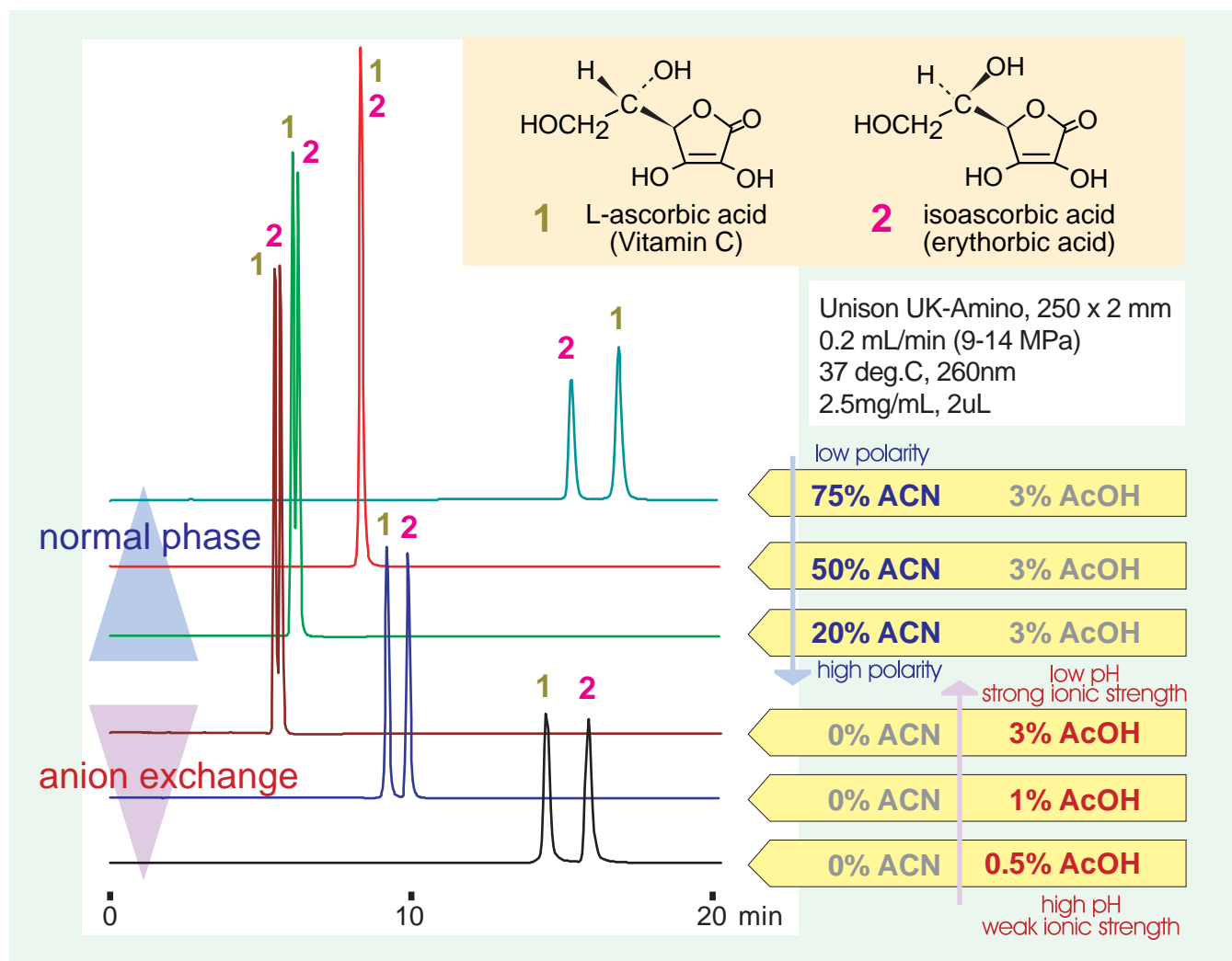


Normal phase mode and an anion exchange mode



Aminopropyl stationary phases generally employ both a normal phase separation mode and an anion exchange mode derived from amino groups. The example of acidic compound ascorbic acid and its isomer isoascorbic acid (erythorbic acid) is shown above. There are two methods using Unison UK-Amino to separate ascorbic acid and its isomer isoascorbic acid (erythorbic acid).

Anion exchange mode ... Three chromatograms from the bottom

In anion exchange mode, retention deteriorates as the ionic strength grows larger and pH-driven ionic interactions grow weaker (in this case, high acidic density = low pH). In this example, two compounds are completely separated with only a 0.5% acetic acid aqueous solution.

Normal phase mode (+ anion exchange) ... Four chromatograms from the top

In the normal phase mode, retention deteriorates as the polarity in the mobile phase rises. However, as the acetonitrile partition rises, retention increases and the two compounds completely separate at 75% acetonitrile. Moreover, the elution order is reversed from anion exchange mode due to the difference in interactions.

The superior stationary phase design employed in Unison UK-Amino not only provides stable separation in normal phase separation but also for pure anion exchange mode where no organic solvent is added. For researchers, Unison UK-Amino provides you with the flexibility to optimally combine the normal phase and anion exchange modes in developing your analytical methods.