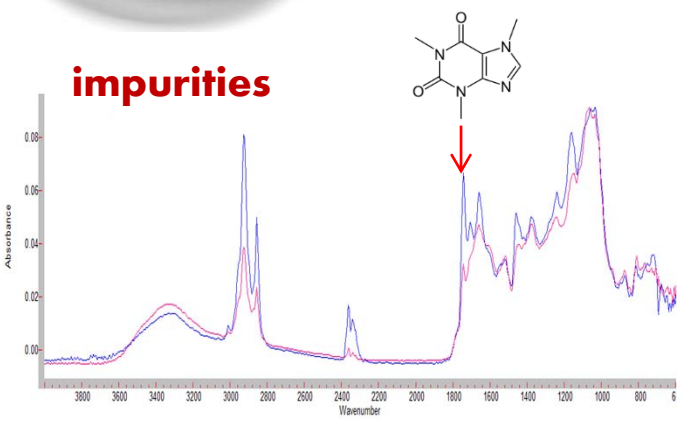
Cambridge Polymer Group

What's in your coffee?

As you sip a cup of coffee, one usually only considers the flavor and caffeine content. Consider all of the chemical structures in coffee, however, that impart its flavor and aroma, and can affect shelf life. The analytical techniques we routinely use on polymers can also be used on coffee to determine caffeine content, effects of decaffeination on the composition, identification of components that provide aroma and acidity, and determination of the shelf-life of coffee.

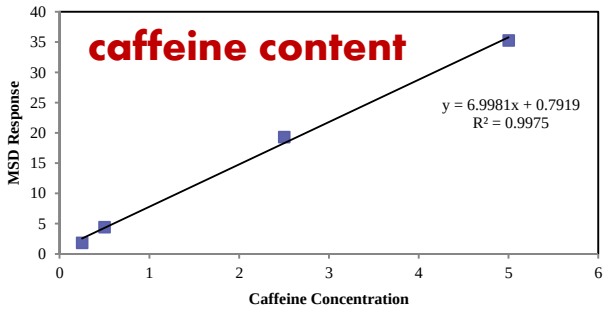
In a related application note, we report results from spectroscopy, chromatography, thermal characterization, rheology, and microscopic analysis of commercial caffeinated and decaffeinated coffees.

impurities



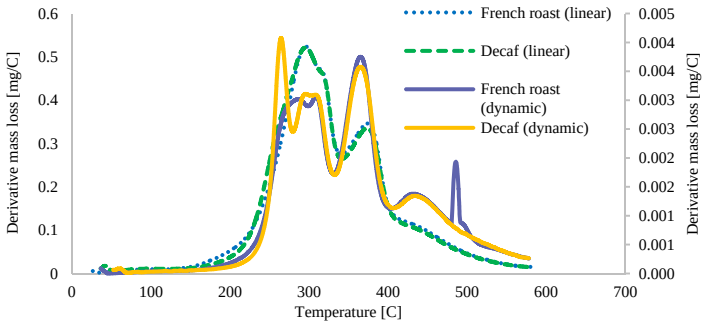
Fourier transform infrared spectroscopy

caffeine content



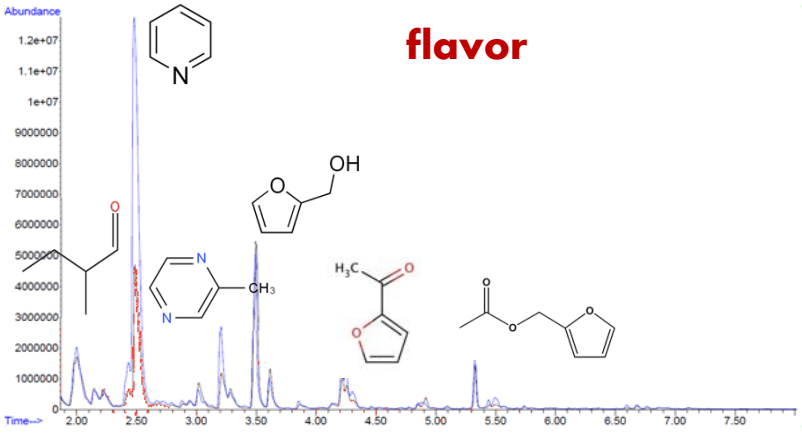
Quantitative gas chromatography-mass spectroscopy

effects of decaffeination



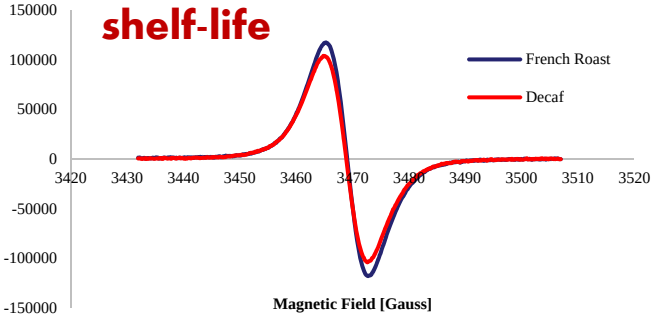
Thermogravimetric analysis

flavor



Gas chromatography-mass spectroscopy

shelf-life



Electron spin resonance spectroscopy