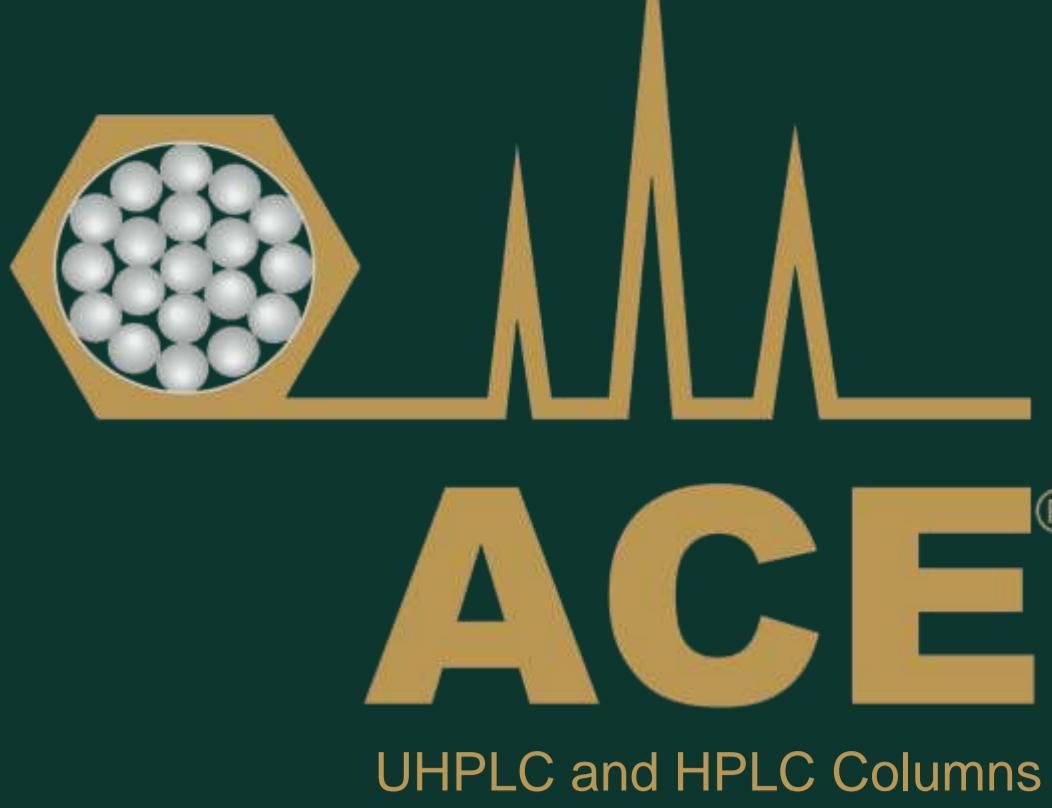


Exploring The Selectivity & Performance Of A New Extra Selectivity / Extended Stability Cyano Phase In UHPLC / HPLC Method Development



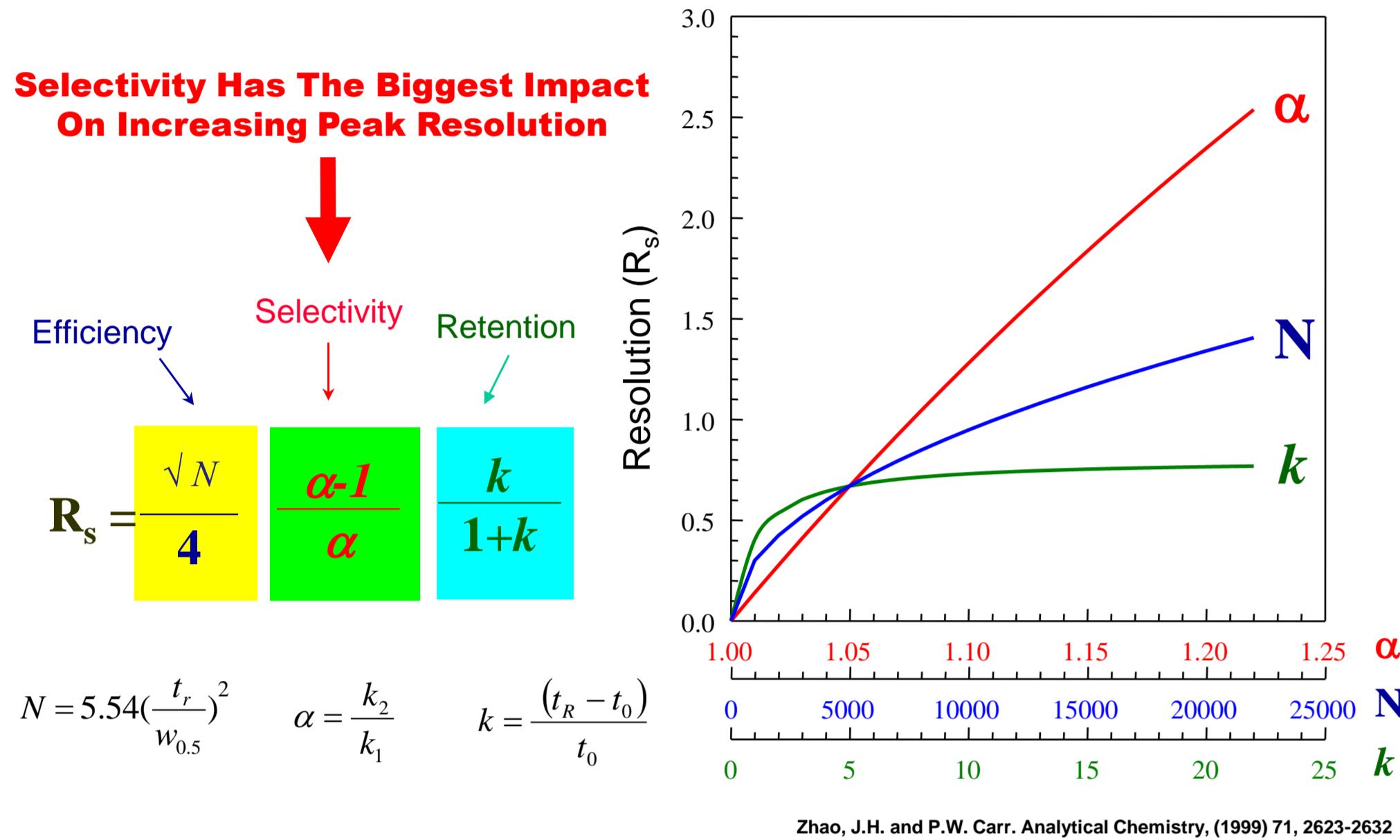
Alan P McKeown¹, Geoffrey Faden²

¹Advanced Chromatography Technologies Ltd, 1 Berry Street, Aberdeen, Scotland, AB25 1HF UK ²MACMOD Analytical Inc., 103 Commons Court, PO Box 587, Chadds Ford, PA 19317 USA

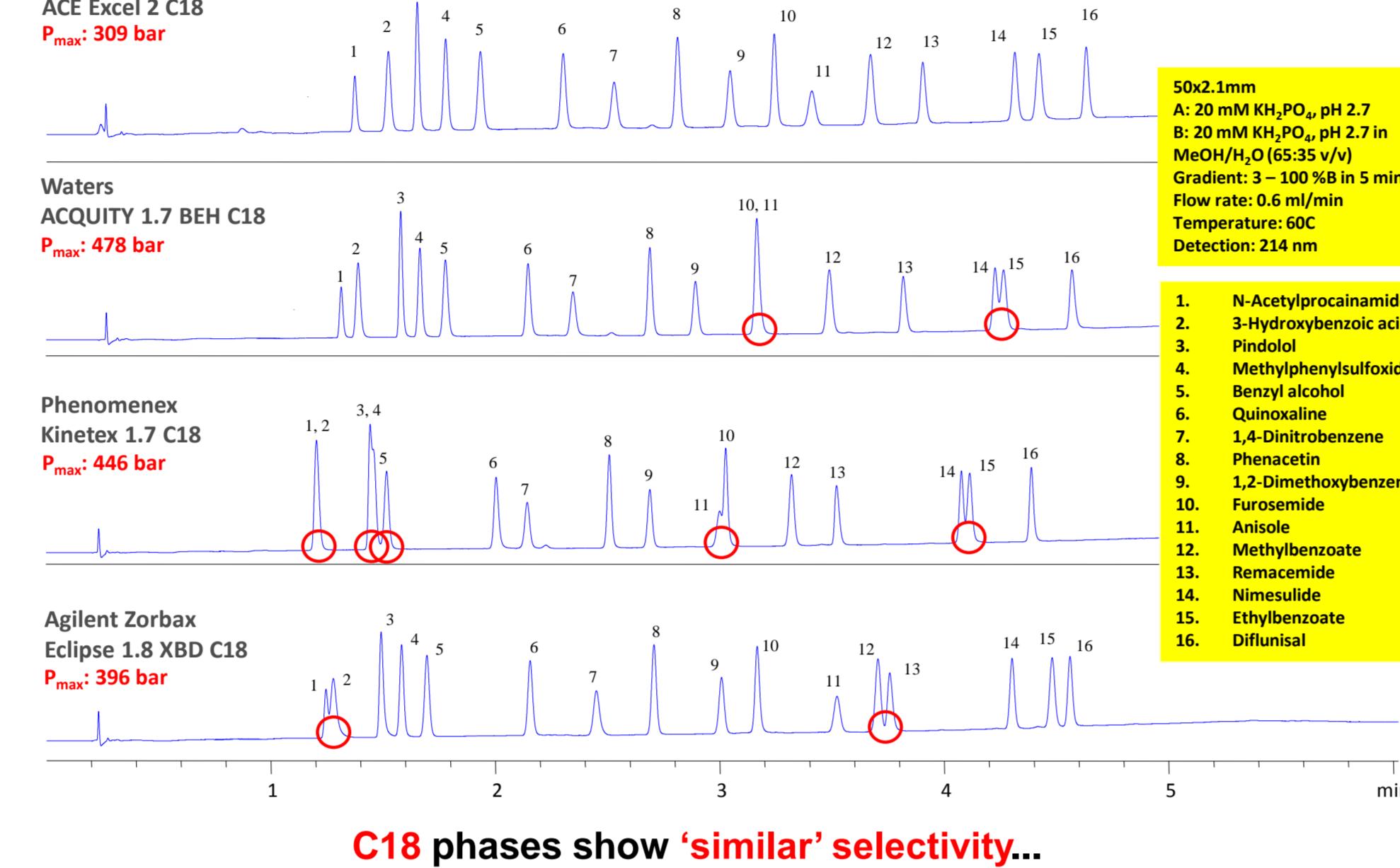
THE CHALLENGE

Engineer a new, unique CN UHPLC / HPLC phase with polar and non-polar retention and alternative selectivity that is reproducible, robust and gives efficient chromatography

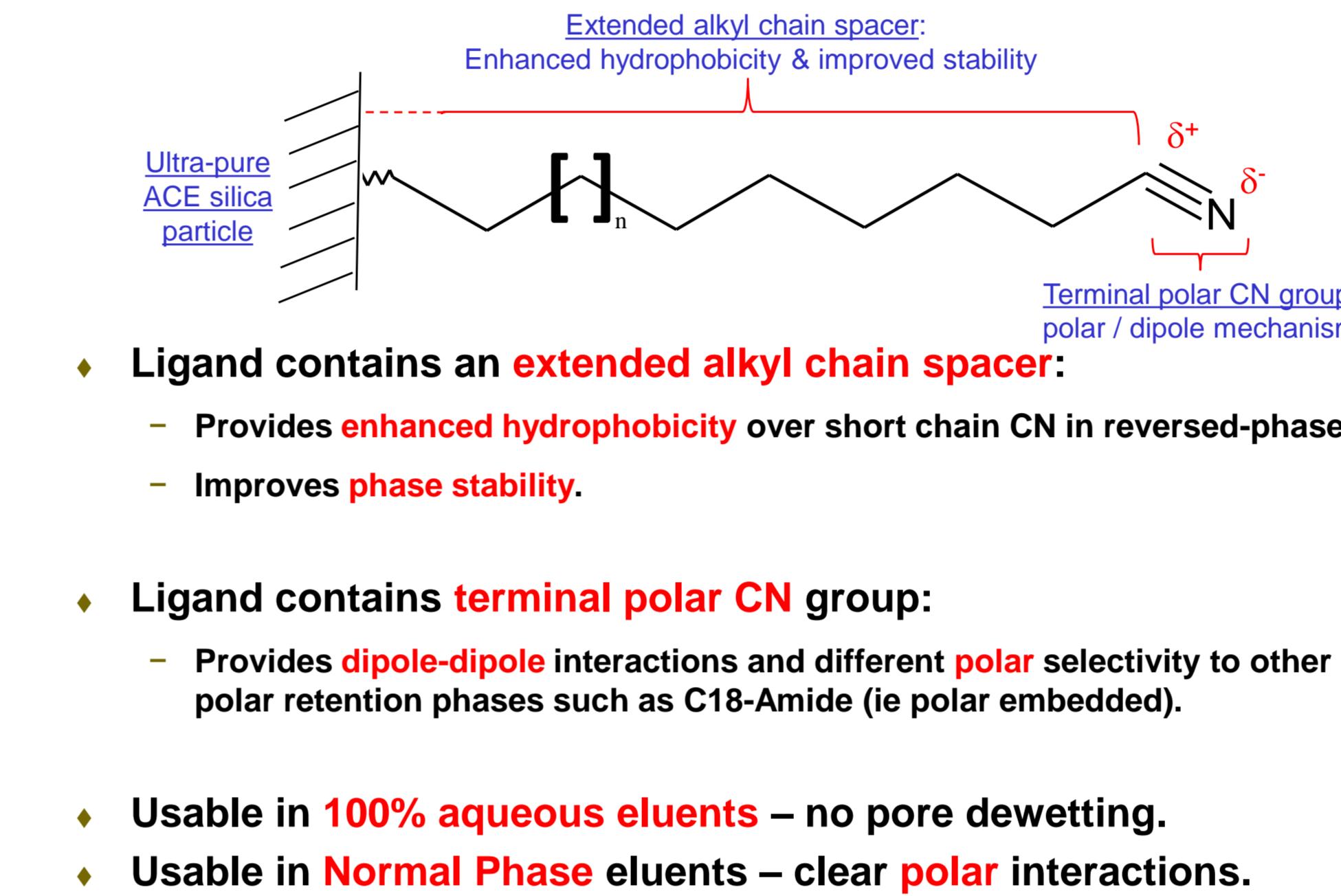
1. RESOLUTION, SELECTIVITY, EFFICIENCY & RETENTION



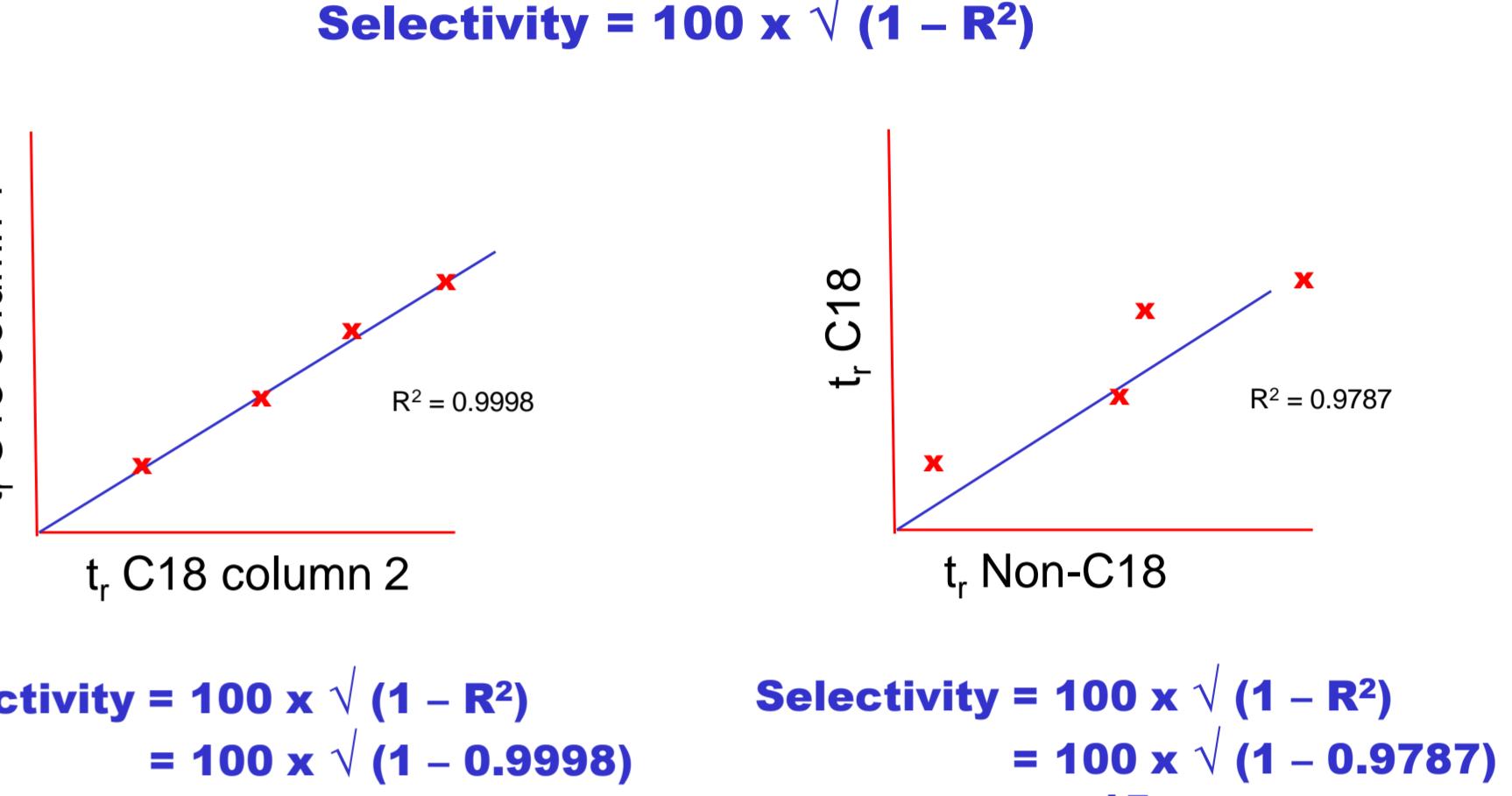
2. C18 STATIONARY PHASES SHOW SIMILAR SELECTIVITY



3. ACE® CN-ES: A NEW STATIONARY PHASE OPTION



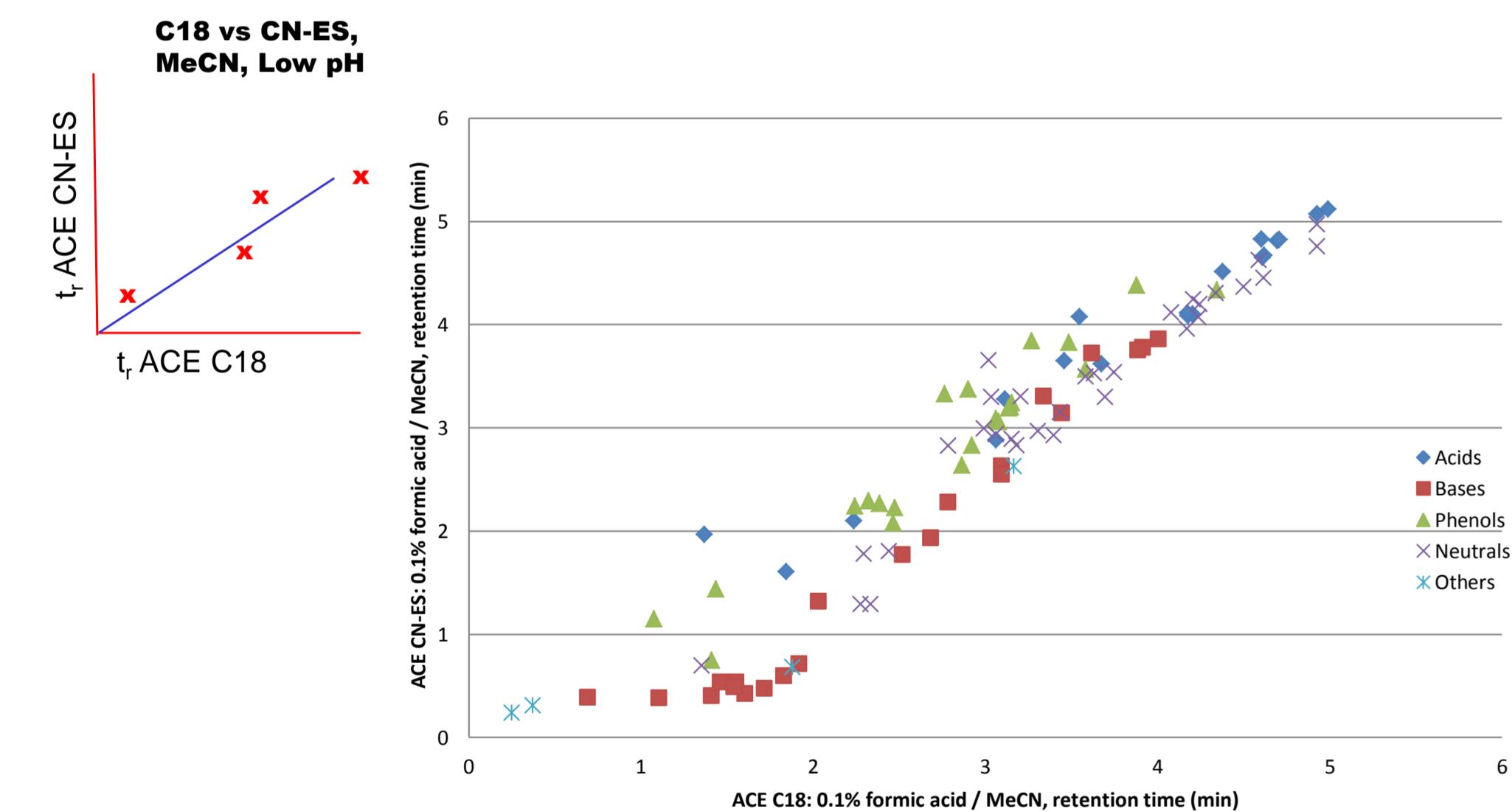
4. DETERMINING SELECTIVITY VALUES* FOR PHASES



Higher Selectivity values indicate orthogonality

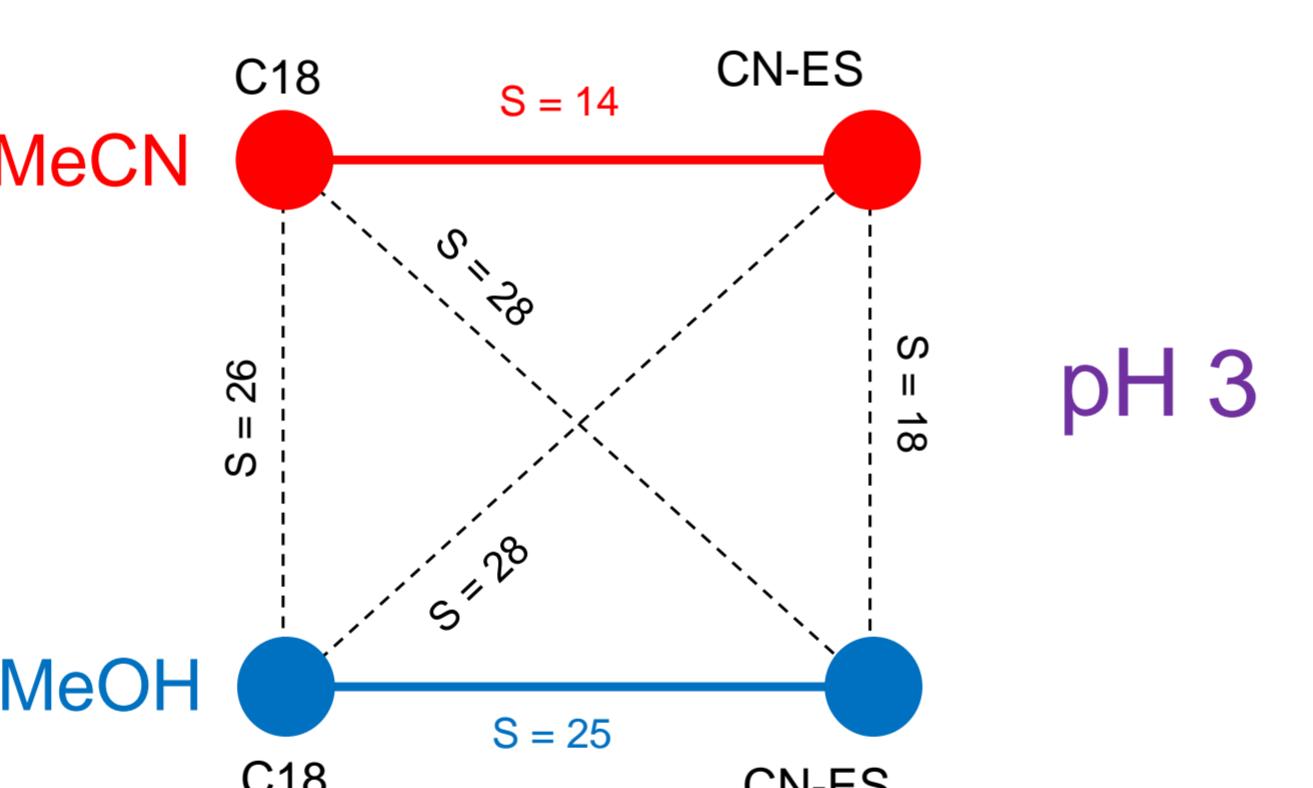
* Neue, O'Gara, Méndez "Selectivity in Reversed-Phase Separations: Influence of the Stationary Phase", J. Chromatogr. A 1127 (2006), 161-174

5. ACE® CN-ES EXCELLENT POLAR / NON-POLAR SELECTIVITY



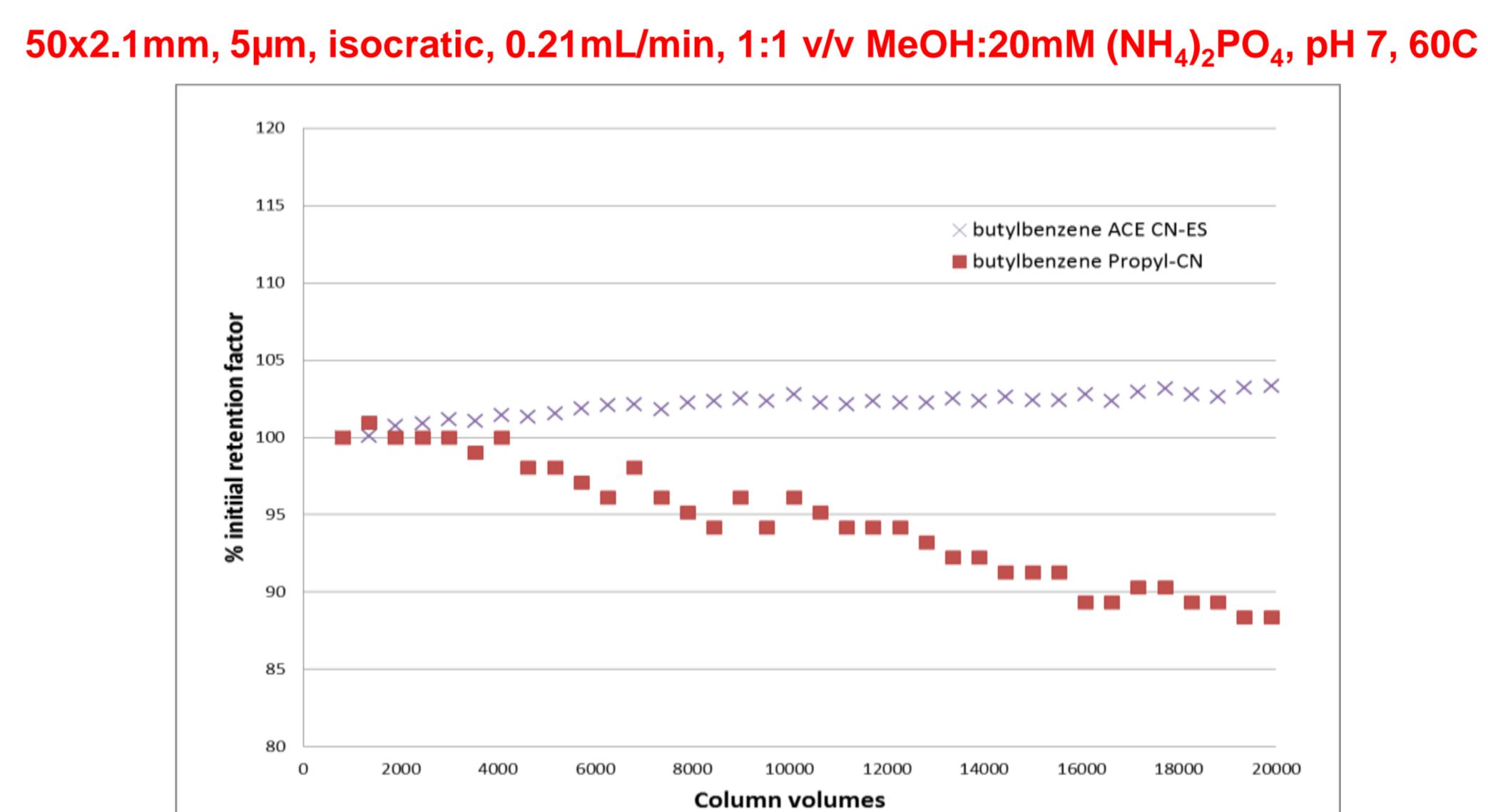
6. SELECTIVITY VALUES FOR METHOD DEVELOPMENT

45 analytes on 2 columns, 2 solvents

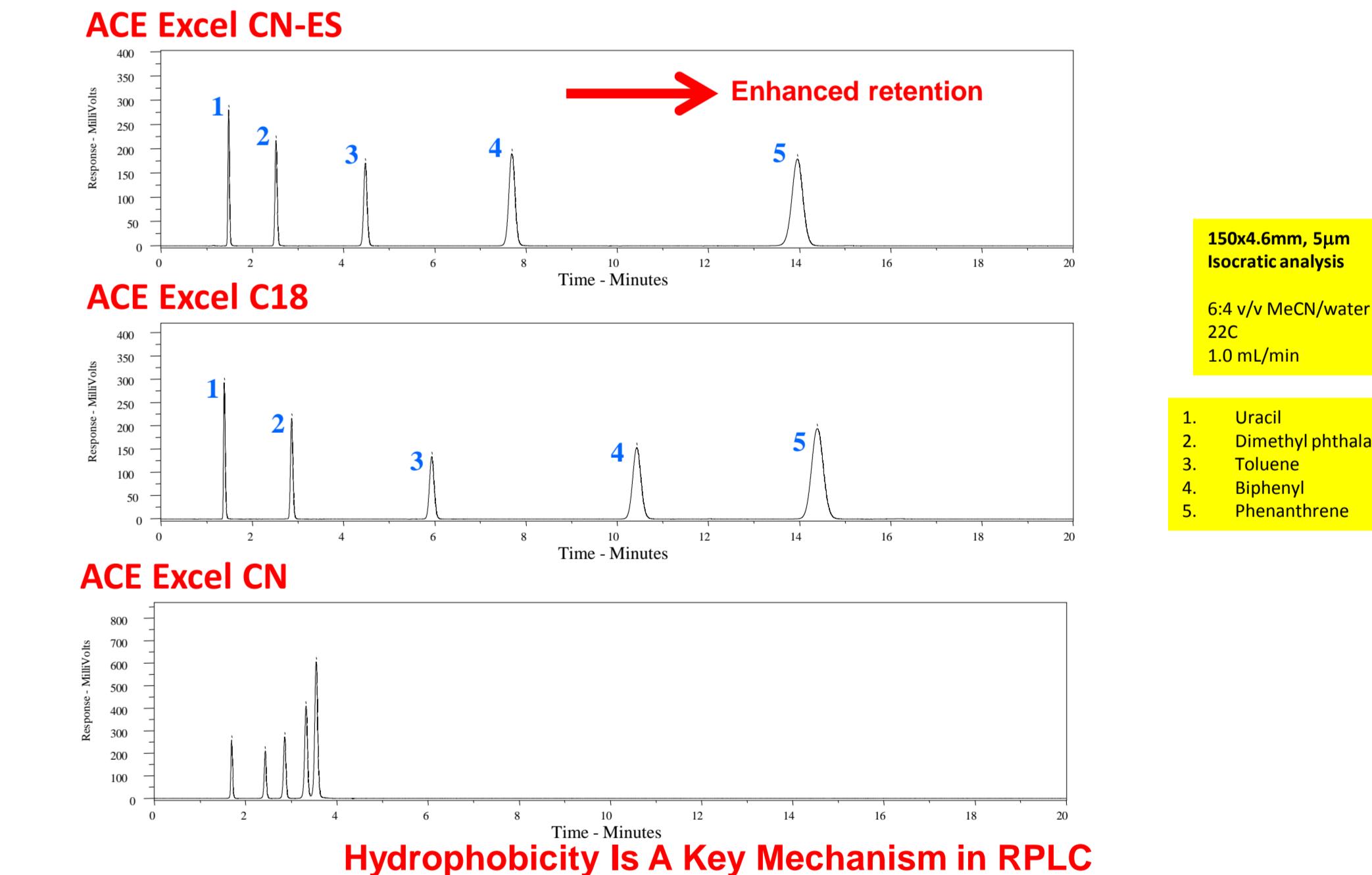


Excellent Selectivity Options For Method Development

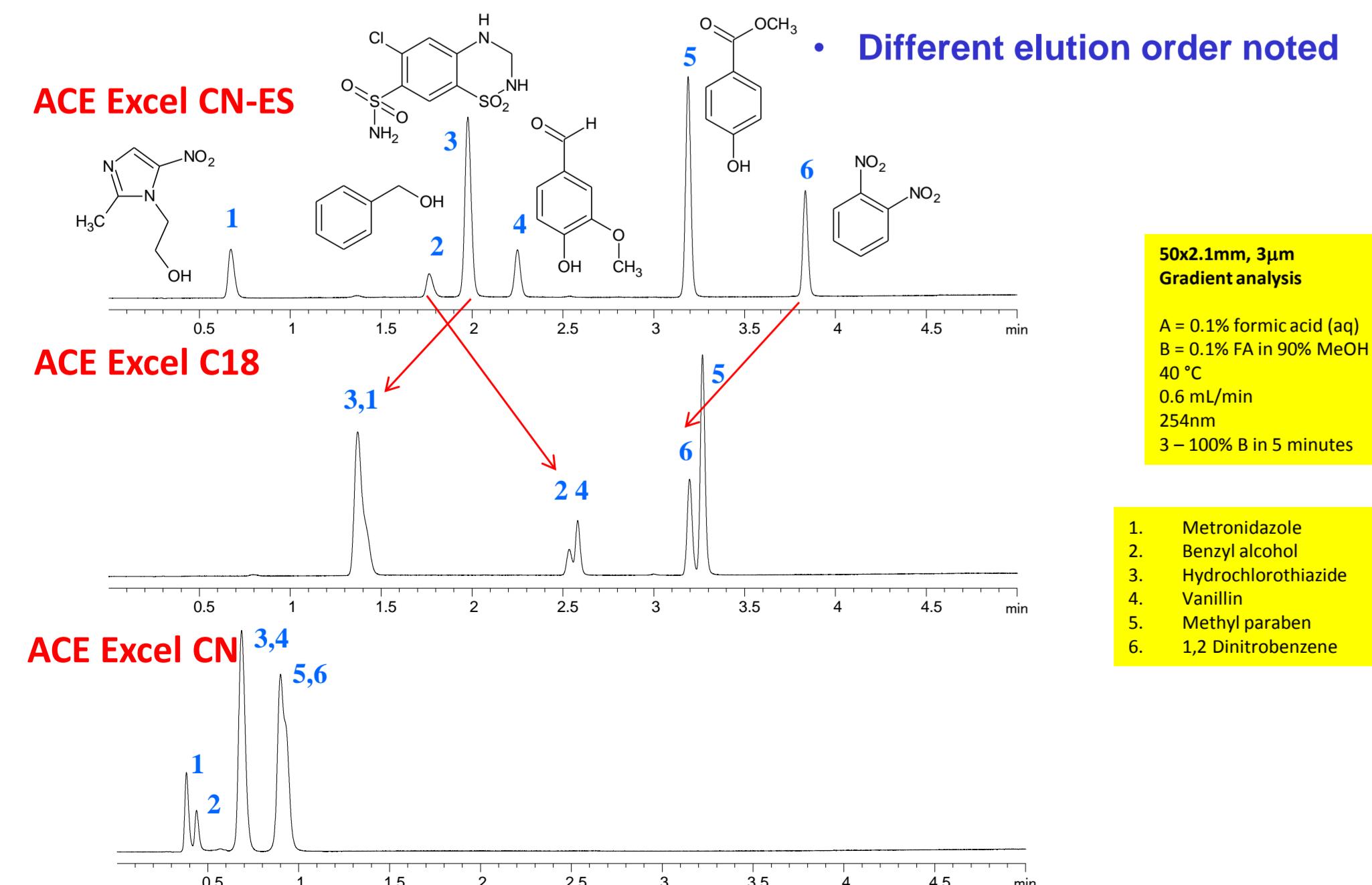
7. ACE® CN-ES SHOWS ENHANCED STABILITY: pH 7, 60C



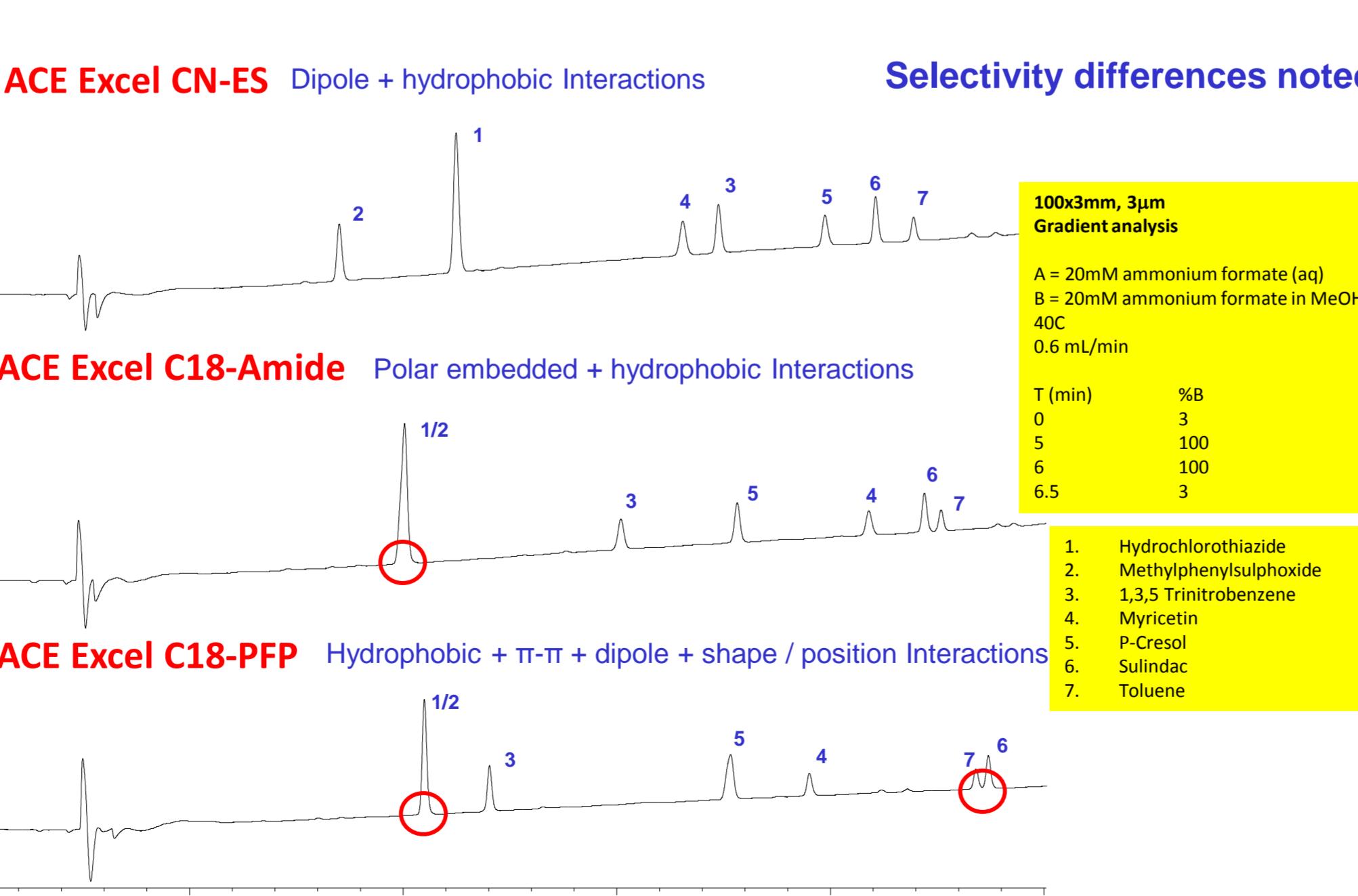
8. ACE® CN-ES SHOWS ENHANCED HYDROPHOBIC RETENTION



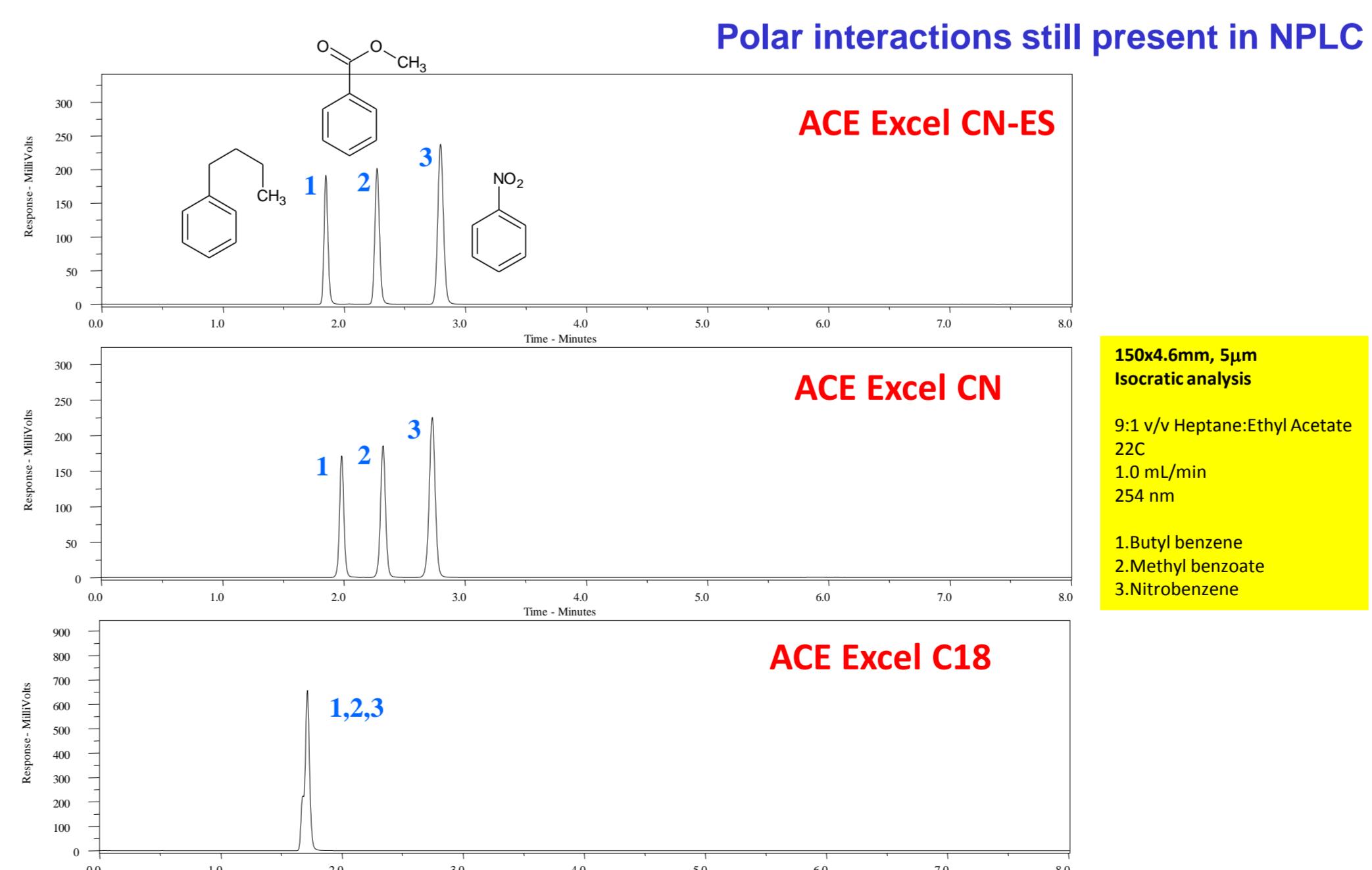
9. METHOD DEVELOPMENT: ALTERNATE SELECTIVITY



10. ALTERNATIVE SELECTIVITY TO OTHER ACE® PHASES



11. ACE® CN-ES: POLAR INTERACTIONS IN NPLC



12. SUMMARY AND CONCLUSIONS

- The ACE® CN-ES provides **alternative selectivity** to C18 based phases which is ideal for **method development** or **sample screening**.
- The **unique ligand design** of the ACE® CN-ES improves the **hydrophobic retention mechanism** contribution to separations whilst providing **enhanced stationary phase stability**.
- The ACE® CN-ES is useful for separation of polar and non-polar analytes where **traditional CN phases** do not provide sufficient retention of column lifetime.
- The **versatile ACE® CN-ES** provides **multiple modes of interaction** in **RPLC** or **NPLC** to assist in separation of analyte mixtures.