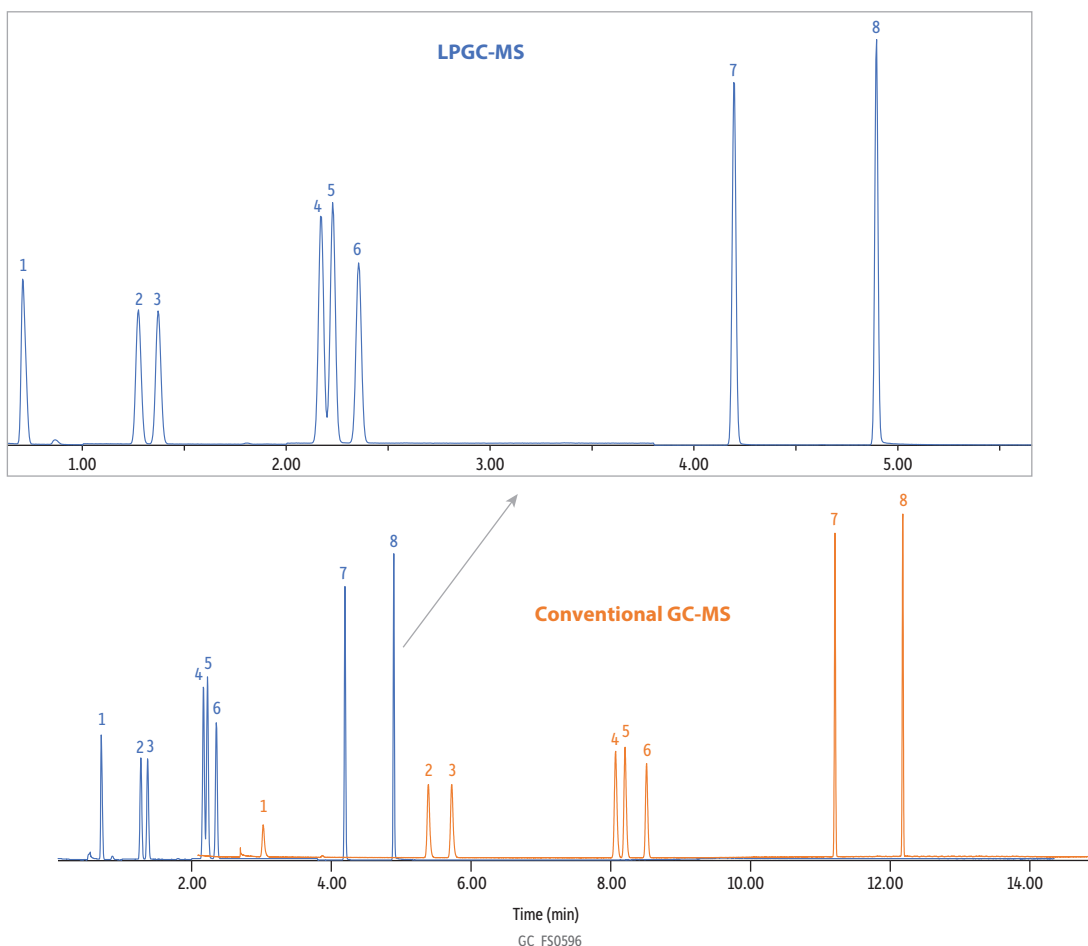


Comparison of Conventional and LPGC-MS Analysis of Alkylfurans

- LPGC-MS is 2.3x faster and uses 72% less helium compared to conventional GC-MS.



Peaks	tr (30 m)	tr (LPGC)	Conc. (ppm)	Quan. Ion	Qual. Ion
1. Furan	3.03	0.71	10	68	39
2. 2-Methylfuran	5.393	1.276	10	82	53
3. 3-Methylfuran	5.727	1.374	10	82	53
4. 2-Ethylfuran	8.072	2.172	10	81	96
5. 2,5-Dimethylfuran	8.208	2.23	10	95	81
6. 2,3-Dimethylfuran	8.515	2.357	10	95	81
7. 2-Butylfuran	11.21	4.199	10	81	124
8. 2-Pentylfuran	12.179	4.896	10	81	138

Column
Standard/Sample
Diluent:
Conc.:
Injection
Inj. Vol.:
Liner:
Inj. Temp.:
Carrier Gas
Detector:
Mode:
Transfer Line Temp.:
Analyzer Type:
Source Temp.:
Quad Temp.:
Tune Type:
Ionization Mode:
Instrument
Sample Preparation
Notes

See notes
Custom furans standard
Methanol (PT)
10 µg/mL
1 µL split (split ratio 100:1)
Topaz, Precision inlet liner, 4.0 mm x 6.3 x 78.5 (cat.# 23305)
250 °C
He
MS
SIM
280 °C
Quadrupole
230 °C
150 °C
PFTBA
EI
Agilent 7890B GC & 5977A MSD
The sample was put in a 2 mL short-cap, screw-thread vial (cat.# 21143) and capped with a short-cap, screw-vial closure (cat.# 24495).
Conventional (30 m) Analysis:
Column: Rxi-624Sil MS, 30 m, 0.25 mm ID, 1.4 µm (cat.# 13868)
Temp. program: 35 °C (hold 3 min) to 75 °C at 8 °C/min to 280 °C at 25 °C/min (hold 5 min)
Flow: 1.4 mL/min
LPGC-MS Analysis:
Column: LPGC Rxi-624Sil MS column kit, includes 10 m x 0.32 mm ID x 1.8 µm Rxi-624Sil MS analytical column and 5 m x 0.15 mm ID Rxi restrictor factory connected via SilTite connector (cat.# 11804)
Temp. program: 35 °C (hold 1 min) to 75 °C at 16 °C/min (hold 0 min) to 280 °C at 35 °C/min (hold 5 min)
Flow: 0.9 mL/min

The injections were performed on different instruments under different head pressures, resulting in different analyte responses.

A furan/alkylfurans standard (cat.# 33334) is now available.