

Saturated biomarkers

GC/MS detection HP-6890/5973

Ratios, from heights and amounts



Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: S2126_7.D
Sample name: 257-5 2126.7m sat
Data File Path: C:\HPCHEM\1\DATA\ELIN2\1
Misc. info.:

Vial no.: 4
Method: MSD_S_D
Operator:
Date: Wed Dec 03 20:31:52 1997

Terpane ratios, heights and amounts

		Height	Amount
$100 \cdot ((\text{sum}20-25)/3+26/3(R+S)) /$			
$((\text{sum}20-25)/3+26/3(R+S)+27(Ts+Tm)+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%Tri	11	12
$100 \cdot 20/3 / ((\text{sum}20-25)/3+26/3(R+S))$	%20/3	12	12
$100 \cdot 23/3 / (23/3+24/3+25/3)$	%23/3	49	49
$100 \cdot 24/4 / (24/4+24/3+25/3)$	%24/4	37	37
$100 \cdot Ts / (Ts+Tm)$	%27Ts	68	68
$100 \cdot 28ab / (28ab+30ab)$	%28ab	10	14
$100 \cdot 29Ts / (29Ts+29ab)$	%29Ts	40	40
$100 \cdot 25nor30ab / (25nor30ab+30ab)$	%25nor30ab	1	1
$100 \cdot 29ab / (29ab+30ab)$	%29ab	28	38
$100 \cdot 30ba / (30ba+30ab)$	%30ba	9	9
$100 \cdot 30D / (30D+30ab)$	%30D	20	28
$100 \cdot 30G / (30G+30ab)$	%30G	6	9
$100 \cdot 32abS / (32ab(S+R))$	%32abS	59	59
$100 \cdot 35ab(S+R) / (34-35ab(S+R))$	%35ab	41	41
$100 \cdot (27Ts+27Tm) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%27HOP	10	12
$100 \cdot (28ab) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%28HOP	3	3
$100 \cdot (29ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%29HOP	10	11
$100 \cdot (30ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%30HOP	27	19
$100 \cdot 31ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%31HOP	18	20
$100 \cdot 32ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%32HOP	13	15
$100 \cdot 33ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%33HOP	9	10
$100 \cdot 34ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%34HOP	5	6
$100 \cdot 35ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%35HOP	4	4

Sterane ratios

$100 \cdot (21+22)bb / ((21+22)bb+(27+28+29+30)bb(R+S))$	%Preg	14	14
$100 \cdot 29aaS / 29aa(R+S)$	%29aaS	50	50
$100 \cdot 29bb(R+S) / (29bb(R+S)+29aa(S+R))$	%29bb	72	72
$100 \cdot 27db(S+R) / ((27db(S+R)+27bb(R+S))$	%27dia	55	55
$100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$	%27STER	35	35
$100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$	%28STER	23	23
$100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$	%29STER	32	32
$100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$	%30STER	10	10

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Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: S2117_95.D
Sample name: 2577-5 2117.95m sat
Data File Path: C:\HPCHEM\1\DATA\SA315H3D\
Misc. info.:

Vial no.: 5
Method: MSD_S_D
Operator:
Date: Thu Nov 13 22:33:42 1997

Terpane ratios, heights and amounts

	Height	Amount
$100 \cdot ((\text{sum}20-25)/3+26/3(R+S)) / ((\text{sum}20-25)/3+26/3(R+S)+27(Ts+Tm)+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%Tri	11 12
$100 \cdot 20/3 / ((\text{sum}20-25)/3+26/3(R+S))$	%20/3	9 9
$100 \cdot 23/3 / (23/3+24/3+25/3)$	%23/3	50 50
$100 \cdot 24/4 / (24/4+24/3+25/3)$	%24/4	30 30
$100 \cdot Ts / (Ts+Tm)$	%27Ts	70 70
$100 \cdot 28ab / (28ab+30ab)$	%28ab	16 23
$100 \cdot 29Ts / (29Ts+29ab)$	%29Ts	34 34
$100 \cdot 25nor30ab / (25nor30ab+30ab)$	%25nor30ab	0 1
$100 \cdot 29ab / (29ab+30ab)$	%29ab	28 38
$100 \cdot 30ba / (30ba+30ab)$	%30ba	8 8
$100 \cdot 30D / (30D+30ab)$	%30D	12 18
$100 \cdot 30G / (30G+30ab)$	%30G	5 7
$100 \cdot 32abS / (32ab(S+R))$	%32abS	60 60
$100 \cdot 35ab(S+R) / (34-35ab(S+R))$	%35ab	43 43
$100 \cdot (27Ts+27Tm) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%27HOP	10 11
$100 \cdot (28ab) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%28HOP	5 5
$100 \cdot (29ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%29HOP	12 13
$100 \cdot (30ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%30HOP	26 19
$100 \cdot 31ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%31HOP	17 19
$100 \cdot 32ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%32HOP	12 13
$100 \cdot 33ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%33HOP	10 11
$100 \cdot 34ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%34HOP	5 6
$100 \cdot 35ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%35HOP	4 4

Sterane ratios

$100 \cdot (21+22)bb / ((21+22)bb+(27+28+29+30)bb(R+S))$	%Preg	13 13
$100 \cdot 29aaS / 29aa(R+S)$	%29aaS	47 47
$100 \cdot 29bb(R+S) / (29bb(R+S)+29aa(S+R))$	%29bb	73 73
$100 \cdot 27db(S+R) / ((27db(S+R)+27bb(R+S))$	%27dia	45 45
$100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$	%27STER	31 31
$100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$	%28STER	27 27
$100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$	%29STER	29 29
$100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$	%30STER	12 12

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Ratios, from heights and amounts



Norsk Hydro E&P Research Centre, Bergen, Norway
 Petroleum Geochemistry Laboratories

Data file name: S2119_10.D
 Sample name: 25/7-5 2119_10m sat
 Data File Path: C:\HPCHEM\1\DATA\ISA315H3D\
 Misc. info.:

Vial no.: 6
 Method: MSD_S_D
 Operator:
 Date: Fri Nov 14 00:02:25 1997

Terpane ratios, heights and amounts

	Height	Amount
$100 \cdot ((\text{sum}20-25)/3+26/3(R+S)) / ((\text{sum}20-25)/3+26/3(R+S)+27(Ts+Tm)+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%Tri	12 13
$100 \cdot 20/3 / ((\text{sum}20-25)/3+26/3(R+S))$	%20/3	9 9
$100 \cdot 23/3 / ((23/3+24/3+25/3))$	%23/3	50 50
$100 \cdot 24/4 / ((24/4+24/3+25/3))$	%24/4	28 28
$100 \cdot Ts / (Ts+Tm)$	%27Ts	71 71
$100 \cdot 28ab / (28ab+30ab)$	%28ab	17 25
$100 \cdot 29Ts / (29Ts+29ab)$	%29Ts	34 34
$100 \cdot 25nor30ab / (25nor30ab+30ab)$	%25nor30ab	0 1
$100 \cdot 29ab / (29ab+30ab)$	%29ab	28 37
$100 \cdot 30ba / (30ba+30ab)$	%30ba	7 7
$100 \cdot 30D / (30D+30ab)$	%30D	12 17
$100 \cdot 30G / (30G+30ab)$	%30G	5 7
$100 \cdot 32abS / (32ab(S+R))$	%32abS	59 59
$100 \cdot 35ab(S+R) / (34-35ab(S+R))$	%35ab	42 42
$100 \cdot (27Ts+27Tm) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%27HOP	9 10
$100 \cdot 28ab / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%28HOP	5 5
$100 \cdot (29ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%29HOP	12 13
$100 \cdot (30ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%30HOP	25 18
$100 \cdot 31ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%31HOP	17 18
$100 \cdot 32ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%32HOP	12 13
$100 \cdot 33ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%33HOP	10 11
$100 \cdot 34ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%34HOP	5 6
$100 \cdot 35ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%35HOP	4 4

Sterane ratios

$100 \cdot (21+22)bb / ((21+22)bb+(27+28+29+30)bb(R+S))$	%Preq	14 14
$100 \cdot 29aaS / 29aa(R+S)$	%29aaS	46 46
$100 \cdot 29bb(R+S) / (29bb(R+S)+29aa(S+R))$	%29bb	74 74
$100 \cdot 27db(S+R) / ((27db(S+R)+27bb(R+S))$	%27dia	44 44
$100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$	%27STER	32 32
$100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$	%28STER	26 26
$100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$	%29STER	30 30
$100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$	%30STER	12 12

Saturated biomarkers

GC/MS detection HP-6890/5973

Ratios, from heights and amounts



Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: S2116.D
Sample name: 25/7-5 2116m sat
Data File Path: C:\HPCHEM\1\DATA\ELIN2\
Misc. info.:

Vial no.: 3
Method: MSD_S_D
Operator:
Date: Wed Dec 03 19:03:21 1997

Terpane ratios, heights and amounts

		Height	Amount
$100 \cdot ((\text{sum}20-25)/3 + 26/3(R+S)) / ((\text{sum}20-25)/3 + 26/3(R+S) + 27(Ts+Tm) + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$	%Tri	11	12
$100 \cdot 20/3 / ((\text{sum}20-25)/3 + 26/3(R+S))$	%20/3	10	10
$100 \cdot 23/3 / (23/3 + 24/3 + 25/3)$	%23/3	47	47
$100 \cdot 24/4 / (24/4 + 24/3 + 25/3)$	%24/4	32	32
$100 \cdot Ts / (Ts + Tm)$	%27Ts	68	68
$100 \cdot 28ab / (28ab + 30ab)$	%28ab	17	24
$100 \cdot 29Ts / (29Ts + 29ab)$	%29Ts	34	34
$100 \cdot 25nor30ab / (25nor30ab + 30ab)$	%25nor30ab	0	0
$100 \cdot 29ab / (29ab + 30ab)$	%29ab	28	38
$100 \cdot 30ba / (30ba + 30ab)$	%30ba	8	8
$100 \cdot 30D / (30D + 30ab)$	%30D	12	18
$100 \cdot 30G / (30G + 30ab)$	%30G	5	7
$100 \cdot 32abS / (32ab(S+R))$	%32abS	58	58
$100 \cdot 35ab(S+R) / (34-35ab(S+R))$	%35ab	43	43
$100 \cdot (27Ts + 27Tm) / (27Ts + 27Tn + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$	%27HOP	10	11
$100 \cdot (28ab) / (27Ts + 27Tn + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$	%28HOP	5	5
$100 \cdot (29ab+ba) / (27Ts + 27Tn + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$	%29HOP	12	13
$100 \cdot (30ab+ba) / (27Ts + 27Tn + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$	%30HOP	26	18
$100 \cdot 31ab(S+R) / (27Ts + 27Tn + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$	%31HOP	16	18
$100 \cdot 32ab(S+R) / (27Ts + 27Tn + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$	%32HOP	12	13
$100 \cdot 33ab(S+R) / (27Ts + 27Tn + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$	%33HOP	10	11
$100 \cdot 34ab(S+R) / (27Ts + 27Tn + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$	%34HOP	5	6
$100 \cdot 35ab(S+R) / (27Ts + 27Tn + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$	%35HOP	4	4

Sterane ratios

$100 \cdot (21+22)bb / ((21+22)bb + (27+28+29+30)bb(R+S))$	%Preg	14	14
$100 \cdot 29aaS / 29aa(R+S)$	%29aaS	48	48
$100 \cdot 29bb(R+S) / (29bb(R+S) + 29aa(S+R))$	%29bb	73	73
$100 \cdot 27db(S+R) / ((27db(S+R) + 27bb(R+S))$	%27dia	45	45
$100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$	%27STER	32	32
$100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$	%28STER	26	26
$100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$	%29STER	30	30
$100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$	%30STER	12	12

Saturated biomarkers

GC/MS detection HP-6890/5973

Ratios, from heights and amounts



Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: S2052.D
Sample name: 25/7-5 2052m sat
Data File Path: K:\CAM\GEOKJEM\HPCHEM\W95\DATA\SA351110\
Misc. info.:

Vial no.: 12
Method: MSD_S_D
Operator:
Date: Thu Oct 30 12:04:54 1997

Terpane ratios, heights and amounts

	Height	Amount
$100 \cdot ((\text{sum}20-25)/3+26/3(R+S)) / ((\text{sum}20-25)/3+26/3(R+S)+27(Ts+Tm)+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%Tri	11 12
$100 \cdot 20/3 / ((\text{sum}20-25)/3+26/3(R+S))$	%20/3	13 13
$100 \cdot 23/3 / (23/3+24/3+25/3)$	%23/3	47 47
$100 \cdot 24/4 / (24/4+24/3+25/3)$	%24/4	38 38
$100 \cdot Ts / (Ts+Tm)$	%27Ts	67 67
$100 \cdot 28ab / (28ab+30ab)$	%28ab	9 13
$100 \cdot 29Ts / (29Ts+29ab)$	%29Ts	39 39
$100 \cdot 25nor30ab / (25nor30ab+30ab)$	%25nor30ab	1 1
$100 \cdot 29ab / (29ab+30ab)$	%29ab	29 39
$100 \cdot 30ba / (30ba+30ab)$	%30ba	9 9
$100 \cdot 30D / (30D+30ab)$	%30D	21 29
$100 \cdot 30G / (30G+30ab)$	%30G	6 9
$100 \cdot 32abS / (32ab(S+R))$	%32abS	59 59
$100 \cdot 35ab(S+R) / (34-35ab(S+R))$	%35ab	41 41
$100 \cdot (27Ts+27Tm) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%27HOP	11 12
$100 \cdot (28ab) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%28HOP	2 3
$100 \cdot (29ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%29HOP	11 12
$100 \cdot (30ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%30HOP	27 19
$100 \cdot 31ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%31HOP	18 19
$100 \cdot 32ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%32HOP	13 15
$100 \cdot 33ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%33HOP	9 10
$100 \cdot 34ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%34HOP	5 6
$100 \cdot 35ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%35HOP	4 4

Sterane ratios

$100 \cdot (21+22)bb / ((21+22)bb+(27+28+29+30)bb(R+S))$	%Preg	15 15
$100 \cdot 29aaS / 29aa(R+S)$	%29aaS	51 51
$100 \cdot 29bb(R+S) / (29bb(R+S)+29aa(S+R))$	%29bb	72 72
$100 \cdot 27db(S+R) / ((27db(S+R)+27bb(R+S))$	%27dia	56 56
$100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$	%27STER	34 34
$100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$	%28STER	23 23
$100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$	%29STER	32 32
$100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$	%30STER	10 10

Saturated biomarkers

GC/MS detection HP-6890/5973

Ratios, from heights and amounts



Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: **S1860.D**
 Sample name: **25/7-5 1860m sat**
 Data File Path: C:\HPCHEM\1\DATA\ISA315H3D\A
 Misc. info.:

 Vial no.: **4**
 Method: **MSD_S_D**

 Operator:
 Date: **Thu Nov 13 21:04:59 1997**

Terpane ratios, heights and amounts

		Height	Amount
$100 \cdot ((\text{sum}20-25)/3+26/3(R+S)) /$			
$((\text{sum}20-25)/3+26/3(R+S)+27(Ts+Tm)+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%Tri	15	17
$100 \cdot 20/3 / ((\text{sum}20-25)/3+26/3(R+S))$	%20/3	12	12
$100 \cdot 23/3 / (23/3+24/3+25/3)$	%23/3	57	57
$100 \cdot 24/4 / (24/4+24/3+25/3)$	%24/4	32	32
$100 \cdot Ts / (Ts+Tm)$	%27Ts	42	42
$100 \cdot 28ab / (28ab+30ab)$	%28ab	8	12
$100 \cdot 29Ts / (29Ts+29ab)$	%29Ts	30	30
$100 \cdot 25nor30ab / (25nor30ab+30ab)$	%25nor30ab	2	3
$100 \cdot 29ab / (29ab+30ab)$	%29ab	33	43
$100 \cdot 30ba / (30ba+30ab)$	%30ba	18	18
$100 \cdot 30D / (30D+30ab)$	%30D	7	10
$100 \cdot 30G / (30G+30ab)$	%30G	5	7
$100 \cdot 32abS / (32ab(S+R))$	%32abS	48	48
$100 \cdot 35ab(S+R) / (34-35ab(S+R))$	%35ab	43	43
$100 \cdot (27Ts+27Tm) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%27HOP	10	12
$100 \cdot (28ab) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%28HOP	2	3
$100 \cdot (29ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%29HOP	20	22
$100 \cdot (30ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%30HOP	32	23
$100 \cdot 31ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%31HOP	20	23
$100 \cdot 32ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%32HOP	7	8
$100 \cdot 33ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%33HOP	5	6
$100 \cdot 34ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%34HOP	2	2
$100 \cdot 35ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%35HOP	2	2

Sterane ratios

$100 \cdot (21+22)bb / ((21+22)bb+(27+28+29+30)bb(R+S))$	%Preg	21	21
$100 \cdot 29aaS / 29aa(R+S)$	%29aaS	19	19
$100 \cdot 29bb(R+S) / (29bb(R+S)+29aa(S+R))$	%29bb	48	48
$100 \cdot 27db(S+R) / ((27db(S+R)+27bb(R+S))$	%27dia	51	51
$100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$	%27STER	32	32
$100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$	%28STER	26	26
$100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$	%29STER	33	33
$100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$	%30STER	9	9

Saturated biomarkers

GC/MS detection HP-6890/5973

Ratios, from heights and amounts



Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: S1830.D
Sample name: 25/7-5 1830m sat
Data File Path: C:\HPCHEM\1\DATA\ISA315H3D\
Misc. info.:

Vial no.: 3
Method: MSD_S_D
Operator:
Date: Thu Nov 13 19:36:17 1997

Terpane ratios, heights and amounts	Height	Amount
$100 \cdot ((\text{sum}20-25)/3+26/3(R+S)) / ((\text{sum}20-25)/3+26/3(R+S)+27(Ts+Tm)+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%Tri	13 15
$100 \cdot 20/3 / ((\text{sum}20-25)/3+26/3(R+S))$	%20/3	14 14
$100 \cdot 23/3 / (23/3+24/3+25/3)$	%23/3	57 57
$100 \cdot 24/4 / (24/4+24/3+25/3)$	%24/4	36 36
$100 \cdot Ts / (Ts+Tm)$	%27Ts	43 43
$100 \cdot 28ab / (28ab+30ab)$	%28ab	8 13
$100 \cdot 29Ts / (29Ts+29ab)$	%29Ts	24 24
$100 \cdot 25nor30ab / (25nor30ab+30ab)$	%25nor30ab	1 2
$100 \cdot 29ab / (29ab+30ab)$	%29ab	36 46
$100 \cdot 30ba / (30ba+30ab)$	%30ba	20 20
$100 \cdot 30D / (30D+30ab)$	%30D	7 11
$100 \cdot 30G / (30G+30ab)$	%30G	4 6
$100 \cdot 32abS / (32ab(S+R))$	%32abS	48 48
$100 \cdot 35ab(S+R) / (34-35ab(S+R))$	%35ab	40 40
$100 \cdot (27Ts+27Tm) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%27HOP	10 11
$100 \cdot (28ab) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%28HOP	2 2
$100 \cdot (29ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%29HOP	20 22
$100 \cdot (30ab+ba) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%30HOP	29 21
$100 \cdot 31ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%31HOP	24 26
$100 \cdot 32ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%32HOP	7 8
$100 \cdot 33ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%33HOP	5 6
$100 \cdot 34ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%34HOP	2 3
$100 \cdot 35ab(S+R) / (27Ts+27Tn+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$	%35HOP	1 2
Sterane ratios		
$100 \cdot (21+22)bb / ((21+22)bb+(27+28+29+30)bb(R+S))$	%Preg	18 18
$100 \cdot 29aaS / 29aa(R+S)$	%29aaS	30 30
$100 \cdot 29bb(R+S) / (29bb(R+S)+29aa(S+R))$	%29bb	51 51
$100 \cdot 27db(S+R) / ((27db(S+R)+27bb(R+S))$	%27dia	47 47
$100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$	%27STER	35 35
$100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$	%28STER	24 24
$100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$	%29STER	33 33
$100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$	%30STER	8 8

Terpane ratios			Amount		Height
100*(20/3+21/3+23/3+24/3+25/3+26/3(R+S)) (191)	%Tri		14	13	
((20+21+23+24+25)/3+26/3(R+S)+27(Ts+Tm)+28ab+SUM 29-30(ab+ba)+SUM 31-35ab(S+R)) (191)					
100*20/3 (191)	%20/3		13	13	
20/3+21/3+23/3+24/3+25/3+26/3(R+S) (191)					
100*23/3 (191)	%23/3		45	45	
23/3+24/3+25/3 (191)					
100*24/4 (191)	%24/4		38	38	
24/4+24/3+25/3 (191)					
100*27Ts (191)	%27Ts		67	67	
27Ts+27Tm (191)					
100*28ab (191)	%28ab		18	13	
28ab+30ab (191)					
100*29Ts (191)	%29Ts		43	43	
29Ts+29ab (191)					
100*25nor30ab (191)	%25nor30ab		3	2	
25nor30ab+30ab (191)					
100*29ab (191)	%29ab		38	30	
29ab+30ab (191)					
100*30ba (191)	%30ba		9	9	
30ba+30ab (191)					
100*30D (191)	%30D		31	24	
30D+30ab (191)					
100*30G (191)	%30G		15	11	
30G+30ab (191)					
100*32abS (191)	%32abS		63	63	
32abS+32abR (191)					
100*35ab(S+R) (191)	%35ab		43	43	
SUM 34-35ab(S+R) (191)					
100*(27Ts+27Tm) (191)	%27HOP		15	14	
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*28ab (191)	%28HOP		4	3	
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(29ab+29ba) (191)	%29HOP		12	11	
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(30ab+30ba) (191)	%30HOP		18	25	
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(31ab(S+R)) (191)	%31HOP		18	17	
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(32ab(S+R)) (191)	%32HOP		13	12	
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(33ab(S+R)) (191)	%33HOP		9	9	
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(34ab(S+R)) (191)	%34HOP		5	5	
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(35ab(S+R)) (191)	%35HOP		4	4	
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					

SATURATE BIOMARKERS					
File name (sample): 2033 70S.D					
File path: K:\CAP\MSDARKIVHC_SATKV2425C3\					
Misc information:					
Sample name: 24/9-6 2033.70m COCH SST Sat					
Operator: Lotte 15/11-96					
Method: MSD_S_C					
Date analyzed: 16-nov-96					
Sterane ratios					
			Amount		Height
100*(21+22)bb (217)	%Preg		17	17	
(21+22)bb (217) + (27+28+29+30)bb(S+R) (218)					
100*29aaS (217)	%29aaS		54	53	
(29aa(S+R)) (217)					
100*29bb(S+R) (218)	%29bb		68	68	
(29bb(S+R) (218) + 29aa(S+R) (217))					
100*27dia(S+R) (217)	%27dia		55	55	
27dia(S+R) (217) + 27bb(R+S) (218)					
100*27bb(S+R) (218)	%27STER		35	35	
(27+28+29+30)bb(S+R) (218)					
100*28bb(S+R) (218)	%28STER		25	25	
(27+28+29+30)bb(S+R) (218)					
100*29bb(S+R) (218)	%29STER		29	29	
(27+28+29+30)bb(S+R) (218)					
100*30bb(S+R) (218)	%30STER		11	11	
(27+28+29+30)bb(S+R) (218)					
Terpane-Sterane ratio					
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)	Ho/St2		2.1	2.8	
(27+28+29+30)bb(S+R) (218)					

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
Int.Std.(if added):					
4	45.97	217	24baa	5674	27
DITERPANES:					
5	33.72	191	19/3	2529	10
6	35.68	191	20/3	2032	8
7	37.71	191	21/3	3158	12
11	41.66	191	23/3	4757	18
13	42.77	191	24/3	3665	14
14	45.09	191	25/3	1843	7
16	46.66	191	26/3R	1495	6
17	46.80	191	26/3S	1257	5
20	50.32	191	28/3R	1996	8
21	50.56	191	28/3S	1265	5
23	51.34	191	29/3R	2524	10
25	51.63	191	29/3S	1506	6
15	46.55	191	24/4	3356	13
TRITERPANES:					
26	52.46	191	27Ts	10650	41
28	52.70	177	25nor28ab	402	2
29	53.12	191	27Tm	5417	21
33	53.61	191	27b	1663	7
32	53.50	177	25nor29ab	597	2
34	54.68	191	28ab	3768	14
36	54.82	177	25nor30ab	337	1
39	55.37	191	29ab	13621	52
40	55.48	191	29Ts	9241	35
43	56.17	191	29ba	914	4
42	55.73	191	30D	9358	36
46	56.74	191	30ab	34987	93
47	57.07	191	30D13	2598	10
48	57.35	191	30ba	3354	9
51	58.83	191	30G	3219	12
49	58.31	191	31abS	13688	52
50	58.50	191	31abR	11264	43
52	59.02	191	31ba	1555	6
53	59.53	191	32abS	10935	42
54	59.80	191	32abR	6498	25
55	60.95	191	33abS	6592	25
56	61.33	191	33abR	4611	18
57	62.44	191	34abS	4022	15
58	62.92	191	34abR	2464	9
59	64.09	191	35abS	2857	11
60	64.76	191	35abR	1893	7

SATURATE BIOMARKERS					
File name (sample): 2124_30S.D					
File path: K:\CAPMSDARKIVHC_SATKV2425C3\					
Misc information:					
Sample name: 25/4-3 2124.30m COCH SST Sat					
Operator: Lotte 15/11-96					
Method: MSD_S_C					
Date analyzed: 1996-11-16					

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
STERANES:					
8	38.21	217	21aa	4519	22
9	39.85	217	21bb	4976	24
10	39.99	217	22aa	4324	21
12	42.19	217	22bb	2540	12
18	48.50	217	27dbS	15760	76
19	49.13	217	27dbR	9309	45
22	51.45	218	27bbR	10315	50
24	51.59	218	27bbS	6432	31
27	51.99	217	27aaR	3137	15
30	53.20	218	28bbR	5099	25
31	53.32	218	28bbS	6253	30
35	54.30	217	29aaS	3463	17
37	54.61	218	29bbR	6668	32
38	54.71	218	29bbS	7149	34
41	55.31	217	29aaR	3494	17
44	55.78	218	30bbR	1915	9
45	55.82	218	30bbS	1713	8

Terpane ratios				SATURATE BIOMARKERS																																																																																																																																																															
		Amount	Height			Amount	Height																																																																																																																																																												
100*(20/3+21/3+23/3+24/3+25/3+26/3(R+S)) (191)	%Tri	12	12	File name (sample): 2124 30S.D																																																																																																																																																															
((20+21+23+24+25)/3+26/3(R+S)+27(Ts+Tm)+28ab+SUM 29-30(ab+ba)+SUM 31-35ab(S+R)) (191)				File path: K:\CAPMSDARKIVHC_SATKV2425C3\																																																																																																																																																															
100*20/3 (191)	%20/3	11	11	Misc information:																																																																																																																																																															
20/3+21/3+23/3+24/3+25/3+26/3(R+S) (191)				Sample name: 25/4-3 2124.30m COCH SST Sat																																																																																																																																																															
100*23/3 (191)	%23/3	46	46	Operator: Lotte 15/11-96																																																																																																																																																															
23/3+24/3+25/3 (191)				Method: MSD_S_C																																																																																																																																																															
100*24/4 (191)	%24/4	38	38	Date analyzed: 16-nov-96																																																																																																																																																															
24/4+24/3+25/3 (191)				<table border="1"> <thead> <tr> <th colspan="4">Sterane ratios</th> </tr> <tr> <th></th> <th></th> <th>Amount</th> <th>Height</th> </tr> </thead> <tbody> <tr> <td>100*(21+22)bb (217)</td> <td>%Preg</td> <td>14</td> <td>14</td> </tr> <tr> <td>(21+22)bb (217) + (27+28+29+30)bb(S+R) (218)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*29aaS (217)</td> <td>%29aaS</td> <td>50</td> <td>50</td> </tr> <tr> <td>(29aa(S+R) (217)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*29bb(S+R) (218)</td> <td>%29bb</td> <td>67</td> <td>67</td> </tr> <tr> <td>(29bb(S+R) (218) + 29aa(S+R) (217))</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*27dia(S+R) (217)</td> <td>%27dia</td> <td>60</td> <td>60</td> </tr> <tr> <td>27ds(S+R) (217) + 27bb(R+S) (218)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*27bb(S+R) (218)</td> <td>%27STER</td> <td>37</td> <td>37</td> </tr> <tr> <td>(27+28+29+30)bb(S+R) (218)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*28bb(S+R) (218)</td> <td>%28STER</td> <td>25</td> <td>25</td> </tr> <tr> <td>(27+28+29+30)bb(S+R) (218)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*29bb(S+R) (218)</td> <td>%29STER</td> <td>30</td> <td>30</td> </tr> <tr> <td>(27+28+29+30)bb(S+R) (218)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*30bb(S+R) (218)</td> <td>%30STER</td> <td>8</td> <td>8</td> </tr> <tr> <td>(27+28+29+30)bb(S+R) (218)</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Sterane ratios						Amount	Height	100*(21+22)bb (217)	%Preg	14	14	(21+22)bb (217) + (27+28+29+30)bb(S+R) (218)				100*29aaS (217)	%29aaS	50	50	(29aa(S+R) (217)				100*29bb(S+R) (218)	%29bb	67	67	(29bb(S+R) (218) + 29aa(S+R) (217))				100*27dia(S+R) (217)	%27dia	60	60	27ds(S+R) (217) + 27bb(R+S) (218)				100*27bb(S+R) (218)	%27STER	37	37	(27+28+29+30)bb(S+R) (218)				100*28bb(S+R) (218)	%28STER	25	25	(27+28+29+30)bb(S+R) (218)				100*29bb(S+R) (218)	%29STER	30	30	(27+28+29+30)bb(S+R) (218)				100*30bb(S+R) (218)	%30STER	8	8	(27+28+29+30)bb(S+R) (218)																																																																																							
Sterane ratios																																																																																																																																																																			
		Amount	Height																																																																																																																																																																
100*(21+22)bb (217)	%Preg	14	14																																																																																																																																																																
(21+22)bb (217) + (27+28+29+30)bb(S+R) (218)																																																																																																																																																																			
100*29aaS (217)	%29aaS	50	50																																																																																																																																																																
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100*29bb(S+R) (218)	%29bb	67	67																																																																																																																																																																
(29bb(S+R) (218) + 29aa(S+R) (217))																																																																																																																																																																			
100*27dia(S+R) (217)	%27dia	60	60																																																																																																																																																																
27ds(S+R) (217) + 27bb(R+S) (218)																																																																																																																																																																			
100*27bb(S+R) (218)	%27STER	37	37																																																																																																																																																																
(27+28+29+30)bb(S+R) (218)																																																																																																																																																																			
100*28bb(S+R) (218)	%28STER	25	25																																																																																																																																																																
(27+28+29+30)bb(S+R) (218)																																																																																																																																																																			
100*29bb(S+R) (218)	%29STER	30	30																																																																																																																																																																
(27+28+29+30)bb(S+R) (218)																																																																																																																																																																			
100*30bb(S+R) (218)	%30STER	8	8																																																																																																																																																																
(27+28+29+30)bb(S+R) (218)																																																																																																																																																																			
100*27Ts (191)	%27Ts	66	66	<table border="1"> <thead> <tr> <th colspan="4">Terpane-Sterane ratio</th> </tr> <tr> <th></th> <th></th> <th>Amount</th> <th>Height</th> </tr> </thead> <tbody> <tr> <td>27Ts+27Tm (191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*28ab (191)</td> <td>%28ab</td> <td>13</td> <td>10</td> </tr> <tr> <td>28ab+30ab (191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*29Ts (191)</td> <td>%29Ts</td> <td>40</td> <td>40</td> </tr> <tr> <td>29Ts+29ab (191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*25nor30ab (191)</td> <td>%25nor30ab</td> <td>1</td> <td>1</td> </tr> <tr> <td>25nor30ab+30ab (191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*29ab (191)</td> <td>%29ab</td> <td>36</td> <td>28</td> </tr> <tr> <td>29ab+30ab (191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*30ba (191)</td> <td>%30ba</td> <td>9</td> <td>9</td> </tr> <tr> <td>30ba+30ab (191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*30D (191)</td> <td>%30D</td> <td>28</td> <td>21</td> </tr> <tr> <td>30D+30ab (191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*30G (191)</td> <td>%30G</td> <td>12</td> <td>8</td> </tr> <tr> <td>30G+30ab (191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*32abS (191)</td> <td>%32abS</td> <td>63</td> <td>63</td> </tr> <tr> <td>32abS+32abR (191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*35ab(S+R) (191)</td> <td>%35ab</td> <td>42</td> <td>42</td> </tr> <tr> <td>SUM 34-35ab(S+R) (191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*(27Ts+27Tm) (191)</td> <td>%27HOP</td> <td>13</td> <td>12</td> </tr> <tr> <td>27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*28ab (191)</td> <td>%28HOP</td> <td>3</td> <td>3</td> </tr> <tr> <td>27(Ts+Tm)+28ab+SUM29-30(ab+ba)SUM 31-35ab(S+R)(191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*(29ab+29ba) (191)</td> <td>%29HOP</td> <td>11</td> <td>10</td> </tr> <tr> <td>27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*(30ab+30ba) (191)</td> <td>%30HOP</td> <td>21</td> <td>28</td> </tr> <tr> <td>27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*(31ab(S+R)) (191)</td> <td>%31HOP</td> <td>20</td> <td>18</td> </tr> <tr> <td>27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*(32ab(S+R)) (191)</td> <td>%32HOP</td> <td>14</td> <td>13</td> </tr> <tr> <td>27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*(33ab(S+R)) (191)</td> <td>%33HOP</td> <td>9</td> <td>8</td> </tr> <tr> <td>27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*(34ab(S+R)) (191)</td> <td>%34HOP</td> <td>5</td> <td>5</td> </tr> <tr> <td>27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100*(35ab(S+R)) (191)</td> <td>%35HOP</td> <td>4</td> <td>3</td> </tr> <tr> <td>27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Terpane-Sterane ratio						Amount	Height	27Ts+27Tm (191)				100*28ab (191)	%28ab	13	10	28ab+30ab (191)				100*29Ts (191)	%29Ts	40	40	29Ts+29ab (191)				100*25nor30ab (191)	%25nor30ab	1	1	25nor30ab+30ab (191)				100*29ab (191)	%29ab	36	28	29ab+30ab (191)				100*30ba (191)	%30ba	9	9	30ba+30ab (191)				100*30D (191)	%30D	28	21	30D+30ab (191)				100*30G (191)	%30G	12	8	30G+30ab (191)				100*32abS (191)	%32abS	63	63	32abS+32abR (191)				100*35ab(S+R) (191)	%35ab	42	42	SUM 34-35ab(S+R) (191)				100*(27Ts+27Tm) (191)	%27HOP	13	12	27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)				100*28ab (191)	%28HOP	3	3	27(Ts+Tm)+28ab+SUM29-30(ab+ba)SUM 31-35ab(S+R)(191)				100*(29ab+29ba) (191)	%29HOP	11	10	27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)				100*(30ab+30ba) (191)	%30HOP	21	28	27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)				100*(31ab(S+R)) (191)	%31HOP	20	18	27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)				100*(32ab(S+R)) (191)	%32HOP	14	13	27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)				100*(33ab(S+R)) (191)	%33HOP	9	8	27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)				100*(34ab(S+R)) (191)	%34HOP	5	5	27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)				100*(35ab(S+R)) (191)	%35HOP	4	3	27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)			
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100*28ab (191)	%28ab	13	10																																																																																																																																																																
28ab+30ab (191)																																																																																																																																																																			
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100*25nor30ab (191)	%25nor30ab	1	1																																																																																																																																																																
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100*29ab (191)	%29ab	36	28																																																																																																																																																																
29ab+30ab (191)																																																																																																																																																																			
100*30ba (191)	%30ba	9	9																																																																																																																																																																
30ba+30ab (191)																																																																																																																																																																			
100*30D (191)	%30D	28	21																																																																																																																																																																
30D+30ab (191)																																																																																																																																																																			
100*30G (191)	%30G	12	8																																																																																																																																																																
30G+30ab (191)																																																																																																																																																																			
100*32abS (191)	%32abS	63	63																																																																																																																																																																
32abS+32abR (191)																																																																																																																																																																			
100*35ab(S+R) (191)	%35ab	42	42																																																																																																																																																																
SUM 34-35ab(S+R) (191)																																																																																																																																																																			
100*(27Ts+27Tm) (191)	%27HOP	13	12																																																																																																																																																																
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)																																																																																																																																																																			
100*28ab (191)	%28HOP	3	3																																																																																																																																																																
27(Ts+Tm)+28ab+SUM29-30(ab+ba)SUM 31-35ab(S+R)(191)																																																																																																																																																																			
100*(29ab+29ba) (191)	%29HOP	11	10																																																																																																																																																																
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)																																																																																																																																																																			
100*(30ab+30ba) (191)	%30HOP	21	28																																																																																																																																																																
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)																																																																																																																																																																			
100*(31ab(S+R)) (191)	%31HOP	20	18																																																																																																																																																																
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)																																																																																																																																																																			
100*(32ab(S+R)) (191)	%32HOP	14	13																																																																																																																																																																
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)																																																																																																																																																																			
100*(33ab(S+R)) (191)	%33HOP	9	8																																																																																																																																																																
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)																																																																																																																																																																			
100*(34ab(S+R)) (191)	%34HOP	5	5																																																																																																																																																																
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)																																																																																																																																																																			
100*(35ab(S+R)) (191)	%35HOP	4	3																																																																																																																																																																
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)																																																																																																																																																																			
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100*(33ab(S+R)) (191)	%33HOP	9	8	(27+28+29+30)bb(S+R) (218)																																																																																																																																																															
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)																																																																																																																																																																			
100*(34ab(S+R)) (191)	%34HOP	5	5																																																																																																																																																																
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100*(35ab(S+R)) (191)	%35HOP	4	3																																																																																																																																																																
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)																																																																																																																																																																			

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
Int.Std.(if added):					
4	46.00	217	24baa	6851	27
DITERPANES:					
5	33.72	191	19/3	2514	8
6	35.70	191	20/3	2028	6
7	37.73	191	21/3	3184	10
11	41.67	191	23/3	4886	16
13	42.81	191	24/3	3748	12
14	45.07	191	25/3	1710	5
16	46.69	191	26/3R	1566	5
17	46.81	191	26/3S	1411	4
20	50.35	191	28/3R	2078	7
21	50.59	191	28/3S	1509	5
23	51.37	191	29/3R	2636	8
25	51.66	191	29/3S	1874	6
15	46.56	191	24/4	3345	11
TRITERPANES:					
26	52.47	191	27Ts	10182	32
28	52.73	177	25nor28ab	293	1
29	53.15	191	27Tm	5606	18
33	53.64	191	27b	2039	7
32	53.53	177	25nor29ab	361	1
34	54.71	191	28ab	3197	10
36	54.82	177	25nor30ab	368	1
39	55.40	191	29ab	14223	45
40	55.51	191	29Ts	9159	29
43	56.19	191	29ba	330	1
42	55.76	191	30D	8756	28
46	56.77	191	30ab	32370	72
47	57.10	191	30D13	2425	8
48	57.38	191	30ba	3256	7
51	58.86	191	30G	3018	10
49	58.34	191	31abS	13576	43
50	58.53	191	31abR	9921	32
52	59.05	191	31ba	1134	4
53	59.57	191	32abS	10449	33
54	59.83	191	32abR	5776	18
55	60.98	191	33abS	5582	18
56	61.34	191	33abR	4141	13
57	62.47	191	34abS	3530	11
58	62.93	191	34abR	2032	6
59	64.11	191	35abS	2786	9
60	64.77	191	35abR	1610	5

SATURATE BIOMARKERS					
File name (sample): 2128_50S.D					
File path: K:\CAPMSDARKI\VHC_SATKV2425C3\					
Misc information:					
Sample name: 25/4-3 2128.50m COCH SST Sat					
Operator: Lotte 15/11-96					
Method: MSD_S_C					
Date analyzed: 1996-11-16					

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
STERANES:					
8	38.23	217	21aa	4489	18
9	39.88	217	21bb	5264	21
10	40.01	217	22aa	4672	19
12	42.22	217	22bb	2700	11
18	48.51	217	27dbS	16584	66
19	49.16	217	27dbR	9963	40
22	51.48	218	27bbR	11012	44
24	51.64	218	27bbS	7248	29
27	52.03	217	27aaR	3310	13
30	53.21	218	28bbR	5184	21
31	53.36	218	28bbS	6267	25
35	54.31	217	29aaS	3815	15
37	54.63	218	29bbR	6753	27
38	54.74	218	29bbS	7540	30
41	55.34	217	29aaR	3811	15
44	55.81	218	30bbR	1991	8
45	55.86	218	30bbS	1919	8

Terpane ratios			SATURATE BIOMARKERS		
		Amount Height			
$100 \cdot (20/3+21/3+23/3+24/3+25/3+26/3(R+S)) (191)$	%Tri	13 13	File name (sample): 2128 50S.D		
$((20+21+23+24+25)/3+26/3(R+S)+27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)) (191)$			File path: K:\CAPMSDARKIVHC_SATKV2425C3\		
$100 \cdot 20/3 (191)$	%20/3	11 11	Misc information:		
$20/3+21/3+23/3+24/3+25/3+26/3(R+S) (191)$			Sample name: 25/4-3 2128.50m COCH SST Sat		
$100 \cdot 23/3 (191)$	%23/3	47 47	Operator: Lotte 15/11-96		
$23/3+24/3+25/3 (191)$			Method: MSD_S_C		
$100 \cdot 24/4 (191)$	%24/4	38 38	Date analyzed: 16-nov-96		
$24/4+24/3+25/3 (191)$					
$100 \cdot 27Ts (191)$	%27Ts	64 64			
$27Ts+27Tm (191)$					
$100 \cdot 28ab (191)$	%28ab	12 9			
$28ab+30ab (191)$					
$100 \cdot 29Ts (191)$	%29Ts	39 39			
$29Ts+29ab (191)$					
$100 \cdot 25nor30ab (191)$	%25nor30ab	2 1			
$25nor30ab+30ab (191)$					
$100 \cdot 29ab (191)$	%29ab	39 31			
$29ab+30ab (191)$					
$100 \cdot 30ba (191)$	%30ba	9 9			
$30ba+30ab (191)$					
$100 \cdot 30D (191)$	%30D	28 21			
$30D+30ab (191)$					
$100 \cdot 30G (191)$	%30G	12 9			
$30G+30ab (191)$					
$100 \cdot 32abS (191)$	%32abS	64 64			
$32abS+32abR (191)$					
$100 \cdot 35ab(S+R) (191)$	%35ab	44 44			
$SUM\ 34-35ab(S+R) (191)$					
$100 \cdot (27Ts+27Tm) (191)$	%27HOP	13 12			
$27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)(191)$					
$100 \cdot 28ab (191)$	%28HOP	3 2			
$27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)(191)$					
$100 \cdot (29ab+29ba) (191)$	%29HOP	12 11			
$27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)(191)$					
$100 \cdot (30ab+30ba) (191)$	%30HOP	21 27			
$27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)(191)$					
$100 \cdot (31ab(S+R)) (191)$	%31HOP	20 18			
$27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)(191)$					
$100 \cdot (32ab(S+R)) (191)$	%32HOP	14 13			
$27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)(191)$					
$100 \cdot (33ab(S+R)) (191)$	%33HOP	8 7			
$27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)(191)$					
$100 \cdot (34ab(S+R)) (191)$	%34HOP	5 4			
$27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)(191)$					
$100 \cdot (35ab(S+R)) (191)$	%35HOP	4 3			
$27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)(191)$					
			Sterane ratios		
				Amount Height	
$100 \cdot (21+22)bb (217)$	%Preg	14 14			
$(21+22)bb (217) + (27+28+29+30)bb(S+R) (218)$					
$100 \cdot 29aaS (217)$	%29aaS	50 50			
$29aa(S+R) (217)$					
$100 \cdot 29bb(S+R) (218)$	%29bb	65 65			
$29bb(S+R) (218) + 29aa(S+R) (217)$					
$100 \cdot 27db(S+R) (217)$	%27dia	59 59			
$27db(S+R) (217) + 27bb(R+S) (218)$					
$100 \cdot 27bb(S+R) (218)$	%27STER	38 38			
$27+28+29+30)bb(S+R) (218)$					
$100 \cdot 28bb(S+R) (218)$	%28STER	24 24			
$(27+28+29+30)bb(S+R) (218)$					
$100 \cdot 29bb(S+R) (218)$	%29STER	30 30			
$(27+28+29+30)bb(S+R) (218)$					
$100 \cdot 30bb(S+R) (218)$	%30STER	8 8			
$(27+28+29+30)bb(S+R) (218)$					
			Terpane-Sterane ratio		
$27(Ts+Tm)+28ab+SUM\ 29-30(ab+ba)+SUM\ 31-35ab(S+R)$	Ho/St2	2.0 2.7			
$(27+28+29+30)bb(S+R) (218)$					

Appendix IV

**Mass chromatograms and tabulated results from the GC-MSD analysis
of the aromatic hydrocarbons**

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data



Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: A2052.D
Sample name: 25/7-5 2052m aro
Data File Path: K:\CAM\GEOKJEM\HPCHEM\W95\DATA\ISA351110\
Misc. info.:

Vial no.: 22
Method: MSD_A_D
Operator:
Date: Fri Oct 31 04:18:33 1997

Response curve: y = ax+b
Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount
					ng/mg	
Internal standard (if added):						
14)	11.56	136		dBN	7144	43
16)	21.00	164		d10BP	7582	41
59)	29.37	188		d10P	15730	43
79)	44.83	240		d12C	10941	43
Aryl isoprenoids:						
1)	20.53	133	0	C13AI	2565	
2)	22.38	133	0	C14AI	1959	
3)	26.61	133	0	C15AI	1068	
4)	28.97	133	0	C16AI	1384	
5)	31.01	133	0	C17AI	284	
6)	34.03	133	0	C18AI	1023	
7)	35.00	133	0	C19AI	168	
8)	37.97	133	0	C20AI	593	
9)	40.08	133	0	C21AI	256	
10)	43.01	133	0	C22AI	323	
11)	44.97	133	0	C23AI	384	
12)	55.96	133	0	C30AI	196	
13)	57.00	133	0	C31AI	108	
Naphthalenes:						
15)	11.65	128	a1	N	274817	1508
17)	15.26	142	a2	2-MN	535060	2768
18)	15.80	142	a2	1-MN	370510	1917
19)	18.40	156	a3	2-EN	44507	216
20)	18.50	156	a3	1-EN	16554	80
21)	18.77	156	a3	2.6+2.7-DMN	250498	1215
22)	19.24	156	a3	1.3+1.7-DMN	278424	1351
23)	19.34	156	a3	1.6-DMN	299105	1451
24)	19.82	156	a3	2.3+1.4-DMN	115187	559
25)	19.92	156	a3	1.5-DMN	75996	369
26)	20.27	156	a3	1.2-DMN	42357	205
27)	22.14	170	a4	C3-N-1	18955	94
28)	22.32	170	a4	C3-N-2	23507	116
29)	22.45	170	a4	1.3.7-TMN	105900	522
30)	22.60	170	a4	1.3.6-TMN	152219	751
31)	23.07	170	a4	1.3.5+1.4.6-TMN	117836	581
32)	23.15	170	a4	2.3.6-TMN	109767	541
33)	23.57	170	a4	1.6.7+1.2.7-TMN	70665	349
34)	23.62	170	a4	1.2.6-TMN	45026	222
35)	24.05	170	a4	1.2.4-TMN	10932	54
36)	24.25	170	a4	1.2.5-TMN	38468	190
Biphenyls:						
37)	17.95	154	a5	BP	147500	501
38)	21.24	168	a5	3-MBP	167548	569
39)	21.49	168	a5	4-MBP	66850	227
40)	21.55	182	a4	2.3'-DMBP	4019	20
41)	21.76	182	a4	2.5-DMBP	2211	11
42)	21.91	182	a4	2.4+2.4'-DMBP	4335	21
43)	22.55	182	a4	2.3-DMBP	10946	54
44)	23.92	182	a4	3-EBP	11134	55
45)	24.25	182	a4	3.5-DMBP	24024	119
46)	24.36	182	a4	3.3'-DMBP	59781	295
47)	24.47	182	a4	4-EBP	4713	23
48)	24.65	182	a4	3.4'-DMBP	53698	265
49)	24.87	182	a4	4.4'-DMBP	11906	59
50)	25.43	182	a4	3.4-DMBP	22306	110

#	Rt.min.	m/z	Rf.	Name	Height	Amount
					ng/mg	
Dibenzofuranes:						
51)	22.12	168	a5	DBF	23429	80
52)	25.20	182	a4	MDBF-1	29667	146
53)	25.57	182	a4	MDBF-2	23007	113
54)	25.86	182	a4	MDBF-3	18703	92
Fluorenes:						
55)	24.08	166	a6	F	81640	337
56)	27.36	180	a6	C1-F-1	32303	133
57)	27.55	180	a6	C1-F-2	82316	339
58)	27.84	180	a6	1-MF	15555	64
Dibenzothiophenes:						
60)	28.77	184	a7	DBT	22395	18
61)	31.39	198	a7	4-MDBT	34955	28
62)	31.91	198	a7	3+2-MDBT	9016	7
63)	32.49	198	a7	1-MDBT	6499	5
Phenanthrenes:						
64)	29.51	178	a8	P	196401	448
65)	32.44	192	a9	3-MP	78012	209
66)	32.59	192	a9	2-MP	99911	268
67)	33.07	192	a9	9-MP	108033	289
68)	33.20	192	a9	1-MP	88047	236
69)	35.17	206	a10	2EP+9EP+3.6-DMP	14911	38
70)	35.38	206	a10	1EP	23328	60
71)	35.48	206	a10	2.6+2.7+3.5-DMP	15127	39
72)	35.84	206	a10	1.3+2.10+3.9+3.10-DMP	89423	229
73)	35.99	206	a10	1.6+2.5+2.9-DMP	50977	131
74)	36.12	206	a10	1.7-DMP	43783	112
75)	36.26	206	a10	2.3-DMP	13989	36
76)	36.37	206	a10	1.9+4.9+4.10-DMP	27215	70
77)	36.67	206	a10	1.8-DMP	11576	30
Retene:						
78)	39.98	219	a8	Retene	6902	16
Triaromatic steroids:						
80)	44.44	231	a11	20TA	3433	3
81)	46.31	231	a11	21TA	3297	3
82)	53.26	231	a11	S26TA	1249	1
83)	54.47	231	a11	R26TA/S27TA	3768	3
84)	55.46	231	a11	S28TA	2226	2
85)	55.96	231	a11	R27TA	1765	1
86)	57.18	231	a11	R28TA	2104	2

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Ratios, from heights and amounts


 Norsk Hydro E&P Research Centre, Bergen, Norway
 Petroleum Geochemistry Laboratories

 Data file name: **A2116.D**
 Sample name: **2577-5 2116m ARO**
 Data File Path: **C:\HPCHEM\1\DATA\ELIN2**
 Misc. info.:

 Vial no.: **11**
 Method: **MSD_A_D**
 Operator:
 Date: **Thu Dec 04 15:54:05 1997**
Aromatic HC ratios, heights and amounts

		Height	Amount
Naphthalene	Naphthalene	414626	1087
C1 Naphthanes	Sum C1 Naphthanes	1356227	2941
C2 Naphthanes	Sum C2 Naphthanes	1446180	2941
C3 Naphthanes	Sum C3 Naphthanes	871525	1802
Phenanthrene	Phenanthrene	166082	133
C1 Phenanthrenes	Sum C1 Phenanthrenes	365112	343
C2 Phenanthrenes	Sum C2 Phenanthrenes	333081	300
$3/2 \cdot (3MP+2MP)/(P+9MP+1MP)$	MPI1	0.5	0.6
$(3MP+2MP)/(3MP+2MP+9MP+1MP)$	F1	0.4	0.4
$2MP/(3MP+2MP+9MP+1MP)$	F2	0.2	0.2
$(2.6+2.7)DMN/1.5DMN$	DNR	2.8	2.8
$100 \cdot 20TA/(20TA+S28TA+R28TA)$	%-TAS'n	36.5	36.5
DBT/P	DBT/P	0.2	0.1
F/P	F/P	0.4	0.8
BP/1.6DMN	BP/1.6DMN	0.6	0.4
2MN/1MN	2MN/1MN	1.5	1.5
2EN/1EN	2EN/1EN	2.3	2.3
4MDBT/1MDBT	4MDBT/1MDBT	5.3	5.3

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data



Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: **A2117_95.D**
 Sample name: **25/7-5 2117.95m aro**
 Data File Path: **C:\HPCHEM\1\DATA\ISA315H3D**
 Misc. info.:

 Vial no.: **17**
 Method: **MSD_A_D**
 Operator:
 Date: **Fri Nov 14 19:15:30 1997**

 Response curve: $y = ax + b$
 Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount
					ng/mg	
Internal standard (if added):						
14)	11.60	136		d8N	8783	55
16)	21.05	164		d10BP	12772	53
59)	29.43	188		d10P	30921	55
79)	44.91	240		d12C	21571	55
Aryl isoprenoids:						
1)	20.58	133	0	C13AI	3900	
2)	22.36	133	0	C14AI	1869	
3)	26.66	133	0	C15AI	2401	
4)	29.03	133	0	C16AI	2276	
5)	30.95	133	0	C17AI	1816	
6)	34.02	133	0	C18AI	1895	
7)	34.94	133	0	C19AI	1254	
8)	38.03	133	0	C20AI	941	
9)	39.93	133	0	C21AI	686	
10)	42.96	133	0	C22AI	1754	
11)	45.03	133	0	C23AI	803	
12)	55.97	133	0	C30AI	298	
13)	56.99	133	0	C31AI	192	
Naphthalenes:						
15)	11.69	128	a1	N	47376	273
17)	15.27	142	a2	2-MN	272175	1077
18)	15.82	142	a2	1-MN	216129	855
19)	18.44	156	a3	2-EN	28560	106
20)	18.56	156	a3	1-EN	12991	48
21)	18.80	156	a3	2.6+2.7-DMN	163365	606
22)	19.27	156	a3	1.3+1.7-DMN	230664	856
23)	19.37	156	a3	1.6-DMN	224088	831
24)	19.85	156	a3	2.3+1.4-DMN	88938	330
25)	19.96	156	a3	1.5-DMN	63680	236
26)	20.32	156	a3	1.2-DMN	37411	139
27)	22.19	170	a4	C3-N-1	15197	57
28)	22.37	170	a4	C3-N-2	20254	76
29)	22.50	170	a4	1.3.7-TMN	85264	322
30)	22.65	170	a4	1.3.6-TMN	130877	494
31)	23.12	170	a4	1.3.5+1.4.6-TMN	119284	450
32)	23.20	170	a4	2.3.6-TMN	86788	327
33)	23.62	170	a4	1.6.7+1.2.7-TMN	69727	263
34)	23.67	170	a4	1.2.6-TMN	42786	161
35)	24.10	170	a4	1.2.4-TMN	12001	45
36)	24.31	170	a4	1.2.5-TMN	45411	171
Biphenyls:						
37)	17.98	154	a5	BP	97778	254
38)	21.29	168	a5	3-MBP	115754	301
39)	21.55	168	a5	4-MBP	45224	118
40)	21.60	182	a4	2.3'-DMBP	4493	17
41)	21.80	182	a4	2.5'-DMBP	2031	8
42)	21.97	182	a4	2.4+2.4'-DMBP	4340	16
43)	22.60	182	a4	2.3'-DMBP	8923	34
44)	23.98	182	a4	3-EBP	9146	35
45)	24.31	182	a4	3.5'-DMBP	15445	58
46)	24.41	182	a4	3.3'-DMBP	42070	159
47)	24.52	182	a4	4-EBP	3627	14
48)	24.70	182	a4	3.4'-DMBP	36638	138
49)	24.92	182	a4	4.4'-DMBP	7462	28
50)	25.48	182	a4	3.4'-DMBP	16588	63

#	Rt.min.	m/z	Rf.	Name	Height	Amount
					ng/mg	
Dibenzofuranes:						
51)	22.16	168	a5	DBF	14786	38
52)	25.25	182	a4	MDBF-1	21610	82
53)	25.62	182	a4	MDBF-2	12581	47
54)	25.91	182	a4	MDBF-3	13288	50
Fluorenes:						
55)	24.13	166	a6	F	42558	134
56)	27.41	180	a6	C1-F-1	14890	47
57)	27.60	180	a6	C1-F-2	54003	170
58)	27.89	180	a6	1-MF	8963	28
Dibenzothiophenes:						
60)	28.83	184	a7	DBT	22885	12
61)	31.45	198	a7	4-MDBT	47785	25
62)	31.97	198	a7	3+2-MDBT	9633	5
63)	32.55	198	a7	1-MDBT	8834	5
Phenanthrenes:						
64)	29.56	178	a8	P	131802	197
65)	32.50	192	a9	3-MP	47204	83
66)	32.63	192	a9	2-MP	54455	96
67)	33.12	192	a9	9-MP	81541	143
68)	33.26	192	a9	1-MP	71909	126
69)	35.22	206	a10	2EP+9EP+3.6-DMP	10126	17
70)	35.45	206	a10	1EP	14530	24
71)	35.54	206	a10	2.6+2.7+3.5-DMP	9088	15
72)	35.90	206	a10	1.3+2.10+3.9+3.10-DMP	72873	122
73)	36.04	206	a10	1.6+2.5+2.9-DMP	40970	69
74)	36.18	206	a10	1.7-DMP	35081	59
75)	36.32	206	a10	2.3-DMP	9687	16
76)	36.44	206	a10	1.9+4.9+4.10-DMP	26233	44
77)	36.73	206	a10	1.8-DMP	10631	18
Retene:						
78)	40.05	219	a8	Retene	12074	18
Triaromatic steroids:						
80)	44.52	231	a11	20TA	7470	4
81)	46.39	231	a11	21TA	9208	5
82)	53.35	231	a11	S26TA	4057	2
83)	54.55	231	a11	R26TA/S27TA	12838	7
84)	55.55	231	a11	S28TA	6373	4
85)	56.05	231	a11	R27TA	6369	4
86)	57.26	231	a11	R28TA	6816	4

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Ratios, from heights and amounts


 Norsk Hydro E&P Research Centre, Bergen, Norway
 Petroleum Geochemistry Laboratories

Data file name: A2119_10.D
 Sample name: 25/7-5 2119_10m aro
 Data File Path: C:\HPCHEM\1\DATA\SA315H3D\
 Misc. info.:

 Vial no.: 18
 Method: MSD_A_D
 Operator:
 Date: Fri Nov 14 20:44:14 1997

Aromatic HC ratios, heights and amounts

		Height	Amount
Naphthalene	Naphthalene	136788	541
C1 Naphthanes	Sum C1 Naphthanes	898094	2728
C2 Naphthanes	Sum C2 Naphthanes	1107612	3156
C3 Naphthanes	Sum C3 Naphthanes	690697	2001
Phenanthrene	Phenanthrene	149549	199
C1 Phenanthrenes	Sum C1 Phenanthrenes	270762	423
C2 Phenanthrenes	Sum C2 Phenanthrenes	212346	318
$3/2 \cdot (3MP+2MP)/(P+9MP+1MP)$	MPI1	0.5	0.5
$(3MP+2MP)/(3MP+2MP+9MP+1MP)$	F1	0.4	0.4
$2MP/(3MP+2MP+9MP+1MP)$	F2	0.2	0.2
$(2.6+2.7)DMN/1.5DMN$	DNR	2.4	2.4
$100 \cdot 20TA/(20TA+S28TA+R28TA)$	%-TAS'n	37.1	37.1
DBT/P	DBT/P	0.2	0.1
F/P	F/P	0.4	0.6
BP/1.6DMN	BP/1.6DMN	0.5	0.4
2MN/1MN	2MN/1MN	1.3	1.3
2EN/1EN	2EN/1EN	2.3	2.3
4MDBT/1MDBT	4MDBT/1MDBT	4.8	4.8

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data



Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: A2126_7.D
Sample name: 25/7-5 2126.7m ARO
Data File Path: C:\HPCHEM\1\DATA\ELIN2\
Misc. info.:

Vial no.: 12
Method: MSD_A_D
Operator:
Date: Thu Dec 04 17:22:45 1997

Response curve: y = ax+b
Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount
					ng/mg	
Internal standard (if added):						
14)	11.57	136		d8N	21471	49
16)	21.01	164		d10BP	30469	47
59)	29.38	188		d10P	72148	49
79)	44.85	240		d12C	66265	49

Aryl isoprenoids:

1)	20.54	133	0	C13AI	9254	
2)	22.38	133	0	C14AI	6794	
3)	26.61	133	0	C15AI	4761	
4)	28.99	133	0	C16AI	4476	
5)	31.02	133	0	C17AI	869	
6)	33.98	133	0	C18AI	3661	
7)	35.00	133	0	C19AI	626	
8)	37.98	133	0	C20AI	2224	
9)	40.09	133	0	C21AI	1280	
10)	43.02	133	0	C22AI	1602	
11)	44.98	133	0	C23AI	2017	
12)	55.98	133	0	C30AI	879	
13)	56.97	133	0	C31AI	378	

Naphthalenes:

15)	11.66	128	a1	N	619810	1300
17)	15.26	142	a2	2-MN	1E+006	2186
18)	15.80	142	a2	1-MN	1E+006	1491
19)	18.40	156	a3	2-EN	129444	179
20)	18.52	156	a3	1-EN	49044	68
21)	18.76	156	a3	2.6+2.7-DMN	717485	994
22)	19.23	156	a3	1.3+1.7-DMN	896197	1242
23)	19.33	156	a3	1.6-DMN	872931	1209
24)	19.82	156	a3	2.3+1.4-DMN	323211	448
25)	19.92	156	a3	1.5-DMN	203070	281
26)	20.29	156	a3	1.2-DMN	115941	161
27)	22.16	170	a4	C3-N-1	55528	78
28)	22.33	170	a4	C3-N-2	73592	104
29)	22.46	170	a4	1.3.7-TMN	326135	459
30)	22.60	170	a4	1.3.6-TMN	481945	679
31)	23.08	170	a4	1.3.5+1.4.6-TMN	362503	511
32)	23.15	170	a4	2.3.6-TMN	313698	442
33)	23.57	170	a4	1.6.7+1.2.7-TMN	231040	326
34)	23.62	170	a4	1.2.6-TMN	138816	196
35)	24.06	170	a4	1.2.4-TMN	30027	42
36)	24.25	170	a4	1.2.5-TMN	122131	172

Biphenyls:

37)	17.96	154	a5	BP	414102	402
38)	21.25	168	a5	3-MBP	518954	504
39)	21.51	168	a5	4-MBP	201362	195
40)	21.56	182	a4	2.3'-DMBP	11784	17
41)	21.76	182	a4	2.5'-DMBP	6717	9
42)	21.93	182	a4	2.4+2.4'-DMBP	12776	18
43)	22.55	182	a4	2.3'-DMBP	33628	47
44)	23.94	182	a4	3-EBP	37694	53
45)	24.27	182	a4	3.5'-DMBP	72664	102
46)	24.37	182	a4	3.3'-DMBP	196634	277
47)	24.47	182	a4	4-EBP	15513	22
48)	24.66	182	a4	3.4'-DMBP	169463	239
49)	24.88	182	a4	4.4'-DMBP	36530	51
50)	25.43	182	a4	3.4'-DMBP	74048	104

#	Rt.min.	m/z	Rf.	Name	Height	Amount
					ng/mg	

Dibenzofuranes:

51)	22.12	168	a5	DBF	70165	68
52)	25.21	182	a4	MDBF-1	99285	140
53)	25.58	182	a4	MDBF-2	71548	101
54)	25.87	182	a4	MDBF-3	56477	80

Fluorenes:

55)	24.09	166	a6	F	272714	321
56)	27.37	180	a6	C1-F-1	107519	127
57)	27.55	180	a6	C1-F-2	280456	330
58)	27.86	180	a6	1-MF	54483	64

Dibenzothiophenes:

60)	28.78	184	a7	DBT	72239	14
61)	31.40	198	a7	4-MDBT	113593	23
62)	31.92	198	a7	3+2-MDBT	30389	6
63)	32.51	198	a7	1-MDBT	22532	4

Phenanthrenes:

64)	29.52	178	a8	P	689467	394
65)	32.45	192	a9	3-MP	287444	193
66)	32.60	192	a9	2-MP	363013	244
67)	33.08	192	a9	9-MP	413906	278
68)	33.20	192	a9	1-MP	357465	240
69)	35.18	206	a10	2EP+9EP+3.6-DMP	58647	38
70)	35.39	206	a10	1EP	93937	60
71)	35.49	206	a10	2.6+2.7+3.5-DMP	55886	36
72)	35.84	206	a10	1.3+2.10+3.9+3.10-DMP	350652	225
73)	35.99	206	a10	1.6+2.5+2.9-DMP	198313	127
74)	36.13	206	a10	1.7-DMP	169814	109
75)	36.27	206	a10	2.3-DMP	58751	38
76)	36.38	206	a10	1.9+4.9+4.10-DMP	106796	69
77)	36.68	206	a10	1.8-DMP	43767	28

Retene:

78)	39.99	219	a8	Retene	29215	17
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Triaromatic steroids:

80)	44.46	231	a11	20TA	13740	2
81)	46.32	231	a11	21TA	13305	2
82)	53.28	231	a11	S26TA	4509	1
83)	54.49	231	a11	R26TA/S27TA	14705	2
84)	55.48	231	a11	S28TA	8717	1
85)	55.97	231	a11	R27TA	6808	1
86)	57.20	231	a11	R28TA	8680	1