

Appendix III

DTMS analysis

Direct Temperature-resolved Mass Spectrometry (DTMS) is used to indicate indigo. DTMS is an analytical method for the characteristics of organic compounds. A JEOL JMS-SX/SX102A 4 sector double focusing mass spectrometer is used. It is a quick method to indicate oils, resins, carbohydrates and proteins.

Sample MH 83B2706 VB

Oil components: free fatty acids (m/z 256 and 284) and oil network (m/z 91, 105)

Resin components: triterpenes (m/z 143 indicates dammar, area between m/z 400 and 450) and diterpenes (dehydro)abietic acids, could be colophony or (Venetian) turpentine used as solvent in mixture with triterpenes)

Beeswax: m/z 592, 620, 648, 676, 704, 732 probably deriving from wax-resin lining?

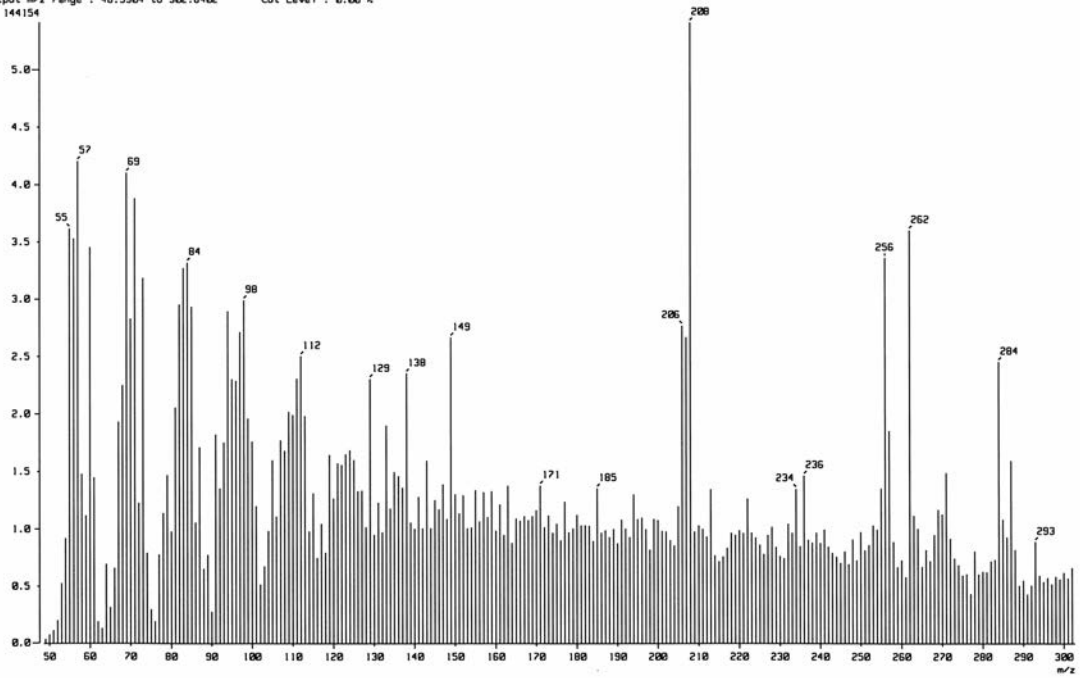
M/z 262 is indicative for indigo.

FOM Instituut AMOLF

Jaap Boon, March 31, 2006

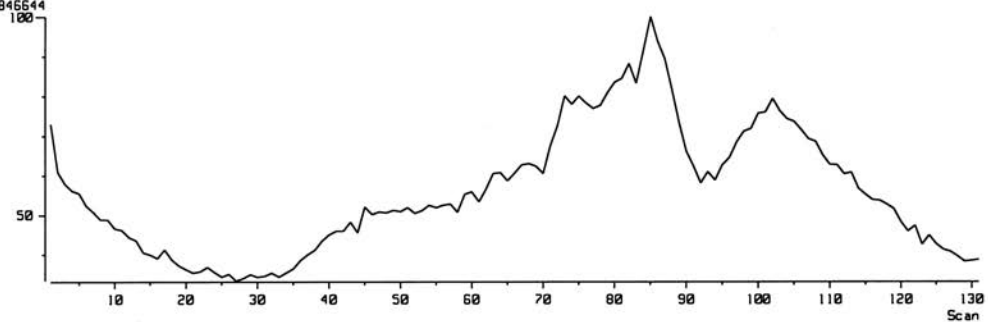
Annelies van Loon, May 15, 2006

[Mass Spectrum]
Data : 21mar06003 Date : 21-Mar-2006 14:45
Sample : M1 006382706VB
Note : EI-10eV, 0.50/min, res1000
Inlet : Direct Ion Mode : EI+
Spectrum Type : Normal Ion (M-Linear)
RT : 0.91 min Scan# : (31,90)
BP : m/z 28.0000 Int. : 253.87
Output m/z range : 40.5504 to 302.6402 Cut Level : 0.00 %
144154

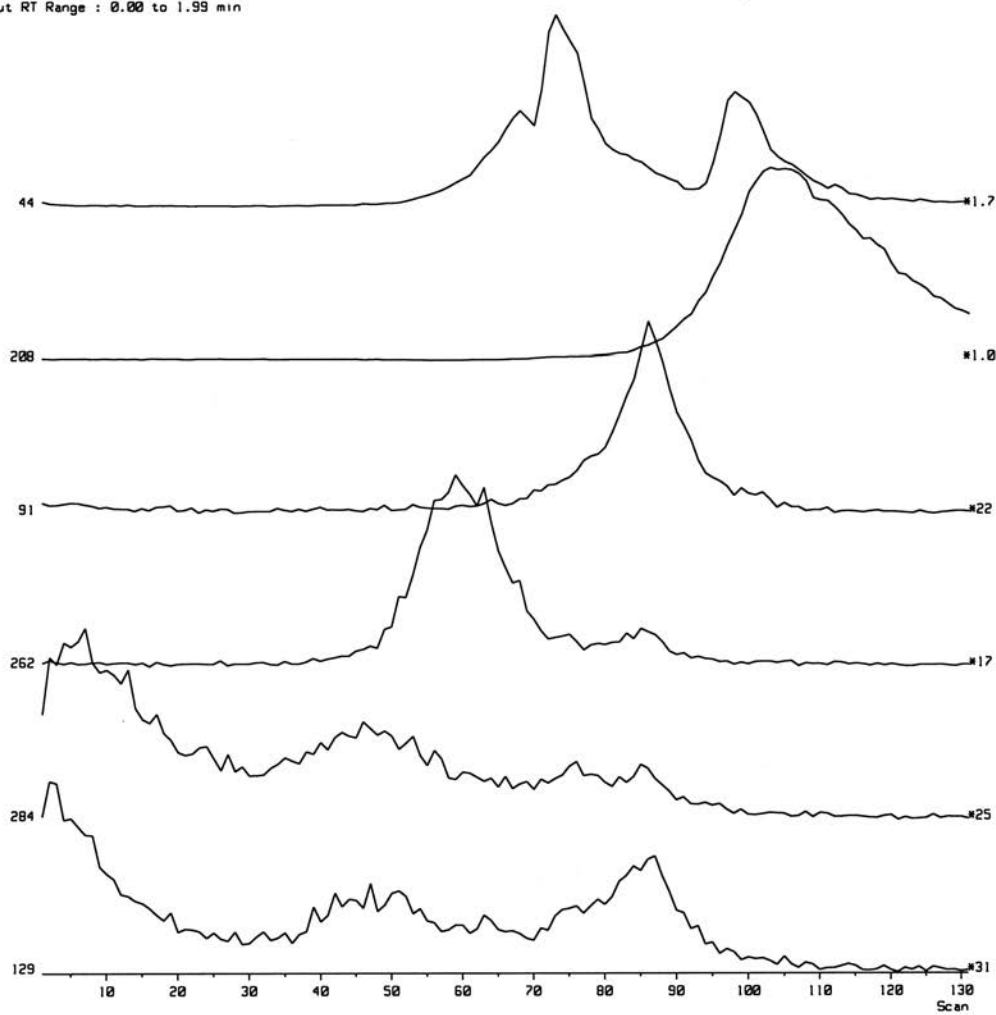


Massa spectrum of pigment scraping 12

[TIC]
Data : 21mrt06003 Date : 21-Mar-2006 14:46
Sample: MH 000332705VB
Note : EI-16eV, 0.5R/min, res1000
Inlet : Direct Ion Mode : EI+
Ion Species : Normal Ion [MF-Linear]
TIC Range : m/z 20 to 1000 Output RT Range : 0.00 to 1.99 min
27045644



[Chromatogram View]
Output RT Range : 0.00 to 1.99 min



Mass chromatogram of pigment scraping 12