

IRD 3 Application Brief

Aromatic Ring Isomers

Introduction

Isomerization within the aromatic ring is different from that of ring substitution and ring junctions. Once again mass spectra are not particularly helpful while infrared spectra are. This type of ring isomerization covers that of double bond position, heteroatom position and ring size. Applications of these ring isomers are found in many areas of chemistry, especially industrial chemicals, environmental analysis and flavors and fragrances.

Product Overview

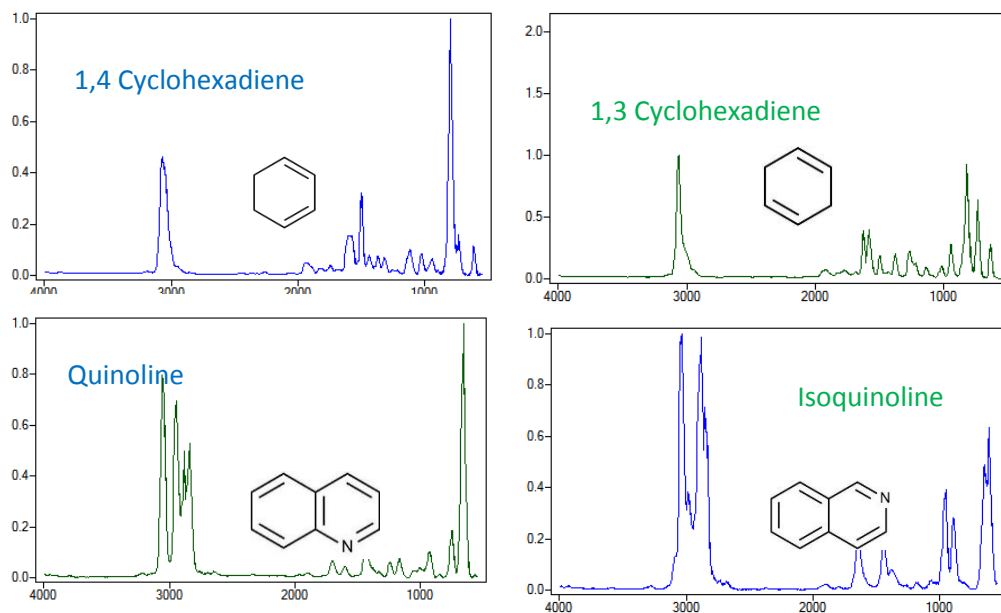
The IRD 3 is designed from the chromatographer's point-of-view and is the only analytical infrared instrument that seamlessly combines the separating power of the Gas Chromatography with the molecular identification of FTIR.

- Dedicated FTIR for use with GC
- Low maintenance and easy to use
- Small footprint
- Software interfaces with GC control software
- Seamless integration with MS

The IRD 3 is the perfect tool for the chromatographer looking to obtain more information about unknown samples. Using a heater light pipe flow cell, the sample is kept in a vapor state while interacting with IR. Keeping the molecular geometry in tact during analysis provides unique and highly reproducible spectra.



Parameters and Results



A high confidence determination of these ring isomers was achieved using the Aldrich Vapor Phase Library (099-1908). Searches were conducted on all four compounds resulting in high quality index matches. The GC-IRD has been shown to be useful in the differentiation of similar aromatic hydrocarbon ring isomer.