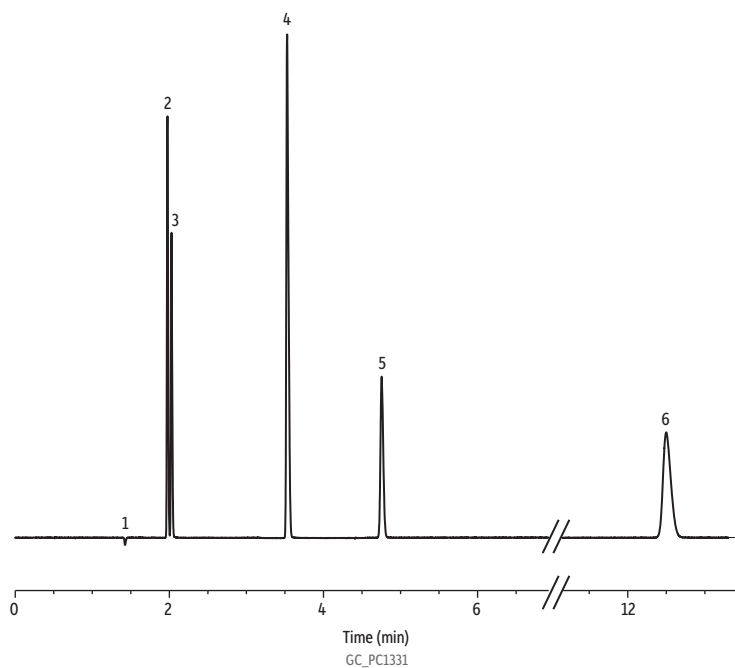


## Permanent Gases on Capillary Rt-MSieve 5A



Peaks	Retention Time (min)	Concentration (mol %)
1. Hydrogen	1.358	4
2. Argon	1.976	3
3. Oxygen	2.028	2
4. Nitrogen	3.528	5
5. Methane	4.755	4
6. Carbon monoxide	12.499	5

**Column** Rt-MSieve 5A, 30 m, 0.32 mm ID, 30  $\mu$ m (cat.# 19722)

**Sample** Permanent gas standard

**Diluent:** Helium

**Injection**

Inj. Vol.: 50  $\mu$ L split (split ratio 20:1)

Liner: Topaz 2.0 mm ID straight inlet liner (cat.# 23313)

Inj. Temp.: 150 °C

**Oven**

Oven Temp.: 40 °C (hold 13 min)

**Carrier Gas** He, constant flow

Flow Rate: 2.5 mL/min

**Detector** TCD @ 200 °C

**Make-up Gas**

Flow Rate: 10 mL/min

**Make-up Gas**

Type: He

**Instrument** Agilent 7890B GC

**Notes** Baseline resolution between argon and oxygen is obtained using split injection. ( $R(Ar/O_2) = 1.8$ )

Note that the sample was introduced onto the column using syringe injection and a high split ratio, which results in a very narrow sample band. Any dead volume in the system (e.g., from using a sampling valve, large sampling loops, or even from using splitless injection) will result in peak broadening, which might decrease resolution between the peaks or even result in peak coelution.