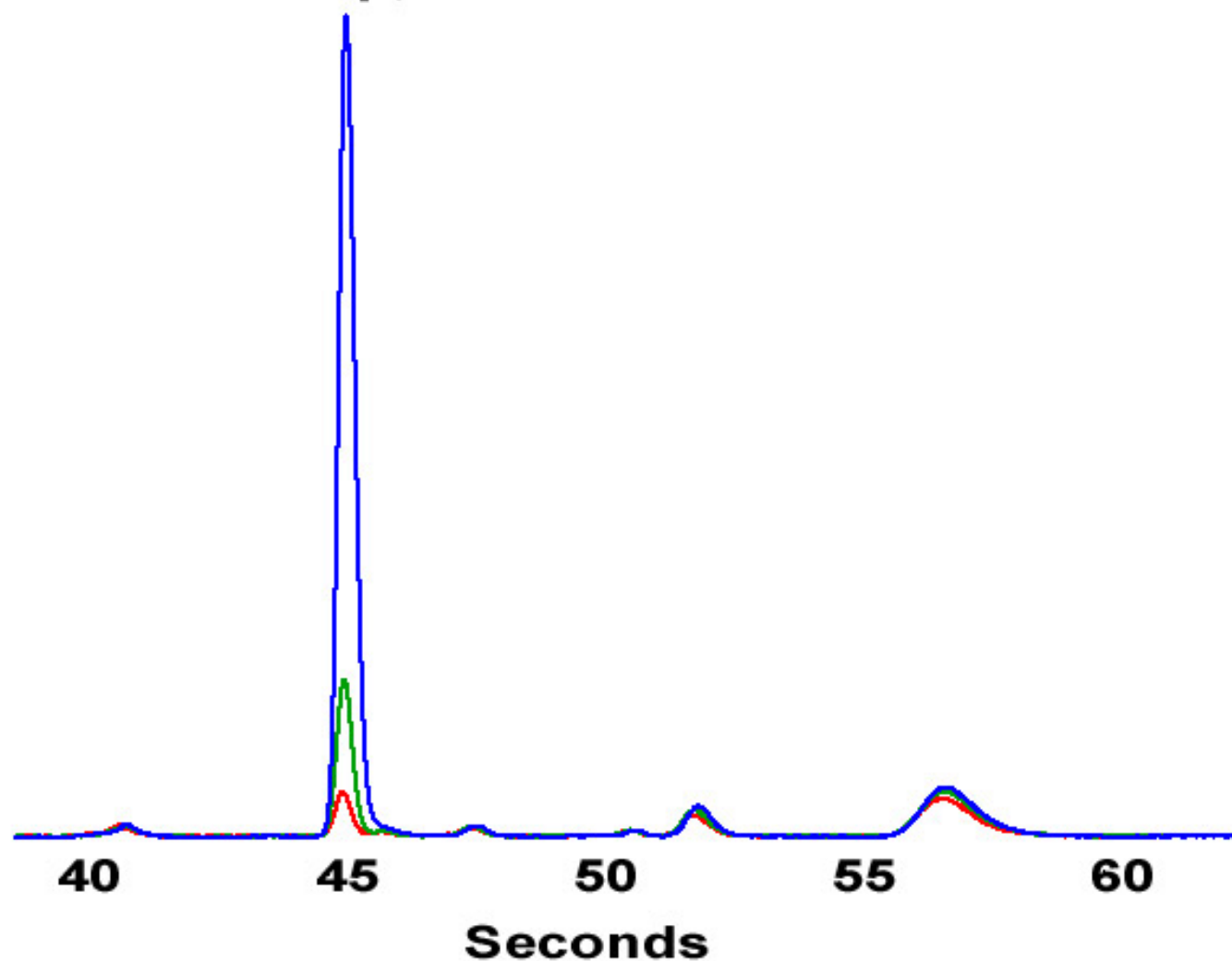




## microFAST GC Analysis of Soil Gas Across Baton Rouge Fault



**microFAST GC Analysis of Vinyl Chloride in 5ml of air  
@ 1000 (blue), 100 (green), & 10 (red) ppb  
Sphercarb trap, 1m 320 micron GSQ Column**

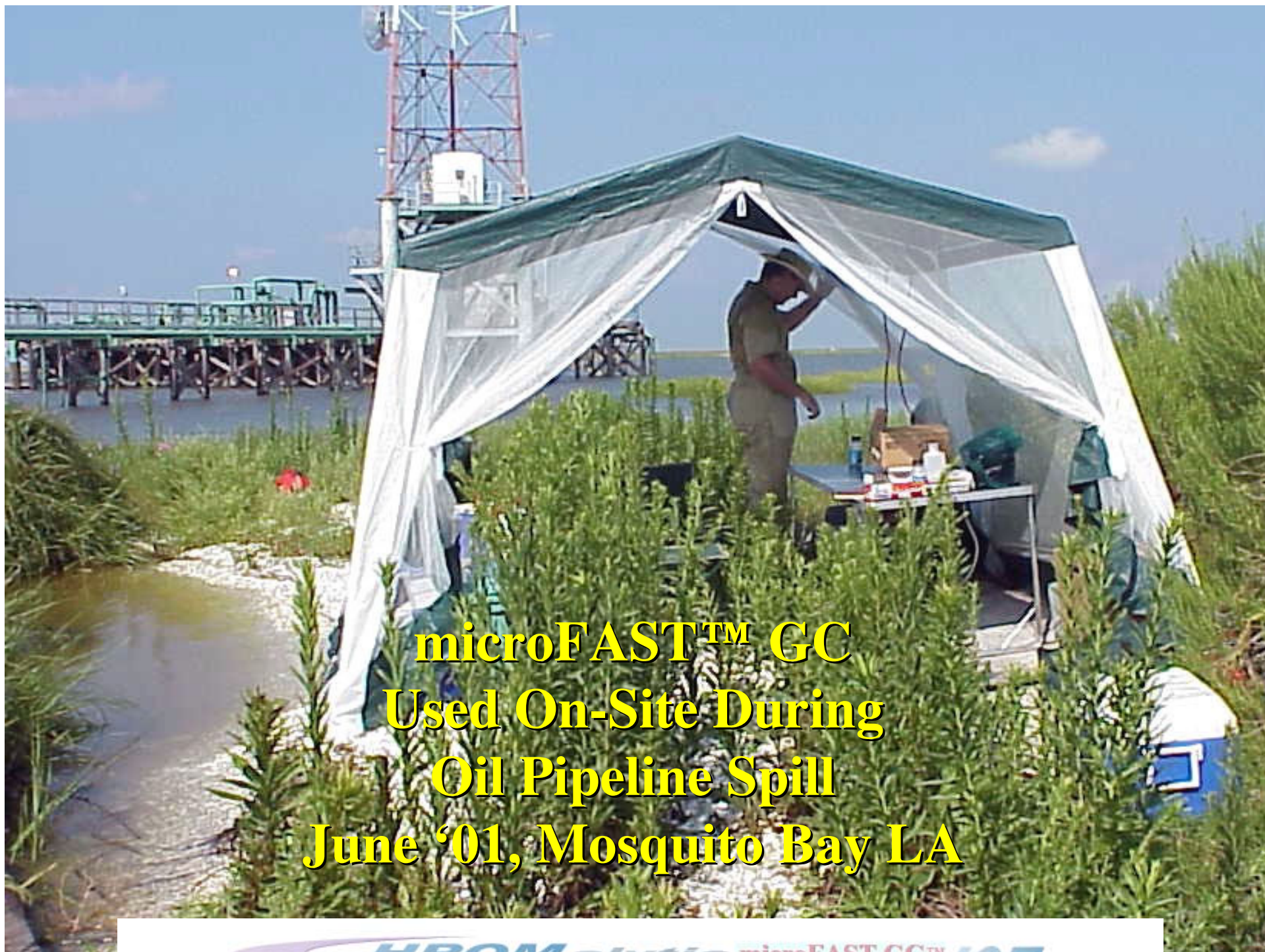


# microFAST™ GC

Used On-Site During  
Benzene Pipeline Spill  
July '01, Geismar LA







**microFAST™ GC**  
**Used On-Site During**  
**Oil Pipeline Spill**  
**June '01, Mosquito Bay LA**