

Volatile Organics US EPA Method 8021 Rtx®-VRX

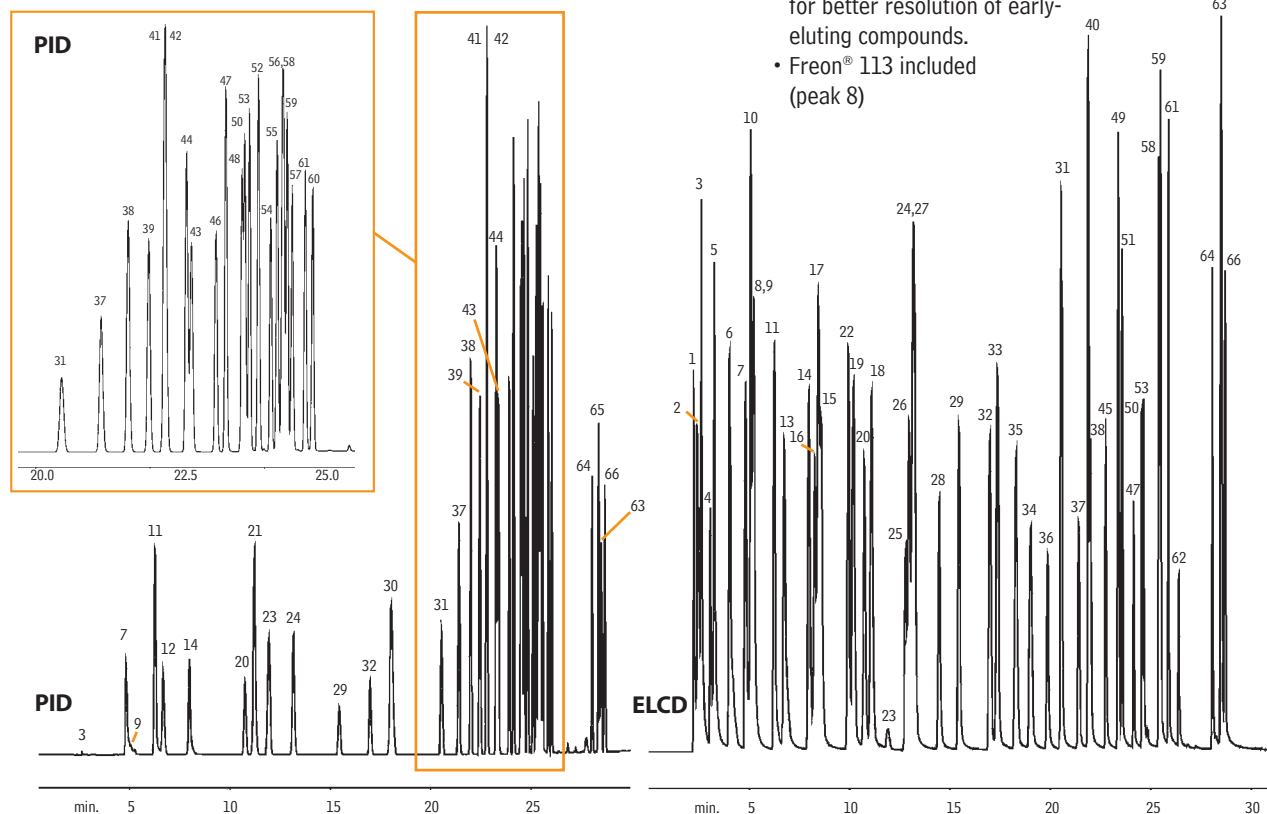
Excellent confirmation column to Rtx®-VGC. Primary analysis shown on page 565.

Rtx®-VRX

75m, 0.45mm ID, 2.55µm (cat.# 19309)

restek
innovation!

- 35°C starting temperature for better resolution of early-eluting compounds.
- Freon® 113 included (peak 8)



GC_EV00417

Primary column: Rtx®-VGC, 75m, 0.45mm ID, 2.55µm (cat.# 19409)
 Confirmation column: Rtx®-VRX, 75m, 0.45mm ID, 2.55µm (cat.# 19309)
 Conc. 20ppb in 5mL of RO water.
 Concentrator: Tekmar LSC-3000 Purge and Trap
 Trap: Vocabr 3000
 Purge: 11 min. @ 40mL/min.
 Dry purge: 1 min. @ 40mL/min. (MCS by-passed with Silcosteel® tubing, cat.# 21035)
 Desorb preheat: 245°C
 Desorb: 250°C for 2 min.
 Bake: 260°C for 8 min.
 Interface: direct
 Transfer line: 0.32mm ID Siltek® tubing

GC: Finnigan 9001
 Oven temp.: 35°C (hold 4 min.) to 75°C @ 3°C/min. (hold 2 min.) to 175°C @ 21°C/min. to 205°C @ 35°C/min. (hold 5 min.)
 Carrier: helium 11mL/min., constant pressure
 Adjust dichlorodifluoromethane to a retention time of 2.28 min. @ 35°C on the Rtx®-VGC column.
 Detectors: µGold Tandem PID/HALL® 2000
 PID: makeup 7mL/min., purge 7mL/min., set @ 0.35mV, base temp. 200°C.
 ELCD HALL® 2000: RxnGas 25mL/min., RxnTemp. 940°C, propanol flow 470µL/min.

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|--------------------------------------|---------------------------------------|-----------------------------------|---------------------------------|
| 1. dichlorodifluoromethane | 18. carbon tetrachloride | 35. 1,3-dichloropropane | 52. 1,3,5-trimethylbenzene |
| 2. chloromethane | 19. 1,1,1-trichloroethane | 36. 1,2-dibromoethane | 53. 4-chlorotoluene |
| 3. vinyl chloride | 20. 1,1-dichloropropene | 37. 1-chloro-3-fluorobenzene (SS) | 54. <i>tert</i> -butylbenzene |
| 4. bromomethane | 21. benzene | 38. chlorobenzene | 55. 1,2,4-trimethylbenzene |
| 5. chloroethane | 22. 1,2-dichloroethane | 39. ethylbenzene | 56. <i>sec</i> -butylbenzene |
| 6. trichlorofluoromethane | 23. fluorobenzene (SS) | 40. 1,1,1,2-tetrachloroethane | 57. <i>p</i> -isopropyltoluene |
| 7. 1,1-dichloroethene | 24. trichloroethene | 41. <i>m</i> -xylene | 58. 1,3-dichlorobenzene |
| 8. Freon® 113 | 25. dibromomethane | 42. <i>p</i> -xylene | 59. 1,4-dichlorobenzene |
| 9. allyl chloride | 26. 1,2-dichloropropane | 43. <i>o</i> -xylene | 60. <i>n</i> -butylbenzene |
| 10. methylene chloride | 27. bromodichloromethane | 44. styrene | 61. 1,2-dichlorobenzene |
| 11. <i>trans</i> -1,2-dichloroethene | 28. 1-bromo-2-chloroethane (SS) | 45. bromoform | 62. 1,2-dibromo-3-chloropropane |
| 12. methyl <i>tert</i> -butyl ether | 29. <i>cis</i> -1,3-dichloropropene | 46. isopropylbenzene | 63. hexachlorobutadiene |
| 13. 1,1-dichloroethane | 30. toluene | 47. bromobenzene | 64. 1,2,4-trichlorobenzene |
| 14. <i>cis</i> -1,2-dichloroethene | 31. tetrachloroethene | 48. <i>n</i> -propylbenzene | 65. naphthalene |
| 15. 2,2-dichloropropane | 32. <i>trans</i> -1,3-dichloropropene | 49. 1,1,2,2-tetrachloroethane | 66. 1,2,3-trichlorobenzene |
| 16. bromochloromethane | 33. 1,1,2-trichloroethane | 50. 2-chlorotoluene | |
| 17. chloroform | 34. dibromochloromethane | 51. 1,2,3-trichloropropane | |

Acknowledgement: Finnigan 9001 GC, µGold Tandem Photoionization/HALL® 2000 Electrolytic Conductivity Detector provided courtesy of Thermo Scientific GC & GC/MS Division, 2215 Grand Avenue Pkwy, Austin, Texas 78728