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ISOTOPIC ANALYSES OF EXTRACTS FROM WELL 6406/3-1

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SUMMARY

Six extracted fractions (3 Sat and 3 Aro) from three samples were received.

The three samples are all derived from the same type of source rock with isotopically homogeneous kerogens.

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File

KEYWORDS

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1 INTRODUCTION

Six extracted fractions (3 Sat and 3 Aro) from the depth intervals 3783.91-3784.21 m (S-345), 3806.16-3806.58 m (S-345) and 3844.97 m (S-346) were received.

The samples were combusted and the CO_2 gases were measured on a Finnigan Mat 251 mass spectrometer to determine the $\delta^{13}C$-values. Our $\delta^{13}C$ values on the NBS-21 and the NBS-22 standards are -28.2 and -29.77, respektively.

2 RESULTS

The results are given in the following table.

Sample	$\delta^{13}C$ Sat	$\delta^{13}C$ Aro
S-345 3783.91-3784.21 m	-29.7	-28.0
S-343 3806.16-3806.58 m	-29.8	-28.1
S-346 3844.97 m	-29.6	-28.1

3 INTERPRETATION

The three samples are all derived from the same type of source rock, with isotopically homogeneous kerogens.

The data are plotted in Fig. 1 from Elvsborg et al (1984)*.

The results do not discriminate between FM H2-2 and FM H1-1. Since this is probably a relatively advanced maturity stage FM H2-2 is favoured.

* Elvsborg A, Hagevang T og Throndsen T (1984): Origin of the gas/condensate of the Midgard field at Haltenbanken.

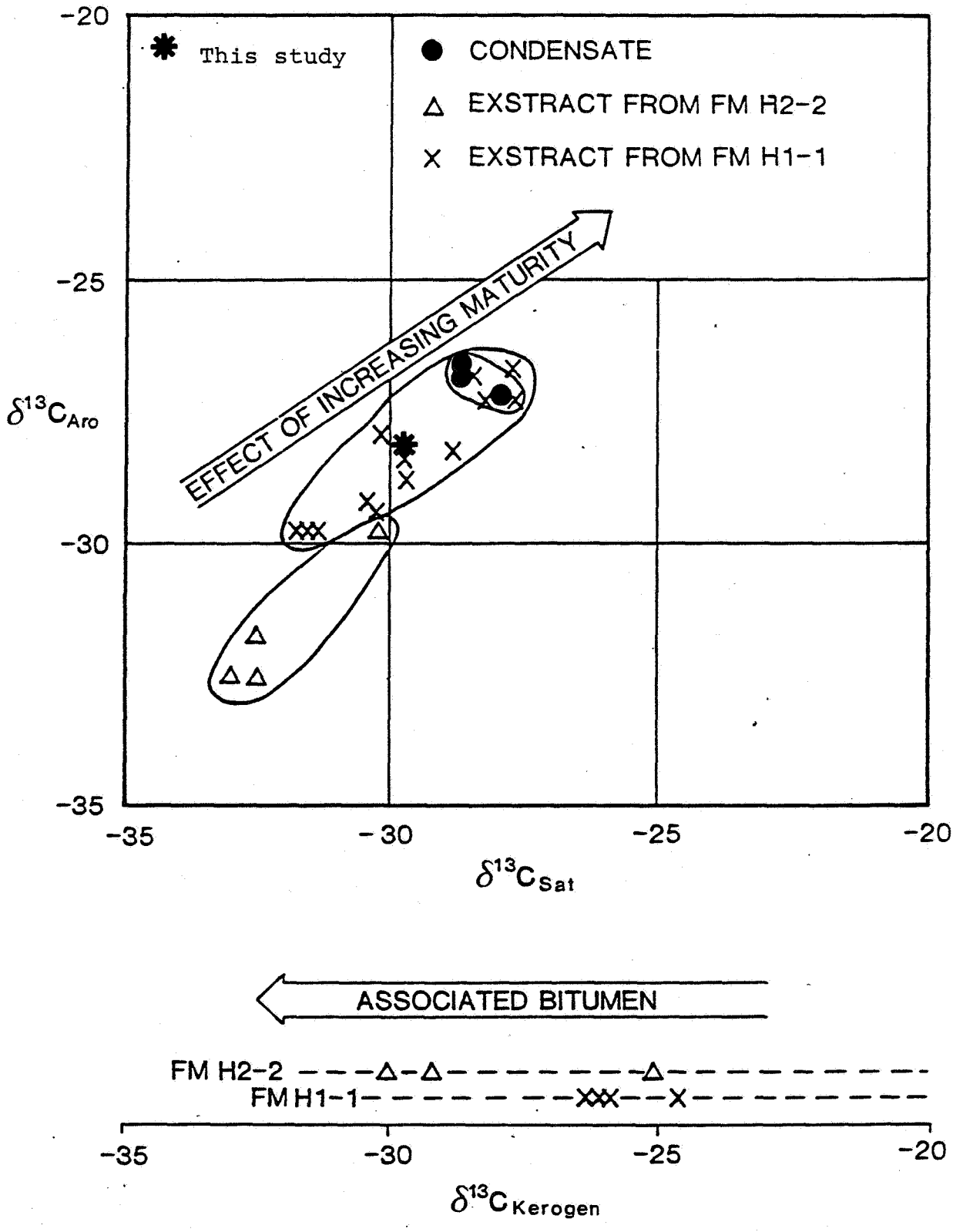
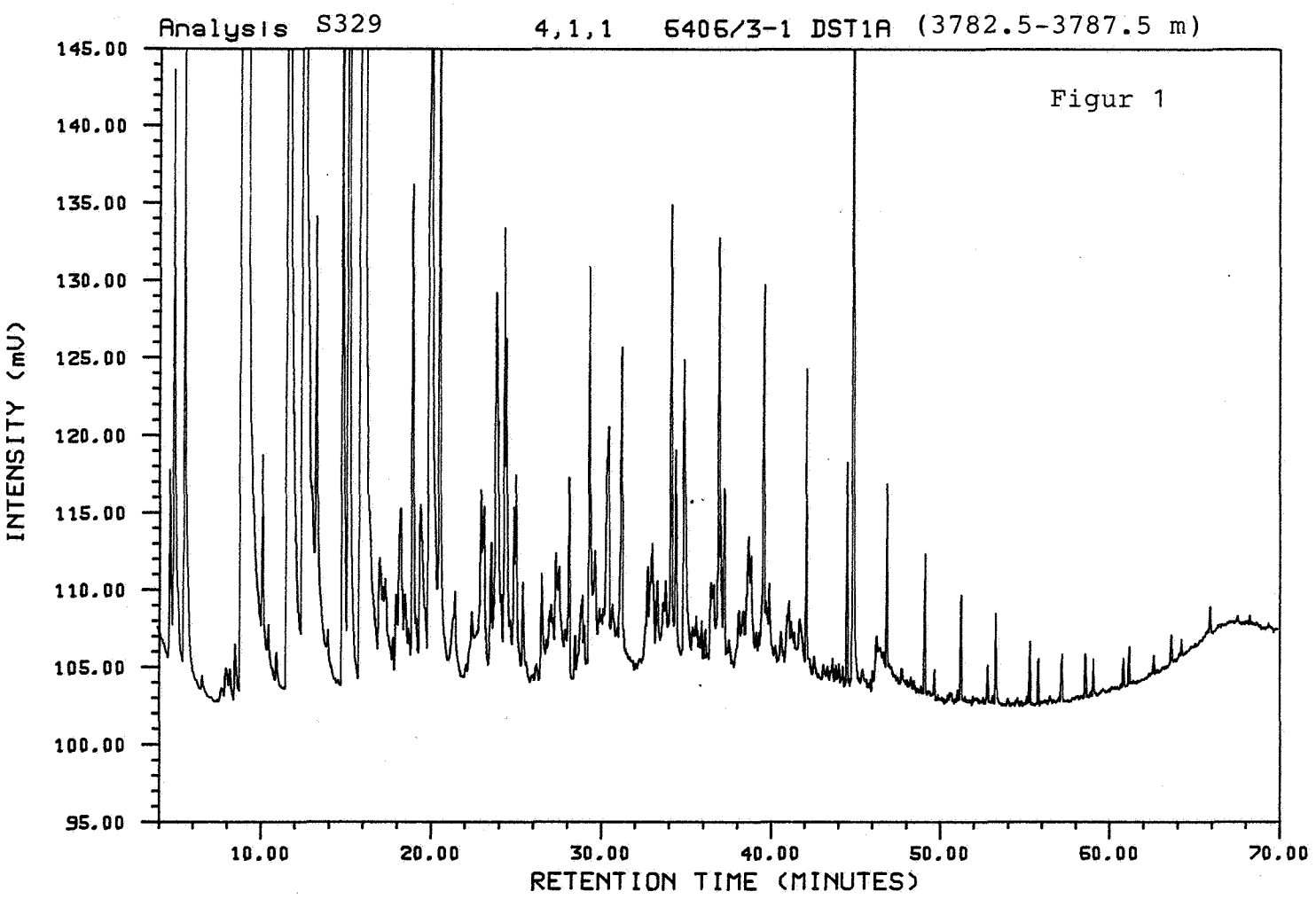
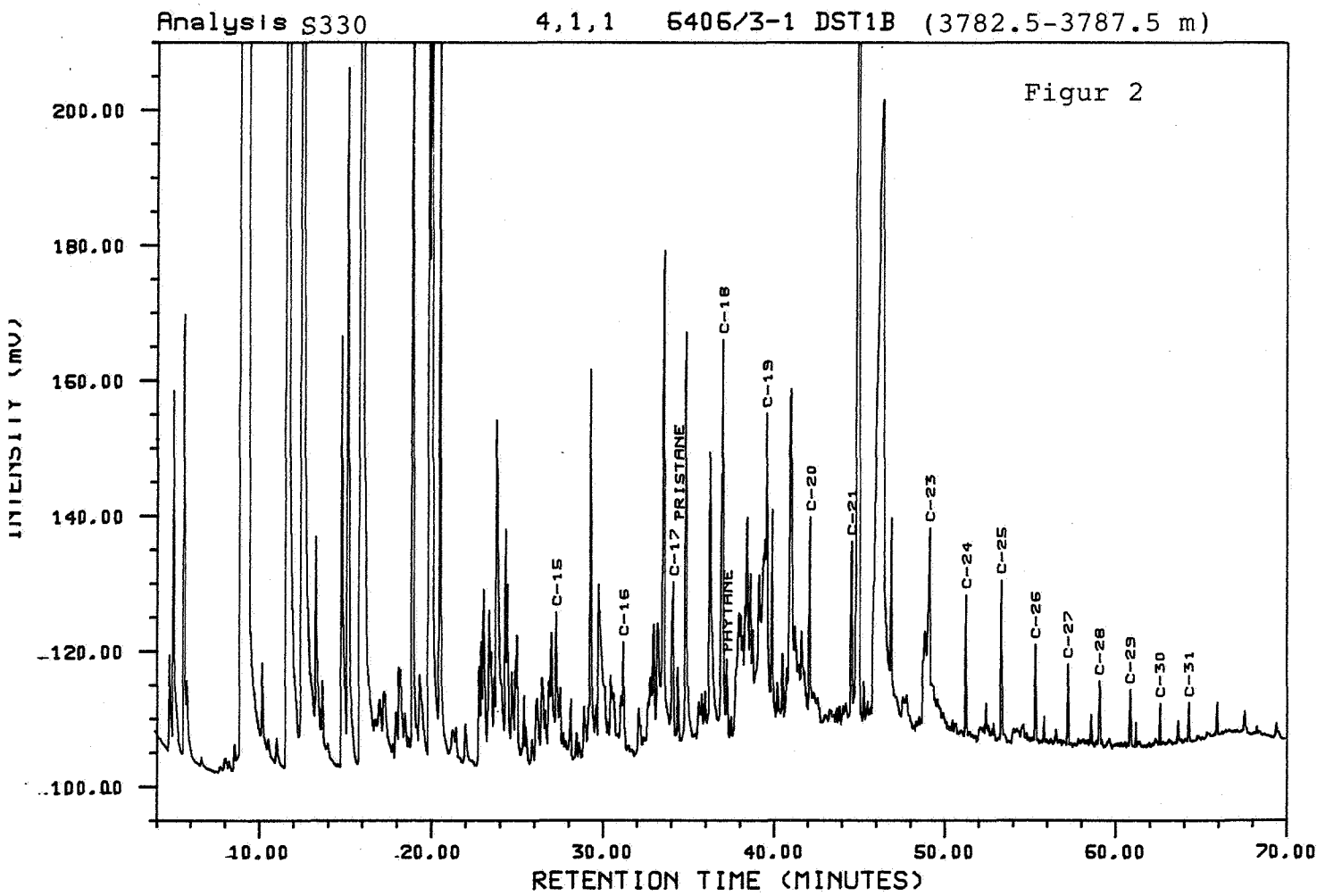

This study
CONDENSATE
EXSTRACT FROM FM H2-2
EXSTRACT FROM FM H1-1
EFFECT OF INCREASING MATURITY
-20
-25
-30
-35
$\delta^{13}C_{Aro}$
-35
-30
-25
-20
$\delta^{13}C_{Sat}$
ASSOCIATED BITUMEN
FM H2-2
FM H1-1
-35
-30
-25
-20
$\delta^{13}C_{Kerogen}$

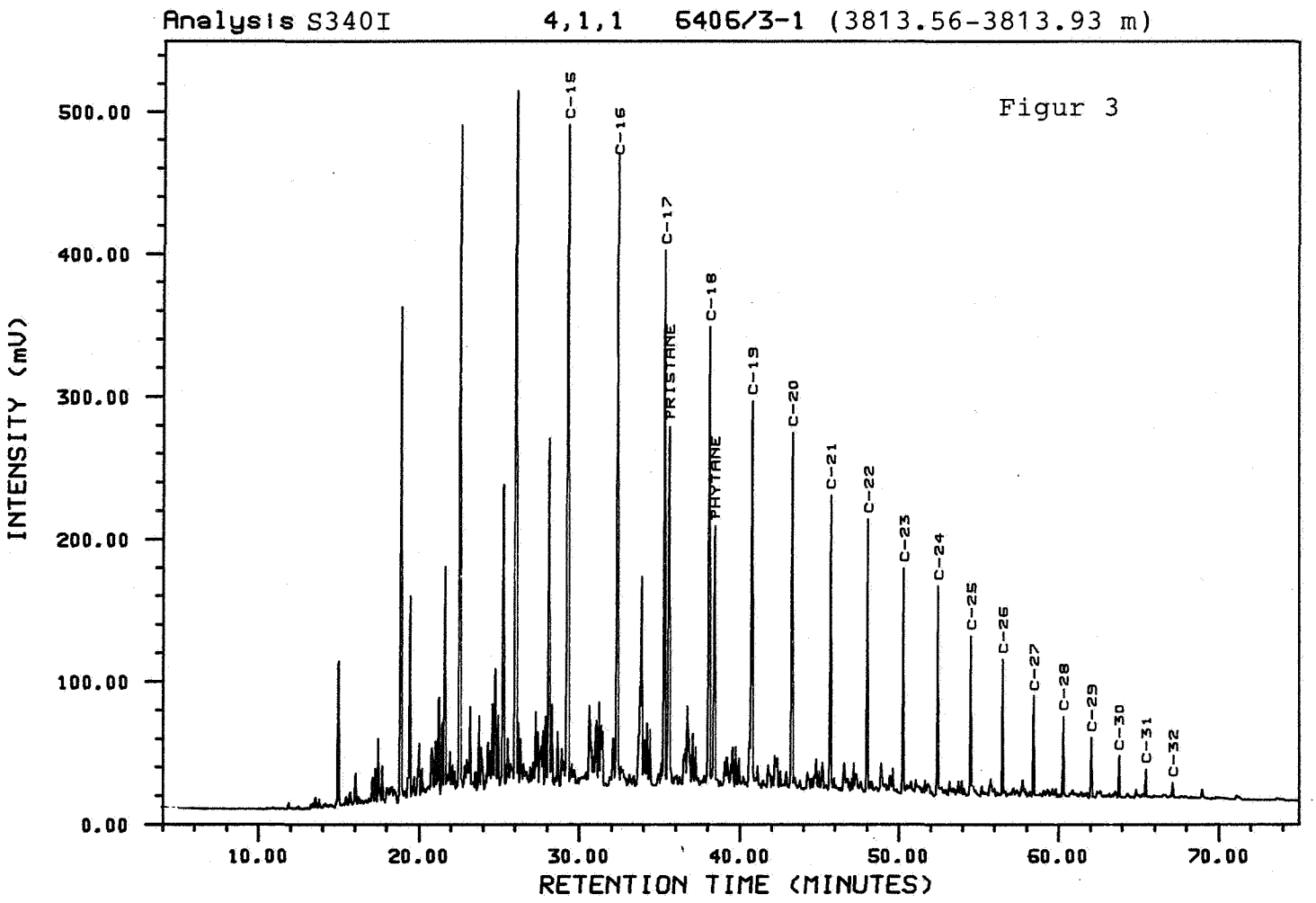
Figure 1

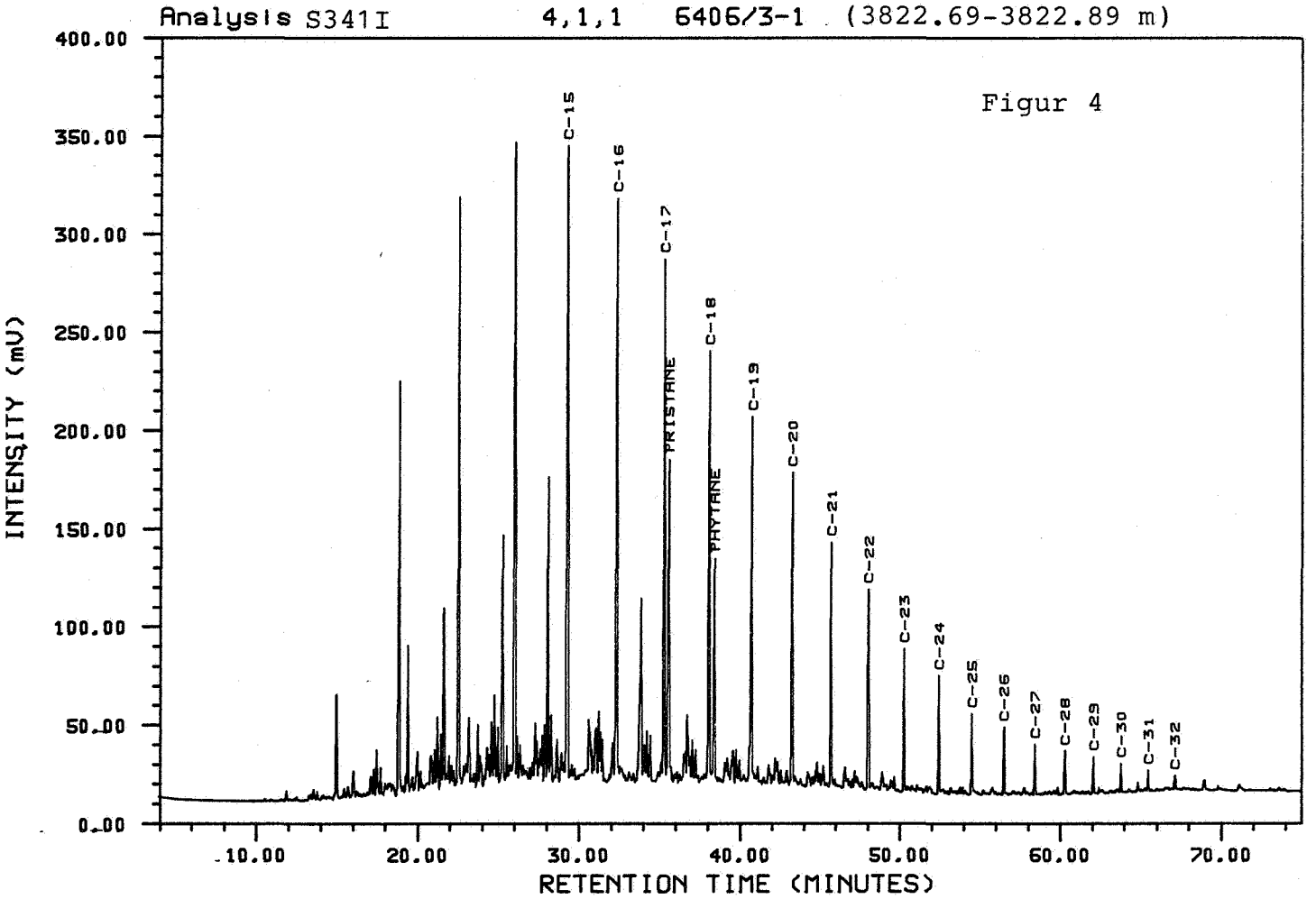
Kl. 11.40/02.08.84

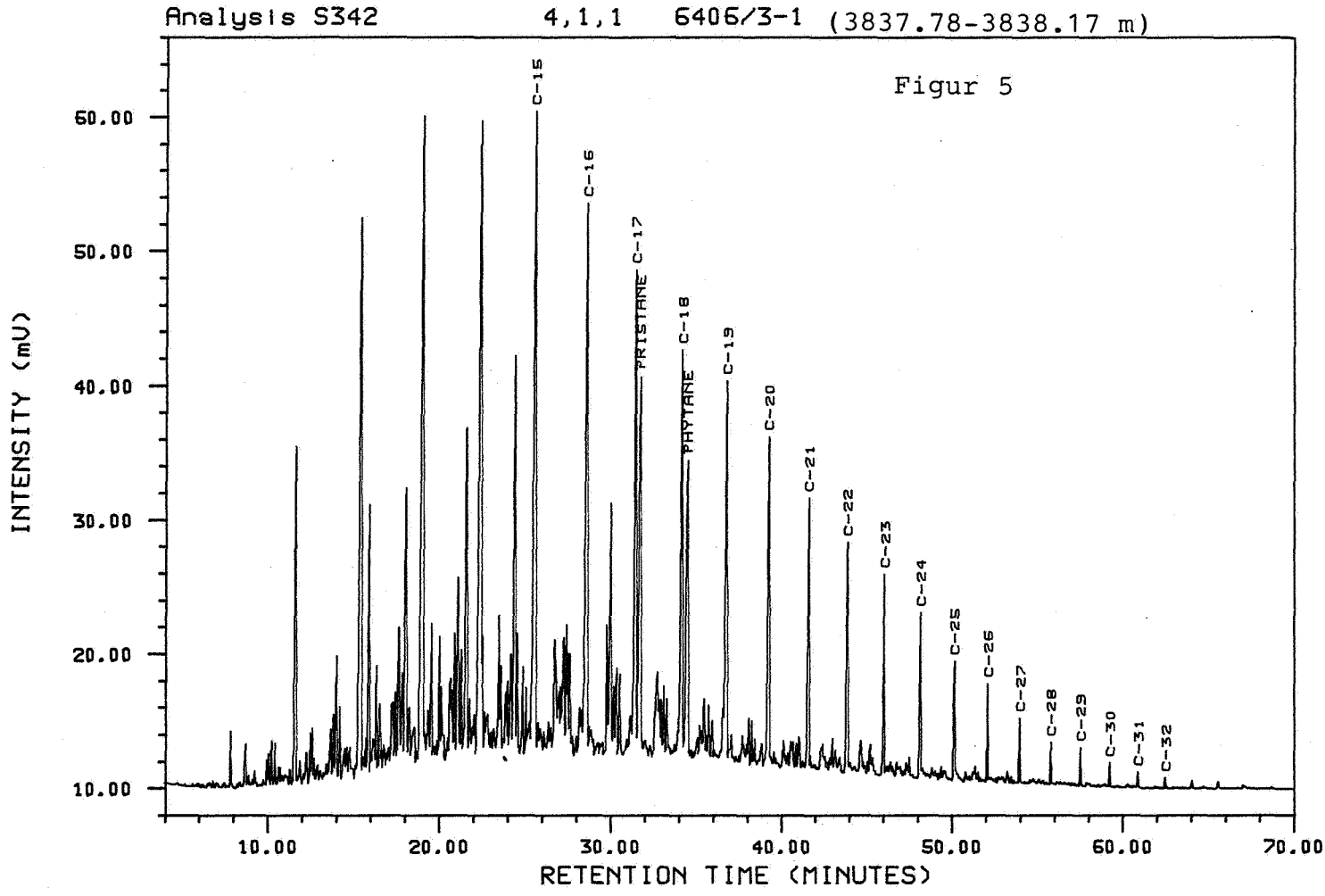


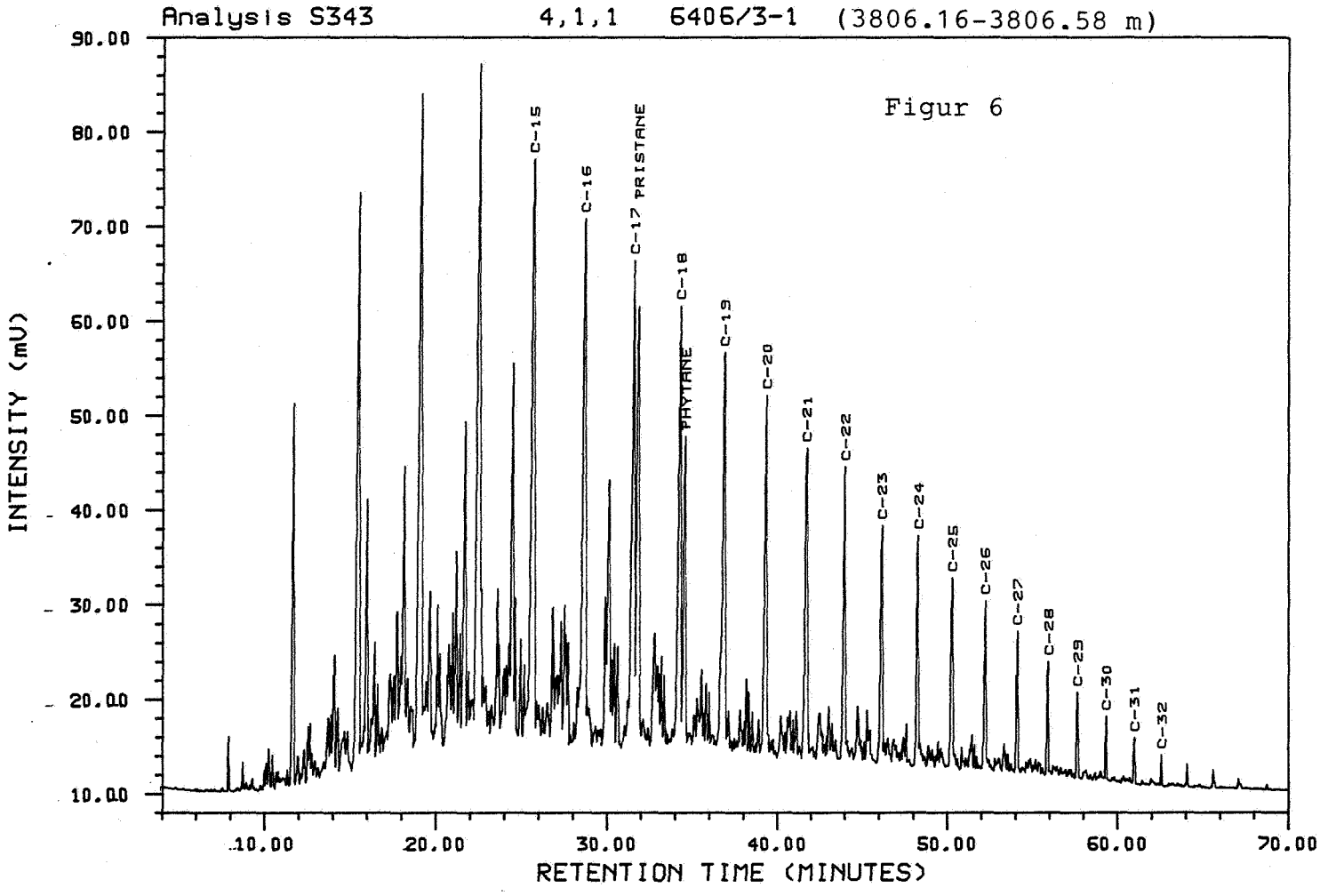
Kl. 11.45./02.08.84

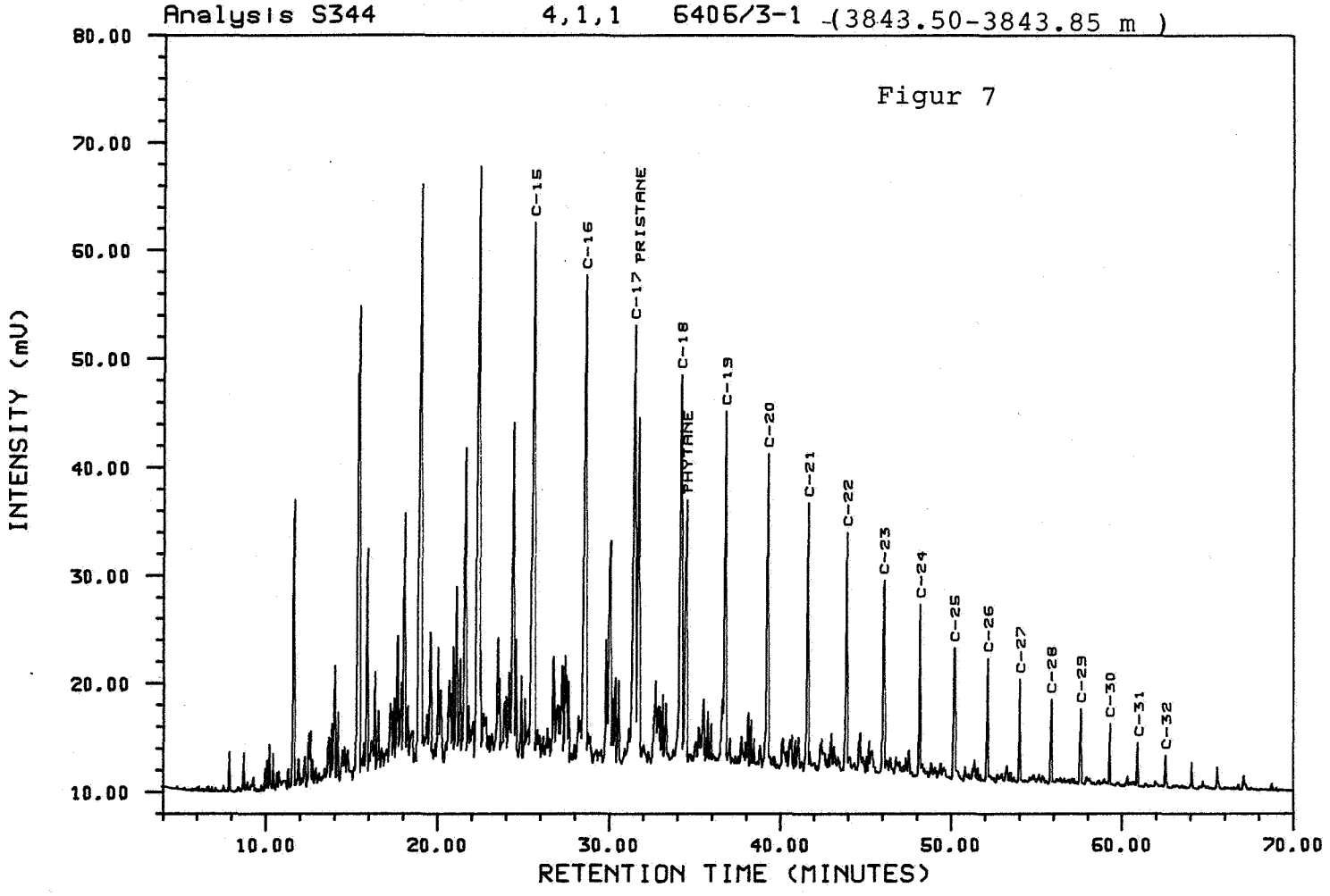



Analysis S340I 4,1,1 6406/3-1 (3813.56-3813.93 m)
Figur 3
INTENSITY (mV)
500.00
400.00
300.00
200.00
100.00
0.00
C-15
C-16
C-17
PRISTANE
C-18
PHYTANE
C-19
C-20
C-21
C-22
C-23
C-24
C-25
C-26
C-27
C-28
C-29
C-30
C-31
C-32
10.00
20.00
30.00
40.00
50.00
60.00
70.00
RETENTION TIME (MINUTES)

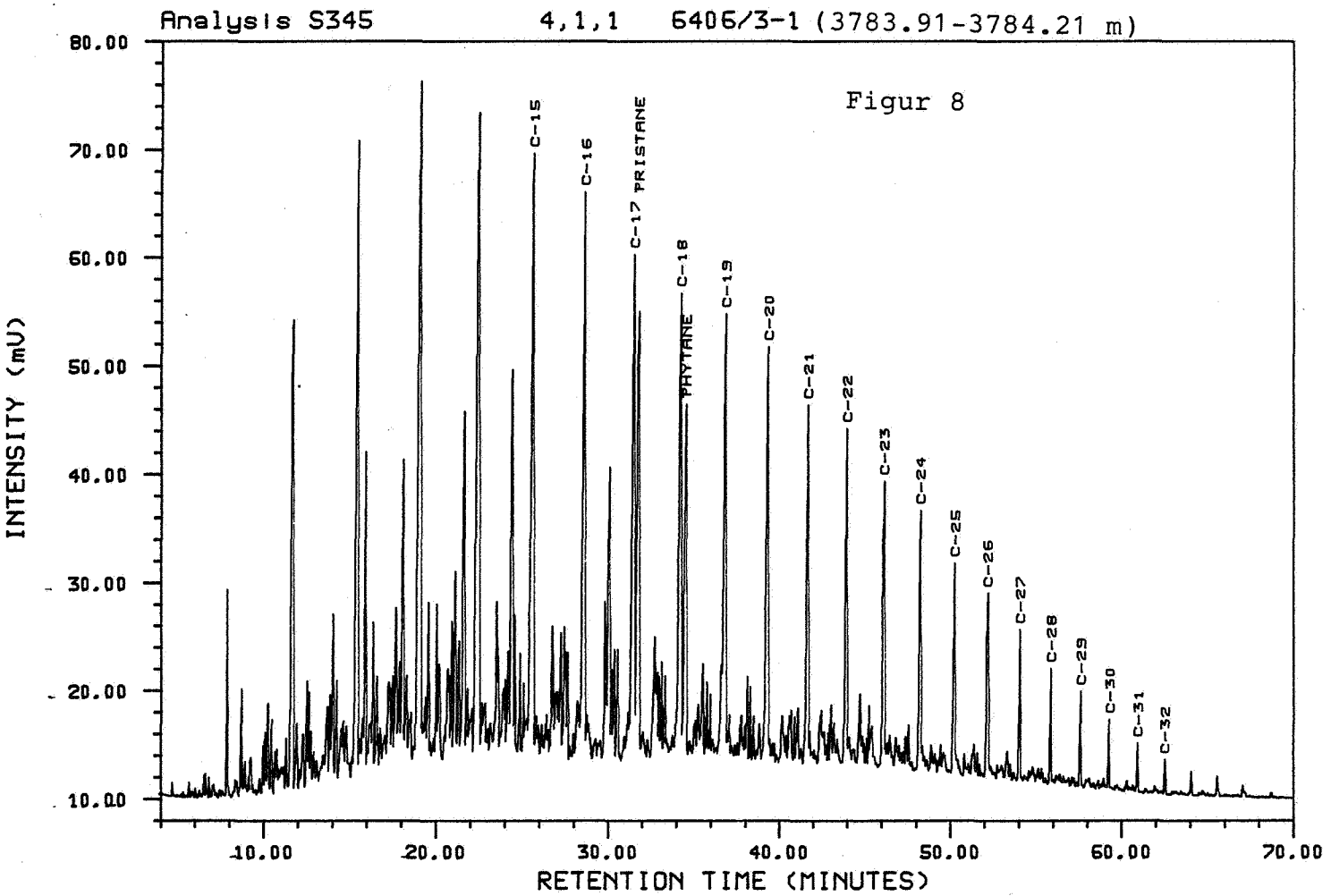

Analysis S341I 4,1,1 6406/3-1 (3822.69-3822.89 m)
Figur 4
INTENSITY (mV)
400.00
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
C-15
C-16
C-17
PRISTANE
C-18
PHYTANE
C-19
C-20
C-21
C-22
C-23
C-24
C-25
C-26
C-27
C-28
C-29
C-30
C-31
C-32
10.00
20.00
30.00
40.00
50.00
60.00
70.00
RETENTION TIME (MINUTES)


Analysis S342 4,1,1 6406/3-1 (3837.78-3838.17 m)
Figur 5
INTENSITY (mV)
RETENTION TIME (MINUTES)
C-15
C-16
C-17
PRISTANE
C-18
PHYTANE
C-19
C-20
C-21
C-22
C-23
C-24
C-25
C-26
C-27
C-28
C-29
C-30
C-31
C-32

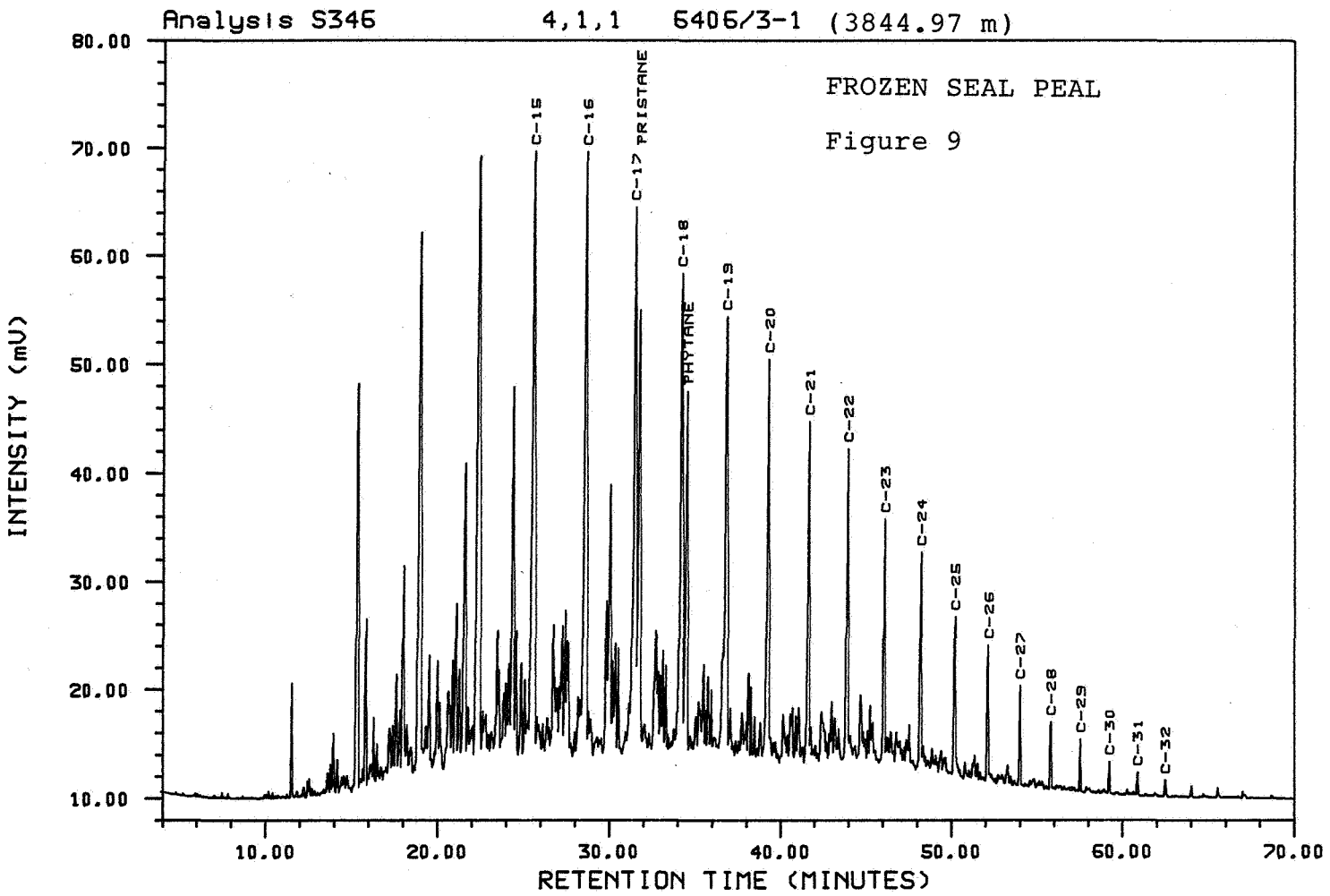

Analysis S343 4,1,1 6406/3-1 (3806.16-3806.58 m)
Figur 6
INTENSITY (mV)
RETENTION TIME (MINUTES)
C-15
C-16
C-17 PRISTANE
C-18
PHYTANE
C-19
C-20
C-21
C-22
C-23
C-24
C-25
C-26
C-27
C-28
C-29
C-30
C-31
C-32

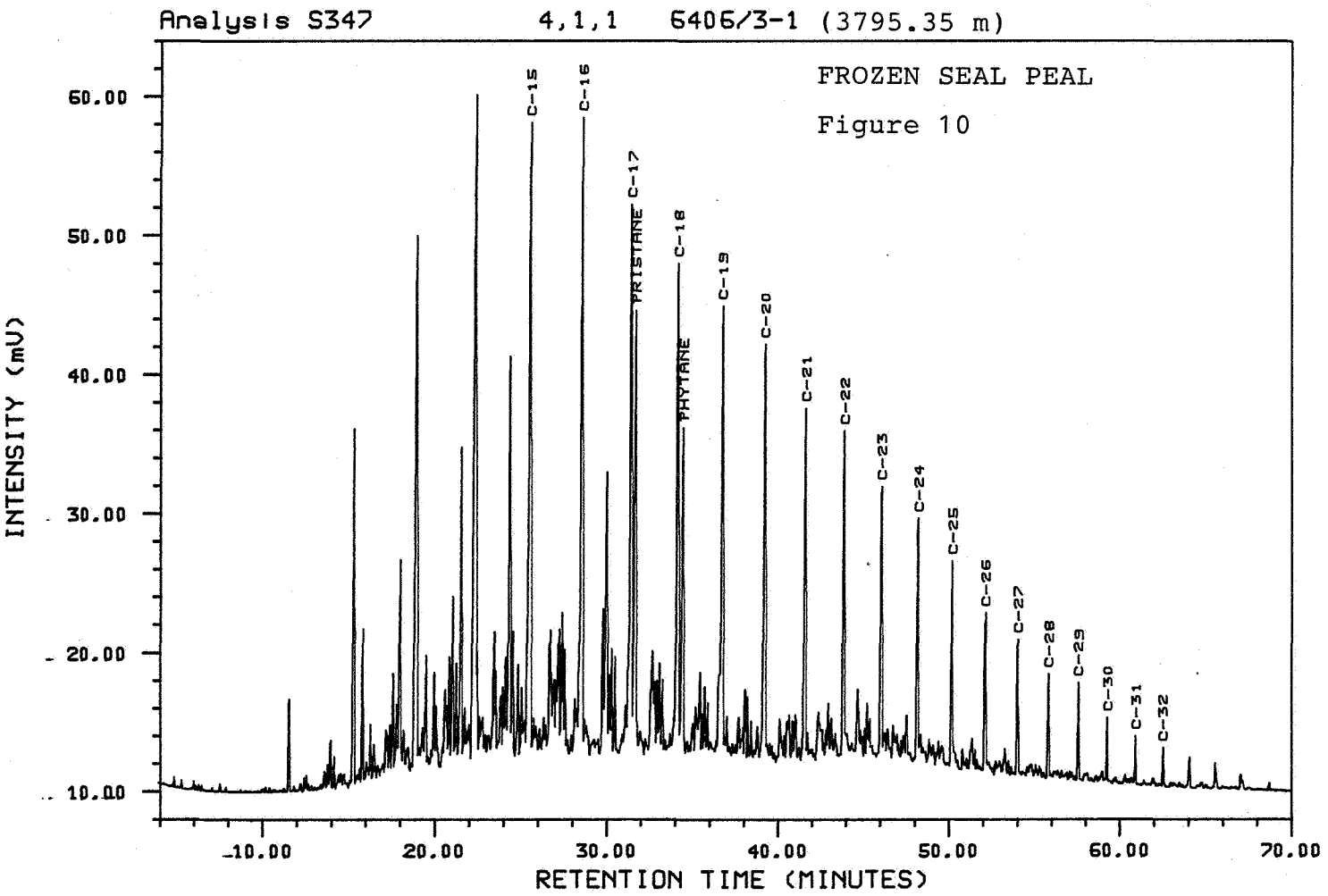


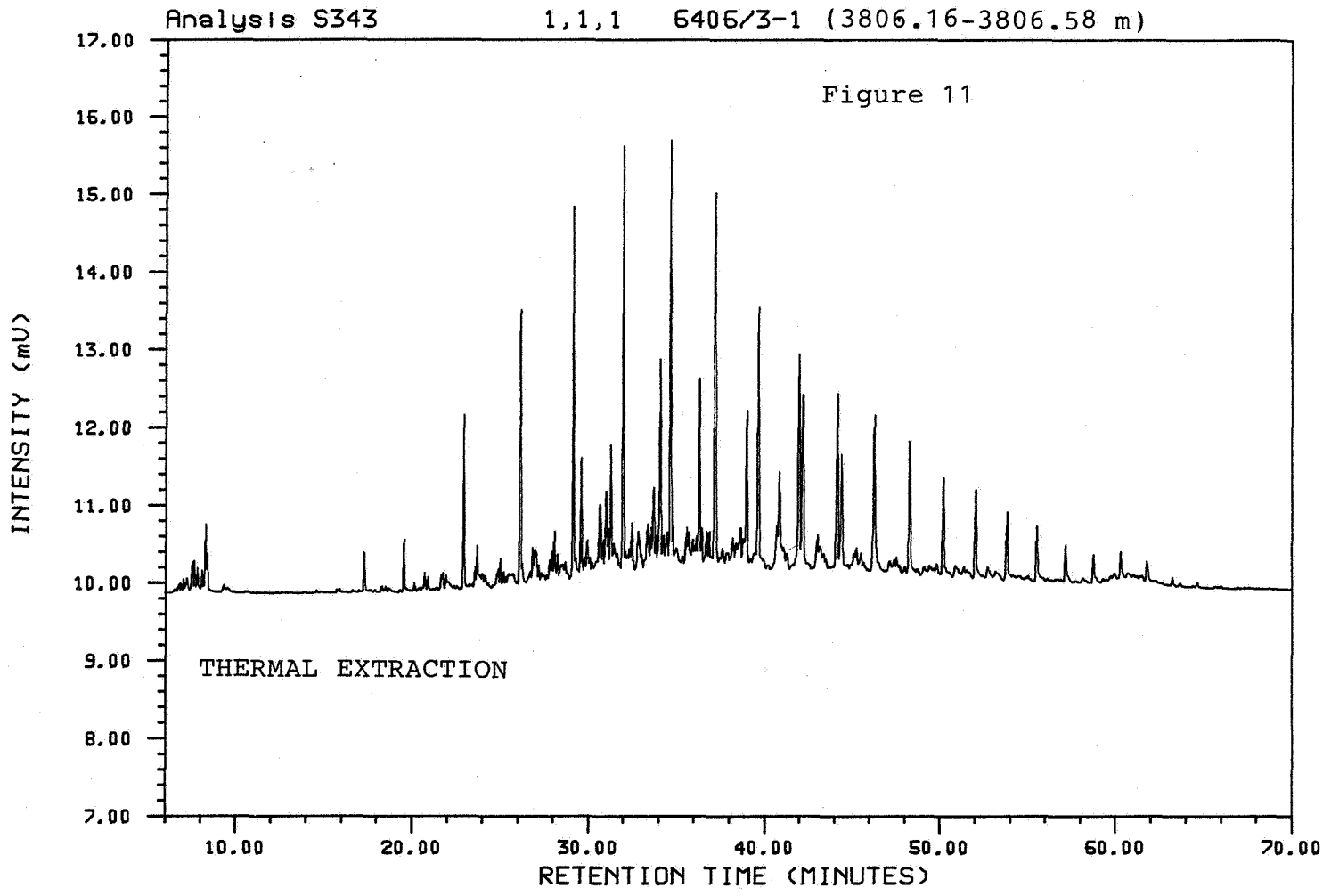
Figur 7

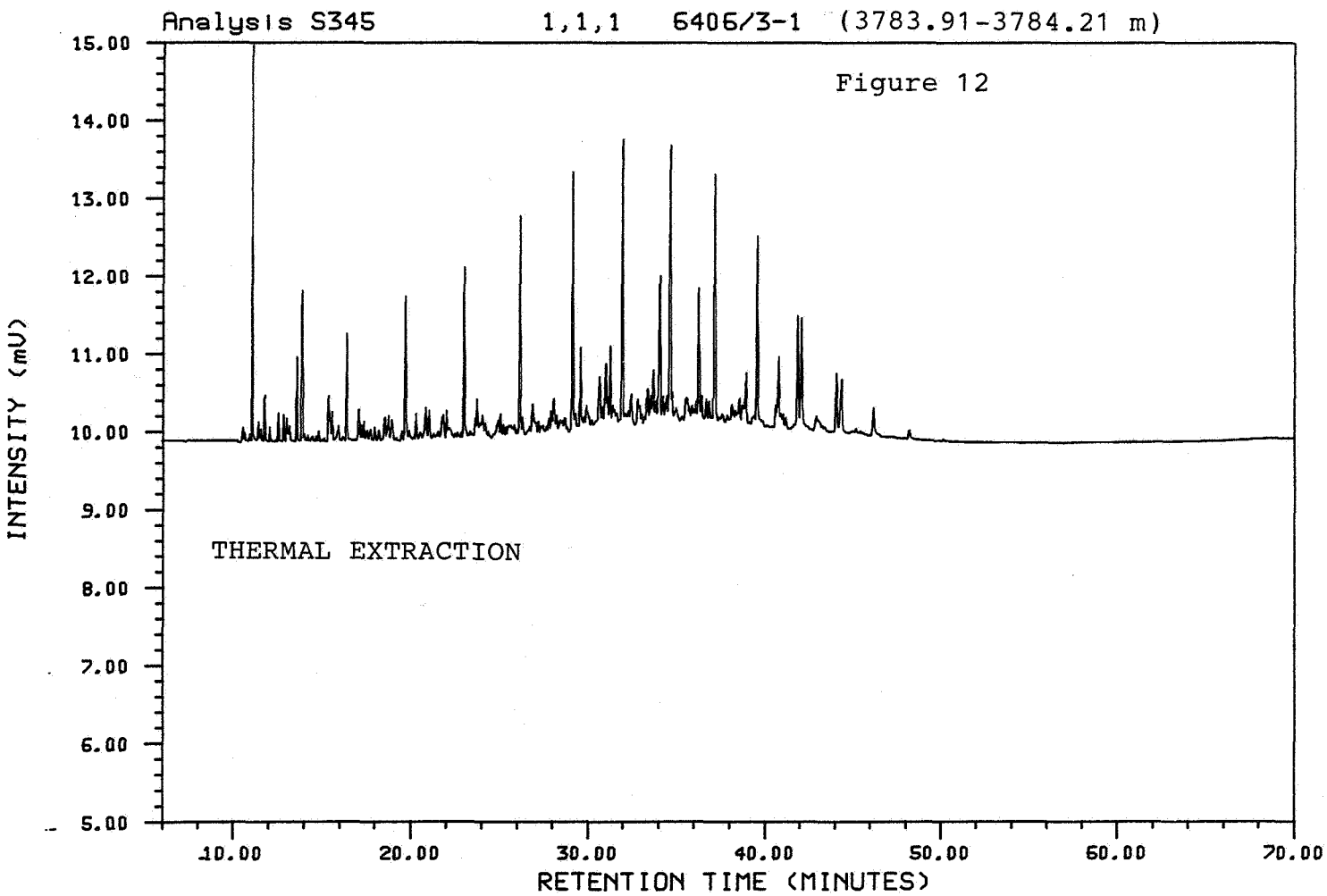


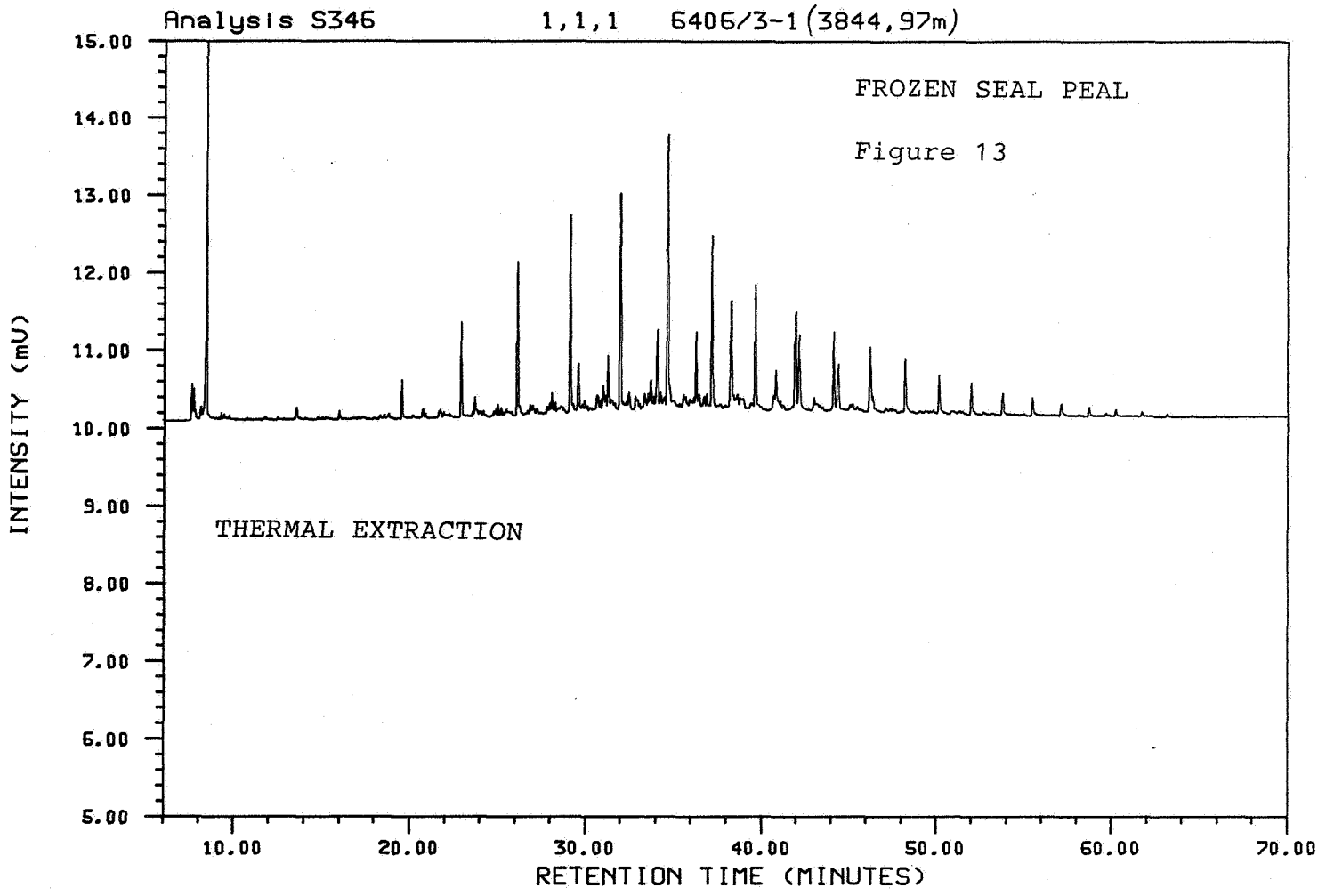
Figur 8

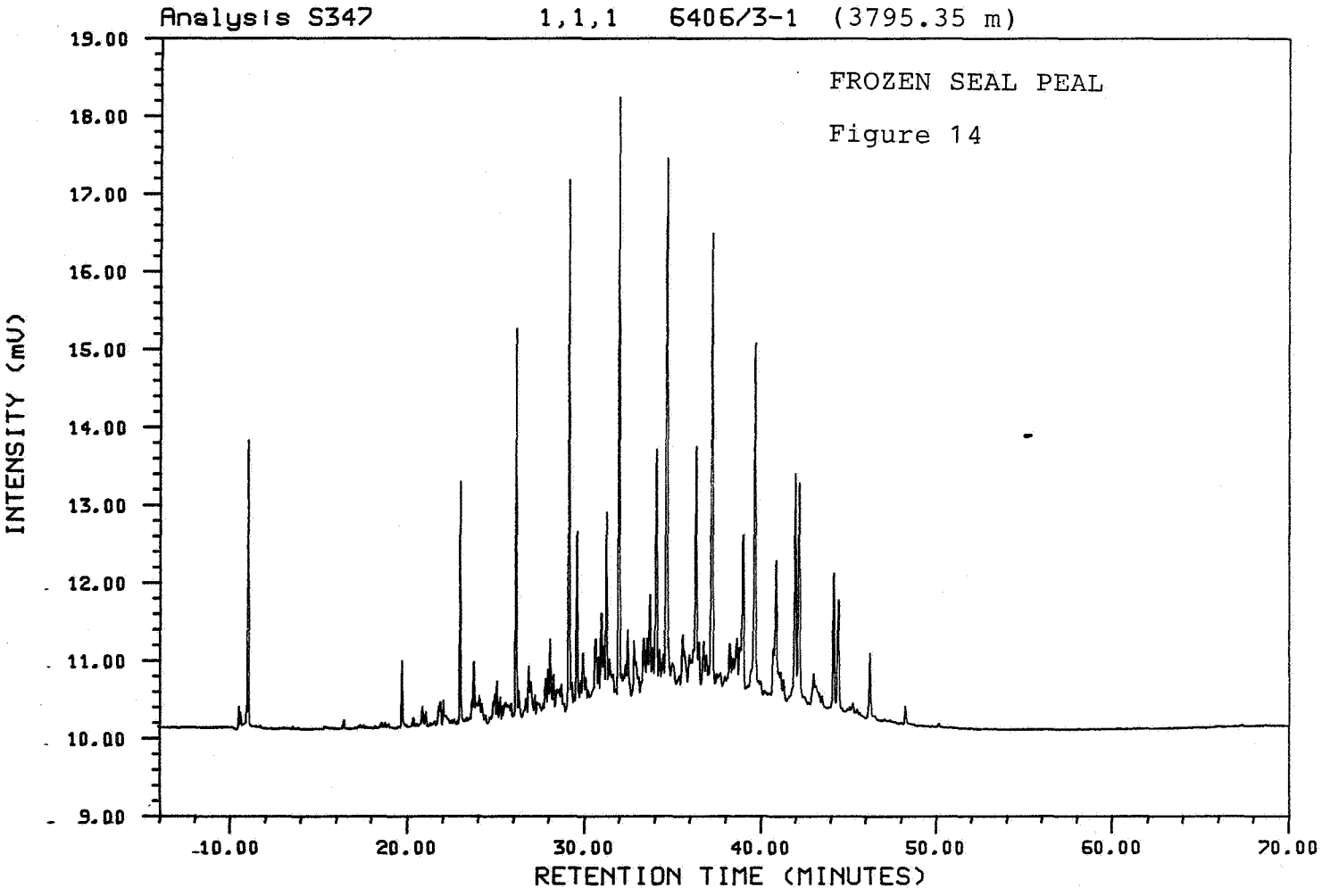

Analysis S346 4,1,1 6406/3-1 (3844.97 m)
FROZEN SEAL PEAL
Figure 9
INTENSITY (mV)
RETENTION TIME (MINUTES)
C-15
C-16
C-17
PRISTANE
C-18
PHYTANE
C-19
C-20
C-21
C-22
C-23
C-24
C-25
C-26
C-27
C-28
C-29
C-30
C-31
C-32


Analysis S347 4,1,1 6406/3-1 (3795.35 m)
FROZEN SEAL PEAL
Figure 10
INTENSITY (mV)
RETENTION TIME (MINUTES)
C-15
C-16
C-17
PRISTANE
C-18
PHYTANE
C-19
C-20
C-21
C-22
C-23
C-24
C-25
C-26
C-27
C-28
C-29
C-30
C-31
C-32


Analysis S343 1,1,1 6406/3-1 (3806.16-3806.58 m)
Figure 11
INTENSITY (mV)
17.00
16.00
15.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
THERMAL EXTRACTION
10.00
20.00
30.00
40.00
50.00
60.00
70.00
RETENTION TIME (MINUTES)


Analysis S345 1,1,1 6406/3-1 (3783.91-3784.21 m)
Figure 12
INTENSITY (mV)
15.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
THERMAL EXTRACTION
10.00
20.00
30.00
40.00
50.00
60.00
70.00
RETENTION TIME (MINUTES)


Analysis S346 1,1,1 6406/3-1 (3844,97m)
FROZEN SEAL PEAL
Figure 13
THERMAL EXTRACTION
INTENSITY (mV)
RETENTION TIME (MINUTES)


Analysis S347 1,1,1 6406/3-1 (3795.35 m)
FROZEN SEAL PEAL
Figure 14
INTENSITY (mV)
RETENTION TIME (MINUTES)