

APPLICATION NOTE 010

Amphetamine Analysis

Amphetamine analysis is one of the most common requests for Forensic Laboratories. Here we demonstrate the discriminating power of the DiscovIR system by injecting a standard containing six amphetamines into the GC and identifying each peak in *real time*. The six compounds are:

- Amphetamine
- Phentermine
- Methamphetamine
- MDA
- N-methyl MDA
- N-ethyl MDA

In this application note we display the spectra and library match for each of the six compounds. It is worth noting the spectra obtained with the automated DiscovIR system match well with standard solid phase libraries created with films on NaCl plates.

Figure 1: Peak Chromatogram of the amphetamine mixture.

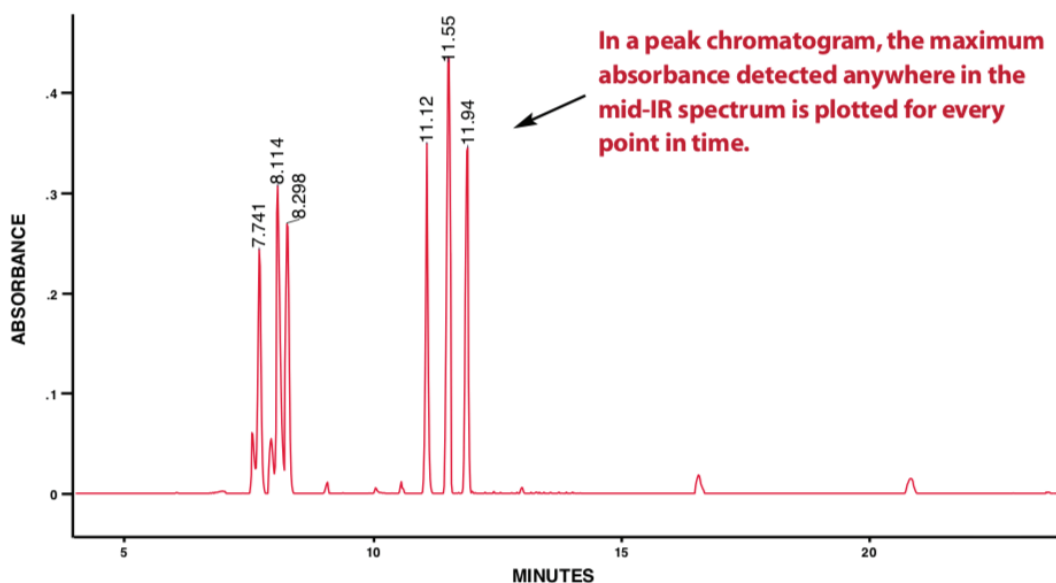
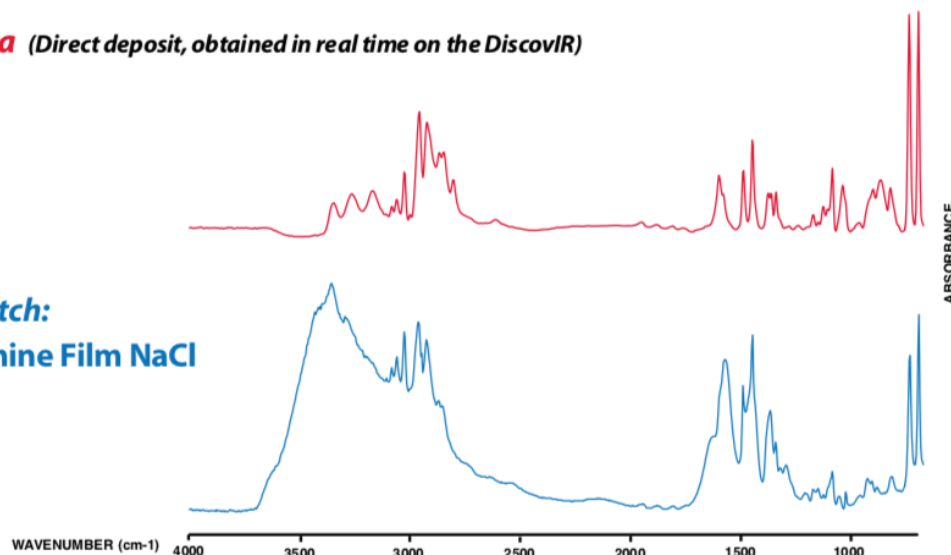


Figure 2: FTIR Spectra and Library Match for compound with RT 7.714

FTIR Spectra (Direct deposit, obtained in real time on the DiscovIR)

Library Match:
Amphetamine Film NaCl

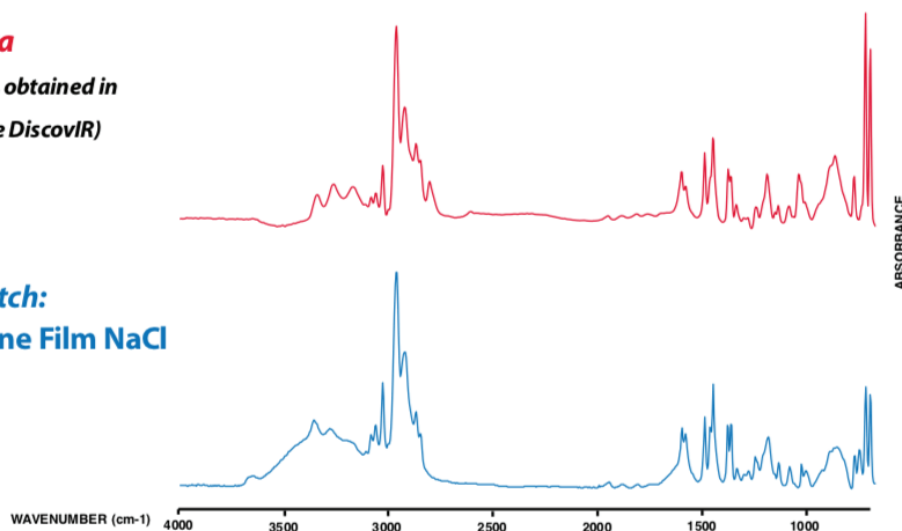


Hit	Quality	Library	Memo
01	0.326525	fdmtrnto.lib	D_AMPHETAMINE FILM NACL;

Figure 3: FTIR Spectra and Library Match for compound with RT 8.114

FTIR Spectra
(Direct deposit, obtained in
real time on the DiscovIR)

Library Match:
Phentermine Film NaCl



Hit	Quality	Library	Memo
01	0.295535	fdmtrnto.lib	PHENTERMINE FILM NACL; FROM C-144

Figure 4: FTIR Spectra and Library Match for compound with RT 8.298

FTIR Spectra

(Direct deposit, obtained in real time
on the DiscovIR)

Library Match:

Methamphetamine Film NaCL

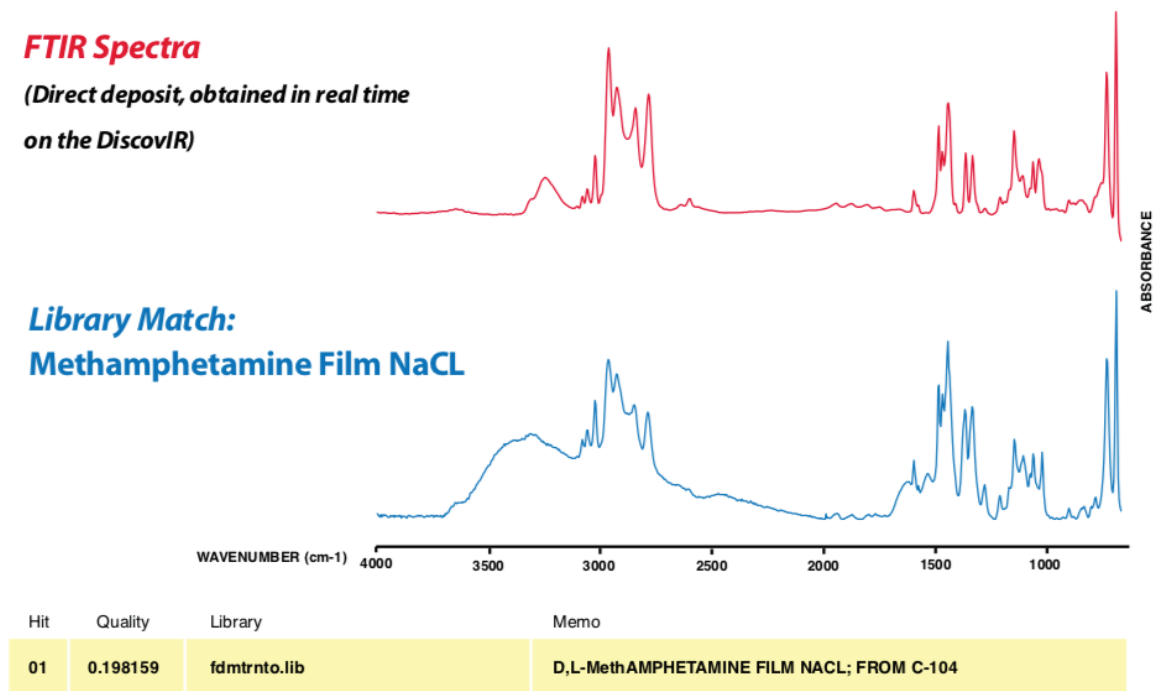


Figure 5: FTIR Spectra and Library Match for compound with RT 11.12

FTIR Spectra (Direct deposit, obtained in real time on the DiscovIR)

Library Match:

3,4-Methylenedioxyamphetamine; (MDA) Film AgCl

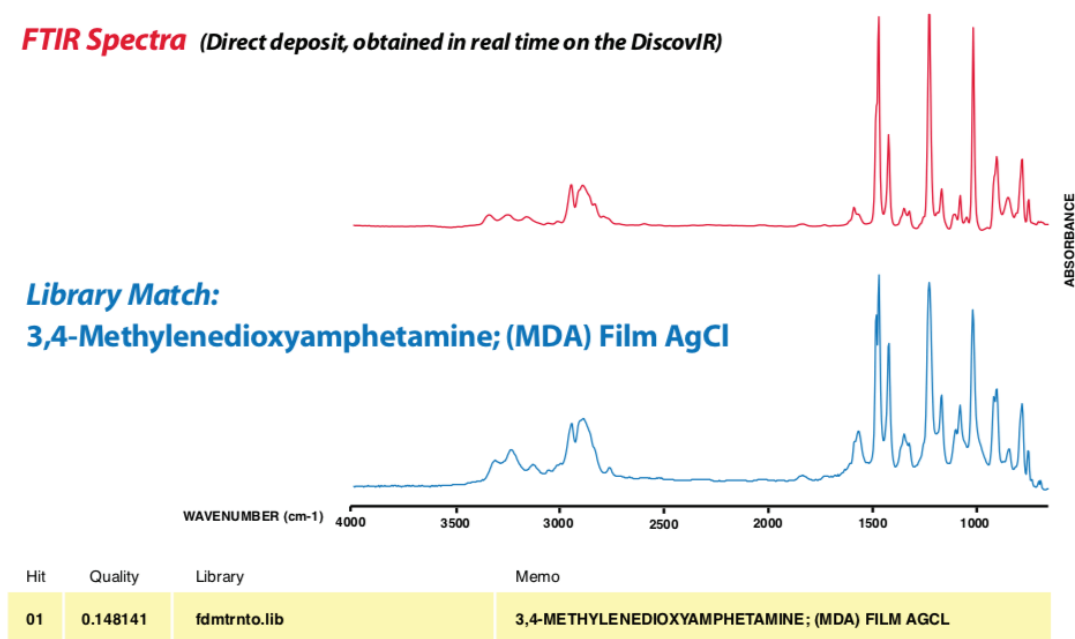
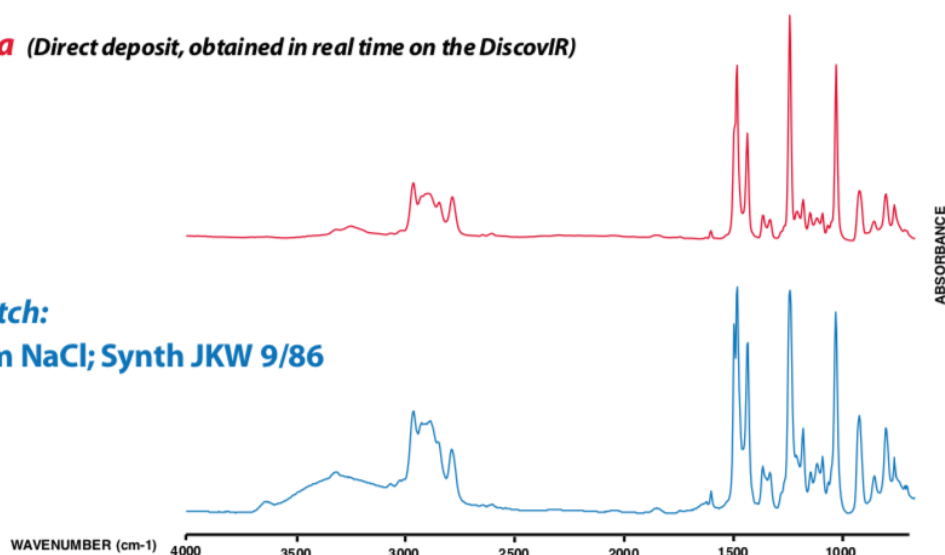


Figure 6: FTIR Spectra and Library Match for compound with RT 11.55

FTIR Spectra (Direct deposit, obtained in real time on the DiscovIR)

Library Match:

MDMA Film NaCl; Synth JKW 9/86



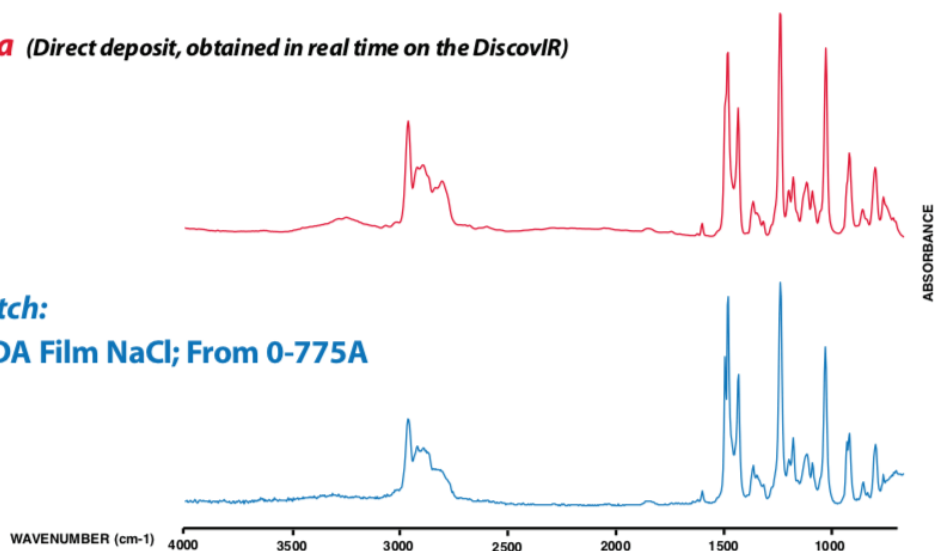
Hit	Quality	Library	Memo
01	0.120964	fdmtrnto.lib	MDMA FILM NaCl;SYNTH JKW 9/86

Figure 7: FTIR Spectra and Library Match for compound with RT 11.94

FTIR Spectra (Direct deposit, obtained in real time on the DiscovIR)

Library Match:

N-Ethyl-MDA Film NaCl; From 0-775A



Hit	Quality	Library	Memo
01	0.195188	fdmtrnto.lib	N-ETHYL-MDA FILM NaCl; FROM 0-775A