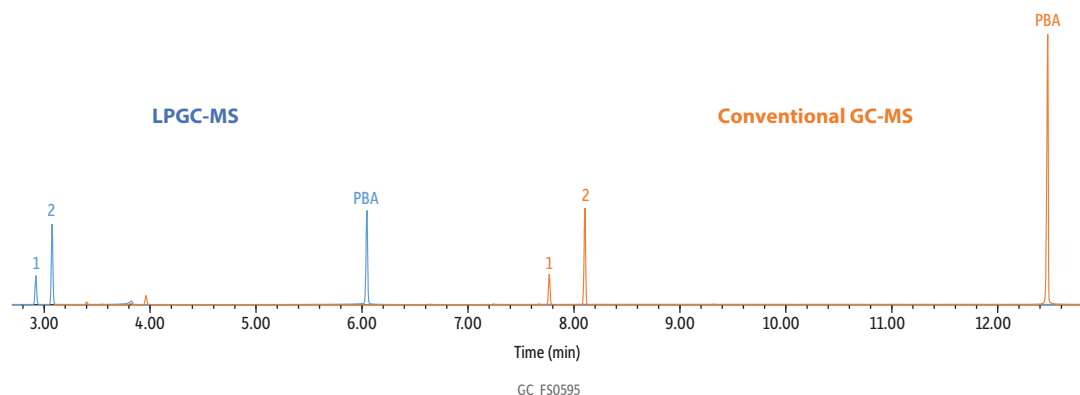


Comparison of Conventional and LPGC Analysis of 2-MCPD and 3-MCPD

- LPGC-MS is 2x faster and uses 69% less helium compared to conventional GC-MS.



Peaks	tr (30 m)	tr (LPGC)	Conc. (µg/mL)
1. 3-MCPD	7.767	2.921	30
2. 2-MCPD	8.103	3.075	50

Column	See notes
Standard/Sample	3-MCPD 2-MCPD
Diluent:	Isooctane
Conc.:	30-50 ppm (See the peak table.)
Injection	
Inj. Vol.:	1 µL split (split ratio 10:1)
Liner:	Topaz 4.0 mm ID single taper inlet liner w/ wool (cat.# 23303)
Inj. Temp.:	280 °C
Carrier Gas	He
Detector	MS
Mode:	Scan
Transfer Line Temp.:	280 °C
Analyzer Type:	Quadrupole
Source Temp.:	330 °C
Quad Temp.:	180 °C
Electron Energy:	70 eV
Tune Type:	PFTBA
Ionization Mode:	EI
Instrument	Agilent 7890B GC & 5977A MSD
Sample Preparation	Standards were derivatized with 20 µL phenylboronic acid (PBA), saturated solution in diethyl ether, dried, and then reconstituted in 1 mL isooctane in a 2 mL, short-cap, screw-thread vial (cat.# 21143) and capped with a short-cap, screw-vial closure (cat.# 24495). Final concentrations are given in the peak table.
Notes	<p>Conventional (30 m) Analysis: Column: Rxi-17Sil MS, 30 m, 0.25 mm ID, 0.25 µm (cat.# 14123) Temp. program: 100 °C (hold 0.5 min) to 180 °C at 12 °C/min to 320 °C at 25 °C/min (hold 4 min) Flow: 1.4 mL/min Scan start time: 3 min Scan range: 50-350 amu Scan rate: 8.5 scans/sec</p> <p>LPGC-MS Analysis: Column: LPGC Rxi-17Sil MS column kit, includes 10 m x 0.32 mm ID x 0.25 µm Rxi-17Sil MS analytical column and 5 m x 0.15 mm ID Rxi restrictor factory connected via SilTite connector (cat.# 11805) Temp. program: 100 °C (hold 0.5 min) to 320 °C at 30 °C/min (hold 5 min) Flow: 0.9 mL/min Scan start time: 1.5 min Scan range: 50-350 amu Scan rate: 8.5 scans/sec</p>