

Dual Column 8081 Pesticide Analysis by GC/ECD with Agilent J&W FactorFour VF-5 Pesticides and VF-1701 Pesticides Columns

Application Note

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Conditions

Technique: GC-ECD
Column: FactorFour VF-1701 and VF-5 Pesticides, Fused silica, 30 m x 0.25 mm df = 0.25 μ m (part numbers CP9070 and CP9074 respectively)
Temperature: 59 °C (hold 30 sec) to 150 °C @ 15 °C per min to 275 °C @ 4 °C per min
Carrier Gas: Helium, 1.4 mL per min constant flow
Injector: Split/splitless, in splitless mode, T = 250 °C
Detector: ECD, T = 275 °C
Sample Size: 0.5 μ L
Sample: Pesticide 8081 Standard Mix, conc.: 200 ng/mL

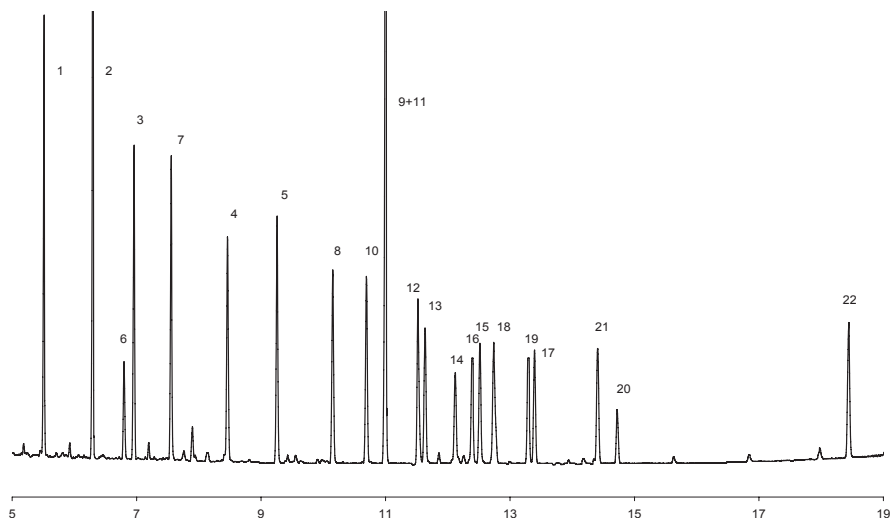


Figure 1. Separation of EPA 8081 Pesticides using New Generation FactorFour VF-5 Pesticides



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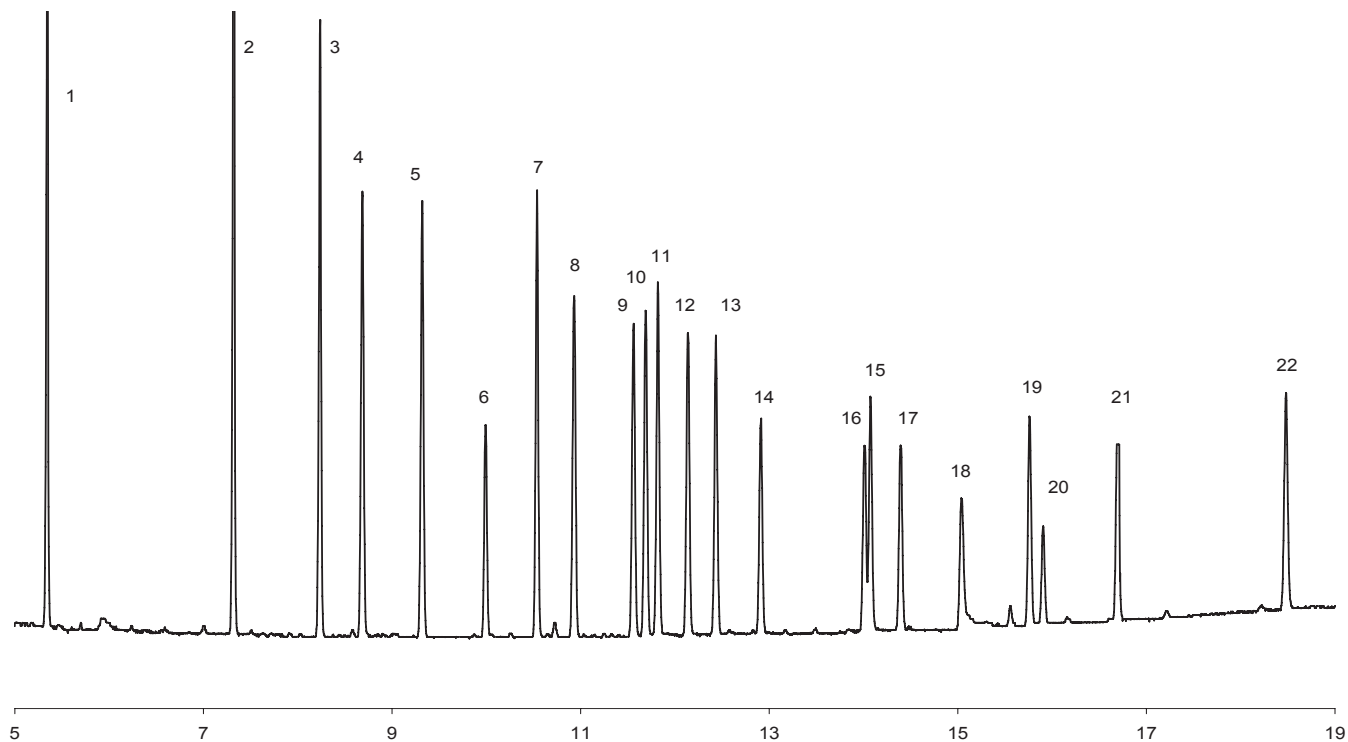


Figure 2. Separation of EPA 8081 Pesticides using New Generation FactorFour VF-1701 Pesticides

Table 1. Compound list

Peak Identification	VF-5 Pesticides RT (mins)	VF-1701 Pesticides RT (mins)
1. 2,4,5,6-Tetrachloro-m-xylene	5.511	5.344
2. α -BHC	6.296	7.320
3. γ -BHC	6.958	8.235
4. Heptachlor	8.459	8.684
5. Aldrin	9.256	9.319
6. β -BHC	6.797	9.991
7. δ -BHC	7.555	10.537
8. Heptachlor Epoxide	10.150	10.930
9. Endosulfan I	10.998	11.560
10. γ -Chlordane	10.692	11.689
11. α -Chlordane	10.998	11.819
12. 4,4'-DDE	11.519	12.137
13. Dieldrin	11.634	12.433
14. Endrin	12.118	12.910
15. 4,4'-DDD	12.514	14.073
16. Endosulfan II	12.391	14.010
17. 4,4'-DDT	13.393	14.393
18. Endrin Aldehyde	12.738	15.039

Peak Identification	VF-5 Pesticides RT (mins)	VF-1701 Pesticides RT (mins)
19. Endosulfan Sulfate	13.291	15.760
20. Methoxychlor	14.719	15.903
21. Endrin Ketone	14.407	16.691
22. Decachlorobiphenyl	18.442	18.480

The VF-1701 Pesticides column is an effective substitute for the Restek Rtx-CLPesticides1 column and the VF-5 Pesticides is an effective substitute for the Restek-CLPesticides2 column.

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