



Case Study

Exploring the Limits of Chemical Purity Analysis

The Challenge Patheon conducted a study to challenge the claim that a PDA detector has the capability of detecting co-eluting components in HPLC peaks since this is based on UV spectroscopy, which is relatively nonspecific.

The Solution Component pairs of compounds with 1) almost identical, 2) very similar, and 3) similar UV spectra were tested using HPLC methods that did not separate them. Applying the PDA algorithm, co-elution was not detected even with 10% impurity in case 1) but was detected with just 0.5% and 0.2% levels in cases 2) and 3) respectively.

The Outcome This analysis verified that PDA was effective for this type of study provided there were at least some spectral differences.

