

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: S2673.D
 Sample name: 30/6-25S 2673m SAT
 Data File Path: C:\HPCHEM2\DATA\306_25S1\
 Misc. info.:

 Vial no.: 5
 Method: MSD_S_D
 Operator: Arne
 Date: 10 Mar 1999 21:08

Terpane ratios, heights and amounts

| | Height | Amount |
|---|------------|--------|
| 100*((sum20-25)/3+26/3(R+S)) / ((sum20-25)/3+26/3(R+S)+27(Ts+Tm)+28ab+sum29-30(ab+ba)+sum31-35ab(R+S)) | %Tri | 3 3 |
| 100*20/3/((sum20-25)/3+26/3(R+S)) | %20/3 | 13 13 |
| 100*23/3/(23/3+24/3+25/3) | %23/3 | 60 60 |
| 100*24/4/(24/4+24/3+25/3) | %24/4 | 70 70 |
| 100*Ts/(Ts+Tm) | %27Ts | 17 17 |
| 100*28ab/(28ab+30ab) | %28ab | 75 82 |
| 100*29Ts/(29Ts+29ab) | %29Ts | 9 9 |
| 100*25nor30ab/(25nor30ab+30ab) | %25nor30ab | 1 2 |
| 100*29ab/(29ab+30ab) | %29ab | 53 64 |
| 100*30ba/(30ba+30ab) | %30ba | 22 22 |
| 100*30D/(30D+30ab) | %30D | 5 8 |
| 100*30G/(30G+30ab) | %30G | 7 10 |
| 100*32abS/(32ab(S+R)) | %32abS | 58 58 |
| 100*35ab(S+R)/(34-35ab(S+R)) | %35ab | 33 33 |
| 100*(27Ts+27Tm)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S)) | %27HOP | 7 8 |
| 100*(28ab)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S)) | %28HOP | 40 43 |
| 100*(29ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S)) | %29HOP | 18 19 |
| 100*(30ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S)) | %30HOP | 17 12 |
| 100*31ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S)) | %31HOP | 10 11 |
| 100*32ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S)) | %32HOP | 4 5 |
| 100*33ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S)) | %33HOP | 2 2 |
| 100*34ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S)) | %34HOP | 1 1 |
| 100*35ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S)) | %35HOP | 1 1 |

Sterane ratios

| | | |
|--|---------|-------|
| 100*(21+22)bb/((21+22)bb+(27+28+29+30)bb(R+S)) | %Preg | 12 12 |
| 100*29aaS/29aa(R+S) | %29aaS | 38 38 |
| 100*29bb(R+S)/(29bb(R+S)+29aa(S+R)) | %29bb | 59 59 |
| 100*27db(S+R)/((27db(S+R)+27bb(R+S)) | %27dia | 29 29 |
| 100*27bb(R+S)/(27+28+29+30)bb(R+S) | %27STER | 32 32 |
| 100*28bb(R+S)/(27+28+29+30)bb(R+S) | %28STER | 19 19 |
| 100*29bb(R+S)/(27+28+29+30)bb(R+S) | %29STER | 46 46 |
| 100*30bb(R+S)/(27+28+29+30)bb(R+S) | %30STER | 3 3 |

Hopaness/Steranes ratio-2 (only bb steranes)

| | |
|--------|------|
| Ho/St2 | 13 8 |
|--------|------|

| # | Rt.min. | m/z | Rf. | Name | Height | Amount |
|-------------------------------|---------|--------|-----|-----------|--------|--------|
| | | | | | ng/mg | |
| Internal standard (if added): | | | | | | |
| 1) | 45.96 | 217.2 | | 24baa | 22439 | 23 |
| Diterpanes: | | | | | | |
| 2) | 33.59 | 191.2 | s1 | 19/3 | 838 | 1 |
| 3) | 35.57 | 191.2 | s1 | 20/3 | 800 | 1 |
| 4) | 37.62 | 191.2 | s1 | 21/3 | 1061 | 1 |
| 5) | 41.59 | 191.2 | s1 | 23/3 | 4934 | 4 |
| 6) | 42.72 | 191.2 | s1 | 24/3 | 1770 | 1 |
| 7) | 45.02 | 191.2 | s1 | 25/3 | 1104 | 1 |
| 8) | 46.54 | 191.2 | s1 | 24/4 | 7122 | 5 |
| 9) | 46.64 | 191.2 | s1 | 26/3R | 728 | 1 |
| 10) | 46.78 | 191.2 | s1 | 26/3S | 736 | 1 |
| 11) | 50.36 | 191.2 | s1 | 28/3R | 1487 | 1 |
| 12) | 50.55 | 191.2 | s1 | 28/3S | 732 | 1 |
| 13) | 51.34 | 191.2 | s1 | 29/3R | 886 | 1 |
| 14) | 51.63 | 191.2 | s1 | 29/3S | 746 | 1 |
| Triterpanes: | | | | | | |
| 15) | 52.48 | 191.2 | s1 | 27Ts | 4627 | 4 |
| 16) | 52.72 | 177.15 | s1 | 25nor28ab | 525 | 0 |
| 17) | 53.16 | 191.2 | s1 | 27Tm | 11449 | 9 |
| 18) | 53.52 | 177.15 | s1 | 25nor29ab | 514 | 0 |
| 19) | 53.65 | 191.2 | s1 | 27b | 5081 | 4 |
| 20) | 54.71 | 191.2 | s1 | 28ab | 1469 | 1 |
| 21) | 54.94 | 177.15 | s1 | 25nor30ab | 275 | 0 |
| 22) | 55.42 | 191.2 | s1 | 29ab | 30220 | 23 |
| 23) | 55.52 | 191.2 | s1 | 29Ts | 3793 | 3 |
| 24) | 55.78 | 191.2 | s1 | 30D | 361 | 0 |
| 25) | 56.22 | 191.2 | s1 | 29ba | 1785 | 1 |
| 26) | 56.80 | 191.2 | s2 | 30ab | 18174 | 9 |
| 27) | 57.14 | 191.2 | s1 | 30D13 | 700 | 1 |
| 28) | 57.42 | 191.2 | s2 | 30ba | 1446 | 1 |
| 29) | 58.38 | 191.2 | s1 | 31abS | 8069 | 6 |
| 30) | 58.58 | 191.2 | s1 | 31abR | 5636 | 4 |
| 31) | 58.90 | 191.2 | s1 | 30G | 1308 | 1 |
| 32) | 59.10 | 191.2 | s1 | 31ba | 623 | 0 |
| 33) | 59.61 | 191.2 | s1 | 32abS | 3591 | 3 |
| 34) | 59.89 | 191.2 | s1 | 32abR | 2315 | 2 |
| 35) | 61.05 | 191.2 | s1 | 33abS | 1948 | 1 |
| 36) | 61.42 | 191.2 | s1 | 33abR | 1254 | 1 |
| 37) | 62.55 | 191.2 | s1 | 34abS | 927 | 1 |
| 38) | 63.03 | 191.2 | s1 | 34abR | 554 | 0 |
| 39) | 64.23 | 191.2 | s1 | 35abS | 621 | 0 |
| 40) | 64.92 | 191.2 | s1 | 35abR | 368 | 0 |

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data



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

Data file name: **S2688.D**
 Sample name: **30/6-25S 2688m SAT**
 Data File Path: C:\HPCHEM\2\DATA\306_25S1\
 Misc. info.:
 Vial no.: 6
 Method: MSD_S_D
 Operator: Arne
 Date: 10 Mar 1999 22:36

Response curve y = ax
 Response factor groups: s1...s3, responses as defined in method

| # | Rt.min. | m/z | Rf. | Name | Height | Amount |
|------------------|---------|-------|-----|-------|--------|--------|
| | | | | | ng/mg | |
| Steranes: | | | | | | |
| 41) | 38.12 | 217.2 | s3 | 21aa | 606 | 1 |
| 42) | 39.79 | 217.2 | s3 | 21bb | 2822 | 3 |
| 43) | 39.90 | 217.2 | s3 | 22aa | 606 | 1 |
| 44) | 42.14 | 217.2 | s3 | 22bb | 1821 | 2 |
| 45) | 48.48 | 217.2 | s3 | 27dbS | 2000 | 2 |
| 46) | 49.11 | 217.2 | s3 | 27dbR | 1185 | 1 |
| 47) | 51.46 | 218.2 | s3 | 27bbR | 5495 | 6 |
| 48) | 51.62 | 218.2 | s3 | 27bbS | 4656 | 5 |
| 49) | 52.01 | 217.2 | s3 | 27aaR | 2817 | 3 |
| 50) | 53.22 | 218.2 | s3 | 28bbR | 2525 | 3 |
| 51) | 53.35 | 218.2 | s3 | 28bbS | 2757 | 3 |
| 52) | 54.34 | 217.2 | s3 | 29aaS | 1826 | 2 |
| 53) | 54.64 | 218.2 | s3 | 29bbR | 4378 | 5 |
| 54) | 54.75 | 218.2 | s3 | 29bbS | 3946 | 4 |
| 55) | 55.35 | 217.2 | s3 | 29aaR | 2100 | 2 |
| 56) | 55.83 | 218.2 | s3 | 30bbR | 413 | 0 |
| 57) | 55.88 | 218.2 | s3 | 30bbS | 413 | 0 |

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: S2688.D
Sample name: 30/6-25S 2688m SAT
Data File Path: C:\HPCHEM2\DATA\306_25S1\
Misc. info.:

Vial no.: 6
Method: MSD_S_D
Operator: Arne
Date: 10 Mar 1999 22:36

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 | 11 |
| $100 \cdot 20/3 / ((\text{sum}20-25)/3 + 26/3(R+S))$ | %20/3 | 7 | 7 |
| $100 \cdot 23/3 / (23/3 + 24/3 + 25/3)$ | %23/3 | 63 | 63 |
| $100 \cdot 24/4 / (24/4 + 24/3 + 25/3)$ | %24/4 | 71 | 71 |
| $100 \cdot Ts / (Ts + Tm)$ | %27Ts | 29 | 29 |
| $100 \cdot 28ab / (28ab + 30ab)$ | %28ab | 7 | 11 |
| $100 \cdot 29Ts / (29Ts + 29ab)$ | %29Ts | 11 | 11 |
| $100 \cdot 25nor30ab / (25nor30ab + 30ab)$ | %25nor30ab | 1 | 2 |
| $100 \cdot 29ab / (29ab + 30ab)$ | %29ab | 62 | 72 |
| $100 \cdot 30ba / (30ba + 30ab)$ | %30ba | 7 | 7 |
| $100 \cdot 30D / (30D + 30ab)$ | %30D | 2 | 3 |
| $100 \cdot 30G / (30G + 30ab)$ | %30G | 7 | 10 |
| $100 \cdot 32abS / (32ab(S+R))$ | %32abS | 61 | 61 |
| $100 \cdot 35ab(S+R) / (34-35ab(S+R))$ | %35ab | 40 | 40 |
| $100 \cdot (27Ts + 27Tm) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %27HOP | 17 | 18 |
| $100 \cdot (28ab) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %28HOP | 2 | 2 |
| $100 \cdot (29ab + ba) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %29HOP | 34 | 37 |
| $100 \cdot (30ab + ba) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %30HOP | 21 | 14 |
| $100 \cdot 31ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %31HOP | 15 | 16 |
| $100 \cdot 32ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %32HOP | 6 | 7 |
| $100 \cdot 33ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %33HOP | 3 | 4 |
| $100 \cdot 34ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %34HOP | 2 | 2 |
| $100 \cdot 35ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %35HOP | 1 | 1 |

Sterane ratios

| | | | |
|--|---------|----|----|
| $100 \cdot (21+22)bb / ((21+22)bb + (27+28+29+30)bb(R+S))$ | %Preg | 16 | 16 |
| $100 \cdot 29aaS / 29aa(R+S)$ | %29aaS | 47 | 47 |
| $100 \cdot 29bb(R+S) / (29bb(R+S) + 29aa(S+R))$ | %29bb | 68 | 68 |
| $100 \cdot 27db(S+R) / ((27db(S+R) + 27bb(R+S)))$ | %27dia | 24 | 24 |
| $100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$ | %27STER | 41 | 41 |
| $100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$ | %28STER | 21 | 21 |
| $100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$ | %29STER | 34 | 34 |
| $100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$ | %30STER | 3 | 3 |

Hopanes/Steranes ratio-2 (only bb steranes)

| | | |
|--------|---|---|
| Ho/St2 | 4 | 2 |
|--------|---|---|

| # | Rt.min. | m/z | Rf. | Name | Height | Amount |
|-------------------------------|---------|--------|-----|-----------|--------|--------|
| | | | | | | ng/mg |
| Internal standard (if added): | | | | | | |
| 1) | 45.94 | 217.2 | | 24baa | 21707 | 25 |
| Diterpanes: | | | | | | |
| 2) | 33.58 | 191.2 | s1 | 19/3 | 73 | 0 |
| 3) | 35.48 | 191.2 | s1 | 20/3 | 94 | 0 |
| 4) | 37.62 | 191.2 | s1 | 21/3 | 190 | 0 |
| 5) | 41.58 | 191.2 | s1 | 23/3 | 543 | 0 |
| 6) | 42.70 | 191.2 | s1 | 24/3 | 252 | 0 |
| 7) | 45.03 | 191.2 | s1 | 25/3 | 150 | 0 |
| 8) | 46.52 | 191.2 | s1 | 24/4 | 400 | 0 |
| 9) | 46.64 | 191.2 | s1 | 26/3R | 91 | 0 |
| 10) | 46.64 | 191.2 | s1 | 26/3S | 92 | 0 |
| 11) | 50.28 | 191.2 | s1 | 28/3R | 109 | 0 |
| 12) | 50.52 | 191.2 | s1 | 28/3S | 107 | 0 |
| 13) | 51.33 | 191.2 | s1 | 29/3R | 107 | 0 |
| 14) | 51.62 | 191.2 | s1 | 29/3S | 110 | 0 |
| Triterpanes: | | | | | | |
| 15) | 52.45 | 191.2 | s1 | 27Ts | 398 | 0 |
| 16) | 52.70 | 177.15 | s1 | 25nor28ab | 154 | 0 |
| 17) | 53.13 | 191.2 | s1 | 27Tm | 696 | 1 |
| 18) | 53.50 | 177.15 | s1 | 25nor29ab | 117 | 0 |
| 19) | 53.62 | 191.2 | s1 | 27b | 167 | 0 |
| 20) | 54.69 | 191.2 | s1 | 28ab | 246 | 0 |
| 21) | 54.91 | 177.15 | s1 | 25nor30ab | 82 | 0 |
| 22) | 55.40 | 191.2 | s1 | 29ab | 1793 | 2 |
| 23) | 55.50 | 191.2 | s1 | 29Ts | 349 | 0 |
| 24) | 55.75 | 191.2 | s1 | 30D | 115 | 0 |
| 25) | 56.20 | 191.2 | s1 | 29ba | 170 | 0 |
| 26) | 56.78 | 191.2 | s2 | 30ab | 1627 | 1 |
| 27) | 57.11 | 191.2 | s1 | 30D13 | 107 | 0 |
| 28) | 57.40 | 191.2 | s2 | 30ba | 196 | 0 |
| 29) | 58.36 | 191.2 | s1 | 31abS | 683 | 1 |
| 30) | 58.56 | 191.2 | s1 | 31abR | 506 | 0 |
| 31) | 58.89 | 191.2 | s1 | 30G | 124 | 0 |
| 32) | 59.10 | 191.2 | s1 | 31ba | 96 | 0 |
| 33) | 59.60 | 191.2 | s1 | 32abS | 364 | 0 |
| 34) | 59.87 | 191.2 | s1 | 32abR | 267 | 0 |
| 35) | 61.03 | 191.2 | s1 | 33abS | 232 | 0 |
| 36) | 61.40 | 191.2 | s1 | 33abR | 172 | 0 |
| 37) | 62.55 | 191.2 | s1 | 34abS | 141 | 0 |
| 38) | 63.02 | 191.2 | s1 | 34abR | 89 | 0 |
| 39) | 64.23 | 191.2 | s1 | 35abS | 85 | 0 |
| 40) | 64.92 | 191.2 | s1 | 35abR | 70 | 0 |

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data



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

Data file name: **S2860.D**
 Sample name: **30/6-25S 2860m SAT**
 Data File Path: C:\HPCHEM2\DATA\306_25S1\
 Misc. info.:
 Vial no.: 7
 Method: MSD_S_D
 Operator: Arne
 Date: 11 Mar 1999 00:04

Response curve y = ax
 Response factor groups: s1...s3, responses as defined in method

| # | Rt.min. | m/z | Rf. | Name | Height | Amount |
|------------------|---------|-------|-----|-------|--------|--------|
| | | | | | | ng/mg |
| Steranes: | | | | | | |
| 41) | 38.11 | 217.2 | s3 | 21aa | 131 | 0 |
| 42) | 39.77 | 217.2 | s3 | 21bb | 337 | 0 |
| 43) | 39.89 | 217.2 | s3 | 22aa | 148 | 0 |
| 44) | 42.12 | 217.2 | s3 | 22bb | 164 | 0 |
| 45) | 48.46 | 217.2 | s3 | 27dbS | 406 | 1 |
| 46) | 49.10 | 217.2 | s3 | 27dbR | 237 | 0 |
| 47) | 51.44 | 218.2 | s3 | 27bbR | 468 | 1 |
| 48) | 51.59 | 218.2 | s3 | 27bbS | 352 | 0 |
| 49) | 51.99 | 217.2 | s3 | 27aaR | 241 | 0 |
| 50) | 53.19 | 218.2 | s3 | 28bbR | 231 | 0 |
| 51) | 53.33 | 218.2 | s3 | 28bbS | 233 | 0 |
| 52) | 54.32 | 217.2 | s3 | 29aaS | 157 | 0 |
| 53) | 54.62 | 218.2 | s3 | 29bbR | 346 | 0 |
| 54) | 54.72 | 218.2 | s3 | 29bbS | 328 | 0 |
| 55) | 55.33 | 217.2 | s3 | 29aaR | 165 | 0 |
| 56) | 55.81 | 218.2 | s3 | 30bbR | 62 | 0 |
| 57) | 55.85 | 218.2 | s3 | 30bbS | 61 | 0 |

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: S2860.D
Sample name: 30/6-25S 2860m SAT
Data File Path: C:\HPCHEM2\DATA\306_25S1\
Misc. info.:

Vial no.: 7
Method: MSD_S_D
Operator: Arne
Date: 11 Mar 1999 00:04

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 | 7 7 |
| $100 \cdot 23/3 / (23/3+24/3+25/3)$ | %23/3 | 57 57 |
| $100 \cdot 24/4 / (24/4+24/3+25/3)$ | %24/4 | 50 50 |
| $100 \cdot Ts / (Ts+Tm)$ | %27Ts | 36 36 |
| $100 \cdot 28ab / (28ab+30ab)$ | %28ab | 13 19 |
| $100 \cdot 29Ts / (29Ts+29ab)$ | %29Ts | 16 16 |
| $100 \cdot 25nor30ab / (25nor30ab+30ab)$ | %25nor30ab | 5 7 |
| $100 \cdot 29ab / (29ab+30ab)$ | %29ab | 52 63 |
| $100 \cdot 30ba / (30ba+30ab)$ | %30ba | 11 11 |
| $100 \cdot 30D / (30D+30ab)$ | %30D | 7 10 |
| $100 \cdot 30G / (30G+30ab)$ | %30G | 7 11 |
| $100 \cdot 32abS / (32ab(S+R))$ | %32abS | 58 58 |
| $100 \cdot 35ab(S+R) / (34-35ab(S+R))$ | %35ab | 40 40 |
| $100 \cdot (27Ts+27Tm) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %27HOP | 14 15 |
| $100 \cdot (28ab) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %28HOP | 3 3 |
| $100 \cdot (29ab+ba) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %29HOP | 25 28 |
| $100 \cdot (30ab+ba) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %30HOP | 24 17 |
| $100 \cdot 31ab(S+R) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %31HOP | 15 17 |
| $100 \cdot 32ab(S+R) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %32HOP | 8 9 |
| $100 \cdot 33ab(S+R) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %33HOP | 5 6 |
| $100 \cdot 34ab(S+R) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %34HOP | 3 3 |
| $100 \cdot 35ab(S+R) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %35HOP | 2 2 |

Sterane ratios

| | | |
|--|---------|-------|
| $100 \cdot (21+22)bb / ((21+22)bb+(27+28+29+30)bb(R+S))$ | %Preg | 19 19 |
| $100 \cdot 29aaS / 29aa(R+S)$ | %29aaS | 49 49 |
| $100 \cdot 29bb(R+S) / (29bb(R+S)+29aa(S+R))$ | %29bb | 68 68 |
| $100 \cdot 27db(S+R) / ((27db(S+R)+27bb(R+S)))$ | %27dia | 44 44 |
| $100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$ | %27STER | 39 39 |
| $100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$ | %28STER | 22 22 |
| $100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$ | %29STER | 32 32 |
| $100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$ | %30STER | 6 6 |

Hopanes/Steranes ratio-2 (only bb steranes)

Ho/St2 4 2

| # | Rt.min. | m/z | Rf. | Name | Height | Amount |
|--------------------------------------|---------|--------|-----|-----------|--------|--------|
| | | | | | ng/mg | |
| Internal standard (if added): | | | | | | |
| 1) | 45.95 | 217.2 | | 24baa | 32445 | 26 |
| Diterpanes: | | | | | | |
| 2) | 33.58 | 191.2 | s1 | 19/3 | 208 | 0 |
| 3) | 35.51 | 191.2 | s1 | 20/3 | 1070 | 1 |
| 4) | 37.62 | 191.2 | s1 | 21/3 | 418 | 0 |
| 5) | 41.58 | 191.2 | s1 | 23/3 | 1800 | 1 |
| 6) | 42.70 | 191.2 | s1 | 24/3 | 846 | 1 |
| 7) | 45.01 | 191.2 | s1 | 25/3 | 519 | 0 |
| 8) | 46.53 | 191.2 | s1 | 24/4 | 2327 | 1 |
| 9) | 46.64 | 191.2 | s1 | 26/3R | 363 | 0 |
| 10) | 46.77 | 191.2 | s1 | 26/3S | 341 | 0 |
| 11) | 50.34 | 191.2 | s1 | 28/3R | 667 | 0 |
| 12) | 50.54 | 191.2 | s1 | 28/3S | 384 | 0 |
| 13) | 51.33 | 191.2 | s1 | 29/3R | 487 | 0 |
| 14) | 51.62 | 191.2 | s1 | 29/3S | 374 | 0 |
| Triterpanes: | | | | | | |
| 15) | 52.47 | 191.2 | s1 | 27Ts | 2131 | 1 |
| 16) | 52.72 | 177.15 | s1 | 25nor28ab | 532 | 0 |
| 17) | 53.13 | 191.2 | s1 | 27Tm | 5432 | 3 |
| 18) | 53.51 | 177.15 | s1 | 25nor29ab | 859 | 1 |
| 19) | 53.63 | 191.2 | s1 | 27b | 1322 | 1 |
| 20) | 54.70 | 191.2 | s1 | 28ab | 1232 | 1 |
| 21) | 54.93 | 177.15 | s1 | 25nor30ab | 455 | 0 |
| 22) | 55.41 | 191.2 | s1 | 29ab | 12995 | 8 |
| 23) | 55.52 | 191.2 | s1 | 29Ts | 1895 | 1 |
| 24) | 55.77 | 191.2 | s1 | 30D | 339 | 0 |
| 25) | 56.21 | 191.2 | s1 | 29ba | 1247 | 1 |
| 26) | 56.79 | 191.2 | s2 | 30ab | 10237 | 4 |
| 27) | 57.14 | 191.2 | s1 | 30D13 | 699 | 0 |
| 28) | 57.41 | 191.2 | s2 | 30ba | 1444 | 1 |
| 29) | 58.37 | 191.2 | s1 | 31abS | 4511 | 3 |
| 30) | 58.57 | 191.2 | s1 | 31abR | 3435 | 2 |
| 31) | 58.90 | 191.2 | s1 | 30G | 727 | 0 |
| 32) | 59.10 | 191.2 | s1 | 31ba | 762 | 0 |
| 33) | 59.61 | 191.2 | s1 | 32abS | 2211 | 1 |
| 34) | 59.88 | 191.2 | s1 | 32abR | 1435 | 1 |
| 35) | 61.04 | 191.2 | s1 | 33abS | 1186 | 1 |
| 36) | 61.41 | 191.2 | s1 | 33abR | 786 | 0 |
| 37) | 62.54 | 191.2 | s1 | 34abS | 638 | 0 |
| 38) | 63.04 | 191.2 | s1 | 34abR | 410 | 0 |
| 39) | 64.23 | 191.2 | s1 | 35abS | 424 | 0 |
| 40) | 64.91 | 191.2 | s1 | 35abR | 300 | 0 |

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data



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

Data file name: S2907_5.D
Sample name: 30/6-25S 2907.5m SAT
Data File Path: C:\HPCHEM2\DATA\306_25S1\1
Misc. info.:

Vial no.: 8
Method: MSD_S_D
Operator: Arne
Date: 11 Mar 1999 1:32

Response curve y = ax
Response factor groups: s1...s3, responses as defined in method

| # | Rt.min. | m/z | Rf. | Name | Height | Amount |
|------------------|---------|-------|-----|-------|--------|--------|
| | | | | | ng/mg | |
| Steranes: | | | | | | |
| 41) | 38.11 | 217.2 | s3 | 21aa | 290 | 0 |
| 42) | 39.77 | 217.2 | s3 | 21bb | 864 | 1 |
| 43) | 39.89 | 217.2 | s3 | 22aa | 277 | 0 |
| 44) | 42.12 | 217.2 | s3 | 22bb | 614 | 1 |
| 45) | 48.47 | 217.2 | s3 | 27dbS | 1203 | 1 |
| 46) | 49.10 | 217.2 | s3 | 27dbR | 746 | 1 |
| 47) | 51.45 | 218.2 | s3 | 27bbR | 2163 | 2 |
| 48) | 51.60 | 218.2 | s3 | 27bbS | 1879 | 2 |
| 49) | 52.00 | 217.2 | s3 | 27aaR | 1128 | 1 |
| 50) | 53.20 | 218.2 | s3 | 28bbR | 1036 | 1 |
| 51) | 53.33 | 218.2 | s3 | 28bbS | 1173 | 1 |
| 52) | 54.32 | 217.2 | s3 | 29aaS | 811 | 1 |
| 53) | 54.64 | 218.2 | s3 | 29bbR | 1861 | 2 |
| 54) | 54.73 | 218.2 | s3 | 29bbS | 1724 | 1 |
| 55) | 55.34 | 217.2 | s3 | 29aaR | 962 | 1 |
| 56) | 55.82 | 218.2 | s3 | 30bbR | 214 | 0 |
| 57) | 55.86 | 218.2 | s3 | 30bbS | 216 | 0 |

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: S2907_5.D
Sample name: 30/6-25S 2907.5m SAT
Data File Path: C:\HPCHEM\2\DATA\306_25S1\
Misc. info.:

Vial no.: 8
Method: MSD_S_D
Operator: Arne
Date: 11 Mar 1999 1:32

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 | 10 | 10 |
| $100 \cdot 20/3 / ((\text{sum}20-25)/3 + 26/3(R+S))$ | %20/3 | 20 | 20 |
| $100 \cdot 23/3 / (23/3 + 24/3 + 25/3)$ | %23/3 | 57 | 57 |
| $100 \cdot 24/4 / (24/4 + 24/3 + 25/3)$ | %24/4 | 63 | 63 |
| $100 \cdot Ts / (Ts + Tm)$ | %27Ts | 28 | 28 |
| $100 \cdot 28ab / (28ab + 30ab)$ | %28ab | 11 | 16 |
| $100 \cdot 29Ts / (29Ts + 29ab)$ | %29Ts | 13 | 13 |
| $100 \cdot 25nor30ab / (25nor30ab + 30ab)$ | %25nor30ab | 4 | 6 |
| $100 \cdot 29ab / (29ab + 30ab)$ | %29ab | 56 | 66 |
| $100 \cdot 30ba / (30ba + 30ab)$ | %30ba | 12 | 12 |
| $100 \cdot 30D / (30D + 30ab)$ | %30D | 3 | 5 |
| $100 \cdot 30G / (30G + 30ab)$ | %30G | 7 | 10 |
| $100 \cdot 32abS / (32ab(S+R))$ | %32abS | 61 | 61 |
| $100 \cdot 35ab(S+R) / (34-35ab(S+R))$ | %35ab | 41 | 41 |
| $100 \cdot (27Ts + 27Tm) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %27HOP | 15 | 16 |
| $100 \cdot (28ab) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %28HOP | 2 | 3 |
| $100 \cdot (29ab + ba) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %29HOP | 28 | 31 |
| $100 \cdot (30ab + ba) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %30HOP | 23 | 16 |
| $100 \cdot 31ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %31HOP | 16 | 17 |
| $100 \cdot 32ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %32HOP | 7 | 8 |
| $100 \cdot 33ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %33HOP | 4 | 4 |
| $100 \cdot 34ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %34HOP | 2 | 2 |
| $100 \cdot 35ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %35HOP | 1 | 2 |

Sterane ratios

| | | | |
|--|---------|----|----|
| $100 \cdot (21+22)bb / ((21+22)bb + (27+28+29+30)bb(R+S))$ | %Preg | 13 | 13 |
| $100 \cdot 29aaS / 29aa(R+S)$ | %29aaS | 46 | 46 |
| $100 \cdot 29bb(R+S) / (29bb(R+S) + 29aa(S+R))$ | %29bb | 67 | 67 |
| $100 \cdot 27db(S+R) / ((27db(S+R) + 27bb(R+S))$ | %27dia | 33 | 33 |
| $100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$ | %27STER | 39 | 39 |
| $100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$ | %28STER | 22 | 22 |
| $100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$ | %29STER | 35 | 35 |
| $100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$ | %30STER | 4 | 4 |

Hopanes/Steranes ratio-2 (only bb steranes)

Ho/St2 5 3

| # | Rt.min. | m/z | Rf. | Name | Height | Amount ng/mg |
|------------------------------|---------|--------|-----|-----------|--------|-----------------|
| Internal standard (if added) | | | | | | |
| 1) | 45.96 | 217.2 | | 24baa | 3955 | 29 |
| Diterpanes: | | | | | | |
| 2) | 33.61 | 191.2 | s1 | 19/3 | 1802 | 10 |
| 3) | 35.59 | 191.2 | s1 | 20/3 | 1266 | 7 |
| 4) | 37.63 | 191.2 | s1 | 21/3 | 1819 | 10 |
| 5) | 41.61 | 191.2 | s1 | 23/3 | 3302 | 18 |
| 6) | 42.73 | 191.2 | s1 | 24/3 | 2323 | 13 |
| 7) | 45.04 | 191.2 | s1 | 25/3 | 1275 | 7 |
| 8) | 46.53 | 191.2 | s1 | 24/4 | 2346 | 13 |
| 9) | 46.64 | 191.2 | s1 | 26/3R | 841 | 5 |
| 10) | 46.78 | 191.2 | s1 | 26/3S | 875 | 5 |
| 11) | 50.31 | 191.2 | s1 | 28/3R | 1082 | 6 |
| 12) | 50.55 | 191.2 | s1 | 28/3S | 932 | 5 |
| 13) | 51.35 | 191.2 | s1 | 29/3R | 1450 | 8 |
| 14) | 51.63 | 191.2 | s1 | 29/3S | 1291 | 7 |
| Triterpanes: | | | | | | |
| 15) | 52.48 | 191.2 | s1 | 27Ts | 6805 | 38 |
| 16) | 52.73 | 177.15 | s1 | 25nor28ab | 5776 | 32 |
| 17) | 53.15 | 191.2 | s1 | 27Tm | 6354 | 35 |
| 18) | 53.53 | 177.15 | s1 | 25nor29ab | 3173 | 18 |
| 19) | 53.66 | 191.2 | s1 | 27b | 1722 | 10 |
| 20) | 54.72 | 191.2 | s1 | 28ab | 9557 | 53 |
| 21) | 54.94 | 177.15 | s1 | 25nor30ab | 3029 | 17 |
| 22) | 55.42 | 191.2 | s1 | 29ab | 17199 | 95 |
| 23) | 55.53 | 191.2 | s1 | 29Ts | 7335 | 41 |
| 24) | 55.79 | 191.2 | s1 | 30D | 4104 | 23 |
| 25) | 56.21 | 191.2 | s1 | 29ba | 3490 | 19 |
| 26) | 56.80 | 191.2 | s2 | 30ab | 44509 | 158 |
| 27) | 57.14 | 191.2 | s1 | 30D13 | 2528 | 14 |
| 28) | 57.42 | 191.2 | s2 | 30ba | 4451 | 16 |
| 29) | 58.39 | 191.2 | s1 | 31abS | 15957 | 88 |
| 30) | 58.58 | 191.2 | s1 | 31abR | 11317 | 63 |
| 31) | 58.91 | 191.2 | s1 | 30G | 2191 | 12 |
| 32) | 59.11 | 191.2 | s1 | 31ba | 1609 | 9 |
| 33) | 59.63 | 191.2 | s1 | 32abS | 10943 | 60 |
| 34) | 59.89 | 191.2 | s1 | 32abR | 7498 | 41 |
| 35) | 61.06 | 191.2 | s1 | 33abS | 9311 | 51 |
| 36) | 61.43 | 191.2 | s1 | 33abR | 5945 | 33 |
| 37) | 62.56 | 191.2 | s1 | 34abS | 5411 | 30 |
| 38) | 63.05 | 191.2 | s1 | 34abR | 3198 | 18 |
| 39) | 64.26 | 191.2 | s1 | 35abS | 4007 | 22 |
| 40) | 64.94 | 191.2 | s1 | 35abR | 2614 | 14 |

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data



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

Data file name: NSO_02S.D
Sample name: nso1_02S ref. sample SAT
Data File Path: C:\HPCHEM\2\DATA\306_25S\1
Misc. info.:

Vial no.: 1
Method: MSD_S_D
Operator: Arne
Date: 10 Mar 1999 16:43

Response curve y = ax
Response factor groups: s1...s3, responses as defined in method

| # | Rt.min. | m/z | Rf. | Name | Height | Amount ng/mg |
|------------------|---------|-------|-----|-------|--------|-----------------|
| Steranes: | | | | | | |
| 41) | 38.13 | 217.2 | s3 | 21aa | 3902 | 31 |
| 42) | 39.79 | 217.2 | s3 | 21bb | 5149 | 41 |
| 43) | 39.92 | 217.2 | s3 | 22aa | 3171 | 25 |
| 44) | 42.15 | 217.2 | s3 | 22bb | 3090 | 25 |
| 45) | 48.48 | 217.2 | s3 | 27dbS | 9071 | 72 |
| 46) | 49.12 | 217.2 | s3 | 27dbR | 5557 | 44 |
| 47) | 51.47 | 218.2 | s3 | 27bbR | 7408 | 59 |
| 48) | 51.61 | 218.2 | s3 | 27bbS | 4821 | 38 |
| 49) | 52.02 | 217.2 | s3 | 27aaR | 2500 | 20 |
| 50) | 53.22 | 218.2 | s3 | 28bbR | 4006 | 32 |
| 51) | 53.36 | 218.2 | s3 | 28bbS | 5299 | 42 |
| 52) | 54.34 | 217.2 | s3 | 29aaS | 3095 | 25 |
| 53) | 54.64 | 218.2 | s3 | 29bbR | 6498 | 52 |
| 54) | 54.75 | 218.2 | s3 | 29bbS | 6192 | 49 |
| 55) | 55.36 | 217.2 | s3 | 29aaR | 2878 | 23 |
| 56) | 55.82 | 218.2 | s3 | 30bbR | 2332 | 19 |
| 57) | 55.87 | 218.2 | s3 | 30bbS | 2103 | 17 |

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: NSO_02S.D
Sample name: nso1_02S ref. sample SAT
Data File Path: C:\HPCHEM\2\DATA\306_25S1\

Misc. info.:

Vial no.: 1
Method: MSD_S_D
Operator: Arne
Date: 10 Mar 1999 16:43

| 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 | 6 7 |
| $100 \cdot 20/3 / ((\text{sum}20-25)/3 + 26/3(R+S))$ | %20/3 | 11 11 |
| $100 \cdot 23/3 / (23/3 + 24/3 + 25/3)$ | %23/3 | 48 48 |
| $100 \cdot 24/4 / (24/4 + 24/3 + 25/3)$ | %24/4 | 39 39 |
| $100 \cdot Ts / (Ts + Tm)$ | %27Ts | 52 52 |
| $100 \cdot 28ab / (28ab + 30ab)$ | %28ab | 18 25 |
| $100 \cdot 29Ts / (29Ts + 29ab)$ | %29Ts | 30 30 |
| $100 \cdot 25nor30ab / (25nor30ab + 30ab)$ | %25nor30ab | 6 10 |
| $100 \cdot 29ab / (29ab + 30ab)$ | %29ab | 28 38 |
| $100 \cdot 30ba / (30ba + 30ab)$ | %30ba | 9 9 |
| $100 \cdot 30D / (30D + 30ab)$ | %30D | 8 13 |
| $100 \cdot 30G / (30G + 30ab)$ | %30G | 5 7 |
| $100 \cdot 32abS / (32ab(S+R))$ | %32abS | 59 59 |
| $100 \cdot 35ab(S+R) / (34-35ab(S+R))$ | %35ab | 43 43 |
| $100 \cdot (27Ts + 27Tm) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %27HOP | 8 9 |
| $100 \cdot (28ab) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %28HOP | 6 6 |
| $100 \cdot (29ab + ba) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %29HOP | 12 14 |
| $100 \cdot (30ab + ba) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %30HOP | 29 21 |
| $100 \cdot 31ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %31HOP | 16 18 |
| $100 \cdot 32ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %32HOP | 11 12 |
| $100 \cdot 33ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %33HOP | 9 10 |
| $100 \cdot 34ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %34HOP | 5 6 |
| $100 \cdot 35ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %35HOP | 4 4 |
| Sterane ratios | | |
| $100 \cdot (21+22)bb / ((21+22)bb + (27+28+29+30)bb(R+S))$ | %Preg | 18 18 |
| $100 \cdot 29aaS / (29aaS + 29aa(R+S))$ | %29aaS | 52 52 |
| $100 \cdot 29bb(R+S) / (29bb(R+S) + 29aa(S+R))$ | %29bb | 68 68 |
| $100 \cdot 27db(S+R) / ((27db(S+R) + 27bb(R+S)))$ | %27dia | 54 54 |
| $100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$ | %27STER | 32 32 |
| $100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$ | %28STER | 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 | 11 11 |
| Hopanes/Steranes ratio-2 (only bb steranes) | Ho/St2 | 4 3 |

Saturated biomarkers

GC/MS detection HP-6890/5973
Compound data



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

Data file name: **NSO_10S.D**
Sample name: **nso1-10S ref. sample SAT**
Data File Path: **C:\HPCHEM2\DATA\306_25S1**
Misc. info.:

Vial no.: **1**
Method: **MSD_S_D**
Operator: **Arne**
Date: **11 Mar 1999 4:28**

Response curve y = ax
Response factor groups: s1...s3, responses as defined in method

| # | Rt.min. | m/z | Rf. | Name | Height | Amount |
|------------------------------|---------|--------|-----|-----------|--------|--------|
| Internal standard (if added) | | | | | | |
| 1) | 45.95 | 217.2 | | 24baa | 4787 | 29 |
| Diterpanes: | | | | | | |
| 2) | 33.61 | 191.2 | s1 | 19/3 | 2136 | 10 |
| 3) | 35.59 | 191.2 | s1 | 20/3 | 1425 | 7 |
| 4) | 37.63 | 191.2 | s1 | 21/3 | 2162 | 10 |
| 5) | 41.60 | 191.2 | s1 | 23/3 | 3817 | 17 |
| 6) | 42.73 | 191.2 | s1 | 24/3 | 2675 | 12 |
| 7) | 44.99 | 191.2 | s1 | 25/3 | 1431 | 7 |
| 8) | 46.53 | 191.2 | s1 | 24/4 | 2582 | 12 |
| 9) | 46.64 | 191.2 | s1 | 26/3R | 1093 | 5 |
| 10) | 46.78 | 191.2 | s1 | 26/3S | 1118 | 5 |
| 11) | 50.32 | 191.2 | s1 | 28/3R | 1212 | 6 |
| 12) | 50.56 | 191.2 | s1 | 28/3S | 1152 | 5 |
| 13) | 51.34 | 191.2 | s1 | 29/3R | 1833 | 8 |
| 14) | 51.63 | 191.2 | s1 | 29/3S | 1617 | 7 |
| Triterpanes: | | | | | | |
| 15) | 52.49 | 191.2 | s1 | 27Ts | 8087 | 37 |
| 16) | 52.73 | 177.15 | s1 | 25nor28ab | 6330 | 29 |
| 17) | 53.16 | 191.2 | s1 | 27Tm | 6866 | 31 |
| 18) | 53.54 | 177.15 | s1 | 25nor29ab | 3695 | 17 |
| 19) | 53.65 | 191.2 | s1 | 27b | 2092 | 10 |
| 20) | 54.72 | 191.2 | s1 | 28ab | 10874 | 50 |
| 21) | 54.94 | 177.15 | s1 | 25nor30ab | 3349 | 15 |
| 22) | 55.42 | 191.2 | s1 | 29ab | 20493 | 94 |
| 23) | 55.54 | 191.2 | s1 | 29Ts | 8600 | 39 |
| 24) | 55.78 | 191.2 | s1 | 30D | 4613 | 21 |
| 25) | 56.22 | 191.2 | s1 | 29ba | 3980 | 18 |
| 26) | 56.80 | 191.2 | s2 | 30ab | 48345 | 142 |
| 27) | 57.14 | 191.2 | s1 | 30D13 | 3580 | 16 |
| 28) | 57.42 | 191.2 | s2 | 30ba | 4807 | 14 |
| 29) | 58.39 | 191.2 | s1 | 31abS | 17723 | 81 |
| 30) | 58.59 | 191.2 | s1 | 31abR | 12167 | 56 |
| 31) | 58.92 | 191.2 | s1 | 30G | 2937 | 13 |
| 32) | 59.11 | 191.2 | s1 | 31ba | 2292 | 10 |
| 33) | 59.62 | 191.2 | s1 | 32abS | 12709 | 58 |
| 34) | 59.89 | 191.2 | s1 | 32abR | 8394 | 38 |
| 35) | 61.07 | 191.2 | s1 | 33abS | 10285 | 47 |
| 36) | 61.43 | 191.2 | s1 | 33abR | 6630 | 30 |
| 37) | 62.56 | 191.2 | s1 | 34abS | 5645 | 26 |
| 38) | 63.05 | 191.2 | s1 | 34abR | 3293 | 15 |
| 39) | 64.26 | 191.2 | s1 | 35abS | 4057 | 19 |
| 40) | 64.94 | 191.2 | s1 | 35abR | 2635 | 12 |

| # | Rt.min. | m/z | Rf. | Name | Height | Amount |
|-----------|---------|-------|-----|-------|--------|--------|
| Steranes: | | | | | | |
| 41) | 38.13 | 217.2 | s3 | 21aa | 4618 | 30 |
| 42) | 39.80 | 217.2 | s3 | 21bb | 6051 | 40 |
| 43) | 39.92 | 217.2 | s3 | 22aa | 3848 | 25 |
| 44) | 42.15 | 217.2 | s3 | 22bb | 3751 | 25 |
| 45) | 48.48 | 217.2 | s3 | 27dbS | 11345 | 75 |
| 46) | 49.11 | 217.2 | s3 | 27dbR | 6204 | 41 |
| 47) | 51.46 | 218.2 | s3 | 27bbR | 9046 | 60 |
| 48) | 51.62 | 218.2 | s3 | 27bbS | 6078 | 40 |
| 49) | 52.03 | 217.2 | s3 | 27aaR | 3006 | 20 |
| 50) | 53.21 | 218.2 | s3 | 28bbR | 4940 | 33 |
| 51) | 53.36 | 218.2 | s3 | 28bbS | 6647 | 44 |
| 52) | 54.35 | 217.2 | s3 | 29aaS | 3568 | 24 |
| 53) | 54.64 | 218.2 | s3 | 29bbR | 7417 | 49 |
| 54) | 54.75 | 218.2 | s3 | 29bbS | 6722 | 44 |
| 55) | 55.35 | 217.2 | s3 | 29aaR | 3582 | 24 |
| 56) | 55.83 | 218.2 | s3 | 30bbR | 2668 | 18 |
| 57) | 55.89 | 218.2 | s3 | 30bbS | 2368 | 16 |

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: NSO_10S.D
Sample name: nso1-10S ref. sample SAT
Data File Path: C:\HPCHEM2\DATA\306_25S1
Misc. info.:

Vial no.: 1
Method: MSD_S_D
Operator: Arne
Date: 11 Mar 1999 4:28

| 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 | 7 8 |
| $100 \cdot 20/3 / ((\text{sum}20-25)/3 + 26/3(R+S))$ | %20/3 | 10 10 |
| $100 \cdot 23/3 / (23/3 + 24/3 + 25/3)$ | %23/3 | 48 48 |
| $100 \cdot 24/4 / (24/4 + 24/3 + 25/3)$ | %24/4 | 39 39 |
| $100 \cdot Ts / (Ts + Tm)$ | %27Ts | 54 54 |
| $100 \cdot 28ab / (28ab + 30ab)$ | %28ab | 18 26 |
| $100 \cdot 29Ts / (29Ts + 29ab)$ | %29Ts | 30 30 |
| $100 \cdot 25nor30ab / (25nor30ab + 30ab)$ | %25nor30ab | 6 10 |
| $100 \cdot 29ab / (29ab + 30ab)$ | %29ab | 30 40 |
| $100 \cdot 30ba / (30ba + 30ab)$ | %30ba | 9 9 |
| $100 \cdot 30D / (30D + 30ab)$ | %30D | 9 13 |
| $100 \cdot 30G / (30G + 30ab)$ | %30G | 6 9 |
| $100 \cdot 32abS / (32ab(S+R))$ | %32abS | 60 60 |
| $100 \cdot 35ab(S+R) / (34-35ab(S+R))$ | %35ab | 43 43 |
| $100 \cdot (27Ts + 27Tm) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %27HOP | 8 9 |
| $100 \cdot (28ab) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %28HOP | 6 6 |
| $100 \cdot (29ab+ba) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %29HOP | 13 15 |
| $100 \cdot (30ab+ba) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %30HOP | 28 20 |
| $100 \cdot 31ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %31HOP | 16 18 |
| $100 \cdot 32ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %32HOP | 11 13 |
| $100 \cdot 33ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %33HOP | 9 10 |
| $100 \cdot 34ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %34HOP | 5 5 |
| $100 \cdot 35ab(S+R) / (27Ts + 27Tm + 28ab + \text{sum}29-30(ab+ba) + \text{sum}31-35ab(R+S))$ | %35HOP | 4 4 |
| Sterane ratios | | |
| $100 \cdot (21+22)bb / ((21+22)bb + (27+28+29+30)bb(R+S))$ | %Preg | 18 18 |
| $100 \cdot 29aaS / 29aa(R+S)$ | %29aaS | 50 50 |
| $100 \cdot 29bb(R+S) / (29bb(R+S) + 29aa(S+R))$ | %29bb | 66 66 |
| $100 \cdot 27db(S+R) / ((27db(S+R) + 27bb(R+S))$ | %27dia | 54 54 |
| $100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$ | %27STER | 33 33 |
| $100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$ | %28STER | 25 25 |
| $100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$ | %29STER | 31 31 |
| $100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$ | %30STER | 11 11 |
| Hopan/Steranes ratio-2 (only bb steranes) | Ho/St2 | 4 3 |

| # | Rt.min. | m/z | Rf. | Name | Height | Amount |
|------------------------------|---------|--------|-----|-----------|--------|--------|
| | | | | | ng/mg | |
| Internal standard (if added) | | | | | | |
| 1) | 36.05 | 217.2 | | 24baa | 2927 | 29 |
| Diterpanes: | | | | | | |
| 2) | 33.68 | 191.2 | s1 | 19/3 | 1314 | 10 |
| 3) | 35.65 | 191.2 | s1 | 20/3 | 924 | 7 |
| 4) | 37.70 | 191.2 | s1 | 21/3 | 1274 | 10 |
| 5) | 41.68 | 191.2 | s1 | 23/3 | 2439 | 18 |
| 6) | 42.80 | 191.2 | s1 | 24/3 | 1631 | 12 |
| 7) | 45.13 | 191.2 | s1 | 25/3 | 944 | 7 |
| 8) | 46.61 | 191.2 | s1 | 24/4 | 1625 | 12 |
| 9) | 46.73 | 191.2 | s1 | 26/3R | 632 | 5 |
| 10) | 46.85 | 191.2 | s1 | 26/3S | 665 | 5 |
| 11) | 50.39 | 191.2 | s1 | 28/3R | 747 | 6 |
| 12) | 50.64 | 191.2 | s1 | 28/3S | 707 | 5 |
| 13) | 51.43 | 191.2 | s1 | 29/3R | 1084 | 8 |
| 14) | 51.72 | 191.2 | s1 | 29/3S | 862 | 6 |
| Triterpanes: | | | | | | |
| 15) | 52.57 | 191.2 | s1 | 27Ts | 5376 | 40 |
| 16) | 52.82 | 177.15 | s1 | 25nor28ab | 4063 | 30 |
| 17) | 53.25 | 191.2 | s1 | 27Tm | 4578 | 34 |
| 18) | 53.62 | 177.15 | s1 | 25nor29ab | 2360 | 18 |
| 19) | 53.74 | 191.2 | s1 | 27b | 1393 | 10 |
| 20) | 54.81 | 191.2 | s1 | 28ab | 6850 | 51 |
| 21) | 55.02 | 177.15 | s1 | 25nor30ab | 2098 | 16 |
| 22) | 55.51 | 191.2 | s1 | 29ab | 12917 | 96 |
| 23) | 55.62 | 191.2 | s1 | 29Ts | 5065 | 38 |
| 24) | 55.87 | 191.2 | s1 | 30D | 2910 | 22 |
| 25) | 56.31 | 191.2 | s1 | 29ba | 2461 | 18 |
| 26) | 56.89 | 191.2 | s2 | 30ab | 31202 | 150 |
| 27) | 57.23 | 191.2 | s1 | 30D13 | 1752 | 13 |
| 28) | 57.51 | 191.2 | s2 | 30ba | 2987 | 14 |
| 29) | 58.48 | 191.2 | s1 | 31abS | 11426 | 85 |
| 30) | 58.67 | 191.2 | s1 | 31abR | 7807 | 58 |
| 31) | 59.02 | 191.2 | s1 | 30G | 1607 | 12 |
| 32) | 59.21 | 191.2 | s1 | 31ba | 1197 | 9 |
| 33) | 59.72 | 191.2 | s1 | 32abS | 7537 | 56 |
| 34) | 59.98 | 191.2 | s1 | 32abR | 5298 | 40 |
| 35) | 61.16 | 191.2 | s1 | 33abS | 6305 | 47 |
| 36) | 61.52 | 191.2 | s1 | 33abR | 4041 | 30 |
| 37) | 62.67 | 191.2 | s1 | 34abS | 3410 | 25 |
| 38) | 63.17 | 191.2 | s1 | 34abR | 2012 | 15 |
| 39) | 64.38 | 191.2 | s1 | 35abS | 2501 | 19 |
| 40) | 65.07 | 191.2 | s1 | 35abR | 1542 | 12 |

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data



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

Data file name: NSO_02S.D
 Sample name: nso1_02S ref. sample SAT
 Data File Path: K:\CAP\MSFIDW95\WOOD\
 Misc. info.:
 Vial no.: 1
 Method: MSD_S_D
 Operator: marian
 Date: 15 Apr 1999 12:13
 Response curve y = ax
 Response factor groups: s1...s3, responses as defined in method

| # | Rt.min. | m/z | Rf. | Name | Height | Amount |
|------------------|---------|-------|-----|-------|--------|--------|
| | | | | | ng/mg | |
| Steranes: | | | | | | |
| 41) | 38.20 | 217.2 | s3 | 21aa | 2958 | 32 |
| 42) | 39.87 | 217.2 | s3 | 21bb | 3811 | 41 |
| 43) | 39.98 | 217.2 | s3 | 22aa | 2444 | 26 |
| 44) | 42.23 | 217.2 | s3 | 22bb | 2381 | 26 |
| 45) | 48.56 | 217.2 | s3 | 27dbS | 7134 | 77 |
| 46) | 49.19 | 217.2 | s3 | 27dbR | 4234 | 46 |
| 47) | 51.55 | 218.2 | s3 | 27bbR | 5427 | 59 |
| 48) | 51.70 | 218.2 | s3 | 27bbS | 3889 | 42 |
| 49) | 52.11 | 217.2 | s3 | 27aaR | 1965 | 21 |
| 50) | 53.30 | 218.2 | s3 | 28bbR | 3283 | 35 |
| 51) | 53.43 | 218.2 | s3 | 28bbS | 4014 | 43 |
| 52) | 54.42 | 217.2 | s3 | 29aaS | 2179 | 23 |
| 53) | 54.72 | 218.2 | s3 | 29bbR | 4875 | 53 |
| 54) | 54.83 | 218.2 | s3 | 29bbS | 4466 | 48 |
| 55) | 55.44 | 217.2 | s3 | 29aaR | 2131 | 23 |
| 56) | 55.92 | 218.2 | s3 | 30bbR | 1620 | 17 |
| 57) | 55.95 | 218.2 | s3 | 30bbS | 1590 | 17 |

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: NSO_02S.D
Sample name: nso1_02S ref. sample SAT
Data File Path: K:\CAPM\FIDW95\WOODA
Misc. info.:

Vial no.: 1
Method: MSD_S_D
Operator: marian
Date: 15 Apr 1999 12:13

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 | 7 7 |
| $100 \cdot 20/3 / ((\text{sum}20-25)/3+26/3(R+S))$ | %20/3 | 11 11 |
| $100 \cdot 23/3 / (23/3+24/3+25/3)$ | %23/3 | 49 49 |
| $100 \cdot 24/4 / (24/4+24/3+25/3)$ | %24/4 | 39 39 |
| $100 \cdot Ts / (Ts+Tm)$ | %27Ts | 54 54 |
| $100 \cdot 28ab / (28ab+30ab)$ | %28ab | 18 25 |
| $100 \cdot 29Ts / (29Ts+29ab)$ | %29Ts | 28 28 |
| $100 \cdot 25nor30ab / (25nor30ab+30ab)$ | %25nor30ab | 6 9 |
| $100 \cdot 29ab / (29ab+30ab)$ | %29ab | 29 39 |
| $100 \cdot 30ba / (30ba+30ab)$ | %30ba | 9 9 |
| $100 \cdot 30D / (30D+30ab)$ | %30D | 9 13 |
| $100 \cdot 30G / (30G+30ab)$ | %30G | 5 7 |
| $100 \cdot 32abS / (32ab(S+R))$ | %32abS | 59 59 |
| $100 \cdot 35ab(S+R) / (34-35ab(S+R))$ | %35ab | 43 43 |
| $100 \cdot (27Ts+27Tm) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %27HOP | 8 9 |
| $100 \cdot (28ab) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %28HOP | 6 6 |
| $100 \cdot (29ab+ba) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %29HOP | 13 15 |
| $100 \cdot (30ab+ba) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %30HOP | 29 21 |
| $100 \cdot 31ab(S+R) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %31HOP | 16 18 |
| $100 \cdot 32ab(S+R) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %32HOP | 11 12 |
| $100 \cdot 33ab(S+R) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %33HOP | 9 10 |
| $100 \cdot 34ab(S+R) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %34HOP | 5 5 |
| $100 \cdot 35ab(S+R) / (27Ts+27Tm+28ab+\text{sum}29-30(ab+ba)+\text{sum}31-35ab(R+S))$ | %35HOP | 3 4 |

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 | 51 51 |
| $100 \cdot 29bb(R+S) / (29bb(R+S)+29aa(S+R))$ | %29bb | 68 68 |
| $100 \cdot 27db(S+R) / ((27db(S+R)+27bb(R+S))$ | %27dia | 55 55 |
| $100 \cdot 27bb(R+S) / (27+28+29+30)bb(R+S)$ | %27STER | 32 32 |
| $100 \cdot 28bb(R+S) / (27+28+29+30)bb(R+S)$ | %28STER | 25 25 |
| $100 \cdot 29bb(R+S) / (27+28+29+30)bb(R+S)$ | %29STER | 32 32 |
| $100 \cdot 30bb(R+S) / (27+28+29+30)bb(R+S)$ | %30STER | 11 11 |

Hopan/Steranes ratio-2 (only bb steranes)

Ho/St2 4 3

Title: Petroleum Geochemistry, Well 30/6-25 S

No:

Rev.: 0

Date: 1999-04-21

Appendix 4

Aromatic hydrocarbons, data tables and reports

| End-depth, m | Type | Lith. Name | Remarks | Status | Signal | NAPHTALENE C1 | NAPH C2 | NAPH C3 | NAPH PHEN | C2 PHEN | C1 PHEN | MPI1 | F1 | F2 | DNR | |
|--------------|------|------------|---------------------------|--------|--------|---------------|---------|---------|-----------|---------|---------|-------|-----|-----|-----|-----|
| 2320.00 | DC | | Mud impregnation | OK | AM | 36.5 | 209.8 | 624.9 | 702.6 | 115.2 | 259.4 | 308.4 | 0.6 | 0.4 | 0.2 | 2.2 |
| 2340.00 | DC | | Mud impregnation | OK | AM | 16.7 | 78.1 | 362.2 | 519.7 | 86.3 | 182.9 | 227.5 | 0.6 | 0.4 | 0.2 | 2.1 |
| 2673.00 | SWC | SST 46.00 | Mud impregnation | OK | AM | 86.2 | 195.9 | 189.2 | 158.2 | 34.3 | 27.4 | 43.8 | 0.5 | 0.4 | 0.2 | 1.7 |
| 2688.00 | SWC | SST 44.00 | Mud impregnation | OK | AM | 10.7 | 32.4 | 47.3 | 39.9 | 19.0 | 14.9 | 24.1 | 0.5 | 0.5 | 0.3 | 2.1 |
| 2860.00 | SWC | SST 16.00 | Mud impregnation | WEAK | AM | 269.9 | 77.8 | 50.3 | 33.0 | 2.8 | 5.1 | 6.5 | 1.2 | 0.6 | 0.2 | 2.1 |
| 2907.50 | SWC | SST 9.00 | Mud impregnation | OK | AM | 51.5 | 83.9 | 70.7 | 52.3 | 30.9 | 26.6 | 48.2 | 0.6 | 0.5 | 0.3 | 2.7 |
| | | | Lab.Ref. psu/ref-NSO1 sat | OK | AM | 1009.9 | 2352.8 | 3262.3 | 2374.3 | 253.8 | 507.5 | 619.8 | 0.7 | 0.4 | 0.2 | 2.9 |
| | | | Lab.Ref. psu/ref-NSO1 sat | OK | AM | 1009.9 | 2352.8 | 3262.3 | 2376.5 | 253.8 | 507.5 | 619.8 | 0.7 | 0.4 | 0.2 | 2.9 |

| End-depth, m | Type | Lith. Name | Remarks | Status | Signal | DBT | P | F | P | BP | 10MN | 2MN | 1MN | 2EN | 1EN | 4 | 1 | MOBT | 3MPR |
|--------------|------|------------|---------------------------|--------|--------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|---|---|------|------|
| 2320.00 | DC | | Mud impregnation | OK | AM | 0.1 | 0.2 | 0.4 | 1.0 | 1.4 | 2.6 | 1.1 | | | | | | | |
| 2340.00 | DC | | Mud impregnation | OK | AM | 0.0 | 0.1 | 0.8 | 1.0 | 1.4 | 2.2 | 2.6 | | | | | | | |
| 2673.00 | SWC | SST 46.00 | Mud impregnation | OK | AM | 0.0 | 0.2 | 0.2 | 1.5 | 1.8 | 2.0 | 0.7 | | | | | | | |
| 2688.00 | SWC | SST 44.00 | Mud impregnation | OK | AM | 0.0 | 0.1 | 0.2 | 1.5 | 1.8 | 4.0 | 1.4 | | | | | | | |
| 2860.00 | SWC | SST 16.00 | Mud impregnation | WEAK | AM | 0.0 | 3.9 | 1.0 | 1.7 | 2.3 | 1.2 | 3.9 | | | | | | | |
| 2907.50 | SWC | SST 9.00 | Mud impregnation | OK | AM | 0.0 | 0.2 | 0.2 | 1.7 | 1.9 | 3.7 | 1.3 | | | | | | | |
| | | | Lab.Ref. psu/ref-NSO1 sat | OK | AM | 0.1 | 0.5 | 0.3 | 1.3 | 2.0 | 3.0 | 1.7 | | | | | | | |
| | | | Lab.Ref. psu/ref-NSO1 sat | OK | AM | 0.1 | 0.5 | 0.3 | 1.3 | 2.0 | 3.0 | 1.7 | | | | | | | |

Aromatic hydrocarbons, by GC/MS

| # | Rt.min. | m/z | Rf. | Name | Height | Amount ng/mg |
|-------------------------------|---------|-----|-----|-----------------|--------|-----------------|
| Internal standard (if added): | | | | | | |
| 14) | 11.43 | 136 | | d8N | 28702 | 42 |
| 16) | 20.85 | 164 | | d10BP | 36965 | 40 |
| 59) | 29.24 | 188 | | d10P | 93449 | 42 |
| 79) | 44.70 | 240 | | d12C | 84688 | 42 |
| Aryl isoprenoids: | | | | | | |
| 1) | 20.24 | 133 | 0 | C13AI | 6481 | |
| 2) | 22.16 | 133 | 0 | C14AI | 6103 | |
| 3) | 26.40 | 133 | 0 | C15AI | 7167 | |
| 4) | 28.75 | 133 | 0 | C16AI | 5320 | |
| 5) | 30.75 | 133 | 0 | C17AI | 5292 | |
| 6) | 33.68 | 133 | 0 | C18AI | 4079 | |
| 7) | 34.87 | 133 | 0 | C19AI | 1895 | |
| 8) | 37.73 | 133 | 0 | C20AI | 1643 | |
| 9) | 39.75 | 133 | 0 | C21AI | 2986 | |
| 10) | 42.77 | 133 | 0 | C22AI | 4280 | |
| 11) | 44.84 | 133 | 0 | C23AI | 1858 | |
| 12) | 55.85 | 133 | 0 | C30AI | 1651 | |
| 13) | 56.82 | 133 | 0 | C31AI | 718 | |
| Naphthalenes: | | | | | | |
| 15) | 11.52 | 128 | a1 | N | 27332 | 36 |
| 17) | 15.08 | 142 | a2 | 2-MN | 102863 | 106 |
| 18) | 15.63 | 142 | a2 | 1-MN | 99755 | 103 |
| 19) | 18.25 | 156 | a3 | 2-EN | 18650 | 18 |
| 20) | 18.36 | 156 | a3 | 1-EN | 13527 | 13 |
| 21) | 18.59 | 156 | a3 | 2.6+2.7-DMN | 112076 | 109 |
| 22) | 19.05 | 156 | a3 | 1.3+1.7-DMN | 186860 | 181 |
| 23) | 19.15 | 156 | a3 | 1.6-DMN | 141035 | 137 |
| 24) | 19.65 | 156 | a3 | 2.3+1.4-DMN | 82563 | 80 |
| 25) | 19.75 | 156 | a3 | 1.5-DMN | 50798 | 49 |
| 26) | 20.12 | 156 | a3 | 1.2-DMN | 38083 | 37 |
| 27) | 21.81 | 170 | a4 | C3-N-1 | 16803 | 17 |
| 28) | 22.18 | 170 | a4 | C3-N-2 | 17428 | 17 |
| 29) | 22.29 | 170 | a4 | 1.3.7-TMN | 82299 | 81 |
| 30) | 22.44 | 170 | a4 | 1.3.6-TMN | 128623 | 127 |
| 31) | 22.92 | 170 | a4 | 1.3.5+1.4.6-TMN | 127577 | 126 |
| 32) | 22.99 | 170 | a4 | 2.3.6-TMN | 101324 | 100 |
| 33) | 23.41 | 170 | a4 | 1.6.7+1.2.7-TMN | 84040 | 83 |
| 34) | 23.46 | 170 | a4 | 1.2.6-TMN | 56192 | 55 |
| 35) | 23.90 | 170 | a4 | 1.2.4-TMN | 17781 | 18 |
| 36) | 24.10 | 170 | a4 | 1.2.5-TMN | 79585 | 79 |
| Biphenyls: | | | | | | |
| 37) | 17.79 | 154 | a5 | BP | 78089 | 53 |
| 38) | 21.08 | 168 | a5 | 3-MBP | 118354 | 80 |
| 39) | 21.34 | 168 | a5 | 4-MBP | 40953 | 28 |
| 40) | 21.40 | 182 | a4 | 2,3'-DMBP | 6736 | 7 |
| 41) | 21.61 | 182 | a4 | 2,5'-DMBP | 2980 | 3 |
| 42) | 21.77 | 182 | a4 | 2,4+2,4'-DMBP | 5631 | 6 |
| 43) | 22.39 | 182 | a4 | 2,3'-DMBP | 11056 | 11 |
| 44) | 23.78 | 182 | a4 | 3-EBP | 13500 | 13 |
| 45) | 24.11 | 182 | a4 | 3,5'-DMBP | 25165 | 25 |
| 46) | 24.21 | 182 | a4 | 3,3'-DMBP | 58355 | 58 |
| 47) | 24.33 | 182 | a4 | 4-EBP | 4815 | 5 |
| 48) | 24.51 | 182 | a4 | 3,4'-DMBP | 47385 | 47 |
| 49) | 24.72 | 182 | a4 | 4,4'-DMBP | 8047 | 8 |
| 50) | 25.27 | 182 | a4 | 3,4-DMBP | 27828 | 27 |

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data



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

Data file name: **A2320.D**
Sample name: **30/6-25S 2320m ARO**
Data File Path: **C:\HPCHEM\2\DATA\306_25S1**
Misc. info.:

Vial no.: 11
Method: MSD_A_D
Operator: Arne
Date: #VALUE!

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 |
|------------------------------|---------|-----|-----|-----------------------|--------|-----------------|
| Dibenzofuranes: | | | | | | |
| 51) | 21.96 | 168 | a5 | DBF | 30870 | 21 |
| 52) | 25.05 | 182 | a4 | MDBF-1 | 60729 | 60 |
| 53) | 25.42 | 182 | a4 | MDBF-2 | 35830 | 35 |
| 54) | 25.71 | 182 | a4 | MDBF-3 | 34268 | 34 |
| Fluorenes: | | | | | | |
| 55) | 23.92 | 166 | a6 | F | 27045 | 22 |
| 56) | 27.22 | 180 | a6 | C1-F-1 | 15004 | 12 |
| 57) | 27.39 | 180 | a6 | C1-F-2 | 86456 | 71 |
| 58) | 27.70 | 180 | a6 | 1-MF | 8260 | 7 |
| Dibenzothiophenes: | | | | | | |
| 60) | 28.63 | 184 | a7 | DBT | 63868 | 8 |
| 61) | 31.25 | 198 | a7 | 4-MDBT | 82431 | 11 |
| 62) | 31.77 | 198 | a7 | 3+2-MDBT | 24195 | 3 |
| 63) | 32.34 | 198 | a7 | 1-MDBT | 32236 | 4 |
| Phenanthrenes: | | | | | | |
| 64) | 29.37 | 178 | a8 | P | 306849 | 115 |
| 65) | 32.30 | 192 | a9 | 3-MP | 123159 | 54 |
| 66) | 32.44 | 192 | a9 | 2-MP | 146177 | 64 |
| 67) | 32.93 | 192 | a9 | 9-MP | 228869 | 101 |
| 68) | 33.06 | 192 | a9 | 1-MP | 202086 | 89 |
| 69) | 35.01 | 206 | a10 | 2EP+9EP+3.6-DMP | 32208 | 14 |
| 70) | 35.25 | 206 | a10 | 1EP | 38280 | 16 |
| 71) | 35.35 | 206 | a10 | 2.6+2.7+3.5-DMP | 23021 | 10 |
| 72) | 35.70 | 206 | a10 | 1.3+2.10+3.9+3.10-DMI | 181553 | 76 |
| 73) | 35.84 | 206 | a10 | 1.6+2.5+2.9-DMP | 104596 | 44 |
| 74) | 35.99 | 206 | a10 | 1.7-DMP | 114113 | 48 |
| 75) | 36.12 | 206 | a10 | 2.3-DMP | 27528 | 12 |
| 76) | 36.24 | 206 | a10 | 1.9+4.9+4.10-DMP | 65443 | 28 |
| 77) | 36.54 | 206 | a10 | 1.8-DMP | 29085 | 12 |
| Retene: | | | | | | |
| 78) | 39.86 | 219 | a8 | Retene | 136635 | 51 |
| Triaromatic steroids: | | | | | | |
| 80) | 44.30 | 231 | a11 | 20TA | 26942 | 3 |
| 81) | 46.18 | 231 | a11 | 21TA | 30105 | 3 |
| 82) | 53.14 | 231 | a11 | S26TA | 36140 | 4 |
| 83) | 54.34 | 231 | a11 | R26TA/S27TA | 108339 | 12 |
| 84) | 55.33 | 231 | a11 | S28TA | 52305 | 6 |
| 85) | 55.84 | 231 | a11 | R27TA | 48595 | 5 |
| 86) | 57.06 | 231 | a11 | R28TA | 54682 | 6 |