

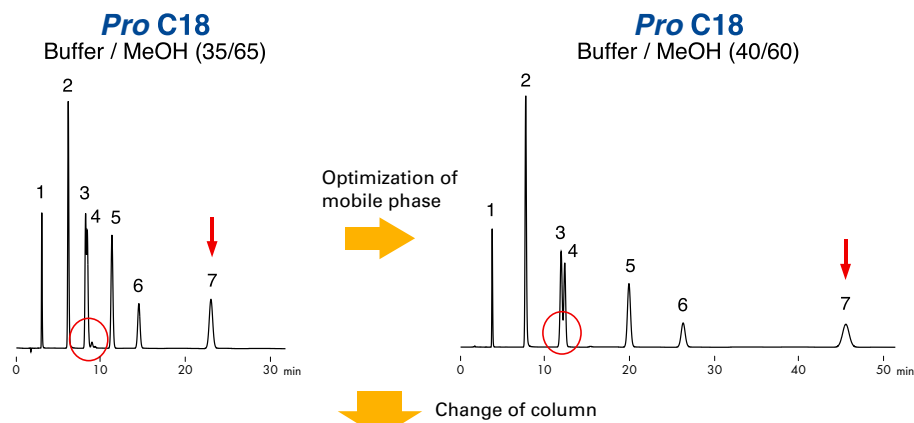
For setting separation conditions

Resolution improvement and analysis time reduction on C8 and C4 column

S050715B

During the optimization of separation conditions, changing the composition of the mobile phase is an effective way to influence retention and resolution of compounds. Proper selection of column type will also determine the retention and resolution between compounds. Due to the difference of ligand chain length of the stationary phase, ODS, C8, and C4 have different separation characteristics such as hydrophobicity, hydrogen bonding capacity, and planar recognition ability. Selecting C8 or C4 columns may sometimes lead to a better separation with shorter analysis time than some separations performed on ODS.

Resolution improvement and analysis time reduction on C8 and C4 column



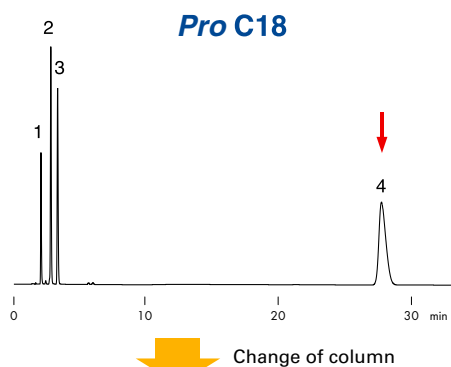
Antiarrhythmics

1. Phenytoin
2. Propranolol HCl
3. Quinidine
4. Lidocaine
5. Diltiazem HCl
6. Verapamil HCl
7. Nicardipine HCl

Column	: 150 X 4.6 mmI.D.
Eluent	: 20mM KH ₂ PO ₄ -K ₂ HPO ₄ (pH 6.9) / methanol
Flow rate	: 1.0 mL/min
Temperature	: 37°C
Detection	: UV at 220 nm

C8 and C4 give complete separation of antiarrhythmics in a short time with better peak shape while maintaining adequate separation between all peaks when compared to C18. C8 and C4 can often be useful where separation optimization is difficult to achieve using C18.

Analysis time reduction on C8 and C4 column



Antipyretic analgesics

1. Caffeine
2. Ethenzamide
3. Bromovalerylurea
4. Ibuprofen

Column	: 150 X 4.6 mmI.D.
Eluent	: methanol / 20mM H ₃ PO ₄ (60/40)
Flow rate	: 1.0 mL/min
Temperature	: 37°C
Detection	: UV at 254 nm

In separation of compounds that differ greatly in hydrophobicity, the analysis time using ODS takes long, whereas C8 and C4 that have lower hydrophobicity of the stationary phase can shorten the analysis time.

