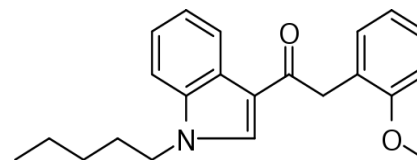


The DiscovIR-GC is a powerful new tool for materials analysis. When connected to the outlet of a GC column, the DiscovIR deposits GC eluents as a continuous track on an infrared transparent substrate. The built-in interferometer simultaneously captures a set of time-ordered infrared spectra from the deposited track. The result is a map of molecular structure of all sample components.

Synthetic Cannabinoid Isomers Analysis

Mixtures of cannabinoids are sprayed onto plant material to manufacture synthetic marijuana. It is advantageous to analyze the extracts of these mixtures with GC-IR to separate the compounds and obtain high quality spectra. The DiscovIR-GC provides clean, high quality, high resolution solid-phase infrared spectra at 4 cm⁻¹ resolution.

High resolution Infrared Spectroscopy is required to differentiate the ortho, meta and para methoxy isomers of the cannabinoid 2-(2-methoxyphenyl)-1-(1-pentyl-1H-indol-3-yl)-ethanone. The GC-MS of these compounds are very similar.



The ortho isomer is known as JWH-250 and is shown in blue. The meta isomer is known as JWH-302 and is shown in black. The para isomer is known as JWH-201 and is shown in red. Detailed comparisons between these positional isomers are shown on the following pages.

DiscovIR-GC Infrared Spectra of Ortho, Meta and Para Methoxy Isomers

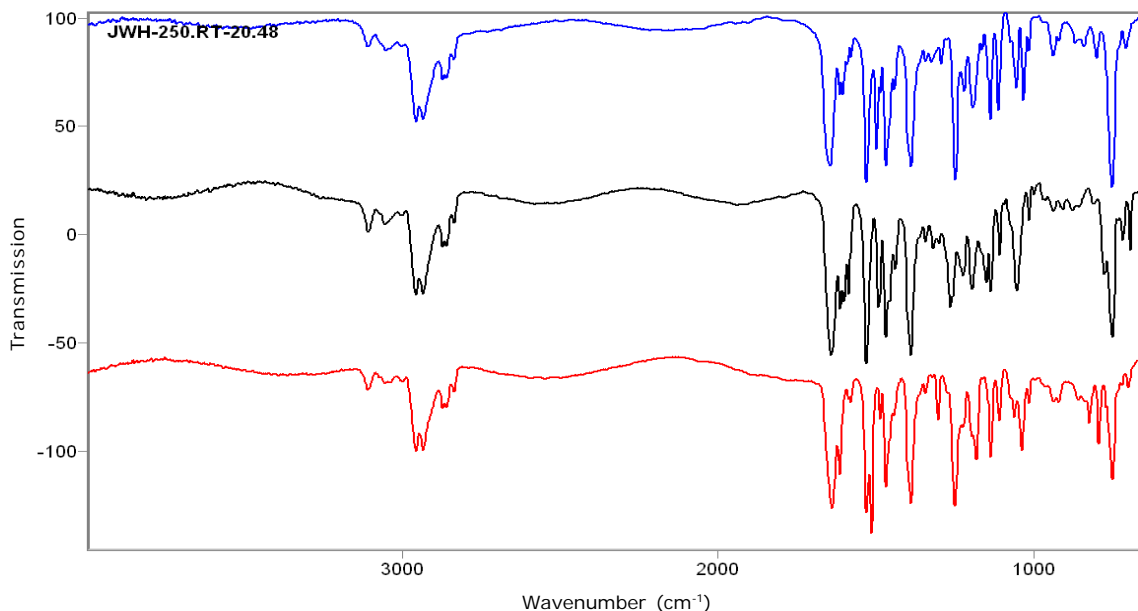


Figure 1 - Ortho JWH-250 (blue) vs. Meta JWH-302 (black)

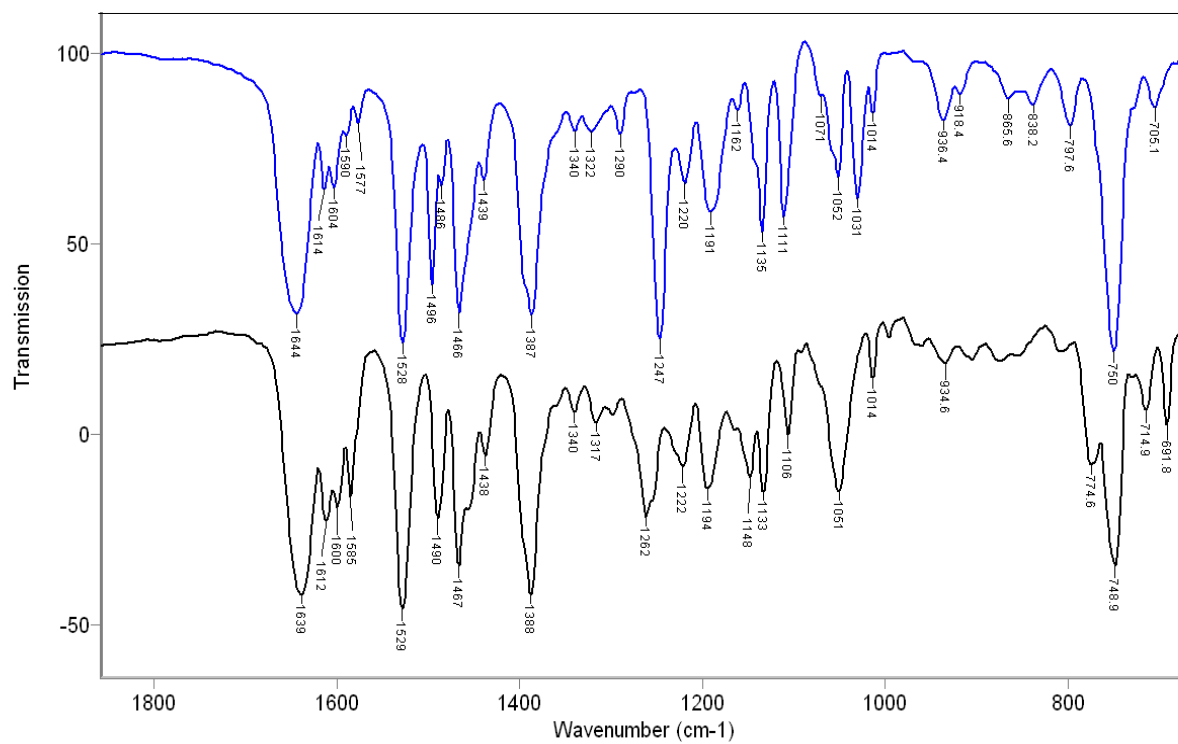
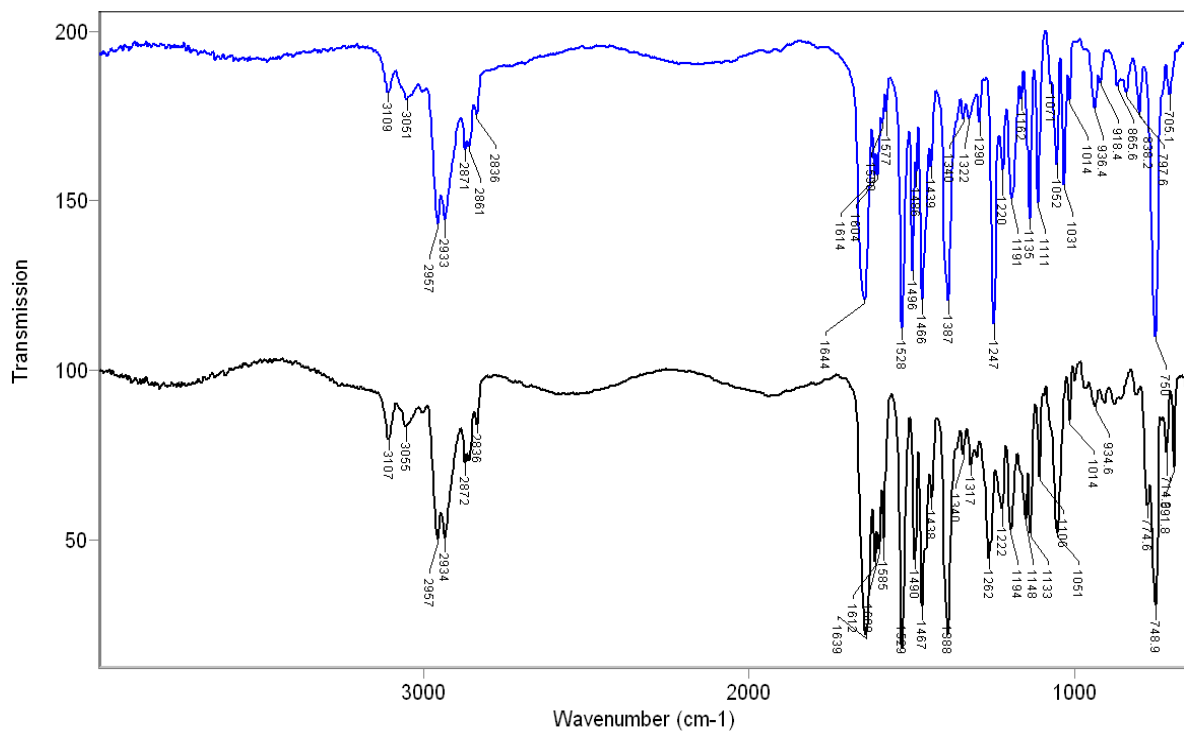


Figure 2 - Meta JWH-302 vs. Para JWH-201

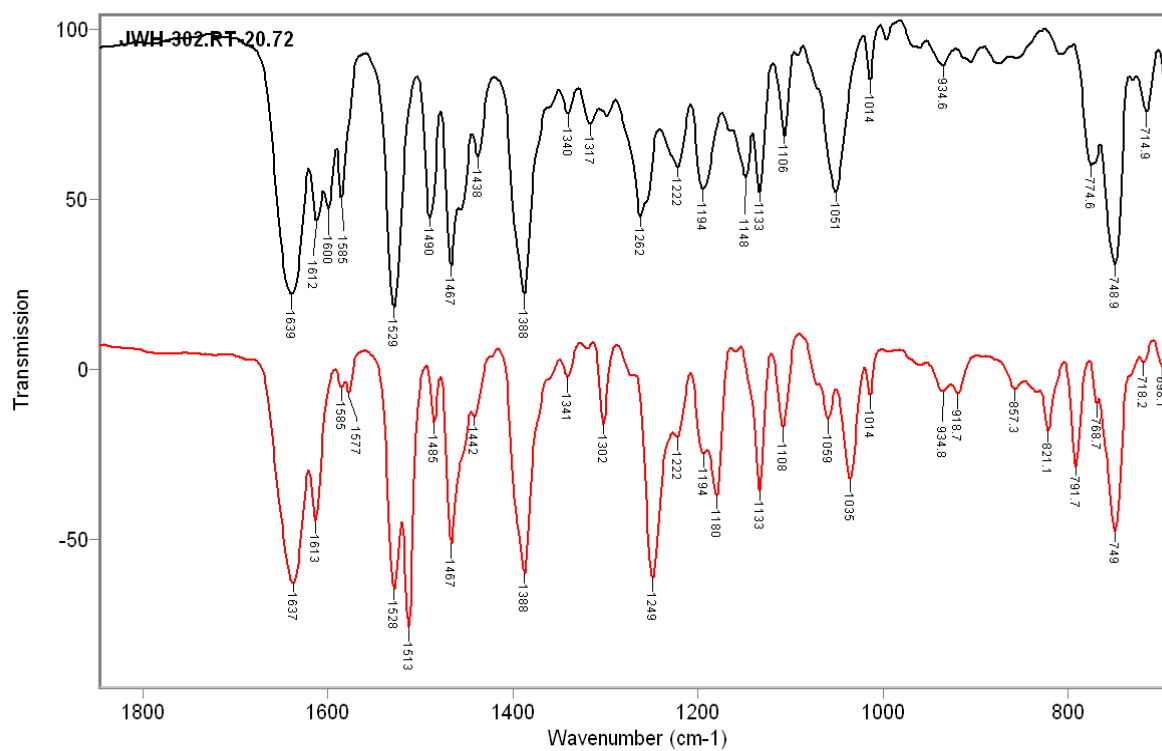
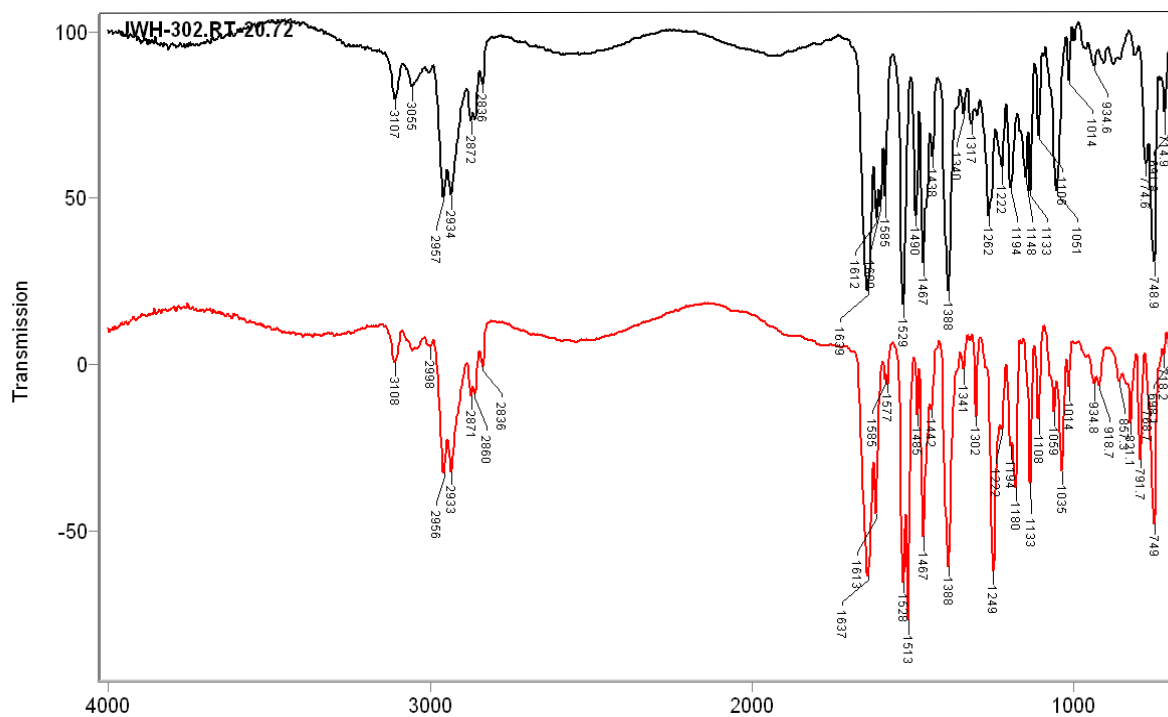


Figure 3 - Ortho JWH-250 vs. Para JWH-201 (red)

