

Peak Assignments for C2-C13 Hydrocarbons in Ambient Air with Varian Alumina-SO₄ PLOT and CP-Sil 5 CB Capillary Columns

by Randall Bramston-Cook, Lotus Consulting

Technique: GC Dual Capillary with Cryogenic Concentrator and Dual Flame Ionization Detection

Columns: Pre-column- Varian CP-Sil 5 CB, 15 m x 0.32 mm ID, df = 1 µm, P/N CP8540
Varian CP-Alumina-SO₄, 50 m X 0.32 mm ID, df = 1 µm, P/N CP7565 (in **RED**)
Varian CP-Sil 5 CB, 60 m x 0.32 mm ID, df = 1 µm, P/N CP8780 (in **BLUE**)

Temperature: 50 °C (hold- 0.01 minute), 100 °C/min to -20 °C (hold- 12.29 minutes), 2.5 °C/min to 90 °C, 5°C/min to 200 °C (hold- 1.00 minute)

Carrier gas: Helium, 3.0 ml/min, both columns

Column Switch: 22.60 minutes, after 2,2-Dimethylbutane

Injection: Cryotrapping following California Air Resource Board SOP 032¹

Detectors: Dual FID, Range - 12

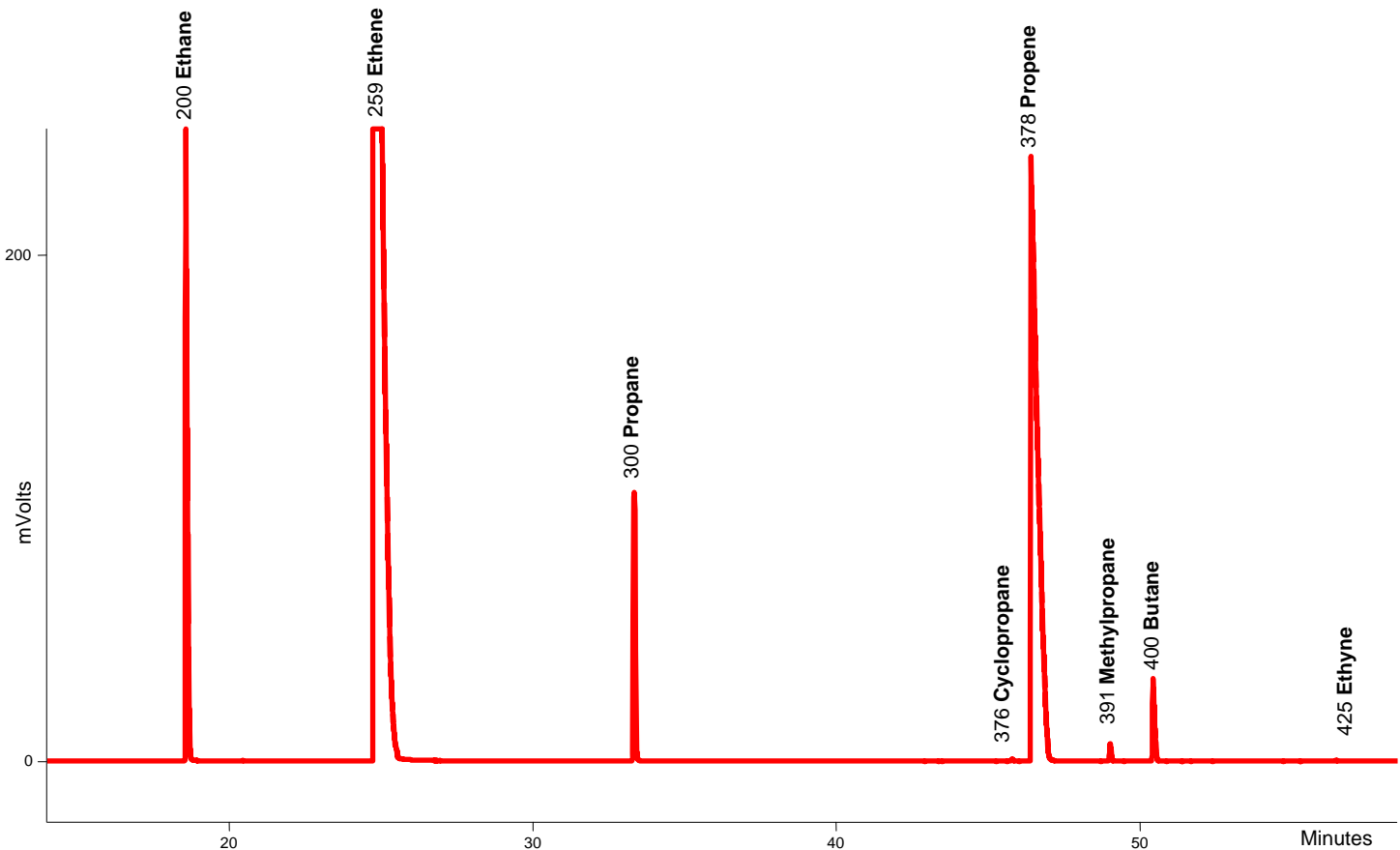
Sample: Ambient Air, enriched with vehicle exhaust

Sample Conc: Variable - from 0.14 ppbCarbon (Hexylbenzene) to 3,450 ppbCarbon (Ethene)

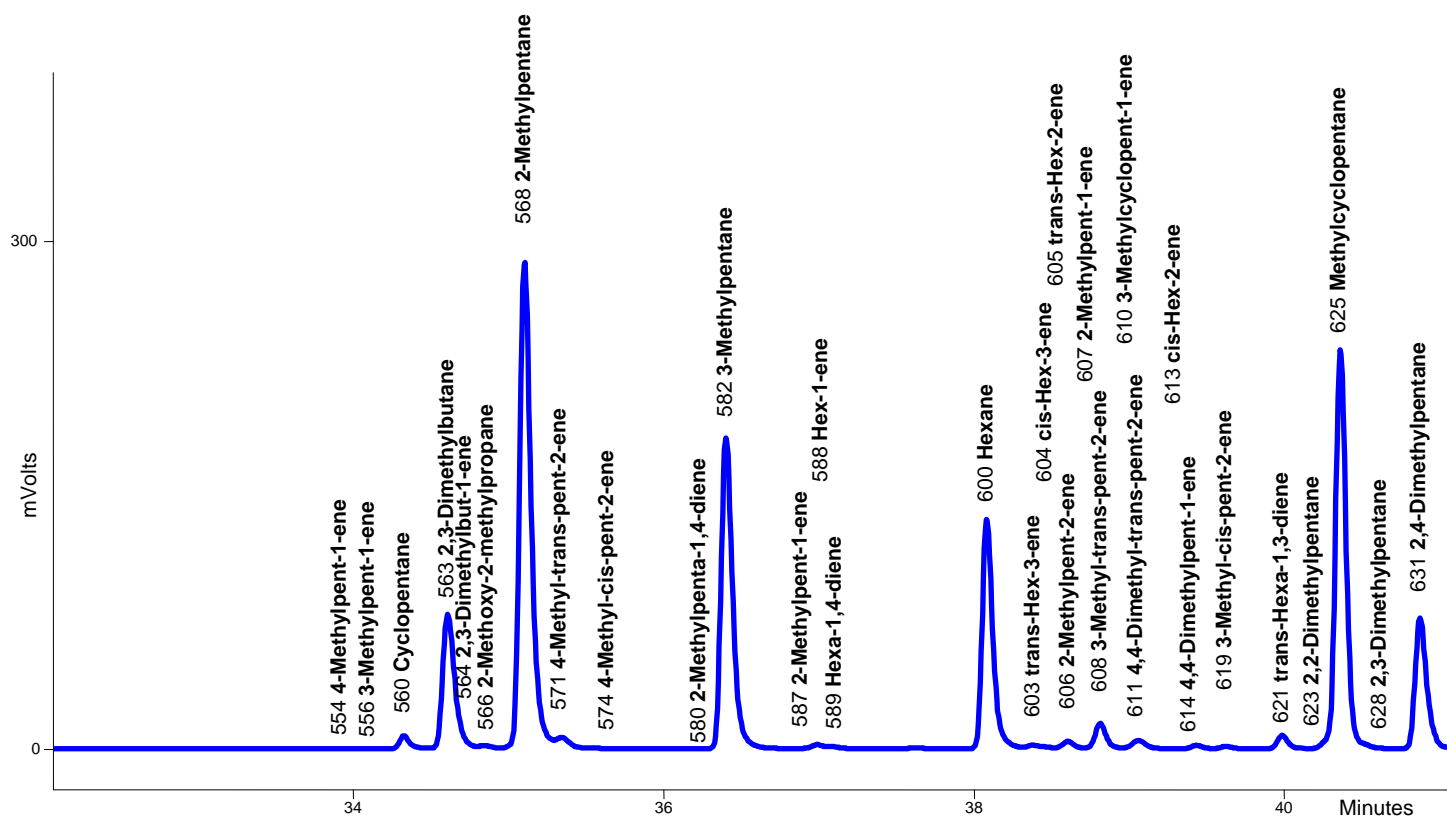
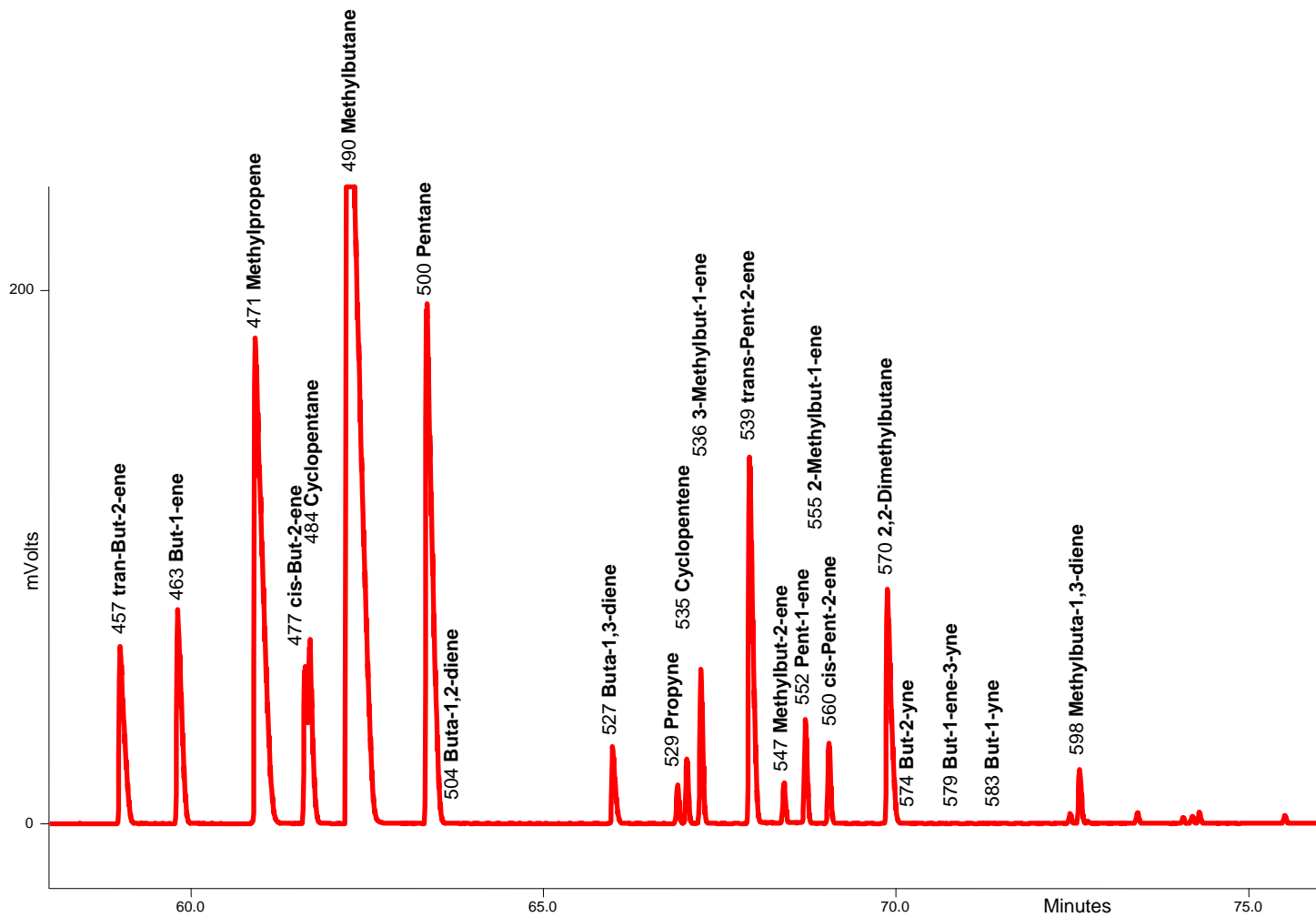
Sample Vol: 300 ml

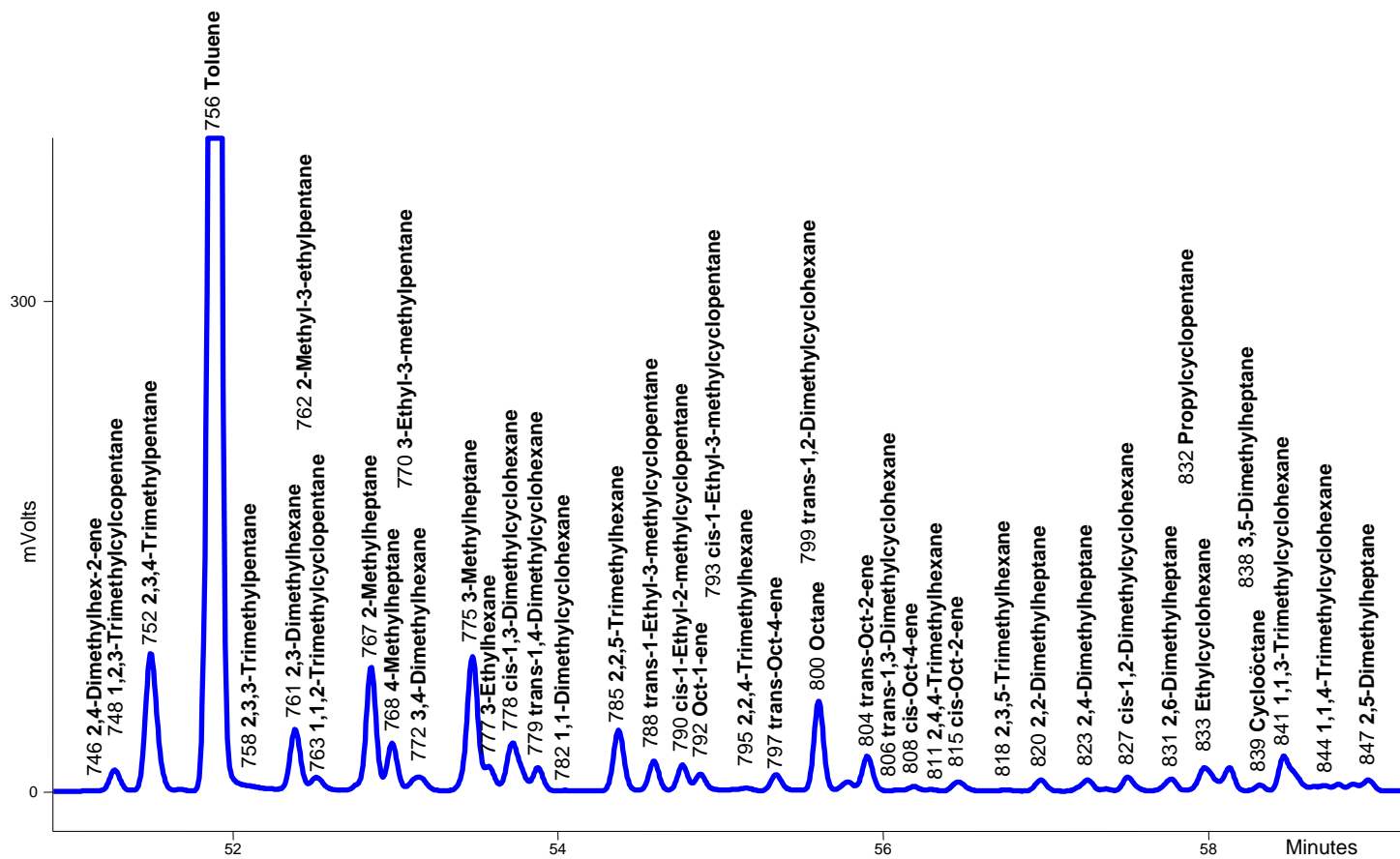
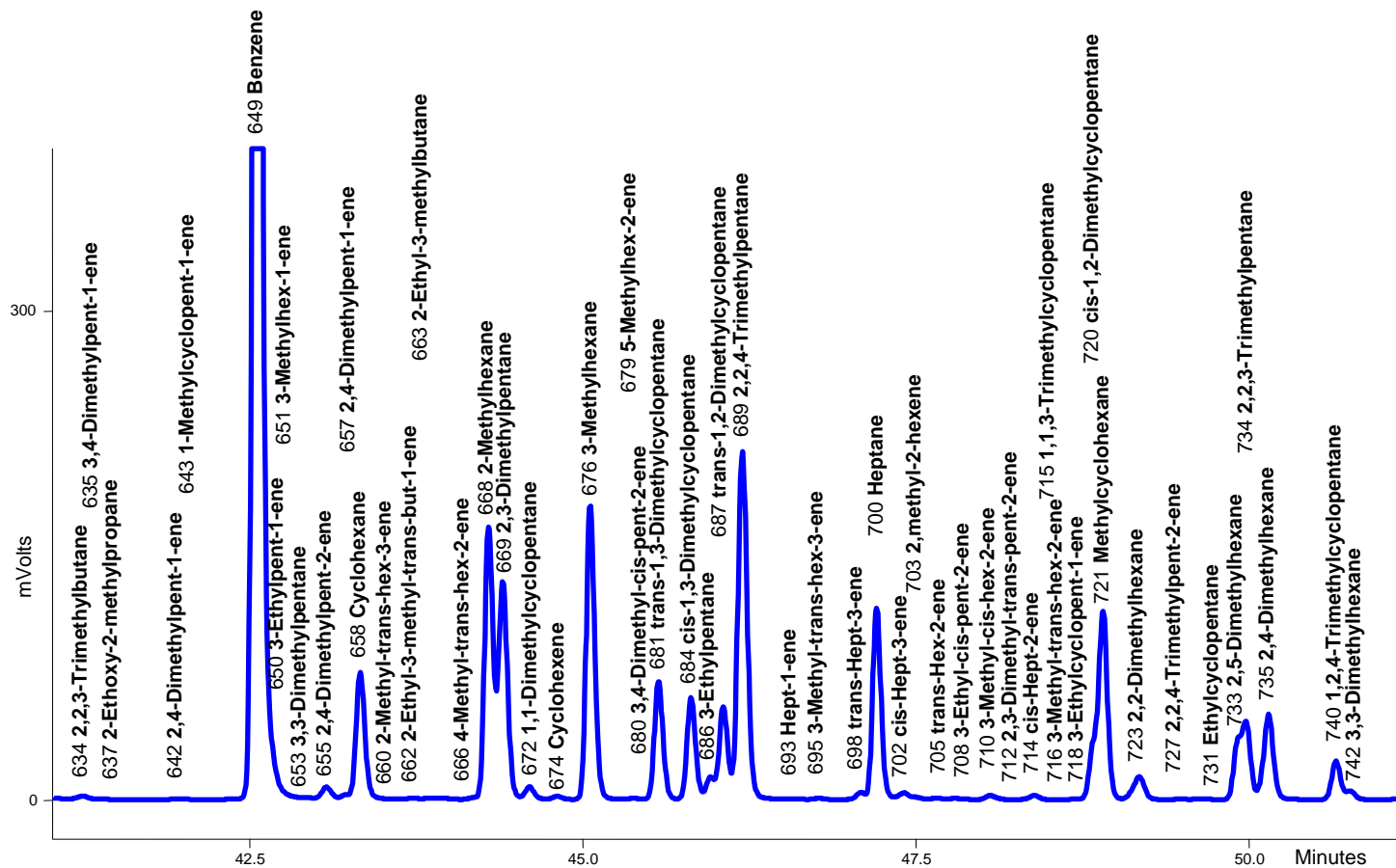
Notes:

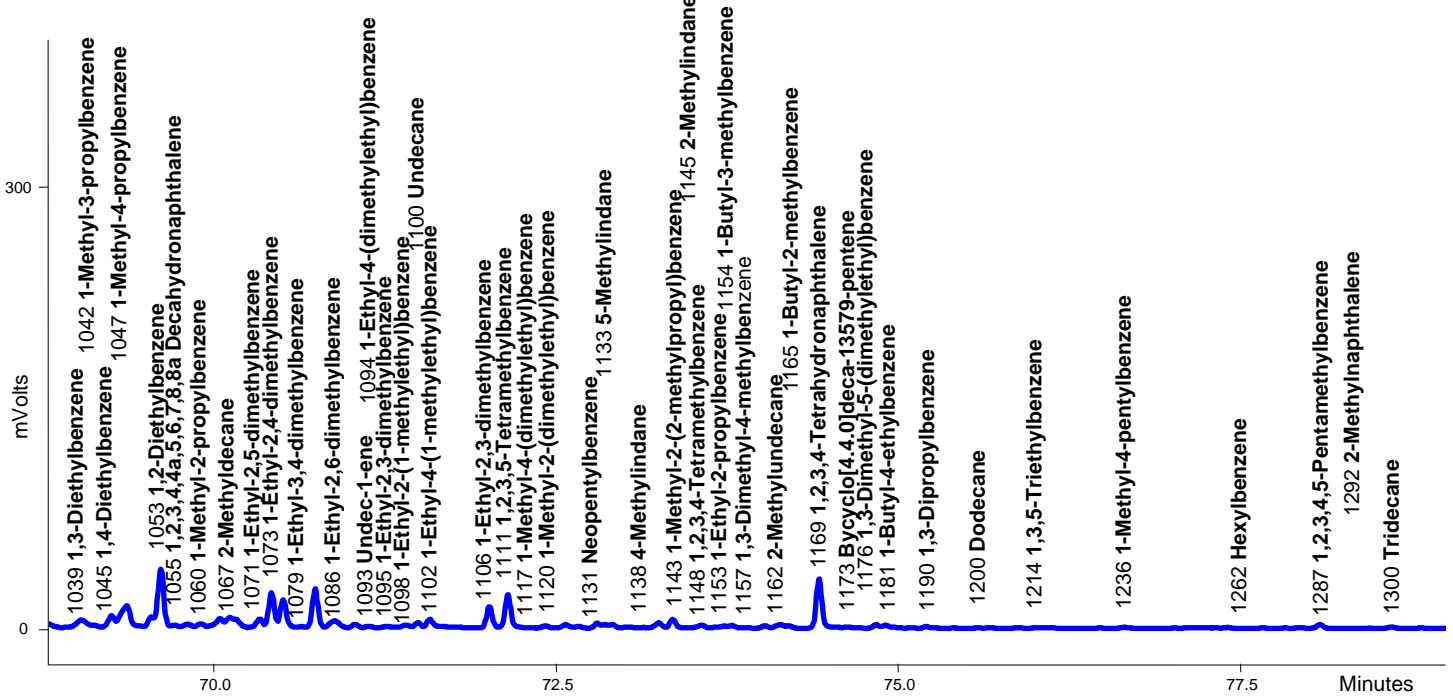
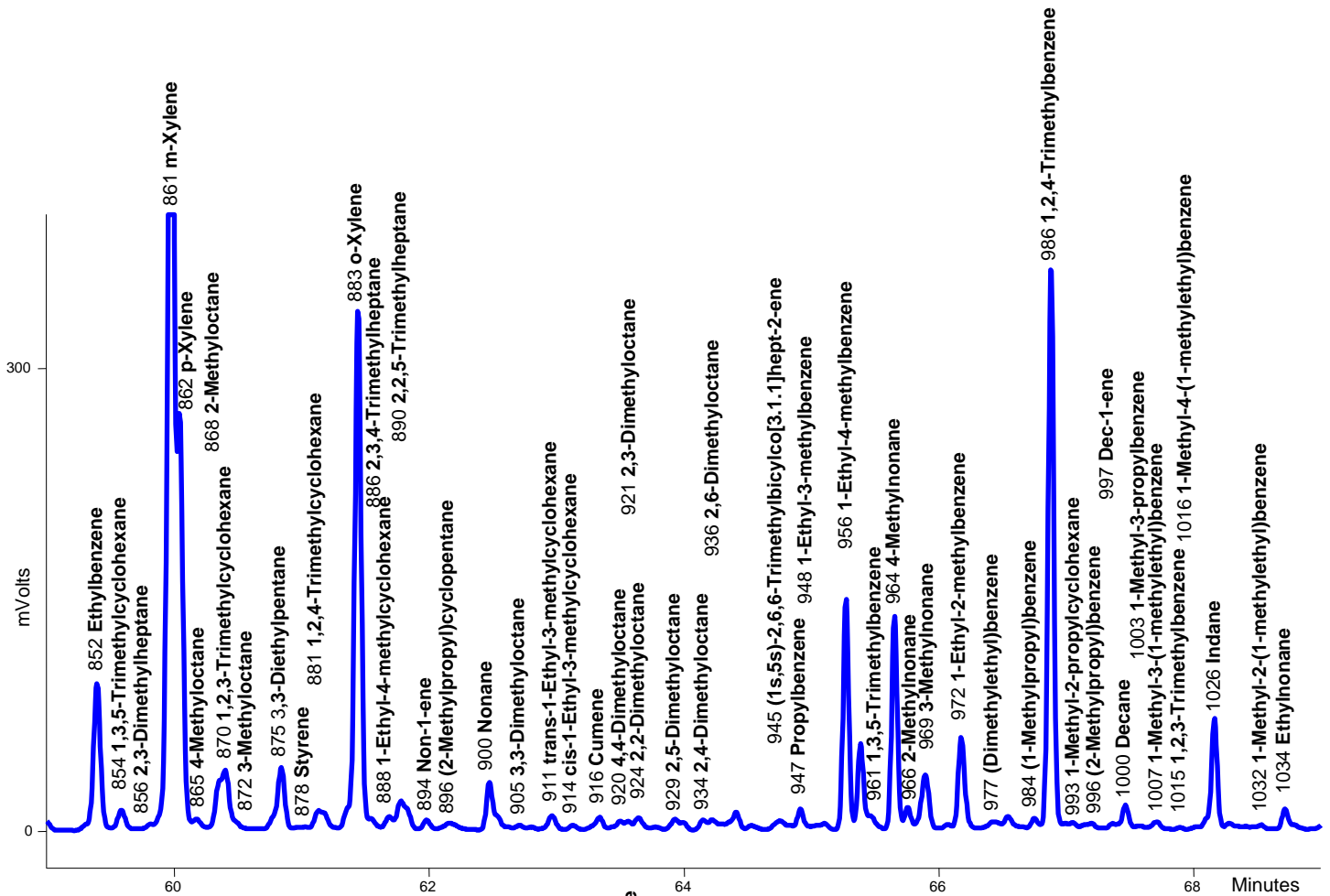
1. On-column injection performed at 10.00 minutes. Prior interval involves trapping processes.
2. All compound labels are per IUPAC protocol.
3. Numbers in front of compound names are average Kovats Indices from as many as 15 chromatograms, to aid in location of peaks.



¹ California Air Resources Board, SOP No. MLD 032, 2001, www.arb.ca.gov/aaqm/sop/sop032.pdf.







Copyright 2010 Lotus Flower, Inc.

Lotus Consulting

310/569-0128 Fax 714/898-7461

Email: ebramstoncook@msn.com



5781 Campo Walk
Long Beach, California 90803