WEBINAR

A Streamlined Approach for Reversed-Phase Method Development Using a Combined Column Screening and Software Modeling Approach

WEBINAR ABSTRACT

The adoption of structured approaches to method development has the potential to provide significant savings in both development time and costs. A column screening protocol using six alternative column chemistries, paired with subsequent retention time software modeling, is discussed and illustrated in this webinar.

Initially, gradient scouting with six reversed-phase columns of complementary selectivity is performed to identify the optimum stationary phase and mobile phase conditions. Once identified, additional gradient runs are performed and entered into ChromSword software to model the separation. Simulation experiments are then used to rapidly determine a final suitable separation. The approach was applied to the development of an LC method for the separation of a pharmaceutical sample containing three API components and 14 impurities.

The column screening results identified a C18 phase with embedded amide functionality as the optimum candidate for the separation. Software modeling was then used to rapidly optimize the separation on this phase. Several linear and multistep gradients were identified that successfully separated all 17 sample components, avoiding the need for extensive experimental development.

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