

Consistent and reliable analytical excellence with YMC-Triart UHPLC columns

Reliable quality control depends on robust methods and consistent column performance. YMC-Triart UHPLC columns deliver unmatched

reproducibility based on a controlled microflow reactor process, decades of packing expertise, and a strict quality control regime.



In the YMC-own continuous process individual droplets are formed, in which a sequence controlled granulation of pre-polymerised siloxane takes place. Due to the several orders of magnitude faster mass transfer and mixing process in the droplets, a very homogenous emulsion is achieved for the gelation process.

The result: a stationary phase with tight particle and pore size distribution, delivering precise results, high efficiency and reduced system backpressure. Decades of packaging expertise and a performance-driven quality control ensure reproducible and precise chromatographic results at a consistently high level.

Reproducible results in reversed-phase UHPLC

Table 1: Chromatographic conditions of the reversed-phase reproducibility test.

Columns:	YMC-Triart C18, C8, Phenyl, PFP (1.9 mm, 12 nm) 75 x 3.0 mm ID YMC-Triart C18 ExRS (1.9 µm, 8 nm) 75 x 3.0 mm ID YMC-Triart Bio C18, Bio C4 (1.9 µm, 30 nm) 75 x 3.0 mm ID
Part Nos.:	TA12SP9-L503PT TO12SP9-L503PT TPH12SP9-L503PT TPF12SP9-L503PT TAR08SP9-L503PT TA30SP9-L503PT TB30SP9-L503PT
Eluent:	20 mM KH ₂ PO ₄ -H ₃ PO ₄ (pH3.5)/acetonitrile (40/60)
Flow rate:	0.425 mL/min
Temperature:	37 °C
Detection:	UV at 254 nm
Sample:	1. Uracil 2. 4-n-butoxybenzoic acid 3. Ethylbenzene 4. N-propylbenzene

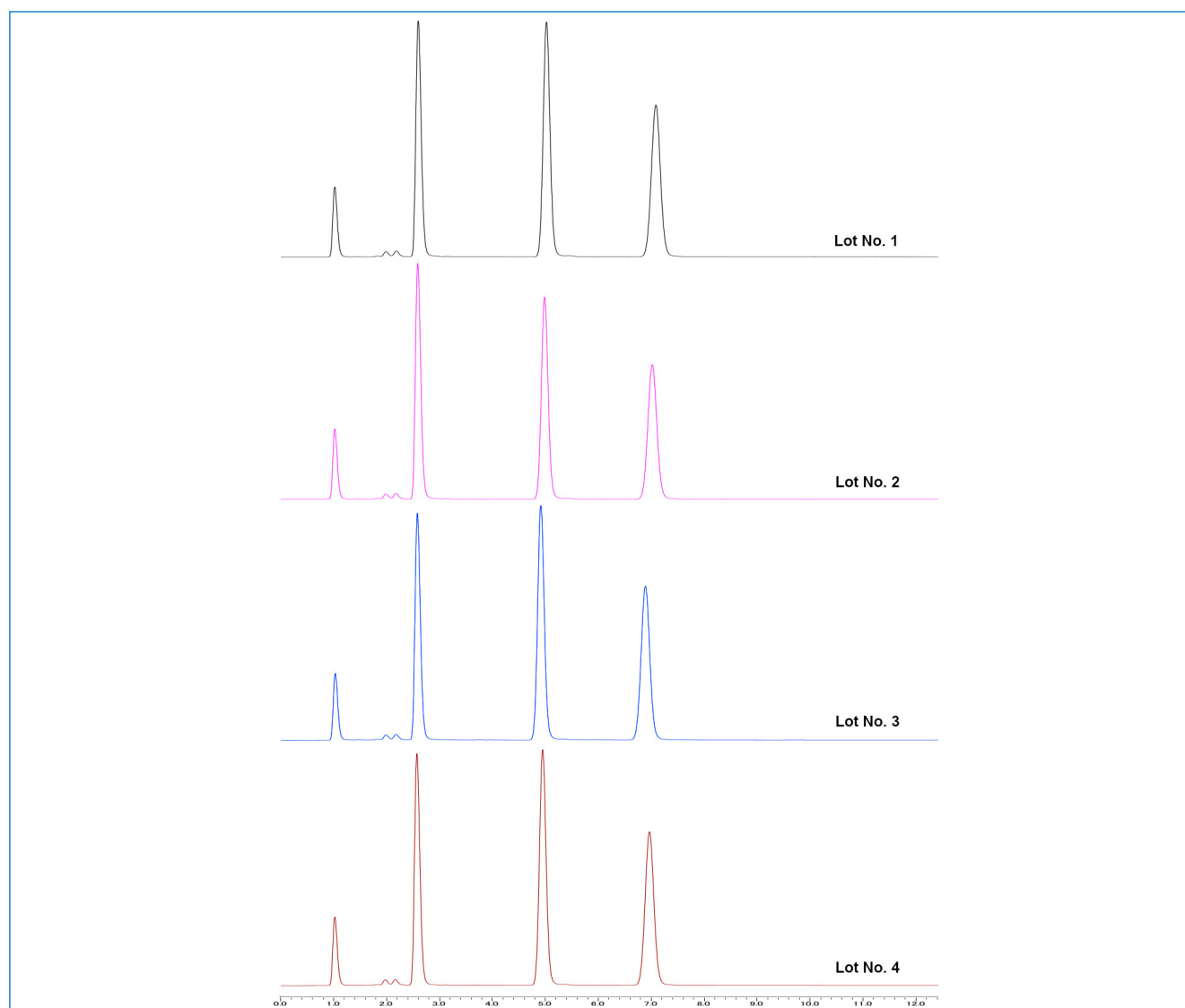


Figure 1: Comparison of four different lots YMC-Triart C18.

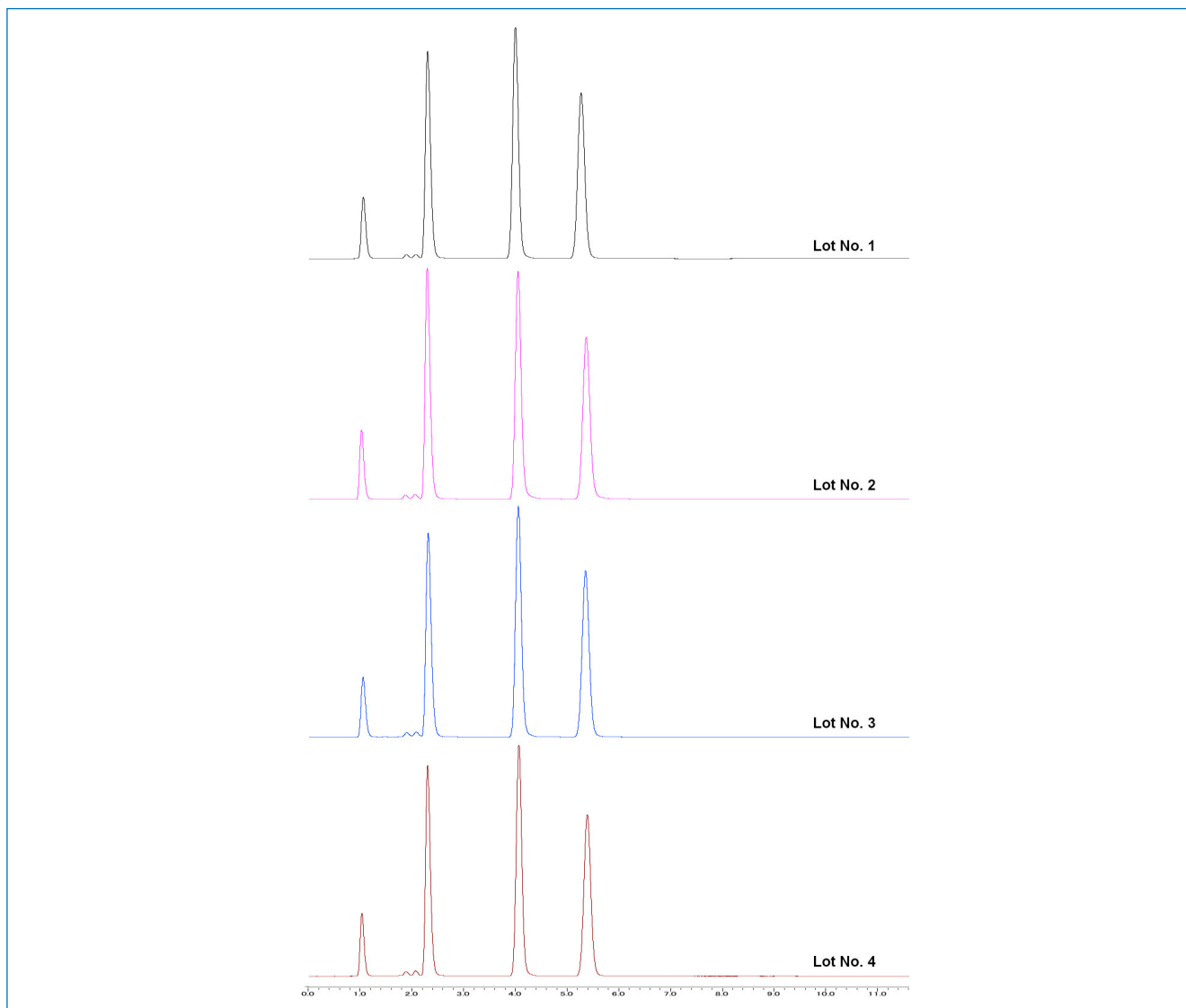


Figure 2: Comparison of four different lots YMC-Triart C8.

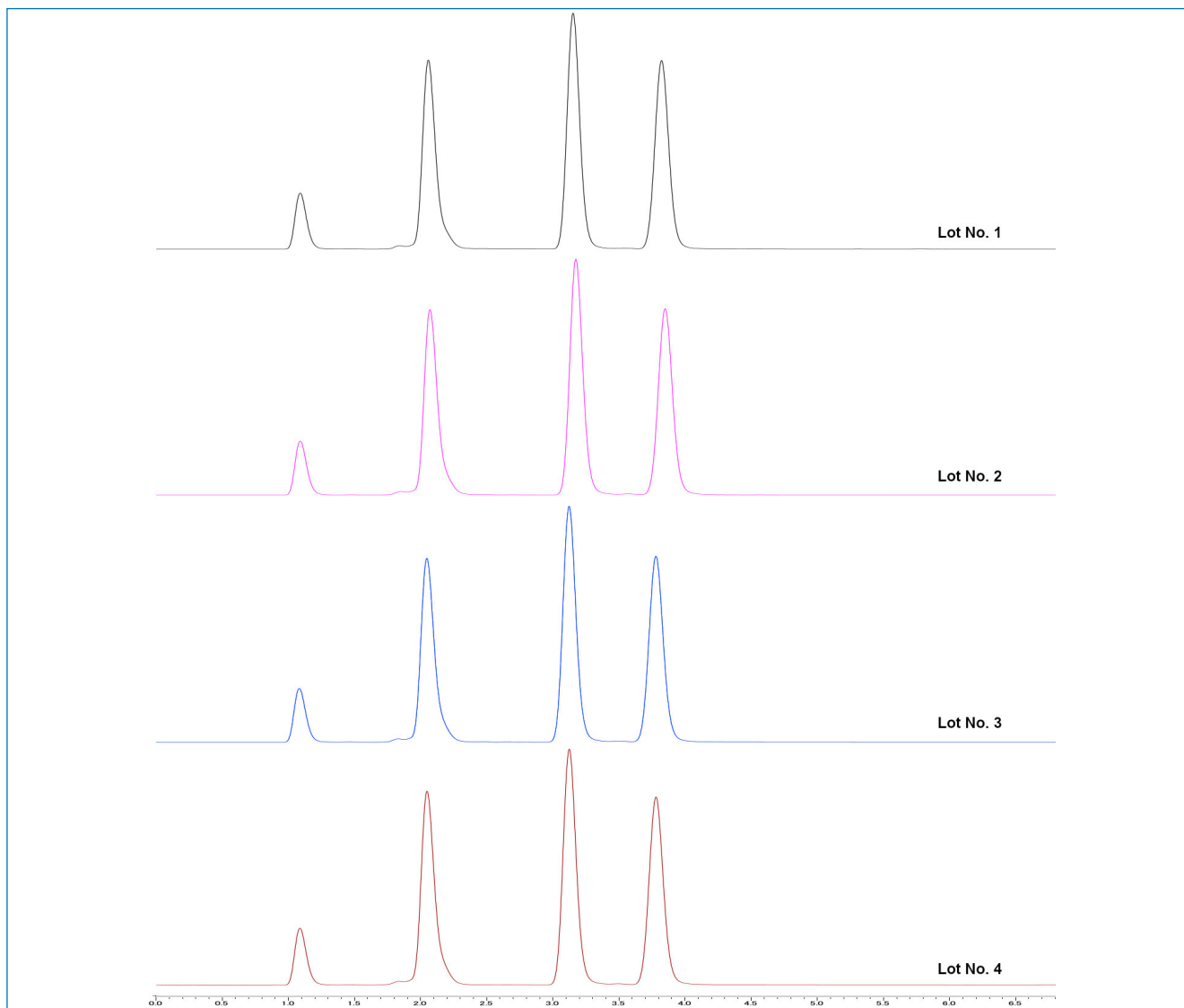


Figure 3: Comparison of four different lots YMC-Triart Phenyl.

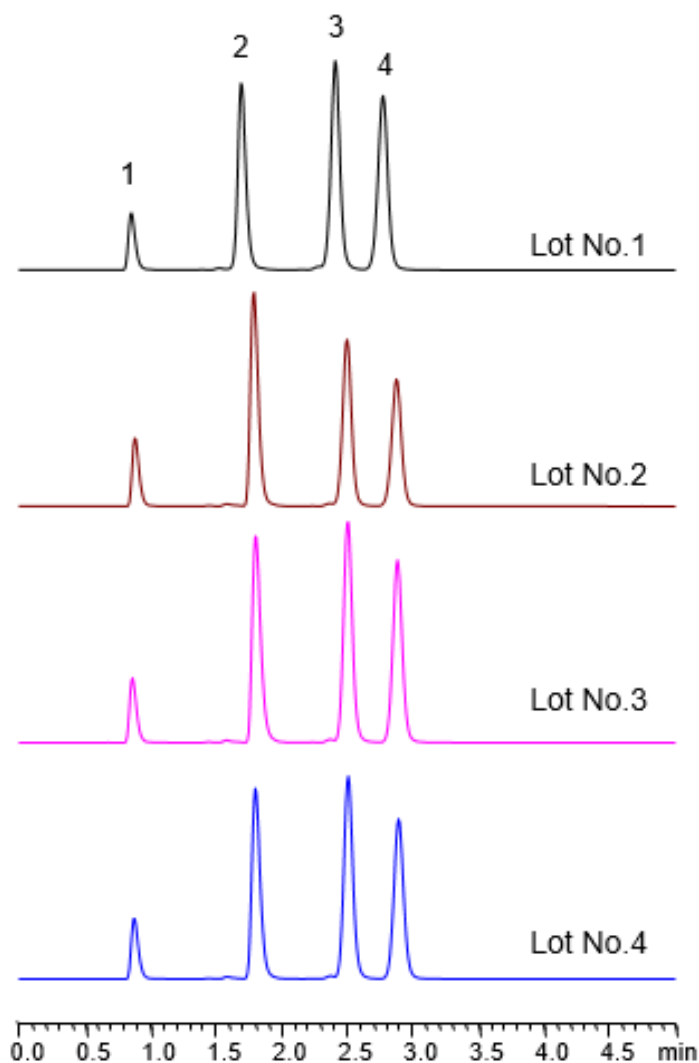


Figure 4: Comparison of four different lots YMC-Triart PFP.

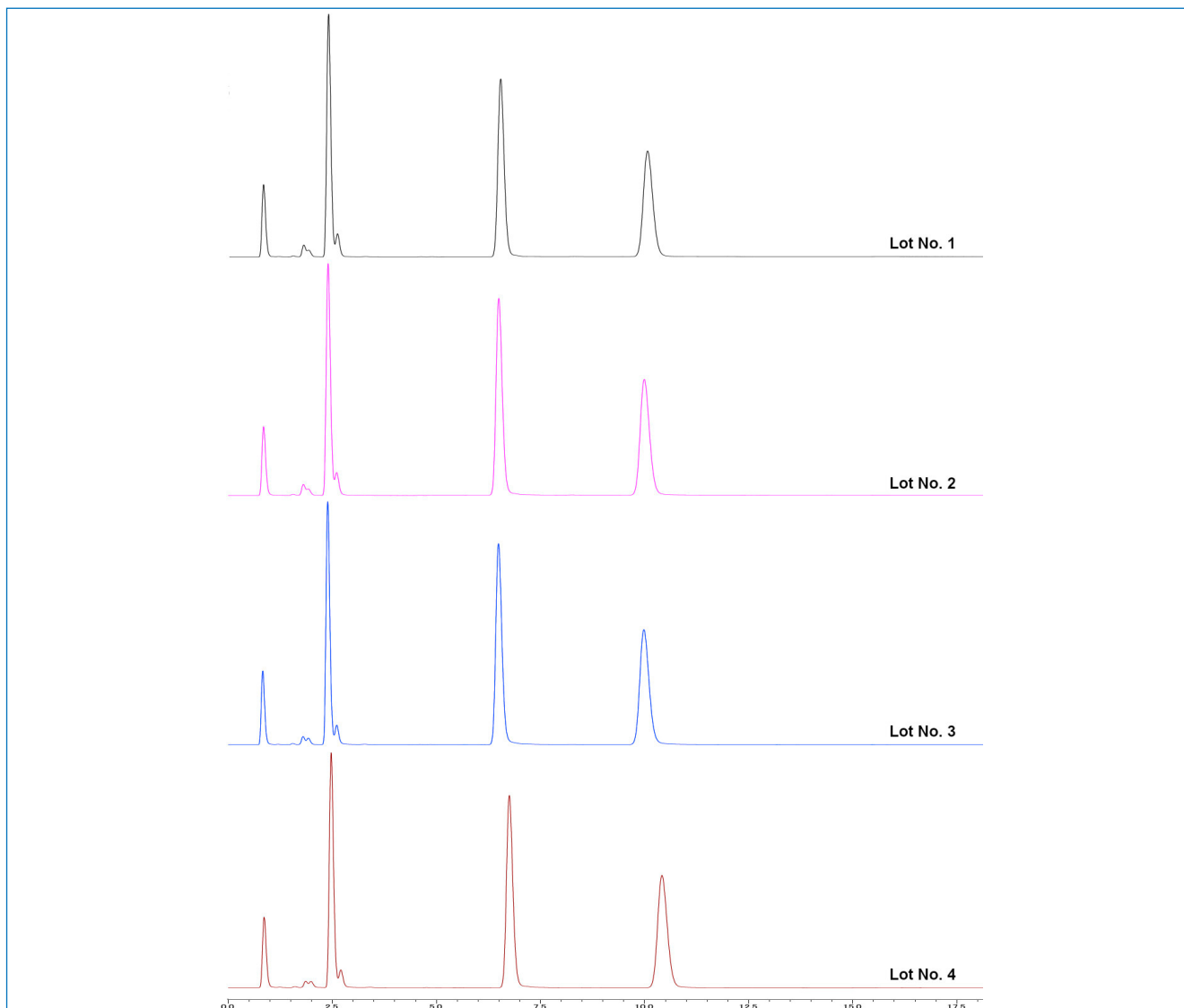


Figure 5: Comparison of four different lots YMC-Triart C18 ExRS.

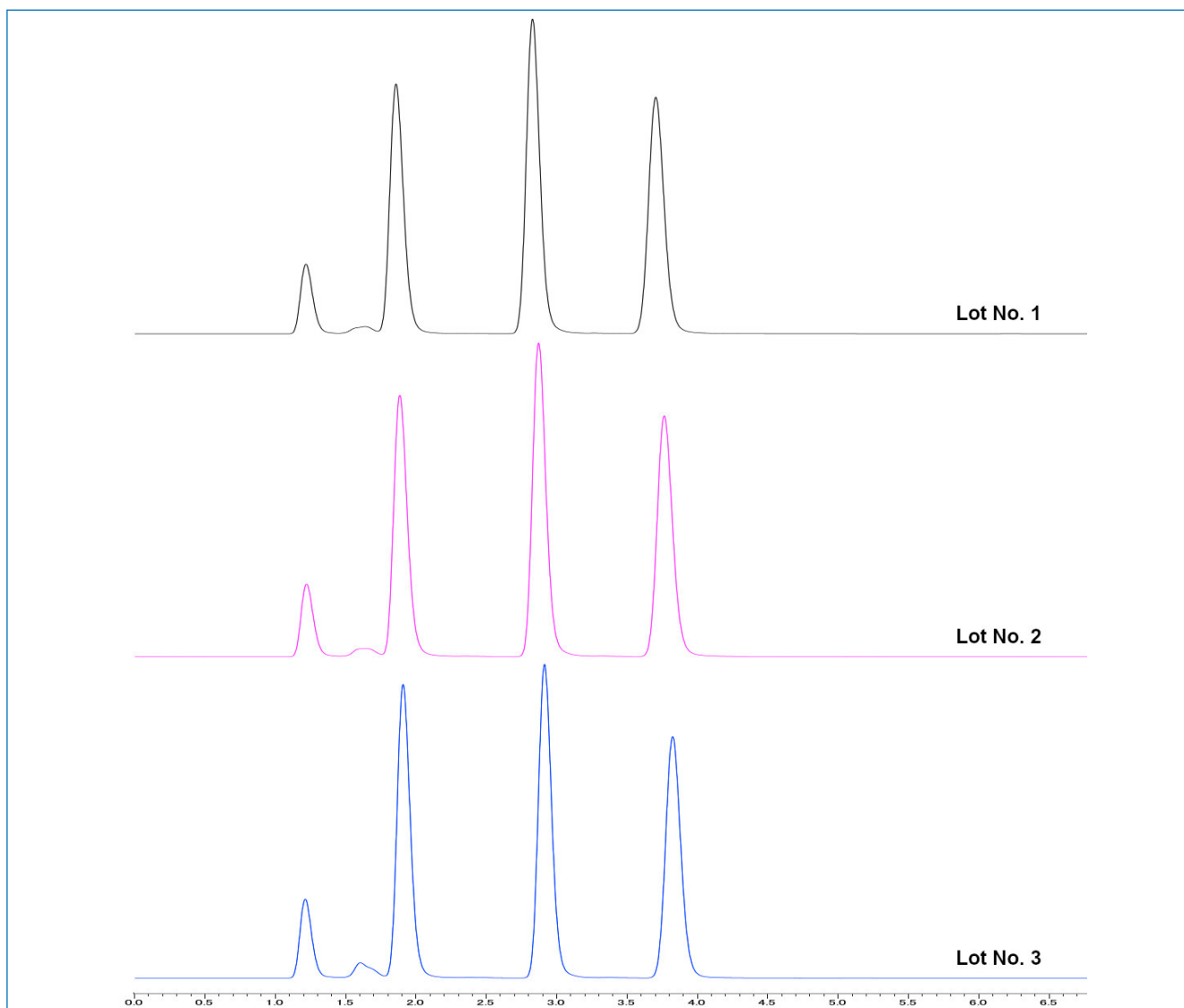


Figure 6: Comparison of three different lots YMC-Triart Bio C18.

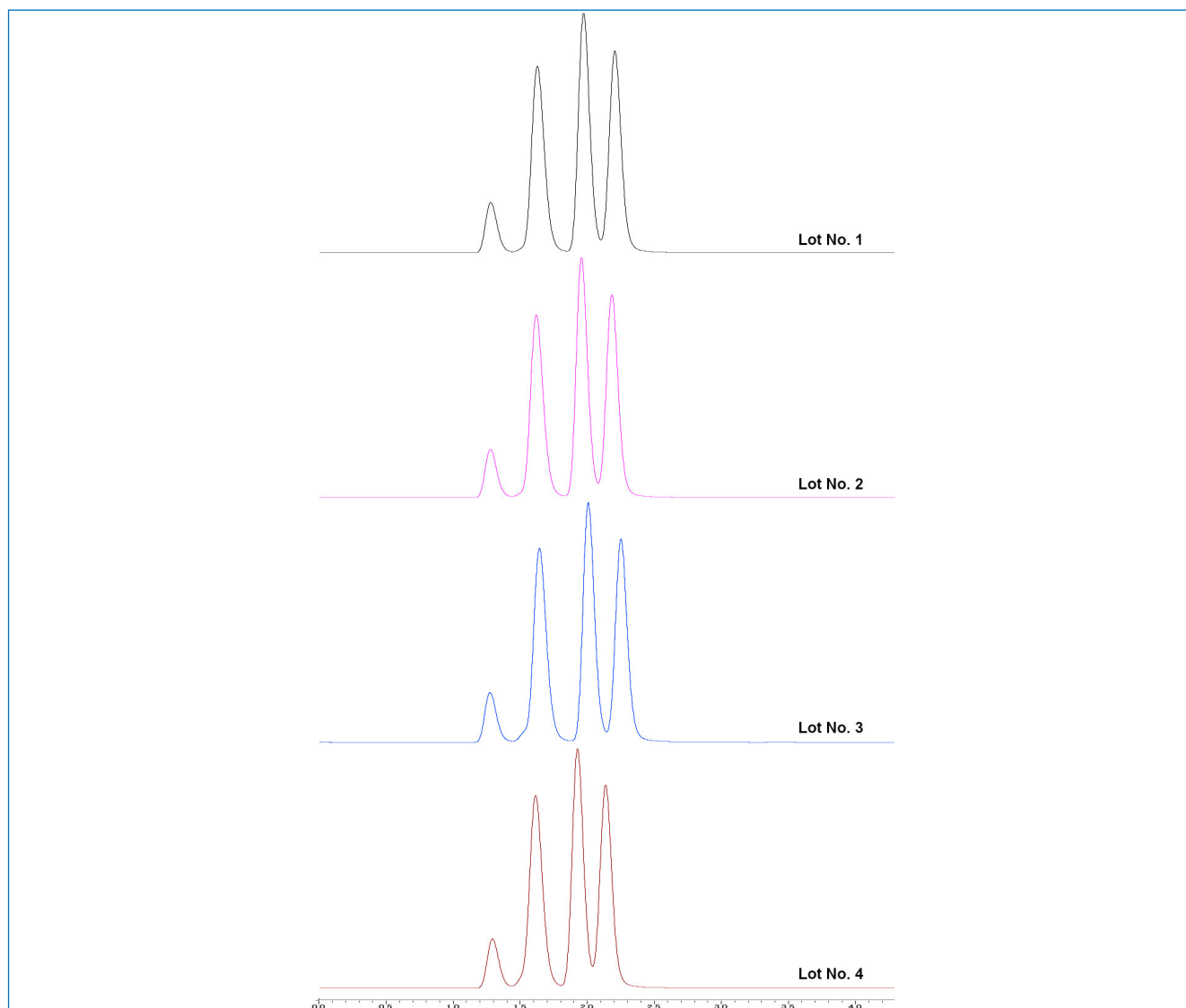


Figure 7: Comparison of four different lots YMC-Triart Bio C4.

YMC-Triart Diol-HILIC ensures consistent performance in HILIC separations

Reproducible HILIC performance requires thorough column equilibration. YMC-Triart Diol-HILIC columns meet the demand of lot-to-lot consistency.

Table 2: Chromatographic conditions of the HILIC reproducibility test.

Column:	YMC-Triart Diol-HILIC (1.9 mm, 12 nm) 150 x 3.0 mm ID
Part No.:	TDH12SP9-1503PT
Eluent:	100 mM CH ₃ COONH ₄ /acetonitrile (10/90)
Flow rate:	0.4 mL/min
Temperature:	40 °C
Detection:	UV at 254 nm
Injection:	2 µL
Sample:	1. Acenaphthene (0.1 mg/mL) 2. Uracil (0.02 mg/mL) 3. Cytosine (0.05mg/mL)

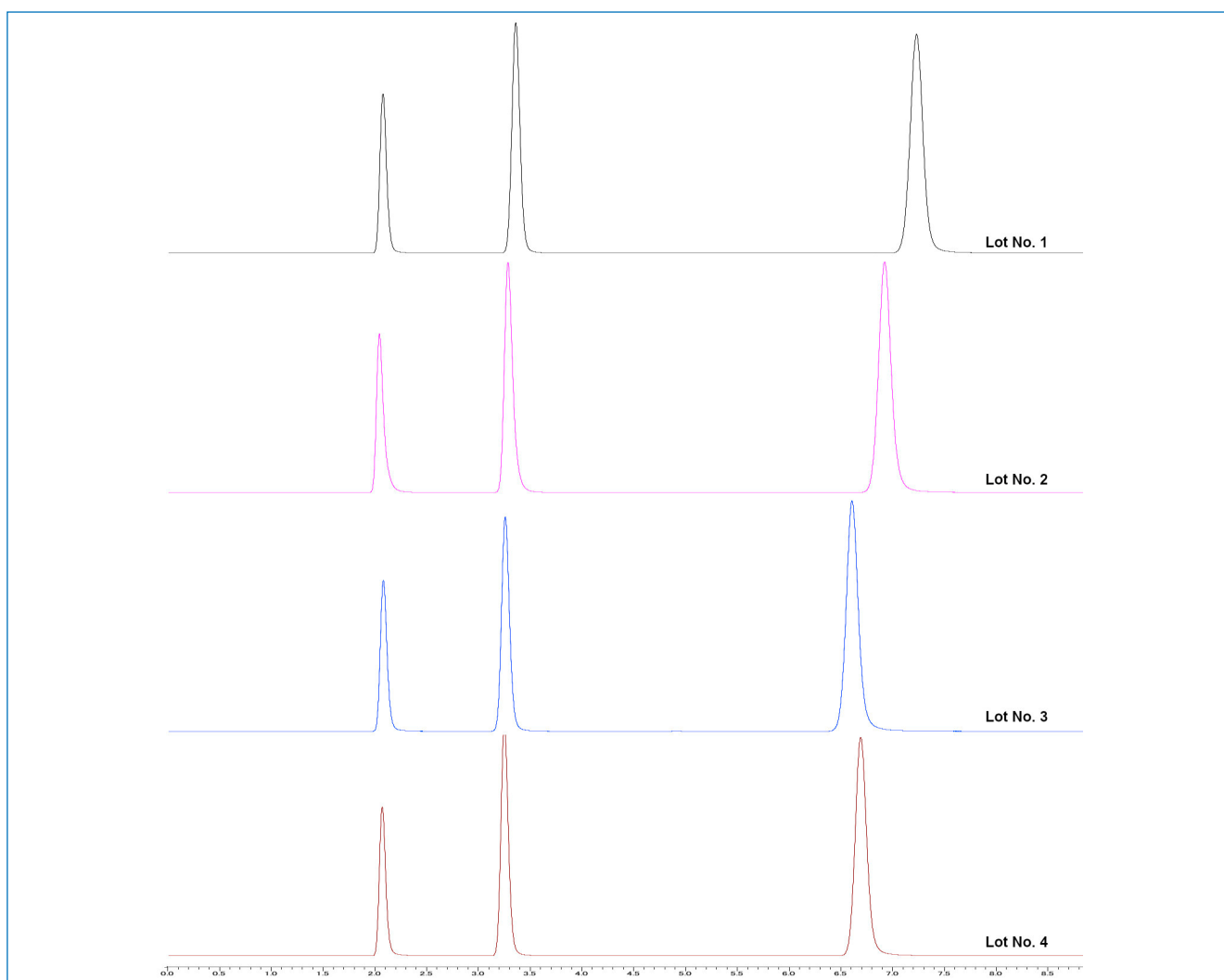


Figure 8: Comparison of four different lots YMC-Triart Diol-HILIC.

Conclusion

These tests confirm that retention profiles remain stable across production batches. The robust column design ensures precision and reliability for method development and quality control.