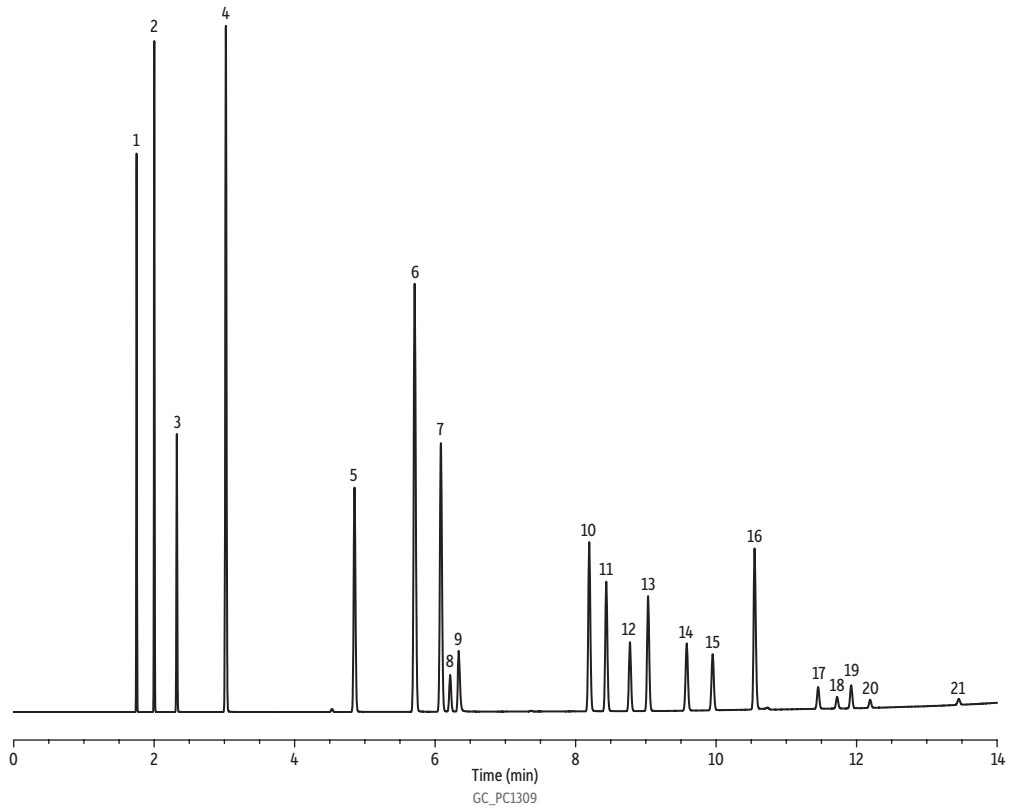


# Refinery Gas on Rt-Alumina BOND/Na<sub>2</sub>SO<sub>4</sub> (ASTM D2163-14)



Peaks	tR (min)	Conc. (vol.%)	Peaks	tR (min)	Conc. (vol.%)
1. Methane	1.571	5.0	11. 1-Butene	8.437	2.0
2. Ethane	2.002	4.0	12. 2-Methylpropene	8.774	1.0
3. Ethene	2.323	2.0	13. <i>cis</i> -2-Butene	9.032	2.0
4. Propane	3.021	6.0	14. 2-Methylbutane (isopentane)	9.582	1.0
5. Propene	4.853	3.0	15. Pentane	9.951	1.0
6. 2-Methylpropane (isobutane)	5.709	5.0	16. 1,3-Butadiene	10.548	3.0
7. Butane	6.082	4.0	17. <i>trans</i> -2-Pentene	11.453	0.4
8. Propadiene	6.215	1.0	18. 2-Methyl-2-butene	11.723	0.2
9. Ethyne (acetylene)	6.336	1.0	19. 1-Pentene	11.924	0.4
10. <i>trans</i> -2-Butene	8.194	3.0	20. <i>cis</i> -2-Pentene	12.194	0.2
			21. Hexane	13.455	0.1

**Column** Rt-Alumina BOND/Na<sub>2</sub>SO<sub>4</sub>, 50 m, 0.53 mm ID, 10 µm (cat.# 19756)  
**Sample** Refinery gas standard #1 (cat.# 344441)  
**Injection**  
 Inj. Vol.: 20 µL split (split ratio 50:1)  
 Liner: Premium 2.0 mm ID straight inlet liner (cat.# 23313.1)  
 Inj. Temp.: 250 °C  
**Oven**  
 Oven Temp.: 80 °C (hold 3 min) to 200 °C at 10 °C/min (hold 10 min)  
**Carrier Gas**  
 He, constant flow  
 Flow Rate: 8 mL/min  
**Detector**  
 FID @ 250 °C  
**Make-up Gas**  
 Make-up Gas Flow Rate: 30 mL/min  
 Make-up Gas Type: H<sub>2</sub>  
 Hydrogen flow: 40 mL/min  
 Air flow: 400 mL/min  
**Instrument** Agilent 7890B GC