

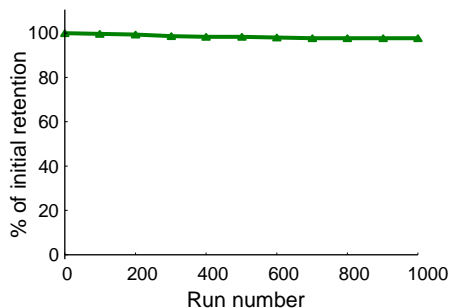
Analysis of commercial anti-itch medication by using YMC-Triart C18 under alkaline mobile phase condition

U191118AE

In liquid chromatography, pH value of mobile phase is one of the important parameters affecting the retention behavior and peak shape of analytes. YMC-Triart C18 allows the use of various mobile phases over a wide pH range due to its great chemical durability, and provides the robust analysis under alkaline mobile phase conditions as impractical for conventional C18 columns. In this report, we introduce the analytical method development of a commercial anti-itch medication by using YMC-Triart C18.

Great chemical durability of YMC-Triart C18

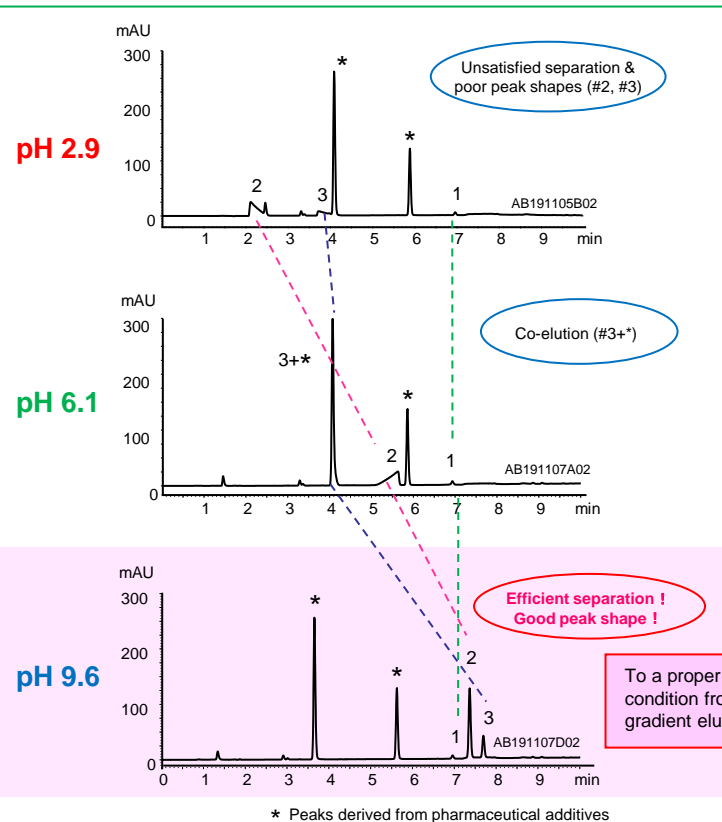
YMC-Triart C18 with the innovative surface modification on organic/inorganic hybrid silica allows the use of various mobile phases over a wide pH range, and shows the great durability over a long-term operation under alkaline mobile phase conditions.



Column	: YMC-Triart C18 (5 μ m, 12 nm) 50 X 2.0 mm I.D.
Eluent	: A) 20 mM HCOONH ₄ -NH ₃ (pH 9.5) B) methanol 0-90%B (0-7 min)
Flow rate	: 0.2 mL/min
Temperature	: 25°C
Sample	: secobarbital

Mobile phase pH screening during optimization of analysis condition

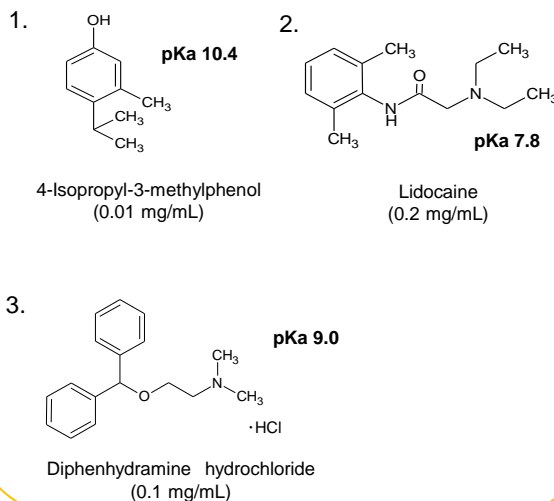
In the analysis of the anti-itch medication consisting of main compounds as shown in the right figure, the chromatograms were compared at different mobile phase conditions. Under the acidic (pH 2.9) or neutral (pH 6.1) conditions, the separation and shape of the chromatographic peaks were not satisfied due to the presence of pharmaceutical additives. On the other hand, under the alkaline (pH 9.6) condition, the efficient separation and good shape of the all chromatographic peaks were achieved.



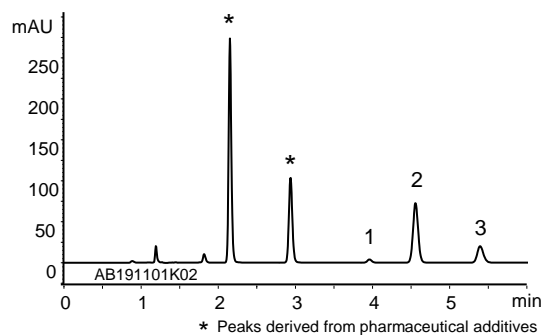
Column	: YMC-Triart C18 (3 μ m, 12 nm) 150 X 4.6 mm I.D.	Flow rate	: 1.0 mL/min
Eluent	: A) 10 mM HCOOH for pH 2.9 10 mM HCOONH ₄ for pH 6.1 10 mM HCOONH ₄ -NH ₃ for pH 9.6 B) acetonitrile 35-100%B (0-10 min)	Temperature	: 37°C
		Detection	: UV at 254 nm
		Injection	: 10 μ L

Sample

50% acetonitrile extracts of a commercially available anti-itch medication



10 mM HCOONH₄-NH₃ (pH 9.6)/acetonitrile (35/65)



To a proper isocratic condition from the gradient elution

By even isocratic elution, the good peak shapes were obtained, and the rapid analysis with the efficient separation of each compound was achieved.