Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data

HYDRO

Norsk Hydro E&P Research Centre, Bergen, Norway

Petroleum Geochemistry Laboratories

Data file name:	**M2000_S.D**
Sample name:	**7216/11-1 MUD 2000m SAT**
Data File Path:	C:\HPCHEM\1\DATA\IRAN_PR\
Misc. info.:	
Vial no.:	8
Method:	MSD_S_E2
Operator:	ANNEK
Date:	17 Nov 2000 18:39

Response curve y = ax

Response factor groups: s1...s3, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (ISTD)						
1)	26.48	217.2		24baa	691	81
Diterpanes:						
2)	34.13	191.2	s1	19/3	2	0
3)	36.12	191.2	s1	20/3	9	0
4)	38.17	191.2	s1	21/3	4	0
5)	42.12	191.2	s1	23/3	15	0
6)	43.26	191.2	s1	24/3	8	0
7)	45.52	191.2	s1	25/3	9	0
8)	47.08	191.2	s1	24/4	10	0
9)	47.18	191.2	s1	26/3R	8	0
10)	47.32	191.2	s1	26/3S	8	0
11)	50.86	191.2	s1	28/3R	11	0
12)	51.07	191.2	s1	28/3S	9	0
13)	51.90	191.2	s1	29/3R	11	0
14)	52.20	191.2	s1	29/3S	29	0
Triterpanes:						
15)	53.05	191.2	s1	27Ts	24	0
16)	53.29	177.15	s1	25nor28ab	12	0
17)	53.73	191.2	s1	27Tm	33	0
18)	54.08	177.15	s1	25nor29ab	25	0
19)	54.19	191.2	s1	27b	16	0
20)	55.29	191.2	s1	28ab	19	0
21)	55.51	177.15	s1	25nor30ab	13	0
22)	55.97	191.2	s1	29ab	73	0
23)	56.00	191.2	s1	29Ts	58	0
24)	56.34	191.2	s1	30D	7	0
25)	56.78	191.2	s1	29ba	27	0
26)	57.37	191.2	s2	30ab	70	0
27)	57.69	191.2	s1	30D13	8	0
28)	58.01	191.2	s2	30ba	32	0
29)	58.96	191.2	s1	31abS	42	0
30)	59.14	191.2	s1	31abR	29	0
31)	59.48	191.2	s1	30G	37	0
32)	59.68	191.2	s1	31ba	9	0
33)	60.20	191.2	s1	32abS	37	0
34)	60.45	191.2	s1	32abR	37	0
35)	61.63	191.2	s1	33abS	49	0
36)	61.98	191.2	s1	33abR	48	0
37)	63.17	191.2	s1	34abS	39	0
38)	63.69	191.2	s1	34abR	41	0
39)	64.98	191.2	s1	35abS	41	0
40)	65.69	191.2	s1	35abR	38	0

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Steranes:						
41)	38.65	217.2	s3	21aa	4	0
42)	40.35	217.2	s3	21bb	3	0
43)	40.43	217.2	s3	22aa	1	0
44)	42.67	217.2	s3	22bb	6	0
45)	49.04	217.2	s3	27dbS	10	0
46)	49.65	217.2	s3	27dbR	6	0
47)	52.07	218.2	s3	27bbR	3	0
48)	52.16	218.2	s3	27bbS	10	0
49)	52.56	217.2	s3	27aaR	13	0
50)	53.76	218.2	s3	28bbR	11	0
51)	53.90	218.2	s3	28bbS	9	0
52)	54.88	217.2	s3	29aaS	10	0
53)	55.18	218.2	s3	29bbR	11	0
54)	55.30	218.2	s3	29bbS	9	0
55)	55.89	217.2	s3	29aaR	13	0
56)	56.33	218.2	s3	30bbR	6	0
57)	56.41	218.2	s3	30bbS	7	0

Saturated biomarkers

GC/MS detection HP-6890/5973

Ratios, from heights and amounts

HYDRO

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

Data file name:	**M2000_S.D**
Sample name:	**7216/11-1 MUD 2000m SAT**
Data File Path:	C:\HPCHEM\1\DATA\RAN_PR\
Misc. info.:	
Vial no.:	8
Method:	MSD_S_E2
Operator:	ANNEK
Date:	17 Nov 2000 18:39

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	8	9
100*20/3/((sum20-25)/3+26/3(R+S))	%20/3	15	15
100*23/3/(23/3+24/3+25/3)	%23/3	47	47
100*24/4/(24/4+24/3+25/3)	%24/4	37	37
100*Ts/(Ts+Tm)	%27Ts	42	42
100*28ab/(28ab+30ab)	%28ab	21	30
100*29Ts/(29Ts+29ab)	%29Ts	44	44
100*25nor30ab/(25nor30ab+30ab)	%25nor30ab	16	22
100*29ab/(29ab+30ab)	%29ab	51	62
100*30ba/(30ba+30ab)	%30ba	31	31
100*30D/(30D+30ab)	%30D	9	13
100*30G/(30G+30ab)	%30G	35	45
100*32abS/(32ab(S+R)	%32abS	50	50
100*35ab(S+R)/(34-35ab(S+R))	%35ab	50	50
100*(27Ts+27Tm)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%27HOP	8	9
100*(28ab)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%28HOP	3	3
100*(29ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%29HOP	15	16
100*(30ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%30HOP	15	10
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	11	12
100*33ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%33HOP	14	15
100*34ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%34HOP	12	12
100*35ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%35HOP	12	12

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	43	43
100*29bb(R+S)/(29bb(R+S)+29aa(S+R))	%29bb	47	47
100*27db(S+R)/((27db(S+R)+27bb(R+S))	%27dia	55	55
100*27bb(R+S)/(27+28+29+30)bb(R+S)	%27STER	20	20
100*28bb(R+S)/(27+28+29+30)bb(R+S)	%28STER	30	30
100*29bb(R+S)/(27+28+29+30)bb(R+S)	%29STER	30	30
100*30bb(R+S)/(27+28+29+30)bb(R+S)	%30STER	20	20

Hopanes/Steranes ratio-2 (only bb steranes)	Ho/St2	10	7

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data

Norsk Hydro E&P Research Centre, Bergen, Norway

Petroleum Geochemistry Laboratories

Data file name:	**M2758_S.D**
Sample name:	**7216/11-1 MUD 2758m SAT**
Data File Path:	C:\HPCHEM\1\DATA\IRAN_PR\
Misc. info.:	
Vial no.:	9
Method:	MSD_S_E2
Operator:	ANNEK
Date:	17 Nov 2000 20:07

Response curve y = ax

Response factor groups: s1...s3, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Int.Std. (Internal standard)						
1	36.09	217.2		24baa	971	21
Diterpanes:						
2)	34.13	191.2	s1	19/3	10	0
3)	36.11	191.2	s1	20/3	9	0
4)	38.16	191.2	s1	21/3	6	0
5)	42.11	191.2	s1	23/3	15	0
6)	43.25	191.2	s1	24/3	11	0
7)	45.52	191.2	s1	25/3	7	0
8)	47.08	191.2	s1	24/4	15	0
9)	47.17	191.2	s1	26/3R	7	0
10)	47.30	191.2	s1	26/3S	7	0
11)	50.86	191.2	s1	28/3R	9	0
12)	51.09	191.2	s1	28/3S	9	0
13)	51.87	191.2	s1	29/3R	7	0
14)	52.17	191.2	s1	29/3S	6	0
Triterpanes:						
15)	53.06	191.2	s1	27Ts	16	0
16)	53.29	177.15	s1	25nor28ab	26	0
17)	53.71	191.2	s1	27Tm	29	0
18)	54.08	177.15	s1	25nor29ab	13	0
19)	54.20	191.2	s1	27b	12	0
20)	55.29	191.2	s1	28ab	13	0
21)	55.47	177.15	s1	25nor30ab	13	0
22)	55.98	191.2	s1	29ab	67	0
23)	56.06	191.2	s1	29Ts	25	0
24)	56.31	191.2	s1	30D	13	0
25)	56.78	191.2	s1	29ba	35	0
26)	57.36	191.2	s2	30ab	74	0
27)	57.70	191.2	s1	30D13	13	0
28)	58.02	191.2	s2	30ba	17	0
29)	58.95	191.2	s1	31abS	32	0
30)	59.13	191.2	s1	31abR	34	0
31)	59.47	191.2	s1	30G	8	0
32)	59.68	191.2	s1	31ba	21	0
33)	60.18	191.2	s1	32abS	28	0
34)	60.46	191.2	s1	32abR	30	0
35)	61.60	191.2	s1	33abS	21	0
36)	62.00	191.2	s1	33abR	29	0
37)	63.18	191.2	s1	34abS	21	0
38)	63.69	191.2	s1	34abR	18	0
39)	64.98	191.2	s1	35abS	20	0
40)	65.70	191.2	s1	35abR	13	0

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Steranes:						
41)	38.65	217.2	s3	21aa	6	0
42)	40.32	217.2	s3	21bb	7	0
43)	40.45	217.2	s3	22aa	4	0
44)	42.68	217.2	s3	22bb	7	0
45)	49.03	217.2	s3	27dbS	7	0
46)	49.63	217.2	s3	27dbR	8	0
47)	52.00	218.2	s3	27bbR	9	0
48)	52.14	218.2	s3	27bbS	7	0
49)	52.59	217.2	s3	27aaR	7	0
50)	53.76	218.2	s3	28bbR	0	0
51)	53.88	218.2	s3	28bbS	7	0
52)	54.88	217.2	s3	29aaS	7	0
53)	55.18	218.2	s3	29bbR	8	0
54)	55.27	218.2	s3	29bbS	9	0
55)	55.90	217.2	s3	29aaR	11	0
56)	56.37	218.2	s3	30bbR	5	0
57)	56.41	218.2	s3	30bbS	4	0

Saturated biomarkers

GC/MS detection HP-6890/5973

Ratios, from heights and amounts

HYDRO

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

Data file name:	**M2758_S.D**
Sample name:	**7216/11-1 MUD 2758m SAT**
Data File Path:	C:\HPCHEM\1\DATA\IRAN_PR\
Misc. info.:	
Vial no.:	9
Method:	MSD_S_E2
Operator:	ANNEK
Date:	17 Nov 2000 20:07

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	11	12
100*20/3/((sum20-25)/3+26/3(R+S))	%20/3	15	15
100*23/3/(23/3+24/3+25/3)	%23/3	45	45
100*24/4/(24/4+24/3+25/3)	%24/4	45	45
100*Ts/(Ts+Tm)	%27Ts	36	36
100*28ab/(28ab+30ab)	%28ab	15	21
100*29Ts/(29Ts+29ab)	%29Ts	27	27
100*25nor30ab/(25nor30ab+30ab)	%25nor30ab	15	21
100*29ab/(29ab+30ab)	%29ab	48	58
100*30ba/(30ba+30ab)	%30ba	19	19
100*30D/(30D+30ab)	%30D	15	21
100*30G/(30G+30ab)	%30G	10	14
100*32abS/(32ab(S+R)	%32abS	48	48
100*35ab(S+R)/(34-35ab(S+R))	%35ab	46	46
100*(27Ts+27Tm)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%27HOP	9	10
100*(28ab)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%28HOP	3	3
100*(29ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%29HOP	21	22
100*(30ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%30HOP	18	13
100*31ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%31HOP	13	14
100*32ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%32HOP	12	12
100*33ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%33HOP	10	11
100*34ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%34HOP	8	8
100*35ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%35HOP	7	7

Sterane ratios			
100*(21+22)bb/((21+22)bb+(27+28+29+30)bb(R+S)	%Preg	22	22
100*29aaS/29aa(R+S)	%29aaS	39	39
100*29bb(R+S)/(29bb(R+S)+29aa(S+R))	%29bb	49	49
100*27db(S+R)/((27db(S+R)+27bb(R+S))	%27dia	48	48
100*27bb(R+S)/(27+28+29+30)bb(R+S)	%27STER	33	33
100*28bb(R+S)/(27+28+29+30)bb(R+S)	%28STER	14	14
100*29bb(R+S)/(27+28+29+30)bb(R+S)	%29STER	35	35
100*30bb(R+S)/(27+28+29+30)bb(R+S)	%30STER	18	18

Hopanes/Steranes ratio-2 (only bb steranes)	Ho/St2	10	7

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data

HYDRO

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

Data file name: **M3200_S.D**
Sample name: **7216/11-1 MUD 3200m SAT**
Data File Path: C:\HPCHEM\1\DATA\RAN_PR\
Misc. info.:

Vial no.: 10
Method: MSD_S_E2
Operator: ANNEK
Date: 17 Nov 2000 21:36

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

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (hopane)						
1)	26.48	217.2		24baa	6486	25
Diterpanes:						
2)	34.14	191.2	s1	19/3	4	0
3)	36.10	191.2	s1	20/3	6	0
4)	38.14	191.2	s1	21/3	11	0
5)	42.10	191.2	s1	23/3	15	0
6)	43.25	191.2	s1	24/3	8	0
7)	45.51	191.2	s1	25/3	5	0
8)	47.08	191.2	s1	24/4	12	0
9)	47.17	191.2	s1	26/3R	6	0
10)	47.30	191.2	s1	26/3S	5	0
11)	50.82	191.2	s1	28/3R	8	0
12)	51.08	191.2	s1	28/3S	9	0
13)	51.86	191.2	s1	29/3R	5	0
14)	52.17	191.2	s1	29/3S	15	0
Triterpanes:						
15)	53.03	191.2	s1	27Ts	16	0
16)	53.28	177.15	s1	25nor28ab	11	0
17)	53.70	191.2	s1	27Tm	26	0
18)	54.08	177.15	s1	25nor29ab	12	0
19)	54.17	191.2	s1	27b	12	0
20)	55.30	191.2	s1	28ab	15	0
21)	55.49	177.15	s1	25nor30ab	8	0
22)	55.97	191.2	s1	29ab	78	0
23)	56.09	191.2	s1	29Ts	15	0
24)	56.32	191.2	s1	30D	15	0
25)	56.78	191.2	s1	29ba	33	0
26)	57.36	191.2	s2	30ab	85	0
27)	57.70	191.2	s1	30D13	8	0
28)	57.98	191.2	s2	30ba	32	0
29)	58.95	191.2	s1	31abS	34	0
30)	59.14	191.2	s1	31abR	41	0
31)	59.47	191.2	s1	30G	14	0
32)	59.66	191.2	s1	31ba	17	0
33)	60.17	191.2	s1	32abS	21	0
34)	60.45	191.2	s1	32abR	19	0
35)	61.63	191.2	s1	33abS	21	0
36)	61.98	191.2	s1	33abR	23	0
37)	63.17	191.2	s1	34abS	16	0
38)	63.67	191.2	s1	34abR	14	0
39)	64.97	191.2	s1	35abS	11	0
40)	65.71	191.2	s1	35abR	22	0

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Steranes:						
41)	38.64	217.2	s3	21aa	6	0
42)	40.32	217.2	s3	21bb	4	0
43)	40.44	217.2	s3	22aa	3	0
44)	42.68	217.2	s3	22bb	4	0
45)	49.01	217.2	s3	27dbS	12	0
46)	49.64	217.2	s3	27dbR	7	0
47)	52.00	218.2	s3	27bbR	11	0
48)	52.14	218.2	s3	27bbS	9	0
49)	52.55	217.2	s3	27aaR	19	0
50)	53.75	218.2	s3	28bbR	4	0
51)	53.88	218.2	s3	28bbS	9	0
52)	54.87	217.2	s3	29aaS	6	0
53)	55.17	218.2	s3	29bbR	8	0
54)	55.28	218.2	s3	29bbS	9	0
55)	55.91	217.2	s3	29aaR	18	0
56)	56.35	218.2	s3	30bbR	4	0
57)	56.41	218.2	s3	30bbS	5	0

Saturated biomarkers

GC/MS detection HP-6890/5973

Ratios, from heights and amounts

HYDRO

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

Data file name:	**M3200_S.D**
Sample name:	**7216/11-1 MUD 3200m SAT**
Data File Path:	C:\HPCHEM\1\DATA\RAN_PR\
Misc. info.:	
Vial no.:	10
Method:	MSD_S_E2
Operator:	ANNEK
Date:	17 Nov 2000 21:36

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	10	11
100*20/3/((sum20-25)/3+26/3(R+S))	%20/3	11	11
100*23/3/(23/3+24/3+25/3)	%23/3	54	54
100*24/4/(24/4+24/3+25/3)	%24/4	48	48
100*Ts/(Ts+Tm)	%27Ts	38	38
100*28ab/(28ab+30ab)	%28ab	15	22
100*29Ts/(29Ts+29ab)	%29Ts	16	16
100*25nor30ab/(25nor30ab+30ab)	%25nor30ab	9	13
100*29ab/(29ab+30ab)	%29ab	48	59
100*30ba/(30ba+30ab)	%30ba	27	27
100*30D/(30D+30ab)	%30D	15	22
100*30G/(30G+30ab)	%30G	14	20
100*32abS/(32ab(S+R)	%32abS	53	53
100*35ab(S+R)/(34-35ab(S+R))	%35ab	52	52
100*(27Ts+27Tm)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%27HOP	8	9
100*(28ab)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%28HOP	3	3
100*(29ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%29HOP	22	24
100*(30ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%30HOP	23	16
100*31ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%31HOP	15	16
100*32ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%32HOP	8	9
100*33ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%33HOP	9	9
100*34ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%34HOP	6	6
100*35ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%35HOP	7	7

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	25	25
100*29bb(R+S)/(29bb(R+S)+29aa(S+R))	%29bb	41	41
100*27db(S+R)/((27db(S+R)+27bb(R+S))	%27dia	49	49
100*27bb(R+S)/(27+28+29+30)bb(R+S)	%27STER	34	34
100*28bb(R+S)/(27+28+29+30)bb(R+S)	%28STER	22	22
100*29bb(R+S)/(27+28+29+30)bb(R+S)	%29STER	29	29
100*30bb(R+S)/(27+28+29+30)bb(R+S)	%30STER	15	15

Hopanes/Steranes ratio-2 (only bb steranes)	Ho/St2	9	5

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data

HYDRO

Norsk Hydro E&P Research Centre, Bergen, Norway

Petroleum Geochemistry Laboratories

Data file name:	**M4230_S.D**
Sample name:	**7216/11-1 MUD 4230m SAT**
Data File Path:	C:\HPCHEM\1\DATA\RAN_PR\
Misc. info.:	
Vial no.:	11
Method:	MSD_S_E2
Operator:	ANNEK
Date:	17 Nov 2000 23:04

Response curve y = ax

Response factor groups: s1...s3, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Diterpanes:						
2)	34.12	191.2	s1	19/3	6	0
3)	36.11	191.2	s1	20/3	6	0
4)	38.15	191.2	s1	21/3	6	0
5)	42.14	191.2	s1	23/3	14	0
6)	43.31	191.2	s1	24/3	4	0
7)	45.52	191.2	s1	25/3	5	0
8)	47.06	191.2	s1	24/4	15	0
9)	47.16	191.2	s1	26/3R	7	0
10)	47.31	191.2	s1	26/3S	6	0
11)	50.81	191.2	s1	28/3R	8	0
12)	51.06	191.2	s1	28/3S	9	0
13)	51.86	191.2	s1	29/3R	3	0
14)	52.16	191.2	s1	29/3S	8	0
Triterpanes:						
15)	53.03	191.2	s1	27Ts	22	0
16)	53.27	177.15	s1	25nor28ab	8	0
17)	53.71	191.2	s1	27Tm	44	0
18)	54.07	177.15	s1	25nor29ab	8	0
19)	54.17	191.2	s1	27b	12	0
20)	55.28	191.2	s1	28ab	17	0
21)	55.48	177.15	s1	25nor30ab	7	0
22)	55.98	191.2	s1	29ab	122	0
23)	56.07	191.2	s1	29Ts	22	0
24)	56.33	191.2	s1	30D	11	0
25)	56.78	191.2	s1	29ba	30	0
26)	57.35	191.2	s2	30ab	132	0
27)	57.72	191.2	s1	30D13	12	0
28)	57.98	191.2	s2	30ba	34	0
29)	58.95	191.2	s1	31abS	63	0
30)	59.14	191.2	s1	31abR	49	0
31)	59.48	191.2	s1	30G	16	0
32)	59.68	191.2	s1	31ba	21	0
33)	60.18	191.2	s1	32abS	33	0
34)	60.45	191.2	s1	32abR	25	0
35)	61.61	191.2	s1	33abS	16	0
36)	61.97	191.2	s1	33abR	15	0
37)	63.19	191.2	s1	34abS	17	0
38)	63.66	191.2	s1	34abR	9	0
39)	64.92	191.2	s1	35abS	28	0
40)	65.67	191.2	s1	35abR	14	0

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Steranes:						
41)	38.63	217.2	s3	21aa	4	0
42)	40.32	217.2	s3	21bb	8	0
43)	40.43	217.2	s3	22aa	3	0
44)	42.69	217.2	s3	22bb	4	0
45)	49.00	217.2	s3	27dbS	14	0
46)	49.63	217.2	s3	27dbR	11	0
47)	52.01	218.2	s3	27bbR	13	0
48)	52.15	218.2	s3	27bbS	8	0
49)	52.54	217.2	s3	27aaR	10	0
50)	53.75	218.2	s3	28bbR	5	0
51)	53.89	218.2	s3	28bbS	13	0
52)	54.87	217.2	s3	29aaS	10	0
53)	55.17	218.2	s3	29bbR	5	0
54)	55.26	218.2	s3	29bbS	8	0
55)	55.88	217.2	s3	29aaR	14	0
56)	56.36	218.2	s3	30bbR	6	0
57)	56.38	218.2	s3	30bbS	2	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:	**M4230_S.D**
Sample name:	**7216/11-1 MUD 4230m SAT**
Data File Path:	C:\HPCHEM\1\DATA\IRAN_PR\
Misc. info.:	
Vial no.:	11
Method:	MSD_S_E2
Operator:	ANNEK
Date:	17 Nov 2000 23:04

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	7	7
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	61	61
100*24/4/(24/4+24/3+25/3)	%24/4	63	63
100*Ts/(Ts+Tm)	%27Ts	33	33
100*28ab/(28ab+30ab)	%28ab	11	17
100*29Ts/(29Ts+29ab)	%29Ts	15	15
100*25nor30ab/(25nor30ab+30ab)	%25nor30ab	5	8
100*29ab/(29ab+30ab)	%29ab	48	59
100*30ba/(30ba+30ab)	%30ba	20	20
100*30D/(30D+30ab)	%30D	8	11
100*30G/(30G+30ab)	%30G	11	16
100*32abS/(32ab(S+R)	%32abS	57	57
100*35ab(S+R)/(34-35ab(S+R))	%35ab	62	62
100*(27Ts+27Tm)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%27HOP	10	11
100*(28ab)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%28HOP	3	3
100*(29ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%29HOP	23	25
100*(30ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%30HOP	25	17
100*31ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%31HOP	17	18
100*32ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%32HOP	9	9
100*33ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%33HOP	5	5
100*34ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%34HOP	4	4
100*35ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%35HOP	6	7

Sterane ratios			
100*(21+22)bb/((21+22)bb+(27+28+29+30)bb(R+S)	%Preg	17	17
100*29aaS/29aa(R+S)	%29aaS	42	42
100*29bb(R+S)/(29bb(R+S)+29aa(S+R))	%29bb	35	35
100*27db(S+R)/((27db(S+R)+27bb(R+S))	%27dia	54	54
100*27bb(R+S)/(27+28+29+30)bb(R+S)	%27STER	35	35
100*28bb(R+S)/(27+28+29+30)bb(R+S)	%28STER	30	30
100*29bb(R+S)/(27+28+29+30)bb(R+S)	%29STER	22	22
100*30bb(R+S)/(27+28+29+30)bb(R+S)	%30STER	13	13

Hopanes/Steranes ratio-2 (only bb steranes)	Ho/St2	11	7

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data

HYDRO

Norsk Hydro E&P Research Centre, Bergen, Norway

Petroleum Geochemistry Laboratories

Data file name:	**NSO1_2S.D**
Sample name:	**nso1 sat**
Data File Path:	C:\HPCHEM\1\DATA\7216\
Misc. info.:	
Vial no.:	1
Method:	MSD_S_E2
Operator:	annek
Date:	1 Nov 2000 15:13

Response curve y = ax

Response factor groups: s1...s3, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Diterpanes:						
2)	34.18	191.2	s1	19/3	489	9
3)	36.17	191.2	s1	20/3	343	6
4)	38.21	191.2	s1	21/3	516	9
5)	42.19	191.2	s1	23/3	932	16
6)	43.32	191.2	s1	24/3	648	11
7)	45.59	191.2	s1	25/3	350	6
8)	47.15	191.2	s1	24/4	637	11
9)	47.23	191.2	s1	26/3R	257	5
10)	47.37	191.2	s1	26/3S	279	5
11)	50.89	191.2	s1	28/3R	312	5
12)	51.15	191.2	s1	28/3S	292	5
13)	51.93	191.2	s1	29/3R	407	7
14)	52.24	191.2	s1	29/3S	414	7
Triterpanes:						
15)	53.11	191.2	s1	27Ts	1967	34
16)	53.34	177.15	s1	25nor28ab	1820	32
17)	53.78	191.2	s1	27Tm	1658	29
18)	54.15	177.15	s1	25nor29ab	988	17
19)	54.23	191.2	s1	27b	335	6
20)	55.34	191.2	s1	28ab	2745	48
21)	55.56	177.15	s1	25nor30ab	984	17
22)	56.05	191.2	s1	29ab	5009	88
23)	56.16	191.2	s1	29Ts	1983	35
24)	56.40	191.2	s1	30D	1173	21
25)	56.84	191.2	s1	29ba	1069	19
26)	57.43	191.2	s2	30ab	12120	137
27)	57.77	191.2	s1	30D13	748	13
28)	58.05	191.2	s2	30ba	1382	16
29)	59.02	191.2	s1	31abS	4634	81
30)	59.20	191.2	s1	31abR	3421	60
31)	59.54	191.2	s1	30G	484	8
32)	59.74	191.2	s1	31ba	700	12
33)	60.25	191.2	s1	32abS	3544	62
34)	60.52	191.2	s1	32abR	2367	41
35)	61.68	191.2	s1	33abS	2763	48
36)	62.05	191.2	s1	33abR	1997	35
37)	63.24	191.2	s1	34abS	1585	28
38)	63.76	191.2	s1	34abR	1044	18
39)	65.06	191.2	s1	35abS	1316	23
40)	65.79	191.2	s1	35abR	880	15

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Steranes:						
41)	38.72	217.2	s3	21aa	971	25
42)	40.39	217.2	s3	21bb	1240	31
43)	40.50	217.2	s3	22aa	815	21
44)	42.74	217.2	s3	22bb	797	20
45)	49.07	217.2	s3	27dbS	2317	59
46)	49.71	217.2	s3	27dbR	1294	33
47)	52.07	218.2	s3	27bbR	1937	49
48)	52.21	218.2	s3	27bbS	1220	31
49)	52.62	217.2	s3	27aaR	693	18
50)	53.82	218.2	s3	28bbR	1037	26
51)	53.96	218.2	s3	28bbS	1393	35
52)	54.94	217.2	s3	29aaS	732	19
53)	55.24	218.2	s3	29bbR	1639	41
54)	55.34	218.2	s3	29bbS	1457	37
55)	55.96	217.2	s3	29aaR	761	19
56)	56.42	218.2	s3	30bbR	662	17
57)	56.46	218.2	s3	30bbS	558	14

Saturated biomarkers

GC/MS detection HP-6890/5973

Ratios, from heights and amounts

HYDRO

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

Data file name:	**NSO1_2S.D**
Sample name:	**nso1 sat**
Data File Path:	C:\HPCHEM\1\DATA\7216\
Misc. info.:	
Vial no.:	1
Method:	MSD_S_E2
Operator:	annek
Date:	1 Nov 2000 15:13

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	6	7
100*20/3/((sum20-25)/3+26/3(R+S))	%20/3	10	10
100*23/3/(23/3+24/3+25/3)	%23/3	48	48
100*24/4/(24/4+24/3+25/3)	%24/4	39	39
100*Ts/(Ts+Tm)	%27Ts	54	54
100*28ab/(28ab+30ab)	%28ab	18	26
100*29Ts/(29Ts+29ab)	%29Ts	28	28
100*25nor30ab/(25nor30ab+30ab)	%25nor30ab	8	11
100*29ab/(29ab+30ab)	%29ab	29	39
100*30ba/(30ba+30ab)	%30ba	10	10
100*30D/(30D+30ab)	%30D	9	13
100*30G/(30G+30ab)	%30G	4	6
100*32abS/(32ab(S+R)	%32abS	60	60
100*35ab(S+R)/(34-35ab(S+R))	%35ab	46	46
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	6	6
100*(29ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%29HOP	12	14
100*(30ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%30HOP	27	19
100*31ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%31HOP	16	18
100*32ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%32HOP	12	13
100*33ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%33HOP	10	11
100*34ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%34HOP	5	6
100*35ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%35HOP	4	5

Sterane ratios			
100*(21+22)bb/((21+22)bb+(27+28+29+30)bb(R+S)	%Preg	17	17
100*29aaS/29aa(R+S)	%29aaS	49	49
100*29bb(R+S)/(29bb(R+S)+29aa(S+R))	%29bb	67	67
100*27db(S+R)/((27db(S+R)+27bb(R+S))	%27dia	53	53
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	25	25
100*29bb(R+S)/(27+28+29+30)bb(R+S)	%29STER	31	31
100*30bb(R+S)/(27+28+29+30)bb(R+S)	%30STER	12	12

Hopanes/Steranes ratio-2 (only bb steranes)	Ho/St2	5	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:	**NSO1_26S.D**
Sample name:	**nso1_26ref.sat**
Data File Path:	C:\HPCHEM\1\DATA\IRAN_PR\
Misc. info.:	
Vial no.:	1
Method:	MSD_S_E2
Operator:	ANNEK
Date:	18 Nov 2000 00:32

Response curve y = ax

Response factor groups: s1...s3, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Diterpanes:						
2)	34.16	191.2	s1	19/3	1299	8
3)	36.15	191.2	s1	20/3	1033	6
4)	38.20	191.2	s1	21/3	1306	8
5)	42.17	191.2	s1	23/3	3192	20
6)	43.29	191.2	s1	24/3	1761	11
7)	45.57	191.2	s1	25/3	1007	6
8)	47.12	191.2	s1	24/4	1790	11
9)	47.20	191.2	s1	26/3R	781	5
10)	47.34	191.2	s1	26/3S	785	5
11)	50.88	191.2	s1	28/3R	816	5
12)	51.14	191.2	s1	28/3S	705	4
13)	51.92	191.2	s1	29/3R	1093	7
14)	52.21	191.2	s1	29/3S	1203	7
Triterpanes:						
15)	53.08	191.2	s1	27Ts	5836	36
16)	53.32	177.15	s1	25nor28ab	4886	30
17)	53.76	191.2	s1	27Tm	4692	29
18)	54.13	177.15	s1	25nor29ab	2818	17
19)	54.22	191.2	s1	27b	826	5
20)	55.33	191.2	s1	28ab	7208	44
21)	55.54	177.15	s1	25nor30ab	2672	16
22)	56.03	191.2	s1	29ab	14528	89
23)	56.14	191.2	s1	29Ts	5056	31
24)	56.38	191.2	s1	30D	3300	20
25)	56.82	191.2	s1	29ba	2897	18
26)	57.41	191.2	s2	30ab	35842	142
27)	57.75	191.2	s1	30D13	1946	12
28)	58.03	191.2	s2	30ba	3666	15
29)	58.99	191.2	s1	31abS	12658	78
30)	59.19	191.2	s1	31abR	9066	56
31)	59.52	191.2	s1	30G	1641	10
32)	59.73	191.2	s1	31ba	1881	12
33)	60.23	191.2	s1	32abS	8759	54
34)	60.49	191.2	s1	32abR	6108	38
35)	61.66	191.2	s1	33abS	8139	50
36)	62.03	191.2	s1	33abR	4920	30
37)	63.22	191.2	s1	34abS	4485	28
38)	63.73	191.2	s1	34abR	2687	17
39)	65.02	191.2	s1	35abS	3464	21
40)	65.75	191.2	s1	35abR	2103	13

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Steranes:						
41)	38.69	217.2	s3	21aa	2605	23
42)	40.36	217.2	s3	21bb	3485	31
43)	40.48	217.2	s3	22aa	2146	19
44)	42.72	217.2	s3	22bb	2221	20
45)	49.05	217.2	s3	27dbS	6582	59
46)	49.68	217.2	s3	27dbR	4035	36
47)	52.05	218.2	s3	27bbR	5403	48
48)	52.19	218.2	s3	27bbS	3708	33
49)	52.60	217.2	s3	27aaR	2044	18
50)	53.80	218.2	s3	28bbR	2938	26
51)	53.93	218.2	s3	28bbS	4038	36
52)	54.92	217.2	s3	29aaS	2154	19
53)	55.22	218.2	s3	29bbR	4326	38
54)	55.33	218.2	s3	29bbS	4211	37
55)	55.94	217.2	s3	29aaR	2181	19
56)	56.40	218.2	s3	30bbR	1735	15
57)	56.46	218.2	s3	30bbS	1498	13

Saturated biomarkers

GC/MS detection HP-6890/5973

Ratios, from heights and amounts

HYDRO

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

Data file name:	**NSO1_26S.D**
Sample name:	**nso1_26ref.sat**
Data File Path:	C:\HPCHEM\1\DATA\IRAN_PR\
Misc. info.:	
Vial no.:	1
Method:	MSD_S_E2
Operator:	ANNEK
Date:	18 Nov 2000 00:32

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	7	7
100*20/3/((sum20-25)/3+26/3(R+S))	%20/3	10	10
100*23/3/(23/3+24/3+25/3)	%23/3	54	54
100*24/4/(24/4+24/3+25/3)	%24/4	39	39
100*Ts/(Ts+Tm)	%27Ts	55	55
100*28ab/(28ab+30ab)	%28ab	17	24
100*29Ts/(29Ts+29ab)	%29Ts	26	26
100*25nor30ab/(25nor30ab+30ab)	%25nor30ab	7	10
100*29ab/(29ab+30ab)	%29ab	29	39
100*30ba/(30ba+30ab)	%30ba	9	9
100*30D/(30D+30ab)	%30D	8	13
100*30G/(30G+30ab)	%30G	4	7
100*32abS/(32ab(S+R)	%32abS	59	59
100*35ab(S+R)/(34-35ab(S+R))	%35ab	44	44
100*(27Ts+27Tm)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%27HOP	8	9
100*(28ab)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%28HOP	5	6
100*(29ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%29HOP	13	14
100*(30ab+ba)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%30HOP	29	21
100*31ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%31HOP	16	18
100*32ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%32HOP	11	12
100*33ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%33HOP	10	11
100*34ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%34HOP	5	6
100*35ab(S+R)/(27Ts+27Tm+28ab+sum29-30(ab+ba)+sum31-35ab(R+S))	%35HOP	4	5

Sterane ratios			
100*(21+22)bb/((21+22)bb+(27+28+29+30)bb(R+S)	%Preg	17	17
100*29aaS/29aa(R+S)	%29aaS	50	50
100*29bb(R+S)/(29bb(R+S)+29aa(S+R))	%29bb	66	66
100*27db(S+R)/((27db(S+R)+27bb(R+S))	%27dia	54	54
100*27bb(R+S)/(27+28+29+30)bb(R+S)	%27STER	33	33
100*28bb(R+S)/(27+28+29+30)bb(R+S)	%28STER	25	25
100*29bb(R+S)/(27+28+29+30)bb(R+S)	%29STER	31	31
100*30bb(R+S)/(27+28+29+30)bb(R+S)	%30STER	12	12

Hopanes/Steranes ratio-2 (only bb steranes)	Ho/St2	5	3