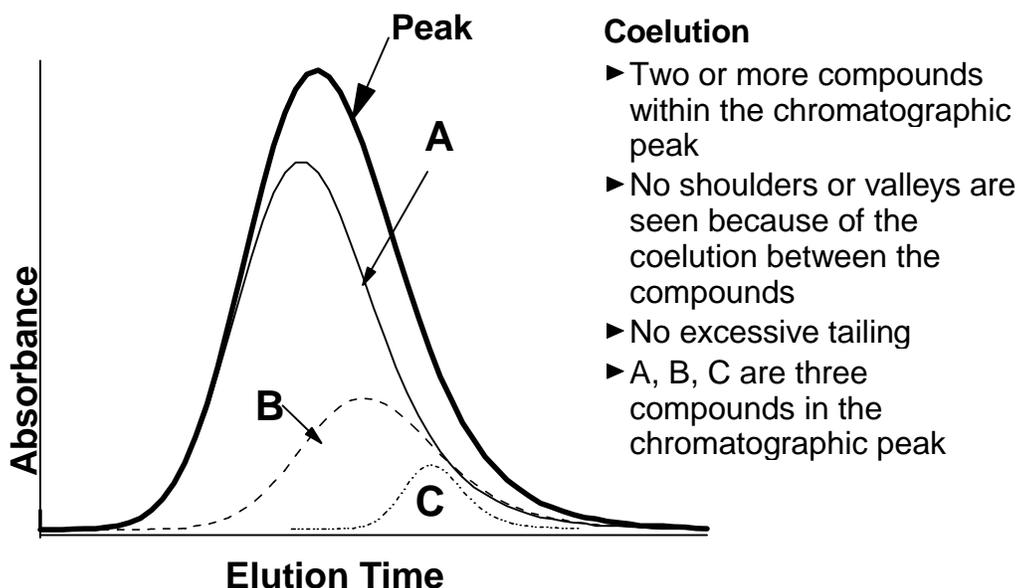


## Waters 996 Photodiode Detector: Peak Purity I

### What is peak purity analysis?

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Peak purity analysis is designed to detect the presence of an impurity that is coeluting with the analyte peak. For impurity detection with a single wavelength UV/visible detector, one must see a shoulder, valley or excessive tailing to suspect the presence of an impurity. The absence of these features on the chromatographic peak are not an assurance of peak purity. The impurity was not "seen" because the chromatographic resolution is too low, less than  $R=0.3$ , or the impurity concentration is quite low. A photodiode array detector can provide additional information using the acquisition of spectra to determine "peak purity".

Peak purity analysis incorporates Waters Millennium® software and data from the Waters 996 Photodiode Array detector to detect the presence of coeluting impurities. The spectral uniqueness of each compound is used to indicate when there are two or more components present in the peak.

