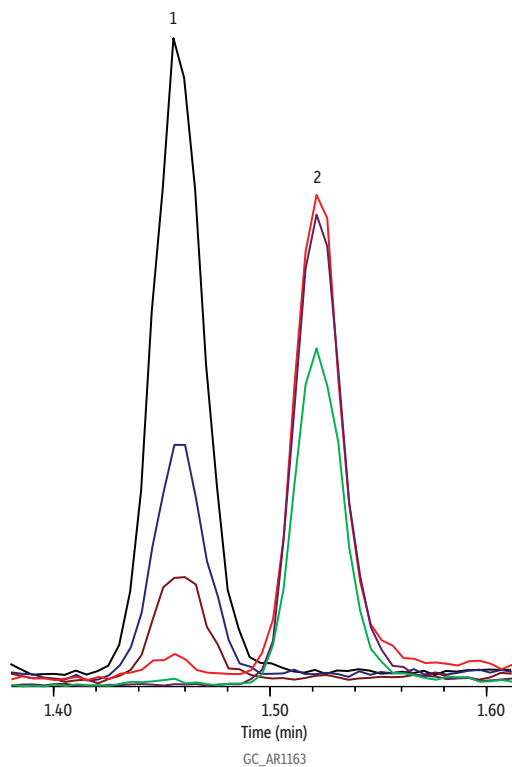


# Butane and 1,3-Butadiene on Rtx®-VMS



Peaks	t <sub>R</sub> (min)	Ion 1	Ion 2	Ion 3
1. <i>n</i> -Butane	1.461	43.0	41.0	39.0
2. 1,3-Butadiene	1.521	39.0	54.0	53.0

**Column** Rtx®-VMS, 30 m, 0.25 mm ID, 1.40 µm (cat.# 19915)  
**Sample** 75 Comp TO15 + NJ mix (cat.# 34396)  
 TO-14A internal standard/tuning mix (cat.# 34408)  
**Diluent:** Nitrogen  
**Conc.:** 10.0 ppbv 250 mL injection  
**Injection** Direct  
**Oven**  
**Oven Temp.:** 32.0 °C (hold 5 min) to 150 °C at 8 °C/min to 230 °C at 33 °C/min  
**Carrier Gas** He, constant flow  
**Flow Rate:** 2.0 mL/min  
**Linear Velocity:** 51 cm/sec @ 32 °C  
**Detector** MS  
**Mode:** Scan  
**Scan Program:**

Group	Start Time (min)	Scan Range (amu)	Scan Rate (scans/sec)
1	0	35-250	3.32

**Transfer Line** Temp.: 230 °C  
**Analyzer Type:** Quadrupole  
**Source Type:** Extractor  
**Extractor Lens:** 6 mm ID  
**Source Temp.:** 230 °C  
**Quad Temp.:** 150 °C  
**Electron Energy:** 70 eV  
**Tune Type:** BFB  
**Ionization Mode:** EI  
**Preconcentrator** Markes CIA Advantage  
**Instrument** Agilent 7890B GC & 5977A MSD  
**Acknowledgement** Markes International