

SELECTIVITY FOR PCB ANALYSIS

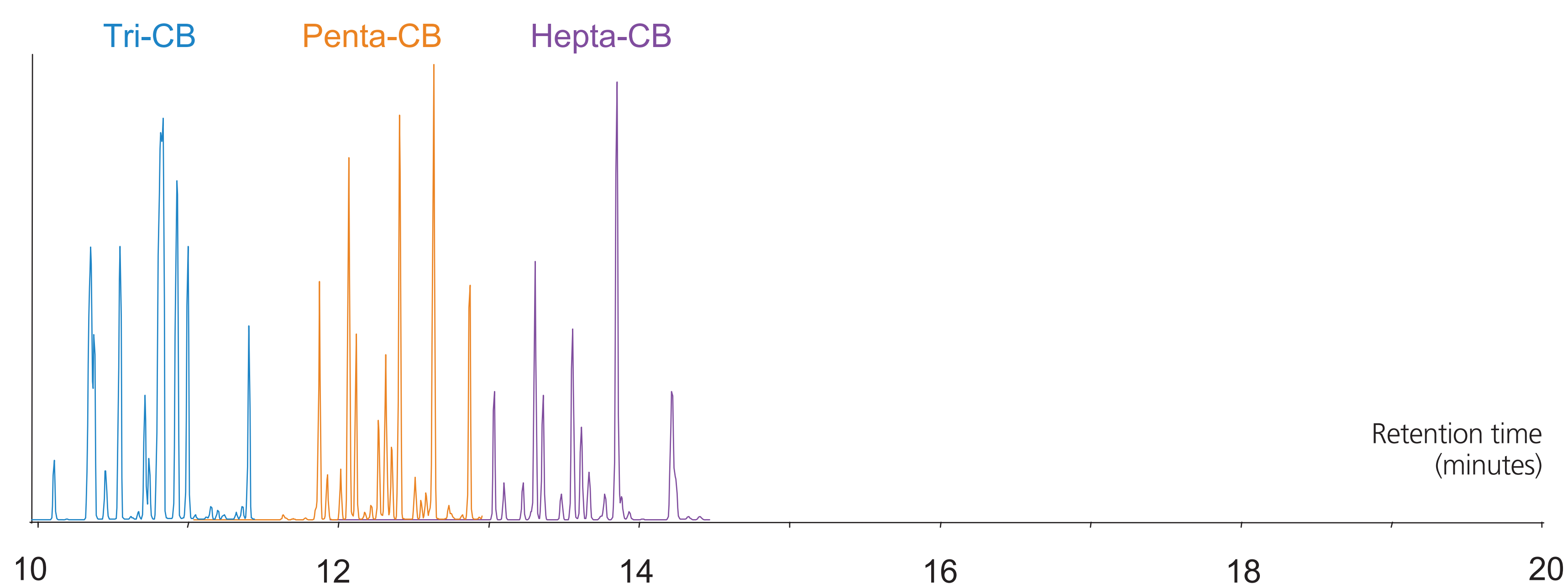
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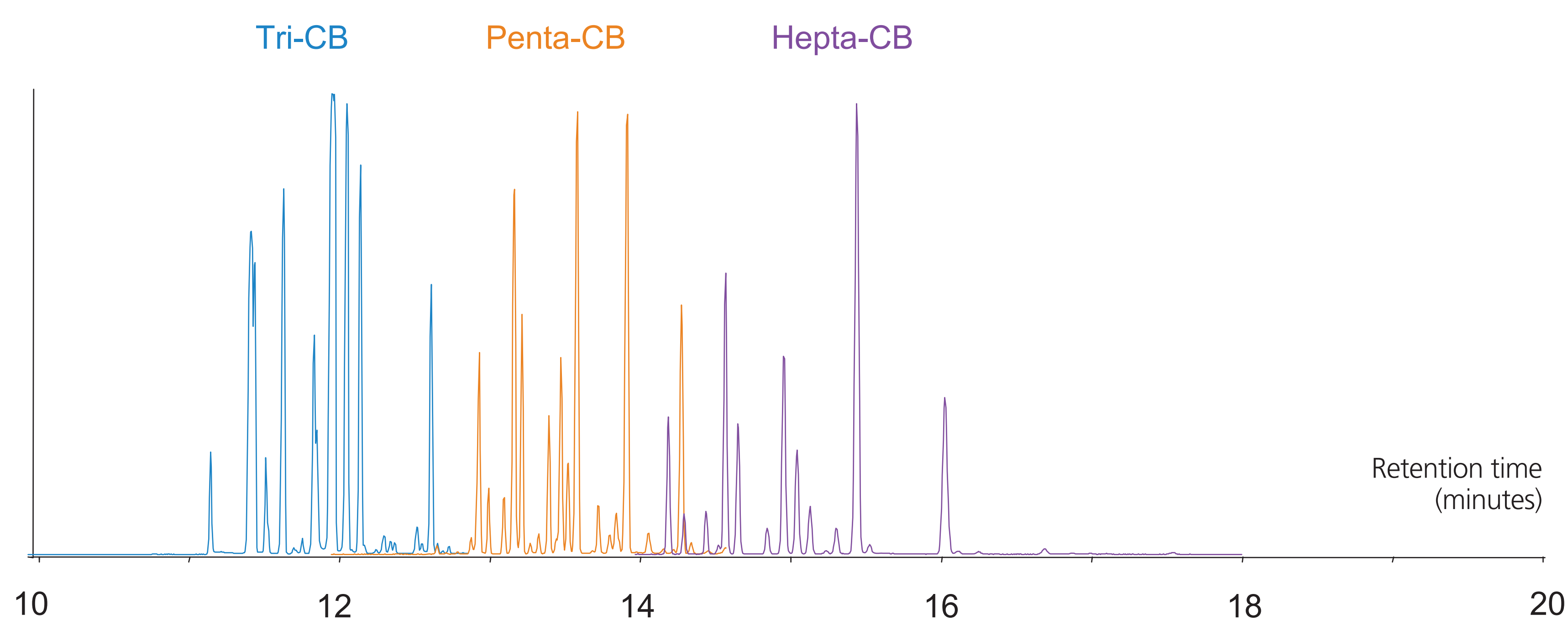
BP5 - 5% PHENYL-95% PDMS

The new generation of BP5 offers low bleed and gives separation and retention characteristics that are typical for a 5% phenyl substituted PDMS phase.



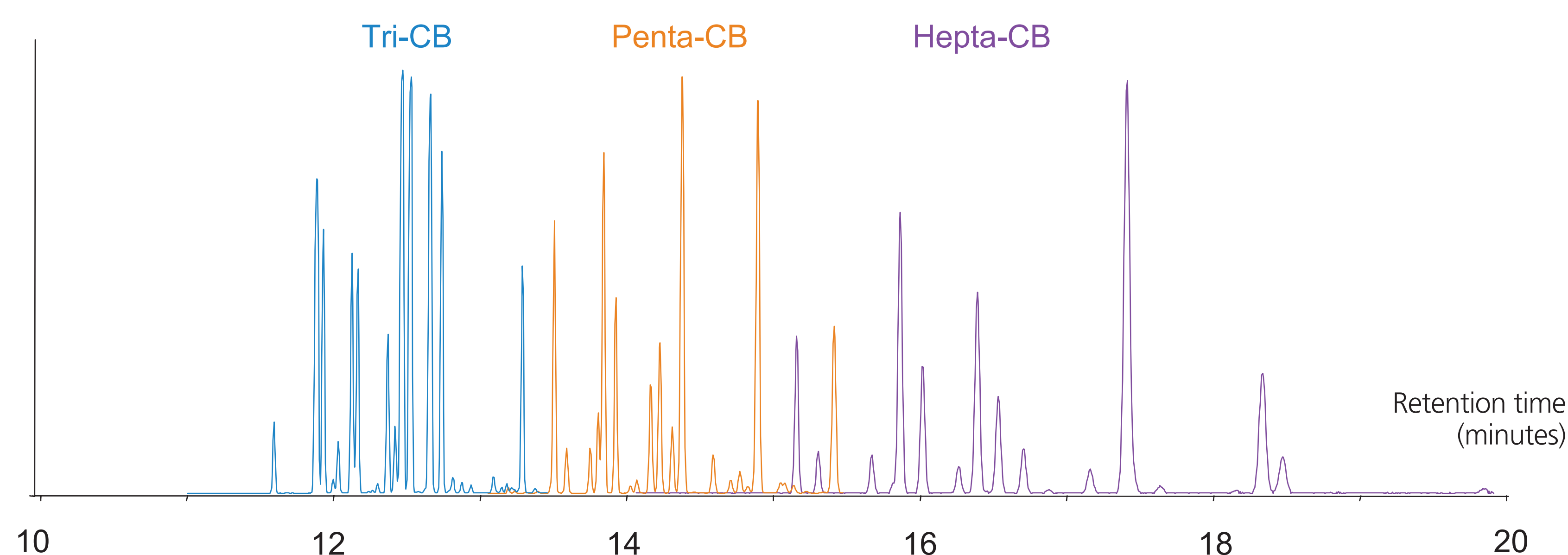
BPX5- SILPHENYLENE SELECTIVITY

The BPX5 offers a higher upper temperature limit and the selectivity of a silphenylene modified phase. The silphenylene content of BPX5 makes it more retentive for unhindered planar aromatic analytes than BP5.



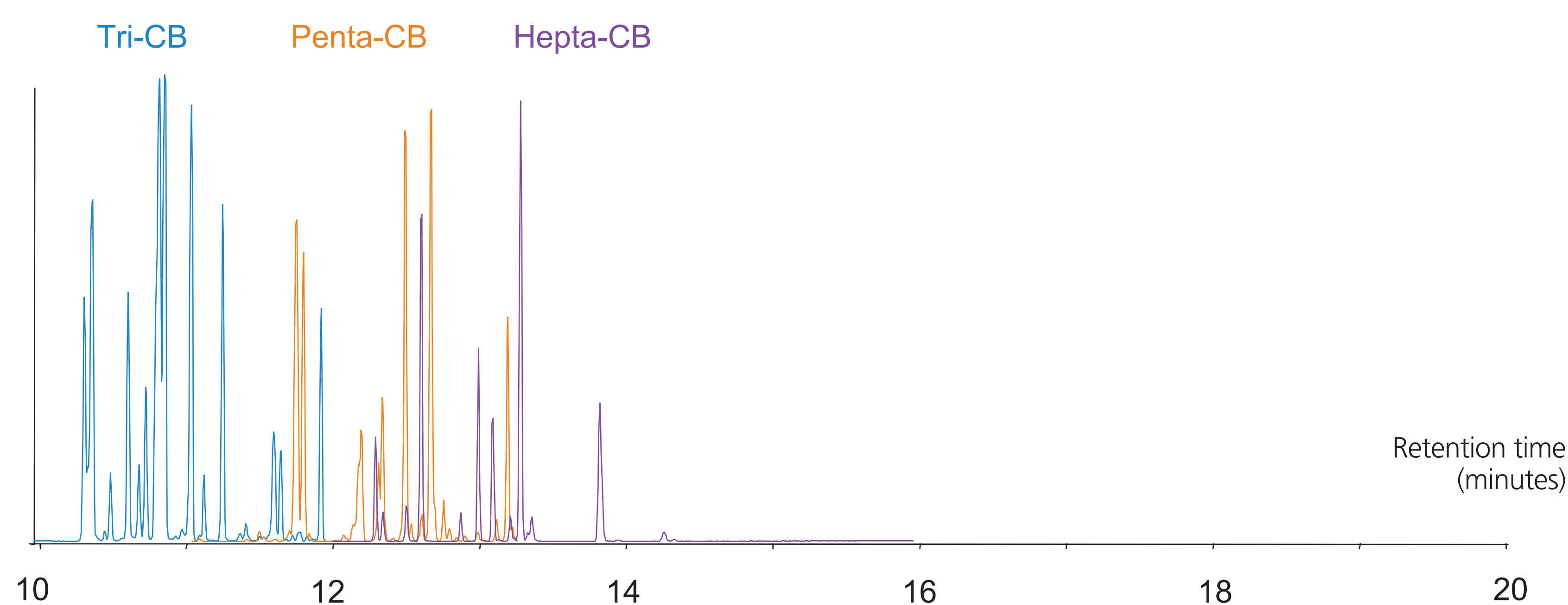
HT8 - CARBORANE SPECIFICITY

HT8 is a carborane modified phase that gives it an excellent upper temperature limit. Carborane phases show unique selectivity towards halogenated aromatic compounds like dioxins and PCBs. The specificity is unaffected by higher degrees of halogenation. The HT8 shows particularly unique selectivity towards coplanar PCBs while retaining the general characteristics of a BP5 for easy compound identification.



BPX90 - BISCYANOPROPYL UNIQUENESS

BPX90 interacts with aromatic compounds exclusively through π - π^* bonding. The phase shows a high specificity to substitution that is not significantly affected for sterically hindered compounds. This orthogonality to nonpolar phases allows unique selectivity between congeners and speciation of PCBs from non-aromatic matrix components. The polar retention mechanism results in effective separation but more rapid elution of analytes.



EXPERIMENTAL CONDITIONS

- All columns were 30 m x 0.25 mm ID with a 0.25 μ m film thickness.
- Sample was a 2% w/v solution of transformer oil in dichloromethane.
- Analysis was performed on a 6890 GC-5973N MSD (Agilent Technologies) fitted with an ETP 14642 electron multiplier.
- Injection was split 50:1 with a split flow of 65 mL/min at a temperature of 250 °C.

- The carrier gas was helium with a nominal flowrate of 1.3 mL/min in constant flowrate mode and a nominal inlet pressure of 10.8 psi.
- The oven temperature was programmed from 50 °C (held for 2 minutes) to 270 °C (held for 15 minutes) at 20 °C/min.
- The transfer line was at 280 °C.
- MS scanned from 50-550 Da at 2.9 scan/sec.

For more chromatographic information visit www.sge.com or contact your SGE technical specialist.



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